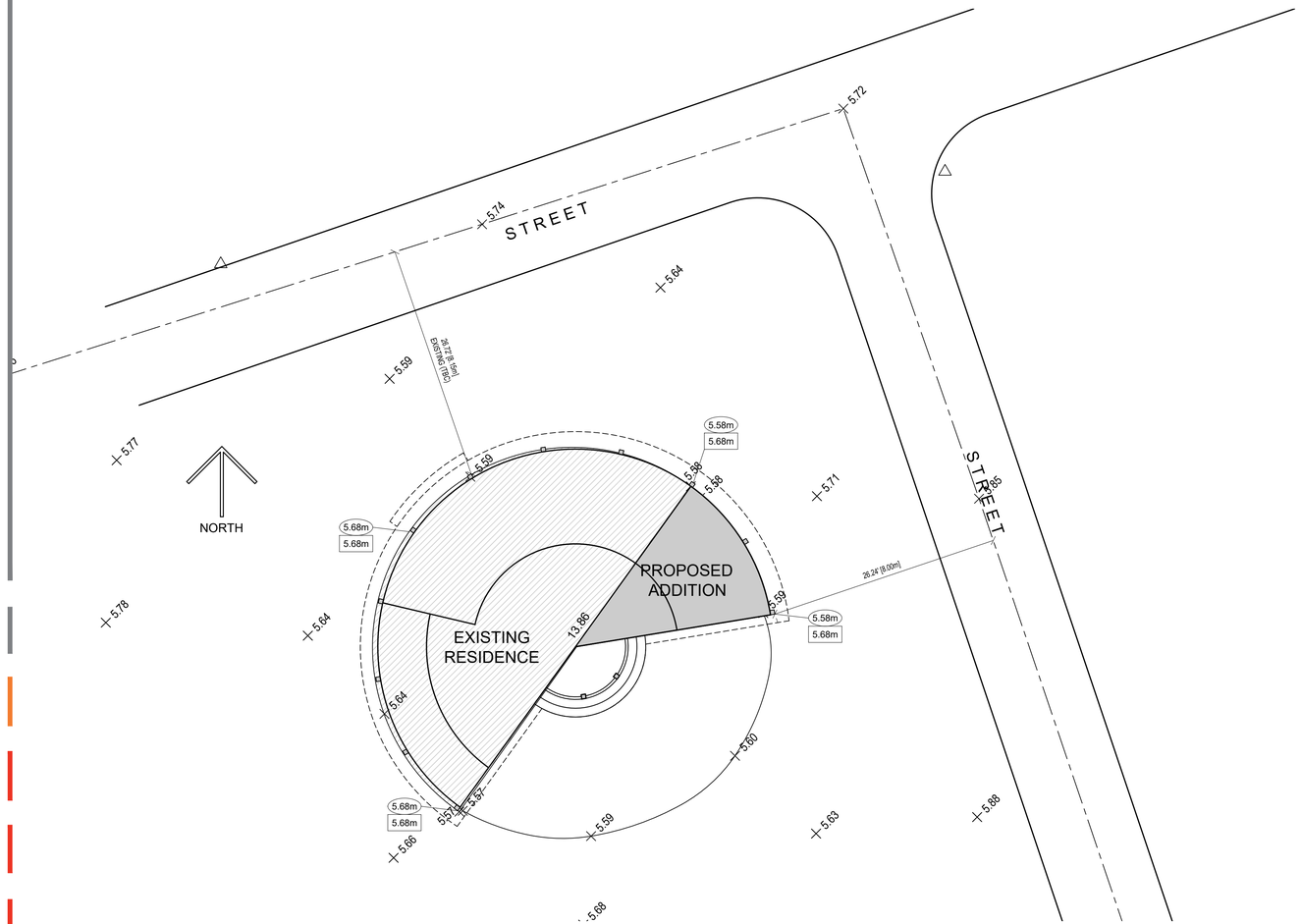


SITE PLAN - SQ.FT.

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

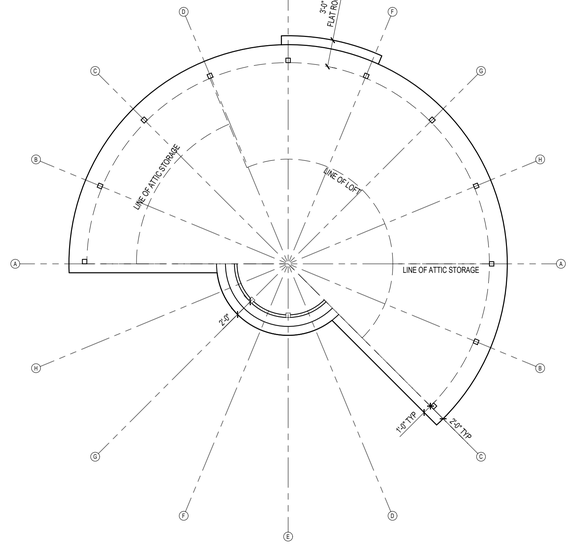
ZONING ANALYSIS REVIEW

LEGAL DESCRIPTION:	PLAN NWP2677	
ZONING BYLAW:	R-4	
CIVIC ADDRESS:	9053 SHOOK RD. MISSION, B.C.	
SETBACKS:	REQ'D	PROPOSED
FRONT:	6.0 m	N/A
REAR:	6.0 m	N/A
SIDE (exterior - left)	6.0 m	N/A
SIDE (interior - right)	1.5 m	N/A
FLANKING (arterial)	N/A	N/A
LOT COVERAGE:	30% MAX.	N/A
BUILDING AREA:	795 SQ.FT. (EXISTING) 286 SQ.FT. (ADDITION)	
LOT AREA:	N/A	
BUILDING HEIGHTS:	11.0 m	6.66 m

PROPOSED FINISHED GRADE (M)

EXISTING GRADE (M)

ALL ROOF SLOPE 4:12 U.N.O.



ROOF PLAN

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

NOTE:
BUILDER AND/OR OWNER IS TO VERIFY ALL ON SITE CONDITIONS, DIMENSIONS AND STRUCTURE PRIOR TO CONSTRUCTION. 4TH DIMENSION DESIGN & DRAFTING SERVICES DOES NOT ACCEPT ANY RESPONSIBILITY FOR DISCREPANCIES BETWEEN THESE DRAWINGS AND ON SITE CONDITIONS.

PROJECT TITLE:
32-9053 SHOOK RD.
MISSION, BC

REV	DATE	DESCRIPTION

CLIENT:
STELLINGWERF RESIDENCE

4TH DIMENSION DESIGN + DRAFTING
3-33192 1ST AVE. MISSION, BC, V2V 1G4
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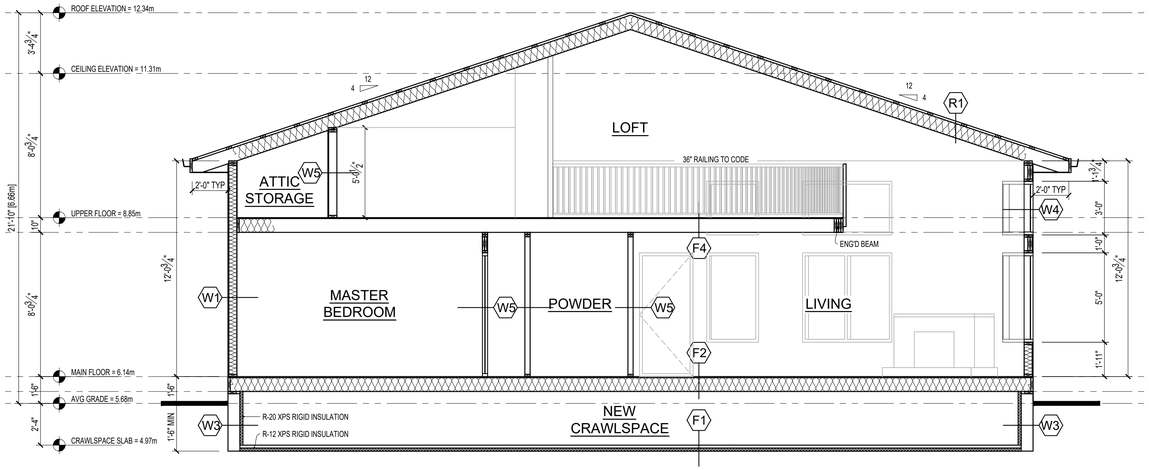
www.4ddrafting.com info@4ddrafting.com

SHEET TITLE:
SITE PLAN
ZONING ANALYSIS REVIEW
ROOF PLAN

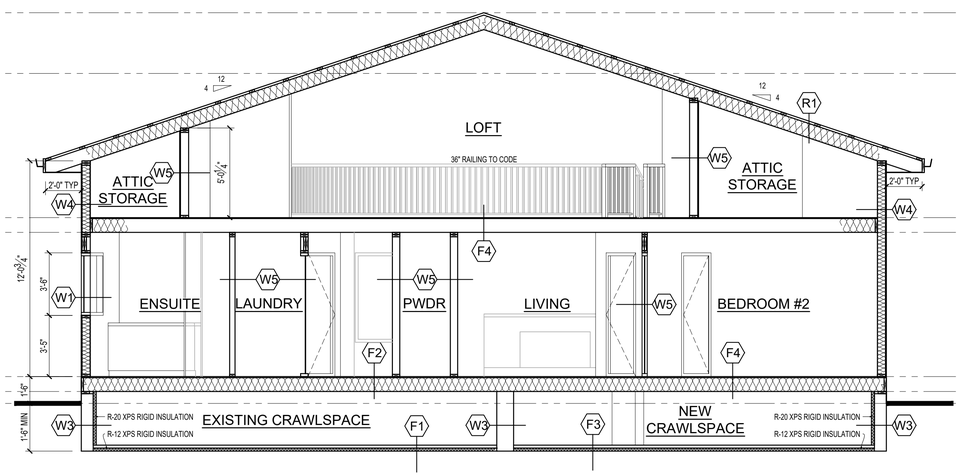
PAGE No:
1
OF 6

DATE:	01-28-2025
PROJECT:	RA-24-86
DESIGNED/CHECKED:	JM
DRAWN:	MS



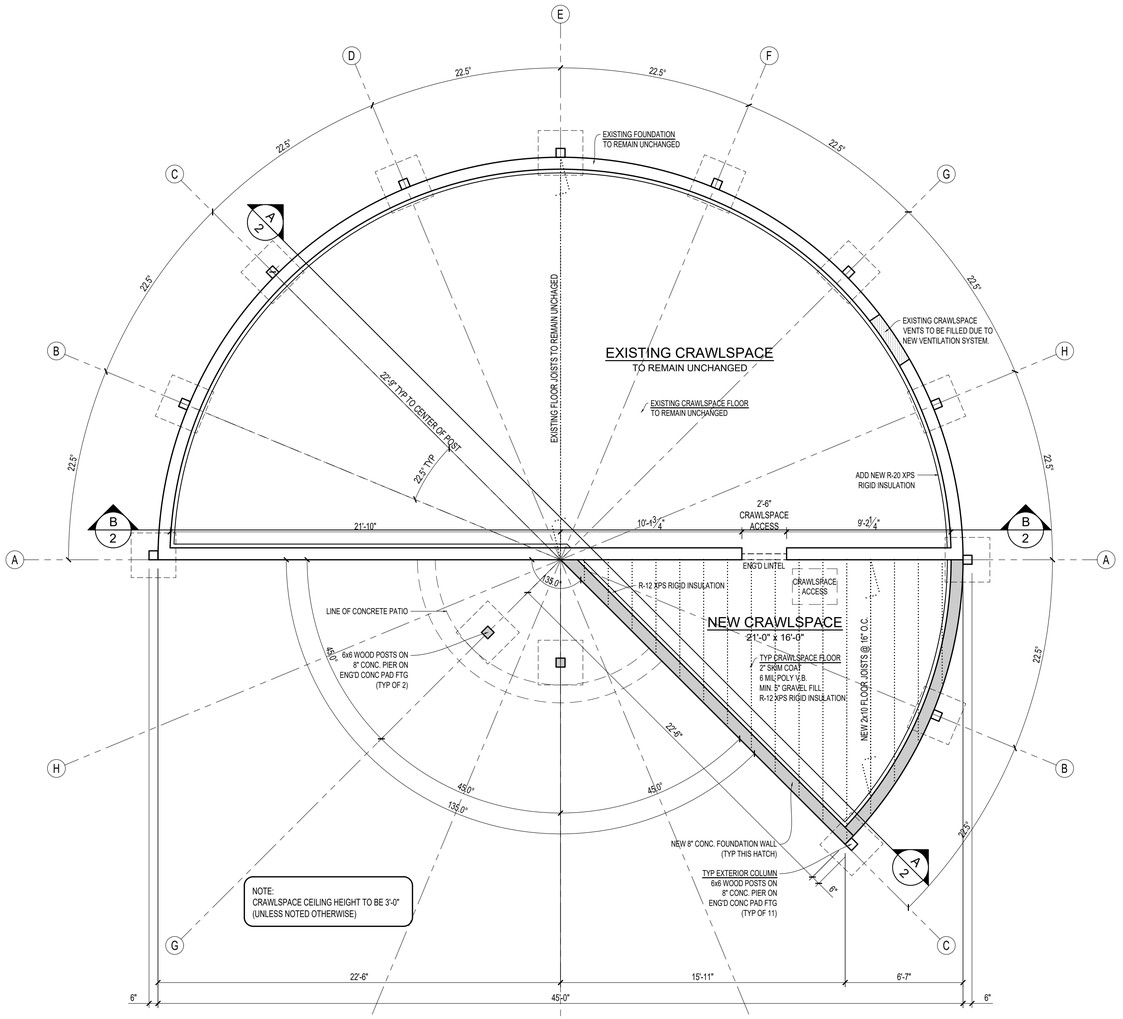
SECTION B

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



SECTION A

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



CRAWLSPACE PLAN

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

SPECIFICATIONS

WALL ASSEMBLIES

W1 EXISTING EXTERIOR WALL
TO REMAIN UNCHANGED

W2 EXISTING INTERIOR WALL
TO REMAIN UNCHANGED

W3 EXISTING FOUNDATION WALL
TO REMAIN UNCHANGED

W4 NEW EXTERIOR WALL
EXTERIOR FINISH (SEE ELEVATIONS)
15LB. BUILDING PAPER
1/2" PLYWOOD SHEATHING
2x6 STUDS @ 16" O.C.
R-24 BATT INSULATION
6 MIL POLY V.B.
1/2" PAINTED GYPROC

W5 NEW INTERIOR WALL
1/2" GYPSUM BOARD - PAINTED
2x4 STUDS @ 16" O.C.
1/2" GYPSUM BOARD - PAINTED

W6 NEW FOUNDATION WALL
DRAINAGE COMPOSITE
(BELOW FINISHED GRADE)
ASPHALT WATERPROOFING
8" CONCRETE WALL c/w 15M REINF.
@ 24" O.C. EW c/w
R-20 XPS RIGID INSULATION

FLOOR ASSEMBLIES

F1 EXISTING CRAWLSPACE FLOOR
TO REMAIN UNCHANGED

F2 EXISTING WOOD FLOOR
TO REMAIN UNCHANGED

F3 NEW CRAWLSPACE FLOOR
2" SKIM COAT
6 MIL. POLY V.B.
MIN. 5" GRAVEL BASE
R-12 XPS RIGID INSULATION

F4 NEW WOOD FLOOR
5/8" T&G PLY DECKING
(GLUED AND SCREWED)
2x10 JOISTS @ 16" O/C
5/8" GYPSUM BOARD

F5 NEW DECK FLOOR
APPROVED VINYL DECKING
5/8" PLYWOOD DECKING
2x10 DECK JOISTS @16 O.C.
VENTED SOFFIT

ROOF ASSEMBLIES

R1 NEW RAFTER ROOF
ASPHALT SHINGLE ROOFING
15 LBS. BUILDING PAPER
1/2" PLYWOOD SHEATHING
2x4 STRAPPING @ 24" O.C. FOR X-VENT
2x12 RAFTERS @ 22.5° O.C.
R32 BATT INSULATION
6 MIL POLY V.B.
5/8" GYPCROC

NOTE:
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REV	DATE	DESCRIPTION

PROJECT TITLE:
32-9053 SHOOK RD.
MISSION, BC

CLIENT:
STELLINGWERF RESIDENCE

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SHEET TITLE:
CRAWLSPACE PLAN
SECTION A

PAGE No:
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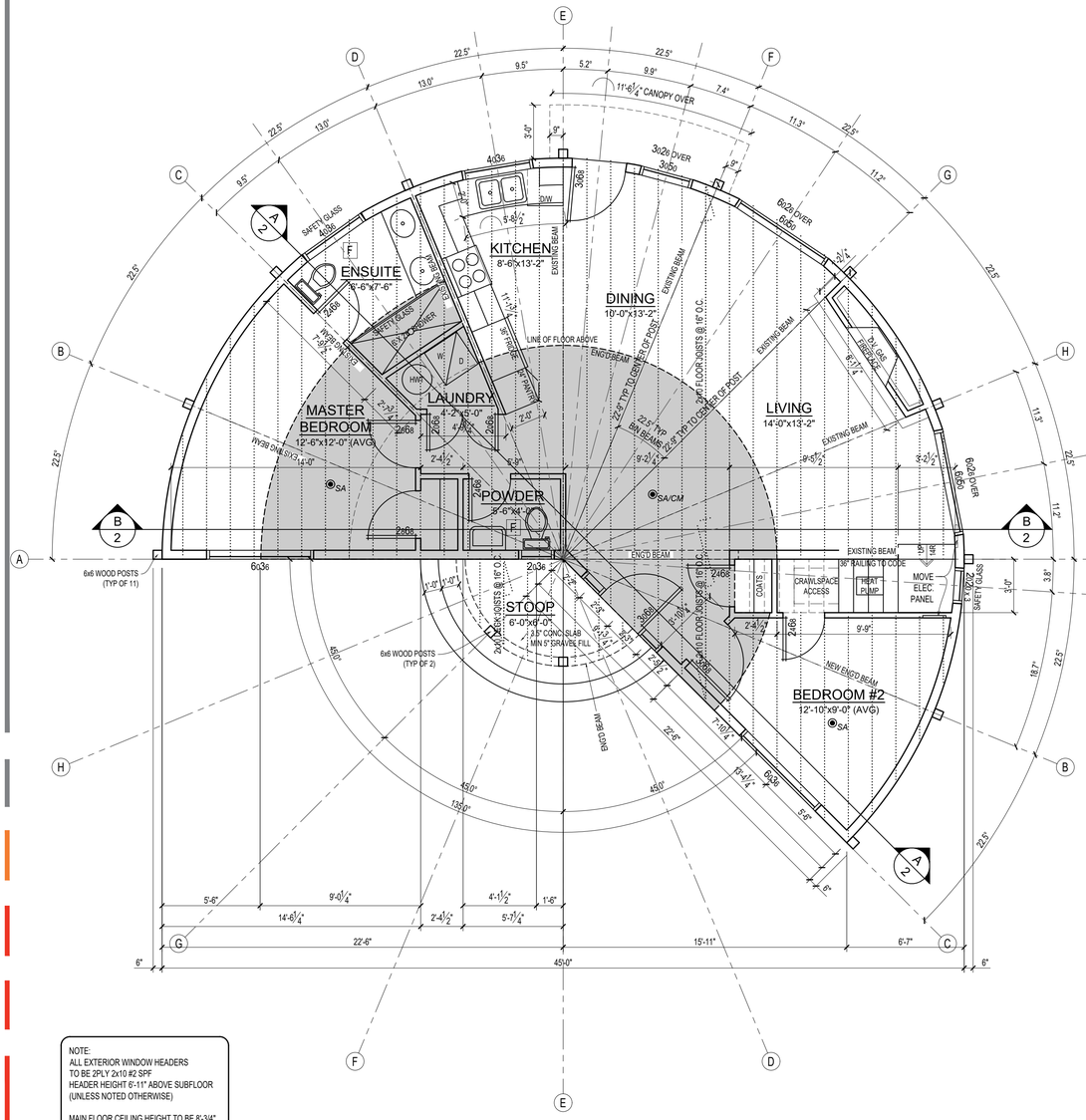
OF 6

DATE:	01-28-2025
PROJECT:	RA-24-86
DESIGNED/CHECKED:	JM
DRAWN:	MS



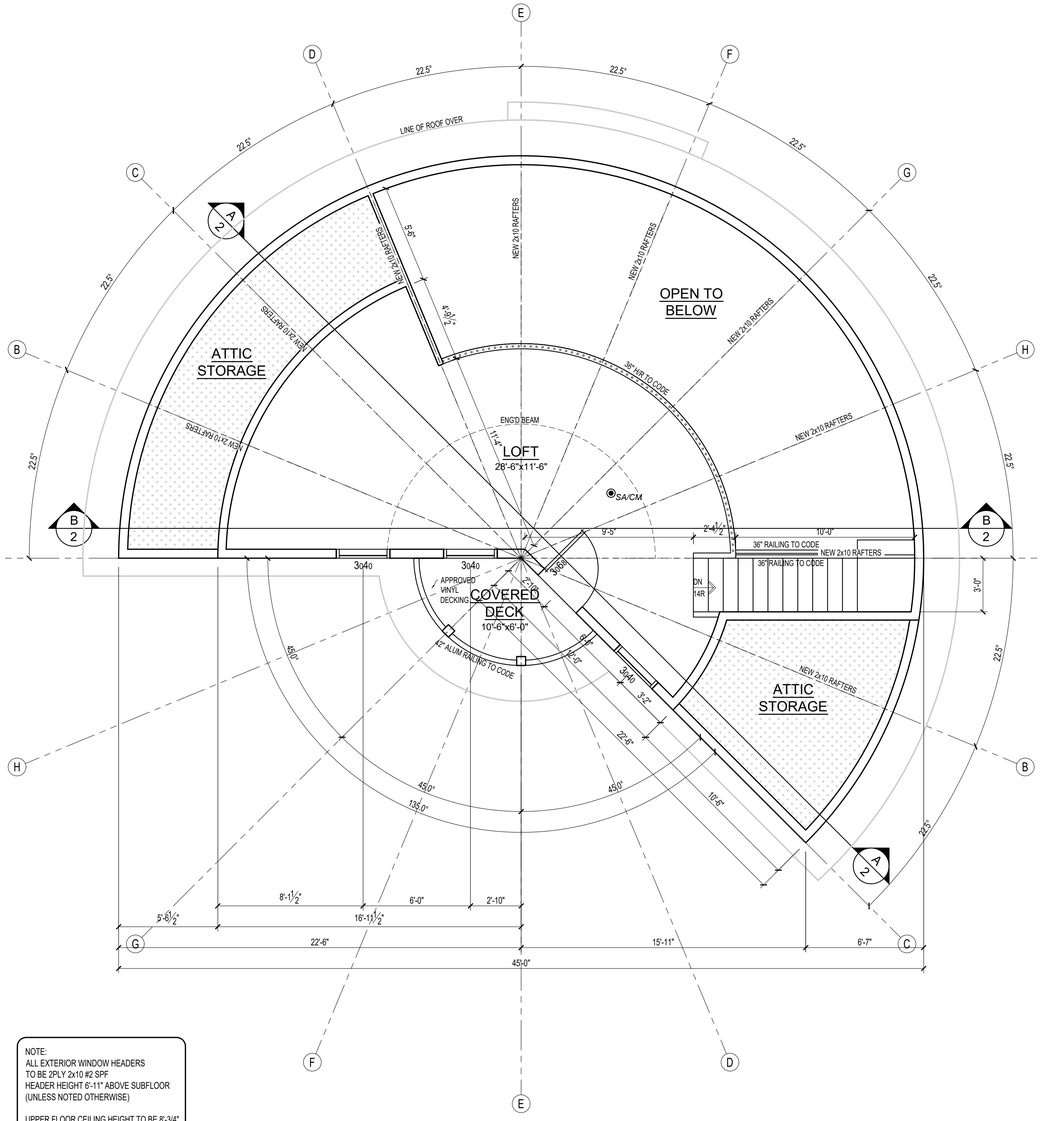
NOTE:
ALL EXTERIOR WINDOW HEADERS
TO BE 2PLY 2x10 #2 SPF
HEADER HEIGHT 6'-11" ABOVE SUBFLOOR
(UNLESS NOTED OTHERWISE)

MAIN FLOOR CEILING HEIGHT TO BE 8'-3/4"
(UNLESS NOTED OTHERWISE)

MAIN FLOOR PLAN

198 SQ.FT.(ADDITION)
795 SQ.FT.(EXISTING)

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



NOTE:
ALL EXTERIOR WINDOW HEADERS
TO BE 2PLY 2x10 #2 SPF
HEADER HEIGHT 6'-11" ABOVE SUBFLOOR
(UNLESS NOTED OTHERWISE)

UPPER FLOOR CEILING HEIGHT TO BE 8'-3/4"
(UNLESS NOTED OTHERWISE)

UPPER FLOOR PLAN

362 SQ.FT.(ADDITION)

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

NOTE:
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MISSION, BC

REV	DATE	DESCRIPTION

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SHEET TITLE:
MAIN FLOOR PLAN
UPPER FLOOR PLAN

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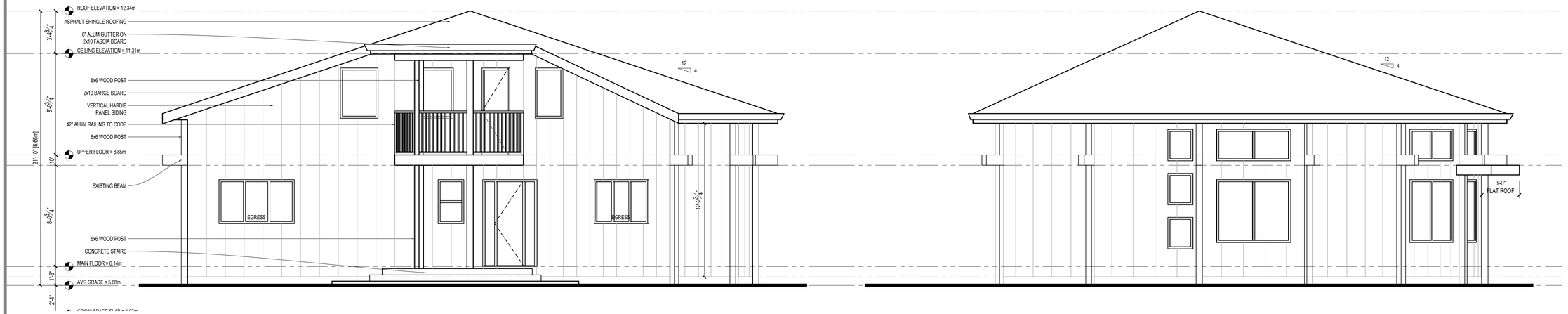


SOUTH ELEVATION

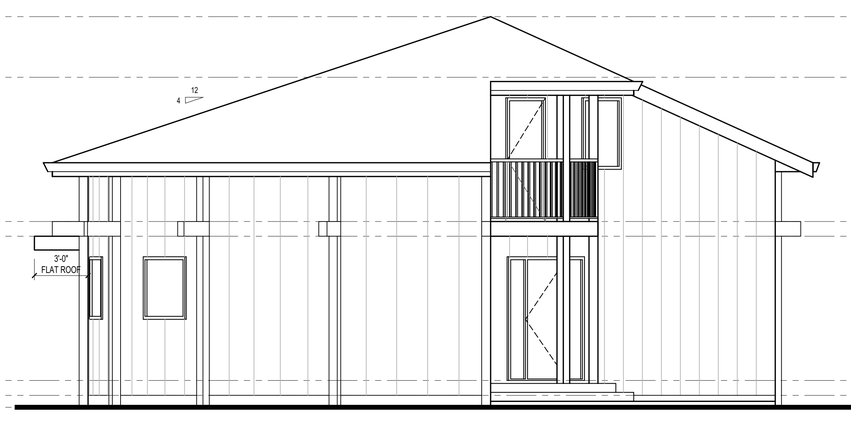
SCALE: 1/4" = 1'-0"

EAST ELEVATION

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

NORTH ELEVATION

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



WEST ELEVATION

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

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MISSION, BC

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SHEET TITLE:
ELEVATIONS

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DATE:	01-28-2025
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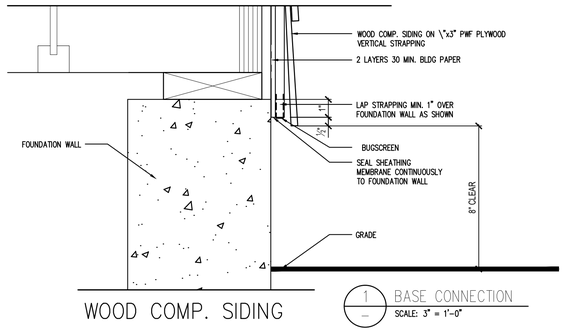
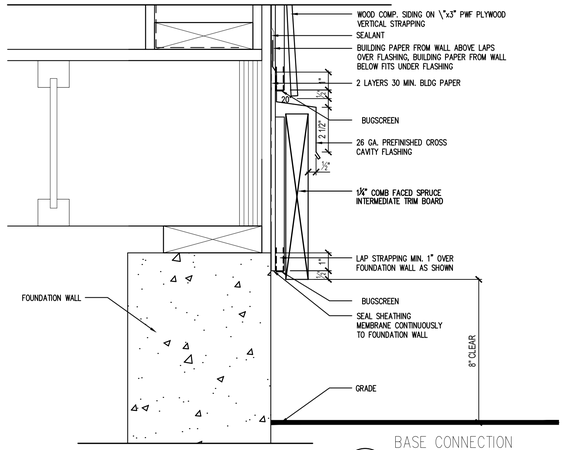


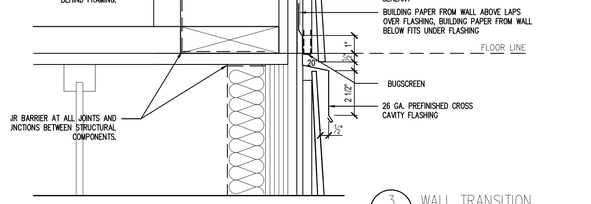
WOOD COMP. SIDING

1 — BASE CONNECTION
SCALE: 3" = 1'-0"



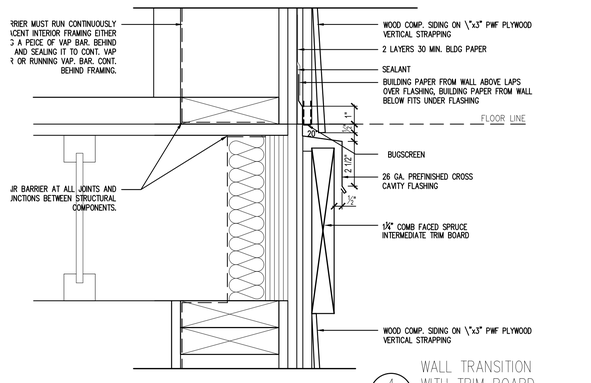
WOOD COMP. SIDING

2 — BASE CONNECTION WITH TRIM BOARD
SCALE: 3" = 1'-0"



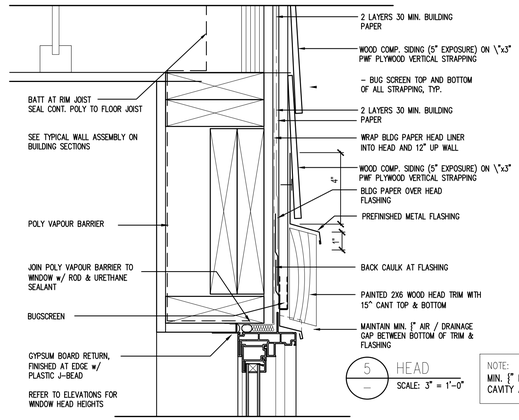
WOOD COMP. SIDING

3 — WALL TRANSITION
SCALE: 3" = 1'-0"



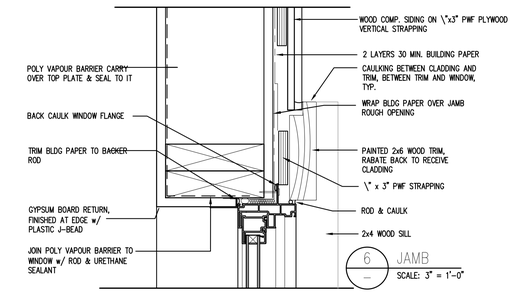
WOOD COMP. SIDING

4 — WALL TRANSITION WITH TRIM BOARD
SCALE: 3" = 1'-0"



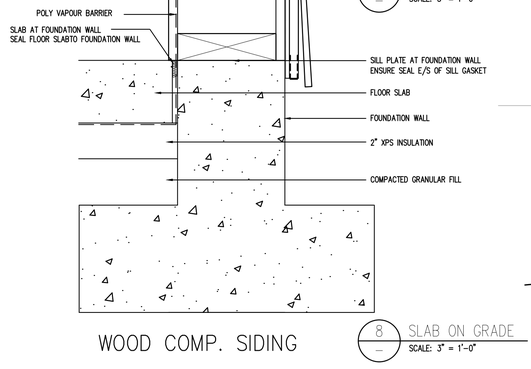
5 — HEAD
SCALE: 3" = 1'-0"

NOTE:
MIN. ¾" RAINSCREEN CAVITY AS PER BCBC



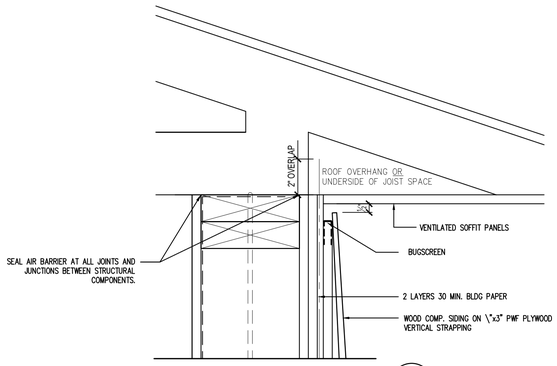
6 — JAMB
SCALE: 3" = 1'-0"

7 — SILL
SCALE: 3" = 1'-0"



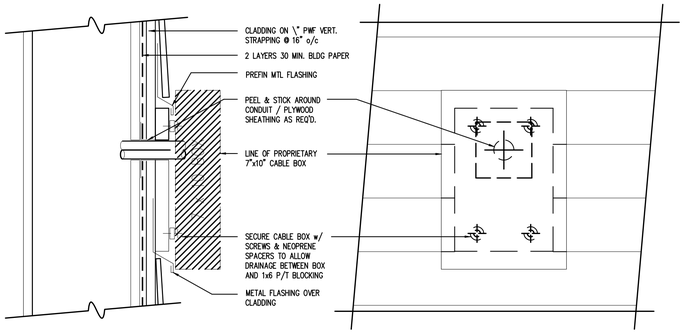
WOOD COMP. SIDING

8 — SLAB ON GRADE
SCALE: 3" = 1'-0"

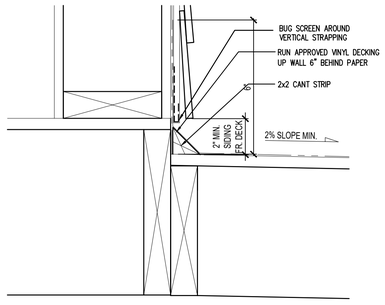


WOOD COMP. SIDING

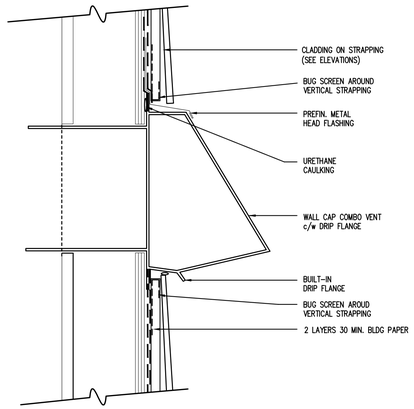
9 — SOFFIT DETAIL
SCALE: 3" = 1'-0"



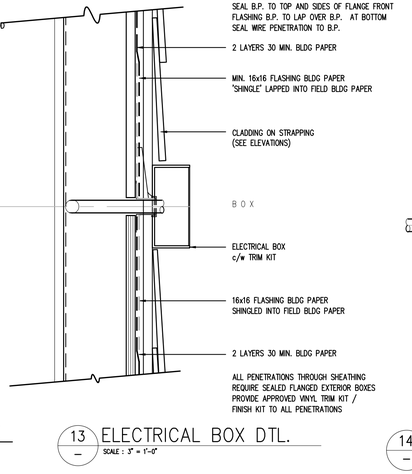
10 — TYP. CABLE BOX.
SCALE : 3" = 1'-0"



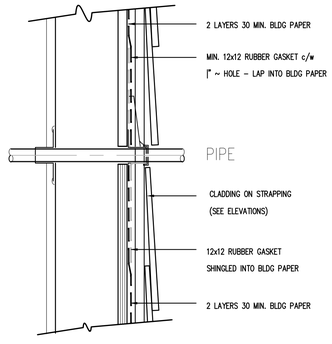
11 — VINYL DECKS
SCALE: 3" = 1'-0"



12 — TYP. THRU-WALL VENT DETAIL
SCALE : 3" = 1'-0"



13 — ELECTRICAL BOX DTL.
SCALE : 3" = 1'-0"



14 — PIPE / HOSE BIB DTL.
SCALE : 3" = 1'-0"

NOTE:

USE ONLY APPROVED SEALANTS AT SELF ADHERED MEMBRANE

ALL PRESSURE TREATED PLYWOOD WALL SHEATHING TO BE FASTENED WITH GALVANIZED NAILS.

ALL BORATE TREATED WOOD STRAPPING, CEDAR SHINGLES, AND WOODPLANK TO BE FASTENED WITH HOT DIP GALVANIZED NAILS.

AIRTIGHTNESS NOTES:

MECHANICAL FLUES AND CHIMNEYS:
STEEL-LINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE VOID BETWEEN REQUIRED CLEARANCES FOR METAL CHIMNEYS AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH TEMPERATURES.

PLUMBING STACKS:
PLUMBING VENT STACKS PIPES THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY EITHER SEALING THE AIR BARRIER MATERIAL OR SHEATHING TAPE, OR INSTALLING A RUBBER GASKET OR PREFABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLAN OF AIRTIGHTNESS AND SEALING IT TO THE TOP PLATE.

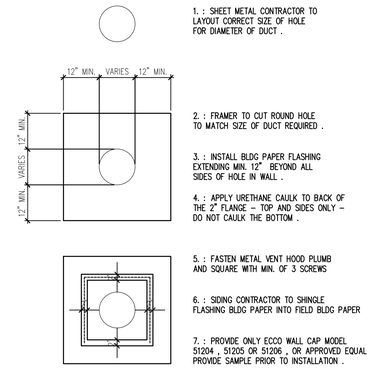
SKYLIGHTS:
THE INTERFACE BETWEEN THE SKYLIGHT AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND SKYLIGHT.

ATTIC HATCHES:
AIR LEAKAGE OCCURS THROUGH THE JOINT BETWEEN THE HATCH AND THE CEILING. THE HATCH IS MOST OFTEN ON A LEDGE MADE FROM WOOD TRIM OR THE EDGE OF THE CEILING. AIR SEALING CAN BE ACHIEVED BY ENSURING THE HATCH IS SIZED PROPERLY SO THAT IS HAS ENOUGH CONTACT WITH THE OPENINNG LEDGE AND PROVIDING A CLOSED CELL FOAM GASKET.

POT LIGHTS:
RECESSED POT LIGHT HOUSINGS ARE ONE OF THE MOST COMMON AIR LEAKAGE POINTS THROUGH THE CEILING PLANE INTO THE ATTIC. AIR LEAKAGE OCCURS BETWEEN THE HOUSING AND AIR BARRIER THROUGH THE FIXTURE.

WALL VENTED DUCTS:
DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL.

ELECTRICAL PENETRATIONS IN WALLS:
ELECTRICAL PENETRATIONS IN WALL, INCLUDING OUTLETS, WIRING, SWITCHES, RECESSED LIGHT FIXTURES THROUGH THE PLAN OF AIRTIGHTNESS MUST BE AIRTIGHT. OPTIONS INCLUDE USING A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL.



14 — PIPE / HOSE BIB DTL.
SCALE : 3" = 1'-0"

PROJECT TITLE:
32-9053 SHOOK RD.
MISSION, BC

REV	DATE	DESCRIPTION

CLIENT:
STELLINGWERF RESIDENCE

SHEET TITLE:
AIRTIGHTNESS, RAINSCREEN & INSULATION DETAILS

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DATE: 11.27.2024
PROJECT: RA-24-86
DESIGNED/CHECKED: JM
DRAWN: MS

Z:\Projects\RA-24-86-Stellingwerff\RA-24-86-Stellingwerff Residence RAINSCREEN.dwg

FLOORS OVER UNHEATED SPACES (HARDWOOD FLOORING)

DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL- HARDWOOD 3. 5/8" PLYWOOD SUBFLOOR 4. 3/4" AIR BARRIER 5. POLYETHYLENE 6. 5/8" GYPSUM CEILING BOARD 7. EXTERIOR AIR FILM	 0.12 0.12 0.14 0.18 - 0.10 0.03	 RSI 0.69 (R-3.9)
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 4.97 (R-28.2)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.18 (R-29.4)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CARPET FLOORING)

DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL- CARPET & RUBBER PAD 3. 5/8" PLYWOOD SUBFLOOR 4. 3/4" AIR BARRIER 5. POLYETHYLENE 6. 5/8" GYPSUM CEILING BOARD 7. EXTERIOR AIR FILM	 0.12 0.22 0.14 0.18 - 0.10 0.03	 RSI 0.79 (R-4.5)
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 5.07 (R-28.8)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.18 (R-30.0)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CERAMIC TILE FLOORING)

DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL- CERAMIC TILE 3. 1/4" PLYWOOD SUBFLOOR 4. 5/8" PLYWOOD SUBFLOOR 5. 3/4" AIR BARRIER 6. POLYETHYLENE 7. 5/8" GYPSUM CEILING BOARD 8. EXTERIOR AIR FILM	 0.12 0.005 0.05 0.14 0.18 - 0.10 0.03	 RSI 0.625 (R-3.55)
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 4.90 (R-27.8)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.11 (R-29.0)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

ABOVE GRADE WALL ASSEMBLY (HOLLOW BACKED VINYL SIDING)

DESCRIPTION	NOMINAL	EFFECTIVE
R-24 BATT INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 4.22 (R-24)	RSI 2.95 (R-16.8)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. VINYL CLADDING HOLLOW BACKED 3. SHEATHING MEMBRANE 4. 1/2" PLYWOOD SHEATHING 5. POLYETHYLENE 6. 1/2" GYPSUM WALL BOARD 7. INTERIOR AIR FILM	 0.03 0.11 - 0.11 - 0.08 0.12	 RSI 0.45 (R-2.81)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.40 (R-19.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

SPECIFIC REQUIREMENTS

- EFFECTIVE INSULATION OF CEILINGS, WALLS, AND FLOORS MEET THE REQUIREMENTS OF TABLE 9.36.2.6.A AND TABLE 9.36.2.6.B FOR THE CORRECT CLIMATE ZONE
- THE THERMAL CHARACTERISTICS OF WINDOWS, DOOR AND SKYLIGHTS MEET THE REQUIREMENTS OF TABLE 9.36.2.7.A, B AND C FOR CORRECT CLIMATE ZONE
- EFFECTIVE INSULATION OF FOUNDATIONS MEET THE REQUIREMENTS OF TABLE 9.36.2.8.A OR B FOR THE CORRECT CLIMATE ZONE
- DUCTS LOCATED OUTSIDE THE THERMAL ENCLOSURE ARE SEALED AND INSULATED TO THE EXTERIOR WALL INSULATION REQUIREMENTS
- DAMPERS ARE INSTALLED AT AIR INLETS AND EXHAUSTS WHERE REQUIRED
- PIPING FOR HEATING OR COOLING SYSTEMS IS LOCATED WITHIN THE THERMAL ENCLOSURE OR ARE FULLY INSULATED
- HVAC EQUIPMENT IS LOCATED WITHIN THERMAL ENCLOSURE OR DESIGNATED TO BE INSTALLED OUTSIDE OF THERMAL ENCLOSURE
- TEMPERATURE CONTROLS ARE INSTALLED ON HEATING AND COOLING EQUIPMENT
- INDOOR POOLS ARE COVERED OR HAVEAN HRV/DEHUMIDIFIER
- HVAC & SWH EQUIPMENT MEET MINIMUM PERFORMANCE REQUIREMENTS DETERMINED IN TABLES 9.36.3.10 AND 9.36.4.2
- SERVICE WATER HEATING PIPES ARE INSULATED AT THE INLET AND OUTLET OF STORAGE TANKS
- SERVICE WATER HEATERS HAVE TEMPERATURE CONTROLS
- THE AIR BARRIER DETAILS, AND LOCATIONS HAVE BEEN IDENTIFIED

TEMPERATURE CONTROLS AS PER SECTION 9.36.3.6

- TEMPERATURE CONTROLS ARE GENERALLY REQUIRED FOR HEATING AND COOLING EQUIPMENT. THE ACCURACYOF THE CONTROL MUST BE BETTER THAN PLUS OR MINUS 0.5 DEGREES CELCIUS

ENERGY EFFECIENCY REQUIREMENTS

- THIS HOME IS DESIGNED TO COMPLY WITH ENERGY EFFECIENCY REQUIREMENTS AND VALUES USING THE PRESCRIPTIVE METHOD FOR CLIMATE 4-LOWER MAINLAND AND SOUTHERN VANCOUVER ISLAND WITH NO H.R.V. (BCBC 2018 LATEST EDITION)

AS PER SECTION 9.36.2.10.-NOTES PERTAINING TO LEAKAGE PATHS IN PROBLEMATIC AREAS

FOUNDATION TO SILL PLATE AND RIM JOISTS
ALL JOINTS AT THE TRANSITION BETWEEN THE FOUNDATION WALL AND THE ABOVE GRADE WALL MUST BE MADE AIR TIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

INTERIOR WALL INTERFACE
INTERIOR WALLS THAT MEET EXTERIOR WALLS OR CEILINGS WITH AN INTERIOR PLANE OF AIR TIGHTNESS MUST BE MADE AIRTIGHT BY EITHER SEALING ALL JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL, OR MAINTAINING THE CONTINUITY OF THE AIR BARRIER SYSTEM THROUGH THE INTERIOR WALL

RIM JOIST
ALL JOINTS AT THE RIM JOIST ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

CANTILEVERED FLOOR
CANTILEVERED FLOORS AND FLOORS OVER UNHEATED SPACES /EXTERIOR SPACE MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL

WINDOW HEAD
THE INTERFACE BETWEEN WINDOW HEAD/JAMB AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER IN THE WALL AND WINDOW. THE REQUIREMENT ALSO APPLIES TO DOORS AND SKYLIGHTS

WINDOW SILL
THE INTERFACE BETWEEN WINDOW SILL AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND WINDOW. THE REQUIREMENT ALSO APPLIES TO DOORS AND SKYLIGHTS

MECHANICAL FLUES AND CHIMNEYS
STEEL-LINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE VOID BETWEEN REQUIRED CLEARANCES FOR METAL CHIMNEYS AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH

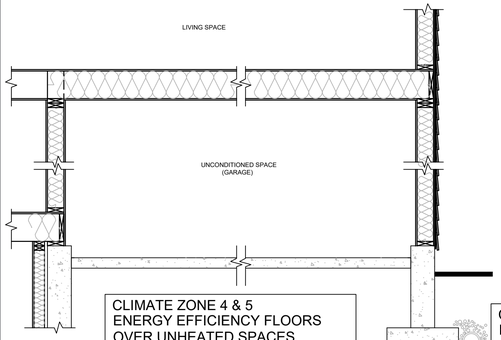
PLUMBING STACKS
PLUMBING VENT STACK PIPES THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY EITHER SEALING THE AIR BARRIER MATERIAL TO THE VENT STACK PIPE WITH A COMPATIBLE MATERIAL OR SHEATHING TAP, OR INSTALLING A RUBBER GASKET OR PREFABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLANE OF AIRTIGHTNESS AND SEALING IT TO THE TOP PLATE

SKYLIGHTS
THE INTERFACE BETWEEN THE SKYLIGHT AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL THE JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND THE SKYLIGHT

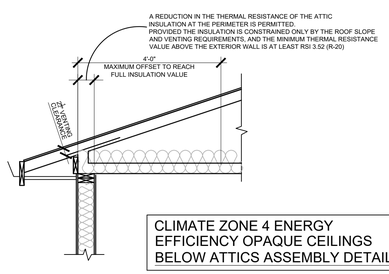
WALL TO CEILING
ALL JOINTS AT THE TRANSITION BETWEEN THE ABOVE GRADE WALL AND CEILING MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

WALL VENTED DUCTS
DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL

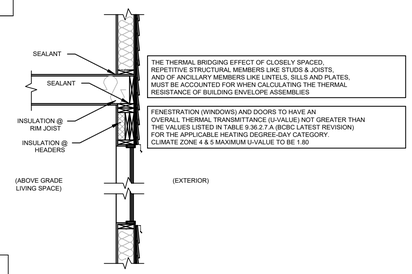
ELECTRICAL PENETRATIONIN WALLS
ELECTRICAL PENETRATIONS IN WALLS, INCLUDING ELECTRICAL OUTLETS, WIRING, SWITCHES, AND RECESSED FIXTURES THROUGH THE PLANE OF AIRTIGHTNESS MUST BE AIRTIGHT. OPTIONS INCLUDE USING A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL



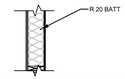
CLIMATE ZONE 4 & 5
ENERGY EFFICIENCY FLOORS OVER UNHEATED SPACES



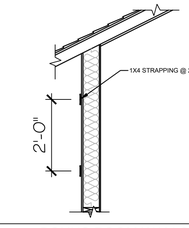
CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE CEILINGS BELOW ATTICS ASSEMBLY DETAIL

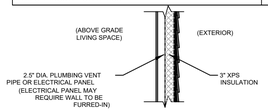


CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE ABOVE GRADE WALL ASSEMBLY DETAIL



CLIMATE ZONE 4 ENERGY EFFICIENCY PLUMBING VENT/ ELECTRICAL PANEL WALL ASSEMBLY DETAIL





WALLS ADJOINING ENCLOSED UN-CONDITIONED SPACE

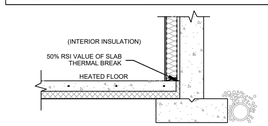
DESCRIPTION	NOMINAL	EFFECTIVE
R24 BATT INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 4.22 (R-24)	RSI 3.25 (R-18.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. VINYL CLADDING HOLLOW BACKED 3. SHEATHING MEMBRANE 4. 1/2" PLYWOOD SHEATHING 5. 2 1/2" AIR CAVITY 6. POLYETHYLENE 7. 1/2" GYPSUM WALL BOARD 8. INTERIOR AIR FILM	 0.03 0.11 - 0.11 0.16 - 0.08 0.12	 RSI 0.31 (R-1.76)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.56 (R-15.17)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

BONUS ROOM WALLS ATTIC TRUSS WEB WALLS @ 24" O.C.

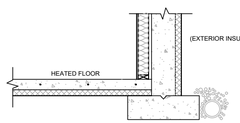
DESCRIPTION	NOMINAL	EFFECTIVE
R24 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 3.51 (R-24)	RSI 3.38 (R-19.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. 12.7MM GYPSUM BOARD INT. FINISH 3. 6 MIL POLY (SEAL PLASTIC - NEGLIGABLE) 4. 11MM ORIENTED STRAND BOARD 5. AIR CAVITY 6. 20MM OR 40MM AIR CAVITIES 7. EXTERIOR AIR FILM	 0.12 0.08 0.00 0.00 0.00 0.00 0.00	 RSI 0.20 (R-1.14)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.58 (R-20.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

BELOW GRADE HEATED FLOOR

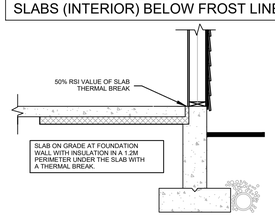
DESCRIPTION	NOMINAL	EFFECTIVE
3.5" POURED IN-PLACE CONCRETE SLAB 3.5" EXTRUDED POLYSTYRENE INSULATION	RSI 3.11 (R-17.6)	RSI 3.11 (R-17.6)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. 3.5" CONCRETE SLAB	 0.16 -	 RSI 0.16 (R-0.90)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.25 (R-18.5)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE HEATED FLOORS		RSI 2.98 (R-16.9)

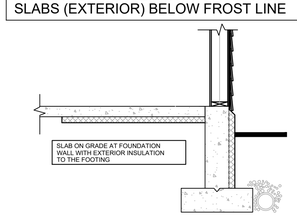


INSULATION PLACEMENT FOR HEATED SLABS (INTERIOR) BELOW FROST LINE

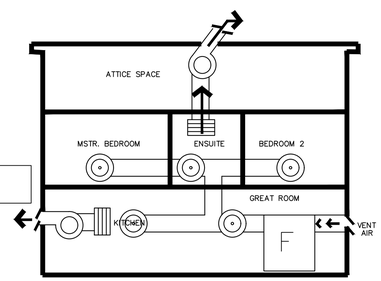


INSULATION PLACEMENT FOR HEATED SLABS (EXTERIOR) BELOW FROST LINE





INSULATION OF UNHEATED AND HEATED SLABS ABOVE THE FROST LINE



FRESH AIR DUCT INSULATED & VAPOUR BARRIERED FOR FULL LENGTH 4" DIAMETER RIGID DUCT OR 5" FLEX DUCT.
DUCT LENGTH TO FURNACE CABINET: MIN. 10 FT. – MAX 15FT.

FURNACE TO RUN CONTINUOUSLY TO DISTRIBUTE SUPPLY AIR

9.32.3.4 (2) SUPPLY WITH FORCED WARM AIR HEATING

CEILING BELOW ATTICS

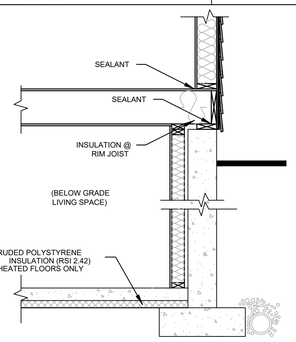
DESCRIPTION	NOMINAL	EFFECTIVE
356MM (14") GLASS FIBRE LOOSE FILL INSULATION FOR ATTICS 2x4 BOTTOM CHORD @ 24" O/C	RSI 8.90 (R-50)	RSI 8.45 (R-47.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. POLYETHYLENE 3. 5/8" GYPSUM CEILING BOARD 4. INTERIOR AIR FILM	 0.03 - 0.10 0.11	 RSI 0.24 (R-1.36)
TOTAL EFFECTIVE INSULATION VALUE		RSI 8.69 (R-48.8)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR CEILINGS BELOW ATTICS		RSI 8.67 (R-49.2)

BELOW GRADE WALL ASSEMBLY

DESCRIPTION	NOMINAL	EFFECTIVE
3" XPS INSULATION OVER 8" POURED-IN-PLACE CONCRETE WALL	RSI 2.64 (R-15)	RSI 2.64 (R-15)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. DAMPPROOFING 2. 1/2" GYPSUM WALL BOARD 3. INTERIOR AIR FILM	 0.21 0.08 0.12	 RSI 0.41 (R-2.23)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.05 (R-17.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 2.98 (R-16.9)

BELOW GRADE WALL ASSEMBLY

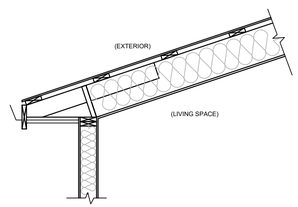
DESCRIPTION	NOMINAL	EFFECTIVE
8" POURED-IN-PLACE CONRETE WALL R-24 BATT INSULATION IN 2x6 WOOD FRAMING @ 24" O/C	RSI 4.22 (R-24)	RSI 3.27 (R-18.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. DAMPPROOFING 2. 1" AIR SPACE 3. POLYETHYLENE 4. 1/2" GYPSUM WALL BOARD 5. INTERIOR AIR FILM	 0.21 0.16 - 0.08 0.12	 RSI 0.57 (R-3.23)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.84 (R-21.8)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 3.46 (R-20.6)



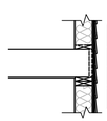
CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE BELOW GRADE WALL ASSEMBLY DETAIL

CEILINGS BELOW CATHEDRAL & FLAT ROOFS

DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X12 WOOD FRAMING @ 24" O/C	RSI 5.63 (R-32)	RSI 5.06 (R-28.8)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 5.63 (R-32)	RSI 4.73 (R-26.8)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. POLYETHYLENE 3. 5/8" GYPSUM CEILING BOARD 4. INTERIOR AIR FILM	 0.03 - 0.10 0.11	 RSI 0.24 (R-1.36)
TOTAL EFFECTIVE INSULATION VALUE		RSI 4.97 (R-28.22)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)



CLIMATE ZONE 4 & 5
ENERGY EFFICIENCY CEILINGS BELOW CATHEDRAL & FLAT ROOFS DETAIL



POCKET BEAM INSULATION R. VALUE	
1" XPS = .035 X 25.4MM	RSI 0.89
5" FRAMING = .0085 X 127MM	RSI 1.08
TOTAL R VALUE REQ. = 60% OF 2.78 =1.67	RSI 1.97

HVAC PERFORMANCE REQUIREMENTS

EQUIPMENT TYPE	SIZE	PERFORMANCE REQUIREMENT
SPACE HEATING EQUIPMENT		
GAS FIRED FURNACE	LESS THAN 220,000 BTU/Hr (66 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GEATER OR EQUAL TO 92%
GAS FIRED BOILER	LESS THAN OR EQUAL TO 300,000 BTU/Hr (66 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GEATER OR EQUAL TO 90%
AIR COOLED UNITARY AIR CONDITIONER AND HEAT PUMP SPLIT SYSTEM	LESS THAN OR EQUAL TO 65,000 BTU/Hr (19 kW)	SEASONAL ENERGY EFFICIENCY RATING (SEER) OF 14.5 OR ENERGY EFFECIENCY RATING (EER) OF 11.5
GAS FIRED TANKLESS	LESS THAN 220,000 BTU/Hr (66 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.8
SERVICE WATER HEATING EQUIPMENT		
ELECTRIC STORAGE	13-71 GAL (50 TO 270L)	STANBY LOSS LESS THAN OR EQUAL TO: 25+ 0.20V (TOP INLET) 40+ 0.20V (BOTTOM INLET) WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED STORAGE	LESS THAN 75,000 BTU/Hr (22 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.67-0.0005V WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED TANKLESS	LESS THAN OR EQUAL TO 250,000 BTU/Hr (73.2 kW)	ENERGY FACTOR MUST BE GREATER THAN OR EQUAL TO 0.8

TABLE 9.32.3.5.
PRINCIPAL VENTILATION SYSTEM EXHAUST FAN
MINIMUM AIR-FLOW RATE FORMING PART OF CLAUSE 9.32.3.5.(1)

FLOOR AREA, m2	MINIMUM AIR-FLOW RATE, L/s				
	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	> 7
140	14	21	28	35	42
140-280	21	28	35	42	49
281-420	28	35	42	49	56
421-560	35	42	49	56	64
561-700	42	49	56	64	71
> 700	49	56	64	71	78

PROJECT TITLE:
32-9053 SHOOK RD. MISSION, BC

REV/	DATE	DESCRIPTION

4TH DIMENSION DESIGN + DRAFTING
203-33082 1ST AVE. MISSION, BC, V2V 1G2
P.604.557.9465 C.604.832.8811
www.4ddrafting.com info@4ddrafting.com

CLIENT:
STELLINGWERF RESIDENCE

SHEET TITLE:
NOTES AND DETAILS

PAGE No:
6 OF 6

DATE:	11.27.2024
PROJECT:	RA-24-86
DESIGNED/CHECKED:	JM
DRAWN:	MS

Z:\Projects\RA-24-86-Stellingwerff\RA-24-86-Stellingwerff Residence DETAILS.dwg