



HOUSING DESIGN CATALOGUE

AB FOURPLEX 02

CMHC HOUSING DESIGN CATALOGUE

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ARCHITECTURAL DRAWINGS



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BUILDING DATA	
BUILDING FOOTPRINT	188.75m ² (2031.69ft ²)
BUILDING HEIGHT	10.66m (35'-0")
STOREYS	2 STOREY
NUMBER OF UNITS	4
UNIT SUMMARY	
UNIT 1	2 BEDROOM, 1 BATHROOM, ACCESSIBLE READY
UNIT 1(ALT)	1 BEDROOM, 1 BATHROOM, ENHANCED ACCESSIBILITY
UNIT 2	2 BEDROOM, 1 BATHROOM
UNIT 3	4 BEDROOM, 3.5 BATHROOM
UNIT 4	4 BEDROOM, 3.5 BATHROOM

ARCHITECTURAL SHEET LIST	
A00	TITLE SHEET
A000	COVER SHEET
A003	ASSEMBLIES SCHEDULE
A004	OPENINGS SCHEDULE
A005	FIRE RATING DETAILS
A006	TYP. DETAILS
A007	TYP. DETAILS
A008	TYP. DETAILS
A009	TYP. DETAILS
A010	SITE PLAN & CODE MATRIX
A101	MAIN FLOOR PLAN - ACCESSIBLE READY
A101a	MAIN FLOOR PLAN - ENHANCED ACCESSIBILITY
A102	SECOND FLOOR PLAN
A103	THIRD FLOOR PLAN
A104	ROOF PLAN
A200	ELEVATIONS
A201	ELEVATIONS
A300	SECTIONS
A301	SECTIONS



ABBREVIATIONS

ABBREVIATIONS MAY OR MAY NOT INCLUDE PERIOD PUNCTUATION. ABBREVIATIONS APPLY TO ARCHITECTURAL DOCUMENTS ONLY.	
ARCH	ARCHITECTURAL
BF	BARRIER FREE
C/C	CENTRE TO CENTRE
CL	CENTER LINE
CIV	CIVIL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
GEOTECH	GEOTECHNICAL
GWB	GYPSUM WALL BOARD
FFE	FINISH FLOOR ELEVATION
FRR	FIRE RESISTANCE RATING
FD	FLOOR DRAIN
HR	HOUR
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
NBC (AE)	NATIONAL BUILDING CODE (ALBERTA EDITION)
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
O/C	ON CENTRE
RM	ROOM
R/O	ROUGH OPENING
RWL	RAIN WATER LEADER
SCH	SCHEDULE
SF	SQUARE FEET
SIM	SIMILAR
SM	SQUARE METER
SPEC	SPECIFICATION
STC	STUD COUNT
STRUC	STRUCTURAL
TBD	TO BE DETERMINED
T/O	TOP OF
T&G	TONGUE & GROOVE
TYP	TYPICAL
U/S	UNDERSIDE
W/C	WASHROOM

ANNOTATION LEGEND	
	ASSEMBLY TAG
	EXTERIOR WALL TAG
	INTERIOR PARTITION TAG
	ROOF TAG
	FLOOR TAG
(REFER TO ASSEMBLIES SCHEDULES)	
	DOOR TAG REFER TO DOOR SCHEDULE
	WINDOW TAG REFER TO WINDOW SCHEDULE
	ATERIAL TAG
	XYZ#
	KEYNOTES REFER TO SHEET SPECIFIC KEYNOTE SCHEDULE
DRAWING TAGS	
	DETAIL NUMBER DRAWING SHEET NUMBER
	BUILDING SECTION NUMBER DRAWING SHEET NUMBER
	EXTERIOR ELEVATION NUMBER DRAWING SHEET NUMBER
	GRID BUBBLE
	SPOT ELEVATION (ABOVE FINISH FLOOR)
	ROOM TAG
	CENTRELINE

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
COVER SHEET

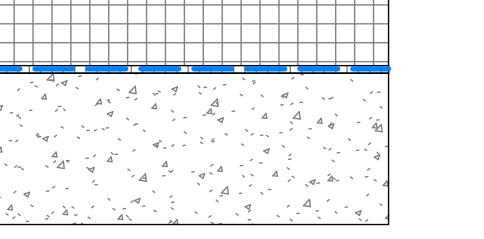
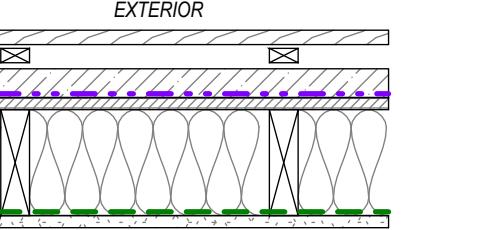
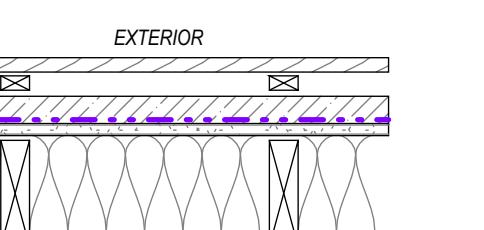
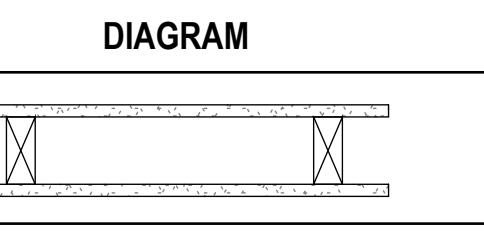
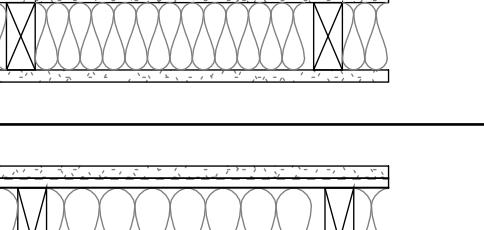
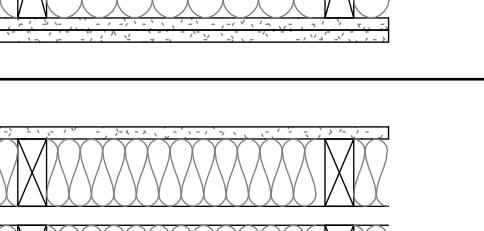
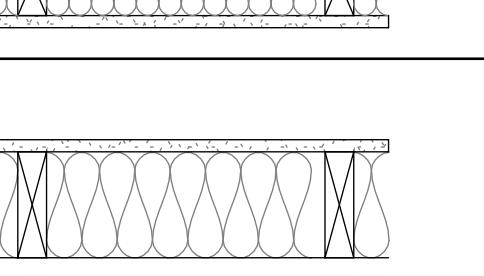
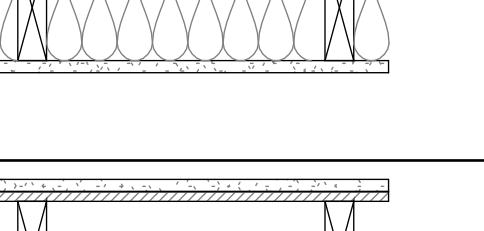
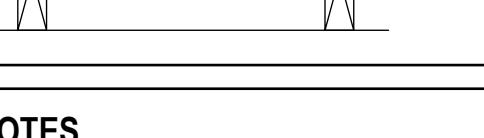
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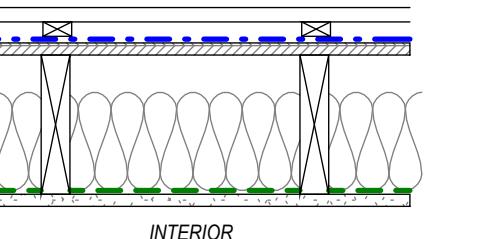
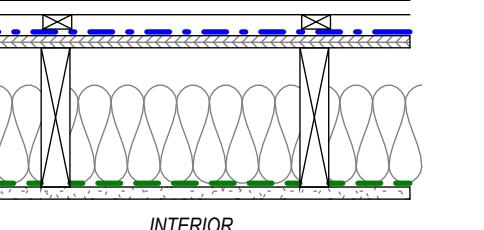
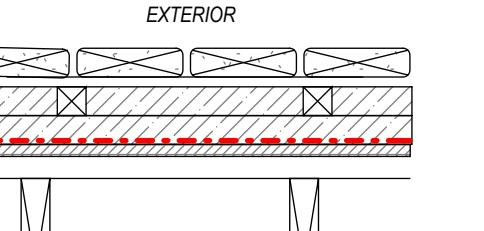
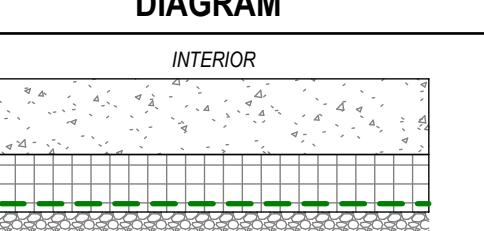
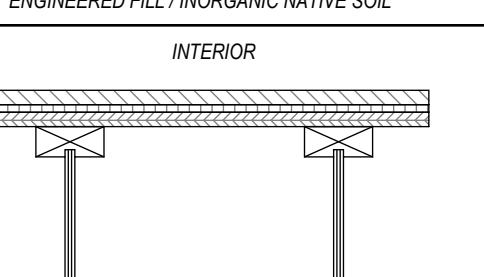
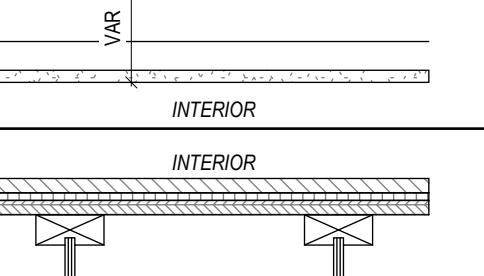
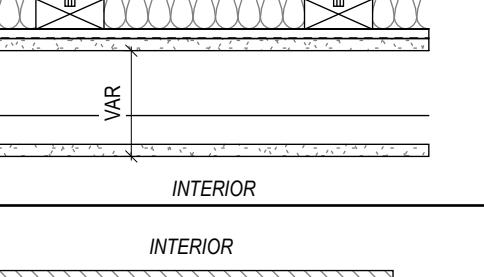
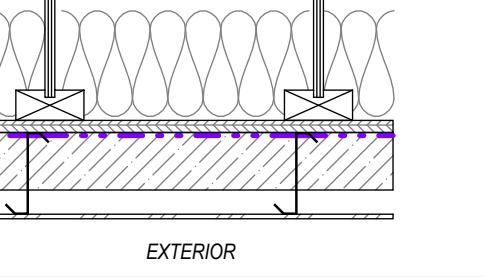
PROJECT NO: 241058
SCALE: As indicated

SHEET NO:
A000

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N - FOUNDATION WALL ASSEMBLIES			
TYPE	DIAGRAM	DESCRIPTION	PERFORMANCE
N1		<p>FOUNDATION 4" (51mm) 1/8" (10mm) /AR 1" (200mm)</p> <p>BACKFILL ENGINEERED FILL / INORGANIC NATIVE SOIL</p> <p>BELOW GRADE RIGID INSULATION DRAINAGE AND PROTECTION BOARD FOUNDATION DAMP PROOFING GRADE BEAM (REFER TO STRUCTURAL)</p>	<p>R-VALUE MIN. R 18.32 / MIN RSI 3.22</p>
W - EXTERIOR WALL ASSEMBLIES			
W1		<p>EXTERIOR ENVELOPE WALL 19mm (3/4") 16mm (3/4") 25mm (1") VAR 16mm (5/8") 140mm (5 1/2") VAR 16mm (5/8")</p> <p>EXTERIOR INTERIOR</p> <p>LIGHT-WEIGHT CLADDING PLACE HOLDER WOOD STRIPS @ 400mm O/C (38mm WIDE MINIMUM) RIGID INSULATION AIR BARRIER, VAPOR PERMEABLE EXTERIOR GRADE PLYWOOD WOOD STUD FRAMING (REFER TO STRUCTURAL) CWF</p> <p>STUD CAVITY IN-FILL INSULATION VAPOR CONTROL BARRIER GYPSUM BOARD</p>	<p>R-VALUE MIN. R 34.64 / MIN RSI 6.1</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p>
W2		<p>EXTERIOR ENVELOPE WALL - NON-COMBUSTIBLE 3/4" (19mm) 1/2" (13mm) 1" (25mm) VAR 5/8" (16mm) 5 1/2" (140mm) VAR 5/8" (16mm)</p> <p>EXTERIOR INTERIOR</p> <p>NON-COMBUSTIBLE LIGHT-WEIGHT CLADDING PLACE HOLDER VENTED CAVITY W/ METAL Z-GIRTS @ 400mm O/C RIGID INSULATION AIR BARRIER, VAPOR PERMEABLE NON-COMBUSTIBLE EXTERIOR SHEATHING METAL STUD FRAMING (REFER TO STRUCTURAL) CWF</p> <p>STUD CAVITY IN-FILL INSULATION VAPOR CONTROL BARRIER GYPSUM BOARD, TYPE X</p>	<p>R-VALUE MIN. R 34.64 / MIN RSI 6.1</p> <p>FRR 1HR</p> <p>FRR BASED ON EW2 AS PER NBC (AE) 9.10.3.1-A</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p> <p>STUD CAVITY INSULATION AND RIGID INSULATION TO BE NON COMBUSTIBLE</p>
P - INTERIOR PARTITION ASSEMBLIES			
P1		<p>2x4 INTERIOR PARTITION 5/8" (16mm) 3 1/2" (89mm) 5/8" (16mm)</p> <p>GYPSUM BOARD WOOD STUD FRAMING @ 406mm O/C GYPSUM BOARD</p>	<p>FRR N/A</p> <p>STC N/A</p>
P1a		<p>2x4 INTERIOR PARTITION W/ BATT 5/8" (16mm) 3 1/2" (89mm) 5 1/2" (140mm) 5/8" (16mm)</p> <p>GYPSUM BOARD WOOD STUD FRAMING @ 406mm O/C C/W ACOUSTIC BATT IN-FILL INSULATION GYPSUM BOARD</p>	<p>FRR N/A</p> <p>STC 34</p>
P2		<p>2x6 INTERIOR PARTITION - BETWEEN UNIT & STAIRS, RATED 5/8" (16mm) 1/2" (13mm) 5 1/2" (140mm) 5 1/2" (140mm) 5/8" (16mm)</p> <p>GYPSUM BOARD, TYPE X RESILIENT FURRING CHANNELS @ 406mm O/C WOOD STUD FRAMING @ 614/10mm O/C C/W ACOUSTIC BATT IN-FILL INSULATION GYPSUM BOARD, TYPE X</p>	<p>FRR 1HR</p> <p>STC 51</p> <p>FRR BASED ON W1a AS PER NBC (AE) 9.10.3.1-A</p>
P3		<p>2x4 DEMISING WALL - NON-LOAD BEARING, RATED 5/8" (16mm) 3 1/2" (89mm) 3 1/2" (89mm) 1" (25mm) 3 1/2" (89mm) 3 1/2" (89mm) 5/8" (16mm)</p> <p>GYPSUM BOARD, TYPE X WOOD STUD FRAMING @ 406mm O/C C/W ACOUSTIC BATT IN-FILL INSULATION AIR SPACE WOOD STUD FRAMING @ 406mm O/C C/W ACOUSTIC BATT IN-FILL INSULATION GYPSUM BOARD, TYPE X</p>	<p>FRR 1HR</p> <p>STC 57</p> <p>FRR BASED ON W1a AS PER NBC (AE) 9.10.3.1-A</p>
P4		<p>2x6 DEMISING WALL - LOAD BEARING, RATED 5/8" (16mm) 5 1/2" (140mm) 5 1/2" (140mm) 1" (25mm) 5 1/2" (140mm) 5 1/2" (140mm) 5/8" (16mm)</p> <p>GYPSUM BOARD, TYPE X WOOD STUD FRAMING (REFER TO STRUCTURAL) CWF ACOUSTIC BATT IN-FILL INSULATION AIR SPACE WOOD STUD FRAMING (REFER TO STRUCTURAL) CWF ACOUSTIC BATT IN-FILL INSULATION GYPSUM BOARD, TYPE X</p>	<p>FRR 1HR</p> <p>STC 61</p> <p>FRR BASED ON W1a AS PER NBC (AE) 9.10.3.1-A</p>
P5		<p>PLUMBING CHASE 5/8" (16mm) 1/2" (13mm) 3 1/2" (89mm)</p> <p>GYPSUM BOARD PLYWOOD SHEATHING (REFER TO STRUCTURAL) WOOD STUD FRAMING @ 406mm O/C</p>	<p>FRR N/A</p> <p>STC N/A</p>
ASSEMBLY GENERAL NOTES			
1.	ALL LOAD BEARING WALLS SUPPORTING A RATED FLOOR ASSEMBLY SHALL HAVE A FIRE RESISTANCE RATING NOTLESS THAN THE SUPPORTED FLOOR ABOVE AS PER NBC(AE) 9.10.8.		
2.	16MM (5/8") GYPSUM BOARD, TYPE X TO BE USED ON LOAD BEARING WALLS (SEE STRUCTURAL) TO PROVIDE FRR.		
3.	ALL WALL AND FLOOR ASSEMBLIES REQUIRED TO BE A FIRE SEPARATION SHALL BE CONSTRUCTED AS A CONTINUOUS BARRIER AGAINST THE SPREAD OF FIRE AND SMOKE AS PER NBC(AE) 9.10.9.2.		
4.	ALL PENETRATIONS THROUGH A REQUIRED FIRE SEPARATION TO MEET REQUIREMENTS OF NBC(AE) 9.10.9.6.		
5.	ALL PIPING PENETRATIONS THROUGH A RATED ASSEMBLY OR A MEMBRANE THAT FORMS PART OF A RATED ASSEMBLY TO CONFORM TO NBC(AE) 9.10.9.		
6.	ALL OPENINGS FOR ELECTRICAL OR SIMILAR OUTLET BOXES IN RATED ASSEMBLIES TO CONFORM TO NBC(AE) 9.10.9.		
7.	RECESSED LIGHTING FIXTURES SHALL NOT BE LOCATED IN INSULATED CEILINGS UNLESS THE FIXTURES ARE DESIGNED FOR SUCH INSTALLATIONS AS PER NBC(AE) 9.34.1.4.		
8.	STRUCTURAL SLAB: EFFECTIVE THERMAL RESISTANCE OF AN UNHEATED FLOOR ABOVE FROSTLINE IN CONTACT WITH GROUND WITH A HRV FOR CLIMATE ZONE 7A: MINIMUM EFFECTIVE THERMAL RESISTANCE RSI 1.8. REFER TO NBC(AE) 9.36.		
9.	WALLS: EFFECTIVE THERMAL RESISTANCE OF ABOVE-GROUND OPAQUE ASSEMBLIES WITH A HRV IN CLIMATE ZONE 7A: RSI 6.1. REFER TO NBC(AE) 9.36.		
10.	ROOFS: EFFECTIVE THERMAL RESISTANCE OF ABOVE-GROUND OPAQUE ASSEMBLIES WITH A HRV IN CLIMATE ZONE 7A: RSI 6.5. REFER TO NBC(AE) 9.36.		
11.	FOAMED PLASTICS TO BE THERMALLY PROTECTED AS PER NBC(AE) 9.10.17.10.		
12.	ROOFING MATERIAL AND INSTALLATION AS PER NBC(AE) 9.10.17.10.		
13.	VAPOR BARRIER AS PER NBC(AE) 9.26.2.		
14.	INSULATION AS PER NBC(AE) 9.25.2.1.		
15.	CLADDING AS PER NBC(AE) 9.25.4.		
16.	WHERE CLOSED CELL SPRAY INSULATION ACTS AS VAPOR CONTROL, ENSURE SUFFICIENT QUANTITY TO MEET NBC(AE) 9.25.4.2.(8).		

R - ROOF ASSEMBLIES			
TYPE	DIAGRAM	DESCRIPTION	PERFORMANCE
R1		<p>EXTERIOR INTERIOR</p> <p>ROOFING PLACEHOLDER VENTED CAVITY W/ WOOD FURRING ROOF MEMBRANE EXTERIOR GRADE PLYWOOD WOOD ROOF FRAMING (REFER TO STRUCTURAL) LEAVING VENTILATION GAP: MIN. 50mm(2") STUD CAVITY IN-FILL INSULATION VAPOR CONTROL BARRIER GYPSUM BOARD</p>	<p>R-VALUE MIN. R 36.91 / MIN RSI 6.5</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p> <p>STUD CAVITY INSULATION AND RIGID INSULATION TO BE NON COMBUSTIBLE</p>
R2		<p>EXTERIOR INTERIOR</p> <p>ROOFING PLACEHOLDER VENTED CAVITY W/ WOOD FURRING ROOF MEMBRANE PRE-FABRICATED ROOF TRUSS (REFER TO STRUCTURAL) STUD CAVITY IN-FILL INSULATION VAPOR CONTROL BARRIER GYPSUM BOARD</p>	<p>R-VALUE MIN. R 36.91 / MIN RSI 6.5</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p> <p>STUD CAVITY INSULATION AND RIGID INSULATION TO BE NON COMBUSTIBLE</p>
R3		<p>EXTERIOR INTERIOR</p> <p>WOOD DECKING VENTED CAVITY W/ PLASTIC SHIMS PRESSURE TREATED WOOD FRAMING PERPENDICULAR TO DIRECTION OF SLOPE CWF RIGID INSULATION PRESSURE TREATED WOOD FRAMING IN DIRECTION OF SLOPE CWF RIGID INSULATION ROOFING PLACEHOLDER, 2 PLY MOD-BIT EXTERIOR GRADE PLYWOOD CAUTED WOOD SLEEPERS, MIN. 2% SLOPE PRESSURE TREATED WOOD, JOIST OR I-JOIST (REFER TO STRUCTURAL) JW STUD CAVITY IN-FILL INSULATION VAPOR CONTROL BARRIER GYPSUM BOARD, TYPE X GYPSUM BOARD, TYPE X</p>	<p>R-VALUE MIN. R 36.91 / MIN RSI 6.5</p> <p>FRR 1HR AS PER NBC (AE) 9.10.3.1.1</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p> <p>STUD CAVITY INSULATION AND RIGID INSULATION TO BE NON COMBUSTIBLE</p>
F - FLOOR ASSEMBLIES			
TYPE	DIAGRAM	DESCRIPTION	PERFORMANCE
F1		<p>INTERIOR</p> <p>SLAB ON GRADE /AR EAST IN-PLACE CONCRETE SLAB-ON-GRADE, REFER TO STRUCTURAL BELOW GRADE RIGID INSULATION VAPOR CONTROL BARRIER FREE-DRAINING GRANULAR BASE</p>	<p>R-VALUE MIN. R 13.82 / MIN RSI 2.43</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p>
F2		<p>INTERIOR</p> <p>WOOD FRAMED FLOOR, RATED 3/4" (19mm) 3/8" (10mm) 3/4" (19mm) 1/4" (6mm) 6" (152mm) 1/2" (13mm) 5/8" (16mm) 5/8" (16mm) VAR</p> <p>FLOOR FINISH RUBBER UNDERLAY T&G PLYWOOD SUBFLOOR, SCREWED & GLUED ENGINEERED WOOD JOIST OR I-JOIST (REFER TO STRUCTURAL) ACOUSTIC BATT IN-FILL INSULATION INTERIOR GYPSUM BOARD, TYPE X WOOD FRAMED WITH GYPSUM BOARD BULKHEAD/SUSPENDED CEILING AT MECH DUCTS, REFER TO MECHANICAL</p>	<p>FRR 1HR AS PER NBC (AE) 9.10.3.1.1</p> <p>STC 54</p> <p>IIC 48</p> <p>FRR BASED ON F6b AS PER NBC (AE) 9.10.3.1-B</p>
F3		<p>INTERIOR</p> <p>WOOD FRAMED FLOOR 3/4" (19mm) 1/4" (10mm) 3/4" (19mm) 1/4" (10mm) VAR 3 1/2" (89mm) 5/8" (16mm) 5/8" (16mm) VAR</p> <p>FLOOR FINISH RUBBER UNDERLAY T&G PLYWOOD SUBFLOOR, SCREWED & GLUED ENGINEERED WOOD JOIST OR I-JOIST (REFER TO STRUCTURAL) ACOUSTIC BATT IN-FILL INSULATION INTERIOR GYPSUM BOARD WOOD FRAMED WITH GYPSUM BOARD BULKHEAD/SUSPENDED CEILING AT MECH DUCTS, REFER TO MECHANICAL</p>	<p>FRR N/A</p> <p>STC N/A</p> <p>IIC N/A</p>
F4		<p>INTERIOR EXTERIOR</p> <p>EXTERIOR ENVELOPE SOFFIT 1/4" (19mm) 1/8" (10mm) 1/4" (19mm) VAR 5 1/2" (140mm) 3/8" (16mm) /AR 3" (76mm) 1/4" (6mm)</p> <p>FLOOR FINISH RUBBER UNDERLAY T&G PLYWOOD SUBFLOOR, SCREWED & GLUED VAPOR BARRIER ENGINEERED WOOD JOIST OR I-JOIST (R-24.0) STUD CAVITY IN-FILL INSULATION (R-24.0) EXTERIOR GRADE PLYWOOD AIR BARRIER, VAPOR PERMEABLE RIGID INSULATION (R-12.8) VENTED CAVITY W/ METAL Z-GIRTS METAL SOFFIT</p>	<p>R-VALUE MIN. R 10.22 / MIN RSI 1.8</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p>
F5		<p>INTERIOR EXTERIOR</p> <p>EXTERIOR ENVELOPE SOFFIT, RATED 1/4" (19mm) 1/8" (10mm) 1/4" (19mm) AR VAR 5 1/2" (140mm) 3/8" (16mm) /AR 3" (76mm) 1/4" (6mm)</p> <p>FLOOR FINISH RUBBER UNDERLAY T&G PLYWOOD SUBFLOOR, SCREWED & GLUED VAPOR BARRIER ENGINEERED WOOD JOIST OR I-JOIST (STRUCTURAL) STUD CAVITY IN-FILL INSULATION (R-24.0) EXTERIOR GRADE GYPSUM BOARD, TYPE X EXTERIOR GRADE PLYWOOD AIR BARRIER, VAPOR PERMEABLE RIGID INSULATION (R-12.8) VENTED CAVITY W/ METAL Z-GIRTS METAL SOFFIT</p>	<p>R-VALUE MIN. R 10.22 / MIN RSI 1.8</p> <p>FRR 1HR AS PER NBC (AE) 9.10.3.1.1</p> <p>FRR BASED ON F4b AS PER NBC (AE) 9.10.3.1-B</p> <p>INSULATION R/RSI VALUES TO BE SPECIFIED PER PROJECT LOCATION AS PER NBC(AE) 9.36</p> <p>STUD CAVITY INSULATION AND RIGID INSULATION TO BE NON COMBUSTIBLE</p>

ALBERTA, CANADA

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PROJECT: **CMHC HOUSING DESIGN CATALOGUE**

NOTICE: **ASSEMBLIES SCHEDULE**

NOTICE: **ASSEMBLY GENERAL NOTES**

NOTICE: **ASSEMBLY PERFORMANCE**

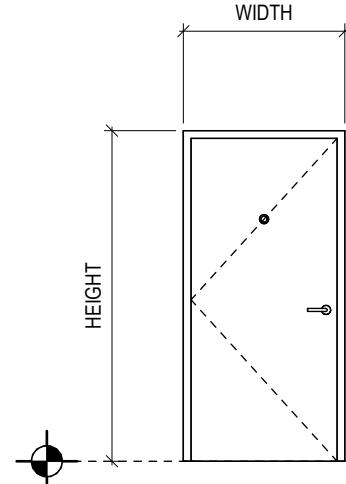
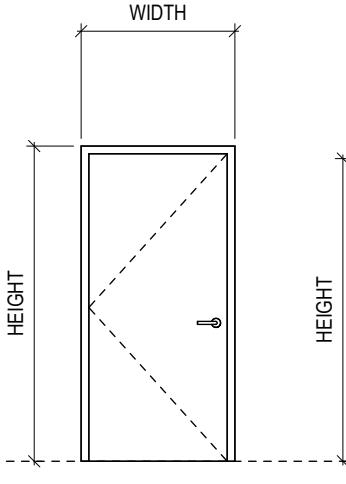
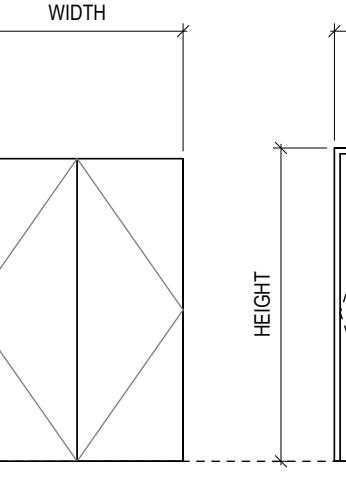
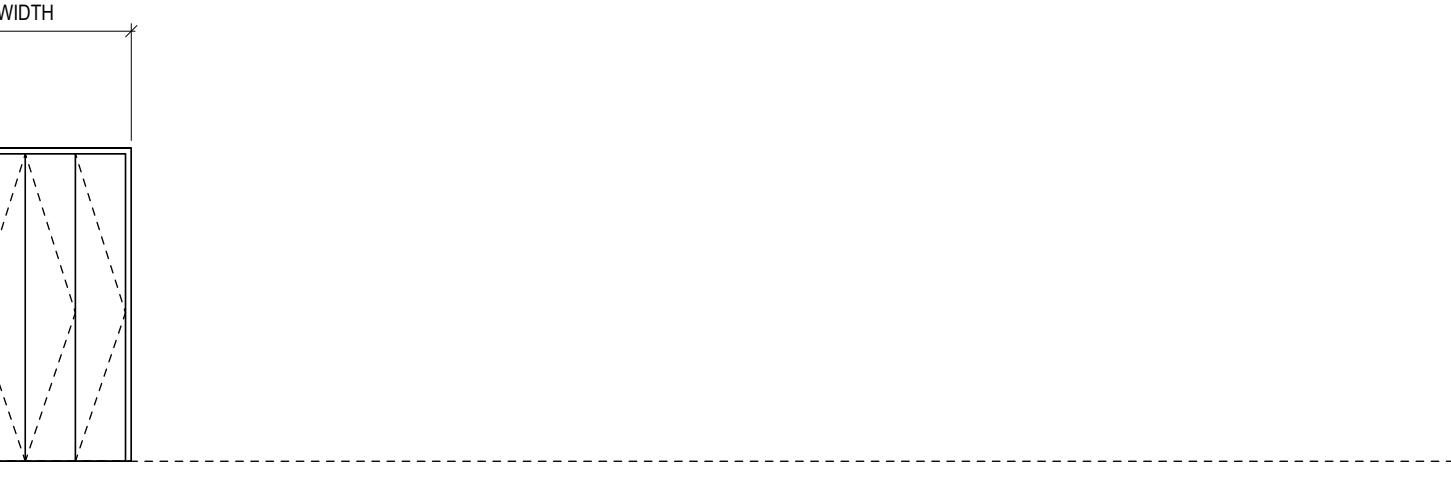
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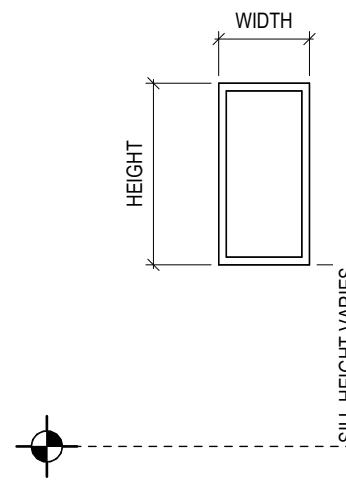
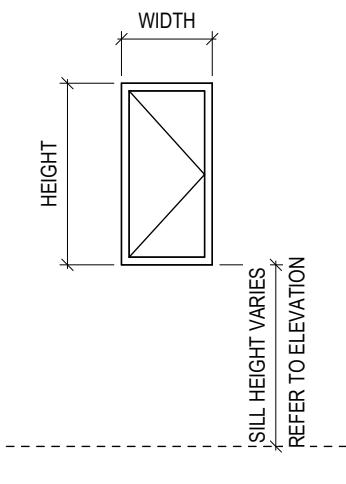
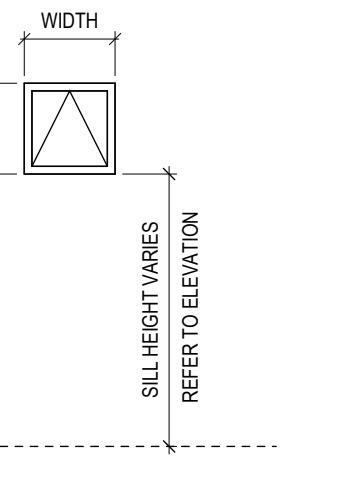
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NOTICE: **ASSEMBLY SCHEDULE**

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DOOR TYPES			
			
DOOR TYPE A EXTERIOR SOLID PANEL WITH DOOR VIEWER	DOOR TYPE B INTERIOR SOLID PANEL	DOOR TYPE C INTERIOR DOUBLE SOLID PANEL	DOOR TYPE D INTERIOR 4 PANEL FOLDING CLOSET DOOR

DOOR SCHEDULE							
TAG	TYPE	METRIC SIZE (mm)		IMPERIAL SIZE (FT'-IN")		FIRE RATING	Comments
		WIDTH	HEIGHT	WIDTH	HEIGHT		
DA01	DOOR TYPE A	965	2134	3'-2"	7'-0"	N/A	DOOR VIEWER AS PER NBC(AE) 9.7.2.1
DA02	DOOR TYPE A	965	2134	3'-2"	7'-0"	45MIN	DOOR VIEWER AS PER NBC(AE) 9.7.2.1 RATING AS PER NBC(AE) 9.10.13.2.
DB01	DOOR TYPE B	914	2032	3'-0"	6'-8"	N/A	
DB02	DOOR TYPE B	813	2032	2'-8"	6'-8"	N/A	
DB03	DOOR TYPE B	711	2032	2'-4"	6'-8"	N/A	
DD01	DOOR TYPE D	1000	2032	3'-3 3/8"	6'-8"	N/A	
DD02	DOOR TYPE D	1600	2032	5'-3"	6'-8"	N/A	
DD03	DOOR TYPE D	1400	2032	4'-7 1/8"	6'-8"	N/A	
DD04	DOOR TYPE D	1800	2032	5'-10 7/8"	6'-8"	N/A	
DD05	DOOR TYPE D	2000	2032	6'-6 3/4"	6'-8"	N/A	

WINDOW TYPES		
		
WINDOW TYPE A FIXED	WINDOW TYPE B CASEMENT	WINDOW TYPE C AWNING

DOOR, WINDOW & SKYLIGHT GENERAL NOTES							
1. WINDOWS AND DOORS TO CONFORM TO REQUIREMENTS OF NBC(AE) 9.7.3 AND NBC(AE) 9.7.4							
2. MAXIMUM U-VALUE FOR WINDOWS TO CONFORM TO ABC TABLE NBC(AE) 9.7.3 AND NBC(AE) 9.36.2.7-A							
3. ALL OPERABLE WINDOWS WITH A SILL HEIGHT OR OPERABLE SECTION LESS THAN 900mm ABOVE FINISHED FLOOR AND 1800mm ABOVE THE FLOOR OR GROUND ON THE OTHER SIDE OF THE WINDOW SHALL BE PROTECTED BY A SWING LIMITER RESTRICTING THE SWING TO NOT MORE THAN 100mm EITHER VERTICALLY OR HORIZONTALLY PER NBC(AE) 9.8.8.1.5.							
4. ALL GLASS TO MEET MATERIAL STANDARDS PER NBC(AE) 9.6.1.2							
5. ALL SIDELIGHTS OR GLAZING AT INDOOR/ENTRIES TO DWELLING UNITS TO BE TEMPERED OR LAMINATED PER NBC(AE) 9.6.1.4							
6. MINIMUM REQUIRED THERMAL CHARACTERISTIC OF FENESTRATION AND DOORS HAS BEEN SHOWN AS CLIMATE ZONE 7A: MAX. U-VALUE 2.0. PROFESSIONAL DESIGNER TO REVISE AS REQUIRED FOR SITE CONDITION. MIN.							
7. ALL PRINCIPAL ENTRANCE DOORS, EXIT DOORS OR DOORS TO SUITES INCLUDING EXTERIOR DOORS TO DWELLING UNITS SHALL BE OPERABLE FROM THE INSIDE WITHOUT KEYS AND DOOR RELEASE HARDWARE; SHALL BE GRASPABLE WITH ONE HAND; AND INSTALLED AT 900mm ABOVE FINISHED FLOOR PER NBC(AE) 9.9.6.7.							
8. ALL EXTERIOR DOORS TO HAVE INSULATED CORE & INSTALLED WITH WEATHERSTRIPPING.							
9. EACH BEDROOM TO HAVE AT LEAST ONE WINDOW OR EXTERIOR DOOR IN COMPLIANCE WITH NBC(AE) 9.9.10.1. FOR EGRESS WINDOWS OR DOORS FOR BEDROOMS.							
10. DOORS, DAMPERS, AND OTHER CLOSURES IN FIRE SEPARATIONS TO BE INSTALLED AS PER NBC(AE) 9.10.13.							
11. DOOR STOP REQUIRED AS PER NBC(AE) 9.10.13.16.							
12. FLAME-SPREAD RATING OF ALL WINDOWS TO CONFORM TO NBC(AE) 9.10.17.1							
13. REFER TO NBC(AE) 9.7.2.2 FOR ADDITIONAL REQUIREMENTS FOR WINDOWS & DOORS.							
14. ALL GLAZING SHOWN AS TRIPLE							

WINDOW SCHEDULE						
TAG	TYPE	METRIC SIZE (mm)		IMPERIAL SIZE (ft'-in")		COMMENTS
		WIDTH	HEIGHT	WIDTH	HEIGHT	
WA01	WINDOW TYPE A	600	600	1'-11 5/8"	1'-11 5/8"	
WA03	WINDOW TYPE A	1200	1400	3'-11 1/4"	4'-7 1/8"	
WA04	WINDOW TYPE A	1200	2000	3'-11 1/4"	6'-6 3/4"	
WB01	WINDOW TYPE B	600	1200	1'-11 5/8"	3'-11 1/4"	EGRESS CLEARANCES AS PER NBC(AE) 9.9.10
WB02	WINDOW TYPE B	600	1400	1'-11 5/8"	4'-7 1/8"	
WB03	WINDOW TYPE B	600	2000	1'-11 5/8"	6'-6 3/4"	
WB04	WINDOW TYPE A	600	450	1'-11 5/8"	1'-5 11/16"	
WB05	WINDOW TYPE B	600	1550	1'-11 5/8"	5'-1"	EGRESS CLEARANCES AS PER NBC(AE) 9.9.10
WC01	WINDOW TYPE C	600	600	1'-11 5/8"	1'-11 5/8"	

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

ALBERTA, CANADA

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OR CONSTRUCTION

SHEET TITLE:
OPENINGS SCHEDULE

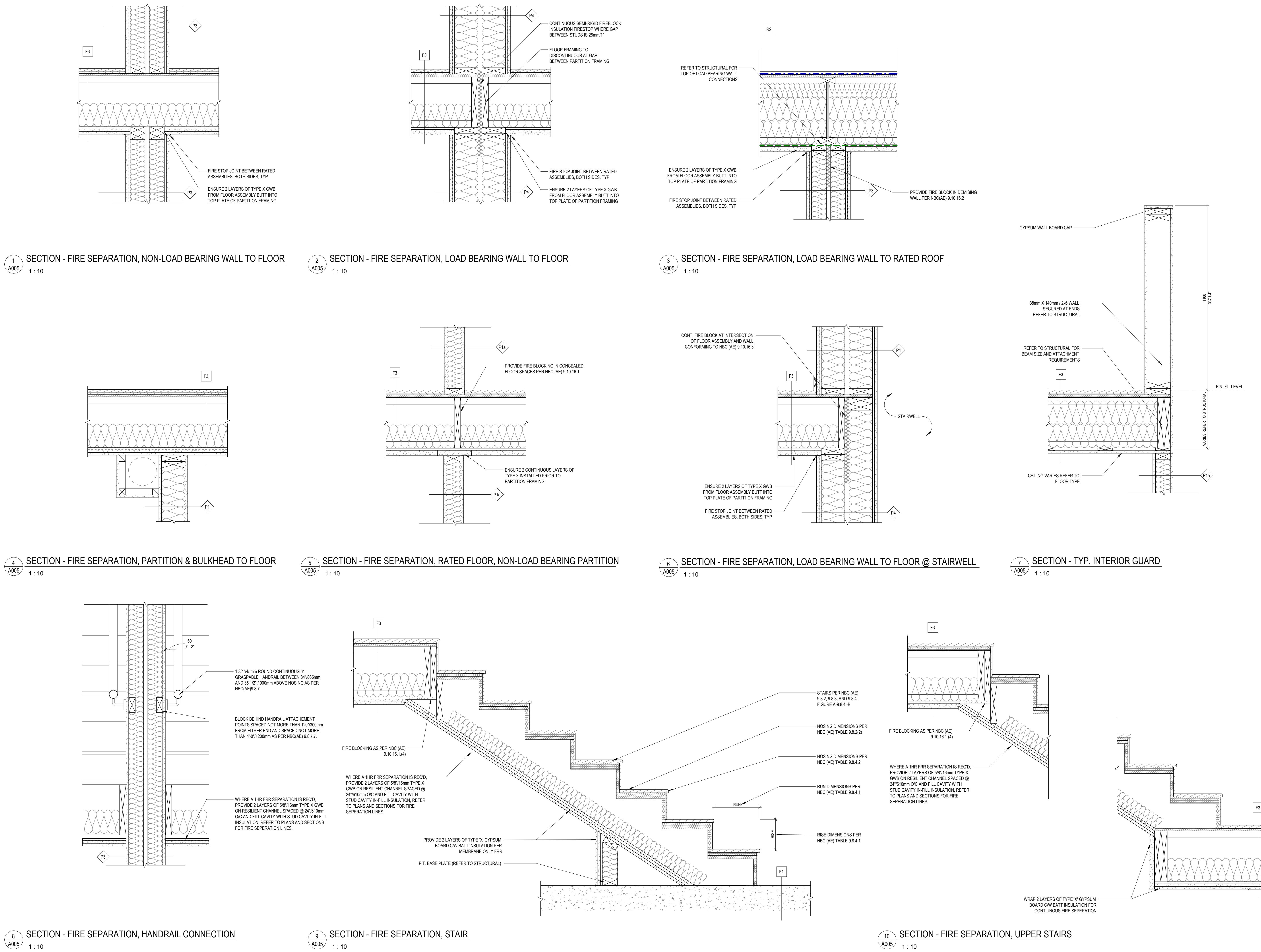
AB Fourplex 02

PROJECT NO: 241058
SCALE: 1:50

SHEET NO:
A004

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PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
FIRE RATING DETAILS

AB Fourplex 02

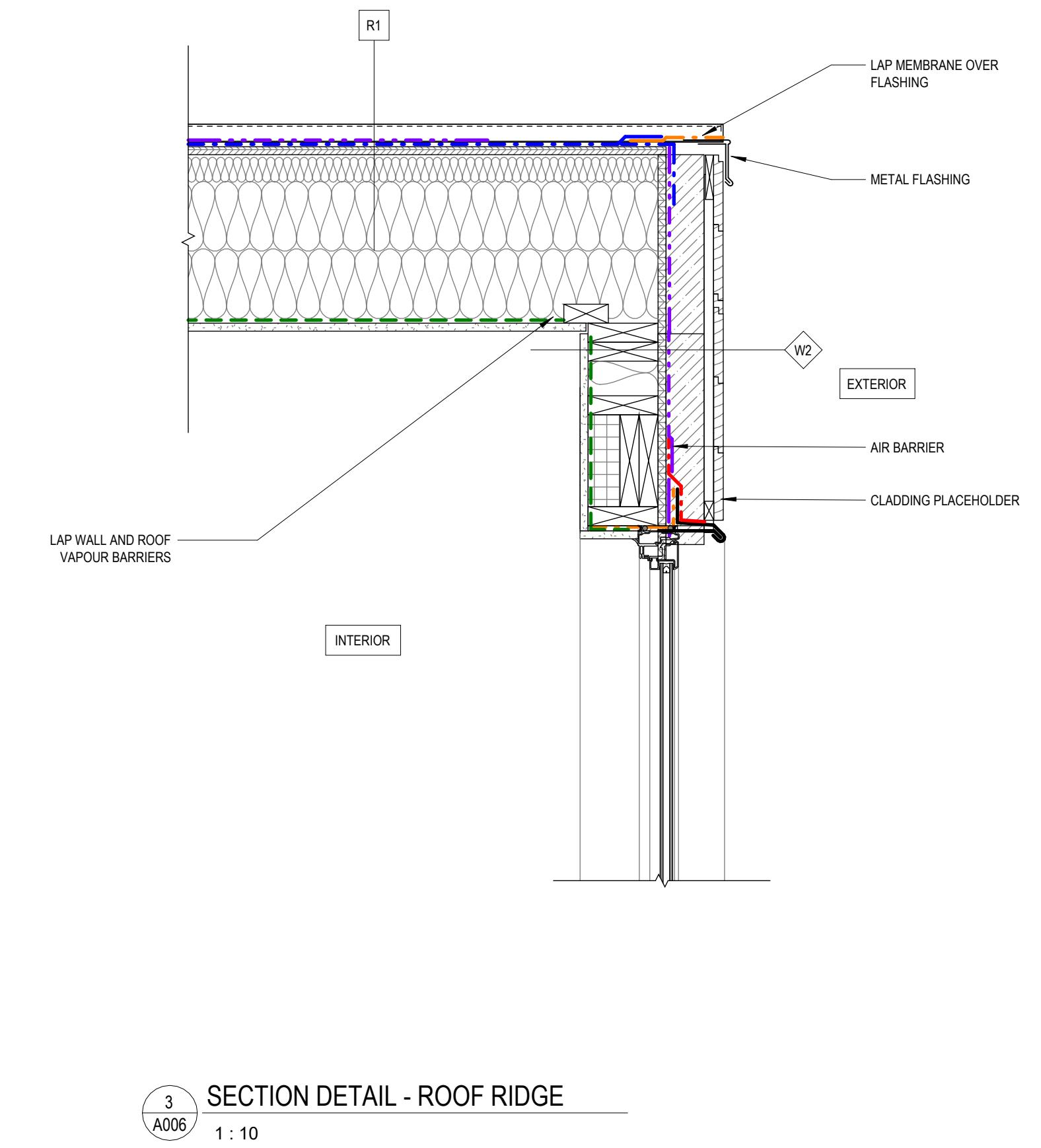
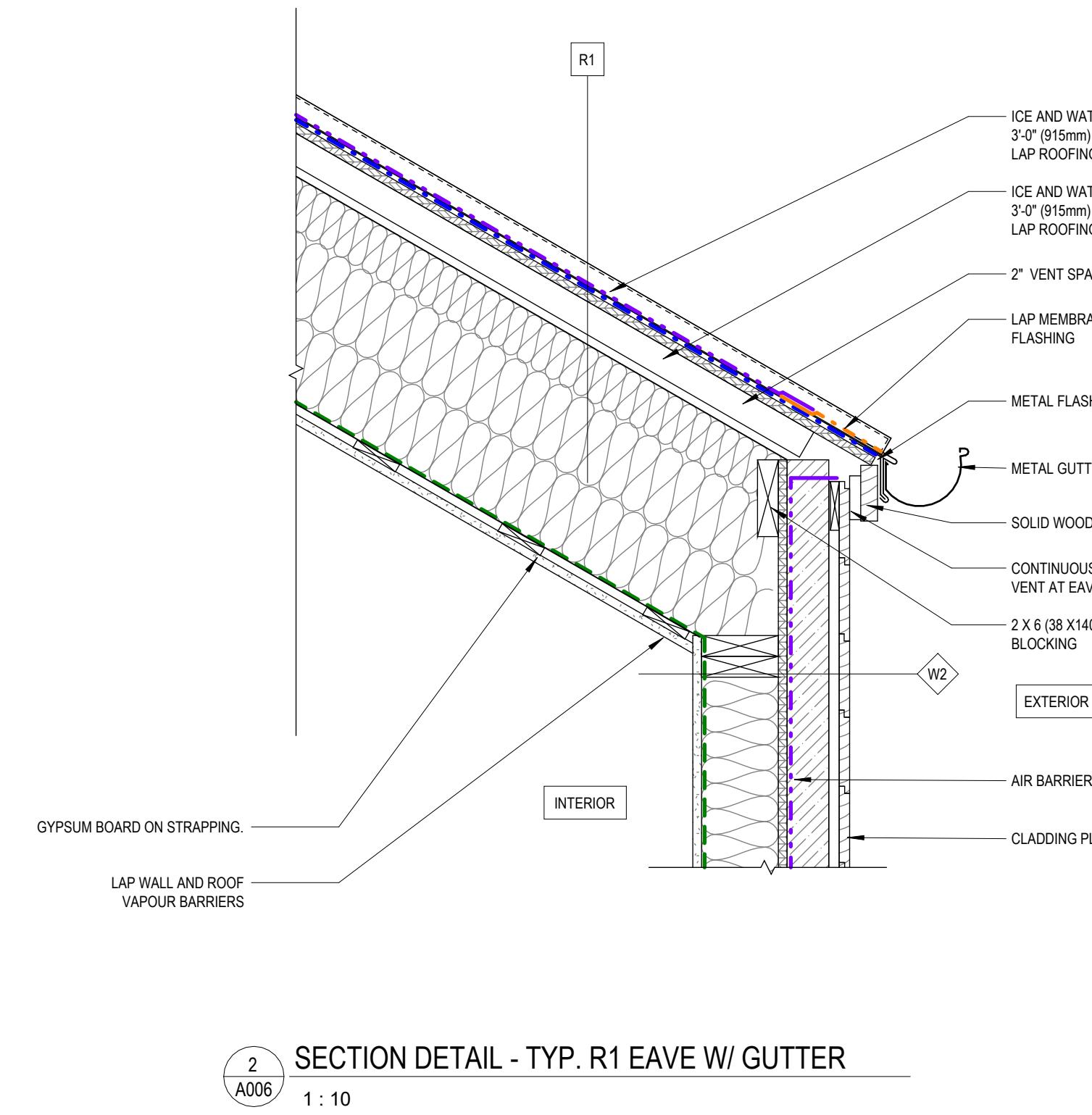
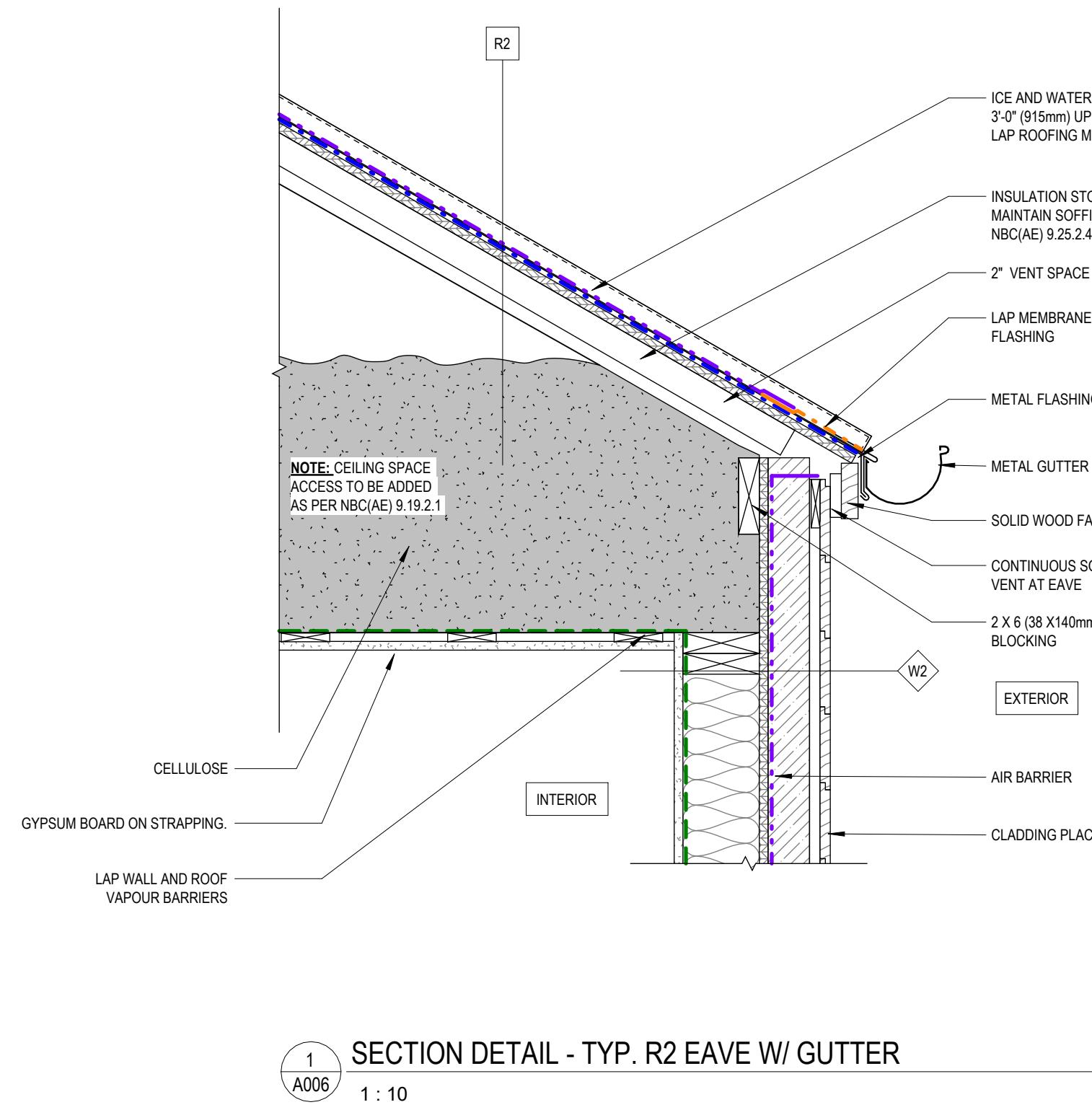
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SCALE: 1:10

SHEET NO:

A005

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MEMBRANE LEGEND	
	AIR BARRIER, VAPOUR PERMEABLE
	AIR BARRIER, NON-VAPOUR PERMEABLE
	TRANSITION MEMBRANE
	THROUGH-WALL FLASHING
	VAPOUR CONTROL BARRIER
	FOUNDATION DAMP PROOFING
	PRE-FIN METAL FLASHING

INSULATION LEGEND	
	MINERAL WOOL, SEMI-RIGID
	EXTRUDED POLYSTYRENE
	EXPANDED POLYISOCYANURATE
	SPRAY FOAM
	MINERAL WOOL BATT

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
TYP. DETAILS

AB Fourplex 02

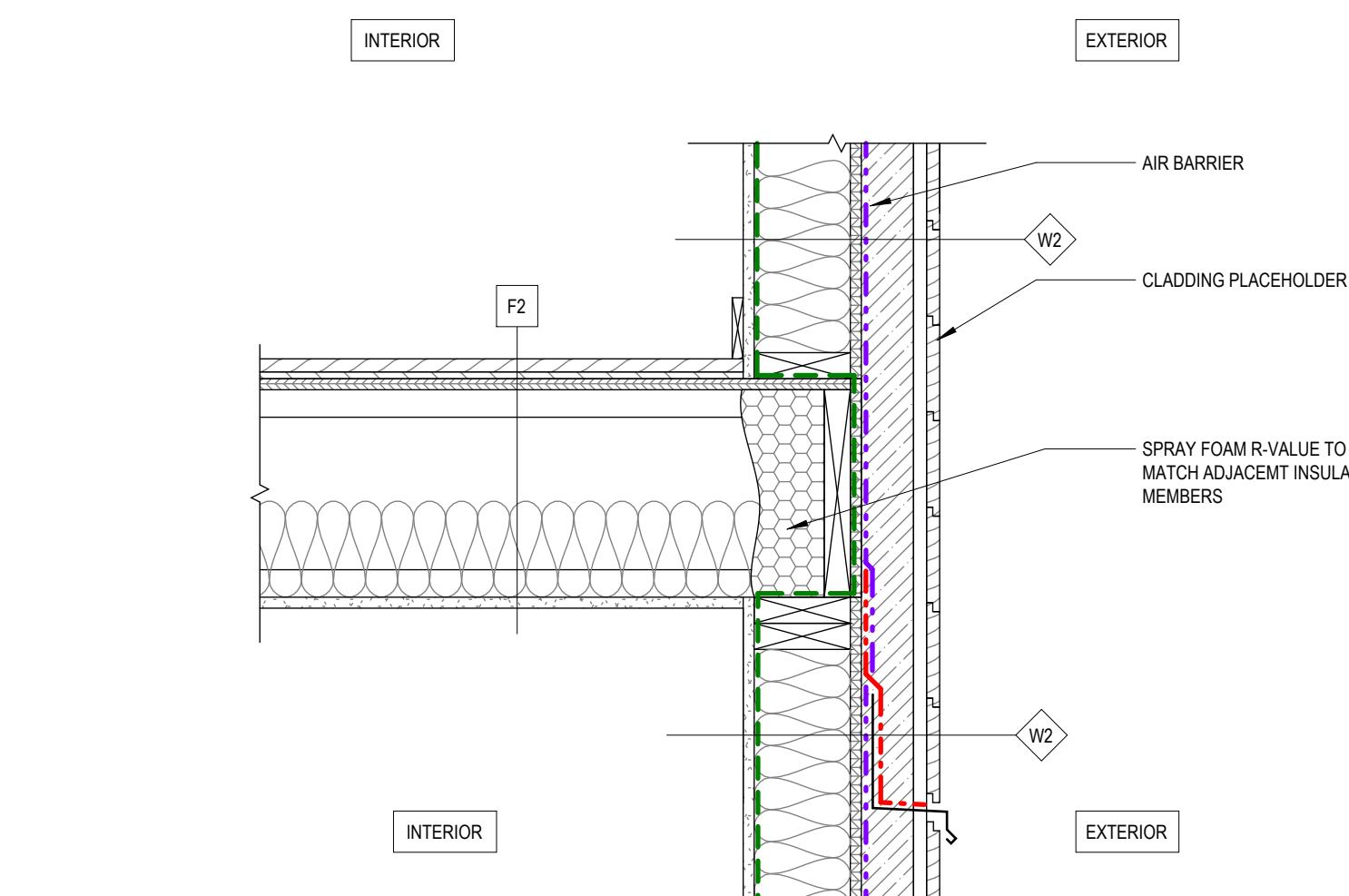
PROJECT NO: 241058
SCALE: As indicated

SHEET NO:

A006

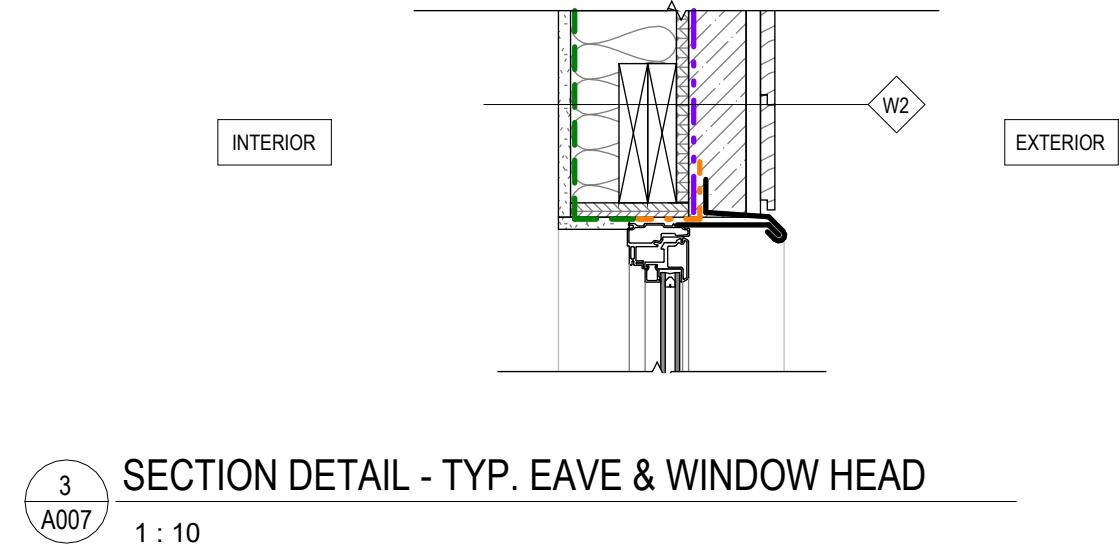
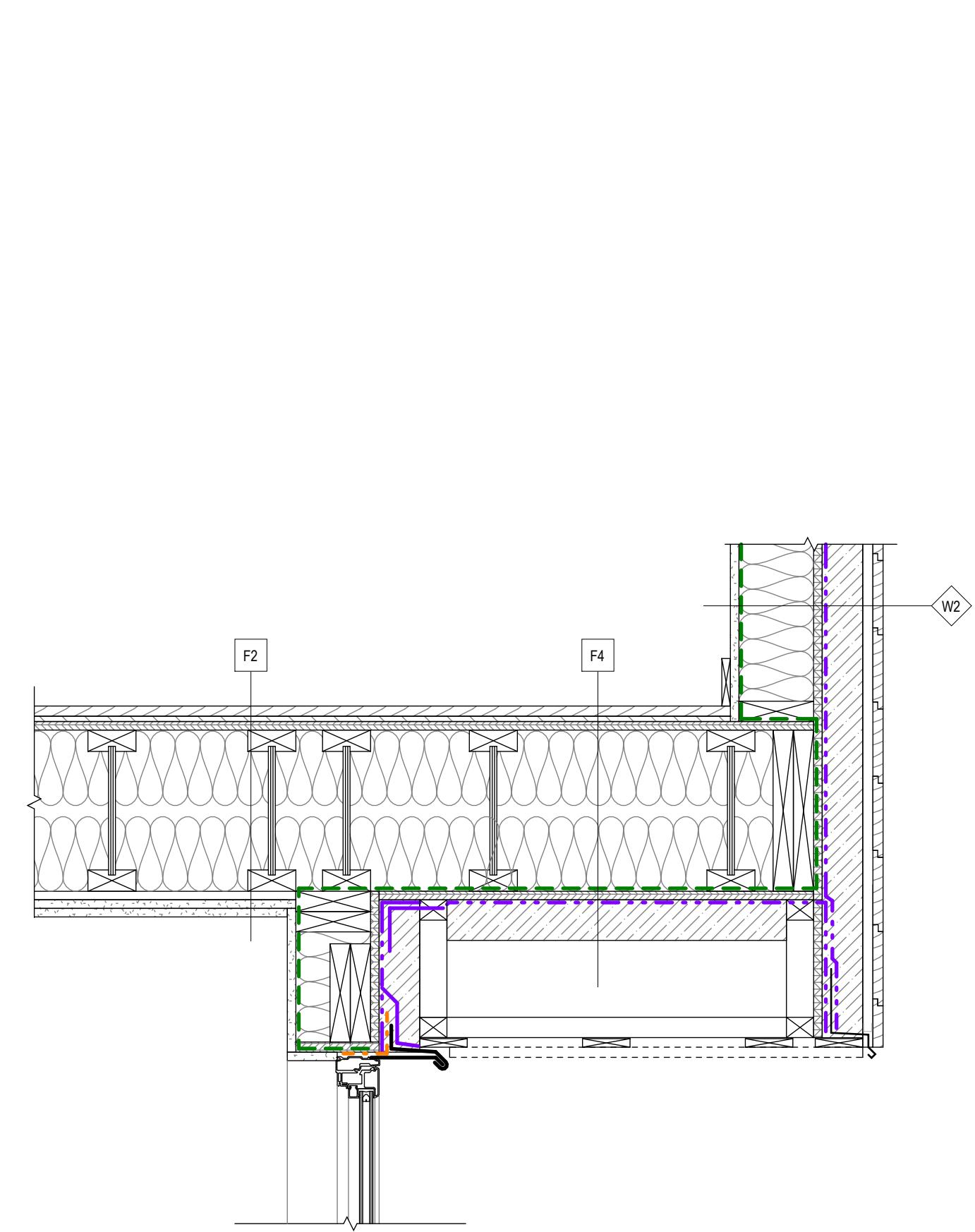
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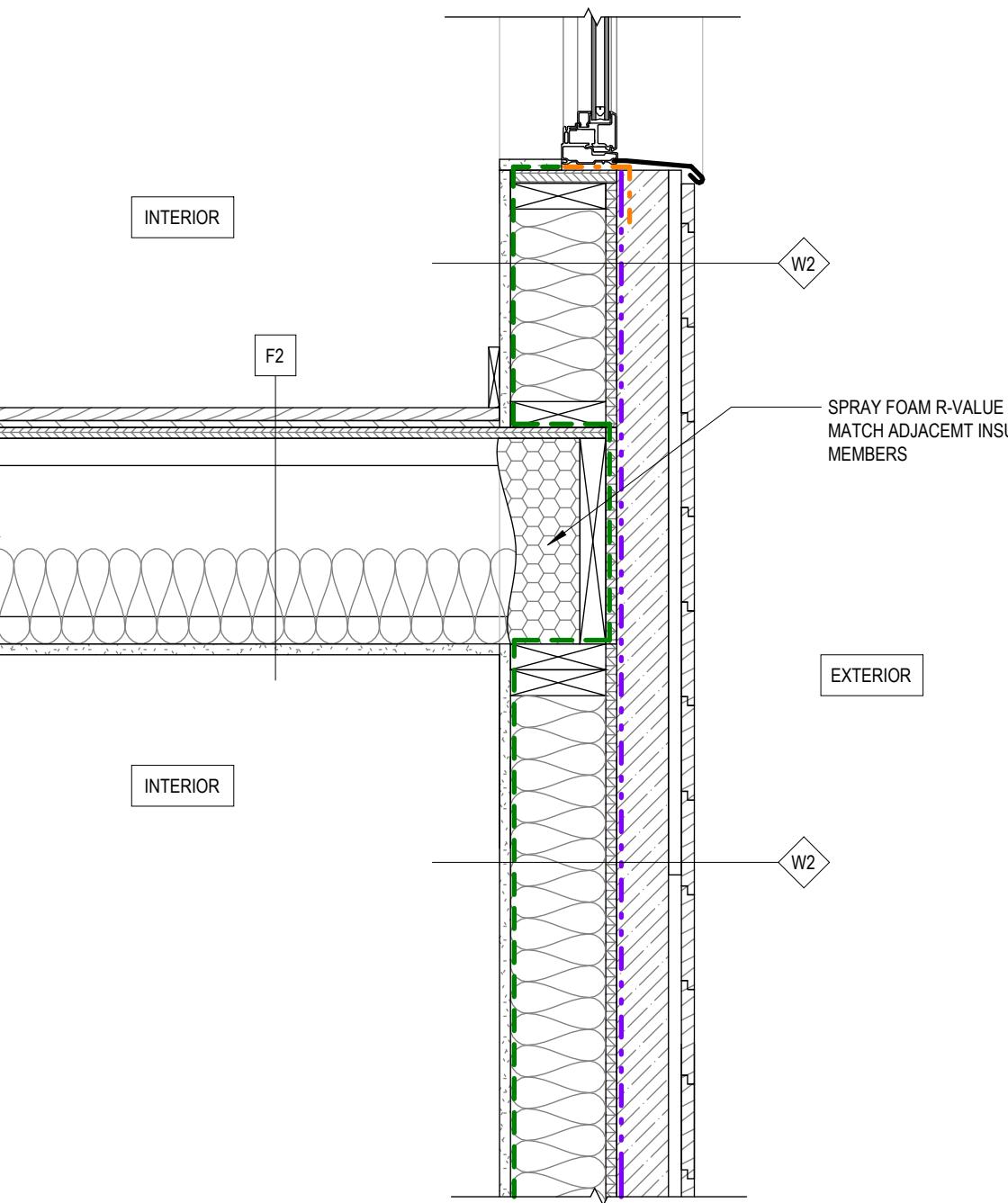


SECTION - TYP. THRU WALL FLASHING AT FLOOR
A007 1 : 10

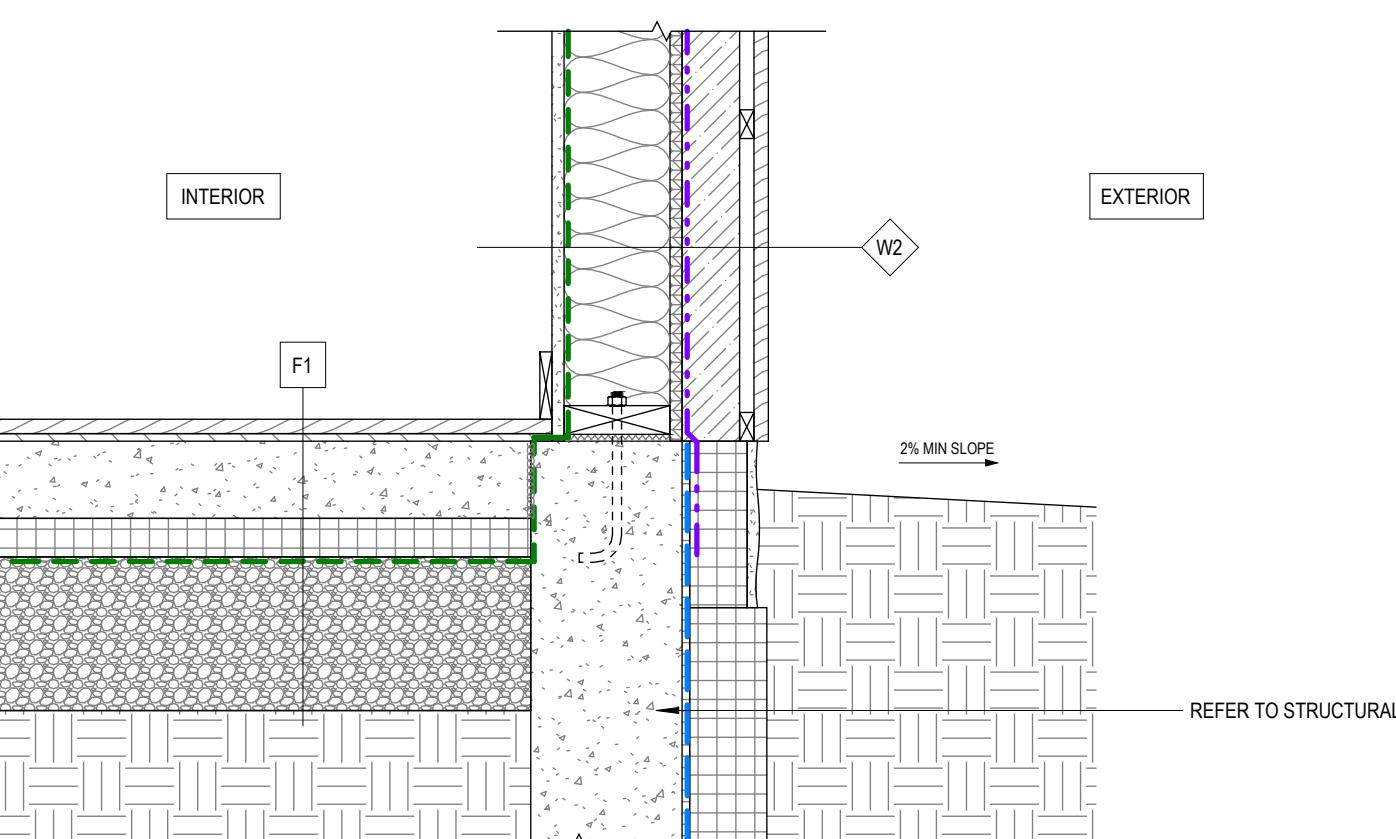
SECTION - TYP. WINDOW SOFFIT DETAIL
A007 1 : 10



SECTION DETAIL - TYP. EAVE & WINDOW HEAD
A007 1 : 10



SECTION DETAIL - TYP. FLOOR TO WALL & WINDOW SILL
A007 1 : 10



SECTION DETAIL - TYP. FOUNDATION DETAIL
A007 1 : 10

MEMBRANE LEGEND	
	AIR BARRIER, VAPOUR PERMEABLE
	AIR BARRIER, NON-VAPOUR PERMEABLE
	TRANSITION MEMBRANE
	THROUGH-WALL FLASHING
	VAPOUR CONTROL BARRIER
	FOUNDATION DAMP PROOFING
	PRE-FIN METAL FLASHING

INSULATION LEGEND	
	MINERAL WOOL, SEMI-RIGID
	EXTRUDED POLYSTYRENE
	EXPANDED POLYISOCYANURATE
	SPRAY FOAM
	MINERAL WOOL BATT

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
TYP. DETAILS

AB Fourplex 02

PROJECT NO: 241058
SCALE: As indicated

SHEET NO:

A007

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MEMBRANE LEGEND

	AIR BARRIER, VAPOUR PERMEABLE
	AIR BARRIER, NON-VAPOUR PERMEABLE
	TRANSITION MEMBRANE
	THROUGH-WALL FLASHING
	VAPOUR CONTROL BARRIER
	FOUNDATION DAMP PROOFING
	PREF-FIN METAL FLASHING

INSULATION LEGEND

	MINERAL WOOL, SEMI-RIGID
	EXTRUDED POLYSTYRENE
	EXPANDED POLYISOCYANURATE
	SPRAY FOAM
	MINERAL WOOL, BATT

1 2025-02-21 Issued as Prototypical Drawing

NO.	DATE	DESCRIPTION
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PROJECT:
**CMHC HOUSING DESIGN
CATALOGUE**

ALBERTA CANADA

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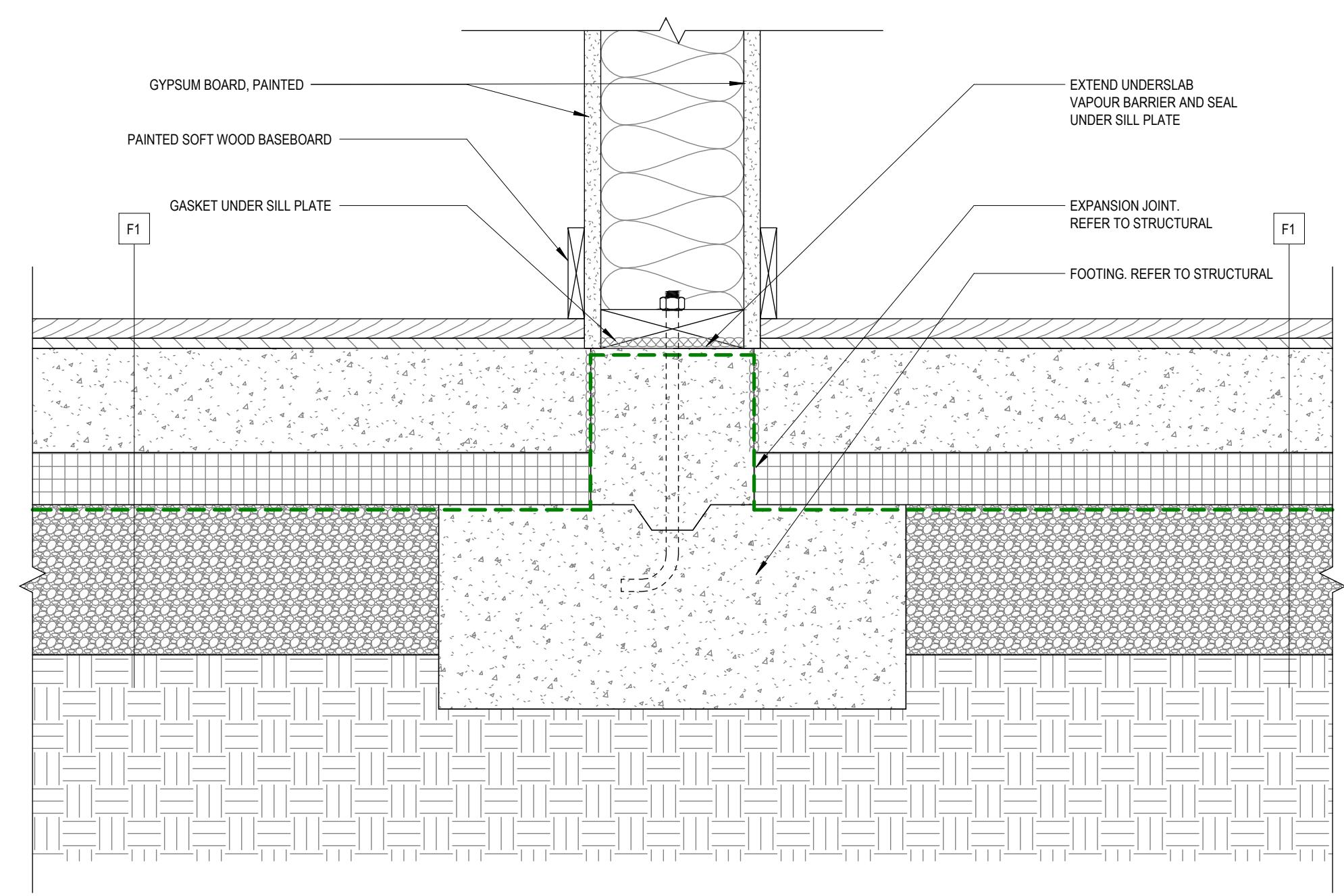
SHEET TITLE:

AB Fourplex 02

PROJECT NO: 241058
SCALE: As indicated

SHEET NO:

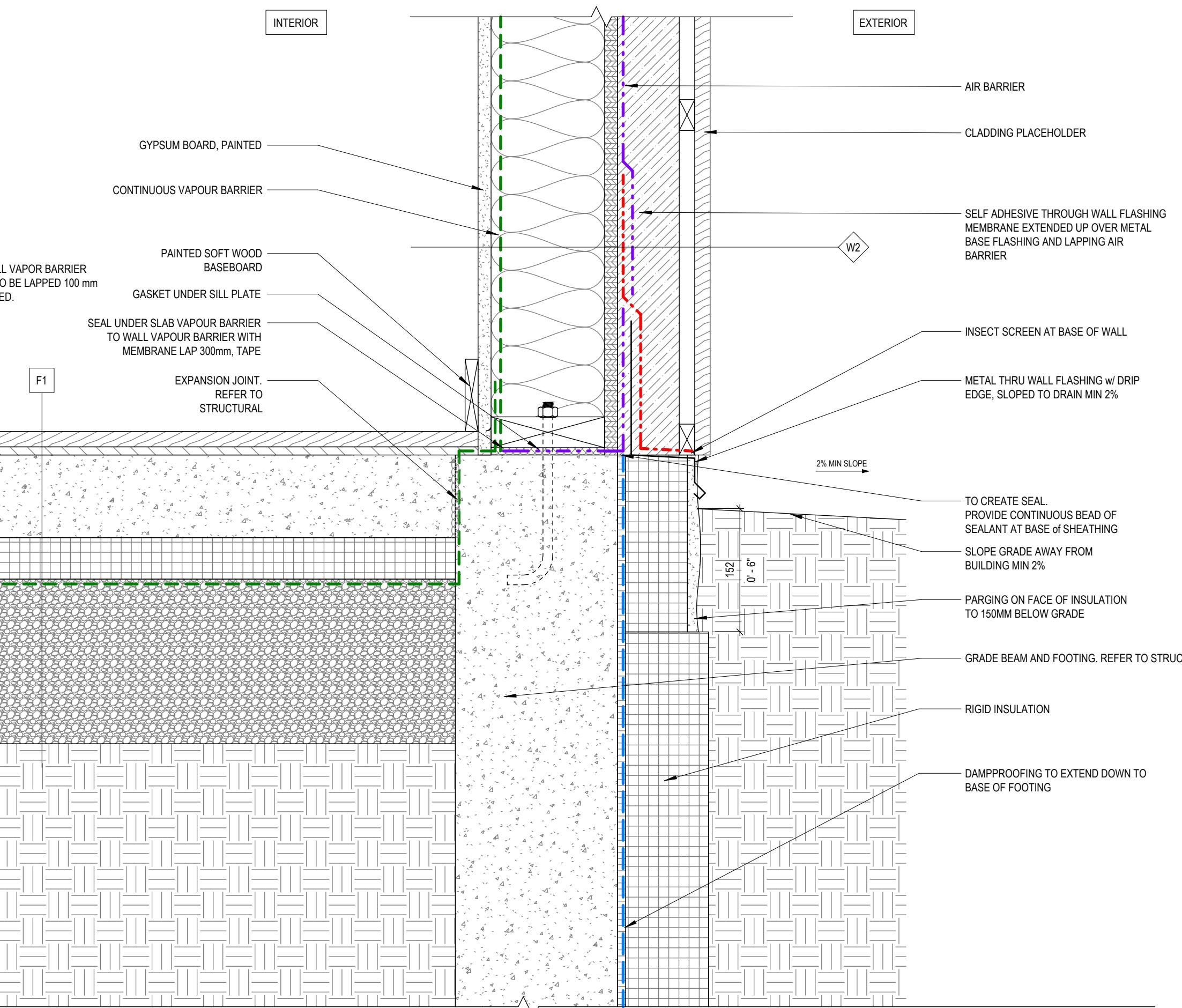
A008



1 SECTION DETAIL - TYP. STRIP FOOTING

A008

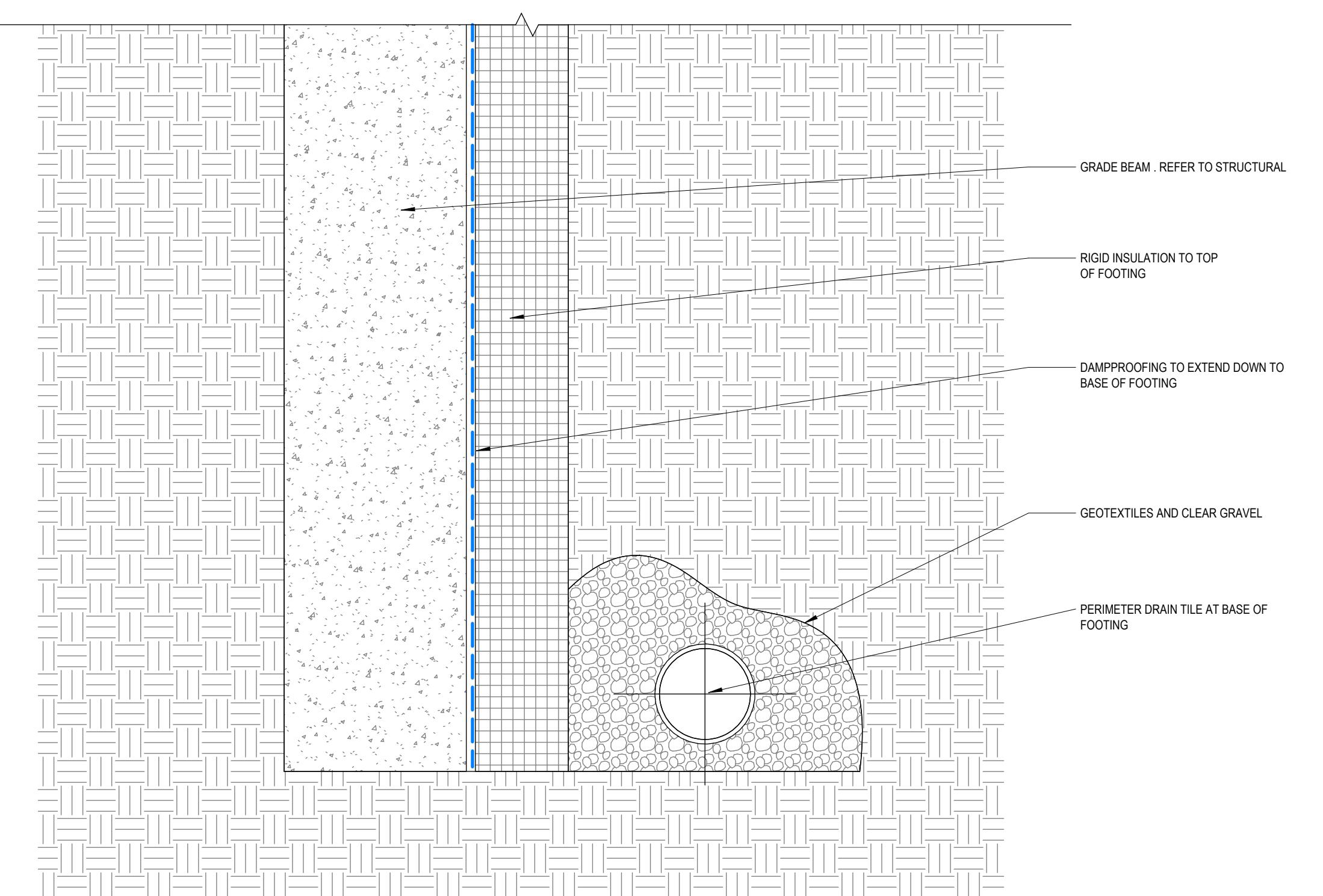
1.5



SECTION DETAIL - SECTION - TYP. FOOTING

A008 1 : 5

1 : 5



SECTION DETAIL - SECTION - TYP. WALL TO FOUNDATION

A008 1 : 5

1 : 5

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MEMBRANE LEGEND

	AIR BARRIER, VAPOUR PERMEABLE
	AIR BARRIER, NON-VAPOUR PERMEABLE
	TRANSITION MEMBRANE
	THROUGH-WALL FLASHING
	VAPOUR CONTROL BARRIER
	FOUNDATION DAMP PROOFING
	PRE-FIN METAL FLASHING

INSULATION LEGEND

	MINERAL WOOL, SEMI-RIGID
	EXTRUDED POLYSTYRENE
	EXPANDED POLYISOCYANURATE
	SPRAY FOAM
	MINERAL WOOL BATT

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NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:

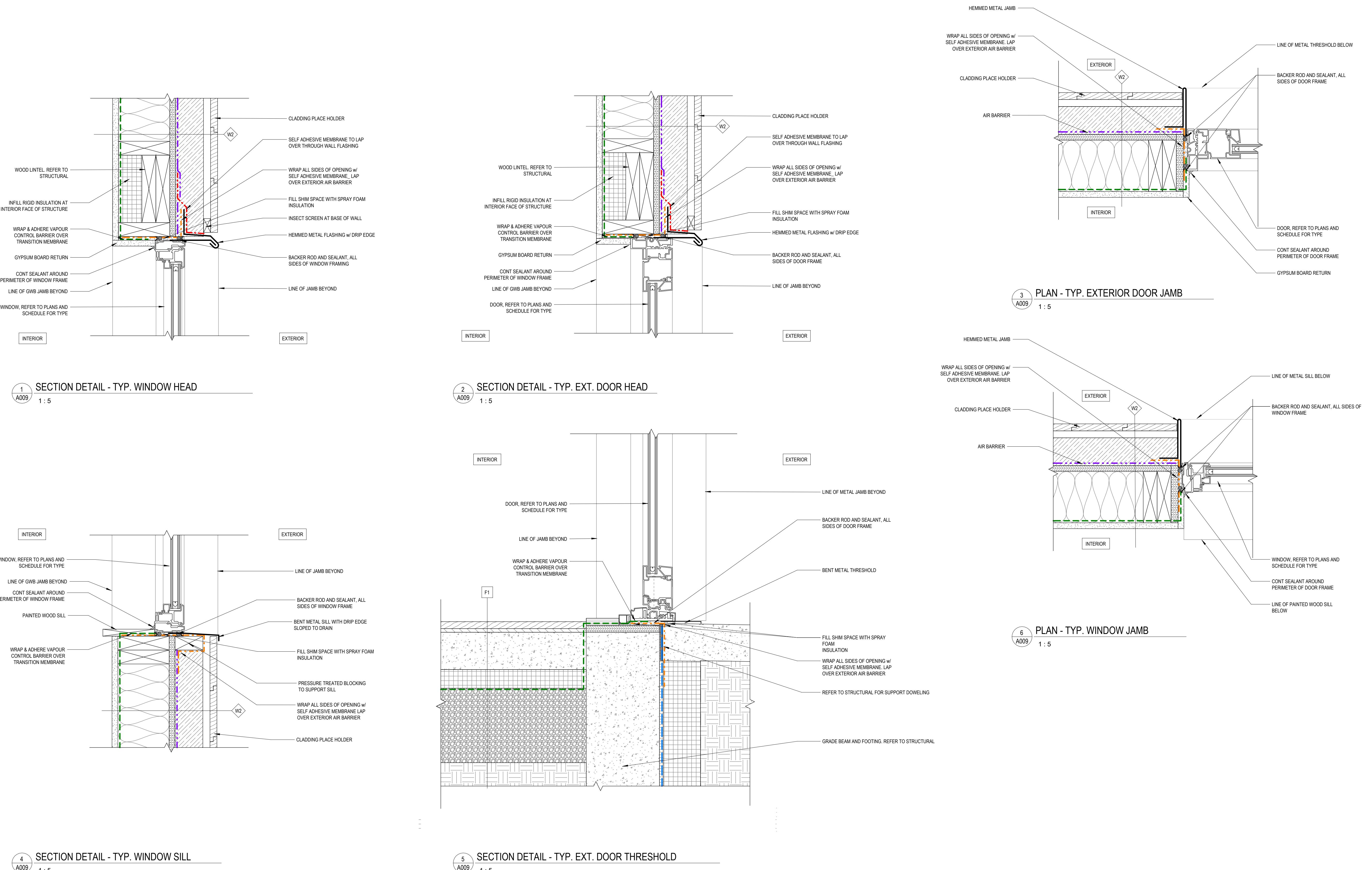
TYP. DETAILS

AB Fourplex 02

PROJECT NO: 241058
SCALE: As indicated

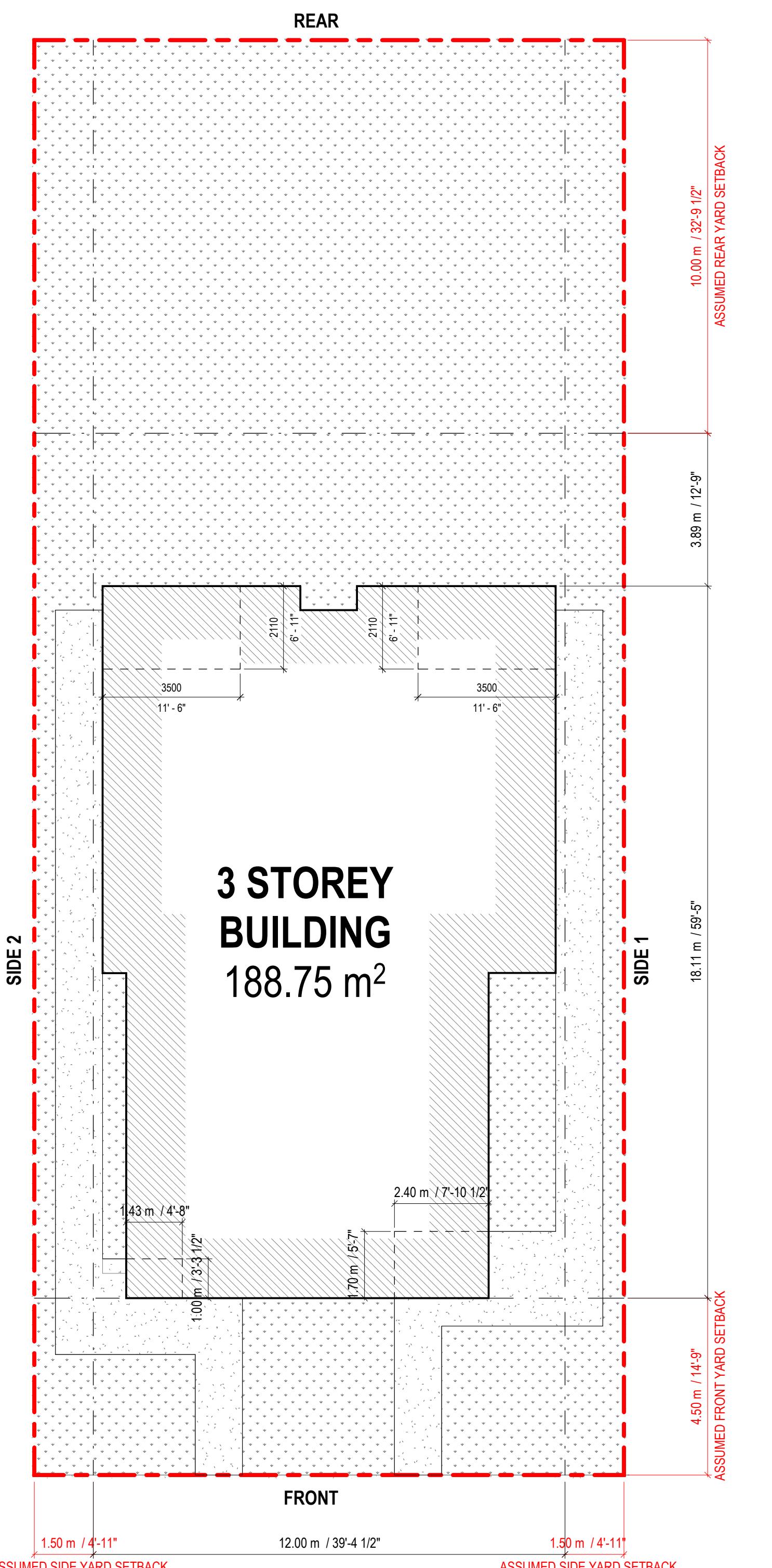
SHEET NO:

A009



DISCLAIMER

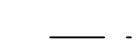
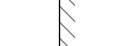
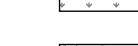
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SITE PLAN
1 : 100

SITE DATA	
ADDRESS	N/A
LOT & PLAN NO.	N/A
ZONING	N/A
LOT AREA	547.59 m ²
BUILDING AREA	188.75 m ²
COVERAGE	34.47%
LANDSCAPED OPEN SPACE	358.75 m ²
SOFTSCAPE AREA	294.37 m ² (53.8%)
HARDSCAPE AREA	64.31 m ² (11.7%)
PARKING SPOTS	-
SETBACKS	REQUIRED
FRONT	ASSUMED 4.50m
SIDE	ASSUMED 1.50m
REAR	ASSUMED 1.00m
SIDE	ASSUMED 1.50m
BUILDING DEPTH	18.11m

SITE PLAN GENERAL NOTES	
1.	SITE DESIGN TO CONFORM TO FIREFIGHTING ACCESS REQUIREMENTS AS PER NBC(AE) 9.10.20.3.
2.	GRADE TO BE SLOPED AWAY FROM BUILDING AS PER NBC(AE) 9.14.6.1
3.	DOWNSPOUT TO CONFORM TO NBC(AE) 9.26.18.2.
4.	SITE DESIGN TO CONFORM TO BARRIER FREE REQUIREMENTS AS PER NBC(AE) 3.8.1.1. FOR ACCESS TO BARRIER FREE UNITS
5.	ENTRANCE TO BARRIER FREE UNIT TO CONFORM TO NBC(AE) 3.8.1.2. AND NBC(AE) 3.8.3.3.
6.	EXTERIOR WALKS THAT FORM PART OF A BARRIER-FREE PATH OF TRAVEL TO CONFORM FOR NBC(AE) 3.8.3.2.
7.	SITE DESIGN TO CONFORM TO CSA/ASC B651 FOR ACCESS TO CSA/ASC B652 ENHANCED ACCESSIBILITY UNITS

SITE LEGEND	
	ASSUMED PROPERTY LINE
	SETBACK
	BUILDING
	SOFTSCAPE
	HARDSCAPE

ALBERTA BUILDING CODE DATA MATRIX								
PART 9 - HOUSING AND SMALL BUILDINGS								
BUILDING CODE VERSION	NATIONAL BUILDING CODE 2023 ALBERTA EDITION	ELEVENTH EDITION 2023	ABC REFERENCE					
PROJECT TYPE	NEW CONSTRUCTION RESIDENTIAL OCCUPANCY		[A] 1.3.3.					
MAJOR OCCUPANCY CLASSIFICATION	GROUP / DIVISION: C DESCRIPTION: 3 STOREY 4 DWELLING BUILDING	USE: RESIDENTIAL	9.10.2.					
SUPERIMPOSED MAJOR OCCUPANCIES	NO		9.10.2.3.					
BUILDING AREA (m ²)	DESCRIPTION: NEW CONSTRUCTION	TOTAL (m ²): 188.75	[A] 1.4.1.2.					
GROSS AREA (m ²)	FLOOR LEVEL: GROUND FLOOR DESCRIPTION: 3 RESIDENTIAL UNITS	TOTAL (m ²): 166.12	[A] 1.4.1.2.					
	SECOND FLOOR 3 RESIDENTIAL UNITS	188.75						
	THIRD FLOOR 2 RESIDENTIAL UNIT	75.77						
	TOTAL (m ²): 430.64							
BUILDING HEIGHT	3 STOREYS ABOVE GRADE 0 STOREYS BELOW GRADE	9.472m (31'-1") ABOVE AVERAGE GRADE	[A] 1.4.1.2. AND 9.10.4.					
*NUMBER OF STREETS	TBC		9.10.20					
SPRINKLER SYSTEM	NOT REQUIRED	PROVIDED: N/A	9.10.8.2					
FIRE ALARM SYSTEM	NOT REQUIRED	TYPE PROVIDED: N/A	9.10.18					
*WATER SUPPLY IS ADEQUATE								
CONSTRUCTION TYPE	PERMITTED: COMBUSTIBLE PROPOSED: COMBUSTIBLE	CONSTRUCTION: NEW CONSTRUCTION SLAB ON GRADE: WOOD FRAMED CONSTRUCTION	9.10.6					
POST-DISASTER BUILDING	NO		[A] 1.3.3.					
OCCUPANT LOAD	FLOOR LEVEL: GROUND FLOOR UNIT #: UNIT 1 DESCRIPTION: 2 SLEEPING ROOMS	UNIT #:	RESIDENTIAL	BASED ON:	OCCUPANT LOAD (PERSONS): 4	3.1.17(1) AND 9.9.1.3.(2)		
	UNIT 1 - ALT							
	GROUND FLOOR: UNIT 3		1 SLEEPING ROOM		2			
	GROUND FLOOR: UNIT 4		0 SLEEPING ROOMS		0			
	SECOND FLOOR: UNIT 2		2 SLEEPING ROOMS		4			
	SECOND FLOOR: UNIT 3		2 SLEEPING ROOMS		4			
	SECOND FLOOR: UNIT 4		2 SLEEPING ROOMS		4			
	THIRD FLOOR: UNIT 3		2 SLEEPING ROOMS		4			
	THIRD FLOOR: UNIT 4		2 SLEEPING ROOMS		4			
BARRIER-FREE DESIGN	REQUIRED					9.5.2.		
HAZARDOUS SUBSTANCES	NO					9.10.1.3.(4)		
REQUIRED FIRE RESISTANCE RATINGS	HORIZONTAL ASSEMBLY: 1 HR FLOORS EXCEPT CRAWLSPACE: 1 HR	SUPPORTING ASSEMBLY: 1 HR				9.10.8. AND 9.10.9.16 (3)		
*SPATIAL SEPARATION	WALL: FRONT 64.1 REAR 36.3 SIDE 1 80.1 SIDE 2 80.1	EBF AREA (m ²): 4.50 10.0 1.50 1.50	LD (m): 28% 100% 8% 8%	% OPENINGS MAX: 13.1% 22.8% 4.11% 4.11%	RATING: N/A TBC TBC TBC	CONSTRUCTION TYPE: TBC TBC TBC TBC	CLADDING TYPE: TBC TBC TBC TBC	10.15.
PLUMBING FIXTURE REQUIREMENTS	A KITCHEN SINK, LAVATORY, BATHTUB OR SHOWER SHALL BE PROVIDED FOR EVERY DWELLING UNIT						9.31.	
NOTES	01 ALL REFERENCES ARE TO DIVISION B OF THE NATIONAL BUILDING CODE UNLESS PRECEDED BY [A] FOR DIVISION A.							

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NO. DATE DESCRIPTION

CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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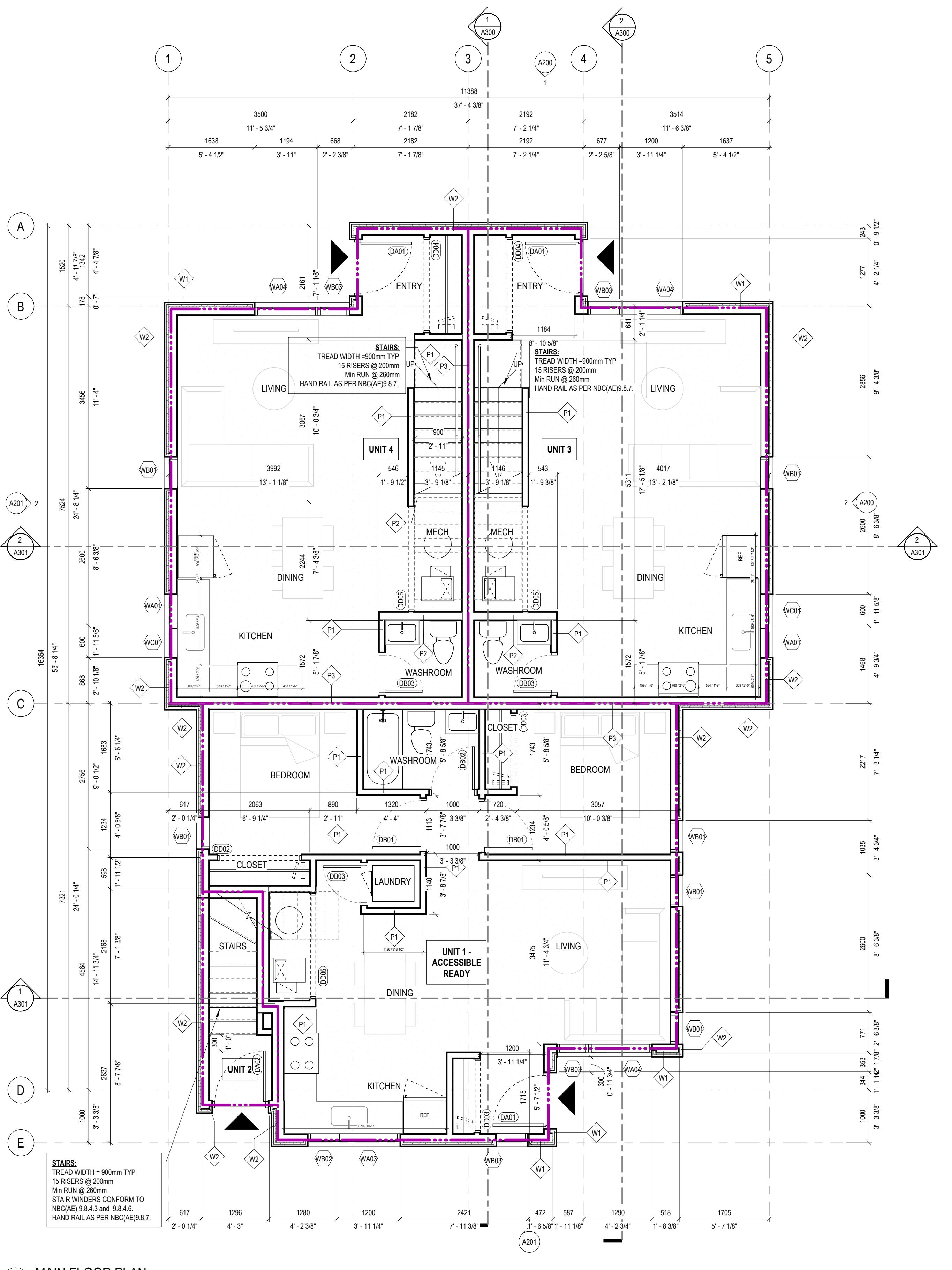
SHEET TITLE:
SITE PLAN & CODE MATRIX

AB Fourplex 02

PROJECT NO: 241058
SCALE: As indicated

SHEET NO:
A010

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MAIN FLOOR PLAN
A101 1:50

FLOOR PLAN GENERAL NOTES	
1.	ALL DIMENSIONS ARE TAKEN TO THE FINISH FACE OF THE INTERIOR PARTITIONS AND EXTERIOR WALLS, UNLESS NOTED OTHERWISE.
2.	ALL DIMENSIONS AT EXTERIOR WINDOWS AND DOORS ARE TAKEN TO THE OUTSIDE EDGE OF THE FRAME, UNLESS NOTED OTHERWISE.
3.	LOCATE ROUGH OPENINGS OF INTERIOR DOORS 100mm FROM INSIDE FACE IF INTERSECTING PARTITION, UNLESS NOTED OTHERWISE.
4.	CLOSET DOORS TO BE CENTERED ALONG INTERIOR CLOSET WIDTH, UNLESS NOTED OTHERWISE.
5.	ALL DROPPED CEILINGS AND BULKHEADS FOR MECHANICAL TO PROVIDE MIN 2100mm CLEAR BELOW.
6.	MIN CEILING HEIGHTS AS PER ABC TABLE 9.5.3.1 BATHROOMS & HALLWAYS=2100mm BEDROOM = 2100mm LIVING/DINING/KITCHEN = 2100mm
7.	REFER TO LANDSCAPE DOCUMENTS FOR EXTERIOR HARDCAPE AND PLANTING ELEMENTS, AND PAVING TERMINATION DETAILS ADJACENT TO THE BUILDING.

FIRE SEPARATION LEGEND	
	1 HOUR F.R.R.

FLOOR PLAN LEGEND	
	FLOOR MOUNTED TOILET
	PRE-FAB TUB
	KITCHEN SINK
	WASHROOM SINK
	WASHER
	DRYER
	DOMESTIC HOT WATER
	AIR HANDLER
	RANGE, TYPICAL
	REFRIGERATOR
	CLOSET COAT ROD

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
**MAIN FLOOR PLAN -
ACCESSIBLE READY**

AB Fourplex 02

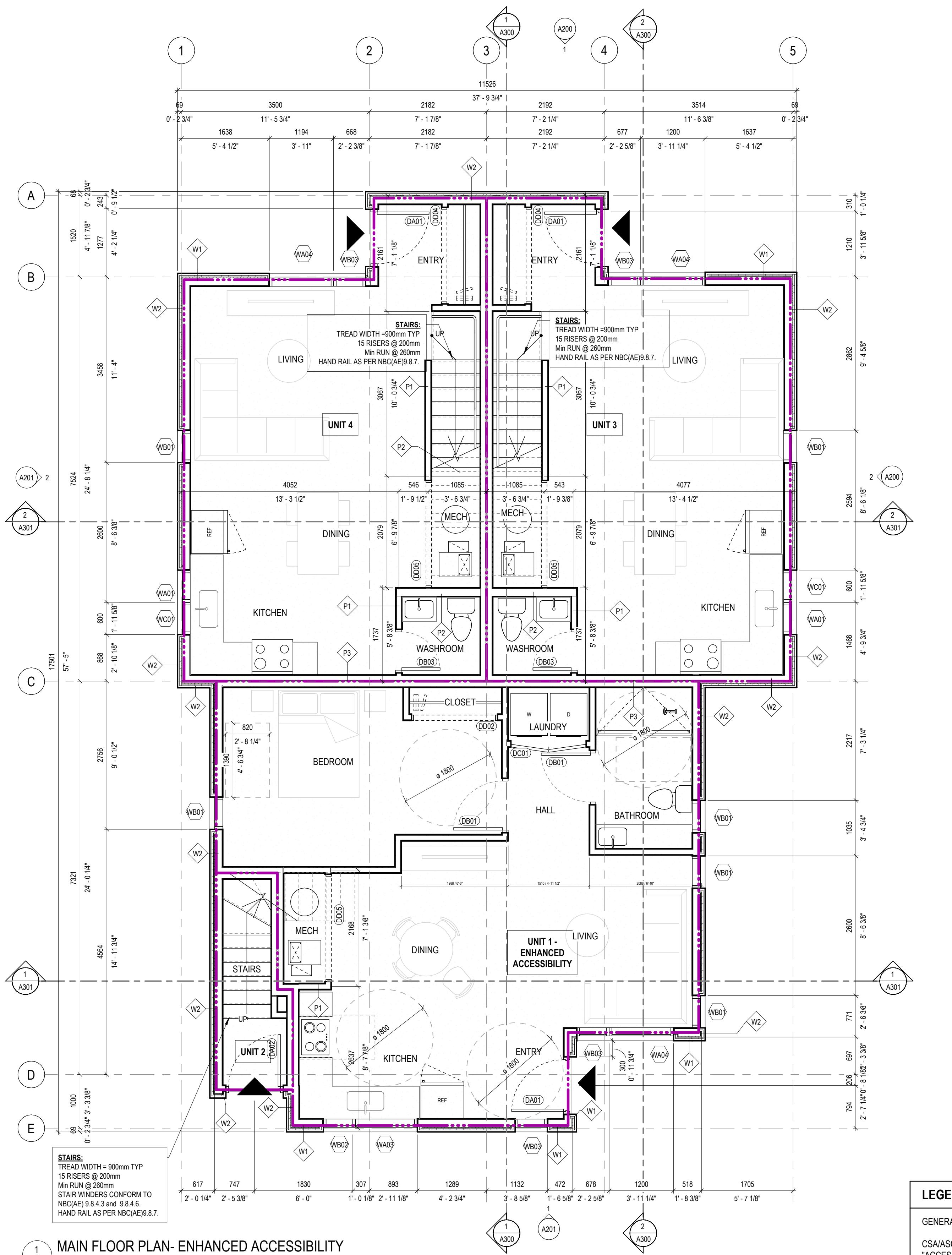
PROJECT NO: 241058
SCALE: 1:50

SHEET NO:

A101

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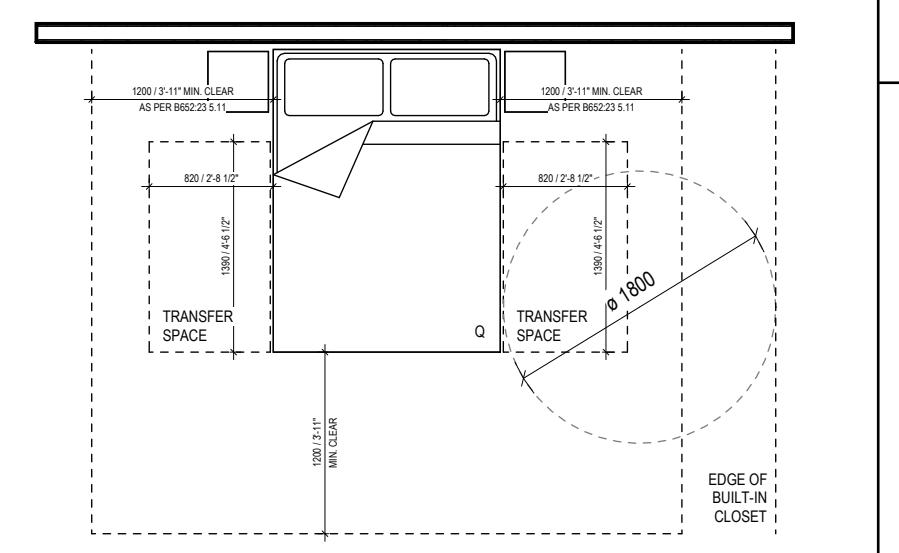
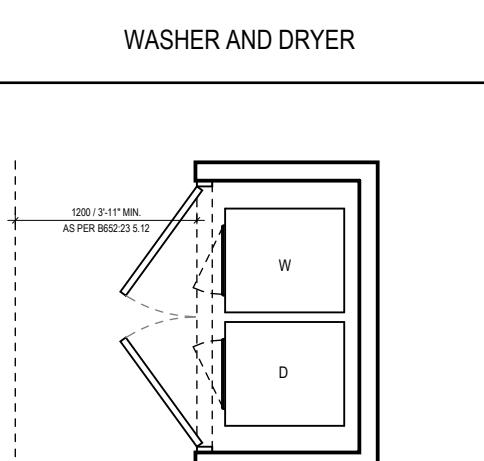
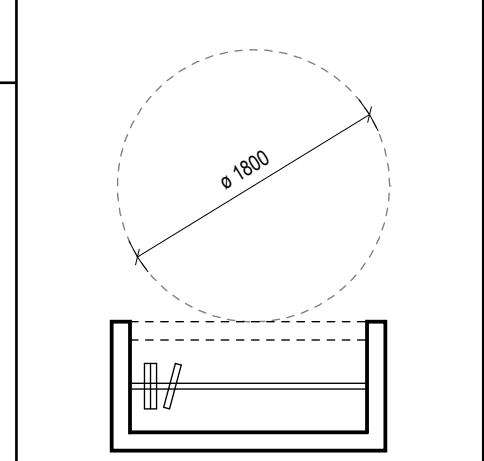


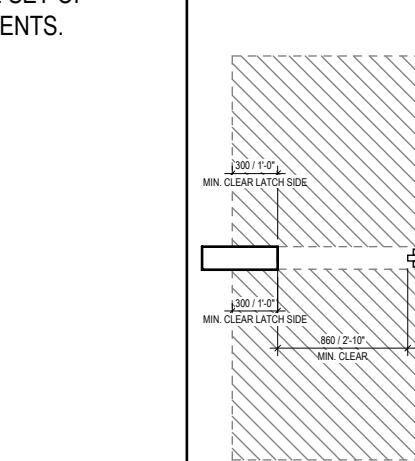
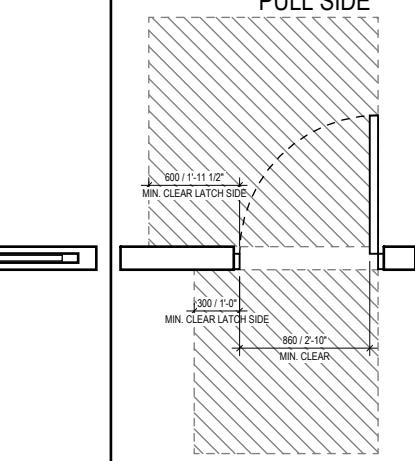
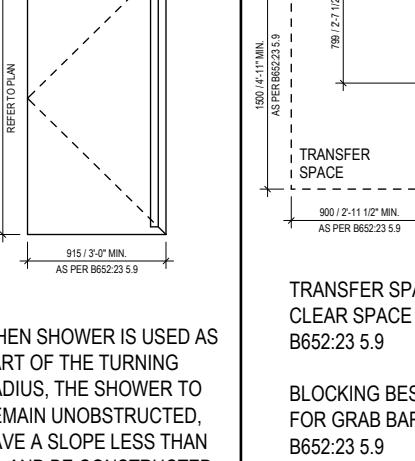
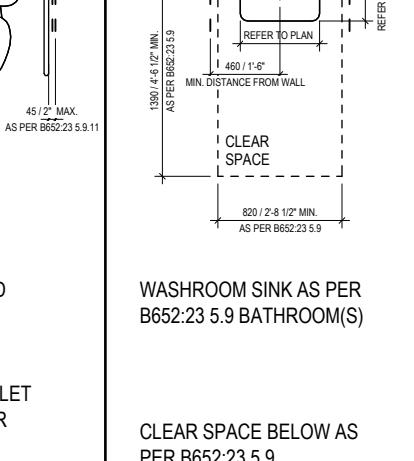
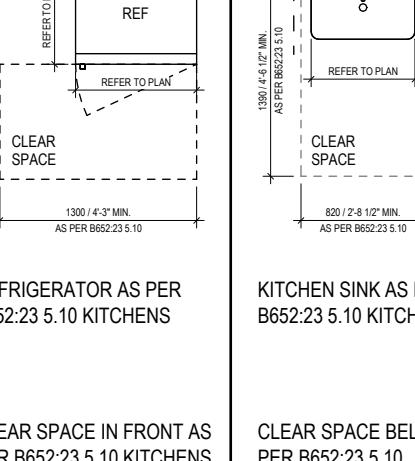
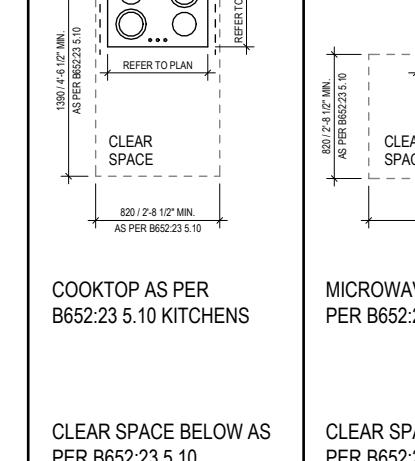
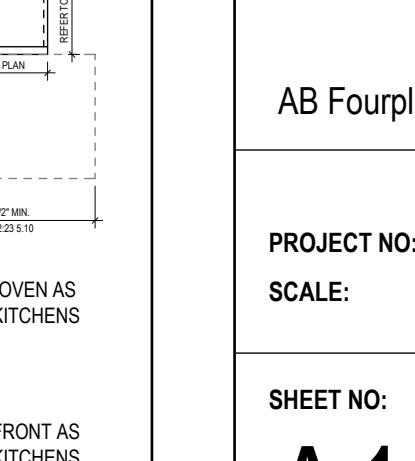
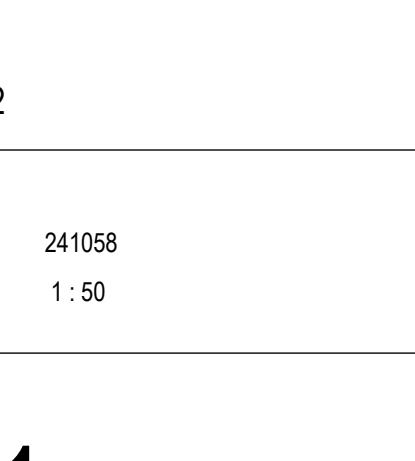
FLOOR PLAN GENERAL NOTES	
1.	ALL DIMENSIONS ARE TAKEN TO THE FINISH FACE OF THE INTERIOR PARTITIONS AND EXTERIOR WALLS, UNLESS NOTED OTHERWISE.
2.	ALL DIMENSIONS AT EXTERIOR WINDOWS AND DOORS ARE TAKEN TO THE OUTSIDE EDGE OF THE FRAME, UNLESS NOTED OTHERWISE.
3.	LOCATE ROUGH OPENINGS OF INTERIOR DOORS 100mm FROM INSIDE FACE IF INTERSECTING PARTITION, UNLESS NOTED OTHERWISE.
4.	CLOSED DOORS TO BE CENTERED ALONG INTERIOR CLOSET WIDTH, UNLESS NOTED OTHERWISE.
5.	ALL DROPPED CEILINGS AND BULKHEADS FOR MECHANICAL TO PROVIDE MIN 2100mm CLEAR BELOW.
6.	MIN CEILING HEIGHTS AS PER ABC TABLE 9.5.3.1 BATHROOMS & HALLWAYS = 2100mm BEDROOM = 2100mm LIVING/DINING/KITCHEN = 2100mm
7.	REFER TO LANDSCAPE DOCUMENTS FOR EXTERIOR HARDCAPE AND PLANTING ELEMENTS, AND PAVING TERMINATION DETAILS ADJACENT TO THE BUILDING.

FIRE SEPARATION LEGEND	
	1 HOUR F.R.R.

FLOOR PLAN LEGEND	
	FLOOR MOUNTED TOILET
	PRE-FAB TUB
	KITCHEN SINK
	WASHROOM SINK
	WASHER
	DRYER
	DOMESTIC HOT WATER
	AIR HANDLER
	RANGE, TYPICAL
	REFRIGERATOR
	CLOSET COAT ROD

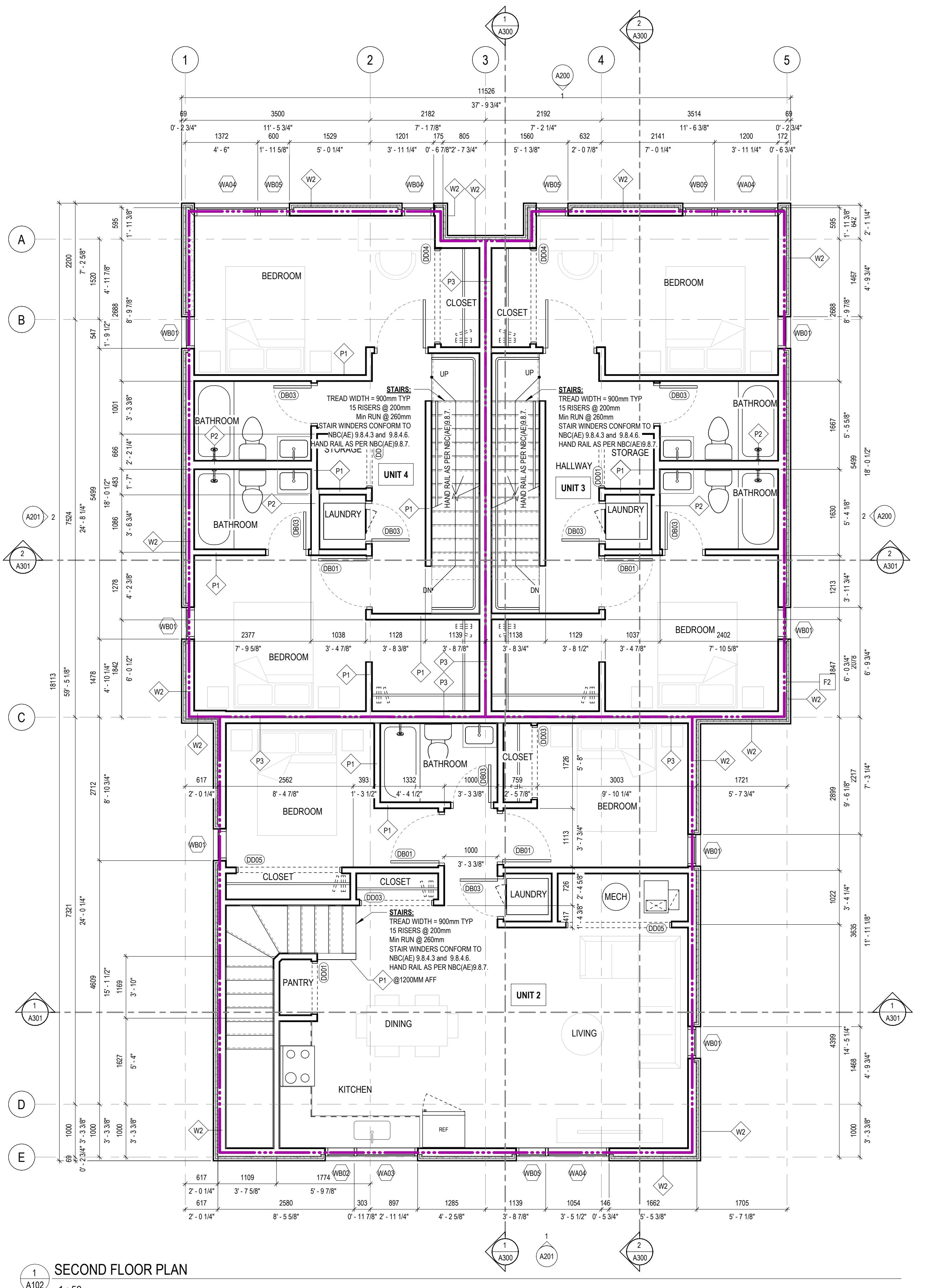
DOOR SCHEDULE - ACCESSIBLE OPTION						
TAG	TYPE	METRIC SIZE (mm)		IMPERIAL SIZE (FT-IN)		FIRE RATING
		WIDTH	HEIGHT	WIDTH	HEIGHT	
DA01	DOOR TYPE A	965	2134	3'-2"	7'-0"	N/A
DA02	DOOR TYPE A	965	2134	3'-2"	7'-0"	45MIN
DB01	DOOR TYPE B	914	2032	3'-0"	6'-8"	N/A
DB02	DOOR TYPE B	813	2032	2'-8"	6'-8"	N/A
DB03	DOOR TYPE B	711	2032	2'-4"	6'-8"	N/A
DC01	DOOR TYPE C	1400	2000	4'-7 1/8"	6'-6 3/4"	N/A
DD01	DOOR TYPE D	1000	2032	3'-3 3/8"	6'-8"	N/A
DD02	DOOR TYPE D	1600	2032	5'-3"	6'-8"	N/A
DD03	DOOR TYPE D	1400	2032	4'-7 1/8"	6'-8"	N/A
DD04	DOOR TYPE D	1800	2032	5'-10 7/8"	6'-8"	N/A
DD05	DOOR TYPE D	2000	2032	6'-6 3/4"	6'-8"	N/A

BEDROOMS (B652:23 5.11)		LAUNDRY (B652:23 5.12)		CLOSETS (B652:23 5.13)	
REFER TO B652:23 5.11 BEDROOMS FOR ADDITIONAL REQUIREMENTS:		REFER TO B652:23 5.12 LAUNDRY FOR ADDITIONAL REQUIREMENTS:		REFER TO B652:23 5.13 CLOSETS FOR ADDITIONAL REQUIREMENTS:	
1. CLEAR SPACE AND TRANSFER SPACES AROUND BED 2. ELECTRICAL REQUIREMENTS IN BEDROOMS		1. APPLIANCE REQUIREMENTS 2. CLOSET DOORS SHALL ALLOW FULL ACCESS TO SIDE-BY-SIDE UNITS 3. STORAGE AND ACCESSORY REQUIREMENTS		1. SHELVES, HANGING ROD HEIGHTS AND STORAGE REQUIREMENTS	
 <p>THE BED SHALL HAVE A 1200mm ACCESSIBLE PATH ON THREE SIDES AND PROVIDE A TURNING RADIUS OF 1800mm WHERE A BEDROOM CONTAINS A BUILT-IN CLOSET</p>		 <p>WASHER AND DRYER AS PER B652:23 5.12 KITCHENS</p>		 <p>1800mm MIN. TURNING RADIUS IN FRONT OF BEDROOM CLOSET AS PER B652:23 5.11 BEDROOMS</p>	

LEGEND		DOORS AND DOORWAYS (B652:23 5.7)		BATHROOMS (B652:23 5.9)		KITCHEN (B652:23 5.10)				
GENERAL NOTE: CSA/ASC B652:23 - "ACCESSIBLE DWELLINGS" WAS USED AS A GUIDE FOR SPACE PLANNING PURPOSES WITHIN UNIT(S) LABELED "ENHANCED ACCESSIBILITY - CSA/ASC B652". CONSULT THE STANDARD FOR A COMPLETE SET OF REQUIREMENTS.		REFER TO B652:23 5.7 DOORS AND DOORWAYS FOR ADDITIONAL REQUIREMENTS:		REFER TO B652:23 5.9 BATHROOM(S) FOR ADDITIONAL REQUIREMENTS:		REFER TO B652:23 5.10 KITCHENS FOR ADDITIONAL REQUIREMENTS:				
		1. DOOR WIDTH AND CLEARANCE REQUIREMENTS	2. POWER DOOR OPERATOR REQUIREMENTS	1. WALL REINFORCING BACKING AND GRAB BARS 2. VANITY AND ACCESSORY REQUIREMENTS 3. WASHROOM ILLUMINATION REQUIREMENTS		1. MIN. REQ COUNTER SPACE BETWEEN COOKTOP AND SINK NOT LESS THAN 820mm 2. ADDITIONAL KITCHEN FIXTURE AND APPLIANCE REQUIREMENTS 3. ELECTRICAL REQUIREMENTS IN KITCHEN 4. ADDITIONAL CABINETRY AND SPACE PLANNING REQUIREMENTS				
		SLIDING DOOR	SWINGING DOOR	ROLL-IN SHOWER	TOILET	BATHROOM SINK	REFRIGERATOR	KITCHEN SINK	COOKTOP	MICROWAVE
										
		MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)
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		MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24" (610mm)	MIN. CLEARANCE: 24				

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FIRE SEPARATION LEGEND	
	1 HOUR F.R.R.

FLOOR PLAN LEGEND	
	FLOOR MOUNTED TOILET
	PRE-FAB TUB
	KITCHEN SINK
	WASHROOM SINK
	WASHER
	DRYER
	DOMESTIC HOT WATER
	AIR HANDLER
	RANGE, TYPICAL
	REFRIGERATOR
	CLOSET COAT ROD

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
SECOND FLOOR PLAN

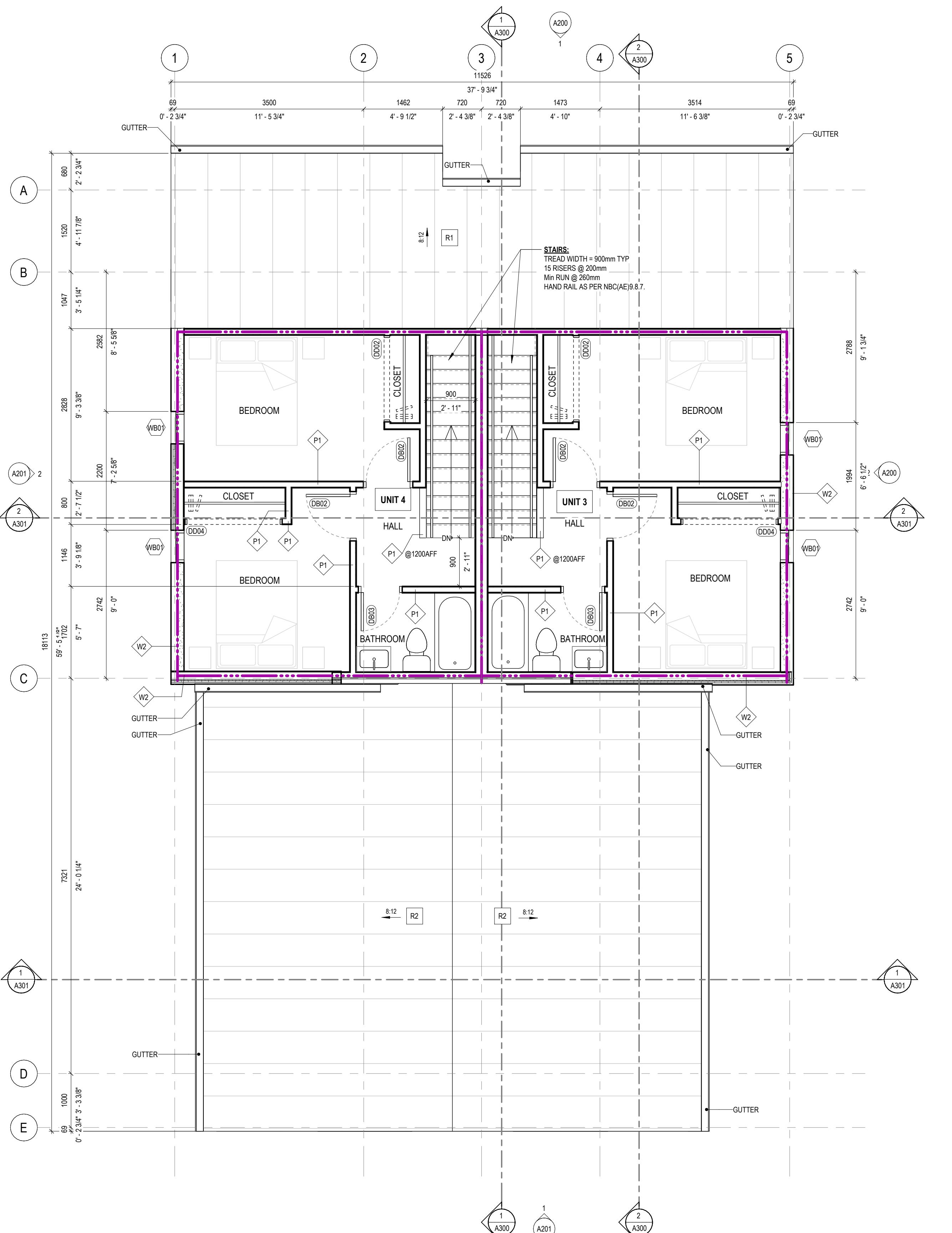
AB Fourplex 02

PROJECT NO: 241058
SCALE: 1:50

SHEET NO:
A102

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1
A103
THIRD FLOOR PLAN
1 : 50

FLOOR PLAN GENERAL NOTES	
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7.	REFER TO LANDSCAPE DOCUMENTS FOR EXTERIOR HARDCAPE AND PLANTING ELEMENTS, AND PAVING TERMINATION DETAILS ADJACENT TO THE BUILDING.

FIRE SEPARATION LEGEND	
.....	1 HOUR F.R.R.

FLOOR PLAN LEGEND	
	GUTTER
	STAIRS: TREAD WIDTH = 900mm TYP 15 RISERS @ 200mm Min RUN @ 260mm HAND RAIL AS PER NBC(A)8.7.
	CLOSET
	UNIT 1, 2, 3, 4
	HALL
	BATHROOM
	BEDROOM
	WASHER
	DRYER
	DOMESTIC HOT WATER
	AIR HANDLER
	RANGE, TYPICAL
	REFRIGERATOR
	CLOSET COAT ROD

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
THIRD FLOOR PLAN

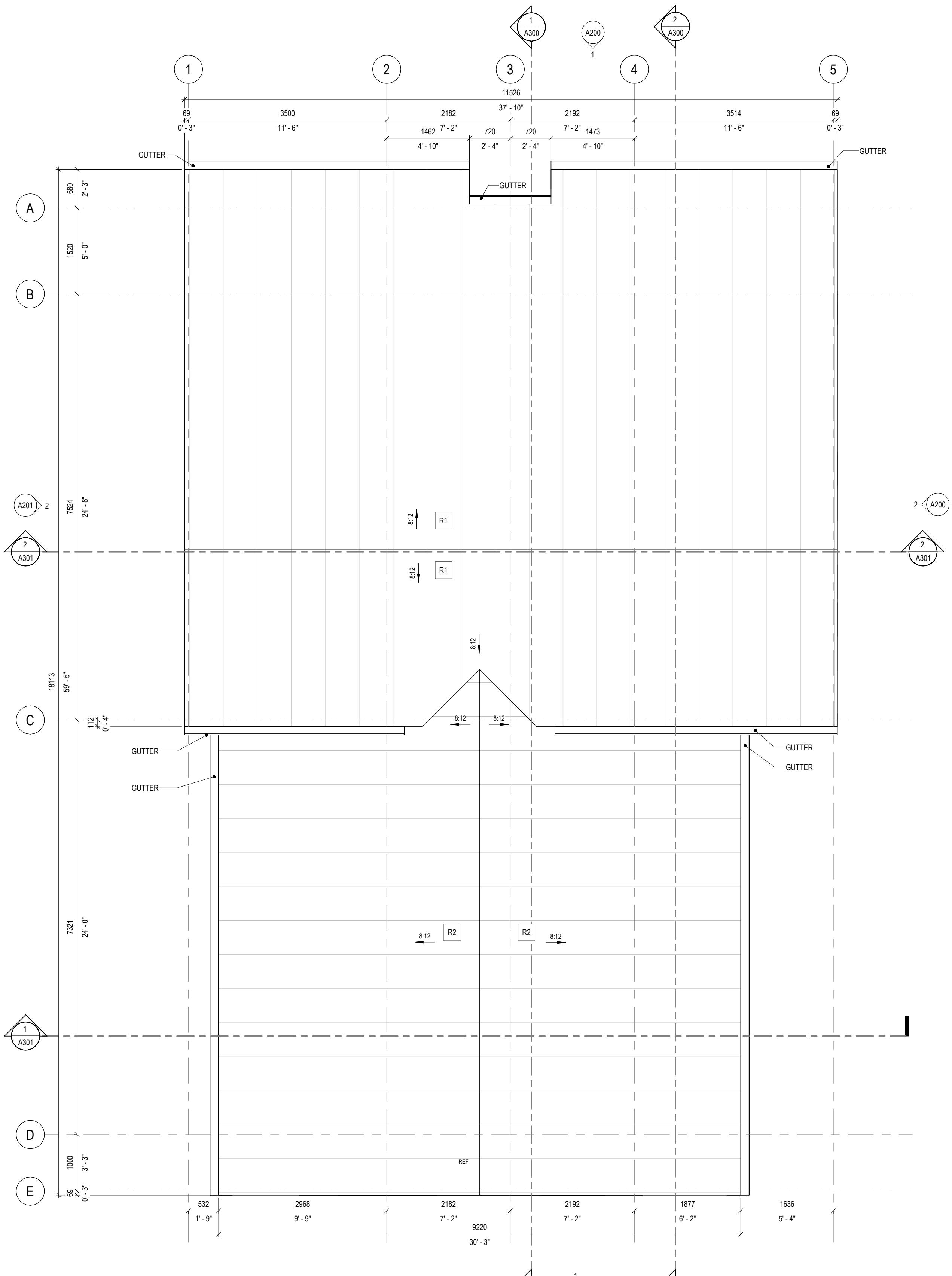
AB Fourplex 02

PROJECT NO: 241058
SCALE: 1:50

SHEET NO:
A103

ROOF PLAN GENERAL NOTES	
1.	ALL ROOFING TYPES TO COMPLY WITH REQUIRED MINIMUM SLOPES AS PER ABC(AE) 9.26.3 AND MANUFACTURER REQUIREMENTS FOR SPECIFIED ROOFING TYPES
2.	ALL ROOFS, GUTTERS AND TROUGHS HAVE POSITIVE SLOPE TO DRAIN.
3.	ROOF VENTING TO COMPLY WITH 9.19.1.2

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1 ROOF PLAN
A104 1 : 50

AB Fourplex 02

PROJECT NO: 241058
SCALE: 1 : 50

SHEET NO:

A104

1	2025-02-21	Issued as Prototypical Drawing
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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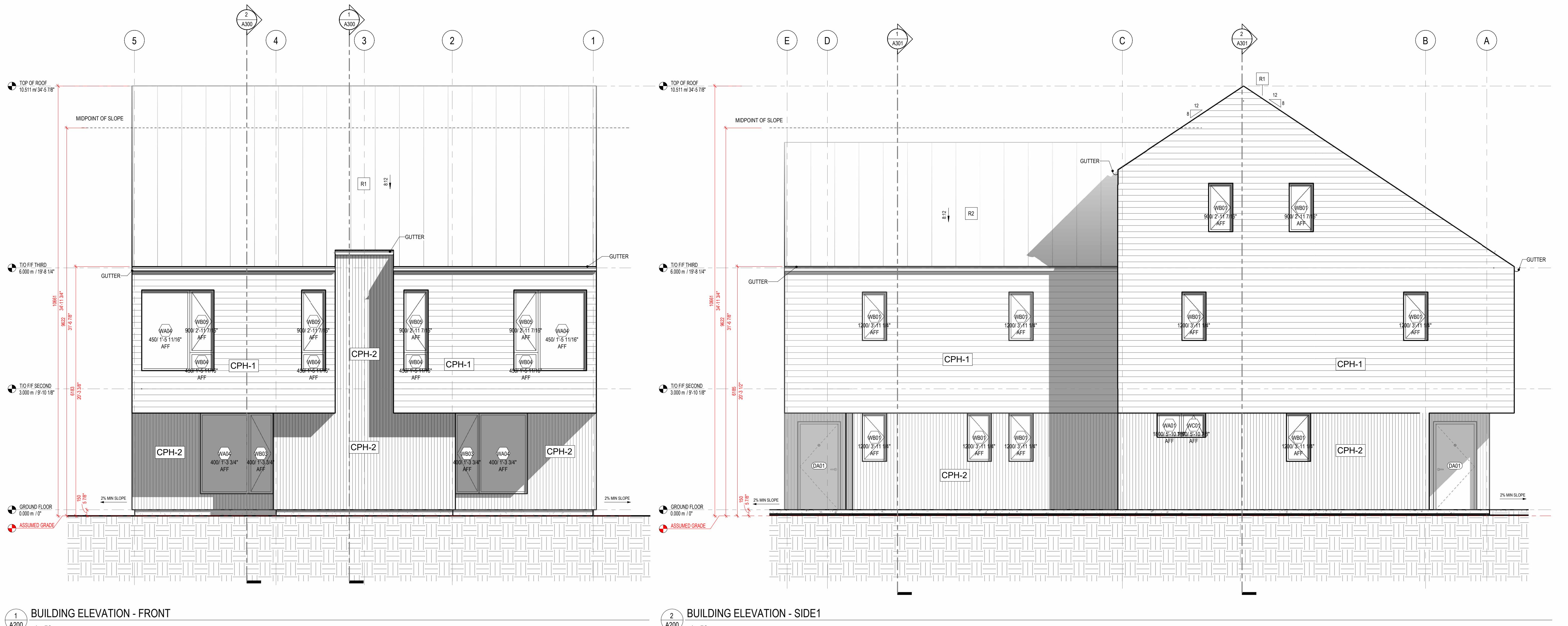
SHEET TITLE:
ROOF PLAN

ELEVATION MATERIAL SCHEDULE	
TAG	MATERIAL
CPH-1	CLADDING PLACEHOLDER, TYPE 1
CPH-2	CLADDING PLACEHOLDER, TYPE 2

NOTE: CLADDING FINISHES WITHIN 200MM OF GRADE ARE TO BE MOISTURE RESISTANT

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NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
ELEVATIONS

AB Fourplex 02

PROJECT NO: 241058
SCALE: 1 : 50

SHEET NO:
A200



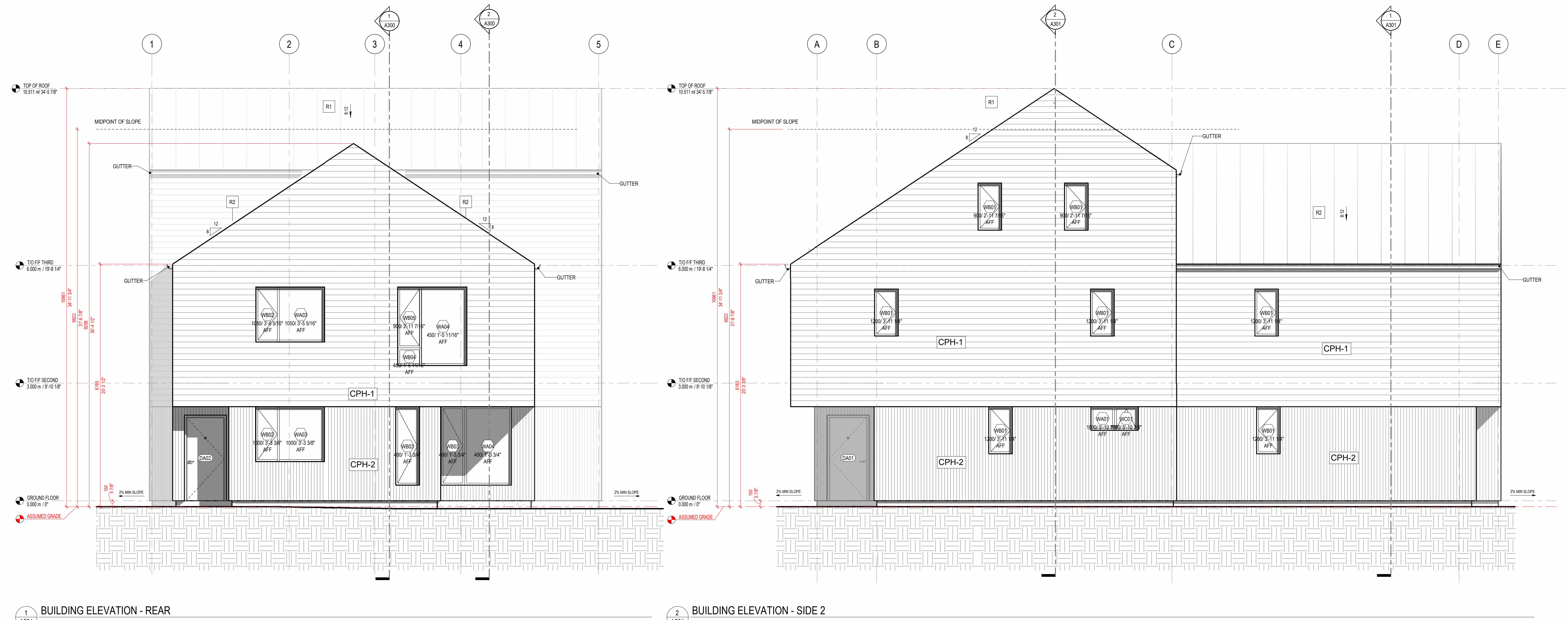
ELEVATION MATERIAL SCHEDULE

TAG	MATERIAL
CPH-1	CLADDING PLACEHOLDER, TYPE 1
CPH-2	CLADDING PLACEHOLDER, TYPE 2

NOTE: CLADDING FINISHES WITHIN 200MM OF GRADE ARE TO BE MOISTURE RESISTANT

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HEET TITLE:

AB Fourplex 02

PROJECT NO: 241058
SCALE: 1:50

HEET NO:

A201



SECTION KEYNOTES

01 FOUNDATIONS: ASSUMED, REFER TO STRUCTURAL DRAWINGS

FIRE SEPARATION LEGEND

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This architectural drawing is a building section showing a multi-story structure. The vertical axis represents height, with levels labeled from 'TOP OF ROOF' at the top to 'GROUND FLOOR' at the bottom. The horizontal axis represents the building's footprint, with sections labeled A through E along the top and B and A along the bottom. The drawing includes several rooms: 'UNIT 2' (Living, Closet), 'UNIT 3' (Bedroom, Hallway, Closet), 'UNIT 1 - ACCESSIBLE READY' (Living, Closet), 'BATHROOM', 'BEDROOM', 'WASHROOM', 'MECH', and 'ENTRY'. There are also several windows labeled 'W1', 'W2', and 'W3'. Stairs are shown connecting different levels. Foundation details at the bottom include 'ASSUMED GRADE' and 'T/O FOOTING'. The drawing is a 'BUILDING SECTION' as indicated in the bottom left corner.

1
A300
1 - 50

A300

SECTION DRAWING

LEVELS AND DIMENSIONS:

- Top of Roof:** 10.511 m / 34' 5 7/8"
- T/O F/F THIRD:** 6.000 m / 19' 8 1/4"
- T/O F/F SECOND:** 3.000 m / 9' 10 1/8"
- Ground Floor:** 0.000 m / 0"

WALLS AND ROOMS:

- Unit 1 (Ground Floor):** ACCESSIBLE READY, LIVING, BEDROOM, KITCHEN, DINING.
- Unit 2 (Second Floor):** LIVING, MECH, BEDROOM.
- Unit 3 (Third Floor):** LIVING, KITCHEN, BEDROOM.

EXTERIOR AND ROOF:

- Roof slopes: 12/12 (8°) on the left, 8/12 (6°) on the right.
- Exterior walls are labeled W1, W2, P3, F2, and R1.
- Windows are labeled WA04 (400/1'-3 3/4" AFF).
- Doors are labeled R1, R2, and F1.

STRUCTURAL AND OTHER:

- Structural columns are labeled 01.
- Assumed grade and top of footing are indicated at the bottom.
- Building section is labeled 2 A300.
- Scale: 1:50.

2
A300
1 : 50

1 : 50

NO.	DATE	DESCRIPTION
1	2025-02-21	Issued as Prototypical Drawing

PROJECT: CMHC HOUSING DESIGN CATALOGUE

ALBERTA CANADA

NOT FOR PERMIT
OR CONSTRUCTION

SHEET TITLE:

SECTIONS

AB Fourplex 02

PROJECT NO: _____
SCALE: _____

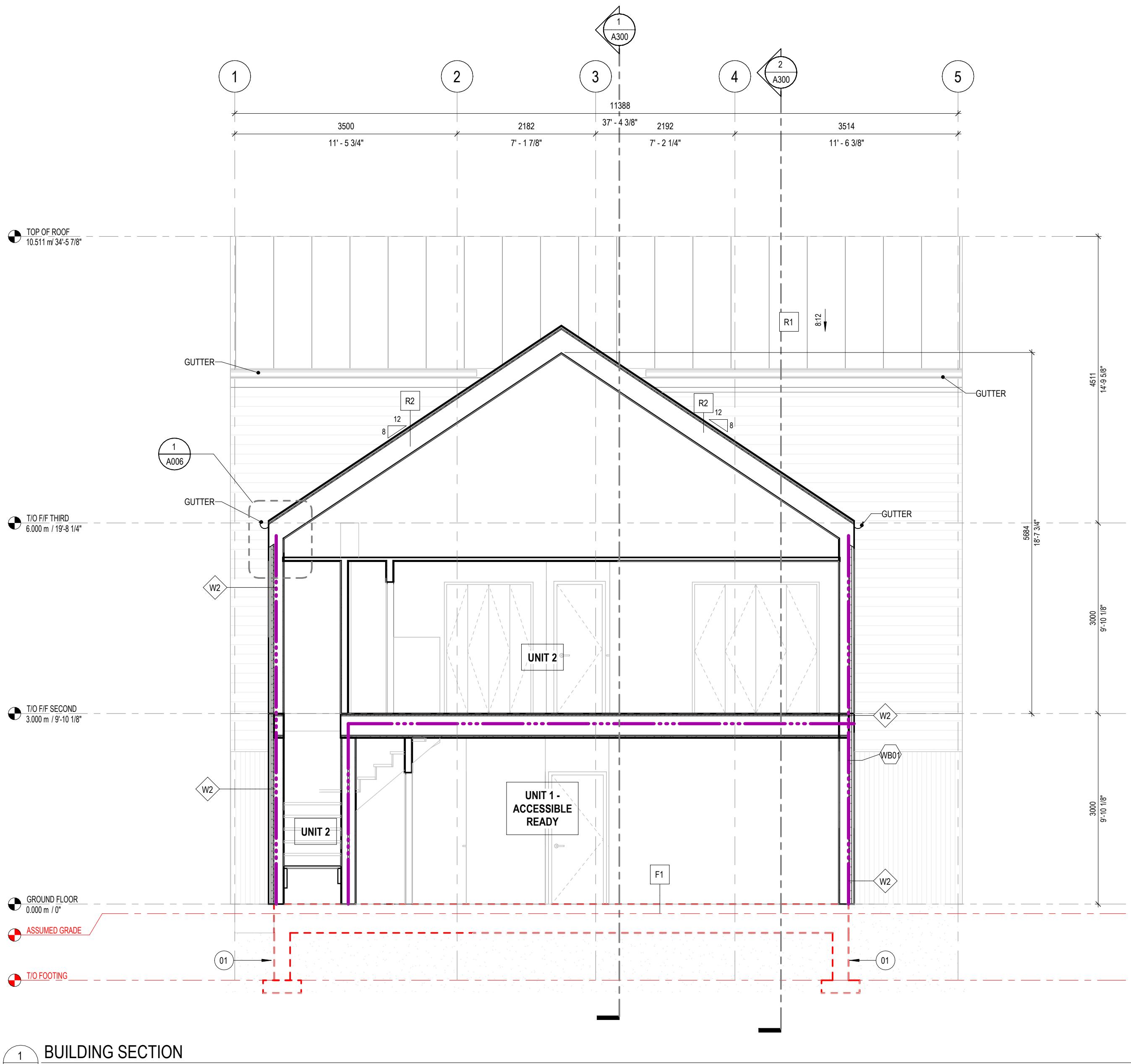
SHFT NO:

A300

SECTION KEYNOTES	
(01) FOUNDATIONS: ASSUMED. REFER TO STRUCTURAL DRAWINGS	
FIRE SEPARATION LEGEND	
—	1HR

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CMHC HOUSING DESIGN CATALOGUE

FOURPLEX 02

STRUCTURAL DRAWINGS

STRUCTURAL DRAWING LIST	
DWG. No.	DRAWING NAME
S000	COVER SHEET
S101	TYPICAL NOTES
S102	TYPICAL DETAILS
S103	TYPICAL DETAILS
S104	TYPICAL DETAILS
S105	STRUCTURAL SPECIFICATIONS
S201	FOUNDATION PLAN
S301	FRAMING PLANS
S302	FRAMING PLANS
S303	BUILDING SECTIONS
S401	TYPICAL FOUNDATION SECTIONS
S501	TYPICAL FLOOR SECTIONS
S601	TYPICAL ROOF SECTIONS

DISCLAIMER
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STRUCTURAL ABBREVIATIONS	
A.B.	ANCHOR BOLT
ALT.	ALTERNATE
ANCHS.	ANCHORS
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
B.PL.	BASE PLATE
BLK.	BLOCK
BM.	BEAM
BOT.	BOTTOM
BT.PL.	BEAM PLATE
C.W.	COMPLETE WITH
C.J.	CONTROL JOINT
CL.	CENTER LINE
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
DET.	DETAIL
DIA. OR Ø	DIAMETER
DIM.	DIMENSION
DJ	DOUBLE JOIST
DO	DOWN TO
DP	DEEP
DWG.	DRAWING
E.F.	EACH FACE
ELEC.	ELECTRICAL
E.S.	EACH SIDE
E.W.	EACH WAY
EA.	EACH
ELEV.	ELEVATION
EQ.	EQUAL
EXIST.	EXISTING
F.F.	FINISHED FLOOR
FDN.	FOUNDATION
ft	FOOT
FTG.	FOOTING
Ga	GAUGE
GB	GRADE BEAM
GH.V.	GAZED IN VENT
GRD	GRADE
HORZ.	HORIZONTAL
H.D.	HEAVY DUTY
H.D.G.	HOT DIPPED GALVANIZED
H.P.	HIGH POINT
H.P.T.	HIGH POINT
in.	INCH
I.D.	INSIDE DIAMETER
kN.	KILOGRAVE
kPa	KILOPASCAL
L	ANGLE
L.G.	LONG
L.P.	LOW POINT
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX.	MAXIMUM
MED.H.	MEDIAL
MID	MIDDLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
m	METRE
mm	MILLIMETRE
MPa	MEGAPASCAL
N.T.S.	NOT TO SCALE
No.	NUMBER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
PL.	PLATE
psf	POUNDS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
R.C.	REINFORCED CONCRETE
R.D.	ROOF DRAWDOWN
R.O.	ROUND OPENING
REF.	REFERENCE
REINF.	REINFORCED
REQD.	REQUIRED
RTU	ROOF TOP UNIT
SECT.	SECTION
S.G.G.	SLAB ON GRADE
S.S.	STAINLESS STEEL
STL.	STEEL
STRUCT.	STRUCTURAL
T.&B.	TOP AND BOTTOM
TO	TOP OF
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UIS	UNDERSIDE
VERT.	VERTICAL
W.	WORKING POINT
W.P.	WELDED WIRE MESH
W.W.M.	SPACED AT

2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING
CATALOGUE

ALBERTA, CANADA

**NOT FOR PERMIT
 OR CONSTRUCTION**

SHEET TITLE:
COVER SHEET

AB Fourplex 02

PROJECT NO: 02500462
 SCALE: 1:20

SHEET NO:
S000

GENERAL STRUCTURAL NOTES

1. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, LANDSCAPE, MECHANICAL AND ELECTRICAL DRAWINGS.
2. CHECK AND VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS BEFORE COMMENCING WITH WORK.
3. DRAWINGS SHOW COMPLETED STRUCTURE ONLY. TEMPORARY SUPPORT AND BRACING FOR CONSTRUCTION LOADING CONDITIONS IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION".
5. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.
6. GENERAL CONTRACTOR TO VERIFY AND MARK ALL UNDERGROUND LINES AND RE-ENSURE THAT NEW FOUNDATION LOCATIONS DO NOT INTERFERE WITH ANY UNDERGROUND UTILITY LINES.
7. VERIFY AND LOCATE ALL EXISTING FOUNDATIONS AND COORDINATE WITH THE LOCATIONS OF NEW FOUNDATIONS PRIOR TO COMMENCING WITH WORK.
8. ANY CLARIFICATIONS IN REGARDS TO STRUCTURAL DRAWINGS CONTACT THE ENGINEER ON RECORD.

SITE REVIEW

1. NOTIFY THE ENGINEER 48 HOURS IN ADVANCE FOR REVIEW OF THE FOLLOWING:

CONCRETE REINFORCEMENT BEFORE EACH FLOOR
WOOD FRAMING BEFORE COVERING UP

ENGINEERING SITE REVIEWS WILL BE REQUIRED IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.

SHOP DRAWINGS REVIEWS WILL BE REQUIRED FOR THIRD PARTY WORK. THE REVIEW IS NOT AN APPROVAL OF THE DESIGN, DETAILS AND DIMENSIONS INHERENT IN THE DESIGNS SUBMITTED BY OTHERS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

BUILDING CODE AND STANDARDS

- NATIONAL BUILDING CODE - 2023 ALBERTA EDITION
- ALBERTA INFRASTRUCTURE TECHNICAL DESIGN REQUIREMENTS, VERSION 7 (AUGUST 2022)
- CSA A23.1-14 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION
- CSA S16 DESIGN OF STEEL STRUCTURES
- CSA S24 DESIGN OF CONCRETE STRUCTURES
- CSA S304 DESIGN OF MASONRY STRUCTURES
- CSA S136 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS

DESIGN LOADS

UNLESS NOTED OTHERWISE LOADS NOTED BELOW ARE SPECIFIED LOADS. LOADS ARE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION

NOTE:
THIS PROTOTYPE HAS BEEN PREPARED BASED ON THE CONDITIONS SPECIFIC TO EDMONTON. ALL LOAD CONSIDERATIONS MUST BE REVIEWED AND VERIFIED BASED ON THE EXACT LOCATION OF EACH PROJECT. THE STRUCTURAL DESIGN MUST ADHERE TO THE LATEST ASSESSMENTS, BUILDING CODES, AND GEOTECHNICAL REPORTS APPLICABLE TO THE SITE.

1. LATERAL LOADS FROM WIND
 - WIND LOADS: REFERENCE WIND PRESSURE ($q/110$) 0.36 kPa
REFERENCE WIND PRESSURE ($q/150$) 0.45 kPa
 - WIND EXPOSURE CATEGORY 2
 - ULS IMPORTANCE FACTOR 1 (HIGH IMPORTANCE)
 - SLS IMPORTANCE FACTOR 0.75 (HIGH IMPORTANCE)
 - WIND INTERSTORY DRIFT LIMIT H/500 (WHERE H IS THE HEIGHT OF THE STOREY)

2. EARTHQUAKE LOADS:
 - SITE CLASSIFICATION CLASS D-XD (ASSUMED, BASED ON EDMONTON AREA)

Sa (0.2, Xc)	0.199
Sa (0.5, Xc)	0.167
Sa (1.0, Xc)	0.0917
Sa (2.0, Xc)	0.048
Sa (3.0, Xc)	0.024
Sa (10.0, Xc)	0.0146
PGA (Xc)	0.126
PGV (Xc)	0.104
SEISMIC CATEGORY	SC1
ULS IMPORTANCE FACTOR	1
PERIOD	3
Ro =	1.7
SEISMIC INTERSTORY DEFLECTION LIMIT	0.01 hs (FOR POST-DISASTER) 0.02 hs (FOR HIGH IMPORTANCE) 0.025 hs (FOR NORMAL IMPORTANCE)

(WHERE hs IS THE INTERSTORY HEIGHT OF THE STRUCTURE)

1. LATERAL LOADS FROM WIND AND EARTHQUAKE ARE RESISTED BY SHEAR WALLS. DIAPHRAGM ACTION OF THE ROOF AND THE FLOOR PLATES IS USED TO TRANSFER LATERAL LOADS HORIZONTALLY TO THE BRACING SYSTEM.

2. FLOOR LOADS

DEAD LOAD (SPECIFIED DEAD LOADS HAVE INCORPORATED A SUPERIMPOSED DEAD LOAD OF 1.0 kPa FOR PARTITION LOADS)

MAIN FLOOR	1.7 kPa
SECOND FLOOR	1.7 kPa

LIVE LOAD

MAIN FLOOR 1.9 kPa

SECOND FLOOR 1.9 kPa

OTHER LOADS:

- FLOOR JOISTS ABOVE MECHANICAL ROOM TO BE DESIGNED FOR AN ADDITIONAL BOTTOM CHORD LIVE LOAD OF 10 psf.
- BULK HEADS 10 psf REFER TO ARCH DRAWINGS FOR LOCATIONS.
- MISCELLANEOUS LOADS SHOWN DIRECTLY ON THE PLANS.
- WATER LINE LOADS SEE THIS DRAWING.

3. ROOF LOADS

DEAD LOAD 1.2 kPa
LIVE LOAD 1.46 kPa

Snow Load 1.7 kPa
S 1.46 kPa+ SNOW PILING

RAIN LOAD

Sr 0.1 kPa

ULS IMPORTANCE FACTOR 1
SLS IMPORTANCE FACTOR 0.9

Rain 97mm (ONE DAY RAIN)

OTHER LOADS:

- ALLOW FOR ADDITIONAL 75 psf SNOW PILING IN ALL VALLEYS. SNOW PILING TO BE TAPERED TO REGULAR ROOF SNOW LOAD AT 300mm EACH SIDE OF VALLEYS.
- WIND UPLIFT LOADS-TRUSS SUPPLIER TO DESIGN ROOF TRUSSES FOR WIND UPLIFT ACCORDING TO THE LAT. 100% OF THE ROOF.
- BULK HEADS 10 psf REFER TO ARCH DRAWINGS FOR LOCATIONS.
- MISCELLANEOUS LOADS SHOWN DIRECTLY ON THE PLANS.
- WATER LINE LOADS SEE THIS DRAWING.

4. TEMPORARY CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN PARAMETERS AND SHALL NOT BE APPLIED BEFORE THE STRUCTURE HAS SUFFICIENT STRENGTH AND STABILITY.

NON-STRUCTURAL ELEMENTS

1. NON-STRUCTURAL ELEMENTS TO BE DESIGNED BY OTHERS.
2. EXAMPLES OF NON-STRUCTURAL ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
 - A. ARCHITECTURAL ELEMENTS SUCH AS GUARDRAILS, HANDRAILS, LADDER, FLAG POSTS, AWNINGS, CEILINGS, MILLWORK ETC.
 - B. LANDSCAPE ELEMENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC.
 - C. CLADDING, GLAZING, WINDOW MULLIONS, PARTITION WALLS.
 - D. ARCHITECTURE, PRECAST, PRECAST CLADDING.
 - E. SIGNLIGHTS.
 - F. MECHANICAL AND ELECTRICAL EQUIPMENT, COMPONENTS AND THEIR ATTACHMENT DETAILS.
 - G. WINDOW WASHING EQUIPMENT AND THEIR ATTACHMENTS.
 - H. ESCALATORS, ELEVATORS AND CONVEYING SYSTEMS.
 - I. BRICK OR BLOCK VENEERS AND THEIR ATTACHMENTS.
 - J. NON STRUCTURAL CONCRETE TOPPINGS.

3. SHOP DRAWINGS FOR NON STRUCTURAL ELEMENTS WHICH MAY AFFECT THE PRIMARY STRUCTURAL SYSTEM SHALL BE SUBMITTED TO ENGINEER ON RECORD (E.O.R.). THESE DRAWINGS WILL BE REVIEWED ONLY FOR THE EFFECT OF THE ELEMENT ON THE PRIMARY STRUCTURAL SYSTEM.

4. PERIMETER STEEL FRAMING ABOVE WINDOWS IN STEEL STUD WALLS HAS BEEN DESIGNED TO L/240 TOTAL LOAD DEFLECTION - U.N.O.

5. ROOF BEAMS AND JOISTS HAVE BEEN DESIGNED TO L/240 TOTAL LOAD DEFLECTION - U.N.O.

6. FLOOR BEAMS AND JOISTS HAVE BEEN DESIGNED TO L/360 TOTAL LOAD DEFLECTION - U.N.O.

7. EXPECTED SLAB ON GRADE MOVEMENT TO BE +/- 1". CONFIRM WITH GEOTECHNICAL REPORT.

REINFORCEMENT FOR CONCRETE

1. REINFORCED CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION 9 AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS.
2. REINFORCING STEEL: BILLET STEEL CONFORMING TO THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS. ALL REINFORCING SHALL BE GRADE 400 USE GRADE 400W WHERE WELDING IS NOTED.
3. BENDING, CUTTING AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS.
4. WELDING SHALL CONFORM TO THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS.
5. MINIMUM REINFORCEMENT AS PER THE MINIMUM REQUIREMENTS NOTED BELOW.
6. REBAR SHALL BE FREE OF RESIDUAL CEMENT PASTE AND FORM OIL.
7. CONCRETE COVER TO REINFORCING STEEL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW THAT RESULTS IN THE GREATER AMOUNT OF COVER.

CONCRETE COVER SCHEDULE

	FIRE RESISTANCE RATING (SEE ARCHITECTURAL DRAWINGS) UP TO
GRADE BEAMS	50mm
SLAB ON GRADE	
SINGLE-LAYER REINFORCEMENT	PLACE REINFORCEMENT AT MID DEPTH

• COVER IS TO PRIMARY REINFORCEMENT, NOT TO STIRRUPS OR TIES

• APPLIES TO NORMAL EXPOSURE ONLY

CONTRACTOR TO CONFIRM FIRE RATING REQUIREMENTS FOR ALL CONCRETE ELEMENTS WITH ARCHITECTURAL DRAWINGS.

CONTRACTOR TO ENSURE CLEAR COVER REQUIREMENTS AS PER THE CONCRETE COVER SCHEDULE ARE MET.

8. SUBMIT TO ENGINEER ON RECORD (E.O.R.) FOR REVIEW THE LOCATIONS OF ALL SLEEPS AND OPENINGS NOT SHOWN ON THE DRAWINGS. ENGINEER ON RECORD (E.O.R.) WILL PROVIDE STRUCTURAL DETAILS UPON REQUEST.

9. SLEEVES SHALL NOT BE PLACED HORIZONTALLY ALONG OR VERTICALLY THROUGH BEAMS UNLESS AUTHORIZED BY ENGINEER ON RECORD (E.O.R.)

MINIMUM REQUIREMENTS

UNLESS OTHERWISE NOTED ON DRAWINGS

BAR SIZE	TENSION		COMPRESSION	
	EMBEDMENT LENGTH	LAP SPLICE LENGTH	EMBEDMENT LENGTH	LAP SPLICE LENGTH
10M	16" (400mm)	20" (500mm)	8" (200mm)	12" (300mm)
15M	24" (600mm)	30" (750mm)	12" (300mm)	18" (450mm)
20M	30" (750mm)	40" (1000mm)	16" (400mm)	24" (600mm)
25M	48" (1200mm)	62" (1500mm)	20" (500mm)	30" (750mm)
30M	58" (1450mm)	74" (1850mm)	24" (600mm)	36" (900mm)
35M	60" (1500mm)	86" (2150mm)	28" (700mm)	42" (1050mm)

TABLE NOTES:

1. BASED ON NATIONAL BUILDING CODE - 2023 ALBERTA EDITION AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS.
2. NORMAL DENSITY CONCRETE OF STRENGTH AT LEAST 25 MPa.
3. END CAPPED BARS: USE UPSIDE DOWN.
4. CLEAR SPACING AT LEAST 1.0 X BAR DIAMETER.
5. CLEAR SPACING AT LEAST 1.4 X BAR DIAMETER.
6. INCREASE LENGTHS TO 1.31 X LENGTH LISTED FOR EPOXY COATED REINFORCING.

MINIMUM SLAB ON GRADE REINFORCEMENT TABLE

U.N.O. ON DRAWINGS

SLAB THICKNESS	SLABS ON GRADE
≤ 4" (100mm)	10M @ 14" (350mm)
≤ 5" (130mm)	10M @ 12" (300mm)
≤ 6" (150mm)	10M @ 12" (300mm)
≤ 7" (175mm)	10M @ 11" (275mm)
≤ 8" (200mm)	10M @ 10" (250mm)
≤ 9" (225mm)	10M @ 10" (250mm)
≤ 10" (250mm)	10M @ 10" (250mm)
≤ 12" (300mm)	10M @ 10" (250mm)

TABLE NOTES:

1. MINIMUM THICKNESS OF SLABS ON GRADE IS 4" (100mm).

(SCREW PILES) FOUNDATION

1. SCREW PILES SHALL BE DESIGNED BY THE PILING CONTRACTOR FOR THE LOADS INDICATED ON DRAWINGS AND SHALL BE DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

2. PROVIDE APPROPRIATE NUMBER OF SHOP DRAWINGS FOR ALL PILES. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ALBERTA RESPONSIBLE FOR THE DESIGN OF ALL PILES.

3. INSTALLATION OF PILES SHALL BE UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR PRODUCING THE GEOTECHNICAL REPORT. PROVIDE AN ACCURATE REPORT AT COMPLETION OF WORK WITH ALL PILE LOGS. FINAL REPORT SHALL BE SIGNED AND SEALED BY THE GEOTECHNICAL ENGINEER SUPERVISING THE INSTALLATION. PROVIDE SCHEDULES A, B, AND C AS REQUIRED BY THE LOCAL AUTHORITIES AND COPIES TO ENGINEER OF RECORD.

4. PILING CONTRACTOR TO ADVISE GENERAL CONTRACTOR TO THE NUMBER OF PILES REQUIRED IN ALL LOCATIONS, AS CAPS MAY BE REQUIRED. COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO TENDER CLOSING.

5. GENERAL CONTRACTOR TO ALLOW FOR PILE CAPS AS ADVISED BY PILING CONTRACTOR.

6. VERIFY AND MARK ALL UNDERGROUND LINES AND RE-ENSURE THAT NEW PILE LOCATIONS DO NOT INTERFERE WITH ANY UNDERGROUND UTILITY LINES.

7. PROVIDE MINIMUM PILE SHAFT DIAMETER OF 200mm TYP. ALL SIM. LOCATIONS.

CONCRETE FOWRK

FORM WORK TO CONFORM TO THE NATIONAL BUILDING CODE - 2023 ALBERTA EDITION AND STANDARDS AS NOTED IN THE PROJECT SPECIFICATIONS.

1. REFER TO ARCHITECTURAL DRAWINGS FOR CHAMFERS ON CORNERS OF COLUMNS, BEAMS AND WALLS. USE 19mm x 19mm FORMED CHAMFERS ON EXPOSED CORNERS UNLESS OTHERWISE SHOWN ON DRAWINGS / ARCHITECTURAL DRAWINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2. VOID FORM MATERIALS SHALL BE DYNAVOID (40144) OR EQUIVALENT U.N.O.

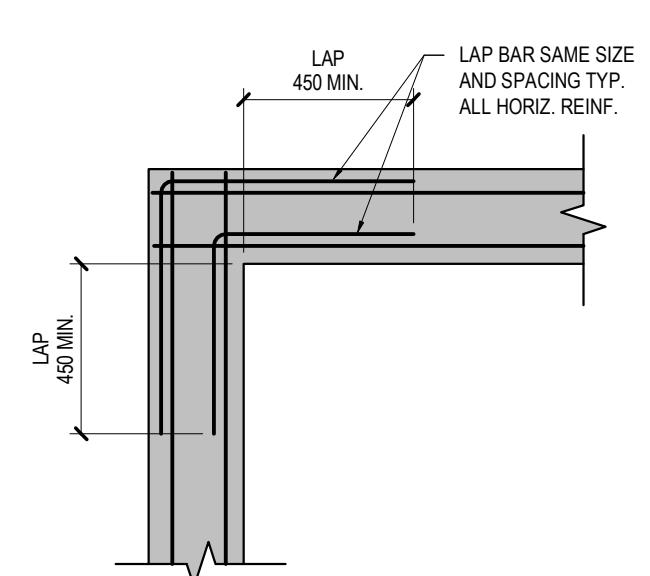
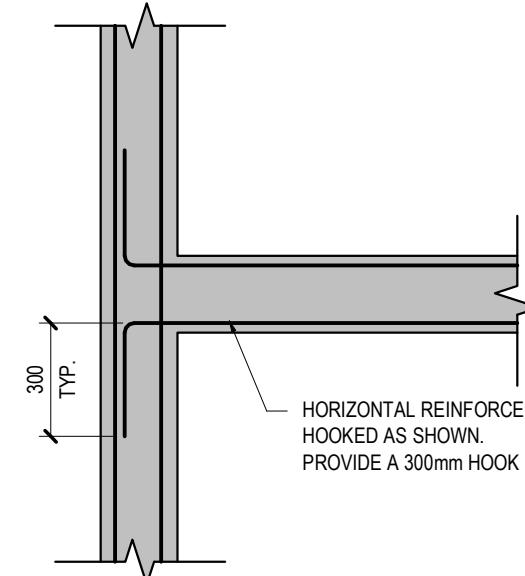
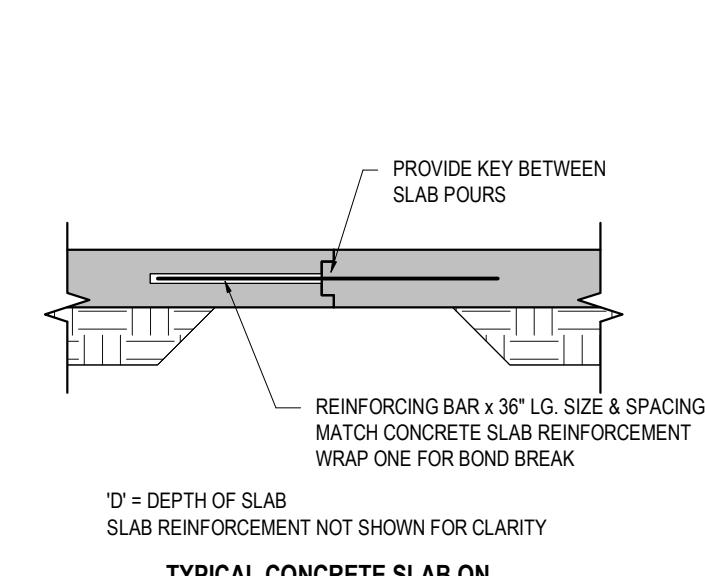
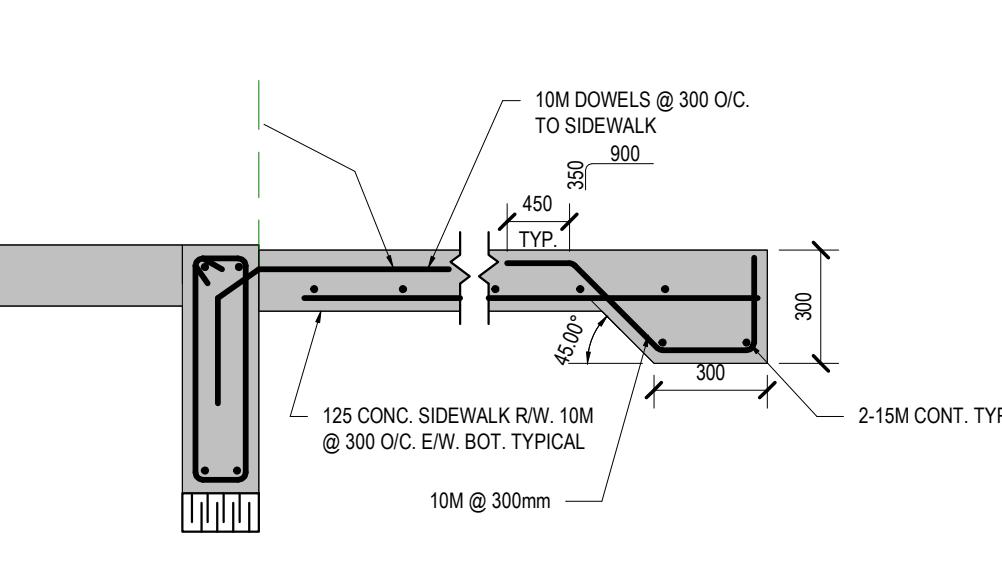
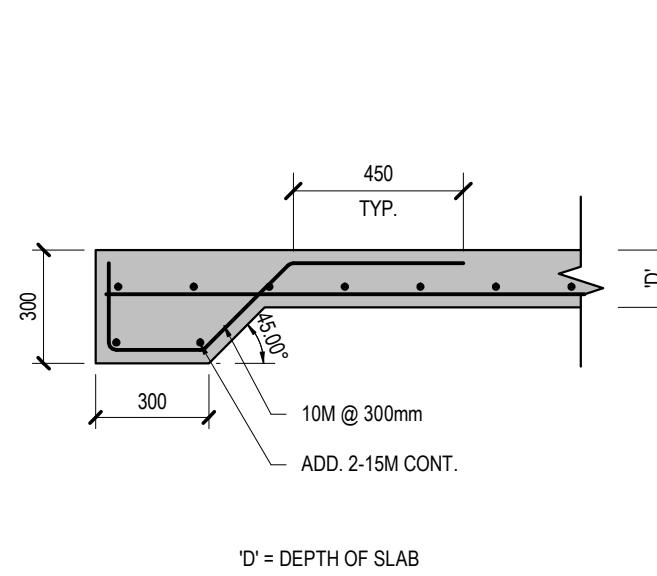
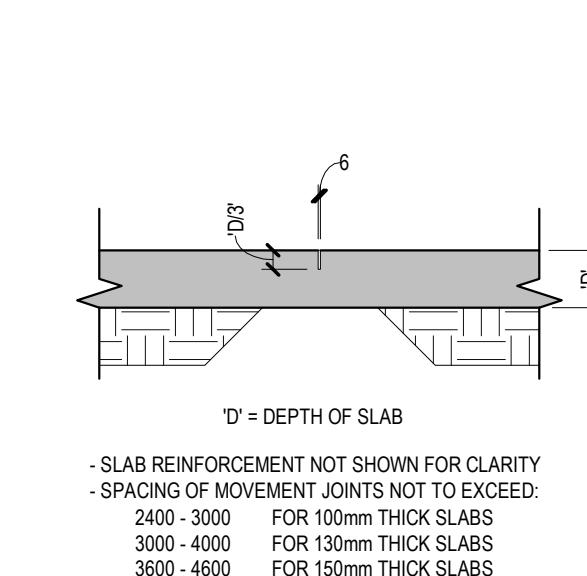
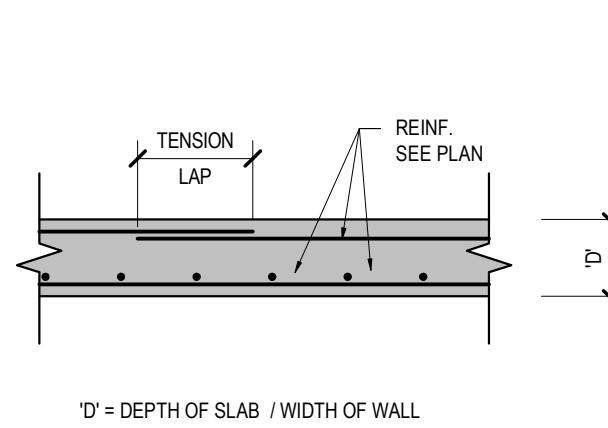
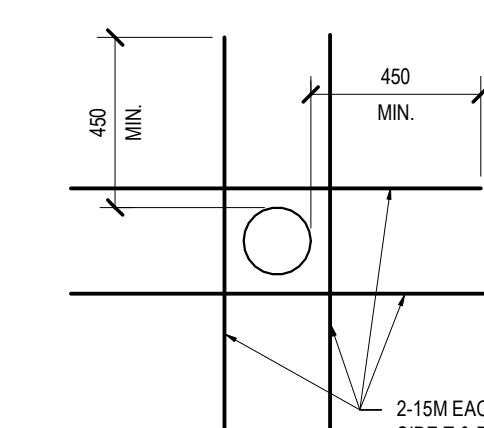
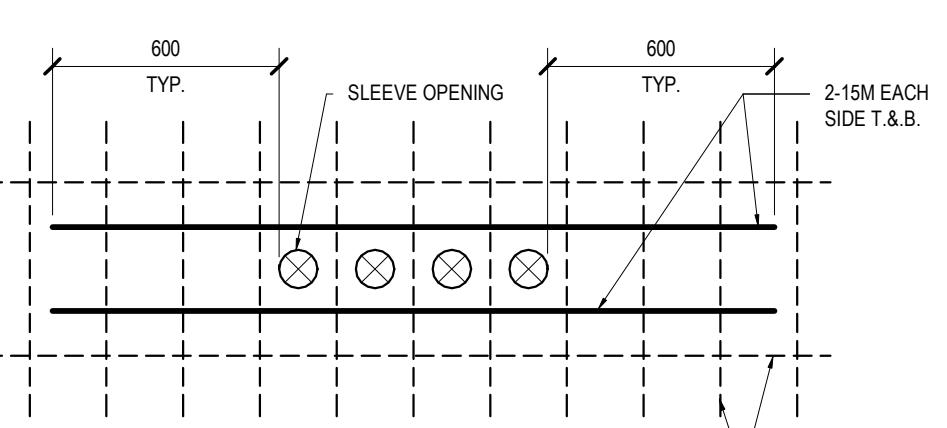
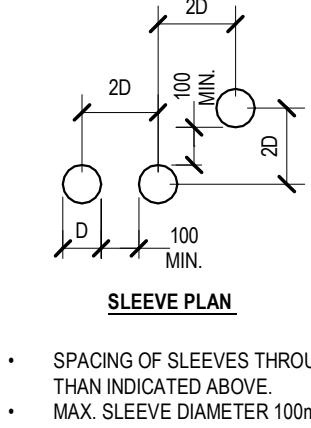
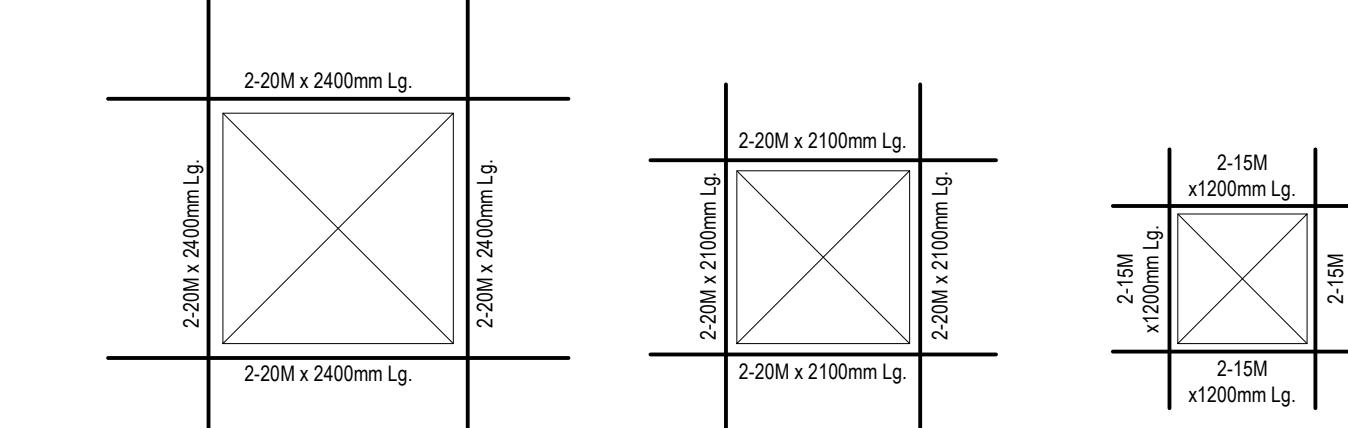
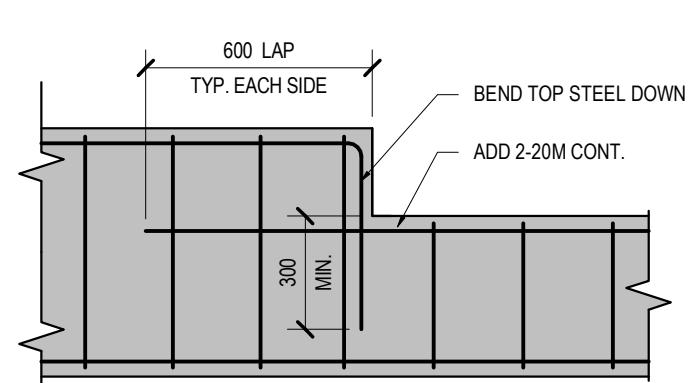
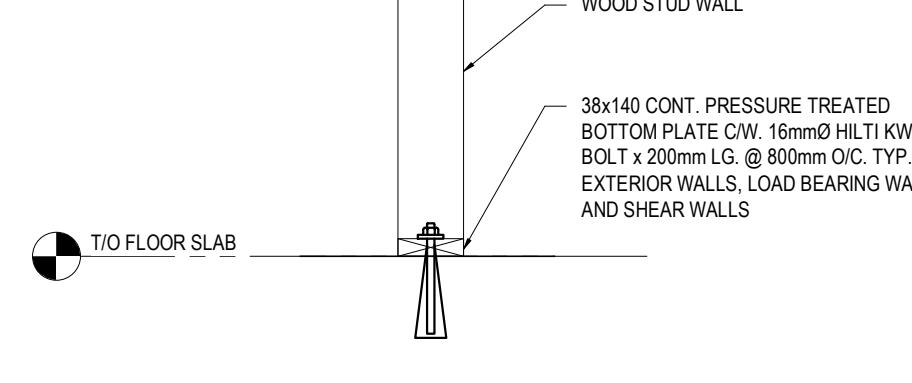
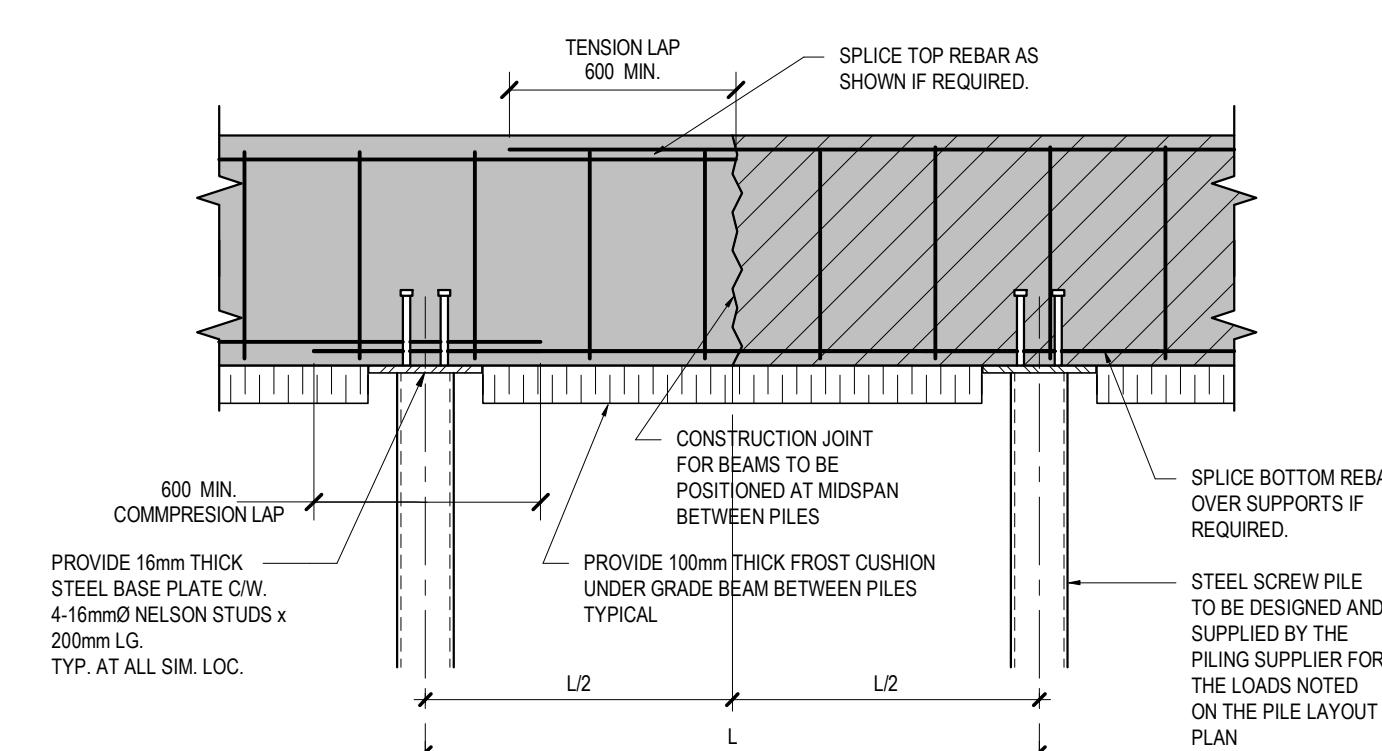
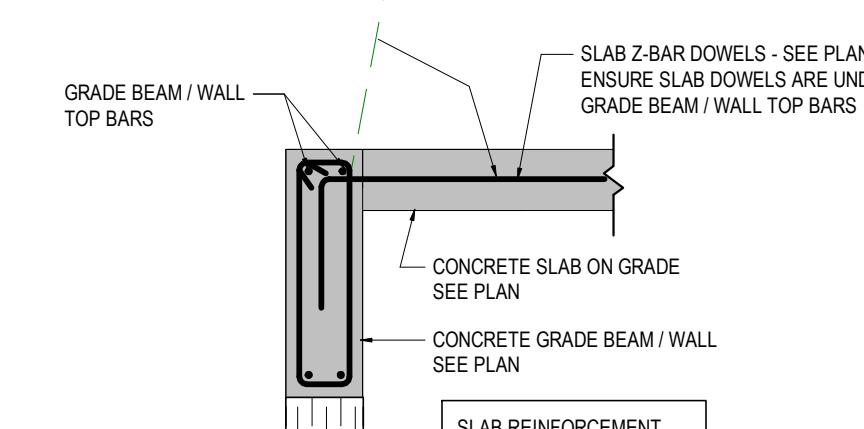
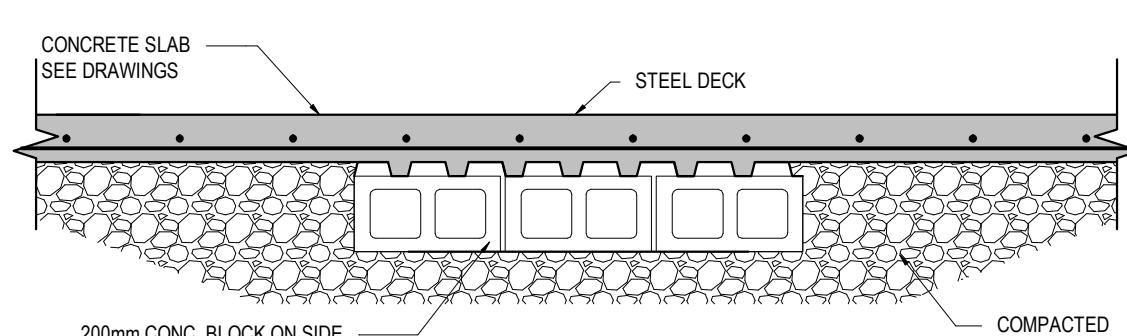
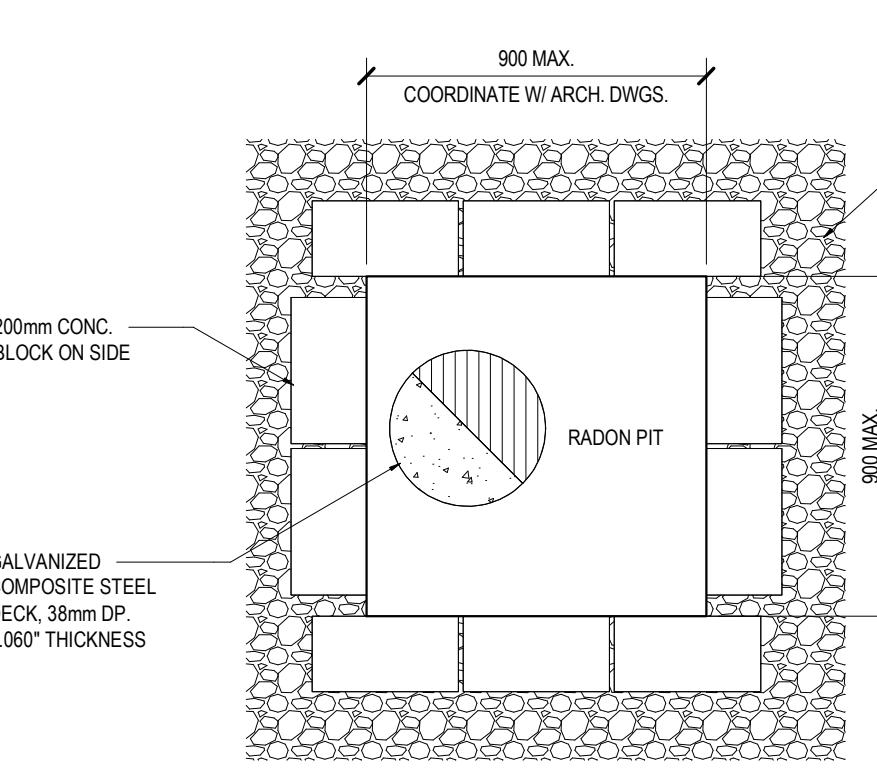
3. REBAR SHALL BE FREE OF RESIDUAL CEMENT PASTE AND FORM OIL.

4. FOR ADDITIONAL NOTES AND REQUIREMENTS SEE SPECIFICATIONS.

CONCRETE

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TYPICAL LAPPING AT CORNERS

**TYPICAL CORNER BARS AT
INTERSECTING WALLS AND GRADE BEAMS**

**TYPICAL CONCRETE SLAB ON
GRADE POUR BREAK (FLOOR JOINT)**

TYPICAL CONCRETE SIDEWALK DETAIL

TYPICAL CONCRETE SLAB THICKENING

**TYPICAL SAWCUT FOR CONCRETE
SLAB ON GRADE**

**TYPICAL REINFORCEMENT LAP IN
WALLS AND SLABS UNLESS NOTED
OTHERWISE**

**REINFORCEMENT AROUND SLEEVES WITH DIAMETERS
LARGER THAN 100mm**

**ADDITIONAL SLAB REINFORCEMENT
WITH FOUR OR MORE SLEEVES**

**TYPICAL SPACING OF SLEEVES IN / THROUGH
SLABS, BEAMS AND CONCRETE WALLS**

**TYPICAL REINFORCEMENT FOR OPENINGS IN SLABS
AND / OR CONCRETE WALLS**

CHANGE IN GRADE BEAM HEIGHT DETAIL

**TYP. WOOD STUD WALL TO
CONCRETE DETAIL**

TYPICAL GRADE BEAM SPLICE DETAIL

TYPICAL SLAB ON GRADE TO GRADE BEAM / WALL Z-BAR DOWEL

SECTION VIEW

PLAN VIEW
TYPICAL RADON PIT DETAIL

1. COORDINATE LOCATION TO AVOID HIGHLY LOADED AREAS (EG. RACKING, HIGH TRAFFIC ZONES, PONT LOADS)
2. SEE ARCH. DWGS. FOR NUMBER, EXTENT AND LOCATIONS OF PITS

2 2025-02-19 ISSUED FOR PROTOTYPICAL DRAWING
NO. DATE DESCRIPTION

PROJECT:
**CMHC HOUSING
CATALOGUE**

ALBERTA, CANADA

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
TYPICAL DETAILS

AB Fourplex 02

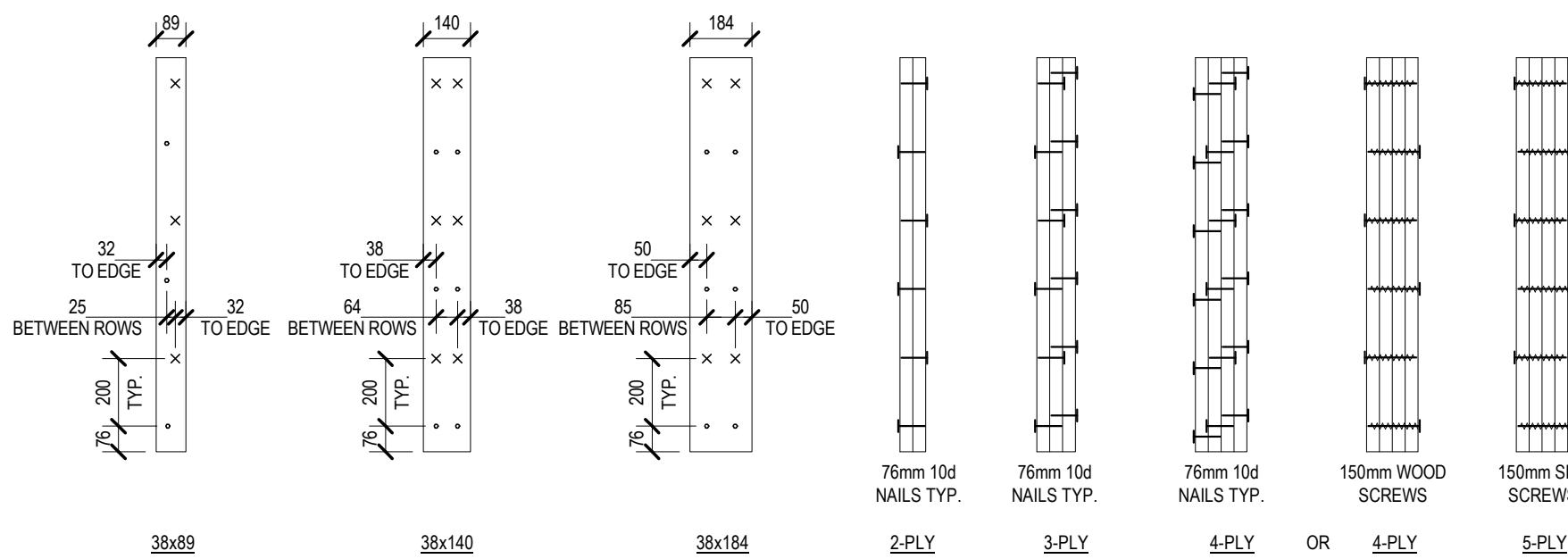
PROJECT NO: 02500462
SCALE: 1:20

SHEET NO:

S102

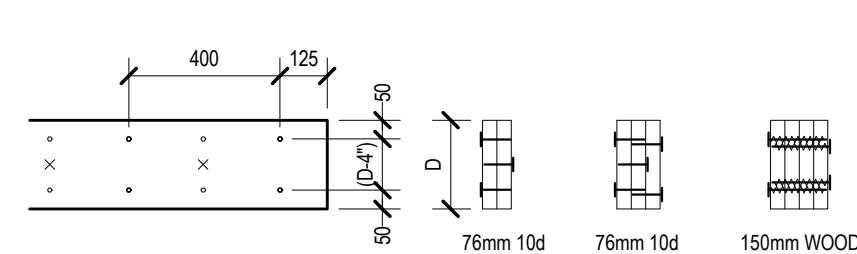
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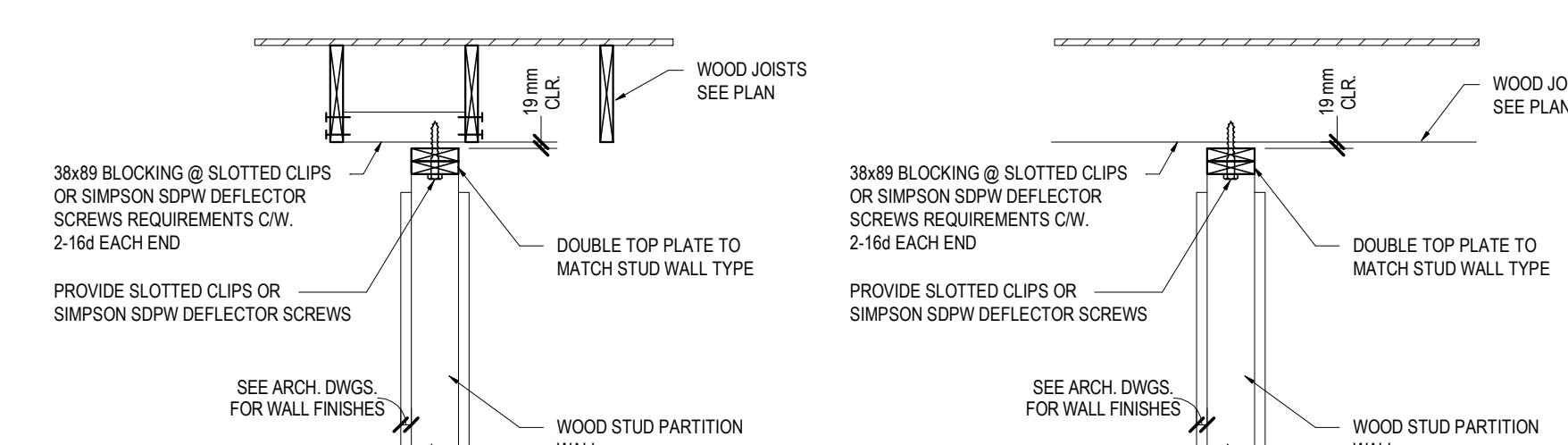
BUILT-UP COLUMN NAILING PATTERN

1. BUILT-UP STRUCTURAL COMPOSITE LUMBER (LVL, LSL) COLUMNS TO BE FASTENED AS PER MANUFACTURER'S REQUIREMENTS

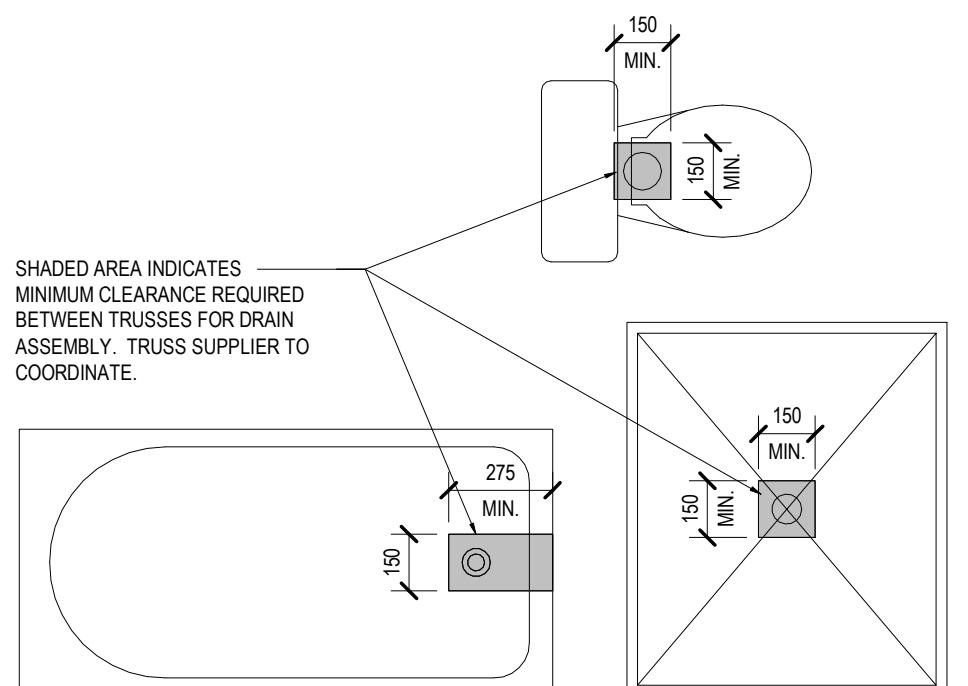


BUILT-UP BEAM NAILING PATTERN

1. BUILT-UP STRUCTURAL COMPOSITE LUMBER (LVL, LSL) COLUMNS TO BE FASTENED AS PER MANUFACTURER'S REQUIREMENTS

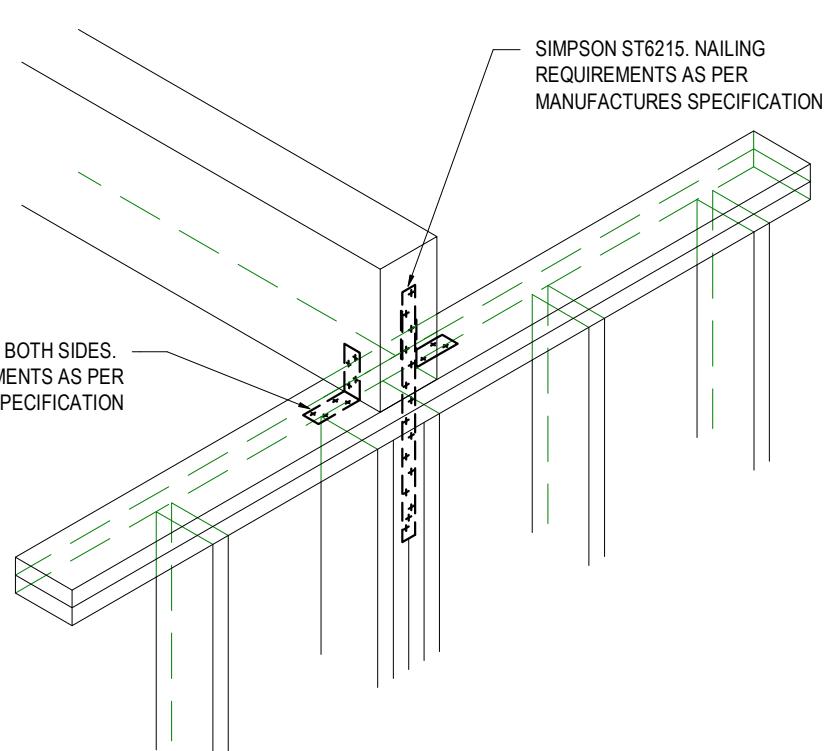


WOOD STUD PARTITION WALL DETAIL

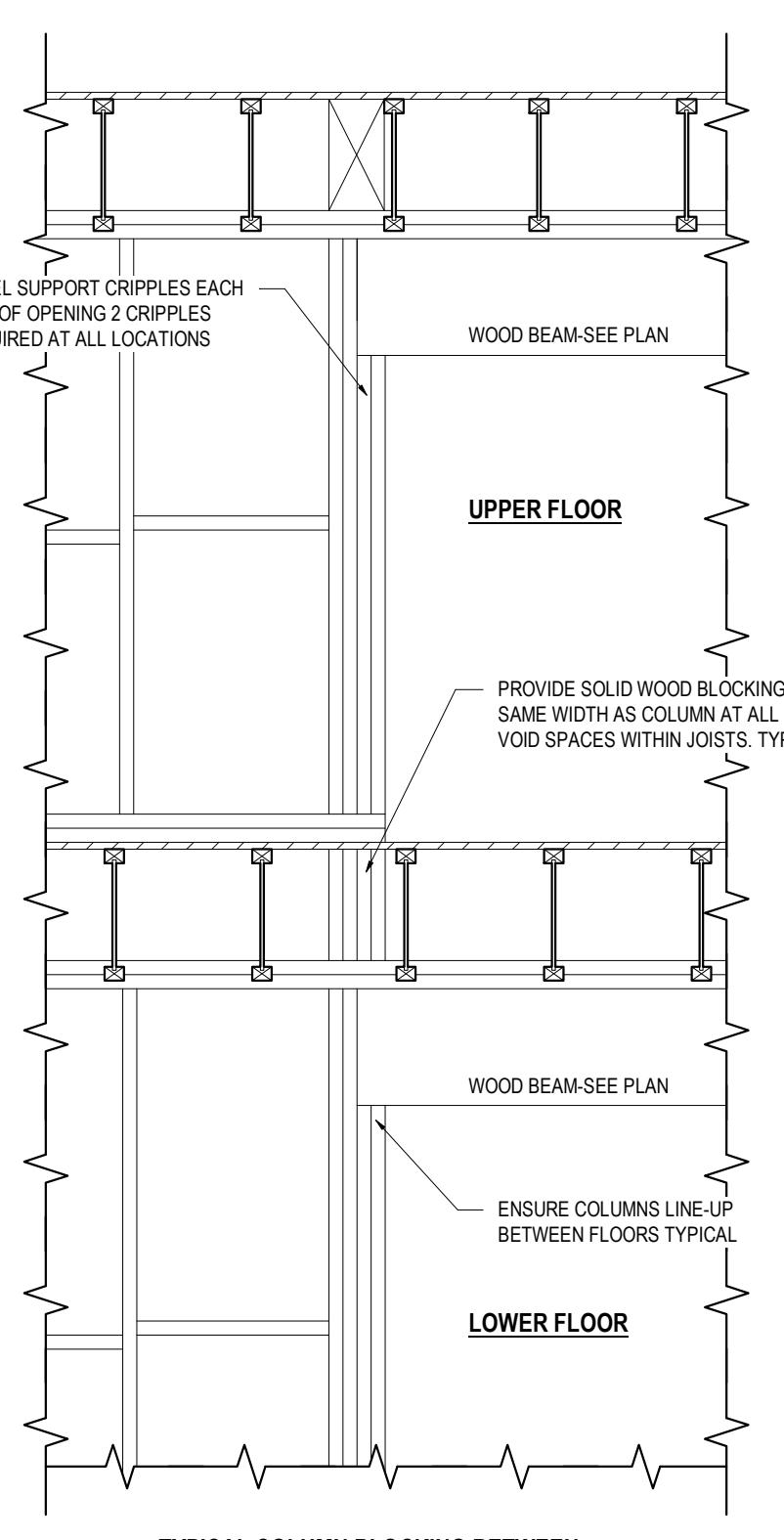


FRAMING REQUIREMENTS UNDER TUBS AND SHOWERS

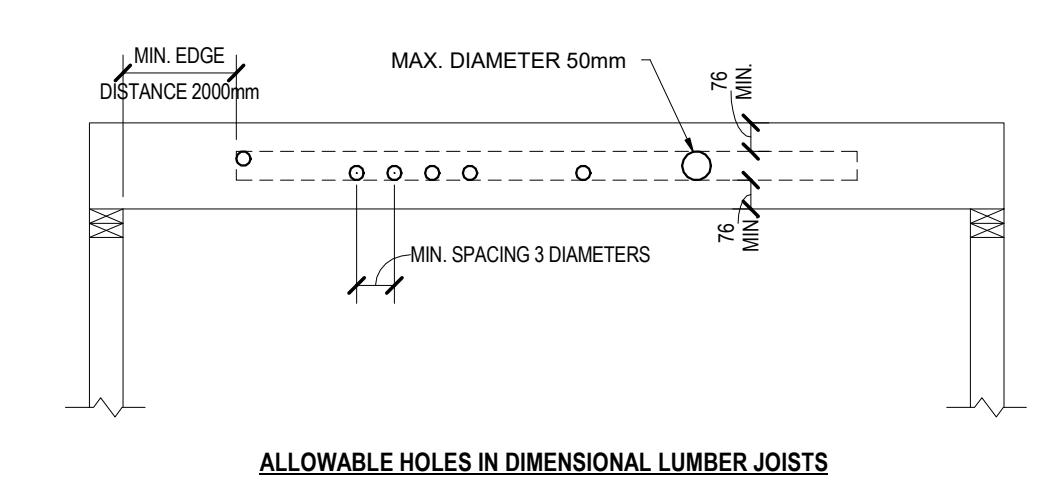
(SEE ARCHITECTURAL DRAWINGS FOR TUB AND SHOWER LOCATIONS)



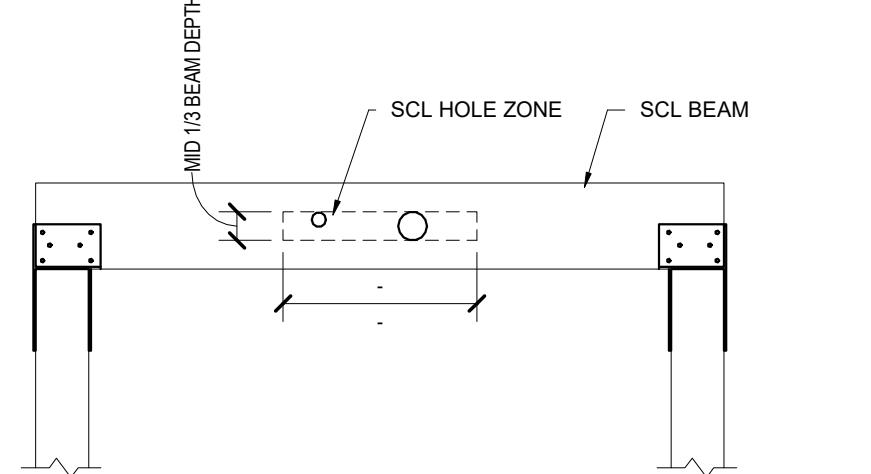
TYPICAL WOOD BEAM TO WOOD COLUMN WITHIN STUD WALL CONNECTION (WALL PERPENDICULAR TO BEAM)



TYPICAL COLUMN BLOCKING BETWEEN FLOORS



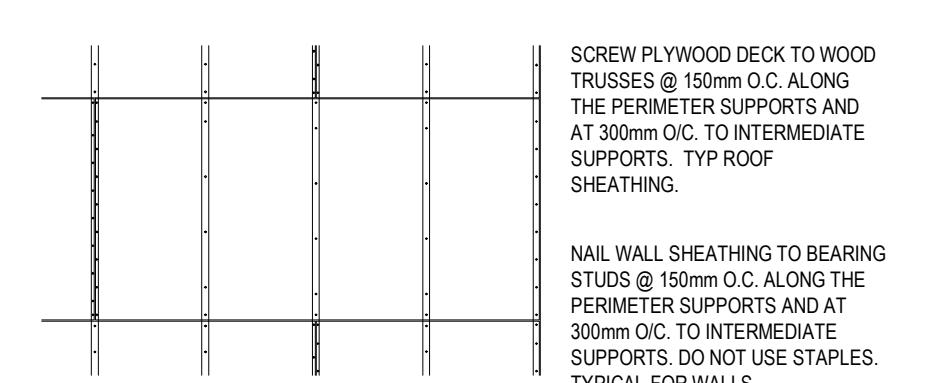
ALLOWABLE HOLES IN DIMENSIONAL LUMBER JOISTS



NOTES:

1. ALLOWED HOLE ZONE SUITABLE FOR LVL BEAM WITH UNIFORM LOAD ONLY
2. ROUND HOLE
3. HOLE IN CANTILEVER
4. NO HOLES IN LVL BEAM IN PLANK ORIENTATION
5. MAXIMUM ROUND HOLE SIZE: 50mm DIA.

STRUCTURAL COMPOSITE ALLOWABLE FIELD LUMBER (SCL) MODIFICATION



PLYWOOD SHEATHING NAILING REQUIREMENTS

2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

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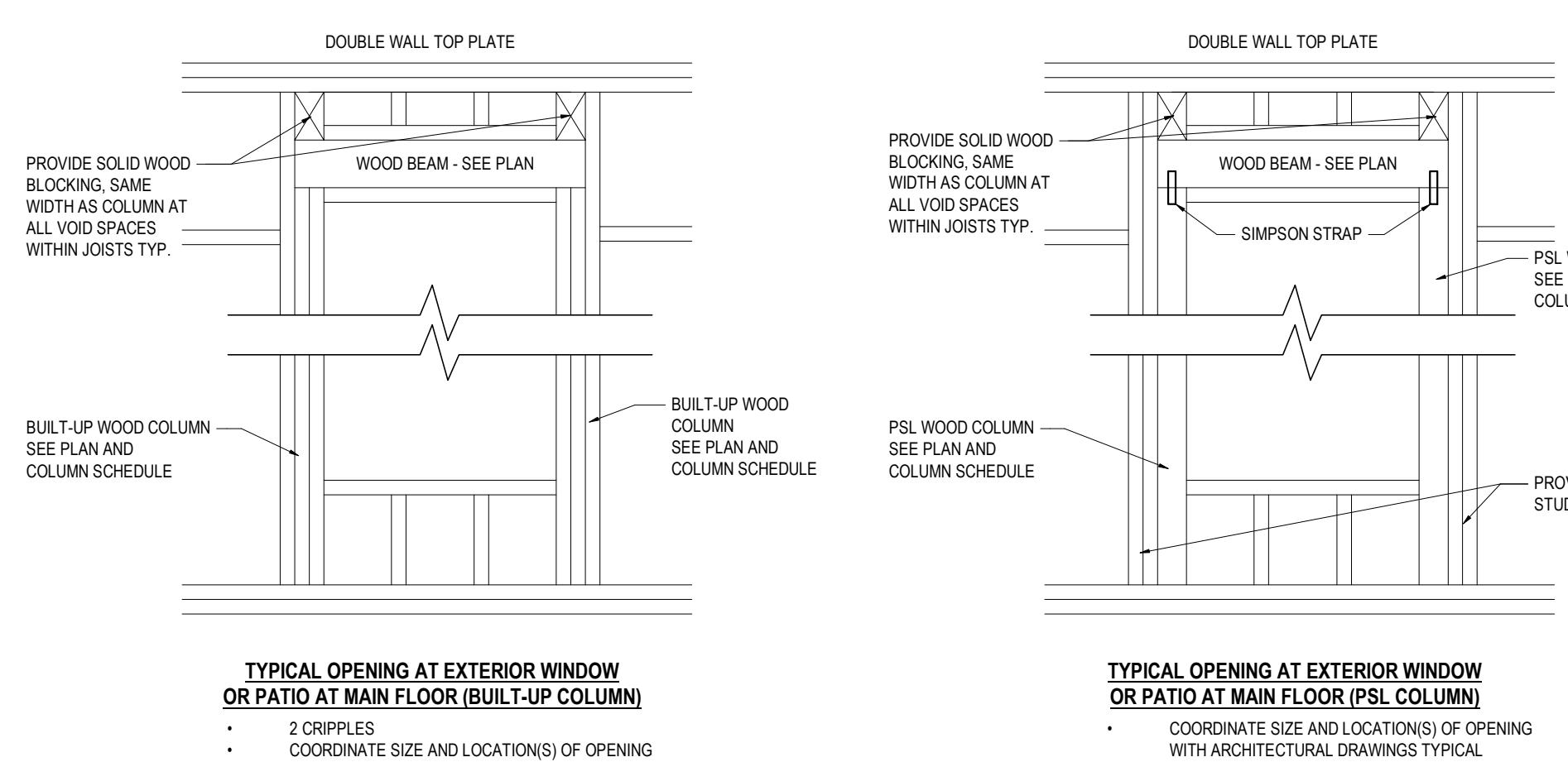
SHEET TITLE:
TYPICAL DETAILS

AB Fourplex 02

PROJECT NO: 02500462
SCALE: 1:20

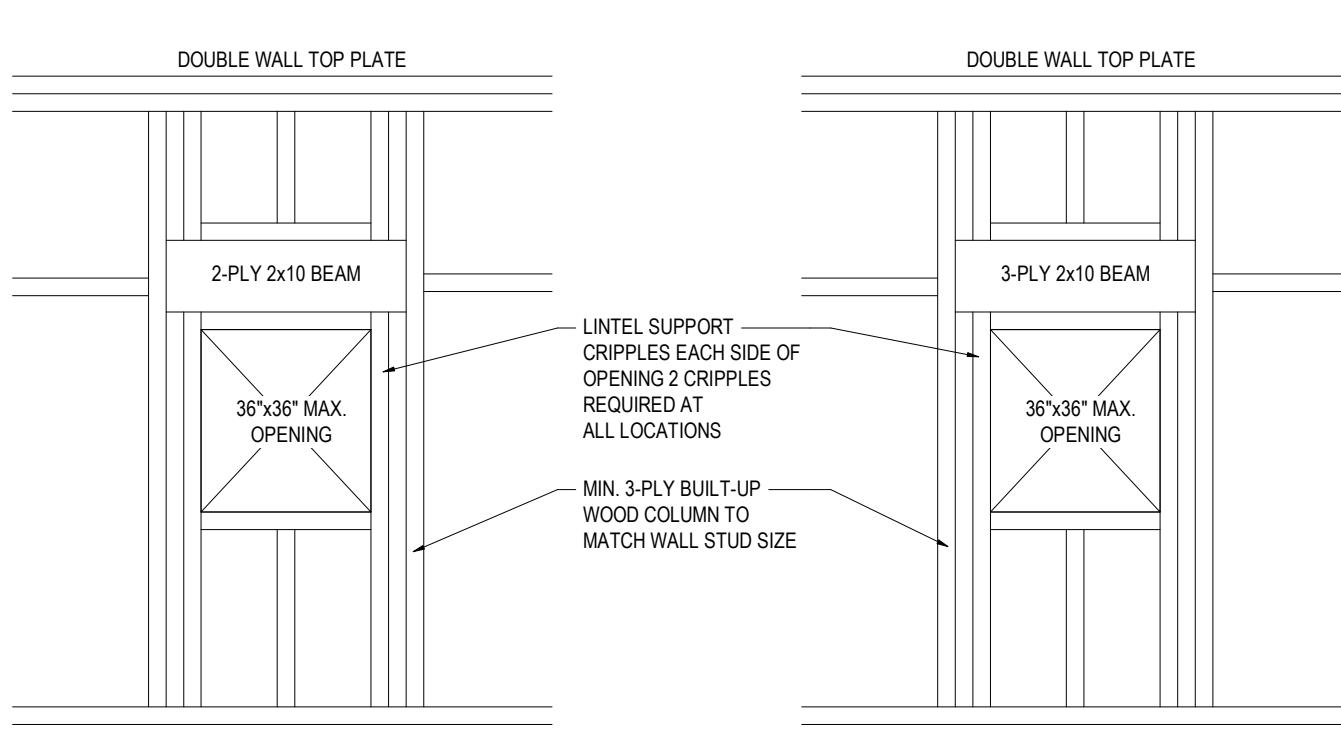
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S103



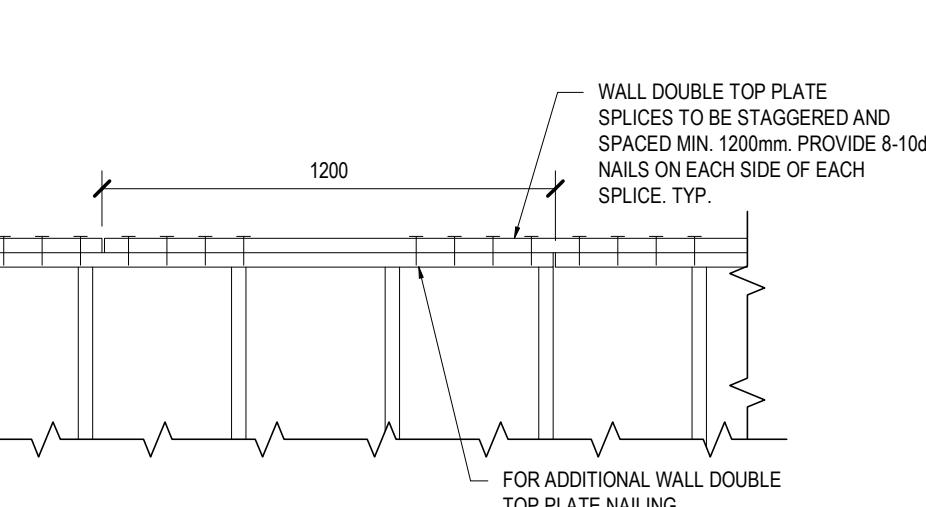
TYPICAL OPENING AT EXTERIOR WINDOW OR PATIO AT MAIN FLOOR (BUILT-UP COLUMN)

- 2 CRIPPLES
- COORDINATE SIZE AND LOCATION(S) OF OPENING WITH ARCHITECTURAL DRAWINGS TYPICAL



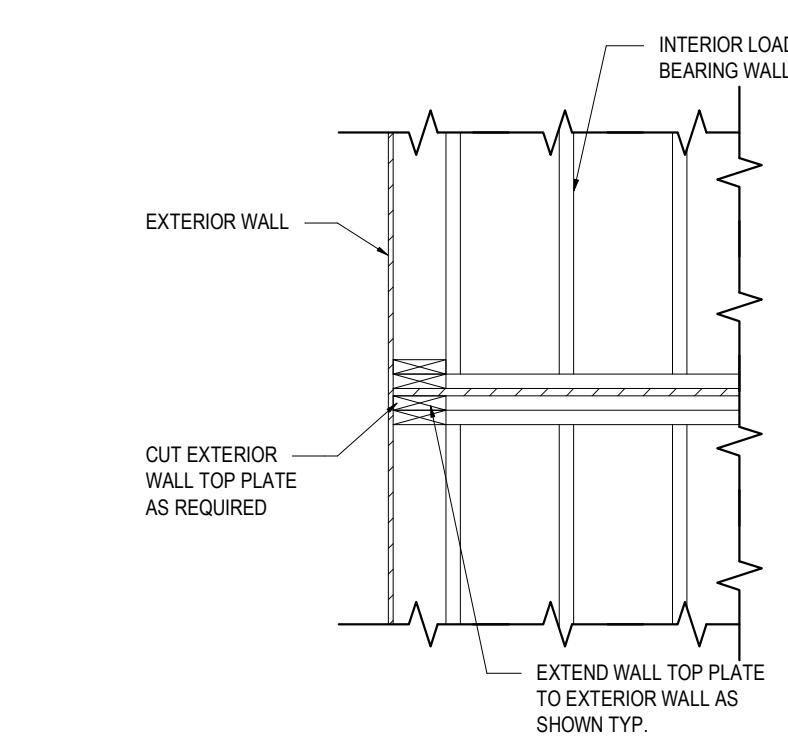
MECHANICAL DUCT OPENINGS IN 2x4 WALLS

- COORDINATE SIZE AND LOCATION(S) OF OPENING WITH MECHANICAL DRAWINGS TYPICAL

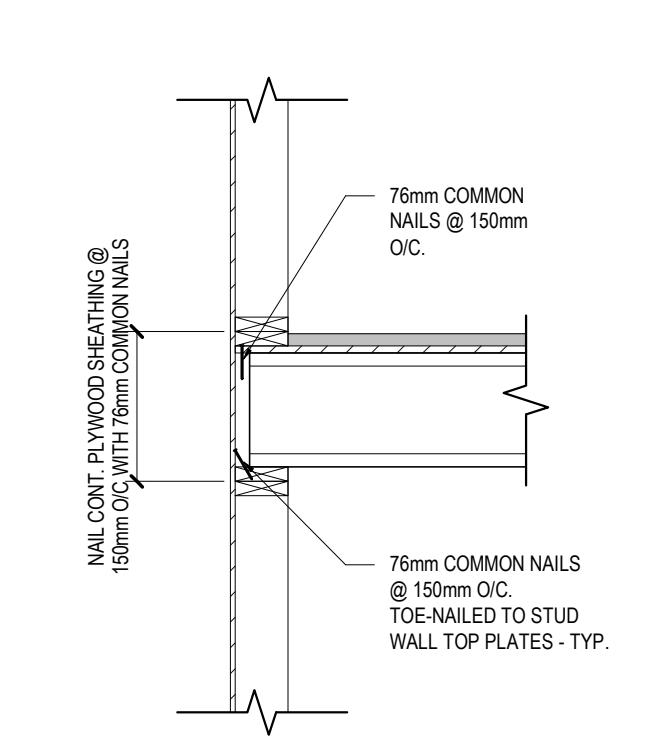


TYPICAL STUD WALL OPENING AT MECHANICAL DUCTS

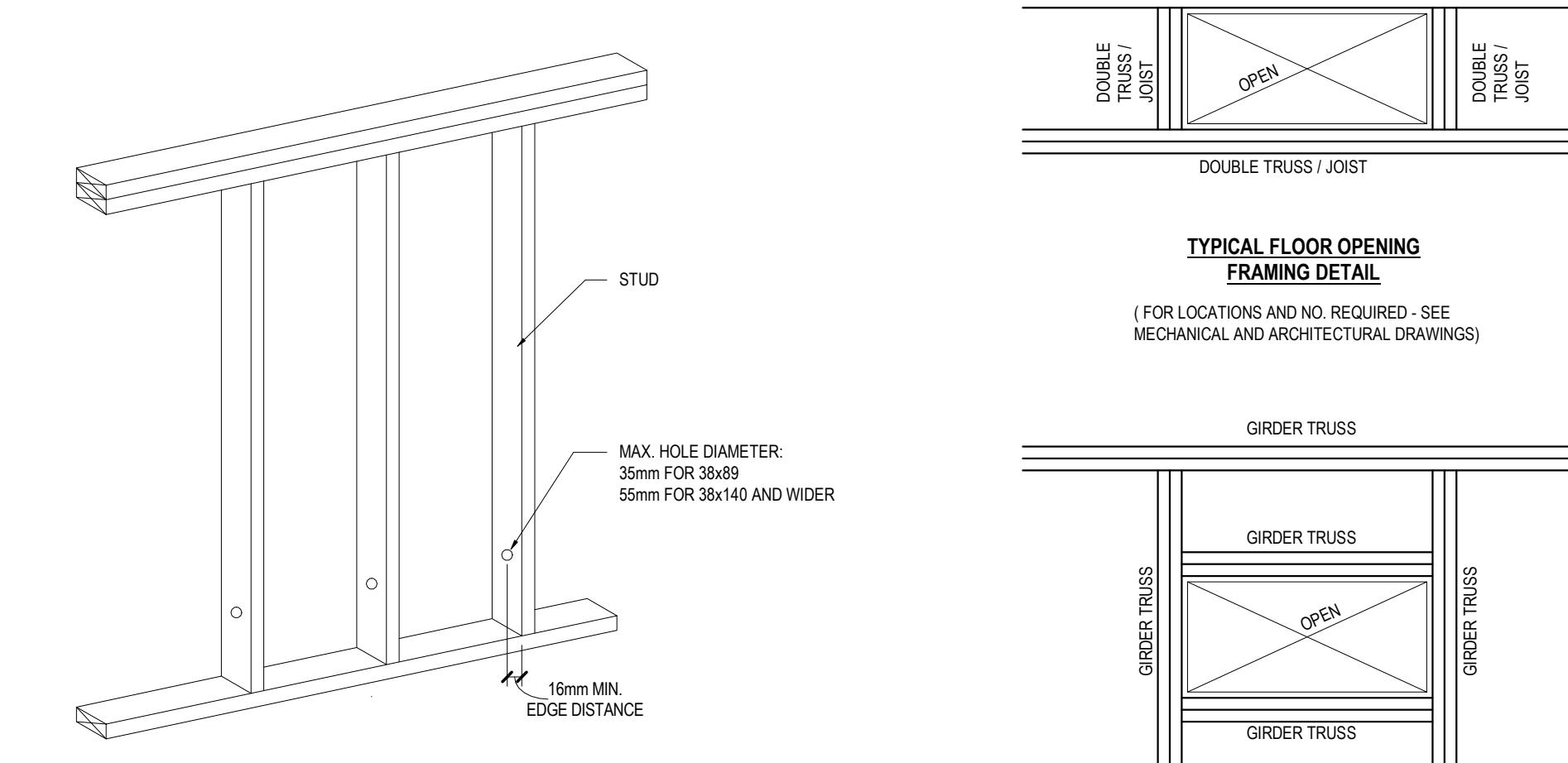
- COORDINATE SIZE AND LOCATION(S) OF OPENING WITH MECHANICAL DRAWINGS TYPICAL



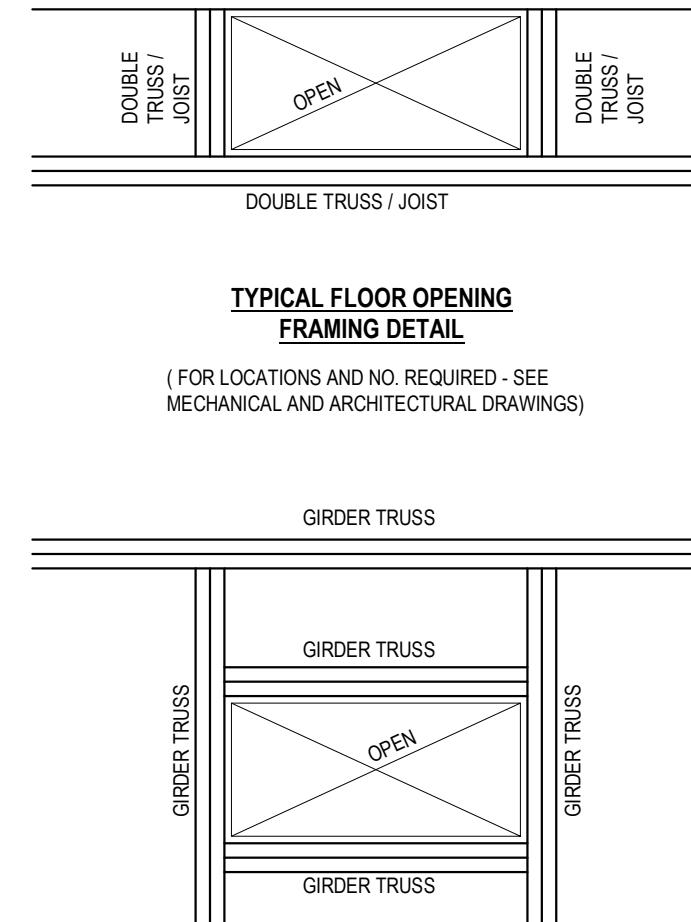
INTERIOR LOAD BEARING WALL TO EXTERIOR WALL DETAIL



NAILING REQUIREMENTS FOR WOOD I-JOISTS AT EXTERIOR WALLS

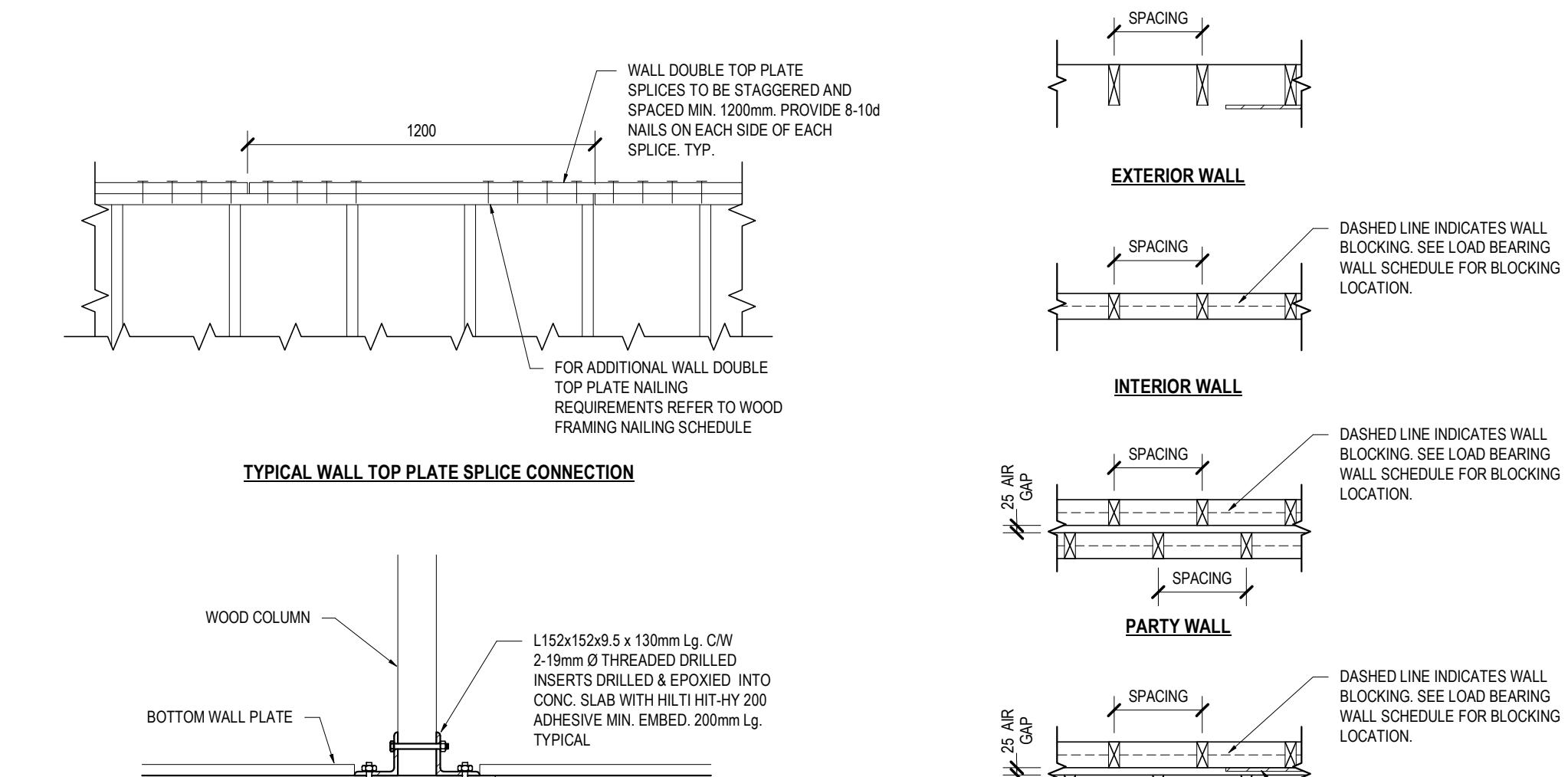


DRILLING DETAIL FOR WALL STUDS



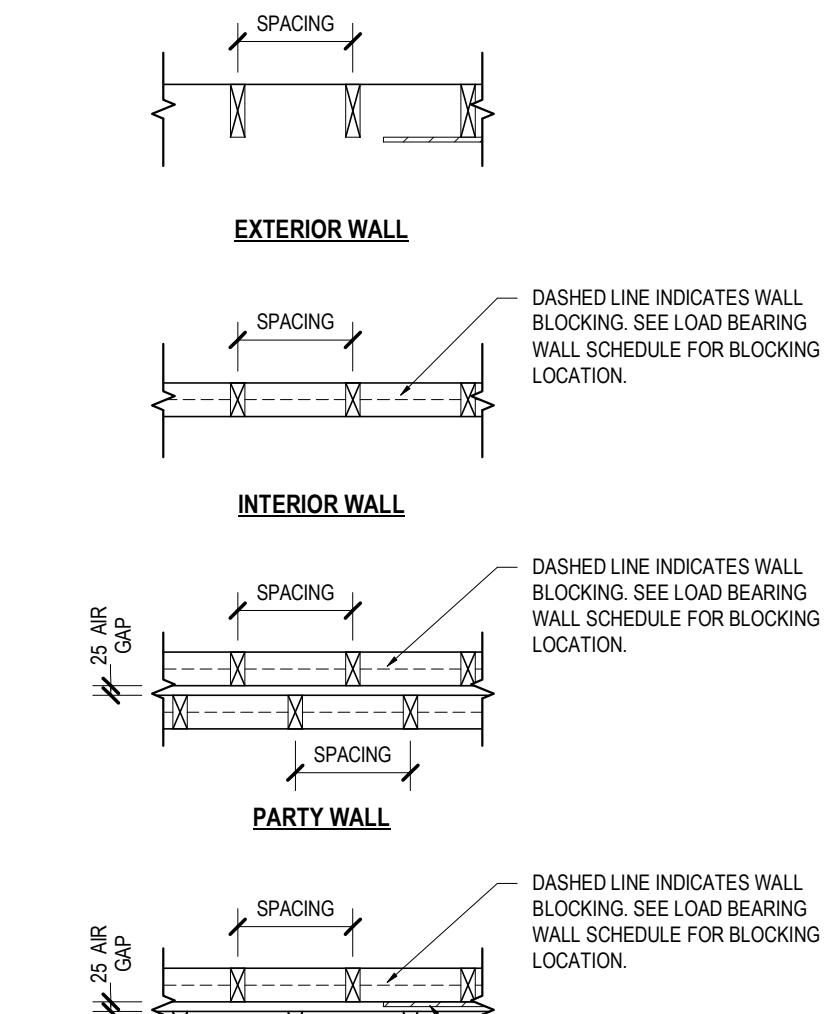
TYPICAL FLOOR OPENING FRAMING DETAIL

(FOR LOCATIONS AND NO. REQUIRED - SEE MECHANICAL AND ARCHITECTURAL DRAWINGS)



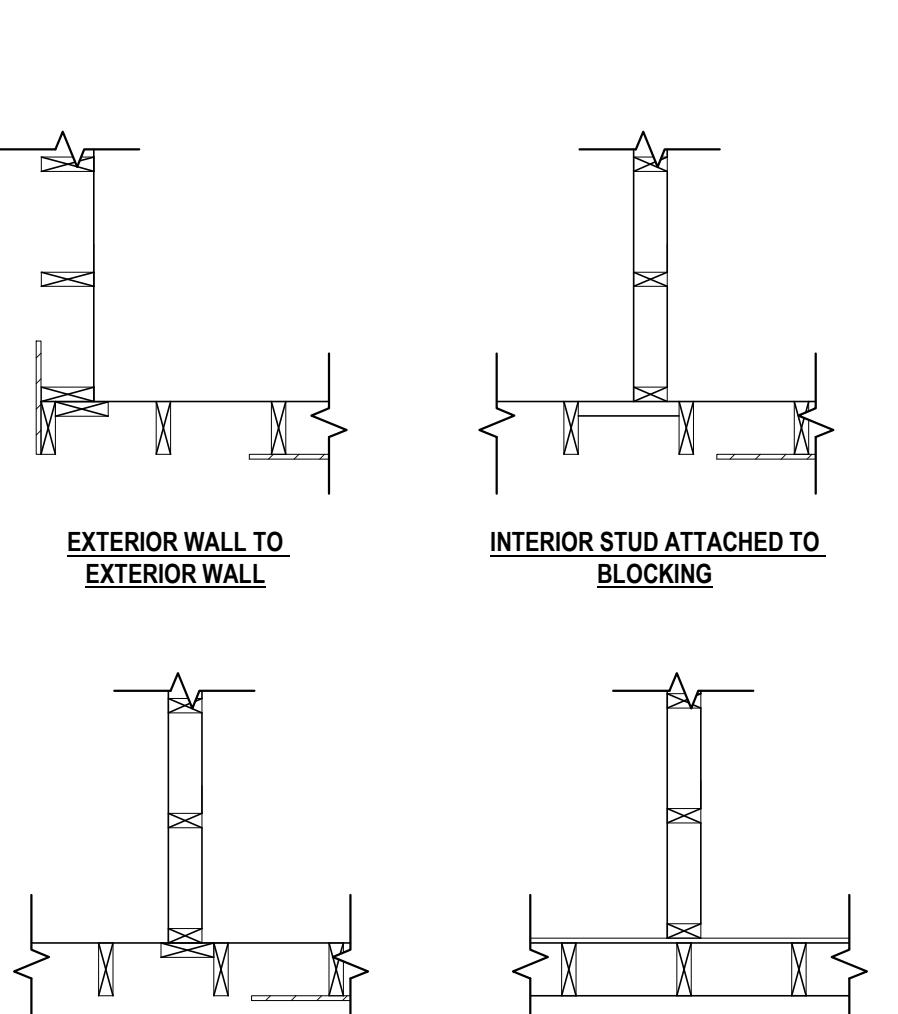
WOOD COLUMN TO FOUNDATION WALL CONNECTION (EXCEPT BUILT-UP COLUMNS)

(FOR LOCATIONS AND NO. REQUIRED - SEE MECHANICAL AND ARCHITECTURAL DRAWINGS)



LOAD-BEARING WALL CONSTRUCTION DETAILS

1. SEE FRAMING NAILING SCHEDULE AND / OR SHEAR WALL SCHEDULE FOR NAILING REQUIREMENTS



WALL TO WALL CONNECTION DETAILS

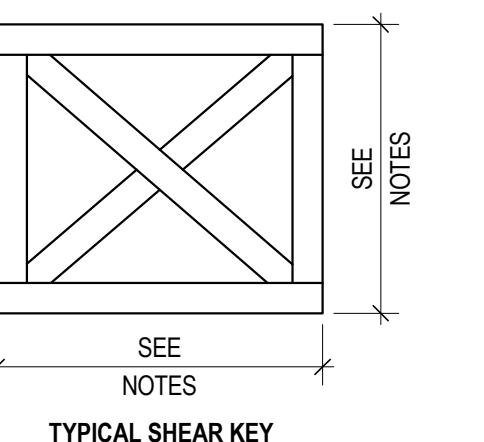
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MINIMUM TRUSS/JOIST SQUASH BLOCKING TABLE	
LEVEL	MINIMUM REQUIREMENTS
2ND FLOOR FRAMING	ONE EACH SIDE
3RD FLOOR FRAMING	ONE EACH SIDE
4TH FLOOR FRAMING	ONE PER TRUSS/JOIST
ROOF FRAMING	NONE

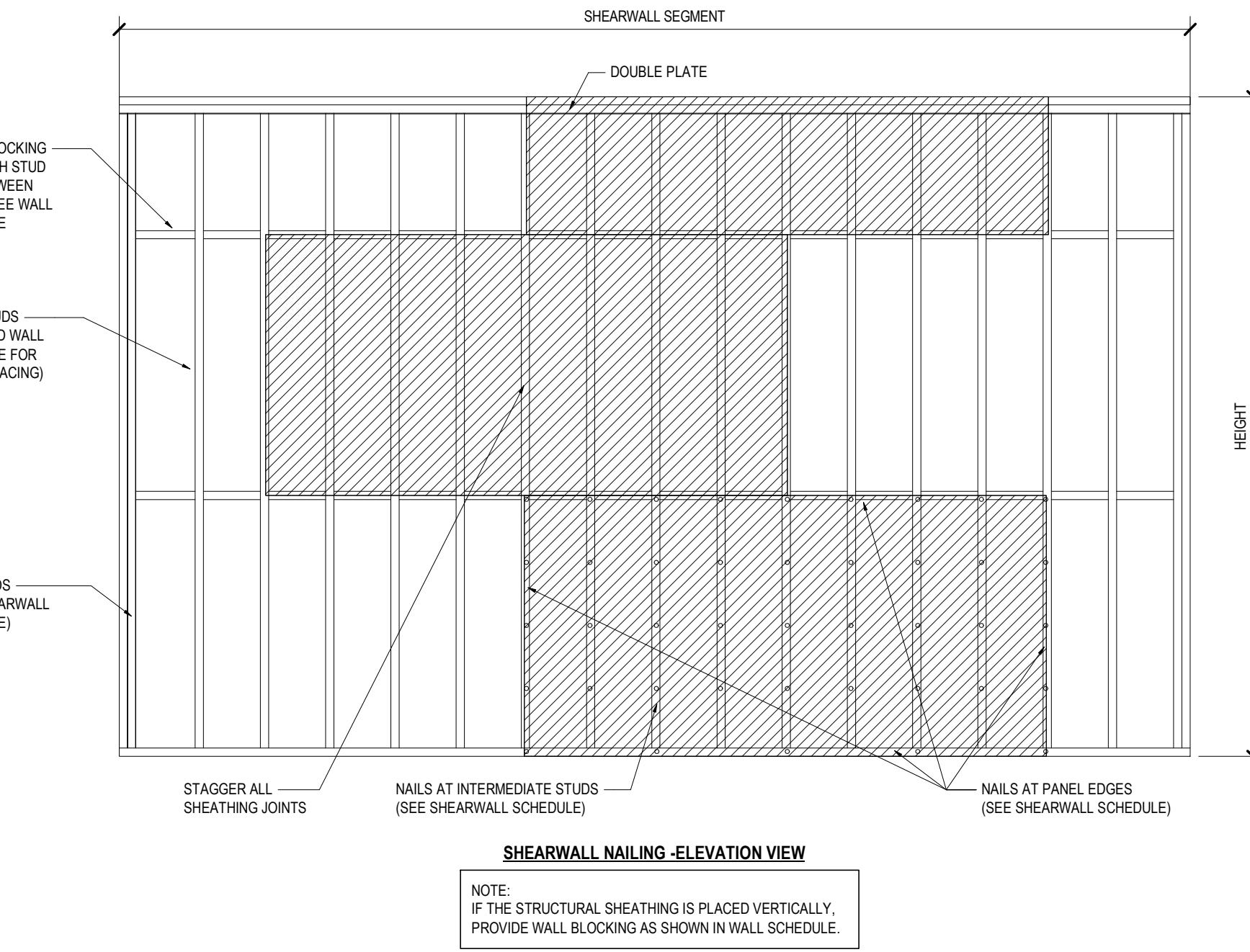
1. ADDITIONAL SQUASH BLOCKS MAY BE REQUIRED AS PER TRUSS JOIST MANUFACTURER'S RECOMMENDATIONS

SHEAR KEY TABLE	
WALL TYPE	MINIMUM REQUIREMENTS
EXTERIOR WALLS	3 PER SUITE
CORRIDOR WALLS	3 PER SUITE
LOAD BEARING PARTY WALLS	3 PER WALL EQUALLY SPACED
INTERIOR LOAD BEARING WALLS	3 PER SUITE

ADDITIONAL SHEAR KEYS MAY BE REQUIRED AS PER TRUSS SUPPLIERS MANUFACTURER'S RECOMMENDATIONS

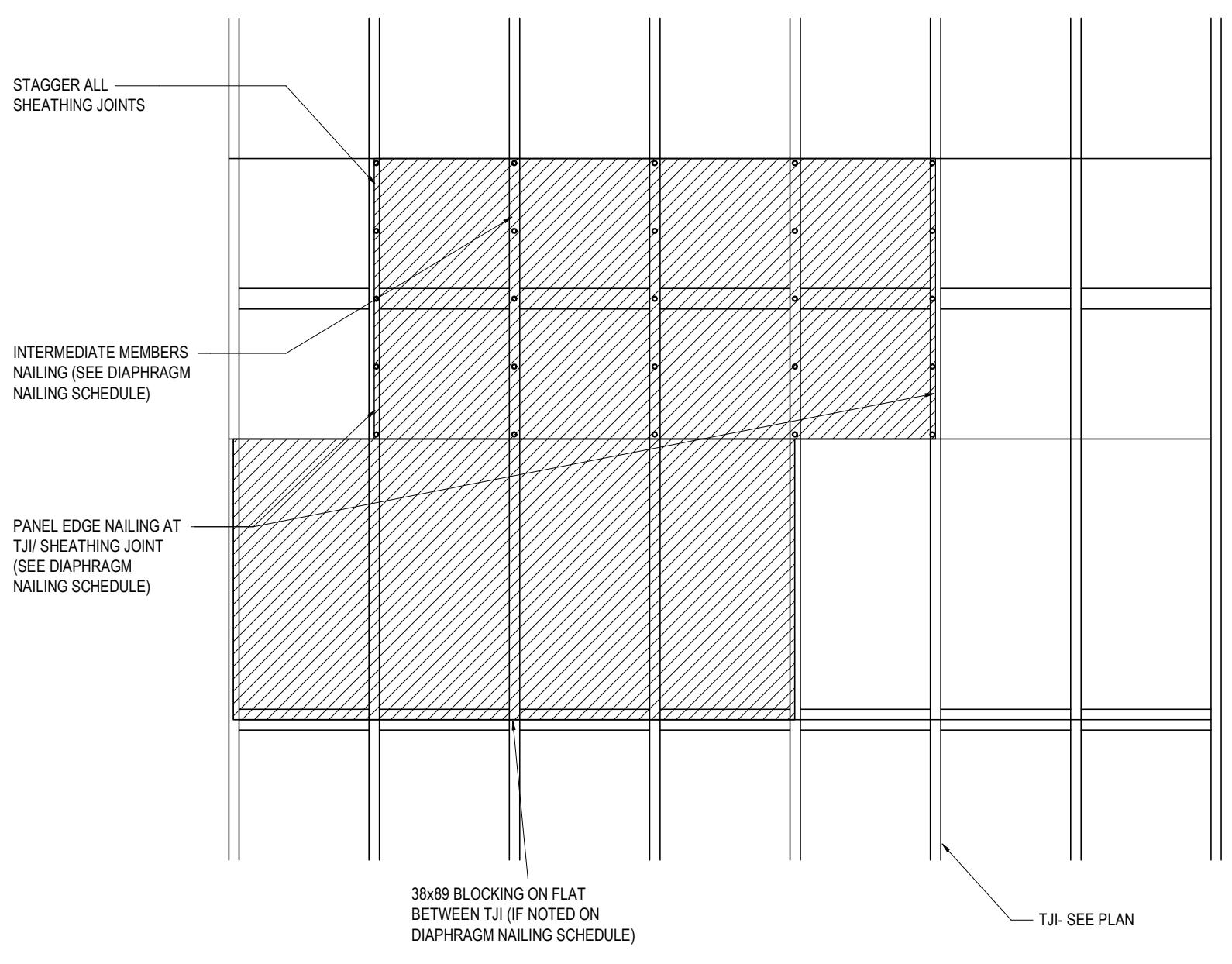


Typical Shear Key

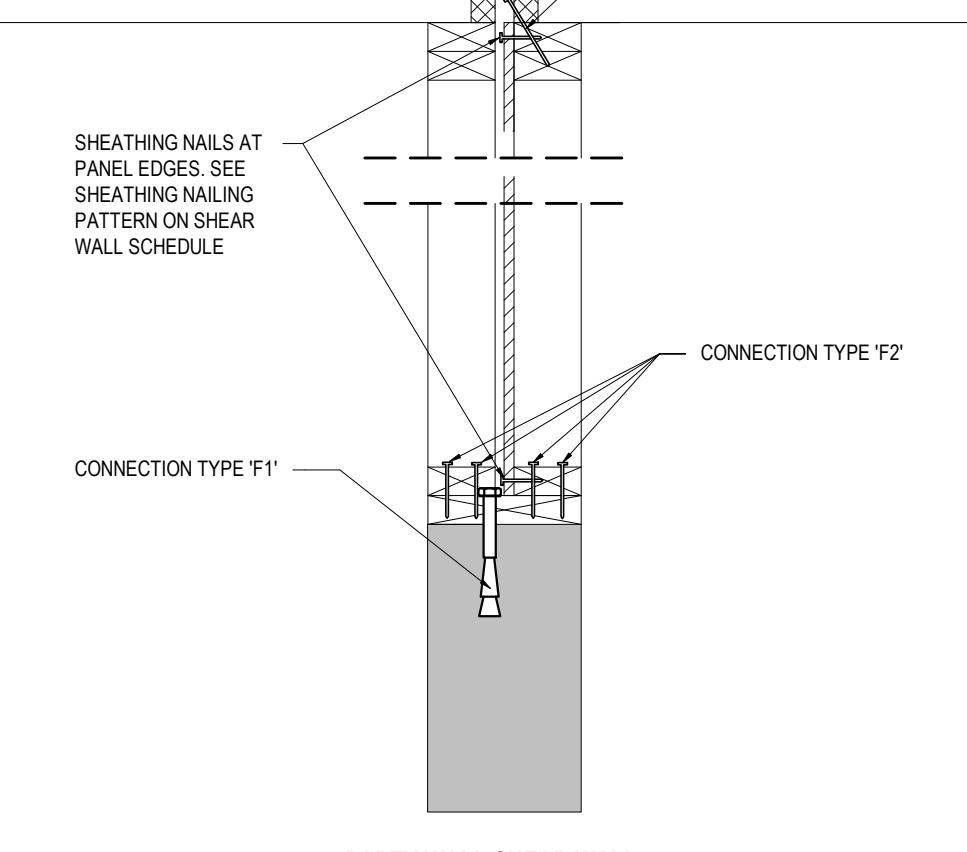
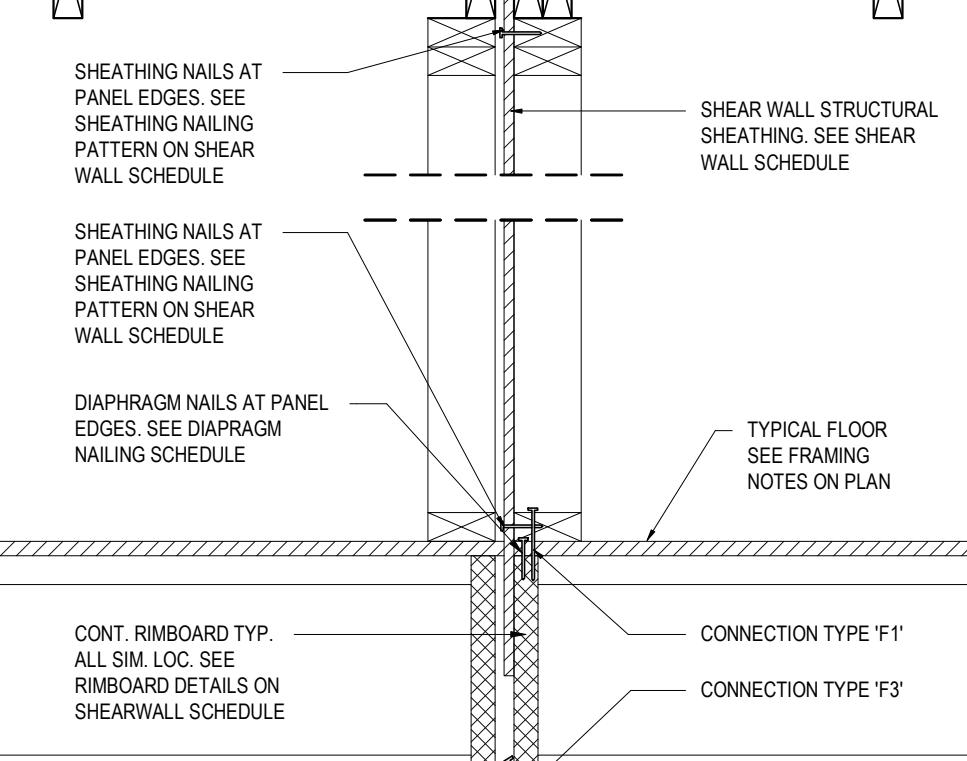
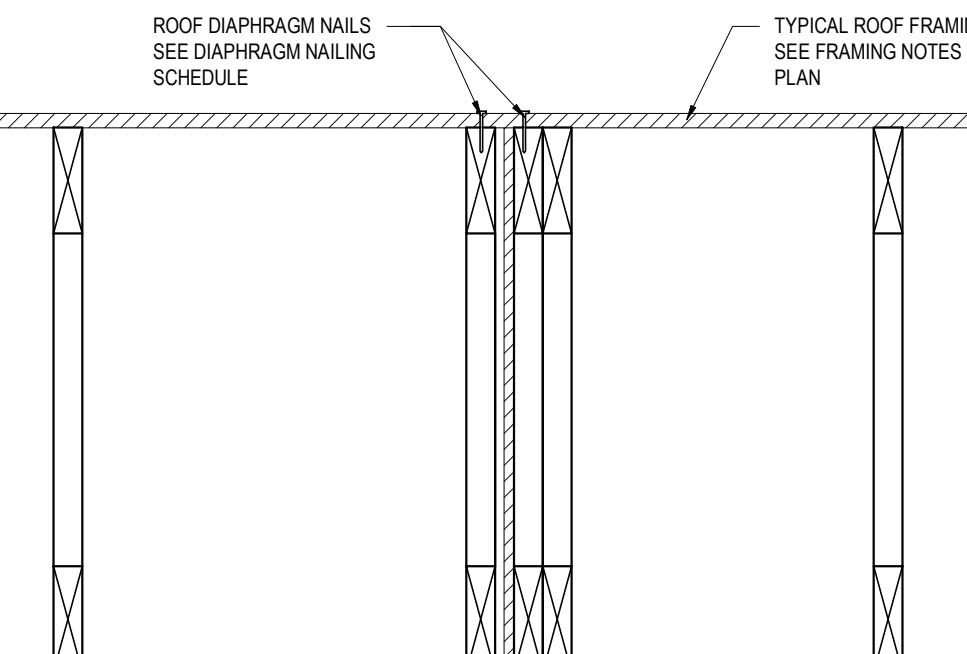
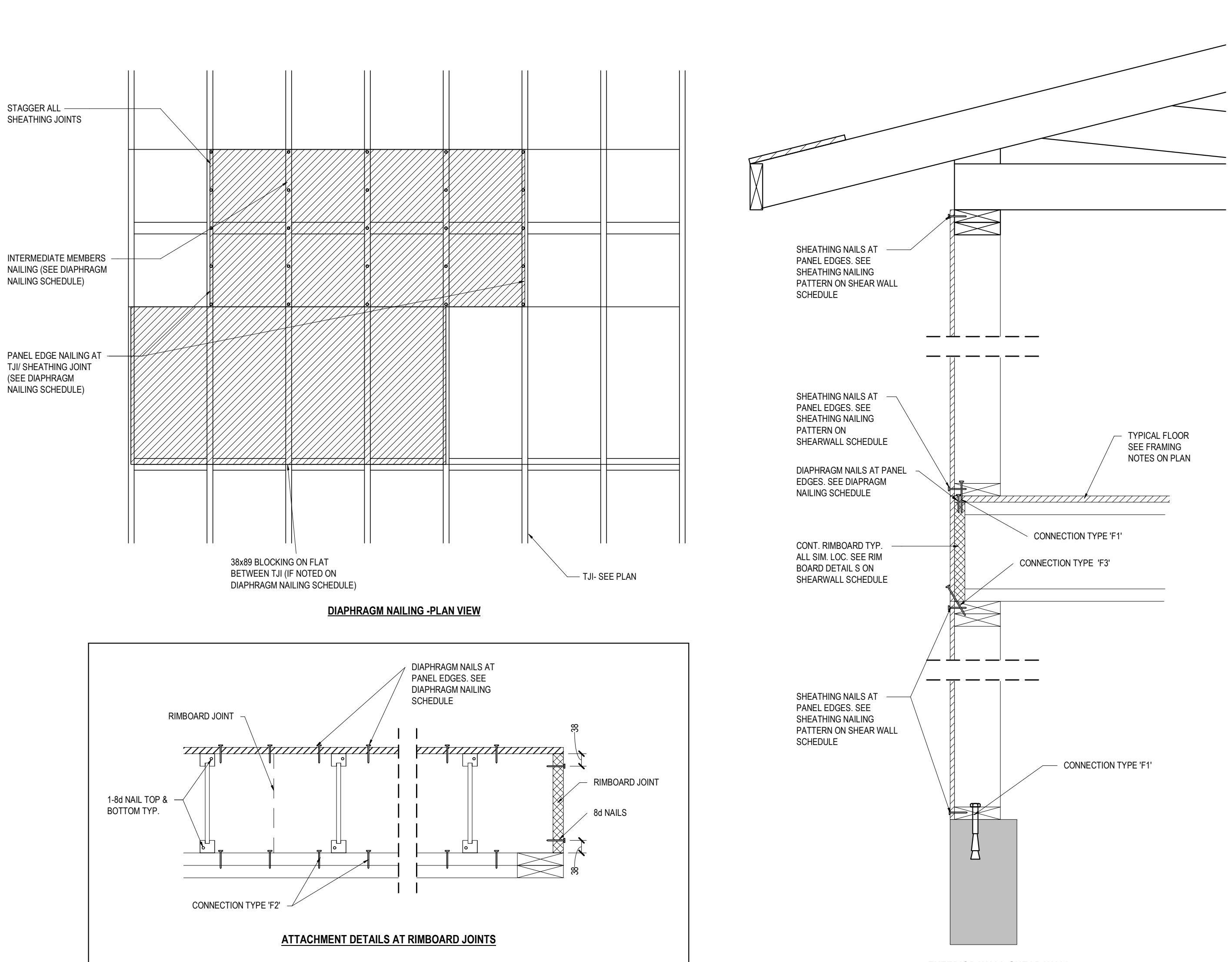
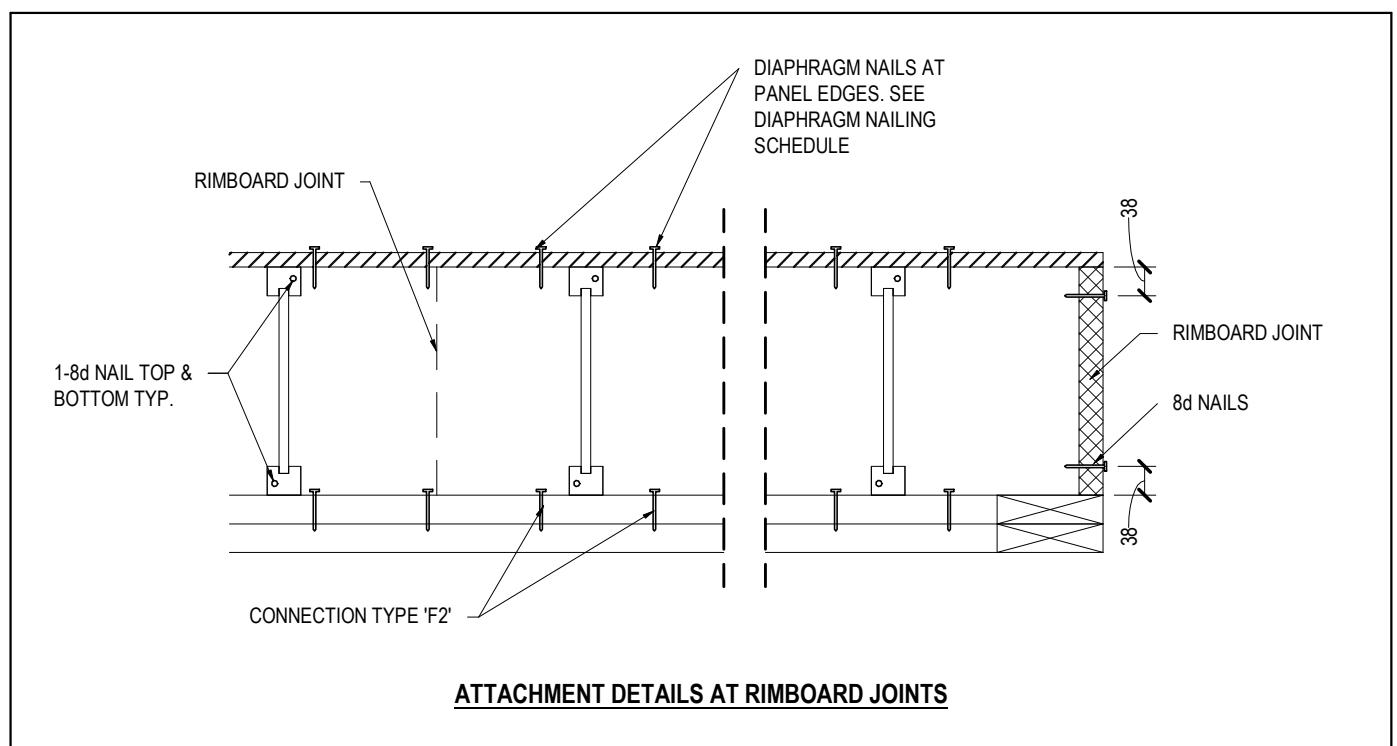


SHEAR WALL AND DIAPHRAGM NOTES:

1. ALL NAILS TO BE COMMON WIRE NAILS BY LENGTH AND SPACING NOTED.
2. WHERE NAILS ARE SPACED 50MM ON CENTER, STUDS AND BLOCKS ADJOINING PANEL EDGES TO BE DOUBLED AND NAILS TO BE 10MM @ 100MM OC. NAILS AT PANEL EDGES TO BE STAGGERED.
3. HOLLOW TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION.
4. SHEAR WALL BOTTOM PLATES TO BE CONNECTED TO CONCRETE WITH 16mm HILTI KWIK BOLT 1 CS ANCHORS @ 600mm O/C. CW. 100mm EMBED. ANCHORS TO BE INSTALLED 98mm FROM FACE TO CONCRETE.
5. WALL SHEATHING PANELS TO BE STAGGERED AND PLACED HORIZONTALLY. PROVIDE BLOCKING AT ALL HORIZONTAL SHEATHING JOINTS.
6. FLOOR SHEATHING TO BE INSTALLED WITH STRONG AXIS AT RIGHT ANGLES TO JOISTS/JOISTS.
7. FLOOR ROOF SHEATHING TO BE CONTINUOUS ABOVE PARTY WALLS (SHEATHING CANNOT BE CUT FOR IMPROVED ACOUSTICS).
8. NAILS TO BE PLACED NOT LESS THAN 9.5mm FROM FRAMING EDGES AND SHALL NOT BE OVERRIVEN.
9. A MINIMUM OF 3mm GAP TO BE LEFT BETWEEN ADJACENT WALL AND FLOOR/ROOF SHEATHING PANELS.
10. FOR LOAD-BEARING WALLS THAT ARE NOT SHEAR WALLS, WALL-TO-FLOOR CONNECTION DETAILS TO MATCH 9700-1000-0000.
11. RIMBOARD THICKNESS INDICATED IN SHEAR WALL SCHEDULES ARE MIN. REQUIRED AND APPLY TO SHEAR WALLS ONLY. AT OTHER LOCATIONS, RIM BOARD THICKNESS CAN BE REDUCED AS PER FLOOR SUPPLIER'S SHOP DRAWINGS BUT CANNOT BE LESS THAN 32mm.

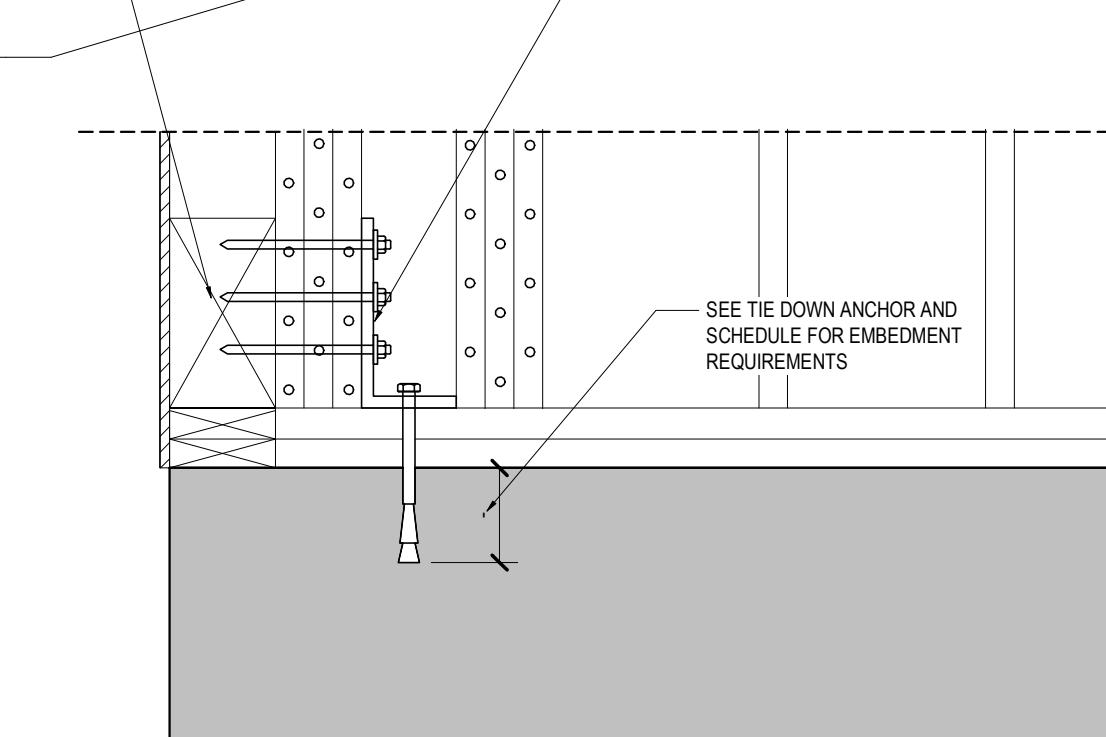
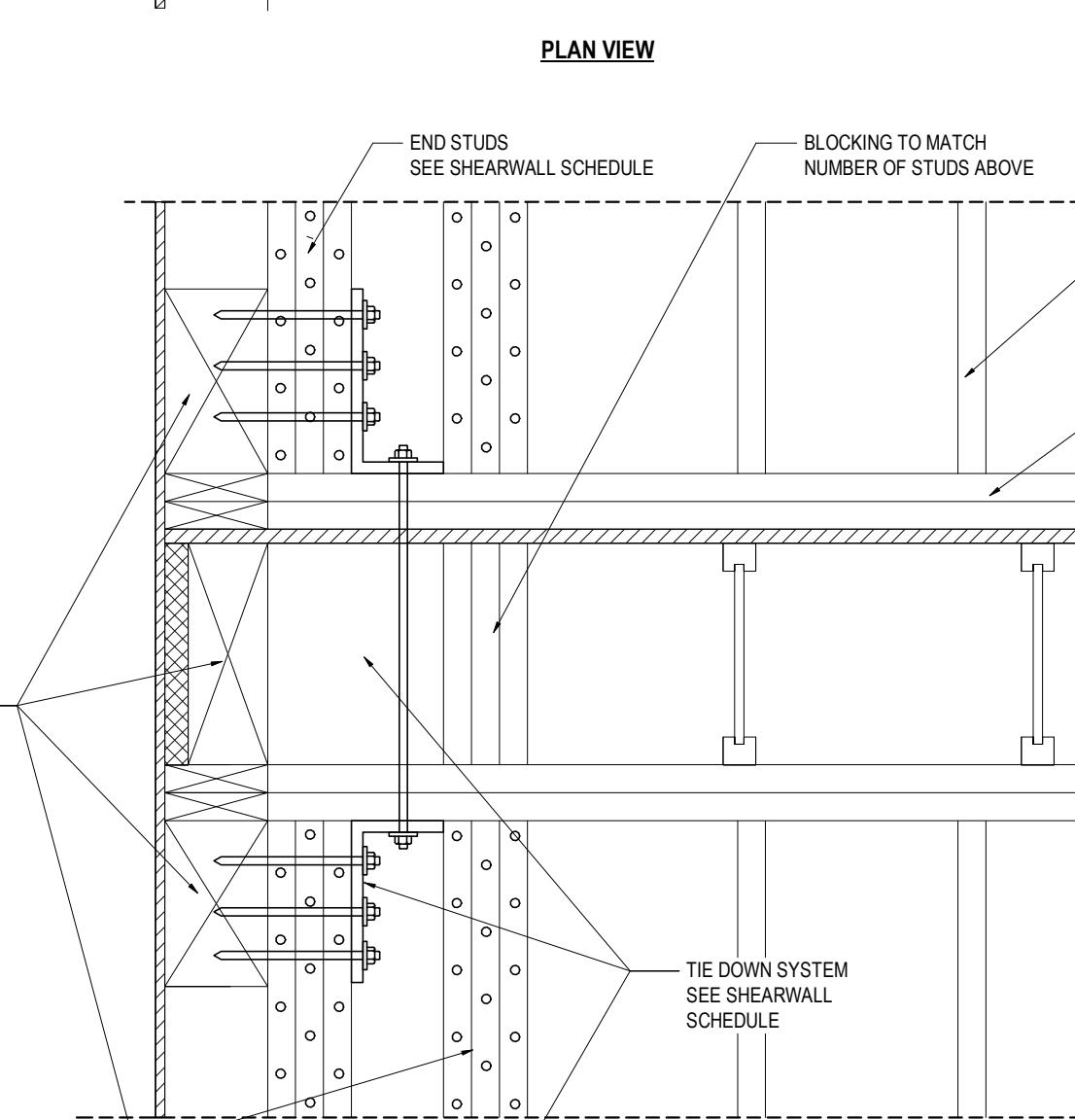
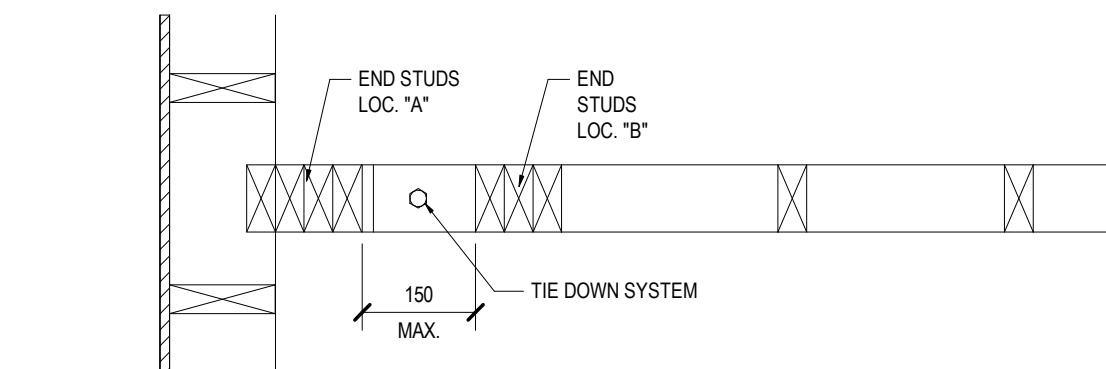


DIAPHRAGM NAILING - PLAN VIEW



WOOD FRAMING NAILING SCHEDULE	MIN. LENGTH OF NAILS	MIN. NUMBER OF NAILS / MAX. NAIL SPACING
WALL STUDS TO WALL TOP / BOTTOM PLATES - TOE NAILS	2 1/2"	4
WALL STUDS TO WALL TOP / BOTTOM PLATES - END NAILS	3 1/4"	2
WALL DOUBLE TOP / BOTTOM PLATES	3"	24" O/C
BOTTOM WALL PLATE OR SOLE PLATE TO FLOOR JOISTS, RIM JOISTS OR BLOCKING - EXTERIOR WALLS	3 1/4"	6" O/C
BOTTOM WALL PLATE OR SOLE PLATE TO FLOOR JOISTS, RIM JOISTS OR BLOCKING - INTERIOR WALLS	3 1/4"	16" O/C
DOUBLED STUDS AT OPENINGS, WALL ENDS	3"	12" O/C
WALL BLOCKING TO WALL STUDS - TOE NAILS	2 1/2"	2 EACH SIDE
LUMBER JOISTS OR BLOCKING TO WALL TOP PLATES - TOE NAILS	3"	2 EACH SIDE
RIM BOARD TO WALL TOP PLATES - TOE NAILS	3 1/4"	6" O/C
JOISTS BLOCKING TO LUMBER JOISTS - END NAILS	3"	2 EACH SIDE
DOOR / WINDOW HEADERS TO STUDS - TOE NAILS	3 1/4"	3 EACH SIDE

1. REFER TO SHEARWALL SCHEDULE ON DWG. SX.X FOR ADDITIONAL NAILING REQUIREMENTS AT SHEARWALL LOCATIONS.



1. 2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO. DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

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SHEET TITLE:
TYPICAL DETAILS

AB Fourplex 02

PROJECT NO: 02500462
 SCALE: As indicated

SHEET NO:

S104

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SECTION 03100 CONCRETE FORMWORK

- CONCRETE FORMWORK SHALL CONFORM WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS:
 - NATIONAL BUILDING CODE - 2019 ALBERTA EDITION
 - CSA A23.1 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION"
 - CSA S29.1 "FALSEWORK AND FORMWORK"
- THE DESIGN OF CONCRETE FORMWORK AND ADEQUATE SHORING SYSTEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONSTRUCT FORMWORK TO MAINTAIN THE FOLLOWING MAXIMUM TOLERANCES UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS:
 - DEVIATION FROM HORIZONTAL AND VERTICAL LINES 3/8" (10mm) IN 6 ft (20m).
 - DEVIATION OF BUILDING DIMENSIONS NOT MORE THAN 3/16" (6mm).
 - DEVIATION OF CROSS SECTIONAL DIMENSIONS OF COLUMNS OR BEAMS +/- 1/8" (3mm).

SECTION 03200 CONCRETE REINFORCEMENT

- CONCRETE REINFORCEMENT SHALL CONFORM WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS:
 - ACI 355.1 ACI DETAILING MANUAL
 - CSA A23.1 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION
 - CSA G40.20 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL"
 - CSA S29.1 "WELDED DEFORMED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT"
 - CAN/CSA G30.18 "CARBON STEEL BARS FOR CONCRETE REINFORCEMENT"
 - CAN/CSA W18.6 "WELDING OF REINFORCING BARS FOR CONCRETE CONSTRUCTION"
 - ASTM A775 "EPOXY-COATED STEEL REINFORCING BARS"
- SUBMIT SHOP DRAWINGS FOR ALL REINFORCING STEEL.
- REINFORCING STEEL TO CSA G30.18 400 MPa YIELD GRADE SPECIAL LOW ALLOY DEFORMED STEEL, 12.5% TENSILE STRAIN, AND A YIELD STRAIN NOT EXCEEDING 0.2% AND/OR BENDING WHERE BENDING RADIUS IS SMALLER THAN RECOMMENDED STANDARDS.
- SHOP BEND BARS COLD, IDENTIFY STEEL, HOOKS, BENDS, CAPS AND SIMILAR DETAILS TO ACI DETAILING MANUAL 315.
- CLEAN REINFORCEMENT TO CSA A23.1.
- CONCRETE REINFORCEMENT DETAILS AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS, USE THE GREATER VALUE OF CODE IN THIS SPECIFICATION OR ON THE DRAWINGS.
- LAP HORIZONTAL STEEL IN ACCORDANCE WITH CSA A23.1.
- PROVIDE ADDITIONAL REINFORCEMENT TO THAT INDICATED ON DRAWINGS AS FOLLOWS:
 - 2-15M VERTICALS AT EDGES OF WALLS.
 - 2-15M HORIZONTALS ABOVE AN OPENINGS IN WALLS. EXTEND REINFORCEMENT 18" (450mm) BEYOND EDGE OF OPENING ON EACH SIDE.
 - PROVIDE CORNER BARS TO ALL CORNERS AND INTERSECTIONS.

SECTION 03300 CAST-IN-PLACE CONCRETE

- CAST-IN-PLACE CONCRETE SHALL CONFORM WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS:
 - NATIONAL BUILDING CODE - 2019 ALBERTA EDITION
 - CAN/CSA-A100 PORTLAND CEMENT
 - CSA A23.1 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION
 - CSA A23.2 "TEST METHODS AND STANDARD PRACTICES FOR CONCRETE"
 - CAN 3-265-M18 "CHEMICAL ADMIXTURES FOR CONCRETE"
 - CSA G40.20 "TEST METHODS FOR CONCRETE TESTING LABORATORIES"
 - CSA G265-M18 "AIR-ENTRAINING ADMIXTURES FOR CONCRETE"
- TO ENSURE THAT THE REQUIRED CONCRETE STRENGTHS ARE BEING ACHIEVED, TESTING SHALL BE PERFORMED BY A RECOGNIZED TESTING LABORATORY AS FOLLOWS:
 - ONE SET OF THREE (3) STANDARD TEST SPECIMENS, TO BE MADE FOR EACH CLASS OF CONCRETE, ON THE DAY POUR OR MORE THAN ONE DAY AFTER POURING FOR POURS OF MORE THAN 80 CUBIC METRES, OR ONE SET OF THREE (3) TEST SPECIMENS.
 - ONE ADDITIONAL STANDARD TEST SPECIMEN TO BE MADE DURING COLD WEATHER.
 - CONCRETE TO BE SAMPLED AT THE POINT OF DEPOSIT OF THE CONCRETE.
 - FOR EACH SET OF TEST SPECIMENS A SLUMP TEST AND ENTRAINED AIR TEST IS TO BE INCLUDED.
- CONCRETE REQUIREMENTS:
 - CONCRETE TO MEET CSA G40.20 (LATEST VERSION).
 - REFER TO CONCRETE SCHEDULE FOR MIX REQUIREMENTS.
 - AGGREGATES TO CSA A23.1 AND ASTM C330-17A MAXIMUM SIZE 3/4" (20mm) COARSE AGGREGATE.
- CONCRETE WORKS TO BE WITHIN THE TOLERANCE LISTED BELOW:
 - VARIATION OF THE LINEAR BUILDING LINES LESS THAN 3/16" (6mm).
 - VARIATION OF GROSS SECTION OF THICKNESS OF SLABS +/- 1/4" (6mm).
 - VARIATION FROM LEVEL OR FROM GRADES INDICATED FOR SURFACES OF SLAB SHALL NOT EXCEED UNDER A 3m STRAIGHT EDGE IMMEDIATELY AFTER TROWELLING.

- CONDUITS, PIPES AND SLEEVES IN CONCRETE:
 - ACCURATELY LOCATE AND SET IN PLACE ITEMS WHICH ARE TO BE CAST DIRECTLY INTO CONCRETE.
 - COORDINATE WORK WITH OTHER TRADES.
 - PLACE CONDUITS, SLEEVES, ETC. SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF STRUCTURE. CENTER LINE SPACING TO BE NOT LESS THAN 3 CONDUIT DIAMETERS. CENTER LINE SPACING FOR PARALLEL CONDUITS AND REINFORCEMENT SLEEVES SHALL NOT EXCEED 10 CONDUITS.
 - SLEEVES OR CONDUITS THROUGH COLUMNS NOT ALLOWED.
 - SLEEVES THROUGH BEAMS NOT ALLOWED.
 - DO NOT PLACE SLEEVES NEXT TO COLUMNS. MAINTAIN SLEEVES 4 ft (1200mm) MINIMUM DISTANCE AWAY FROM FACE OF COLUMN.
 - SPREAD SLEEVES THROUGH SLABS TO BE 2 TIMES THE DIAMETERS MINIMUM.
 - SUPPORT SLAB BUT NOT REINFORCEMENT ON SLAB BOLSTERS TO MAINTAIN CONCRETE PROTECTION AS REQUIRED.
 - SLAB POURS SHALL NOT EXCEED 8500 ft².
 - LAYOUT CONSTRUCTION JOINTS PRIOR TO PLACEMENT OF CONCRETE. CONSTRUCTION JOINTS ARE TO BE REVIEWED AND APPROVED BY THE CONSULTANT.
 - HOKS ON COLUMNS SHALL BEND 135°.
 - DO NOT MOVE FORMWORK BEFORE CONCRETE HAS REACHED 75% OF SPECIFIED 28 DAY STRENGTH.
 - CURING:
 - CONCRETE CURING TO CSA A23.1.
 - CONCRETE CURING TO BE CONTINUOUSLY MOIST UNTIL CONCRETE TEMPERATURE IS 10°C. CURING IS TO PEAKED AND DROPPED SEVERAL DEGREES, OR FOR THREE DAYS AT A MINIMUM TEMPERATURE OF 10°C.
 - ADDITIONAL CURING: IMMEDIATELY FOLLOWING BASIC CURING AND BEFORE THE CONCRETE HAS DRIED, CUR FOR AN ADDITIONAL FOUR DAYS, MAINTAINING THE TEMPERATURE OF THE AIR IN CONTACT WITH THE CONCRETE ABOVE 10°C.
 - ACCEPTABLE CURING METHODS:
 - WATER SPRINKLING.
 - ABSORBENT MAT OR FABRIC KEPT CONTINUOUSLY WET.
 - DAMP SAND, EARTH, OR SIMILAR MOIST MATERIAL.
 - CONTINUOUS STEAM VAPOUR MIST BATH NOT EXCEEDING 70°C.
 - CURING COMPOUND.
 - WATERPROOFING OR PLASTIC FILM.
 - OTHER CURE-RETAINING METHODS APPROVED BY THE CONSULTANT.
 - FORMS IN CONTACT WITH CONCRETE SURFACE.
 - DO NOT USE CURING COMPOUNDS ON CONCRETE SURFACES, WHICH ARE RECEIVED TO RECEIVING, TIPPING, HARDENING, OR OTHER TYPE OF BONDING FINISH UNLESS APPROVED BY THE CONSULTANT.
 - PROJECT CONTRACTOR SHALL PLACE AND CONSOLIDATED CONCRETE AGAINST DAMAGE OR DEFECTS FROM ADVERSE WEATHER CONDITIONS.
 - EXPOSED CONCRETE WALKING SURFACES NOT TO RECEIVE AN INTEGRAL HARDEENER, COAT WITH CURING COMPOUND OR CURING METHOD THAT PROVIDES PERMANENT SEAL IN AREAS WITH AN EXPOSED CONCRETE FLOOR SURFACE. APPLY THE HARDEENER AND DUST-PROOFING AGENT STRICTLY TO THE MANUFACTURER'S INSTRUCTIONS.
 - SUMMIT RECOMMENDED METHODS OF PROTECTION AND CURING WHEN AIR TEMPERATURE IS AT OR ABOVE 25°C OR AT OR BELOW 5°C, OR LIKELY TO BE SO WITHIN 24 HOURS OF PLACING TIME.
 - WATER FOR CURING SHALL BE CLEAN AND FREE FROM MATERIALS THAT WILL CAUSE STAINING OR DISCOLORATION OF THE CONCRETE.
 - IF DAMP SAND, EARTH OR SIMILAR MOIST MATERIAL, SPREAD 2" (50mm) OVER THE ENTIRE SURFACE AND KEEP SATURATED WITH WATER.
 - FOR VERTICAL SURFACES SUCH AS WALLS, COLUMNS, PIERs, LOOSEN THE FORMS, LEAVE FORM IN PLACE.
 - IF MOIST CURING IS NOT USED, THEN SPRAYED CURING COMPOUNDS ARE TO BE USED.
 - CURING COMPOUNDS TO BE OF THE LIQUID MEMBRANE TYPE FOR CURING CONCRETE, AND SHALL BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
 - CURING COMPOUNDS USED FOR EXPOSED CONCRETE MUST NOT DISCOLOR THE CONCRETE, NOR BE SUCH AS TO PROHIBIT THE SUBSEQUENT APPLICATION OF PAINT, TILES, PAVING OR OTHER COMPLETED SURFACES.
 - FOR EXPOSED CONCRETE SURFACES, FOLLOW THE COMPLETION OF FINISHING OPERATIONS AND IMMEDIATELY AFTER THE DISAPPEARANCE OF SURFACE MOISTURE, APPLY THE SPRAYED CURING COMPOUND.

- PROJECT CONTRACTOR SHALL PLACE AND CONSOLIDATED CONCRETE AGAINST DAMAGE OR DEFECTS FROM ADVERSE WEATHER CONDITIONS.
- EXPOSED CONCRETE WALKING SURFACES NOT TO RECEIVE AN INTEGRAL HARDEENER, COAT WITH CURING COMPOUND OR CURING METHOD THAT PROVIDES PERMANENT SEAL IN AREAS WITH AN EXPOSED CONCRETE FLOOR SURFACE. APPLY THE HARDEENER AND DUST-PROOFING AGENT STRICTLY TO THE MANUFACTURER'S INSTRUCTIONS.
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- FOR EXPOSED CONCRETE SURFACES, FOLLOW THE COMPLETION OF FINISHING OPERATIONS AND IMMEDIATELY AFTER THE DISAPPEARANCE OF SURFACE MOISTURE, APPLY THE SPRAYED CURING COMPOUND.

SECTION 316223 SCREW PILES

- SCREW PILES SHALL CONFORM WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS:
 - ASTM A36/A38M "CARBON STEEL".
 - ASTM A252 "WELDED AND SEAMLESS STEEL PIPE PILES".
 - ASTM F1132 "STAINLESS STEEL PIPE PILES FOR DEEP FOUNDATIONS UNDER STATIC AND COMPRESSIVE LOAD".
 - CSA/CSA-N40.20G40.21 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL".
 - CSA W47.1 "CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL".
 - CSA W48 "FILLER METALS AND ALLIED MATERIALS FOR METAL ARC WELDING".
 - CSA W59 "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)".

- DESIGN REQUIREMENTS:
 - DESIGN PILES FOR THE LOADING SHOWN ON DRAWINGS.
 - DESIGN CONCRETE FORMS AND SHORING SYSTEMS NECESSARY TO RESIST ALL LOADS INDICATED ON DRAWINGS.
 - PILE DESIGN SHALL BE SIGNED AND SEALED BY A P.ENG DESIGNATED IN THE PROVINCE OF ALBERTA.

- SHOP DRAWINGS:
 - INCLUDE THE FOLLOWING INFORMATION:
 - PILE LAYOUT.
 - TYPE OF PILE.
 - PILE LENGTH.
 - GRADE AND DETAILS OF STEEL.
 - ELEVATION OF PILE BASES.
 - ELEVATION OF TOP OF PILE CAPS.

- QUALITY ASSURANCE:
 - PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS OF CSA G40.21, UNLESS INDICATED OTHERWISE HEREIN.
 - SUPERVISION: PILING IS TO BE INSTALLED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ALBERTA. THE CONSULTANT IS RESPONSIBLE FOR PROVIDING THE GEOPHYSICAL REPORT, RETAINED AND PAID FOR BY THE CONTRACTOR, AND APPROVED BY THE CONSULTANT.
 - INSPECTION OF CAP PLATES AND WELDED ANCHORS.
 - MATERIALS AND WORKMANSHIP WILL BE SUBJECT TO INSPECTION AND TESTING BY AN INDEPENDENT INSPECTOR APPROVED BY THE CONSULTANT AND APPROVED BY THE CONTRACTOR AND APPROVED BY THE CONSULTANT.
 - TESTING CONDUCTED TO CSA W59 AND CAN/CSA S16.1 STANDARDS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - GENERAL EXAMINATION OF ALL WELDS AND WORKMANSHIP THAT ARE READILY ACCESSIBLE (100%).
 - RANDOM MAGNETIC PARTICLE TESTING OF SELECTED FIELD WELDS OF ALL COMPONENTS (10% OF CONSTRUCTION).
 - BOLT SPECIFICATIONS, GRADED AND FASTENING VERIFICATION (10% OF CONNECTIONS).
 - REVIEW OF DRAWINGS, WELDING PROCEDURES, WELDING CERTIFICATIONS, DATA SHEETS AND WELDING CONSUMABLES STOCK (FIELD).
 - TRACKING OF ALL NOTED DEFICIENCIES, TIMELY FAXING OF TECHNICAL REPORTS TO ALL RELEVANT PARTIES, IMMEDIATE CORRESPONDENCE OF IMPORTANT ISSUES TO THE ENGINEER OF RECORD, AND A FINAL SUMMARY REPORT INCLUDING ALL RELATED DOCUMENTATION THE FINAL PROJECT STATUS.
 - BY AN INDEPENDENT INSPECTION AND TESTING FIRM TO SUBMIT TO THE CONSULTANT A FINAL REPORT CERTIFYING ALL WELDS AND CONNECTIONS, INCLUDING CONFIRMATION THAT ALL REQUIREMENTS HAVE BEEN MET. THIS REPORT IS TO BE SUBMITTED TO THE CONSULTANT AND APPROVED BY THE CONSULTANT.
 - REVIEW OF DRAWINGS, WELDING PROCEDURES, WELDING CERTIFICATIONS, DATA SHEETS AND WELDING CONSUMABLES STOCK (FIELD).
 - TRACKING OF ALL NOTED DEFICIENCIES, TIMELY FAXING OF TECHNICAL REPORTS TO ALL RELEVANT PARTIES, IMMEDIATE CORRESPONDENCE OF IMPORTANT ISSUES TO THE ENGINEER OF RECORD, AND A FINAL SUMMARY REPORT INCLUDING ALL RELATED DOCUMENTATION THE FINAL PROJECT STATUS.

- QUALITY ASSURANCE:
 - MEET OR EXCEED REQUIREMENTS OF CSA 086-19.
 - DESIGN STRUCTURAL MEMBERS UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE PROVINCE WHERE THE PROJECT IS LOCATED.

SECTION 061733 WOOD I-JOISTS
PART 1 GENERAL

- REFERENCES
 - NATIONAL BUILDING CODE - 2019 ALBERTA EDITION
 - CSA 086 ENGINEERING DESIGN IN WOOD.
 - NLGA 14: STANDARD GRADING RULES FOR CANADIAN LUMBER.
 - CSA 0121: CONSTRUCTION SHEATHING.
 - CSA 0111: CANADIAN SOFTWOOD PLYWOOD.
 - CSA-0325: CONSTRUCTION SHEATHING.
 - ASTM D5955: STANDARD SPECIFICATION FOR ESTABLISHING AND MONITORING STRUCTURAL CAPACITIES OF PREFABRICATED WOOD I-JOISTS.
 - ISOIEC 17065: CONFORMITY ASSESSMENT - REQUIREMENTS FOR BODIES CERTIFYING PRODUCTS AND SERVICES.
 - CSA 0122 SERIES: CSA STANDARDS FOR WOOD ADHESIVES

- DESIGN REQUIREMENTS:
 - DESIGN WOOD I-JOISTS, BRACING, BLOCKING, FRAMED OPENINGS, AND CONNECTIONS IN ACCORDANCE WITH CSA 086 TO SAFELY CARRY ALL LOADS INDICATED ON DRAWINGS INCLUDING MECHANICAL AND OTHER EQUIPMENT NOT LISTED.
 - ALL HELICAL PILES TO BE DESIGNED BY THE SUPPLIER FOR A MINIMUM 75 YEAR OPERATIONAL LIFE. REVIEW OF THE GEOPHYSICAL REPORT IS INCUMBENT UPON THE HELICAL PILES SUPPLIER.

- SHOP DRAWINGS:
 - INCLUDE THE FOLLOWING INFORMATION:
 - PILE LAYOUT.
 - TYPE OF PILE.
 - PILE LENGTH.
 - GRADE AND DETAILS OF STEEL.
 - ELEVATION OF PILE BASES.
 - ELEVATION OF TOP OF PILE CAPS.

- DELIVERY, STORAGE, AND PROTECTION:
 - PILE LUMBER ON RAISED SUPPORTS, COVER MATERIALS WITH WATERPROOF COATING, PROVIDE ADEQUATE AIR CIRCULATION AND VENTILATION.
 - PROTECT I-JOISTS FROM WEATHER AND STORE THEM ON JOB SITE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE BEARING SUPPORTS AND BRACINGS TO PREVENT BENDING OR OVERTURNING DURING TRANSIT AND STORAGE.

- SHOP DRAWINGS:
 - SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION.

- QUALITY ASSURANCE:
 - CLEARLY INDICATE THE TYPE OF PRODUCT, LAYOUT, DESIGN LOADS INCLUDING SNOW DRIFT LOADS, EARTHQUAKE, CHIMNEY, ETC. AND ERECTING DETAILS, INCLUDING OUTS, HOLES, FASTENING, BEARING CONDITIONS AND CONNECTION HARDWARE, ALSO QUANTITY OF ALL MEMBER TYPES, CONNECTIONS AND ACCESSORIES, AS WELL AS ALL BRACING, BLOCKING AND FRAMING ACCESSORIES REQUIRED FOR INSTALLATION.

- PRODUCT MATERIALS:
 - PILE LUMBER:
 - GRADES: USE CLS GRADE MARKED LUMBER CONFORMING TO THE STANDARD GRADES RULES FOR CANADIAN WOOD LUMBER GRADES AUTHORITY.
 - LUMBER GRADES FOR STRUCTURAL LIGHT FRAMING TO CAN/CSA U141, NO.1 NO.2 SURFACE GRADED AND STAMPED IN ACCORDANCE WITH CURRENT NATIONAL LUMBER GRADES AUTHORITY (NLGA) STANDARD GRADING RULES FOR CANADIAN LUMBER. EACH PIECE OF LUMBER MUST BEAR GRADE MARK, STAMP, OR OTHER IDENTIFYING MARKS INDICATING GRADES OF MATERIAL AND RULES OR STANDARDS UNDER WHICH PRODUCED ANY LUMBER NOT GRADED MARKED WILL BE GRADED.
 - MOISTURE CONTENT: MAXIMUM 10% AT TIME OF INSTALLATION.
 - FINGER JOINTED LUMBER IS NOT ACCEPTABLE.

- STRUCTURES:
 - FINGER JOINT PLACEMENT AND LAYOUT DRAWINGS.
 - SUBMIT I-JOIST LAYOUT DRAWINGS FOR APPROVAL.
 - INDICATE THE LOCATION OF EACH I-JOIST AND GIRDER BY USING THE IDENTIFICATION NUMBER.
 - IDENTIFY ALL WALLS THAT WERE TAKEN AS BEARING WALLS.
 - INDICATE THE HANGER TYPE TO BE USED FOR CONNECTING I-JOISTS TO GIRDER JOISTS AND BEAMS.

- DELIVERY, STORAGE AND HANDLING:
 - PILE LUMBER AND OTHER PRODUCTS FROM DAMPNESS BOTH DURING AND AFTER DELIVERY AT SITE.
 - PILE LUMBER IN STACKS IN SUCH MANNER AS TO PROVIDE AIR CIRCULATION AROUND SURFACES OF EACH PIECE.
 - STACK PLYWOOD AND OTHER BOARD PRODUCTS SO AS TO PREVENT WARPING.
 - INDICATE STRESS GRADE, SERVICE GRADE, AND APPEARANCE GRADES, SHOP DRAWINGS, AND CONNECTIONS NOT INDICATED ON DRAWINGS.

- DELIVERY, STORAGE, AND HANDLING:
 - PILE LUMBER AND OTHER PRODUCTS FROM DAMPNESS BOTH DURING AND AFTER DELIVERY AT SITE.
 - PILE LUMBER IN STACKS IN SUCH MANNER AS TO PROVIDE AIR CIRCULATION AROUND SURFACES OF EACH PIECE.
 - STACK PLYWOOD AND OTHER BOARD PRODUCTS SO AS TO PREVENT WARPING.
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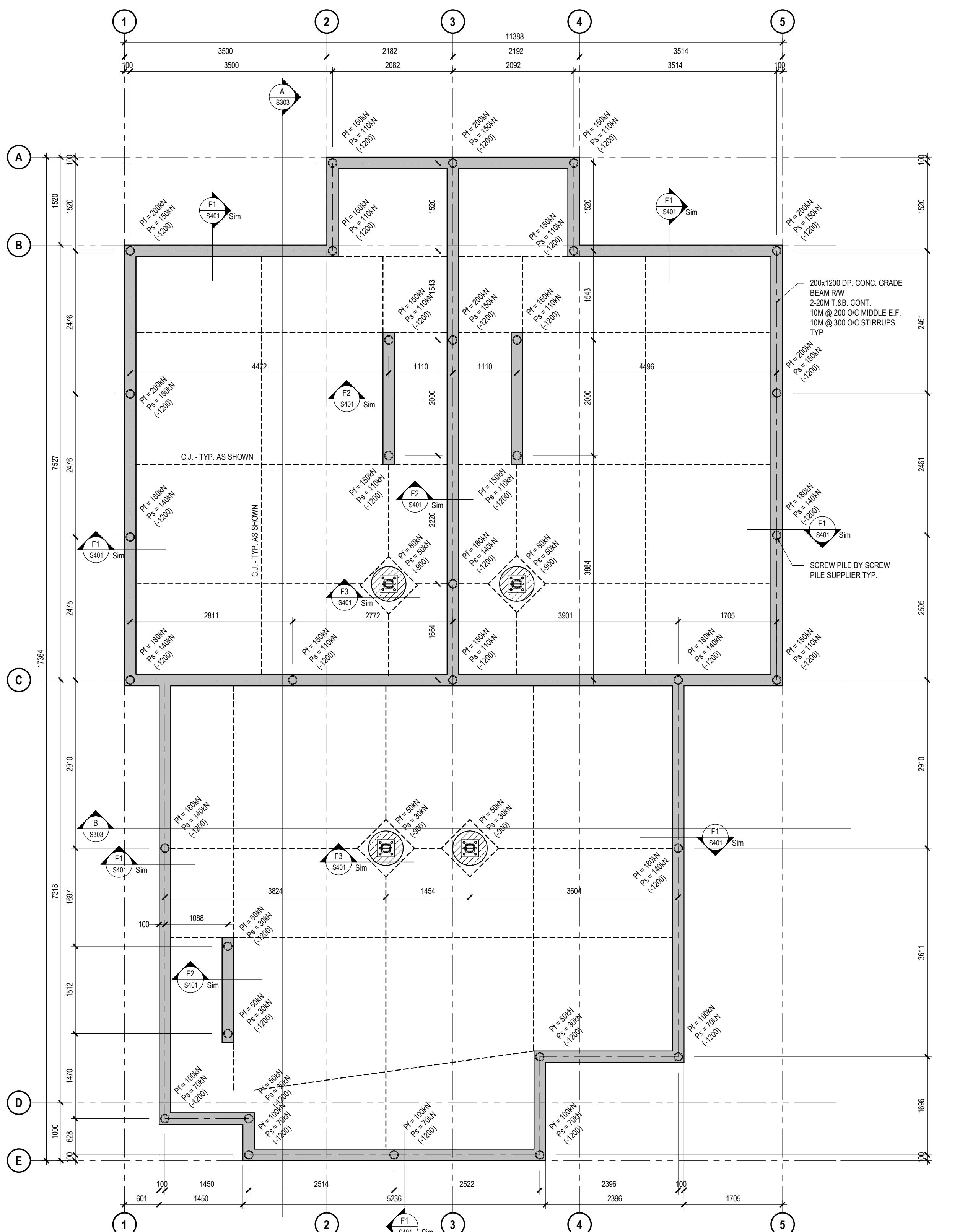
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- DELIVERY, STORAGE AND HANDLING:
 - PILE LUMBER AND OTHER PRODUCTS FROM DAMPNESS BOTH DURING AND AFTER DELIVERY AT SITE.
 - PILE LUMBER IN STACKS IN SUCH MANNER AS TO PROVIDE AIR CIRCULATION AROUND SURFACES OF EACH PIECE.
 - STACK PLYWOOD AND OTHER BOARD PRODUCTS SO AS TO PREVENT WARPING.
 - INDICATE STRESS GRADE, SERVICE GRADE, AND APPEARANCE GRADES, SHOP DRAWINGS, AND CONNECTIONS NOT INDICATED ON DRAWINGS.

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2 2025-02-19 ISSUED FOR PROTOTYPICAL DRAWING
NO. DATE DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
FOUNDATION PLAN

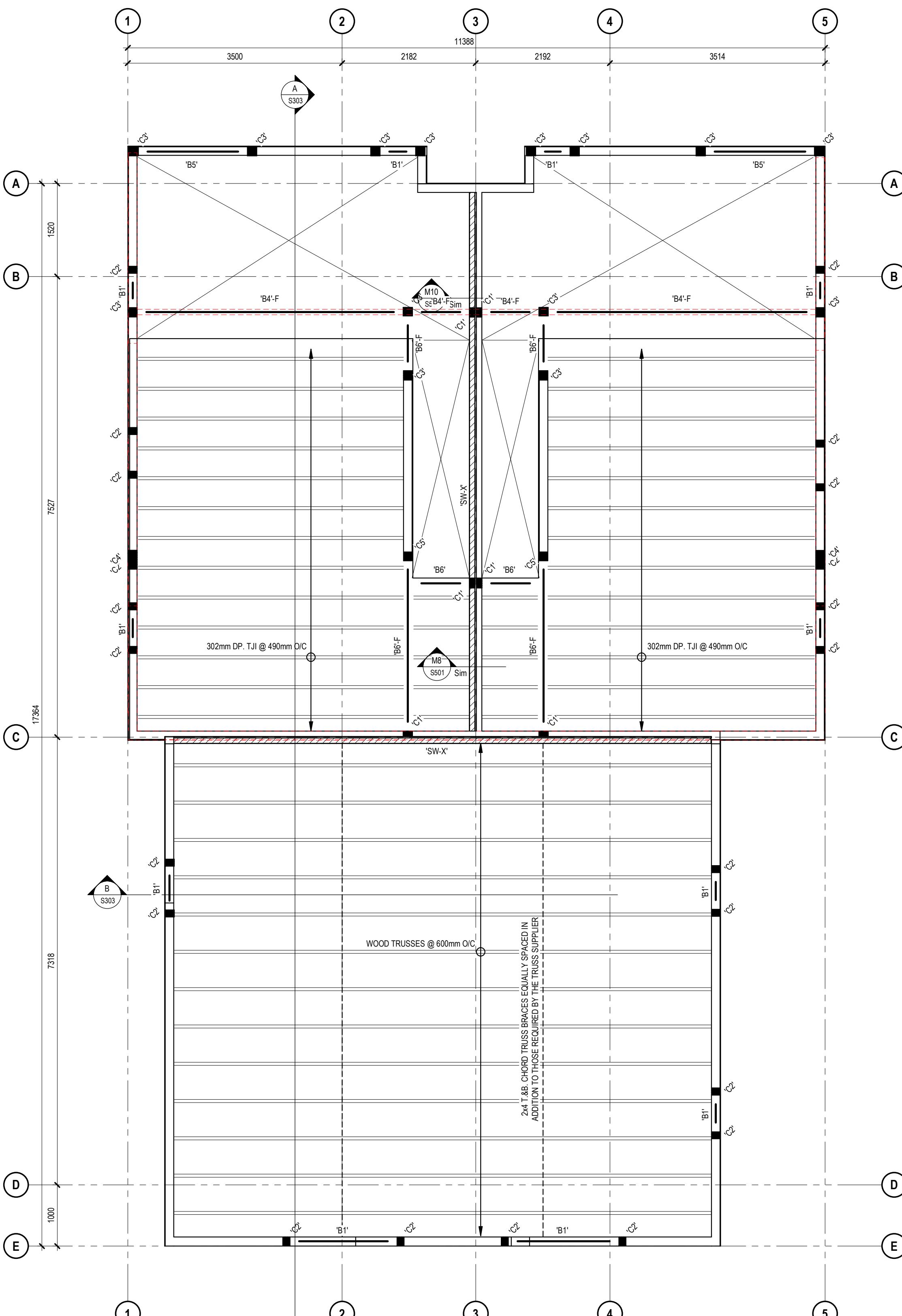
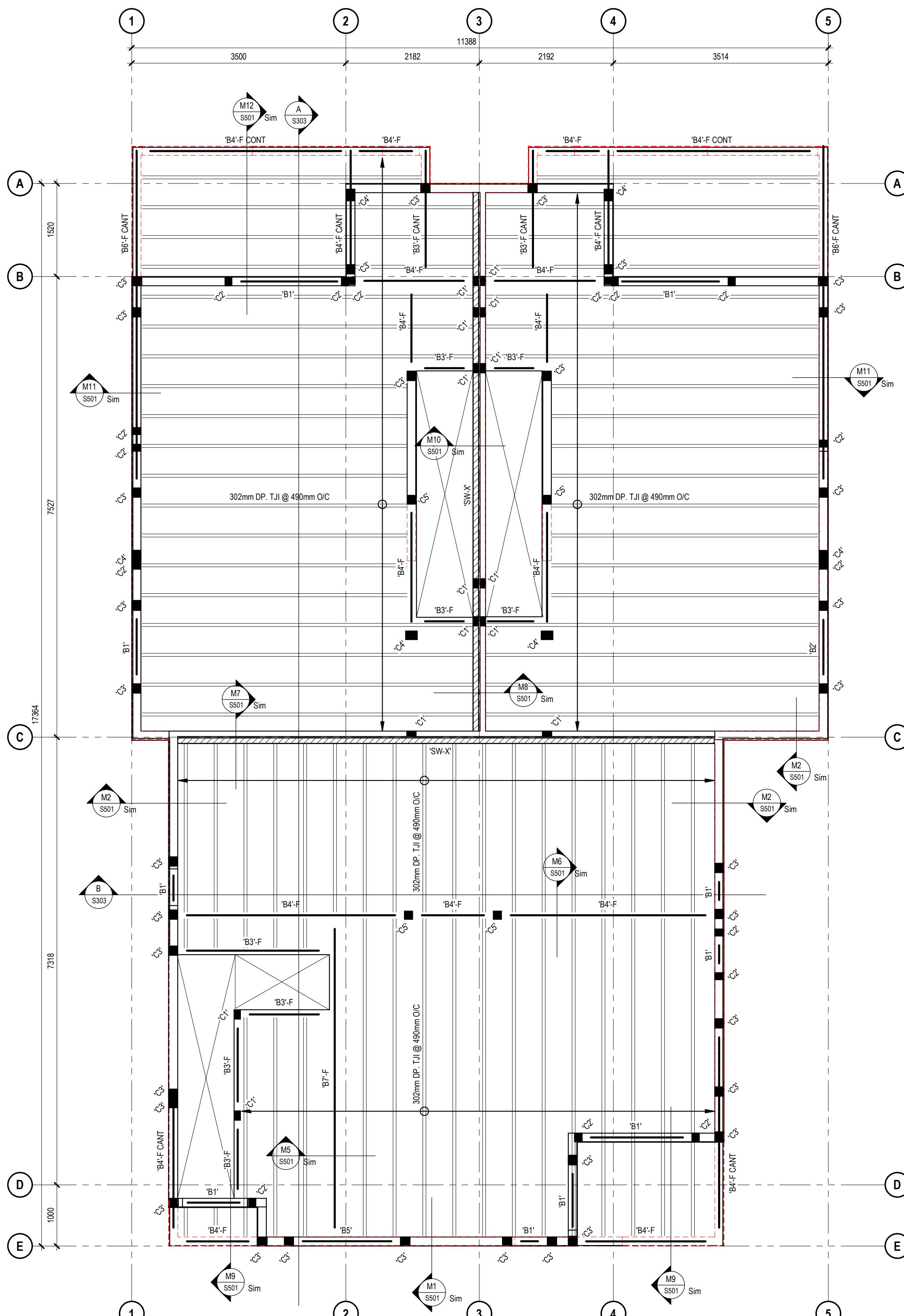
AB Fourplex 02

PROJECT NO: 02500462
SCALE: As indicated

SHEET NO:

S201

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WOOD FLOOR FRAMING PLAN NOTES

- SEE ARCH. DWGS. FOR T/O FLOOR ELEVATION.
- SEE DRAWINGS S100 SERIES FOR TYPICAL NOTES, DETAILS & SPECIFICATIONS.
- TYPICAL FLOOR TO CONSIST OF 19mm T & G OSB SHEATHING OVER 302mm DP. TJI @ 490mm O/C FOR JOIST SERIES AND LAYOUT. SEE SUPPLIER'S SHOP DRAWINGS. TJI SPACING NOT TO EXCEED 490mm O/C. DECREASE SPACING IF REQUIRED UPON ENGINEER'S WRITTEN APPROVAL.
- VERIFY ALL DIMENSIONS ON-SITE PRIOR TO JOIST FABRICATION.
- FLOOR JOISTS SHALL BE DESIGNED AND SUPPLIED BY THE JOIST SUPPLIER FOR THE LOADS STATED IN THE GENERAL NOTES UNDER DESIGN LOADS.
- FOR FRAMING AROUND FLOOR OPENINGS SEE TYPICAL DETAILS.
- ALL BEAMS TO BE FLUSH BEAMS EXCEPT DOORWAY AND WINDOW HEADERS.
- FOR STAIRCASE FRAMING SEE ARCHITECTURAL DRAWINGS.
- UNLESS NOTED OTHERWISE IN WALL TYPE SCHEDULE. PROVIDE MID-HEIGHT BLOCKING IN ALL LOAD BEARING WALLS.
- JOISTS RUNNING PARALLEL TO EXTERIOR WALLS TO HAVE TJI BLOCKING INSTALLED AT 800mm O/C. TYP. UNLESS WALLS ARE BALLOON FRAMED. NOT SHOWN ON PLAN FOR CLARITY. SEE FLOOR SECTIONS.
- CONTRACTOR TO COORDINATE JOIST LOCATIONS TO AVOID CONFLICT WITH PLUMBING FIXTURE DROPS AND PLUMBING RISER LOCATIONS.
- UPON COMPLETION OF JOIST INSTALLATION THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE JOISTS SHALL REVIEW THE INSTALLATION ON SITE AND CONFIRM IN WRITING THAT THEY MEET THE DESIGN PARAMETERS. REPORTS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ALBERTA.
- WOOD JOIST TO WALL, WOOD JOIST TO JOIST CONNECTIONS TO BE DESIGNED AND SUPPLIED BY THE JOIST SUPPLIER TYP.
- ADD DOUBLE JOISTS UNDER ALL POINT LOADS AT CANTILEVER LOCATIONS TYP., NOT SHOWN ON PLAN FOR CLARITY.
- ALL COLUMNS TO BE COUPLED WITH SOLID BLOCKING THROUGH A FLOOR SYSTEM. SUCH BLOCKING TO BE OF THE SAME SIZE AS THE COLUMN ABOVE. REFER TO TYP. DETAILS.
- WALLS SHOWN ON PLAN AS THUS: 

ROOF PLAN NOTES:

- SEE ARCH. DWGS. FOR ROOF ELEVATIONS AND ROOF SLOPES.
- SLOPED ROOF FRAMING TO CONSIST OF 11mm OSB SHEATHING WITH H-CLIPS. OVER WOOD TRUSSES UNLESS NOTED OTHERWISE ON PLAN. TRUSS SPACING NOT TO EXCEED 600mm O/C. DECREASE SPACING IF REQUIRED UPON ENGINEER'S WRITTEN APPROVAL.
- SEE DRAWINGS S100 SERIES FOR TYPICAL NOTES, DETAILS & SPECIFICATIONS.
- VERIFY ALL DIMENSIONS ON SITE PRIOR TO TRUSS FABRICATION.
- ROOF TRUSSES AND ALL MISCELLANEOUS ROOF FRAMING SHALL BE DESIGNED AND SUPPLIED BY THE TRUSS SUPPLIER FOR THE LOADS STATED IN THE GENERAL NOTES UNDER DESIGN LOADS.
- SUPERSTRUCTURE HAS BEEN DESIGNED BASED ON THE ABOVE ROOF FRAMING. TRUSS SUPPLIER TO ADVISE THE ENGINEER ON RECORD ACCORDINGLY IF LAYOUT CHANGES AS SUPERSTRUCTURE DESIGN MAY HAVE TO BE REVISED.
- ALL BEAMS TO BE FLUSH BEAMS, EXCEPT DOORWAY AND WINDOW HEADERS.
- UNLESS NOTED OTHERWISE IN WALL TYPE SCHEDULE. PROVIDE MID-HEIGHT BLOCKING IN ALL LOAD BEARING WALLS.
- UPON COMPLETION OF TRUSS INSTALLATION THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE TRUSS SHALL REVIEW THE INSTALLATION ON SITE AND CONFIRM IN WRITING THAT THEY MEET THE DESIGN PARAMETERS. FINAL REPORT MUST BE SIGNED AND SEALED BY P. ENG. REGISTERED IN THE PROVINCE OF ALBERTA.
- EXTEND SHEAR WALLS TO U/S. OF ROOF SHEATHING. SEE ROOF SECTIONS.
- BRACES NOTED ON FRAMING PLAN ARE IN ADDITION TO THOSE REQUIRED BY THE TRUSS SUPPLIER TYP.
- WOOD TRUSS TO WALL, WOOD TRUSS TO TRUSS CONNECTIONS INCLUDING ALL GIRDERS CONNECTIONS TO BE DESIGNED AND SUPPLIED BY THE TRUSS SUPPLIER.
- ALLOW FOR ADDITIONAL 74 psf SNOW PILING IN ALL VALLEYS. SNOW PILING TO BE TAPERED TO REGULAR ROOF SNOW LOAD AT 3000mm EACH SIDE OF VALLEYS.

2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:

FRAMING PLANS

AB Fourplex 02

PROJECT NO: 02500462
SCALE: As indicated

SHEET NO:

S301

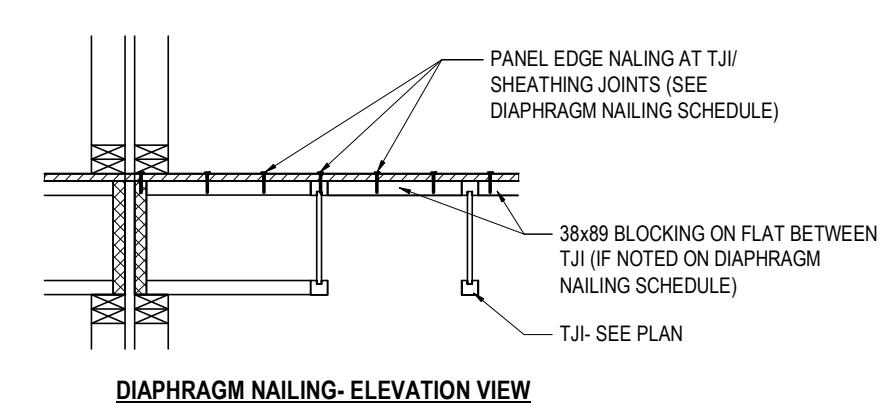
WOOD BEARING WALL SCHEDULE

WALL TYPE	SECOND FLOOR FRAMING (MAIN FLOOR WALLS)	THIRD FLOOR FRAMING (SECOND FLOOR WALLS)	ROOF FRAMING (THIRD FLOOR WALLS)	GRADE
EXTERIOR WALLS	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING. PROVIDE BLOCKING @ SHEATHING JOINTS.	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING. PROVIDE BLOCKING @ SHEATHING JOINTS.	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING. PROVIDE BLOCKING @ SHEATHING JOINTS.	SPF No.2 OR BETTER
LOAD BEARING PARTY / SHEAR WALLS (EACH WALL)	2x4 @ 300mm O/C C/W MID-HEIGHT BLOCKING (EACH WALL). AT SHEAR WALLS, PROVIDE 10mm OSB SHEATHING ON ONE SIDE AND BLOCKING AT ALL HORIZONTAL SHEATHING JOINTS.	2x4 @ 400mm O/C C/W MID-HEIGHT BLOCKING (EACH WALL). AT SHEAR WALLS, PROVIDE 10mm OSB SHEATHING ON ONE SIDE AND BLOCKING AT ALL HORIZONTAL SHEATHING JOINTS.	N/A	SPF No.2 OR BETTER
STAIRWELL WALLS	2x6 @ 400mm O/C C/W 2 ROWS OF BLOCKING	2x6 @ 400mm O/C C/W MID HEIGHT BLOCKING	N/A	SPF No.2 OR BETTER
INTERIOR WALLS (WT1)	N/A	N/A	2x4 @ 400mm O/C C/W MID-HEIGHT BLOCKING	SPF No.2 OR BETTER

- ALL WALL TYPES ARE TYPICAL UNLESS NOTED OTHERWISE.
- WALL TYPES INDICATED REPRESENT BEARING WALLS BELOW.
- WALL VERTICAL ALIGNMENT TO BE WITHIN 13mm OVER ENTIRE HEIGHT OF BUILDING TYPICAL ALL LOAD BEARING WALLS.
- ALL TOP & BOTTOM CONT. PLATES TO BE SPF No.2.

DIAPHRAGM NAILING SCHEDULE (FLOOR / ROOF SHEATHING)

LEVEL	SHEATHING TYPE	FASTENER TYPE	FASTENER SPACING		BLOCKED
			PANEL EDGES	INTERMEDIATE MEMBERS	
ROOF FRAMING	11mm T&G. OSB	8d COMMON WIRE NAILS (0.131x2.5) NAILED AND GLUED	100mm	300mm	NO
3rd FLOOR FRAMING	19mm T&G. OSB		150mm	300mm	NO
2nd FLOOR FRAMING	19mm T&G. OSB		150mm	300mm	NO



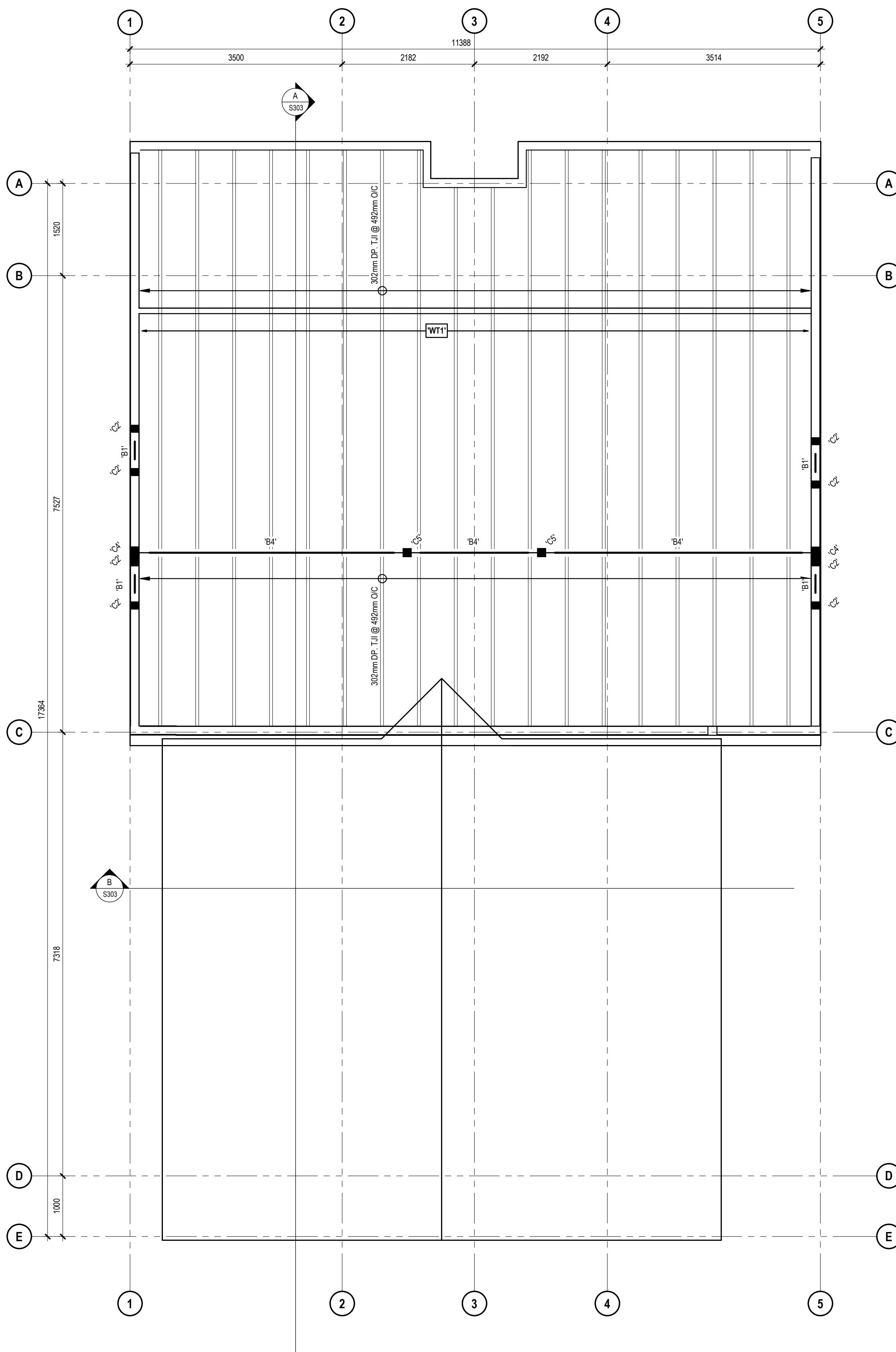
SHEARWALL NAILING REQUIREMENTS

LEVEL	NAIL LENGTH	OSB THICKNESS	NAIL SPACING	
			PANEL EDGES	INTERIOR STUD LOCATIONS
ROOF	64mm	10mm	100mm	250mm
3RD FLOOR	64mm	10mm	100mm	250mm
2ND FLOOR	64mm	10mm	100mm	250mm

TYPICAL WALL STUD SPACING

WALL HEIGHT	STUD SPACING	GRADE
STUDS UP TO 15'	2x6 @ 400mm O/C	SPF No.2
STUDS UP TO 18'	2x6 @ 400mm O/C	SPF No.2

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ROOF FRAMING PLAN

1:50

ROOF PLAN NOTES:

- SEE ARCH. DWGS. FOR ROOF ELEVATIONS AND ROOF SLOPES.
- SLOPED ROOF FRAMING TO CONSIST OF 11mm OSB SHEATHING WITH H-CLIPS OVER WOOD TRUSS UNLESS NOTED OTHERWISE. ON PLAN, TRUSS SPACING NOT TO EXCEED 600mm O/C. DECREASE SPACING IF REQUIRED UPON ENGINEER'S WRITTEN APPROVAL.
- SEE DRAWINGS S100 SERIES FOR TYPICAL NOTES, DETAILS & SPECIFICATIONS.
- VERIFY ALL DIMENSIONS ON SITE PRIOR TO TRUSS FABRICATION.
- ROOF TRUSS AND ALL MISCELLANEOUS ROOF FRAMING SHALL BE DESIGNED AND SUPPLIED BY THE TRUSS SUPPLIER FOR THE LOADS STATED IN THE GENERAL NOTES UNDER "DESIGN LOADS".
- SUPERSTRUCTURE HAS BEEN DESIGNED BASED ON THE ABOVE ROOF FRAMING. TRUSS SUPPLIER TO ADVISE THE ENGINEER ON RECORD ACCORDINGLY IF LAYOUT CHANGES AS SUPERSTRUCTURE DESIGN MAY HAVE TO BE REVISED.
- ALL BEAMS TO BE FLUSH BEAMS, EXCEPT DOORWAY AND WINDOW HEADERS.
- UNLESS NOTED OTHERWISE IN WALL TYPE SCHEDULE, PROVIDE MID-HEIGHT BLOCKING IN ALL LOAD BEARING WALLS.
- UPON COMPLETION OF TRUSS INSTALLATION THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE TRUSS SHALL REVIEW THE INSTALLATION ON SITE AND CONFIRM IN WRITING THAT THEY MEET THE DESIGN PARAMETERS. FINAL REPORT MUST BE SIGNED AND SEALED BY P. ENG. REGISTERED IN THE PROVINCE OF ALBERTA.
- EXTEND SHEAR WALLS TO US. OF ROOF SHEATHING. SEE ROOF SECTIONS.
- BRACES NOTED ON FRAMING PLAN ARE IN ADDITION TO THOSE REQUIRED BY THE TRUSS SUPPLIER TYP.
- WOOD TRUSS TO WALL, WOOD TRUSS TO TRUSS CONNECTIONS INCLUDING ALL GIRDER CONNECTIONS TO BE DESIGNED AND SUPPLIED BY THE TRUSS SUPPLIER.
- ALLOW FOR ADDITIONAL 74" SNOW PILING IN ALL VALLEYS. SNOW PILING TO BE TAPERED TO REGULAR ROOF SNOW LOAD AT 300mm EACH SIDE OF VALLEYS.

COLUMN SCHEDULE 'C'

TYPE	SIZE	REMARKS
'C1'	4-2x4	SPF No.1/No.2 BUILT-UP
'C2'	3-2x6	SPF No.1/No.2 BUILT-UP
'C3'	4-2x6	SPF No.1/No.2 BUILT-UP
'C4'	5-2x6	SPF No.1/No.2 BUILT-UP
'C5'	133x133	1.8E PSL

WOOD BEAM SCHEDULE 'B'

TYPE	SIZE	REMARKS
'B1'	3-2x10	SPF No.1/No.2 BUILT-UP
'B2'	3-2x12	SPF No.1/No.2 BUILT-UP
'B3'	2-4x302	2.2E PSL OR 2.0E LVL
'B4'	3-4x302	2.2E PSL OR 2.0E LVL
'B5'	133x241	2.2E PSL OR 2.0E LVL
'B6'	133x356	2.2E PSL OR 2.0E LVL
'B7'	178x302	2.2E PSL OR 2.0E LVL

2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
FRAMING PLANS

AB Fourplex 02

PROJECT NO: 02500462
 SCALE: As indicated

SHEET NO:

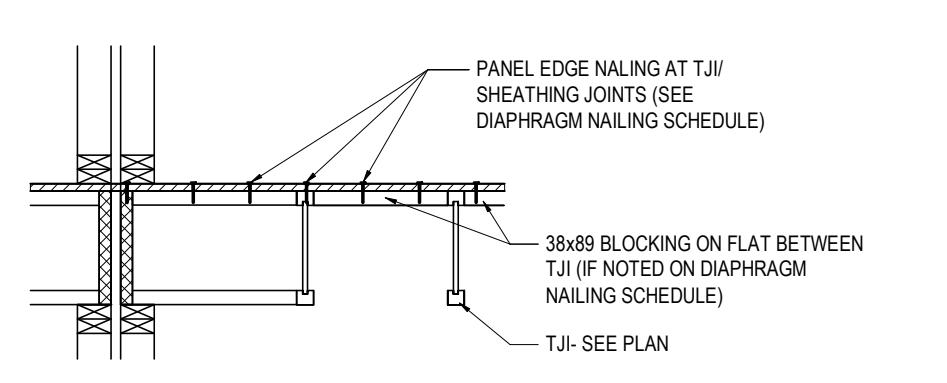
S302

WOOD BEARING WALL SCHEDULE

WALL TYPE	SECOND FLOOR FRAMING (MAIN FLOOR WALLS)	THIRD FLOOR FRAMING (SECOND FLOOR WALLS)	ROOF FRAMING (THIRD FLOOR WALLS)	GRADE
EXTERIOR WALLS	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING PROVIDE BLOCKING @ SHEATHING JOINTS	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING PROVIDE BLOCKING @ SHEATHING JOINTS	2x6 @ 400mm O/C C/W 10mm OSB SHEATHING PROVIDE BLOCKING @ SHEATHING JOINTS	SPF No.2 OR BETTER
LOAD BEARING PARTY / SHEAR WALLS (EACH WALL)	2x4 @ 300mm O/C C/W MID-HEIGHT BLOCKING (EACH WALL) AT SHEAR WALLS, PROVIDE 10mm OSB SHEATHING ON ONE SIDE AND BLOCKING AT ALL HORIZONTAL SHEATHING JOINTS.	2x4 @ 400mm O/C C/W MID-HEIGHT BLOCKING (EACH WALL) AT SHEAR WALLS, PROVIDE 10mm OSB SHEATHING ON ONE SIDE AND BLOCKING AT ALL HORIZONTAL SHEATHING JOINTS.	N/A	SPF No.2 OR BETTER
STAIRWELL WALLS	2x6 @ 400mm O/C C/W 2 ROWS OF BLOCKING	2x6 @ 400mm O/C C/W MID HEIGHT BLOCKING	N/A	SPF No.2 OR BETTER
INTERIOR WALLS (WT1)	N/A	N/A	2x4 @ 400mm O/C C/W MID-HEIGHT BLOCKING	SPF No.2 OR BETTER

- ALL WALL TYPES ARE TYPICAL UNLESS NOTED OTHERWISE.
- WALL TYPES INDICATED REPRESENT BEARING WALLS BELOW.
- WALL VERTICAL ALIGNMENT TO BE WITHIN 13mm OVER ENTIRE HEIGHT OF BUILDING TYPICAL ALL LOAD BEARING WALLS.
- ALL TOP & BOTTOM CON. PLATES TO BE SPF No.2.

DIAPHRAGM NAILING SCHEDULE (FLOOR / ROOF SHEATHING)				
LEVEL	SEATHING TYPE	FASTENER TYPE	FASTENER SPACING	BLOCKED
			PANEL EDGES	INTERMEDIATE MEMBERS
ROOF FRAMING	11mm T&G. OSB	8d COMMON WIRE NAILS (0.131x2.57) NAILED AND GLUED	100mm	300mm
3rd FLOOR FRAMING	19mm T&G. OSB		150mm	300mm
2nd FLOOR FRAMING	19mm T&G. OSB		150mm	300mm

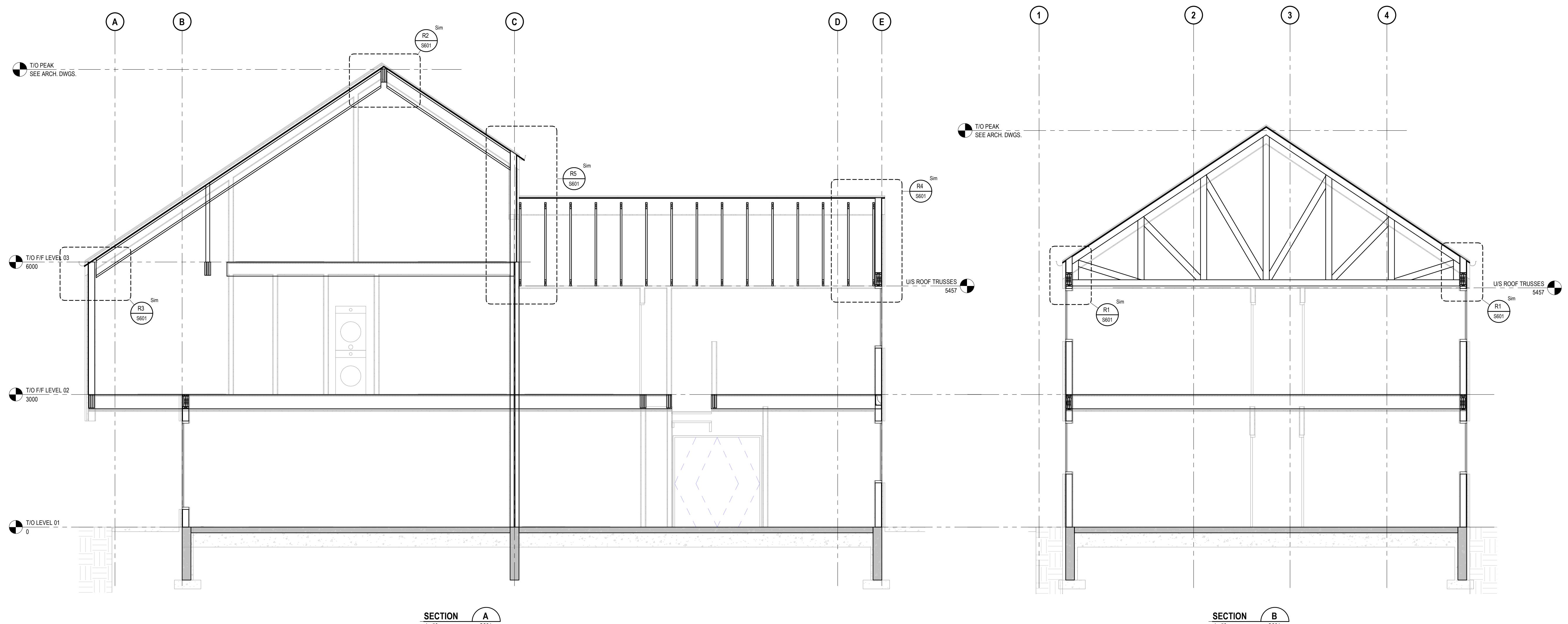


DIAPHRAGM NAILING- ELEVATION VIEW

SHEARWALL NAILING REQUIREMENTS				
LEVEL	NAIL LENGTH	OSB THICKNESS	NAIL SPACING	
			PANEL EDGES	INTERIOR STUD LOCATIONS
ROOF	64mm	10mm	100mm	250mm
3RD FLOOR	64mm	10mm	100mm	250mm
2ND FLOOR	64mm	10mm	100mm	250mm

TYPICAL WALL STUD SPACING			
WALL HEIGHT	STUD SPACING	GRADE	
STUDS UP TO 15'	2x6 @ 400mm O/C	SPF No.2	
STUDS UP TO 18'	2-2x6 @ 400mm O/C	SPF No.2	

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1	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
BUILDING SECTIONS

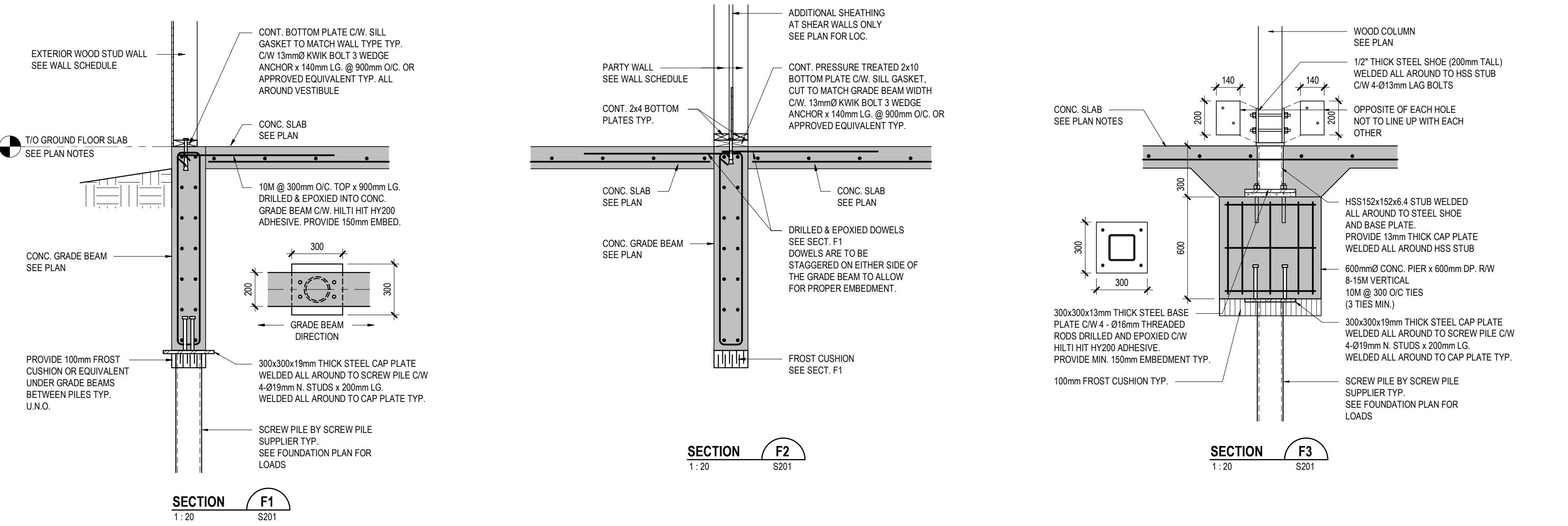
AB Fourplex 02

PROJECT NO: 02500462
 SCALE: 1:50

SHEET NO:

S303

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2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
TYPICAL FOUNDATION SECTIONS

AB Fourplex 02

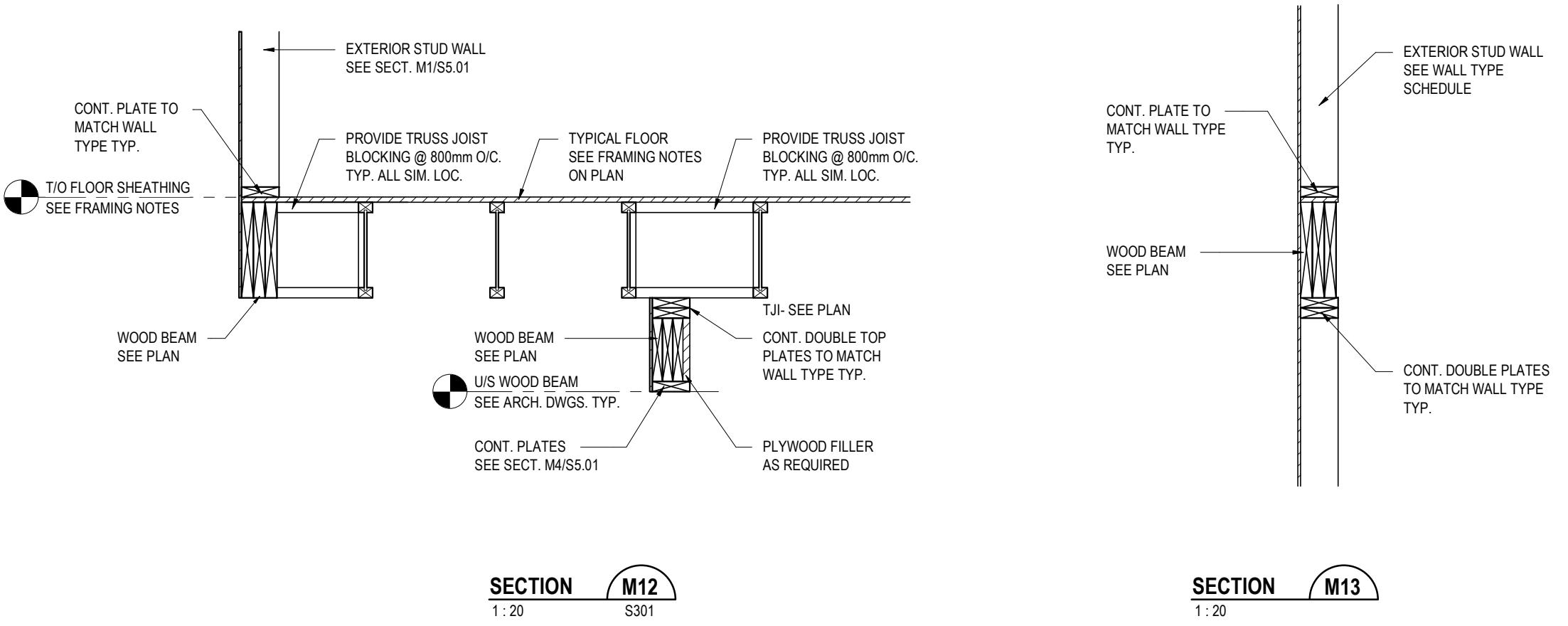
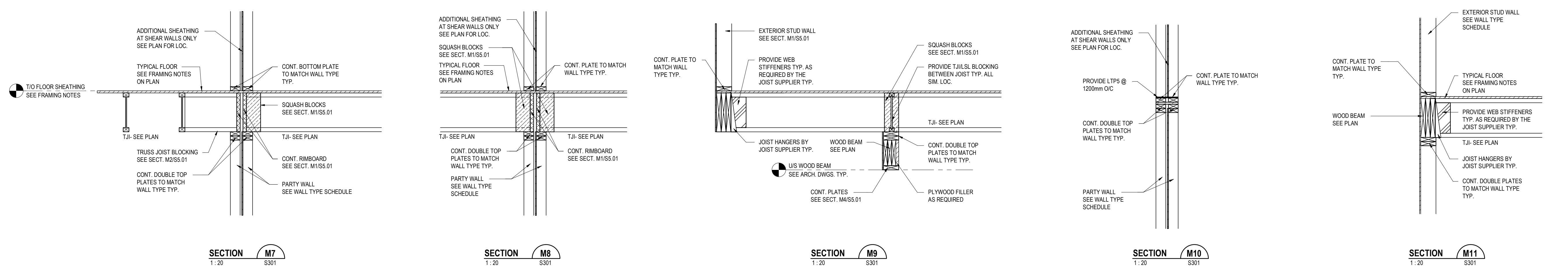
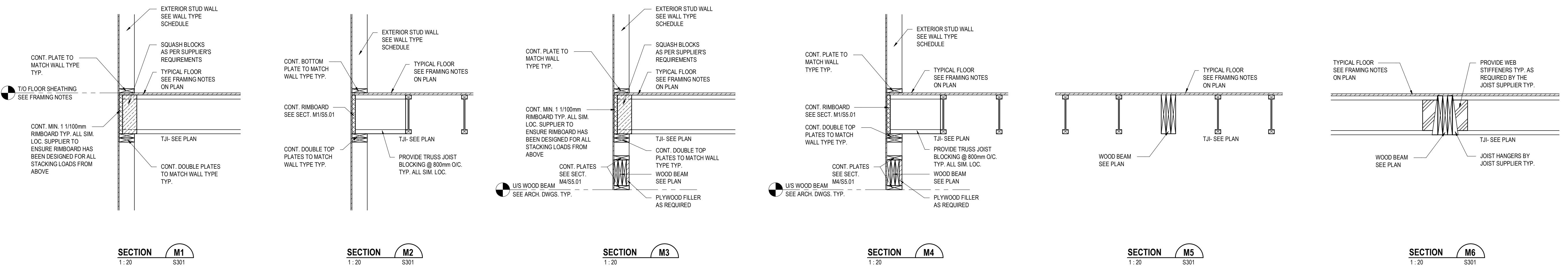
PROJECT NO: 02500462
 SCALE: 1:20

SHEET NO:

S401

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2	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
**TYPICAL FLOOR
SECTIONS**

AB Fourplex 02

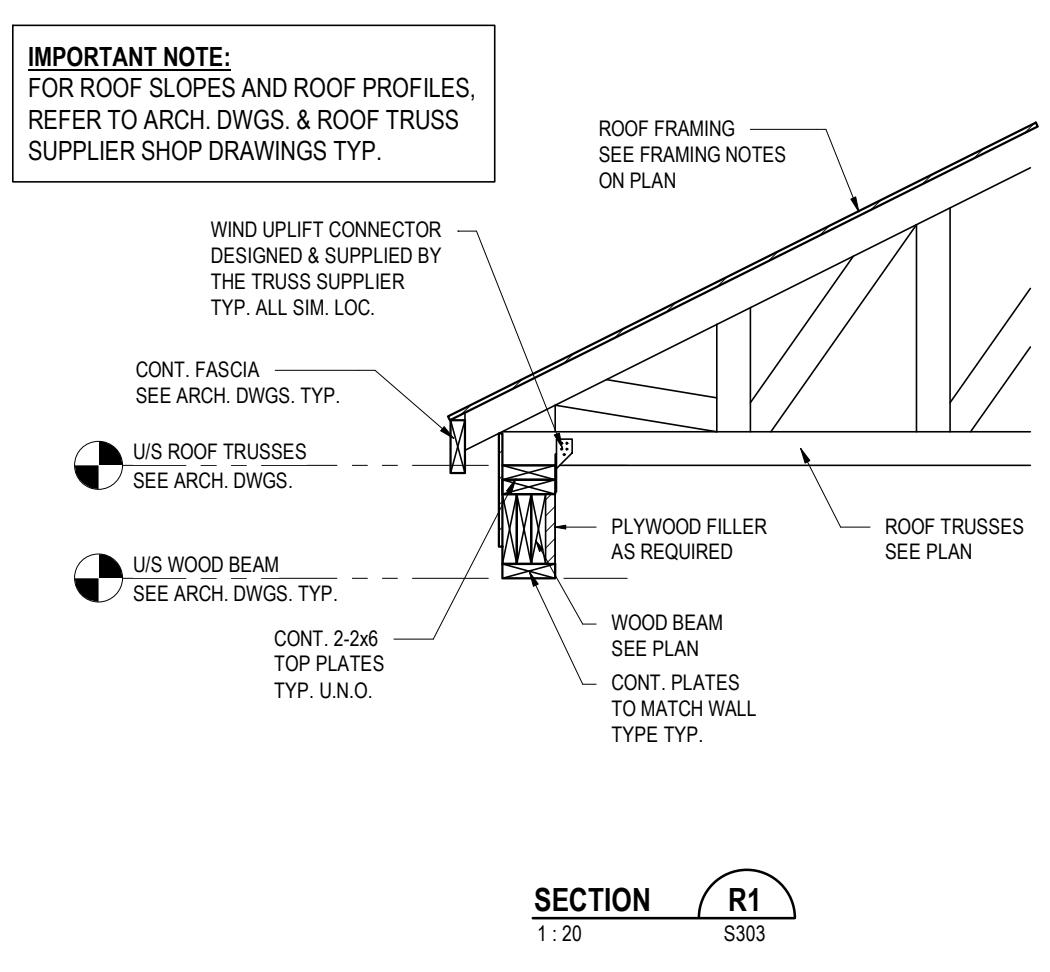
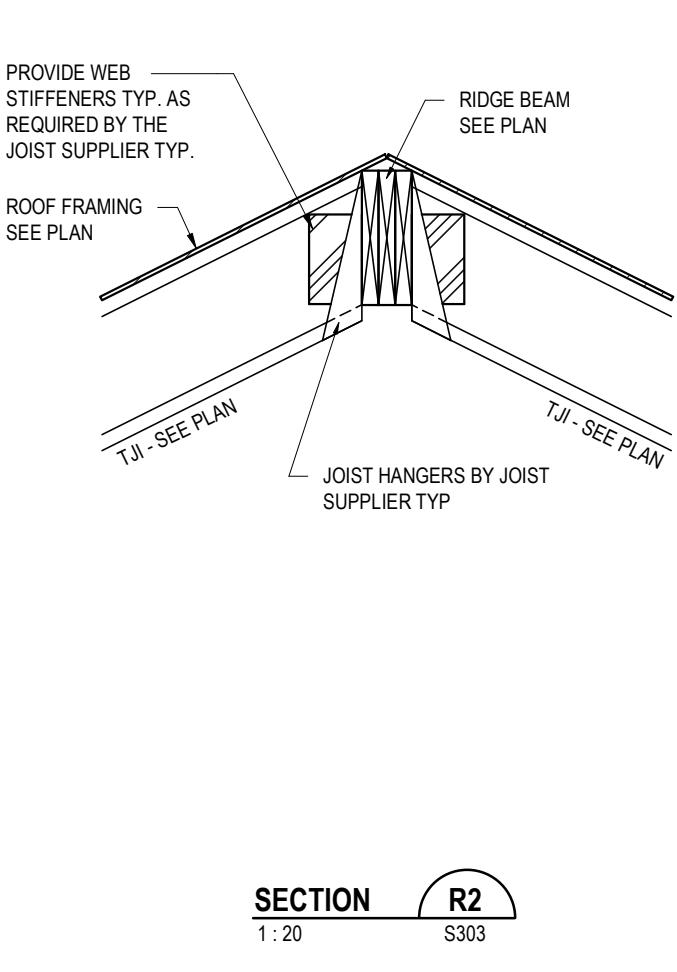
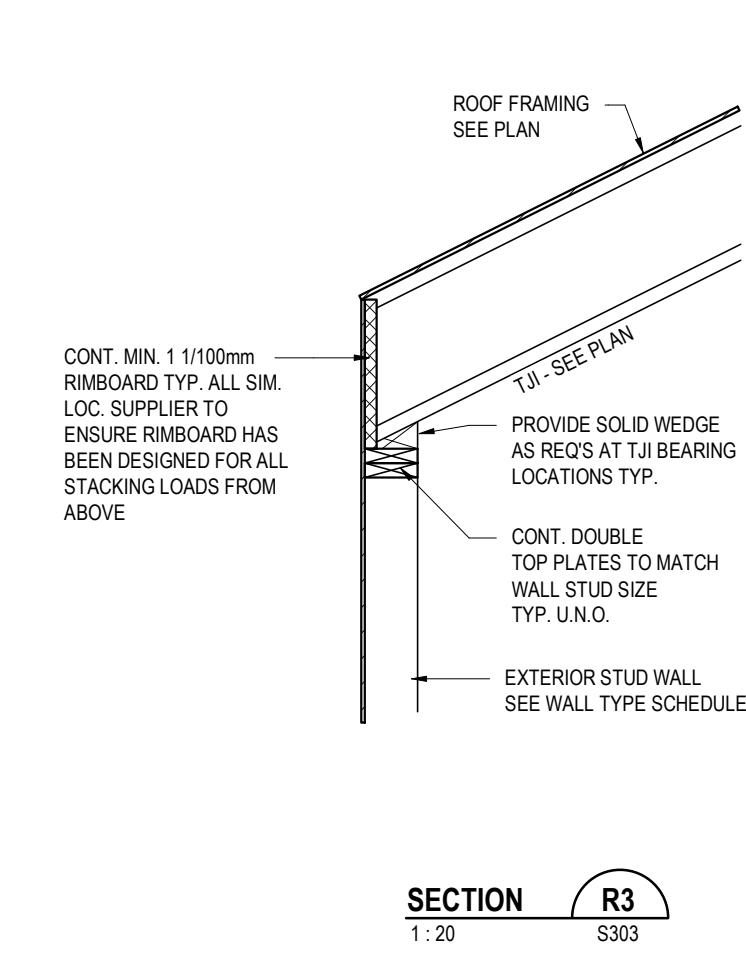
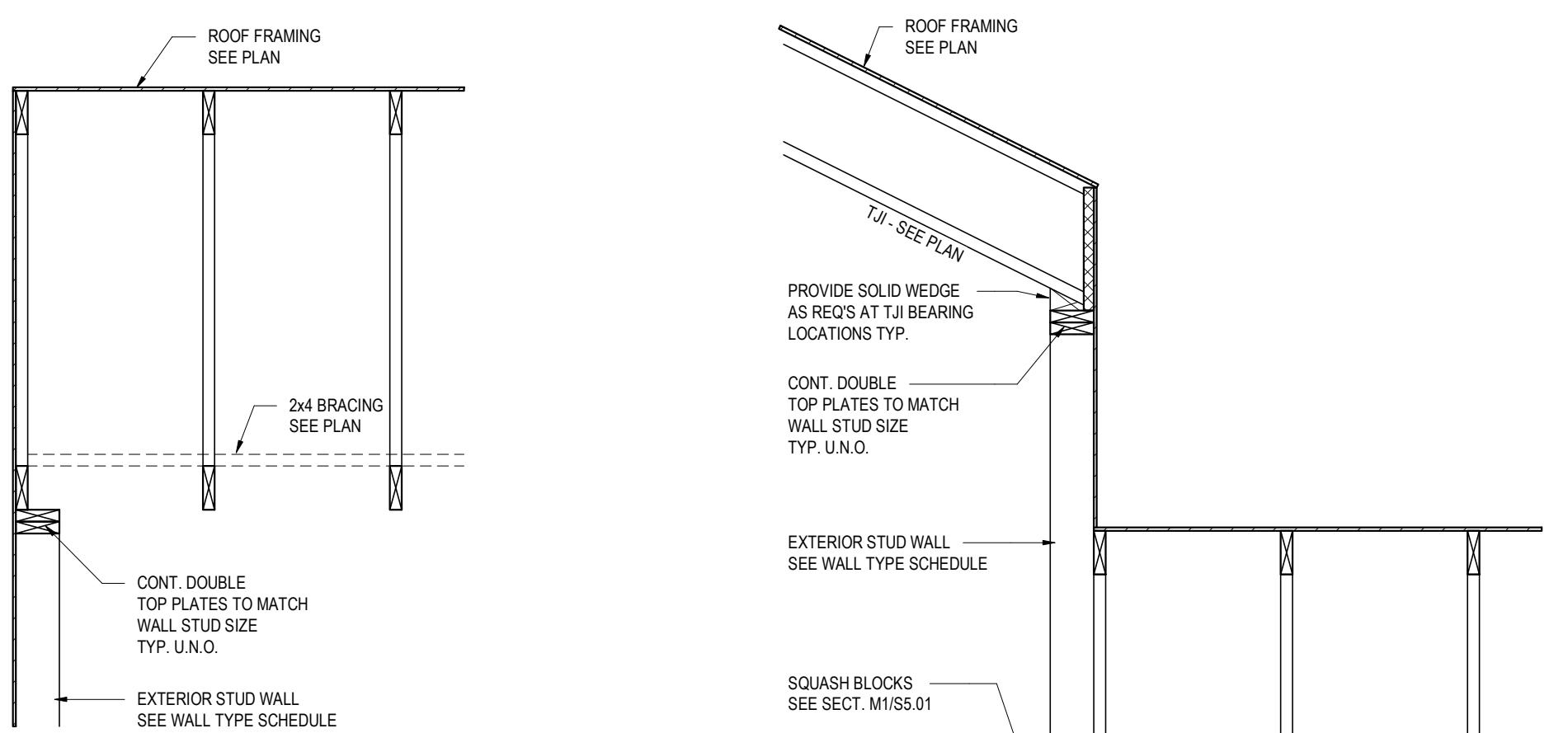
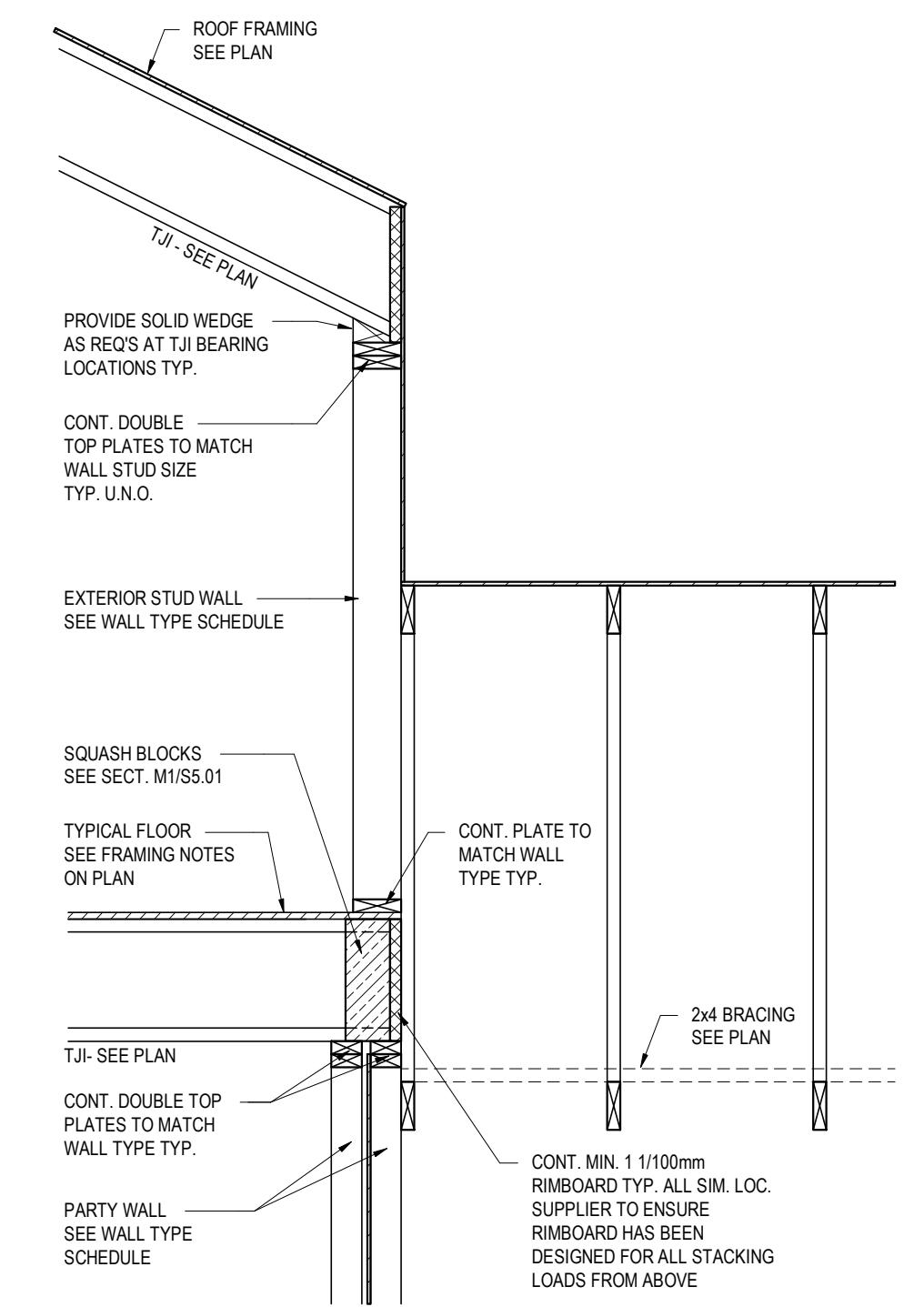
PROJECT NO: 02500462
SCALE: 1:20

SHEET NO:

S501

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SECTION R1
1:20 S303

SECTION R2
1:20 S303

SECTION R3
1:20 S303

SECTION R4
1:20 S303

SECTION R5
1:20 S303

1	2025-02-19	ISSUED FOR PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

ALBERTA, CANADA

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
TYPICAL ROOF SECTIONS

AB Fourplex 02

PROJECT NO: 02500462
SCALE: 1:20

SHEET NO:
S601

CMHC HOUSING DESIGN CATALOGUE
AB FOURPLEX 02
MECHANICAL DRAWINGS

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MECHANICAL SHEET LIST 4 PLEX 02	
NO.	SHEET NAME
M000	MECHANICAL COVER SHEET
M001	MECHANICAL LEGENDS
M100	FOUNDATION PLAN
M101	GROUND FLOOR PLUMBING PLAN
M102	SECOND FLOOR PLUMBING PLAN
M103	THIRD FLOOR PLUMBING PLAN
M201	GROUND FLOOR VENTILATION PLAN
M202	SECOND FLOOR VENTILATION PLAN
M203	THIRD FLOOR VENTILATION PLAN
M300	MECHANICAL SCHEMATICS & DETAILS
M400	MECHANICAL SCHEDULES
M500	MECHANICAL SPECIFICATIONS

1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
MECHANICAL COVER SHEET

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE:

SHEET NO:

M000

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MECHANICAL LEGEND	
NOTE: SOME SYMBOL REFERENCES MAY NOT BE USED ON THIS PROJECT	
LINETYPES	
— - - - -	CONTROLS WIRING
— SAN —	SANITARY PIPING
— STM —	STORM PIPING
— - - V - - -	SANITARY VENT BRANCH PIPING
— - - V - - ->	SANITARY VENT UP TO NEXT LEVEL
— - - V - - -<	SANITARY VENT UP THROUGH ROOF
— - -	DOMESTIC COLD WATER PIPING
— - -	DOMESTIC HOT WATER PIPING
— - -	DOMESTIC HOT WATER RECIRC. PIPING
— G —	NATURAL GAS PIPING
— C —	CONDENSATE PIPING
— RS —	REFRIGERANT SUPPLY PIPING
— RR —	REFRIGERANT RETURN PIPING
PLUMBING	
—>	PIPE FLOW ARROW
—>—	PIPE CAP
—>—	PIPE CONNECTION
—>—	PIPE DROP
—>—	PIPE RISE
—>—	PIPE TEE (BELOW)
—>—	PIPE TEE (ABOVE)
—>—	SANITARY P-TRAP
—>—	RUNNING P-TRAP
—>—	HEAT TRACING
—>—	FLOOR DRAIN
—>—	ROOF DRAIN
—>—	HOSE BIBB
—>—	CLEANOUT
—>—	BUILDING CLEANOUT
—>—	GAS METER
—>—	WATER METER
—>—	THRUST BLOCK
CONTROLS	
—>—	CO = CARBON MONOXIDE
—>—	THERMOSTAT (COVER/NO COVER)
—>—	WALL SWITCH (ON-OFF/VARIABLE)
TAGS	
TYPE	S-1
NECK (mm)	200 ^b
FLOW (L/s)	120
DETAIL NUMBER	1
DRAWING NUMBER	MX
SECTION/ELEVATION	REFERENCE
DETAIL NUMBER	1
DRAWING NUMBER	MX
P-1	EQUIPMENT TAG
KEYNOTE	REFERENCE
VENTILATION	
—>—	OUTDOOR AIR DUCT UP/DOWN
—>—	SUPPLY AIR DUCT UP/DOWN
—>—	RETURN AIR DUCT UP/DOWN
—>—	EXHAUST AIR DUCT UP/DOWN
—>—	ROUND DUCT UP/DOWN
—>—	ACOUSTIC DUCT INSULATION
—>—	BALANCING DAMPER
—>—	BD = BACKDRAFT DAMPER
—>—	FD = FIRE DAMPER
—>—	SD = SMOKE DAMPER
—>—	SIDEWALL GRILLE
—>—	SQUARE DIFFUSER C/W TAKEOFF AND BALANCING DAMPER
—>—	ROUND DIFFUSER C/W TAKEOFF AND BALANCING DAMPER
—>—	TURNING VAVES
FIRE PROTECTION	
—>—	FIRE EXTINGUISHER
SCHEMATICS	
—>—	HOSE END WITH CAP & CHAIN FOR DRAINING
—>—	FLEX PIPE CONNECTION
—>—	2-WAY CONTROL VALVE
—>—	3-WAY CONTROL VALVE
—>—	BACKFLOW PREVENTER
—>—	NORMALLY OPEN BACKWATER VALVE
—>—	CIRCUIT BALANCING/MEASUREMENT VALVE
—>—	CHECK VALVE
—>—	ISOLATION VALVE
—>—	MANUAL BALANCING VALVE
—>—	PRESSURE/TEMPERATURE PORT
—>—	PRESSURE REGULATING VALVE
—>—	SOLENOID VALVE
—>—	UNION
—>—	AIR SEPARATOR
—>—	AIR VENT - AUTOMATIC
—>—	AIR VENT - AUTOMATIC
—>—	CARTRIDGE FILTER
—>—	PUMP
—>—	WYE STRAINER C/W BALL VALVE, CAP & CHAIN
—>—	PRESSURE SAFETY VALVE
—>—	PRESSURE GAUGE C/W ISOLATION
—>—	TEMPERATURE GAUGE
—>—	TS = TEMPERATURE SWITCH
—>—	CENTRIFUGAL FAN

ABBREVIATIONS	
BT	BATHTUB
CO	CLEANOUT
CP	CONDENSATE PUMP
CU	CONDENSING UNIT
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DWH	DOMESTIC WATER HEATER
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
F/A	"FROM ABOVE"
F/B	"FROM BELOW"
FD	FLOOR DRAIN
FN	FURNACE
GSV	GAS SHUTOFF VALVE
HB	HOSE BIBB
LAV	LAVATORY
NC	"NORMALLY CLOSED"
NO	"NORMALLY OPEN"
P	PUMP
PRV	PRESSURE REDUCING VALVE
RD	ROOF DRAIN
RH	KITCHEN RANGE HOOD
SH	SHOWER
SK	SINK
T/A	"TO ABOVE"
T/B	"TO BELOW"
UNO	"UNLESS NOTED OTHERWISE"
UTR	"UP THROUGH ROOF"
WC	WATER CLOSEST

SITE-SPECIFIC DESIGN REQUIREMENTS

ALL SITE-SPECIFIC ELEMENTS TO BE REVIEWED & DESIGNED BY THE RESPONSIBLE DESIGN PROFESSIONAL ISSUING THE DRAWINGS FOR PERMIT & CONSTRUCTION AT THE LOCATION DETERMINED. THIS INCLUDES:

- 1 SITE SERVICING: INCOMING WATER, GAS, SANITARY & STORM SEWER CONNECTIONS TO BE CONFIRMED FOR SITE.
- 2 ENERGY EFFICIENCY: ISSUING DESIGN PROFESSIONAL TO REVIEW & CONFIRM ALL RELEVANT SITE DATA INCLUDING CLIMATE ZONE, HEATING/COOLING DEGREE DAYS, ORIENTATION, ADJACENT BUILDINGS (ROW HOUSING), MECHANICAL SYSTEM, ENVELOPE & GLAZING PERFORMANCE IN ORDER TO ACCURATELY DETERMINE:
 - i. EQUIPMENT SIZING FURNACE, AIR CONDITIONING, AND/OR HEAT PUMP CAPACITIES & ASSOCIATED DUCT SIZING TO BE DESIGNED & REVIEWED BY THE ISSUING DESIGN PROFESSIONAL IN ACCORDANCE WITH THE LOCAL CLIMATIC CONDITIONS AS OUTLINED ABOVE.

1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

Project Address

NOT FOR PERMIT
OR CONSTRUCTION

SHEET TITLE:
MECHANICAL LEGENDS

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1:1

SHEET NO:

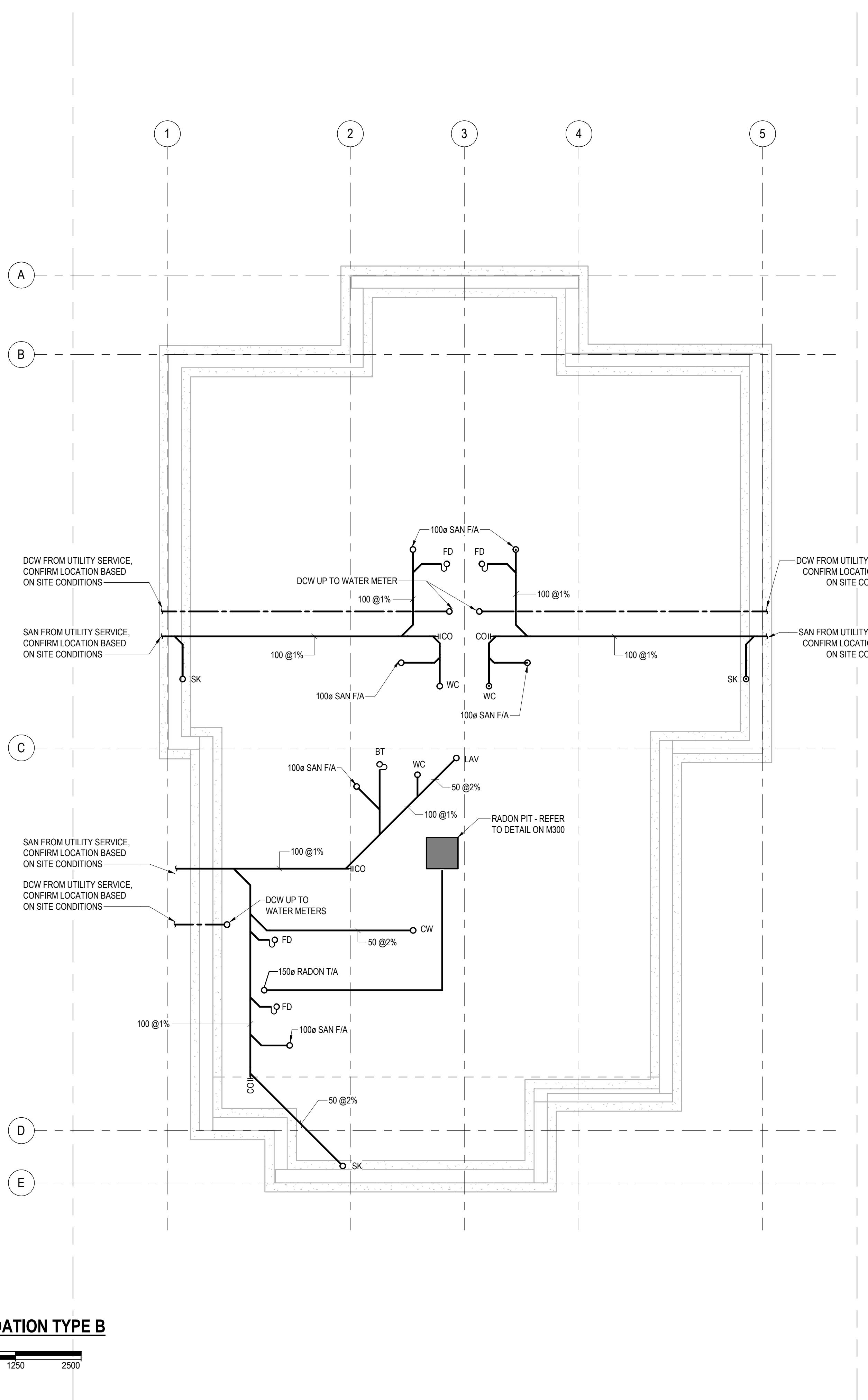
M001

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FOUNDATION GENERAL NOTES

1 CONNECT RAIN WATER LEADERS TO UNDERGROUND STORM SERVICE WHERE REQUIRED BY LOCAL CODE.



1 2025-02-21 ISSUED AS PROTOTYPICAL DRAWING
NO. DATE DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
FOUNDATION PLAN

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1:50

SHEET NO:

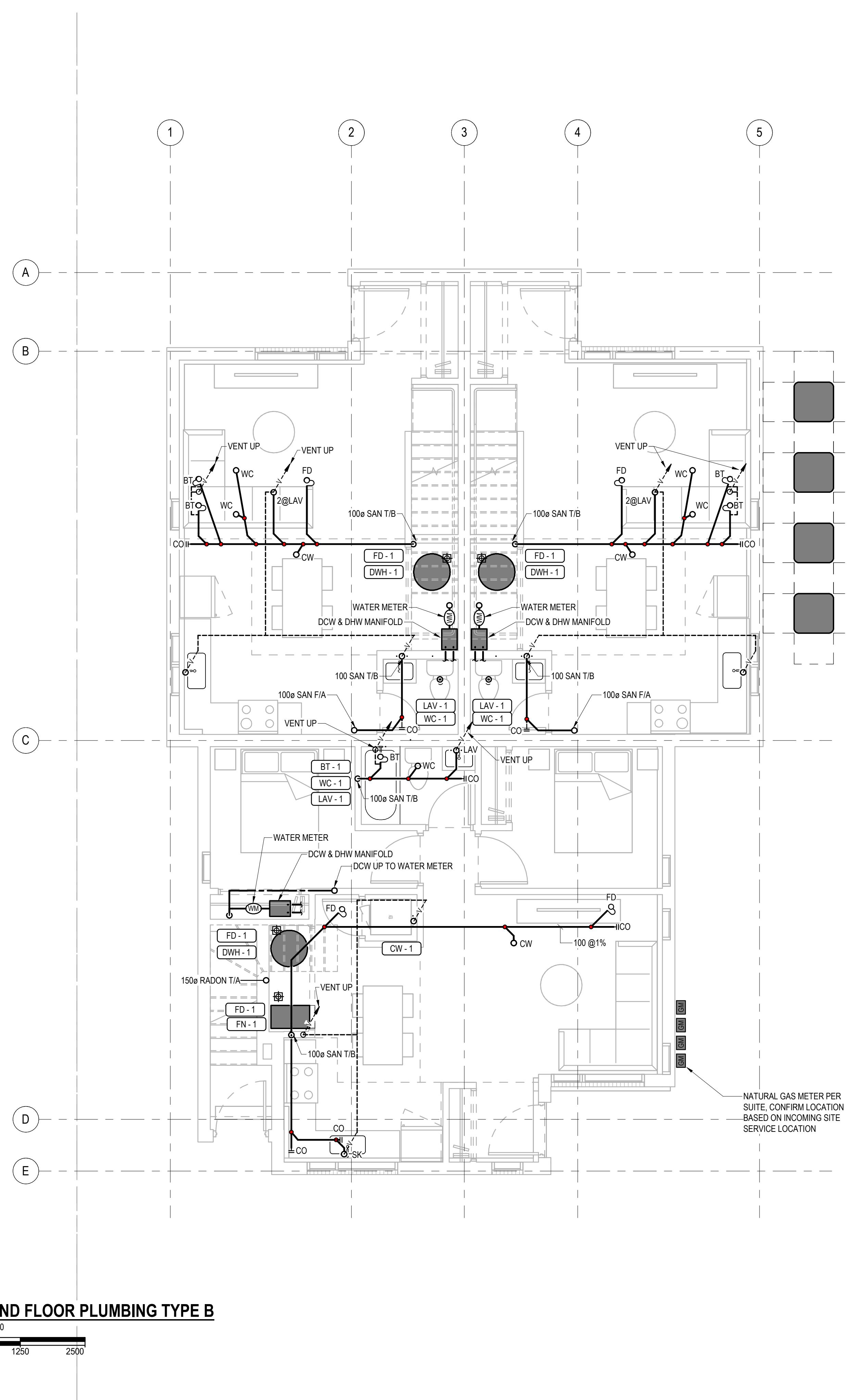
M100

PLUMBING GENERAL NOTES

- 1 RUN INDIVIDUAL DOMESTIC HOT WATER AND COLD WATER LINES TO ALL PLUMBING FIXTURES AS REQUIRED.
- 2 NATURAL GAS METERS TO BE LOCATED A MINIMUM OF 3.0M AWAY FROM ANY OPERABLE WINDOWS OR DOORS.
- 3 INSTALL NATURAL GAS PIPING FROM THE UTILITY METER TO ALL GAS-FIRED APPLIANCES IN ACCORDANCE WITH CSA B149.1.

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1
M101 GROUND FLOOR PLUMBING TYPE B
SCALE: 1 : 50



0 1250 2500

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1 : 50

MEET NO:

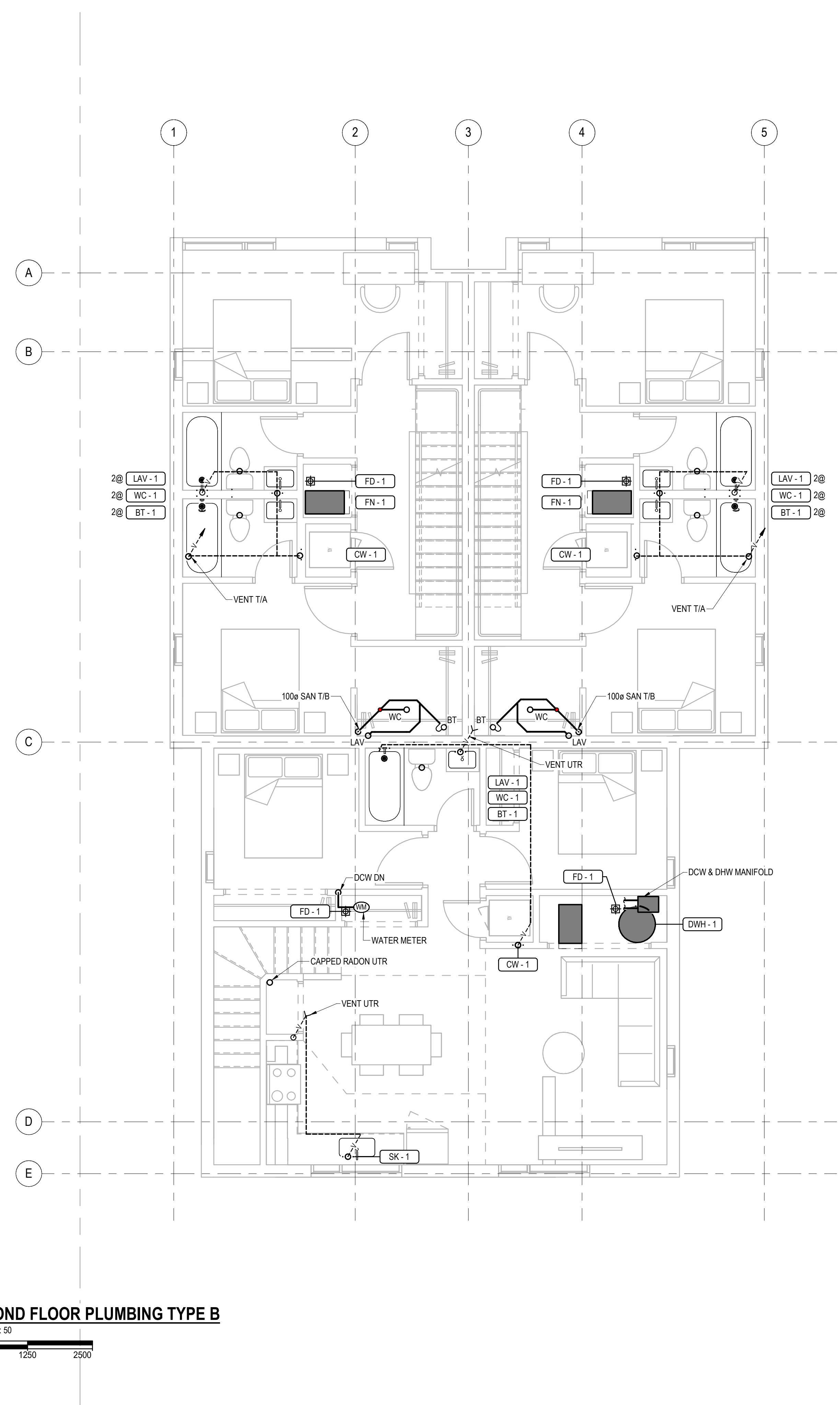
M101

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PLUMBING GENERAL NOTES

- 1 RUN INDIVIDUAL DOMESTIC HOT WATER AND COLD WATER LINES TO ALL PLUMBING FIXTURES AS REQUIRED.
- 2 NATURAL GAS METERS TO BE LOCATED A MINIMUM OF 3.0M AWAY FROM ANY OPERABLE WINDOWS OR DOORS.
- 3 INSTALL NATURAL GAS PIPING FROM THE UTILITY METER TO ALL GAS-FIRED APPLIANCES IN ACCORDANCE WITH CSA B149.1.


1
SECOND FLOOR PLUMBING TYPE B
M102

SCALE: 1:50

0 1250 2500

1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
SECOND FLOOR
PLUMBING PLAN

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1:50

SHEET NO:

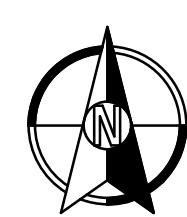
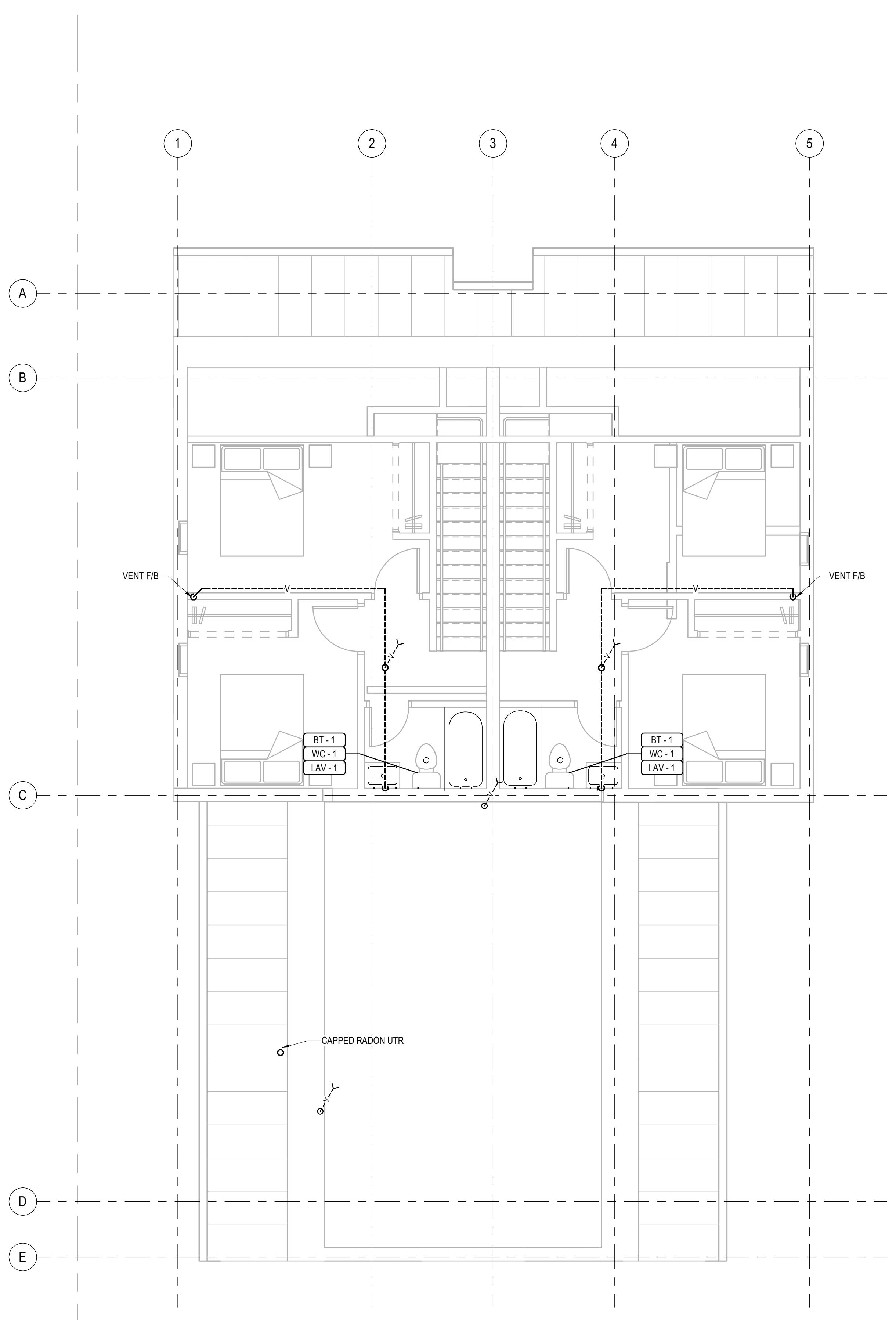
M102

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PLUMBING GENERAL NOTES

- 1 RUN INDIVIDUAL DOMESTIC HOT WATER AND COLD WATER LINES TO ALL PLUMBING FIXTURES AS REQUIRED.
- 2 NATURAL GAS METERS TO BE LOCATED A MINIMUM OF 3.0M AWAY FROM ANY OPERABLE WINDOWS OR DOORS.
- 3 INSTALL NATURAL GAS PIPING FROM THE UTILITY METER TO ALL GAS-FIRED APPLIANCES IN ACCORDANCE WITH CSA B149.1.



1 M103
THIRD FLOOR PLUMBING TYPE B
SCALE: 1:50

1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
THIRD FLOOR PLUMBING
PLAN

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1:50

SHEET NO:

M103

DISCLAIMER

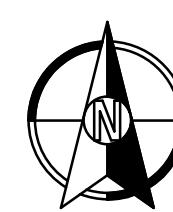
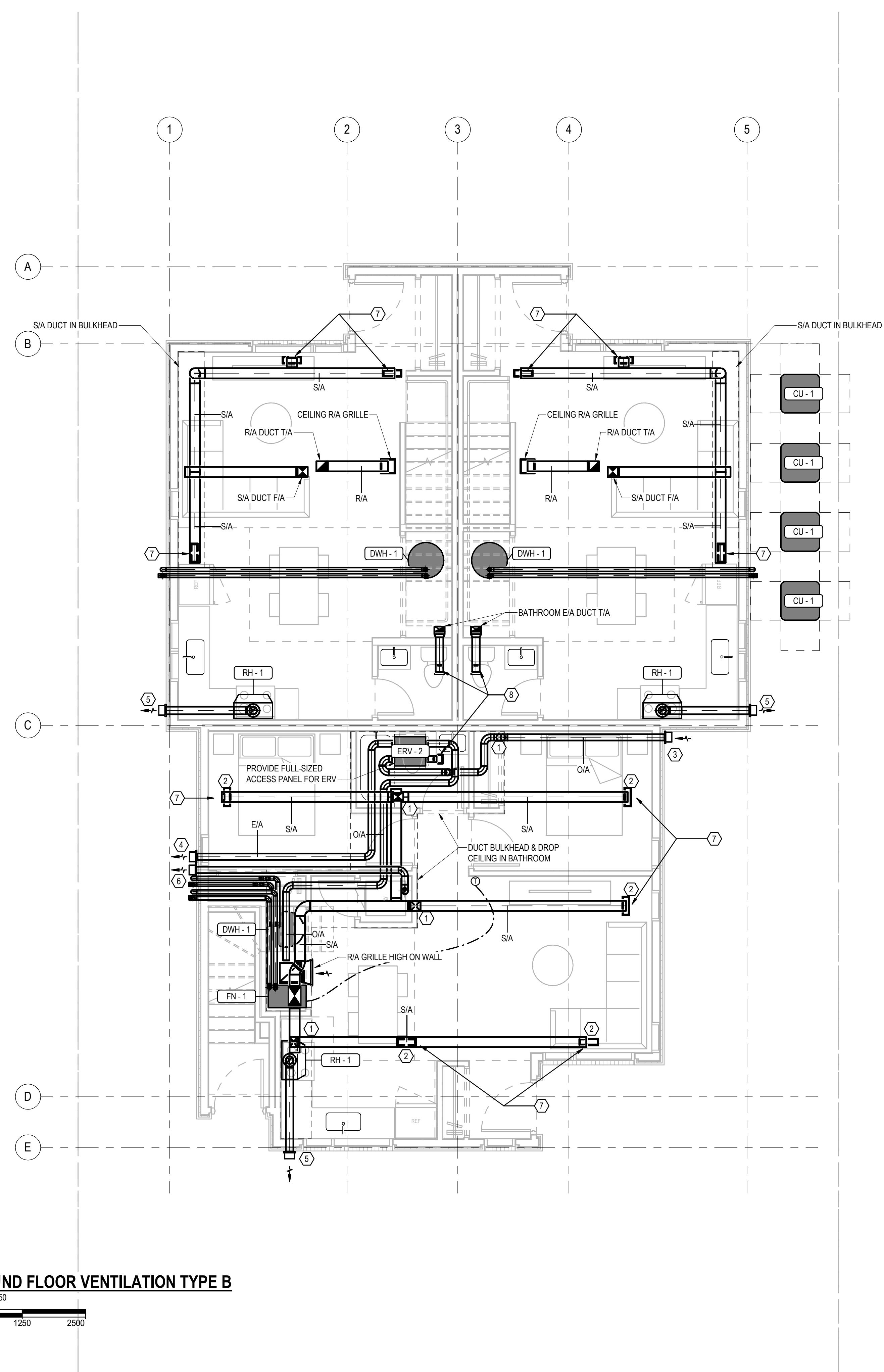
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VENTILATION GENERAL NOTES

1 SUPPLY AIR GRILLES TO BE COMPLETE WITH INTEGRAL OPPOSED-BLADE DAMPER FOR BALANCING.

M201 KEYNOTES

1 PROVIDE FIRE DAMPER AT DUCT PENETRATION INTO RATED JOIST SPACE
 2 PROVIDE FIRE STOP FLAP AT GRILLES IN RATED CEILING
 3 ERV O/A INTAKE - MAINTAIN MINIMUM 1800 CLEARANCE FROM ALL EXHAUSTS/VENTS
 4 ERV E/A OUTLET
 5 RH-1 E/A OUTLET
 6 LAUNDRY E/A OUTLET
 7 S/A GRILLE (CEILING)
 8 BATHROOM E/A GRILLE



1
M201
SCALE: 1:50
0 1250 2500

GROUND FLOOR VENTILATION TYPE B

1 2025-02-21 ISSUED AS PROTOTYPICAL DRAWING
 NO. DATE DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
**GROUND FLOOR
VENTILATION PLAN**

AB Fourplex 02

PROJECT NO: 024-07-769
 SCALE: 1:50

SHEET NO:

M201

DISCLAIMER

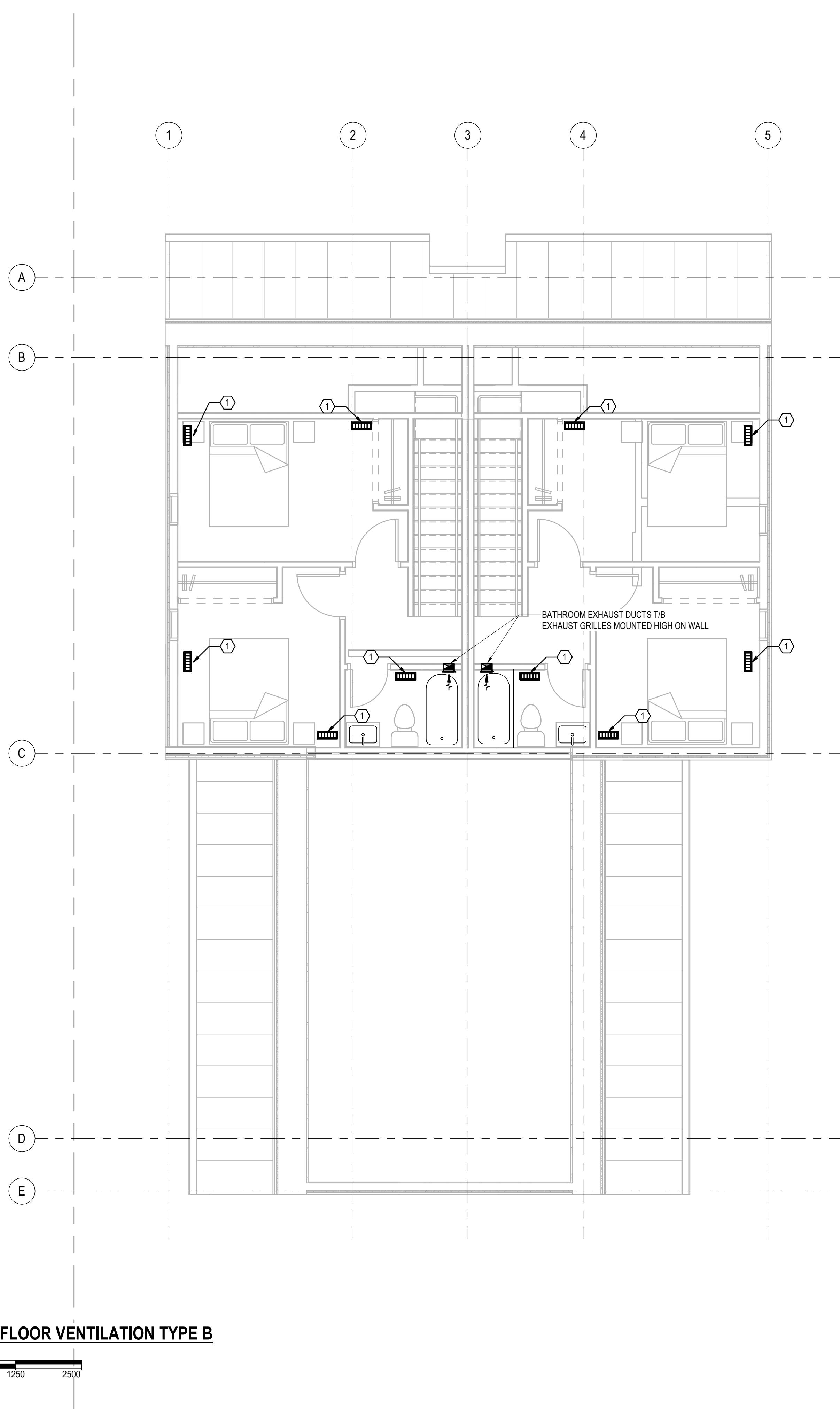
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VENTILATION GENERAL NOTES

1 SUPPLY AIR GRILLES TO BE COMPLETE WITH INTEGRAL OPPOSED-BLADE DAMPER FOR BALANCING.

M203B KEYNOTES

1 S/A GRILLE (FLOOR)



1
M203
THIRD FLOOR VENTILATION TYPE B
SCALE: 1:50
0 1250 2500



1 2025-02-21 ISSUED AS PROTOTYPICAL DRAWING
NO. DATE DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN
CATALOGUE

Project Address

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
THIRD FLOOR
VENTILATION PLAN

AB Fourplex 02

PROJECT NO: 024-07-769
SCALE: 1:50

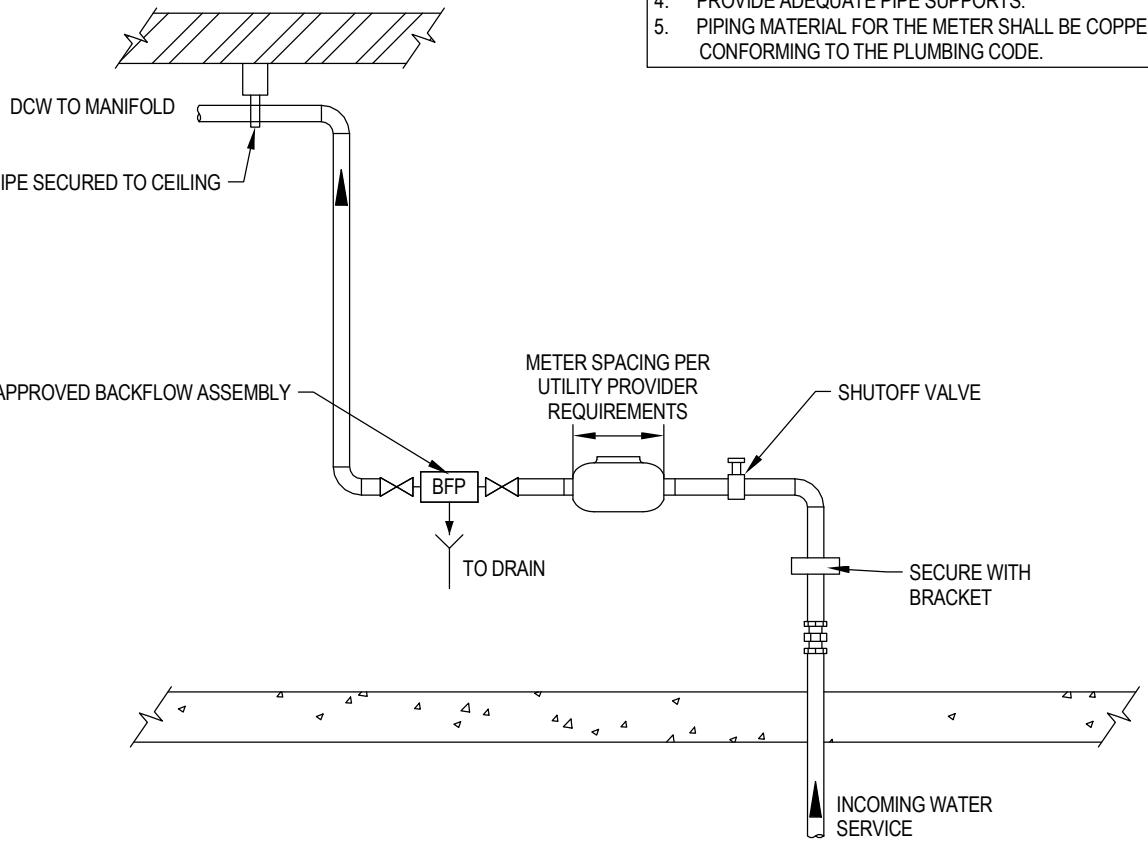
SHEET NO:

M203

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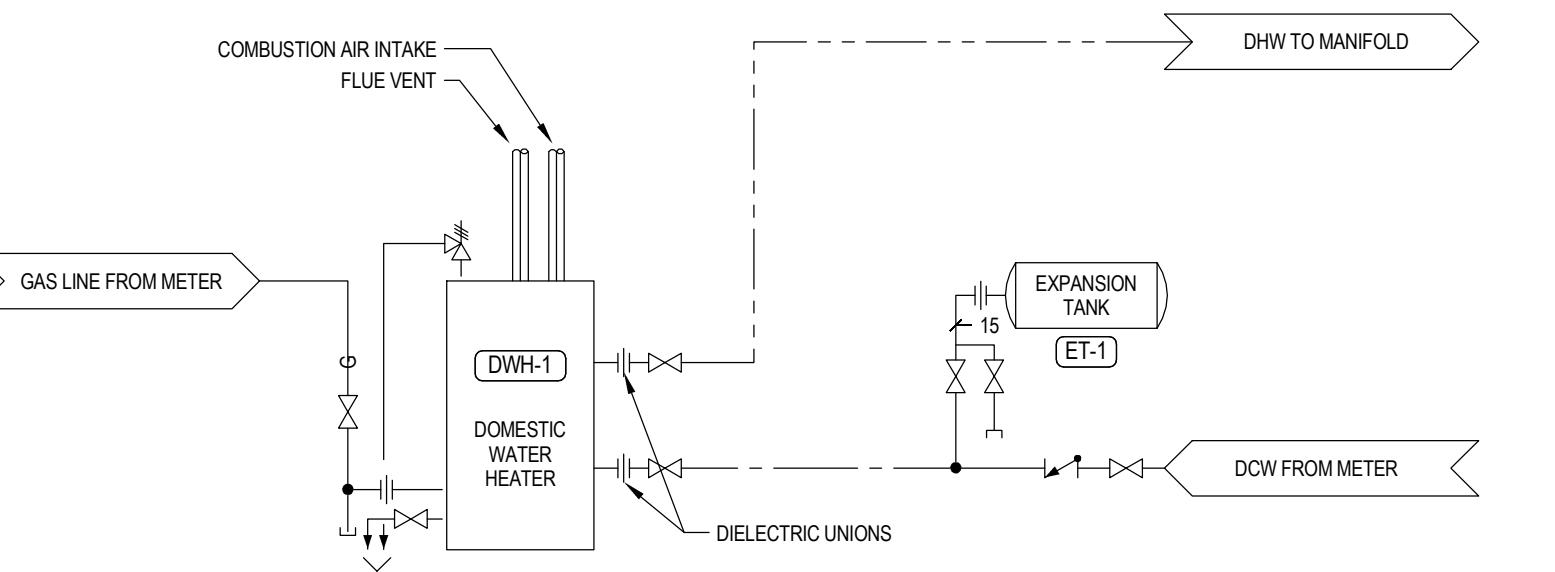
GENERAL NOTES:

1. SPACE FOR METER INSTALLATION TO BE AS REQUIRED BY UTILITY PROVIDER
2. APPROVED BACKFLOW ASSEMBLY, APPROPRIATE FOR THE HAZARD CLASSIFICATION MUST BE INSTALLED WITHIN 3m OF SERVICE ENTRY
3. PROVIDE A SUITABLE SITE FOR THE WATER METER AT A HORIZONTAL SETTING, WITHIN 2m OF POINT OF ENTRY FOR THE WATER SERVICE CONNECTION INSIDE THE BUILDING
4. PROVIDE APPROVED PIPE SUPPORTS
5. PIPING MATERIAL FOR THE METER SHALL BE COPPER OR STAINLESS STEEL CONFORMING TO THE PLUMBING CODE



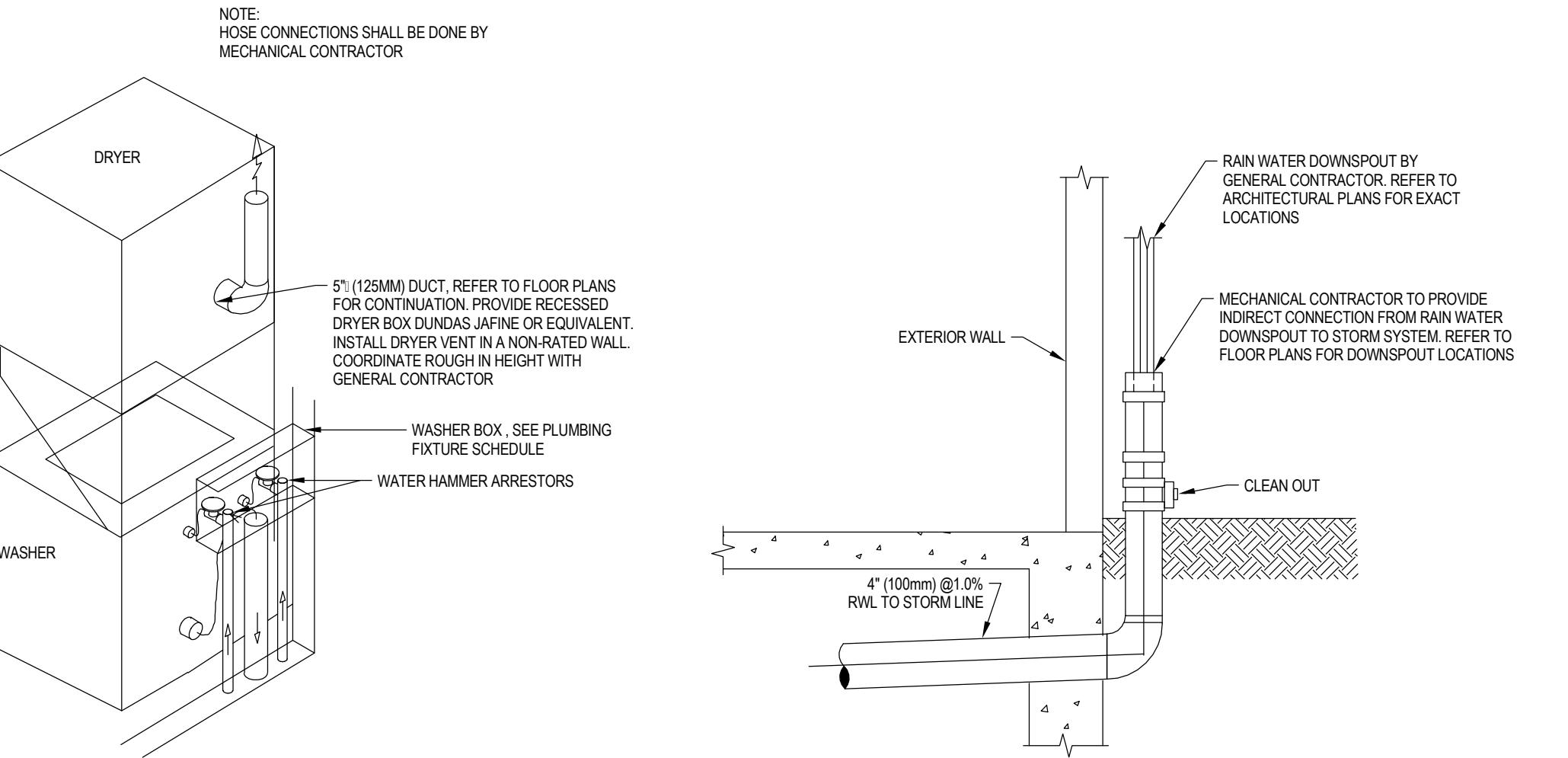
TYPICAL WATER METER INSTALLATION

SCALE: N.T.S



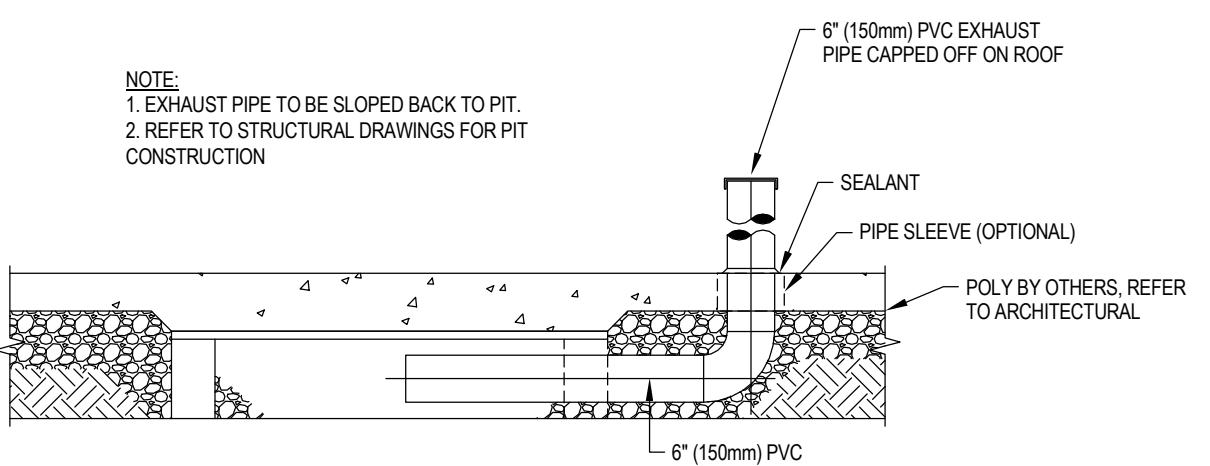
TYPICAL DOMESTIC WATER HEATER INSTALLATION

SCALE: N.T.S



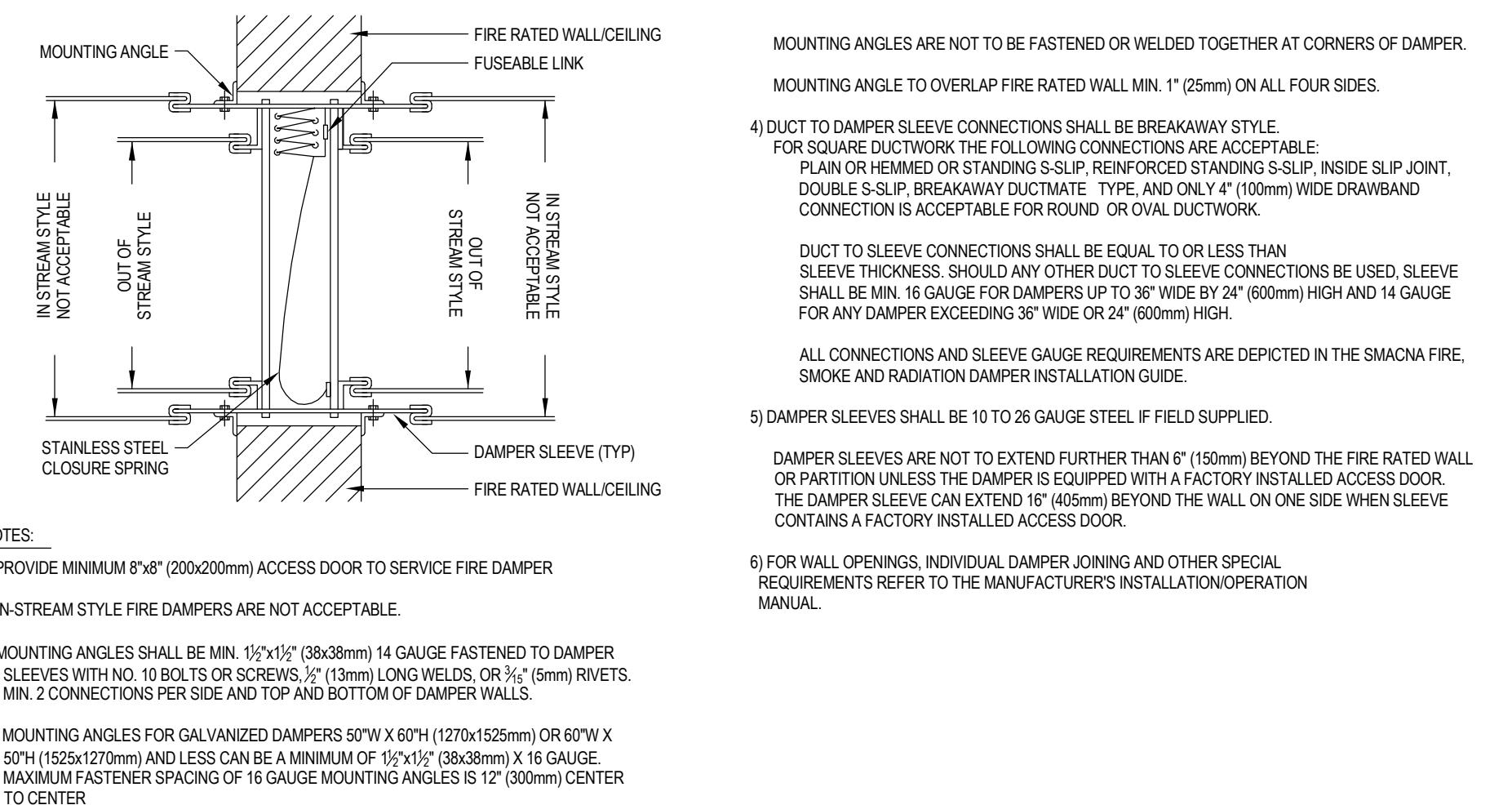
TYPICAL WASHER & DRYER ROUGH-IN DETAIL

SCALE: N.T.S



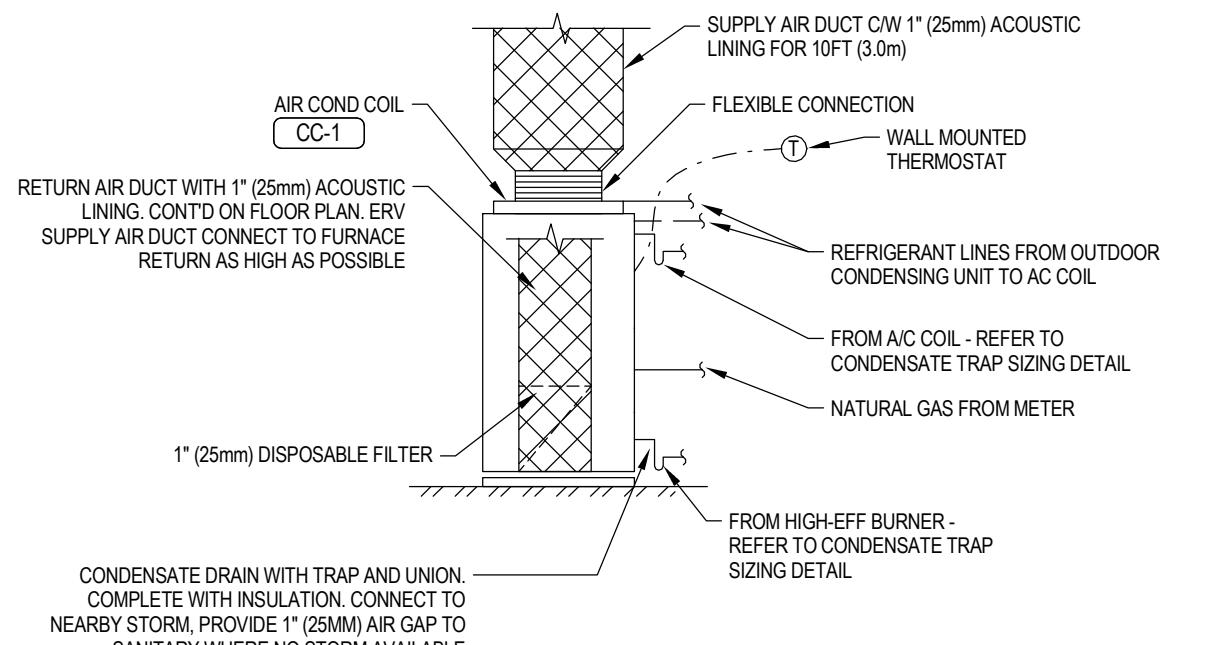
RADON SUCTION PIT PIPING DETAIL

SCALE: N.T.S



FIRE DAMPER DETAIL

SCALE: N.T.S



GAS FURNACE WITH AIR COND COIL DETAIL

SCALE: N.T.S

1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING DESIGN CATALOGUE

Project Address

NOT FOR PERMIT OR CONSTRUCTION

SHEET TITLE:
MECHANICAL SCHEMATICS & DETAILS

PROJECT NO: 024-07-769
 SCALE:

SHEET NO:

M300

DISCLAIMER

This design was created for use solely as part of the CMHC Housing Design Catalogue. It is a sample of standardized housing design, reflecting general design intention only and does not incorporate any elements of other information specific to any location or project. This design is provided for illustrative purposes only and must not be used for construction or permitting purposes. In using this design, you are responsible for your compliance with the Terms and Conditions, including but not limited to engaging the services of a Qualified Professional.

BASE OPTION - PRIMARY GAS-FIRED FURNACE WITH AIR CONDITIONING
FURNACE SCHEDULE

TAG	AFUE (%)	BLOWER MOTOR TYPE	GAS VALVE TYPE	FUEL	COOLING COIL	NOTES
FN-1	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	CC-1	1,2
FN-2	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	CC-2	1,2

NOTES:
1. FURNACE TO BE SUPPLIED WITH 24V 7-DAY PROGRAMMABLE THERMOSTAT WITH FAN-ON MODE
2. ALL CONDENSING APPLIANCES: INTAKE AND FLUE PIPING TO BE RUN INDEPENDENTLY TO EXTERIOR OF BUILDING, OBSERVE REQUIRED SPACING PER MANUFACTURER AND CODE REQUIREMENTS. CONCENTRIC VENT KITS NOT ACCEPTABLE. PIPE PENETRATIONS TO EXTERIOR TO BE C/W BIRDSCREEN, NO PIPE CAP TO BE PROVIDED FOR VENT PIPING. PROVIDE CONDENSATE NEUTRALIZATION KIT FOR ALL CONDENSATE DRAINAGE POINTS. INSTALL CONDENSATE NEUTRALIZER C/W BYPASS WHERE REQUIRED.

ALTERNATE OPTION 1 - PRIMARY COLD-CLIMATE AIR SOURCE HEATPUMP WITH SUPPLEMENTARY GAS HEATING
FURNACE SCHEDULE

TAG	AFUE (%)	BLOWER MOTOR TYPE	GAS VALVE TYPE	FUEL	HEATING/COOLING COIL	NOTES
FN-1	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	HP-1	1,2,3
FN-2	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	HP-2	1,2,3

NOTES:
1. FURNACE TO BE SUPPLIED WITH 24V 7-DAY PROGRAMMABLE THERMOSTAT WITH FAN-ON MODE
2. ALL CONDENSING APPLIANCES: INTAKE AND FLUE PIPING TO BE RUN INDEPENDENTLY TO EXTERIOR OF BUILDING, OBSERVE REQUIRED SPACING PER MANUFACTURER AND CODE REQUIREMENTS. CONCENTRIC VENT KITS NOT ACCEPTABLE. PIPE PENETRATIONS TO EXTERIOR TO BE C/W BIRDSCREEN, NO PIPE CAP TO BE PROVIDED FOR VENT PIPING. PROVIDE CONDENSATE NEUTRALIZATION KIT FOR ALL CONDENSATE DRAINAGE POINTS. INSTALL CONDENSATE NEUTRALIZER C/W BYPASS WHERE REQUIRED.
3. PRIMARY HEATING TO BE PROVIDED BY HEAT PUMPS HP-1/2, GAS HEATING TO BE SECOND-STAGE HEAT.

CONDENSING UNIT SCHEDULE

TAG	COMPRESSOR STAGES	REFRIGERANT	SERVES	SEER
CU-1	1	R410A	FN-X	17.0

ENERGY RECOVERY VENTILATOR SCHEDULE

TAG	LOCATION	TYPE	SENSIBLE EFFICIENCY (%)	SUPPLY FAN			EXHAUST FAN			ELECTRICAL (V/Ph/Hz)	NOTES
				AIRFLOW (CFM)	MOTOR (HP)	ESP (in.W.G.)	AIRFLOW (CFM)	MOTOR (HP)	ESP (in.W.G.)		
ERV-1	1-BEDROOM UNITS	ENTHALPY CORE	67.0	45	FRAC	0.40	45	FRAC	0.40	120/160	1,2
ERV-2	2-BEDROOM UNITS	ENTHALPY CORE	67.0	50	FRAC	0.40	50	FRAC	0.40	120/160	1,2
ERV-3	3-BEDROOM UNITS	ENTHALPY CORE	67.0	60	FRAC	0.40	60	FRAC	0.40	120/160	1,2
ERV-4	4-BEDROOM UNITS	ENTHALPY CORE	67.0	75	FRAC	0.40	75	FRAC	0.40	120/160	1,2

NOTES:
1. ERV CONTROL:
ERV CENTRAL SWITCH (ON/OFF) FOR LOW SPEED LOCATED AND LABELLED AS 'VENTILATION FAN' LOCATED BESIDE FN TSTAT
PROVIDE TIMER SWITCHES IN ALL WASHROOMS.
2. PROVIDE BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST AIR DUCTS

COOLING COIL SCHEDULE

TAG	SERVES	CONDENSING UNIT	REFRIGERANT	SEER	NOTES
CC-1	FN-1	CU-1	R410A	17.0	1,2
CC-2	FN-2	CU-1	R410A	17.0	1,2

NOTES:
1. PROVIDE INDIRECT CONNECTION TO DRAIN
2. COIL TO BE HEAT RESISTANT

DOMESTIC WATER HEATER SCHEDULE (GAS)

TAG	LOCATION		ENERGY FACTOR	NOTES
DWH-1	WATER HEATER CLOSET		0.7	1,2,3

NOTES:
1. LOCATE FLOOR DRAIN IN WATER HEATER ROOM NEAR T&P VALVE
2. ALL CONDENSING APPLIANCES: INTAKE AND FLUE PIPING TO BE RUN INDEPENDENTLY TO EXTERIOR OF BUILDING, OBSERVE REQUIRED SPACING PER MANUFACTURER AND CODE REQUIREMENTS. CONCENTRIC VENT KITS NOT ACCEPTABLE. PIPE PENETRATIONS TO EXTERIOR TO BE C/W BIRDSCREEN, NO PIPE CAP TO BE PROVIDED FOR VENT PIPING. PROVIDE CONDENSATE NEUTRALIZATION KIT FOR ALL CONDENSATE DRAINAGE POINTS. INSTALL CONDENSATE NEUTRALIZER C/W BYPASS WHERE REQUIRED.
3. PROVIDE DRAIN PAN.

FAN SCHEDULE

TAG	TYPE	FUNCTION	LOCATION	AIR CAPACITY (CFM)	ESP (in.W.C.)	MOTOR (HP)	_SOUND LEVEL (SONES)	ELECTRICAL (V/Ph/Hz)	DRIVE
RH-1	UNDER CABINET	RANGE HOOD	KITCHEN (TYPICAL)	100	0.25	FRAC	6.5	115/160	DIRECT

PLUMBING FIXTURE PIPE SIZE SCHEDULE

TAG	DCW		DHW		DRAIN		VENT		DRAIN UNDERGROUND	
	in	mm	in	mm	in	mm	in	mm	in	mm
WC (TANK)	1/2	15	-	-	3	75	1 1/2	40	3	75
LAV	1/2	15	1/2	15	1 1/2	40	1 1/4	30	2	50
SK	1/2	15	1/2	15	1 1/2	40	1 1/4	30	2	50
SH	1/2	15	1/2	15	2	50	1 1/2	40	2	50
BT	1/2	15	1/2	15	1 1/2	40	1 1/4	30	2	50
FD	-	-	-	-	4	100	1 1/2	40	4	100
HB	3/4	20	-	-	-	-	-	-	-	-
CW (DOM.)	1/2	15	1/2	15	2	50	1 1/2	40	2	50

NOTES:
1. REFER TO MANUFACTURER'S SPECIFICATIONS

ALTERNATE OPTION 1 - PRIMARY COLD-CLIMATE AIR SOURCE HEATPUMP WITH SUPPLEMENTARY GAS HEATING
FURNACE SCHEDULE

TAG	AFUE (%)	BLOWER MOTOR TYPE	GAS VALVE TYPE	FUEL	HEATING/COOLING COIL	NOTES
FN-1	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	HP-1	1,2,3
FN-2	96.3	VARIABLE SPEED ECM	2-STAGE	NATURAL GAS	HP-2	1,2,3

NOTES:
1. FURNACE TO BE SUPPLIED WITH 24V 7-DAY PROGRAMMABLE THERMOSTAT WITH FAN-ON MODE
2. ALL CONDENSING APPLIANCES: INTAKE AND FLUE PIPING TO BE RUN INDEPENDENTLY TO EXTERIOR OF BUILDING, OBSERVE REQUIRED SPACING PER MANUFACTURER AND CODE REQUIREMENTS. CONCENTRIC VENT KITS NOT ACCEPTABLE. PIPE PENETRATIONS TO EXTERIOR TO BE C/W BIRDSCREEN, NO PIPE CAP TO BE PROVIDED FOR VENT PIPING. PROVIDE CONDENSATE NEUTRALIZATION KIT FOR ALL CONDENSATE DRAINAGE POINTS. INSTALL CONDENSATE NEUTRALIZER C/W BYPASS WHERE REQUIRED.
3. PRIMARY HEATING TO BE PROVIDED BY HEAT PUMPS HP-1/2, GAS HEATING TO BE SECOND-STAGE HEAT.

CONDENSING UNIT SCHEDULE

TAG	COMPRESSOR STAGES	REFRIGERANT	SERVES	SEER
CU-1	1	R410A	FN-X	17.0

NOTES:
1. OUTDOOR UNIT C/W ULTRA-LOW AMBIENT KIT, RATED TO -40°C/F

ENERGY RECOVERY VENTILATOR SCHEDULE

TAG	LOCATION	TYPE	SENSIBLE EFFICIENCY (%)	SUPPLY FAN			EXHAUST FAN			ELECTRICAL (V/Ph/Hz)	NOTES

A. GENERAL REQUIREMENTS

1. Include all labour, material and equipment required for the installation, testing and placing into operation complete mechanical systems in accordance with the plans and specifications. Installation to conform with all applicable codes and standards and to the satisfaction of the authorities having jurisdiction.
2. Contract documents are diagrammatic only. They are to establish scope, material, and quality. They are not detailed installation drawings. Minor details usually not shown or specified, and any incidental accessories required for proper installation of the system, are to be included in the work. Pipes and ductwork shall be installed in such a way as to conserve head room and interfere as little as possible with free use of the space through which they pass. All pipes and ductwork which are to be concealed shall be installed neatly and closely to the building structure so that the necessary furring can be kept as small as possible. Supply all miscellaneous metals, such as anchor bolts, expansion bolts, hanger inserts, angles, bars, plates, brackets that are related to the mechanical system installation.
3. Be responsible for the establishment of all grades and elevations in connection with mechanical equipment, ductwork, piping, drains, etc.
4. Follow the recommended installation details and procedures for all equipment as found in suppliers technical data, supplemented by details given herein by these specifications or the drawings. Where indicated in the equipment schedules, include for a factory trained service technicians attendance on the site to participate in the start up and commissioning, including controls verification, certify the installation, verify the performance, provide maintenance and operating instructions and submit a report.

B. PIPING

1. Contractor to coordinate the building system installation with the site work. Be responsible for setting grades and confirm all elevations prior to installation.
2. Hangers and supports shall secure pipe in place, maintain grade by adjustment, provide for expansion and appear neat. Install supports of strength and rigidity to suit loading without unduly stressing the structure. Hangers for piping shall be adjustable ring or clevis type. Steel for ferrous piping and copper for copper piping. Trapeze type hangers may be used where several pipes run at the same elevation. Provide isolation between copper pipe and steel hangers. Use of perforated band strap hangers is not acceptable in non-combustible construction. Use of perforated band strap hangers is acceptable in wood frame construction for Code Group 'C' residential projects. Perforated band strap hangers shall only be permitted to support individual pipes by wrapping around the pipe, secured with a bolt, and securely fastened to the building structure. Provide C-Clamp for fastening hangers to joist or install hanger rods in roof structure as approved by the Consultant. Pipe hangers shall be spaced at maximum intervals as noted in the local building code according to pipe material and size. Pipe under the building in the fill shall be supported continuously, by bedding in sand. For piping below structural slabs on grade, provide stainless steel hangers.
3. Piping - the following specification indicates the piping and fittings that may be utilized for the project. The Contractor shall submit manufacturer shop drawings for the piping and fittings proposed for use on the project. Contractor to confirm specific manufacturer, application, and installation requirements and warranty limitations prior to selecting and installing a particular product. Contractor to ensure all materials are in accordance with the applicable code requirements relating to material flame spread and smoke development, use of combustible materials, and use of materials in and penetrating fire-rated assemblies.
 - a) Plumbing drainage, venting, water, and natural gas piping:
Materials and application permitted for use on this project shall be in strict accordance with the applicable plumbing, and gas codes that govern the project installation permits. PEX piping to be chlorine resistant MDC 5.
 - b) Refrigerant:
ACR copper
Wrought copper, Brazed
Cast copper, Brazed
 - c) Equipment Drains & Overflows:
Galvanized steel, Schedule 40, ASTM A53 only
Copper water tube, Type M, drawn temper
Galvanized, Screwed
Cast brass
Wrought copper, bronze, Soldered 50-50 tin-antimony
4. Provide and set cleanouts for house drains in all straight runs of sewers, at the end of all branches, at the base of all riser lines, on all exposed or accessible traps (except water closets) further at the entry of the building at all points in the system where so indicated or called for, or where necessary to remove obstruction. Provide brass ring and cover to suit floor finish. Install cleanouts in accessible locations.
5. Provide DCW, DHW, & Sanitary connections to all plumbing fixtures as listed in the Plumbing Fixture Pipe Size Schedule.
6. Every fixture shall have its own isolation valves, trap and vent in accordance with local plumbing regulations. All vents shall extend to a minimum of 6" (150 mm) above finished roof.
7. Sleeves shall be provided by the Mechanical Contractor for all pipes passing through fire-rated walls and floors, and potentially wet floors. Sleeves shall be standard weight steel pipe or 18 gauge (1.2 mm) galvanized steel.
8. Provide roof and floor drains where indicated on drawings and as per equipment schedules.
9. Isolate steel and copper pipe with dielectric couplings. Where bronze bodied valves isolate steel and copper pipe, no insulated couplings are required.
10. Provide valves in accordance with the following schedule, valve to be manufactured and certified for the service application.

INSULATION

Provide insulation for ducts and piping as specified below and in accordance with TIAC guidelines. All insulating material, flexible connectors, combustible coverings, etc., shall have flame spread ratings and smoke development classification not exceeding current code requirements. Provide canvas recovery jacket on all indoor exposed insulation. Aluminum or PVC recovery in wet areas or when exposed to the elements or subject to damage. Foil-faced vapour insulation on supply ducts, cold ducts and cold pipes. Provide insulation to the following standards throughout the building:

Duct Service & Equipment

<u>Duct Service & Equipment</u>		<u>Insulation in.(mm)</u>
Outdoor Air Intake, Combustion Air, Relief Air		2 (50)
Exhaust Duct (within 10' (3 m) of exterior openings)		1 (25)
Ducts exposed to outdoors		2 (50)
Acoustic Lining	(minimum, where indicated on plans)	1 (25)
	(where indicated & noted on plans)	2 (50)
<u>Piping Service & Equipment</u>		<u>Nominal Sizes</u>
		<u>Insulation in.(mm)</u>
Storm Sewer & Vents (minimum 6' (2 m) section from roof and entire horizontal to first vertical drop)	All Sizes	1 (25)
Domestic Cold Water	All Sizes	1 (25)
Domestic Hot Water & Recirculation	2 (50) and smaller 2½ (65) and larger	1 (25) 1½ (40)
Refrigerant (Armaflex insulation)	All Sizes	½ (15)

CONTROLS AND INTERFACE WITH THE ELECTRICAL CONTRACTOR

Supply the Electrical Contractor with information necessary to accurately locate motors and any control devices that require wiring by the Electrical Contractor. Coordinate with the Electrical Contractor the electrical requirements for all mechanical equipment. Confirm the voltage and phase with the Electrical Contractor prior to ordering of equipment and submission of shop drawings. Be responsible for any additional electrical costs resulting from alternative mechanical equipment being supplied. Provide the Electrical Contractor with a motor list based on the coordinated electrical connection requirements and the shop drawings. Include in the motor list a complete inventory of all equipment and systems that require electrical connections. Include the equipment tag number, location, motor HP or kW, voltage, phase, starter and control requirements and interlocks. The Engineers design motor list can be made available, for information purposes only, upon request.

All electric/electronic controls devices by the Mechanical Contractor and/or their sub-trades. All conduit & wiring by the Electrical Contractor:

- Mechanical Contractor or their sub-contractors or equipment suppliers to provide all control devices. Wiring of low and line voltage related to the mechanical controls to be by the Electrical Contractor.
- Provide shop drawings c/w product data for all devices, valve and damper schedules, wiring schematics and operational description for all equipment that is provided with automatic control.
- Devices and control equipment to be as detailed below or as specified in the equipment schedules.
- Mechanical Contractor to verify the operation of all systems and equipment. Calibrate all control devices.

on all exposed or accessible traps (except water closets) further at the entry of the building at all points in the system where so indicated or called for, or where necessary to remove obstruction. Provide brass ring and cover to suit floor finish. Install cleanouts in accessible locations.

5. Provide DCW, DHW, & Sanitary connections to all plumbing fixtures as listed in the Plumbing Fixture Pipe Size Schedule.
6. Every fixture shall have its own isolation valves, trap and vent in accordance with local plumbing regulations. All vents shall extend to a minimum of 6" (150 mm) above finished roof.
7. Sleeves shall be provided by the Mechanical Contractor for all pipes passing through fire-rated walls and floors, and potentially wet floors. Sleeves shall be standard weight steel pipe or 18 gauge (1.2 mm) galvanized steel.
8. Provide roof and floor drains where indicated on drawings and as per equipment schedules.
9. Isolate steel and copper pipe with dielectric couplings. Where bronze bodied valves isolate steel and copper pipe, no insulated couplings are required.
10. Provide valves in accordance with the following schedule, valve to be manufactured and certified for the service application.

<u>Function</u>	<u>Type</u>	<u>Size</u>	<u>Remarks</u>
Isolation	Ball	Up to 3"(75mm)	Cast bronze, full port, seals to suit application, solder or threaded ends

11. Install all piping to allow for expansion and contraction. Provide flexible pipe connections, expansion joints and compensators, pipe loops, swing joints, and offsets.
12. Provide backflow prevention devices in conformance with CSA B64 and local Codes on all hose connections and on all domestic water connections where required.
13. Where required by Authorities, ensure that all service water lines over 1½" (40 mm) are flushed and cleaned and that a sample is submitted to a certified Lab for bacterial testing. Send copy of test results to the Consultant.
14. Flush all domestic water piping within the building for sufficient time to remove all contaminants.
15. Provide a minimum of 2% slope of pipe on sanitary and storm drainage piping, unless noted otherwise on drawings.
16. Test all piping systems in accordance with industry standards. Hydro test all liquid systems; air or nitrogen test gas systems. Test to minimum 1½ times operation pressure for a minimum of 2 hours, or as required by code.
17. On all domestic systems equip low points with 20 mm (3/4") drains consisting of a ball valve and hose nipple.
18. Protect all metal pipes from contact with corrosive material.

C DUCTWORK

1. Provide all venting and chimneys from all gas fired equipment, as required in accordance with CSA standards for the applicable venting category and local codes. Provide venting materials required to suit the specific equipment application, as per manufacturer's venting guidelines.
2. Ducts shall be constructed of galvanized sheet metal sufficiently braced to prevent rattling or leaking. Duct systems shall be complete of sizes shown. If not shown, of sizes required to produce capacity of equipment installed. Properly support ducts with galvanized hangers. Gauges, joints, bracing and hangers shall be in accordance with the SMACNA Manual latest edition. Medium velocity and exposed round ductwork to be spiral lock seam type only. Ductwork in interior exposed areas intended to be painted shall be satin finish.
3. Low velocity insulated flexible ductwork shall be equal to Thermaflex Type M-KC. Connect air outlets to low pressure ducts with 36" (900 mm) maximum length of stretched flexible duct. Hold in place with caulking compound and strap or clamp. Do not kink or pinch cross sectional area. Where low pressure ducts are connected to fan equipment, terminal boxes or any other apparatus, a screwed or bolted flexible gasket joint shall be provided between the ductwork and the equipment, minimum 2" (50 mm) wide.
4. Provide all necessary anchors and guides to permit free expansion and contraction of ducts. Hangers and supports for covered ducts shall not injure or pierce the insulation.
5. Duct sizes shown on the drawings are inside clear dimensions. If ducts are acoustically lined, the outside size shall be increased accordingly. All ducts shall be complete within themselves and no single partition between ducts will be accepted.
6. Unless noted otherwise, provide birdscreen on all open ended ducts to the following sizes:

Open Ended Duct Application

<u>Open Ended Duct Application</u>	<u>Birdscreen Size in.(mm)</u>
Exterior exhaust outlets (gooseneck or wall hood)	1 (25)
Exterior intakes	2 (50)
Interior open ended ducts	1 (25)

7. All laps shall be smooth and in the direction of air flow. Sheet metal screws shall be accepted on low pressure ductwork only.
8. Unless otherwise indicated, all tees, bends and elbows shall be constructed with a radius of not less than $1\frac{1}{2}$ times the width of the duct on centerline.
9. All rectangular ducts shall be constructed by breaking the corners and grooving longitudinal seams using the Pittsburgh-seam or other approved airtight seam. All elbow and transformation pieces shall be constructed using Pittsburgh corner seams or double seam corners. All slips shall not be less than one gauge heavier than the duct material and flange joints may be considered as girth reinforcing. Open corners will not be accepted. All ductwork joints shall be sealed with approved type products based on SMACNA manual for each pressure class. Duct tape as a sealing method is not acceptable.
10. Provide balancing dampers c/w indicators at all points on supply and return and exhaust systems where branches are taken from larger ducts, also where indicated on the drawings and required for proper air balance.
11. Provide ULC labeled and approved fire dampers at all points where ductwork penetrates fire rated assemblies. Fire dampers to be curtain type. Provide dampers suitable for the application (vertical or horizontal) and rating. Static or dynamic type as required. Provide approved fire stop flaps where outlets penetrate a membrane ceiling forming part of a fire rated assembly. Dampers are to be installed according to the manufacturer's instructions.
12. Wall hoods to be aluminum. Back draft dampers to be provided for exhaust wall hoods. Refer to drawings for duct connection sizes.

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1	2025-02-21	ISSUED AS PROTOTYPICAL DRAWING

PROJECT: CMHC HOUSING DESIGN CATALOGUE

THE INFLUENCE OF CULTURE ON LANGUAGE

**NOT FOR PERMIT
OR CONSTRUCTION**

SHEET TITLE:
MECHANICAL
SPECIFICATIONS

PROJECT NO: 024-07-769

SCALE:

SHEET NO:

M500

CMHC HOUSING DESIGN CATALOGUE

AB FOURPLEX 02

ELECTRICAL DRAWINGS

ACCESSIBILITY - GENERAL NOTES	
1. THE FOLLOWING REQUIREMENTS ARE REFERENCED FROM CSA B652 - ACCESSIBILITY STANDARDS CANADA (ASC).	
2. CLAUSE 4.3.3-b)-ii - PARKING AND GARAGES:	
<ul style="list-style-type: none"> a) ILLUMINATION IS TO BE PROVIDED FOR ANY EXTERIOR MOTION SENSOR CONTROLS. b) WHERE VISUAL DISPLAYS ARE REQUIRED TO BE READ, DISPLAYS ARE REQUIRED TO BE ILLUMINATED TO ACHIEVE A MINIMUM OF 200LX ON SIGNAGE. c) WHERE DISPLAYS ARE NOT REQUIRED TO BE READ OR BACKLIGHTING HAS BEEN ACHIEVED, ILLUMINATION BETWEEN 50LX AND 100LX IS NECESSARY ON SIGNAGE. 	
3. CLAUSE 4.3.5.1-b) - GENERAL - OPERATING CONTROLS:	
<ul style="list-style-type: none"> a) WHERE VISUAL DISPLAYS ARE REQUIRED TO BE READ, DISPLAYS ARE REQUIRED TO BE ILLUMINATED TO ACHIEVE A MINIMUM OF 200LX ON SIGNAGE. b) WHERE DISPLAYS ARE NOT REQUIRED TO BE READ OR BACKLIGHTING HAS BEEN ACHIEVED, ILLUMINATION BETWEEN 50LX AND 100LX IS NECESSARY ON SIGNAGE. 	
4. CLAUSE 4.3.5.1-e) - GENERAL ILLUMINATION: MINIMUM LIGHTING LEVELS (4.8), REFER TO THE FOLLOWING REQUIREMENTS:	
<ul style="list-style-type: none"> a) GENERAL ILLUMINATION: 50LX AT FLOOR LEVEL b) KITCHEN BUILT-IN: 300LX, COUNTER TOP: 75LX c) ADULT BEDROOM: 100-300LX, READING DESK: 500LX d) CHILD BEDROOM: 500LX, READING DESK: 800LX e) BATHROOM: 300LX, MIRROR (VERTICAL): 300-700LX f) LIVING ROOM: 300LX, READING: 500LX g) FAMILY ROOM / THEATRE: 300LX (150LX FOR TV VIEWING), READING / TABLE: 500LX h) LAUNDRY / UTILITY: 200LX, COUNTERTOP: 300LX i) DINING ROOM: 200LX j) HALLWAY, STAIRS: 100-500LX k) HOME OFFICE: 500LX, DESK / READING: 800LX l) GARAGE: 500LX, WORKTABLE: 750LX m) WORKSHOP: 800LX, BENCH: 1100LX n) EXTERIOR PERIMETER: 50LX 	
5. CLAUSE 4.3.5.2 - DOORS:	
<ul style="list-style-type: none"> a) DOOR HARDWARE - ROUGH-IN ELECTRICAL TO BE PROVIDED FOR FUTURE INSTALLATION OF A POWER ASSISTED DOOR AT THE BATHROOM, MAIN ENTRANCE AND GARAGE ENTRANCE. b) CONTROLS FOR POWER-ASSISTED DOORS SHOULD BE LOCATED ALONG THE ACCESSIBLE PATH OF TRAVEL, CLEARLY VISIBLE BEFORE REACHING THE DOOR, ADJACENT TO A CLEAR FLOOR AREA OF 820x1390mm AND BETWEEN 600-1500mm FROM LATCH EDGE OF DOOR. 	
6. CLAUSE 5.9.6 - BATHROOM ILLUMINATION - MINIMUM REQUIREMENTS:	
<ul style="list-style-type: none"> a) BATHROOM: 300LX b) MIRROR TASK LIGHTING: 300-700LX, BE MOUNTED BETWEEN 300-500mm PERPENDICULAR TO THE MIRROR SIDE, AND AT 1000-1700mm. c) BE DIMMABLE BETWEEN 50LX AND 300LX. d) SHOWER OR BATHUB LIGHTING SHALL HAVE AS A MINIMUM, ONE FIXTURE CENTERED IN THE CEILING. 	
7. CLAUSE 5.9.8 - BATHROOM:	
<ul style="list-style-type: none"> 2xGFCI REQUIRED: a) NEXT TO THE SINK 150mm FROM THE FRONT EDGE OF FRONT FACE OF THE VANITY AND b) NEXT TO THE TOILET 150mm FROM THE FRONT EDGE AND 300-600mm AFF. 	
8. CLAUSE 5.10.5 - KITCHEN:	
<ul style="list-style-type: none"> OPERATING CONTROLS SHALL BE: a) ACCESSIBLE b) SWITCHES AND OUTLETS INSTALLED ON FRONT FACES OF COUNTERS c) INCLUDED IN SIDE WALL OUTLETS d) WHERE PROVIDED, RANGE HOODS OPERABLE FROM SEATED POSITION 	
9. CLAUSE 5.11.5 - BEDROOM:	
<ul style="list-style-type: none"> ELECTRICAL: a) SHALL BE ACCESSIBLE b) PROVIDE AT LEAST ONE SWITCH BESIDE BED AT A HEIGHT BETWEEN 550-650mm AFF. c) HAVE TWO WALLS WITH A MINIMUM OF TWO QUAD RECEPTACLES PER WALL d) HAVE OUTLETS PLACED AT A MINIMUM 600mm FROM THE CORNER OF THE ROOM AND A MAXIMUM DISTANCE OF 2000mm BETWEEN EACH 	
10. CLAUSE 5.11.6 - BEDROOM:	
<ul style="list-style-type: none"> OUTLET CONNECTIONS: a) ONE OUTLET FOR COMPUTER NETWORK AT A HEIGHT BETWEEN 400-1100mm AFF, LESS THAN 600mm HORIZONTALLY FROM BED EDGE AND IN A LOCATION WHERE ACCESS IS NOT IMPEDED BY FURNITURE. 	
11. CLAUSE 5.14 - HOME AUTOMATION:	
<ul style="list-style-type: none"> a) USER INTERFACE, PROVIDE MINIMUM 200LX WHERE READING IS NECESSARY. 	
12. CLAUSE 5.16 - ALERT & SIGNAL DEVICES:	
<ul style="list-style-type: none"> a) EMERGENCY ALERT AND SIGNAL DEVICES SHALL BE EQUIPPED TO PROVIDE BOTH VISUAL AND AUDIBLE SIGNALS. 	

ELECTRICAL SYMBOL LEGEND	
NOTE: SOME SYMBOL REFERENCES MAY NOT BE PART OF THIS PROJECT	
LIGHTING	
LINE VOLTAGE SWITCH	RECESSED MOUNTED LIGHT FIXTURE
WALL MOUNT OCCUPANCY SENSOR SWITCH	SURFACE MOUNTED LIGHT FIXTURE
CEILING MOUNT OCCUPANCY SENSOR	SUSPENDED LIGHT FIXTURE
# LOW VOLTAGE SWITCH, # INDICATES BUTTONS	STRIP LIGHT FIXTURE
CEILING MOUNT EXIT SIGN, LINE DENOTES FACE	WALL MOUNTED LINEAR LIGHT FIXTURE
WALL MOUNT EXIT SIGN, LINE DENOTES FACE	WALL MOUNTED LIGHT FIXTURE
EXIT SIGN C/W EMERGENCY HEADS	SURFACE MOUNTED LIGHT FIXTURE
REMOTE EMERGENCY HEADS	RECESSED DOWNLIGHT
BATTERY PACK C/W EMERGENCY HEADS	PENDANT MOUNT LIGHT FIXTURE
HATCH INDICATES EMERGENCY FIXTURE	TRACK LIGHT, NO. OF HEADS AS PER PLANS
LIGHTING SYMBOL ANNOTATIONS:	
PEC PHOTOELECTRIC CELL	D DIMMER
TC TIMELOCK	DT DUAL TECHNOLOGY
NL NIGHTLIGHT (UN-SWITCHED)	VAC VACANCY SENSOR (MANUAL ON, AUTO OFF)
3 3-WAY	FIXTURE POWERED FROM EMERGENCY SOURCE
LV LOW VOLTAGE	EM EMERGENCY BATTERY PACK I.D.
POWER	
DUPLEX RECEPTACLE	SPECIAL RECEPTACLE
QUAD RECEPTACLE	JUNCTION BOX
GFI RECEPTACLE	PAC POLE
SPLIT FED RECEPTACLE	MOTOR
HALF SWITCHED RECEPTACLE	DISCONNECT SWITCH
ISOLATED GROUND RECEPTACLE	MS/D/FD MAGNETIC STARTER / VFD
PEDESTAL MOUNTED RECEPTACLE	SPD SURGE PROTECTION DEVICE
POWER SYMBOL ANNOTATIONS:	
T T-SLOT (20A)	TR TAMPER RESISTANT
WP WEATHERPROOF	U USB CHARGER
DISTRIBUTION	
SURFACE MOUNTED PANELBOARD	UTILITY METER STACK
RECESSED MOUNTED PANELBOARD	UTILITY METER
COMMUNICATIONS BACKBOARD	GROUND BAR
LOW TENSION PANEL / CABINET	TRANSFORMER
DISTRIBUTION SYMBOL ANNOTATIONS:	
MDP MAIN DISTRIBUTION PANEL	LVRC LOW VOLTAGE RELAY PANEL
CDP CENTRAL DISTRIBUTION PANEL	CB COMMUNICATIONS BACKBOARD
MCC MOTOR CONTROL CENTER	TX TRANSFORMER
LOW TENSION	
DATA NETWORK JACK	WAP WIRELESS ACCESS POINT
TELEPHONE JACK	WIFI PROVIDE DATA DROP IN CEILING SPACE
COMBINATION TELEPHONE / DATA JACK	PUSHBUTTON
TELEVISION COAX OUTLET	UP / DOWN / STOP PUSHBUTTON
HDMI OUTLET	CEILING MOUNTED SPEAKER
DOORBELL BUZZER / DOORBELL CHIME	WALL MOUNTED SPEAKER
THERMOSTAT	CO ₂ / NO SENSORS
LOW TENSION SYMBOL ANNOTATIONS:	# NUMBER INDICATES QUANTITY OF CABLES / DROPS AT EACH LOCATION
FIRE ALARM	
HORN	FT HEAT DETECTOR - FIXED TEMPERATURE
HORN STROBE	HEAT DETECTOR - RATE OF RISE
STROBE	SMOKE DETECTOR
MANUAL STATION	SMOKE ALARM (120V)
SPEAKER	SMOKE ALARM CO ₂ COMBINATION
SPEAKER STROBE	END OF LINE RESISTOR
ELECTROMAGNETIC DOOR HOLD OPEN	FIRE ALARM MODULE
FIRE ALARM PANEL	FIRE PHONE
FIRE ALARM SYMBOL ANNOTATIONS:	
# CANDELA RATING FOR STROBE	MM MONITORING MODULE
FACP FIRE ALARM CONTROL PANEL	CM CONTROL MODULE
FAFP FIRE ALARM ANNUNCIATOR PANEL	FS FLOW SWITCH
IM ISOLATOR MODULE	TS TAMPER SWITCH
SECURITY	
MOTION SENSOR	KEY PAD
VISUAL INDICATOR LIGHT	GLASS BREAK
SECURITY SYMBOL ANNOTATIONS:	
CR CARD READER	ML MAGNETIC LOCK
ES ELECTRIC STRIKE	EC ELECTRONIC CLOSER
DC DOOR CONTACT / DOOR POSITION SWITCH	
RTX REQUEST TO EXIT	
ANNOTATIONS	
UNDERGROUND / UNDERSLAB CONDUIT	# KEY NOTE
OVERHEAD / SURFACE MOUNT CONDUIT	DOT ABOVE ANY SYMBOL INDICATES ABOVE
CONDUIT STUB	COUNTER MOUNTING HEIGHT
1 E# DRAWING REFERENCE	□ FLOOR MOUNT DEVICE
1 EX SECTION REFERENCE	○ CEILING MOUNT DEVICE
X# SINGLE LINE DIAGRAM WIRE TAG, Y = WYE, D = DELTA CONFIGURATION	



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1 03/26/25 ISSUED AS PROTOTYPICAL DRAWING
 NO. DATE DESCRIPTION
 PROJECT: CMHC HOUSING CATALOGUE

ADDRESS
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SHEET TITLE: AB FOURPLEX 02 - COVER PAGE

PROJECT NO: 241058

SCALE: 1:1

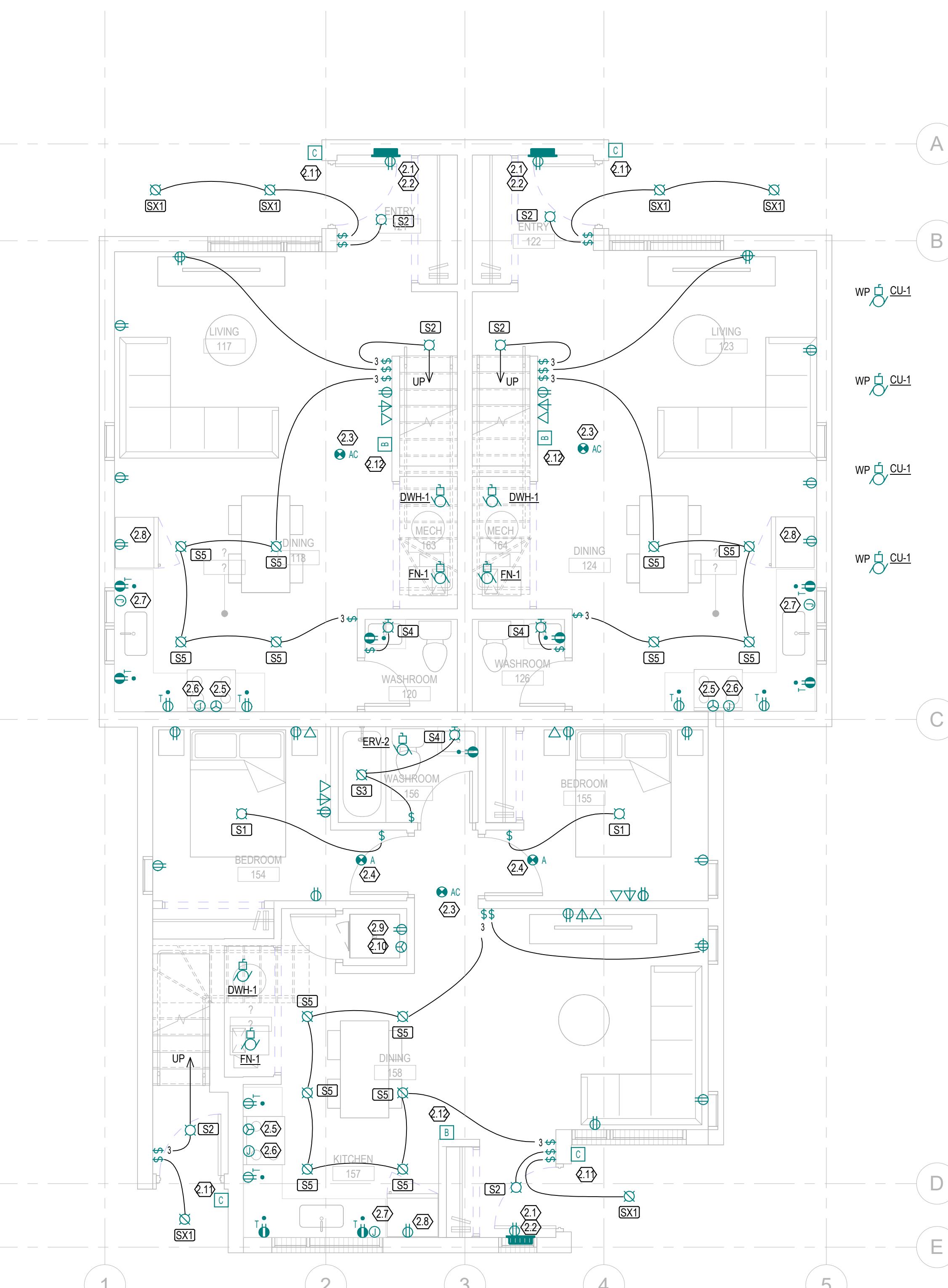
SHEET NO:

E100

ELECTRICAL SHEET LIST	
NO.	SHEET NAME
E100	AB FOURPLEX 02 - COVER PAGE
E201A	AB FOURPLEX 02 - MAIN FLOOR ELECTRICAL PLAN - OPTION 1
E201B	AB FOURPLEX 02 - MAIN FLOOR ELECTRICAL PLAN - OPTION 2
E202	AB FOURPLEX 02 - SECOND FLOOR ELECTRICAL PLAN
E203	AB FOURPLEX 02 - THIRD FLOOR ELECTRICAL PLAN
E300	AB FOURPLEX 02 - DETAILS
E400	AB FOURPLEX 02 - SPECIFICATION

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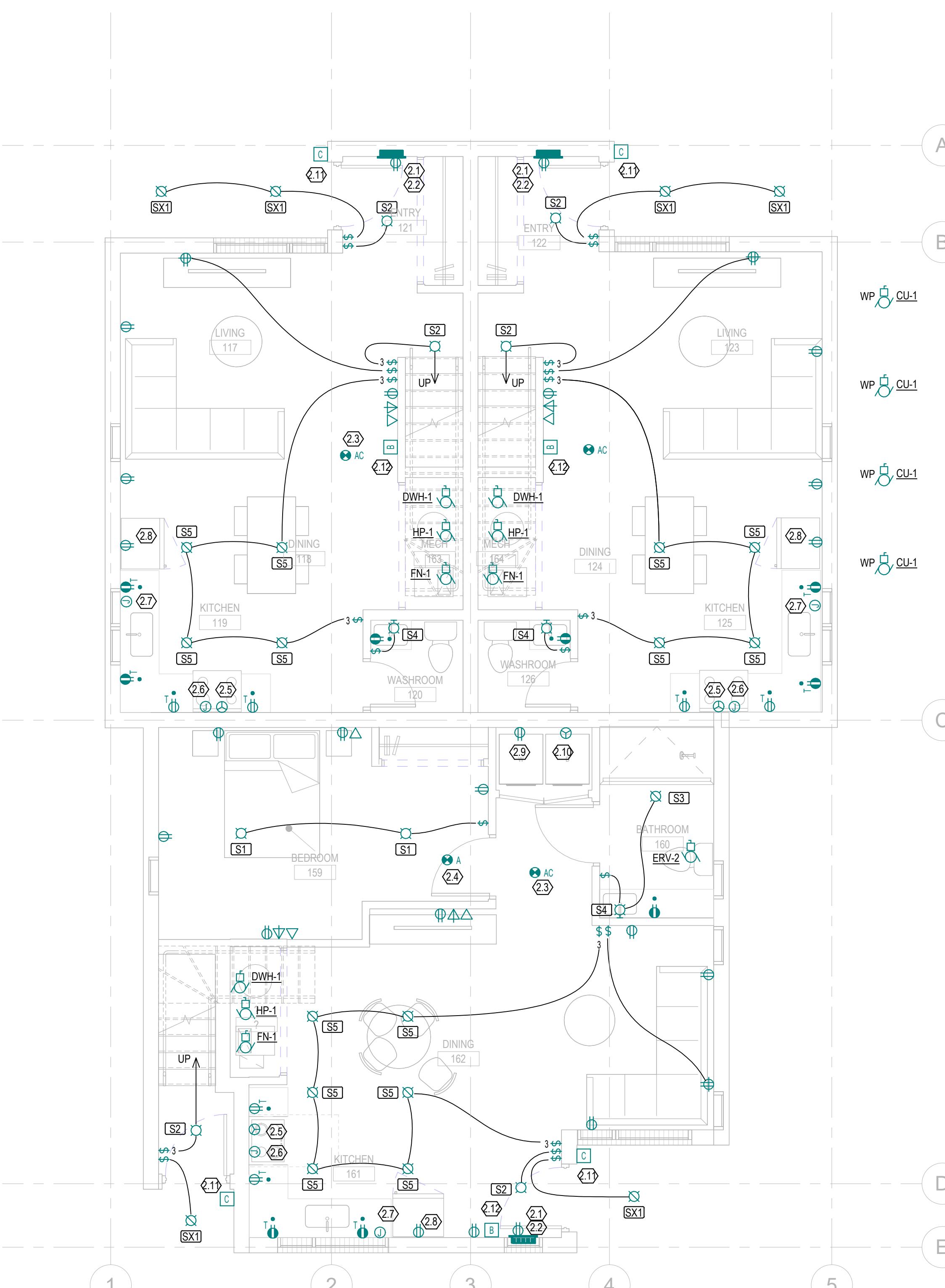


GENERAL SUITE NOTES

- 1 PROVIDE ARC FAULT BREAKERS FOR ALL RECEPTACLES IN RESIDENTIAL SUITES IN ACCORDANCE WITH CEC 26-658.
- 2 PROVIDE TAMPER RESISTANT RECEPTACLES IN EACH SUITE TO CEC 26-706.
- 3 PROVIDE GROUND FAULT CIRCUIT INTERRUPTION FOR RECEPTACLES WITHIN 1.5m OF ANY SINK OR WASHBASIN AND FOR EXTERIOR PATIOS.
- 4 TO PREVENT SOUND TRANSMISSION BETWEEN ROOMS, PROVIDE HORIZONTAL SEPARATION OF AT LEAST 1 STUD SPACE FOR RECESSED WALL JUNCTION BOXES IN SUITE WALLS WHEN THE JUNCTION BOXES ARE INSTALLED ON EITHER SIDE OF THE WALL.
- 5 PROVIDE MOLDABLE FIRE RESISTANT PUTTY PADS (3M FIRE BARRIER OR EQUAL) IN SUITE PARTIES WHEN JUNCTION BOXES ARE INSTALLED WITHIN THE SAME STUD SPACE ON EITHER SIDE OF THE WALL, WHERE PRACTICAL EFFORT SHOULD BE MADE TO AVOID PLACING JUNCTION BOXES IN THE SAME STUD SPACE. CONFIRM WITH ENGINEER.
- 6 PROVIDE RECEPTACLES IN SUITES WITH APPROPRIATE SPACING IN ACCORDANCE WITH SECTION 26 OF THE CEC WHETHER SHOWN CORRECTLY ON THE DRAWINGS OR NOT. ALLOW FOR ADDITIONAL RECEPTACLES AS REQUIRED. NO EXTRAS WILL BE PERMITTED FOR NOT COMPLYING WITH CEC SPACING REQUIREMENTS.
- 7 PROVIDE SWITCHES FOR BEDROOMS, KITCHENS, LIVING ROOMS, UTILITY ROOMS, DINING ROOMS, LAUNDRY ROOMS, BATHROOMS, HALLWAYS, STORAGE ROOMS, FRONT ENTRY, BALCONY ON THE LATCH SIDE OF THE DOOR. CONFIRM DOOR SWING ON SITE PRIOR TO ROUGH IN. INSTALL WITHIN 50mm OF THE DOOR. PROVIDE ADDITIONAL BLOCKING IF REQUIRED.
- 8 BALCONY LIGHT FIXTURES TO BE ALIGNED IN A VERTICAL LINE BETWEEN FLOORS FROM GROUND FLOOR TO HIGHEST FLOOR IF POSSIBLE. REFER TO ARCHITECTURAL ELEVATIONS.
- 9 ALL SUITE LIGHT SWITCHES AND RECEPTACLES TO BE DECORA STYLE, RESIDENTIAL GRADE. REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR THERMOSTAT AND HUMIDISTAT LOCATIONS. REFER TO SPECIFICATIONS.
- 10 REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR VENTILATION EQUIPMENT OR HEATING/COOLING EQUIPMENT ELECTRICAL REQUIREMENTS (FURNACES, FAN COILS, CONDENSING UNITS, RADIATOR ZONE VALVES ETC). CONNECT ALL MECHANICAL HEATING/COOLING EQUIPMENT. CONTACT ENGINEER IF DISCREPANCIES EXIST.
- 11 CONFIRM EXACT PLACEMENT OF LIGHT FIXTURES WITH OWNER.
- 12 PROVIDE SUITE PATIO RECEPTACLE NEAR BBQ GAS CONNECTION IF POSSIBLE. COORDINATE WITH MECHANICAL TRADE AND RELOCATE IF REQUIRED.
- 13 PROVIDE SUITE TELEPHONE AND DATA JACKS TO BE CAT6 TO ALLOW FOR PATCHING FOR USE AS EITHER TELEPHONE OR DATA.
- 14 ALL SUITE TELEPHONE AND DATA JACKS TO BE CAT6 TO ALLOW FOR PATCHING FOR USE AS EITHER TELEPHONE OR DATA.

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MAIN FLOOR PLAN - OPTION 2

SCALE: 1:50

KEYNOTES - SUITES

- 2.1 SUITE PANEL: PANEL TO BE FLUSH MOUNTED CW HINGED SMOOTH COVER.
- 2.2 SUITE COMMUNICATION CABINET: SUPPLIED BY UTILITY. INSTALLED BY ELECTRICAL CONTRACTOR CW HINGED SMOOTH COVER. INCLUDE NETWORK PATCH PANEL MODULE, 6 PORT VOICE/DATA MODULE, CATV SPLITTER, TELEPHONE MODULE AND RECEPTACLE. HOME RUN TELEPHONE, CATV AND DATA LINES TO THIS LOCATION.
- 2.3 SMOKE/CO ALARM - PROVIDE AND INSTALL 120V DETECTOR C/W BATTERY BACKUP AND MANUAL SILENCE BUTTON. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL UNITS WILL ALARM TOGETHER.
- 2.4 SMOKE ALARMS - PROVIDE AND INSTALL A 120V C/W BATTERY BACKUP. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL DEVICES WILL ALARM TOGETHER INCLUDING COMBINATION CO/ALARMS. BATTERY TO BE TYPE 'A'. ALL SUITE SMOKE ALARMS AND OR CO DETECTORS TO BE WIRED WITH LIGHTING ON NON ARCH FAULT CIRCUIT.
- 2.5 RANGE: PROVIDE AND INSTALL 40A, 240V (OR 208V), 1 PHASE RECEPTACLE AT MAXIMUM 130mm AFF TO CENTER OF BOX.
- 2.6 FAN HOOD: PROVIDE INSTALLATION OF RANGE HOOD FAN / LIGHTS.
- 2.7 DISHWASHER - PROVIDE ELECTRICAL INSTALLATION FOR A DISHWASHER. COORDINATE INSTALLATION WITH APPLIANCE SUPPLIER.
- 2.8 REFRIGERATOR: PROVIDE DEDICATED RECEPTACLE.
- 2.9 WASHING MACHINE - PROVIDE 120V CIRCUIT FOR CLOTHES WASHER.
- 2.10 DRYER - PROVIDE AND INSTALL 30A, 208V (OR 240V), 1 PHASE RECEPTACLE.
- 2.11 CHIME - PROVIDE ROUGH IN FOR A DOOR CHIME NUTONE LA11WH. PROVIDE ALL WIRING AND ACCESSORIES FOR COMPLETE OPERATION INCLUDING (BUT NOT LIMITED TO) 16V TRANSFORMER, WHITE LIGHTED PUSHBUTTON(S) ETC.
- 2.12 DOOR BUZZER (CHIME) - PROVIDE AND INSTALL A DOOR CHIME NUTONE LA11WH. PROVIDE ALL WIRING AND ACCESSORIES FOR COMPLETE OPERATION INCLUDING (BUT NOT LIMITED TO) 16V TRANSFORMER, WHITE LIGHTED EXTERIOR DOOR PUSHBUTTON.

TYPICAL SUITE PANEL

DESCRIPTION	BRKR	CCT	CCT	BRKR	DESCRIPTION
LIGHTING & POWER	15A	1	2	40A	RANGE
LIGHTING & POWER	15A	3	4		
LIGHTING & POWER	15A	5	6		
LIGHTING & POWER	15A	7	8	30A	DRYER
LIGHTING & POWER	15A	9	10	15A	WASHER
KITCHEN	20A	11	12	20A	ERV-2
KITCHEN	20A	13	14		
KITCHEN	20A	15	16	20A	CU-1
MICROWAVE	15A	17	18		
DISHWASHER	15A	19	20	15A	FN-1
FRIDGE	15A	21	22	15A	DWH-1
	15A	23	24	30A	
	15A	25	26		
	15A	27	28	15A	
	15A	29	30	15A	
	15A	31	32	15A	
	15A	33	34	15A	
SPARE	15A	35	36	15A	SPARE
SPARE	15A	37	38	15A	SPARE
SPARE	15A	39	40	15A	SPARE
SPARE	15A	41	42	15A	SPARE

NOTES:
- DO NOT EXCEED 10 DEVICES PER CIRCUIT.
- REFER TO MECH SHOP DRAWINGS OR LATEST PLANS FOR ELECTRICAL REQUIREMENTS OF HVAC & AC EQUIPMENT.
- PANEL TO BE 24 CCT (48 MINI BREAKERS) EQUIPPED WITH 100A RATED BUS, 1PHASE, 120/240V.
- PROVIDE ARC FAULT BREAKERS FOR ALL RECEPTACLES IN RESIDENTIAL SUITES IN ACCORDANCE WITH CEC 26-658.

1	03/26/25	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

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SHEET TITLE:
AB FOURPLEX 02 - MAIN FLOOR ELECTRICAL PLAN - OPTION 2

PROJECT NO: 241058
SCALE: As indicated

SHEET NO:

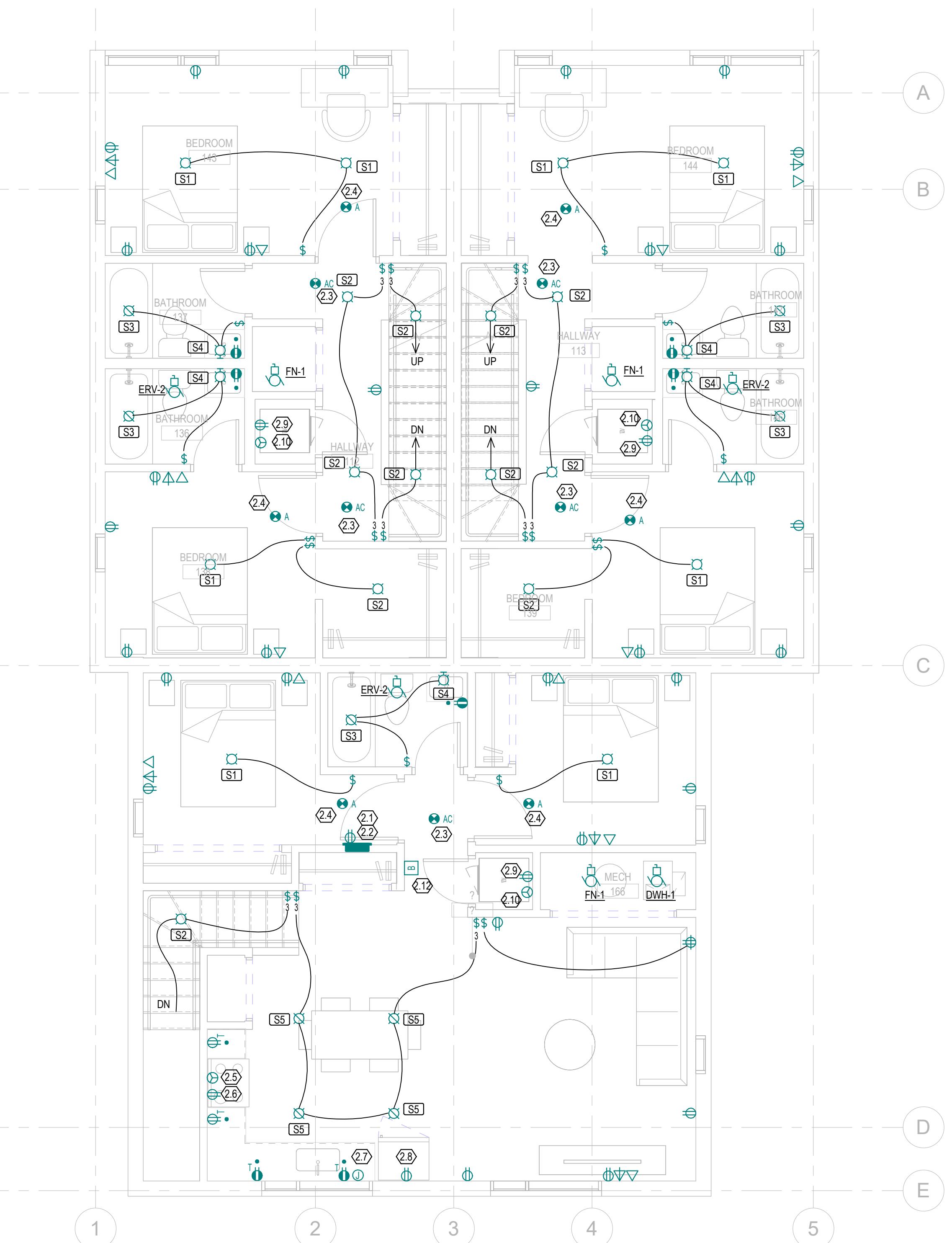
E201B

GENERAL SUITE NOTES

- 1 PROVIDE ARC FAULT BREAKERS FOR ALL RECEPTACLES IN RESIDENTIAL SUITES IN ACCORDANCE WITH CEC 26-688.
- 2 PROVIDE TAMPER RESISTANT RECEPTACLES IN EACH SUITE TO CEC 26-706.
- 3 PROVIDE GROUND FAULT CIRCUIT INTERRUPTION FOR RECEPTACLES WITHIN 1.5m OF ANY SINK OR WASHBASIN AND FOR EXTERIOR PATIOS.
- 4 TO PREVENT SOUND TRANSMISSION BETWEEN ROOMS, PROVIDE HORIZONTAL SEPARATION OF AT LEAST 1 STUD SPACE FOR RECESSED WALL JUNCTION BOXES IN SUITE WALLS WHEN THE JUNCTION BOXES ARE INSTALLED ON EITHER SIDE OF THE WALL.
- 5 PROVIDE MOLDABLE FIRE RESISTANT PUTTY PADS (3M FIRE BARRIER OR EQUAL) IN SUITE PARTY WALLS WHEN JUNCTION BOXES ARE INSTALLED WITHIN THE SAME STUD SPACE ON EITHER SIDE OF THE WALL, WHERE PRACTICAL EFFORT SHOULD BE MADE TO AVOID PLACING JUNCTION BOXES IN THE SAME STUD SPACE. CONFIRM WITH ENGINEER.
- 6 PROVIDE RECEPTACLES IN SUITES WITH APPROPRIATE SPACING IN ACCORDANCE WITH SECTION 26 OF THE CEC WHETHER SHOWN CORRECTLY ON THE DRAWINGS OR NOT. ALLOW FOR ADDITIONAL RECEPTACLES AS REQUIRED. NO EXTRAS WILL BE PERMITTED FOR NOT COMPLYING WITH CEC SPACING REQUIREMENTS.
- 7 PROVIDE SWITCHES FOR BEDROOMS, KITCHENS, LIVING ROOMS, UTILITY ROOMS, DINING ROOMS, LAUNDRY ROOMS, BATHROOMS, HALLWAYS, STORAGE ROOMS, FRONT ENTRY, BALCONY ON THE LATCH SIDE OF THE DOOR. CONFIRM DOOR SWING ON SITE PRIOR TO ROUGH IN. INSTALL WITHIN 50mm OF THE DOOR. PROVIDE ADDITIONAL BLOCKING IF REQUIRED.
- 8 BALCONY LIGHT FIXTURES TO BE ALIGNED IN A VERTICAL LINE BETWEEN FLOORS FROM GROUND FLOOR TO HIGHEST FLOOR IF POSSIBLE. REFER TO ARCHITECTURAL ELEVATIONS.
- 9 ALL SUITE LIGHT SWITCHES AND RECEPTACLES TO BE DECORA STYLE, RESIDENTIAL GRADE. REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR THERMOSTAT AND HUMIDISTAT LOCATIONS. REFER TO SPECIFICATIONS.
- 10 REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR VENTILATION EQUIPMENT OR HEATING/COOLING EQUIPMENT ELECTRICAL REQUIREMENTS (FURNACES, FAN COILS, CONDENSING UNITS, RADIATOR ZONE VALVES ETC). CONNECT ALL MECHANICAL HEATING/COOLING EQUIPMENT. CONTACT ENGINEER IF DISCREPANCIES EXIST.
- 11 CONFIRM EXACT PLACEMENT OF LIGHT FIXTURES WITH OWNER.
- 12 CONFIRM EXACT PLACEMENT OF LIGHT FIXTURES WITH OWNER.
- 13 PROVIDE SUITE PATIO RECEPTACLE NEAR BBQ GAS CONNECTION IF POSSIBLE. COORDINATE WITH MECHANICAL TRADE AND RELOCATE IF REQUIRED.
- 14 ALL SUITE TELEPHONE AND DATA JACKS TO BE CAT6 TO ALLOW FOR PATCHING FOR USE AS EITHER TELEPHONE OR DATA.

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SECOND FLOOR PLAN

SCALE: 1 : 50

KEYNOTES - SUITES

- 2.1 SUITE PANEL: PANEL TO BE FLUSH MOUNTED CW HINGED SMOOTH COVER.
- 2.2 SUITE COMMUNICATION CABINET: SUPPLIED BY UTILITY. INSTALLED BY ELECTRICAL CONTRACTOR CW HINGED SMOOTH COVER. INCLUDE NETWORK PATCH PANEL MODULE, 6 PORT VOICE/DATA MODULE, CATV SPLITTER, TELEPHONE MODULE AND RECEPTACLE. HOME RUN TELEPHONE, CATV AND DATA LINES TO THIS LOCATION.
- 2.3 SMOKE/CO ALARM - PROVIDE AND INSTALL 120V DETECTOR C/W BATTERY BACKUP AND MANUAL SILENCE BUTTON. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL UNITS WILL ALARM TOGETHER.
- 2.4 SMOKE ALARMS - PROVIDE AND INSTALL A 120V C/W BATTERY BACKUP. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL DEVICES WILL ALARM TOGETHER INCLUDING COMBINATION CO/ALARMS. BATTERY TO BE TYPE 'A'. ALL SUITE SMOKE ALARMS AND OR CO DETECTORS TO BE WIRED WITH LIGHTING ON NON ARCH FAULT CIRCUIT.
- 2.5 RANGE: PROVIDE AND INSTALL 40A, 240V (OR 208V), 1 PHASE RECEPTACLE AT MAXIMUM 130mm AFF TO CENTER OF BOX.
- 2.6 FAN HOOD: PROVIDE INSTALLATION OF RANGE HOOD FAN / LIGHTS.
- 2.7 DISHWASHER - PROVIDE ELECTRICAL INSTALLATION FOR DISHWASHER. COORDINATE INSTALLATION WITH APPLIANCE SUPPLIER.
- 2.8 REFRIGERATOR: PROVIDE DEDICATED RECEPTACLE.
- 2.9 WASHING MACHINE - PROVIDE DEDICATED 120V CIRCUIT FOR CLOTHES WASHER.
- 2.10 DRYER - PROVIDE AND INSTALL 30A, 208V (OR 240V), 1 PHASE RECEPTACLE.
- 2.12 DOOR BUZZER (CHIME) - PROVIDE AND INSTALL A DOOR CHIME NUTONE LA11WH. PROVIDE ALL WIRING AND ACCESSORIES FOR COMPLETE OPERATION INCLUDING (BUT NOT LIMITED TO 16V TRANSFORMER, WHITE LIGHTED EXTERIOR DOOR PUSHBUTTON.

1	03/26/25	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING CATALOGUE

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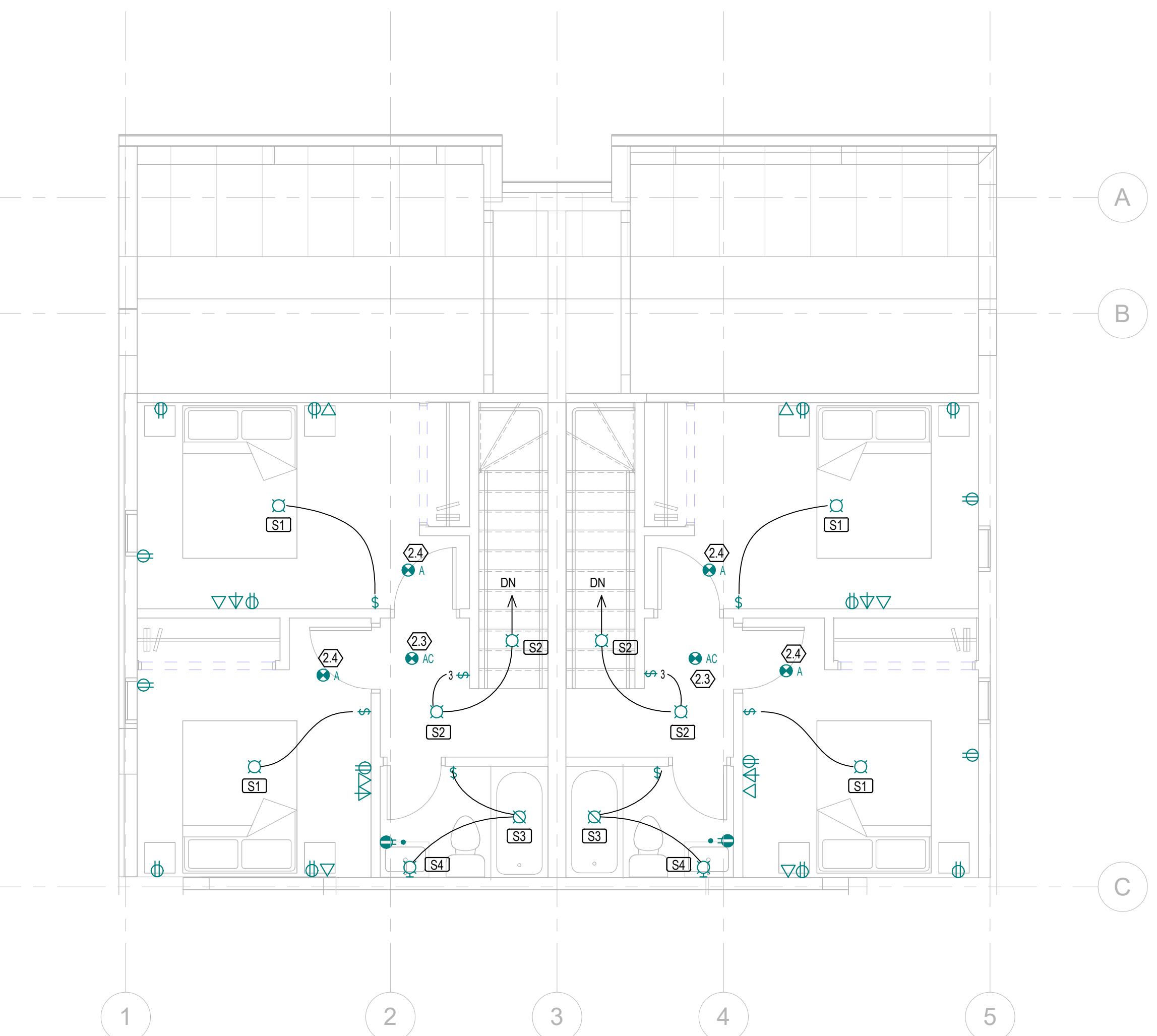
SHEET TITLE:
AB FOURPLEX 02 - SECOND FLOOR ELECTRICAL PLAN

PROJECT NO: 241058
SCALE: 1 : 50

SHEET NO:
E202

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THIRD FLOOR PLAN

SCALE: 1:50

GENERAL SUITE NOTES

- 1 PROVIDE ARC FAULT BREAKERS FOR ALL RECEPTACLES IN RESIDENTIAL SUITES IN ACCORDANCE WITH CEC 26-688.
- 2 PROVIDE TAMPER RESISTANT RECEPTACLES IN EACH SUITE TO CEC 26-706.
- 3 PROVIDE GROUND FAULT CIRCUIT INTERRUPTION FOR RECEPTACLES WITHIN 1.5m OF ANY SINK OR WASHBASIN AND FOR EXTERIOR PATIOS.
- 4 TO PREVENT SOUND TRANSMISSION BETWEEN ROOMS, PROVIDE HORIZONTAL SEPARATION OF AT LEAST 1 STUD SPACE FOR RECESSED WALL JUNCTION BOXES IN SUITE WALLS WHEN THE JUNCTION BOXES ARE INSTALLED ON EITHER SIDE OF THE WALL.
- 5 PROVIDE MOLDABLE FIRE RESISTANT PUTTY PADS (3M FIRE BARRIER OR EQUAL) IN SUITE PARTY WALLS WHEN JUNCTION BOXES ARE INSTALLED WITHIN THE SAME STUD SPACE ON EITHER SIDE OF THE WALL, WHERE PRACTICAL EFFORT SHOULD BE MADE TO AVOID PLACING JUNCTION BOXES IN THE SAME STUD SPACE. CONFIRM WITH ENGINEER.
- 6 PROVIDE RECEPTACLES IN SUITES WITH APPROPRIATE SPACING IN ACCORDANCE WITH SECTION 26 OF THE CEC WHETHER SHOWN CORRECTLY ON THE DRAWINGS OR NOT. ALLOW FOR ADDITIONAL RECEPTACLES AS REQUIRED. NO EXTRAS WILL BE PERMITTED FOR NOT COMPLYING WITH CEC SPACING REQUIREMENTS.
- 7 PROVIDE SWITCHES FOR BEDROOMS, KITCHENS, LIVING ROOMS, UTILITY ROOMS, DINING ROOMS, LAUNDRY ROOMS, BATHROOMS, HALLWAYS, STORAGE ROOMS, FRONT ENTRY, BALCONY ON THE LATCH SIDE OF THE DOOR. CONFIRM DOOR SWING ON SITE PRIOR TO ROUGH IN. INSTALL WITHIN 50mm OF THE DOOR. PROVIDE ADDITIONAL BLOCKING IF REQUIRED.
- 8 BALCONY LIGHT FIXTURES TO BE ALIGNED IN A VERTICAL LINE BETWEEN FLOORS FROM GROUND FLOOR TO HIGHEST FLOOR IF POSSIBLE. REFER TO ARCHITECTURAL ELEVATIONS.
- 9 ALL SUITE LIGHT SWITCHES AND RECEPTACLES TO BE DECORA STYLE, RESIDENTIAL GRADE. REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR THERMOSTAT AND HUMIDISTAT LOCATIONS. REFER TO SPECIFICATIONS.
- 11 REFER TO LATEST MECHANICAL ENGINEER'S PLANS FOR VENTILATION EQUIPMENT OR HEATING/COOLING EQUIPMENT ELECTRICAL REQUIREMENTS (FURNACES, FAN COILS, CONDENSING UNITS, RADIATOR ZONE VALVES ETC). CONNECT ALL MECHANICAL HEATING/COOLING EQUIPMENT. CONTACT ENGINEER IF DISCREPANCIES EXIST.
- 12 CONFIRM EXACT PLACEMENT OF LIGHT FIXTURES WITH OWNER.
- 13 PROVIDE SUITE PATIO RECEPTACLE NEAR BBQ GAS CONNECTION IF POSSIBLE. COORDINATE WITH MECHANICAL TRADE AND RELOCATE IF REQUIRED.
- 14 ALL SUITE TELEPHONE AND DATA JACKS TO BE CAT6 TO ALLOW FOR PATCHING FOR USE AS EITHER TELEPHONE OR DATA.

KEYNOTES - SUITES

2.3 SMOKE/CO ALARM - PROVIDE AND INSTALL 120V DETECTOR C/W BATTERY BACKUP AND MANUAL SILENCE BUTTON. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL UNITS WILL ALARM TOGETHER.

2.4 SMOKE ALARMS - PROVIDE AND INSTALL A 120V C/W BATTERY BACK UP. WHERE MULTIPLE ALARMS ARE SHOWN WITHIN EACH SUITE, INTERLOCK SUCH THAT ALL DEVICES WILL ALARM TOGETHER INCLUDING COMBINATION CO ALARMS. BATTERY TO BE TYPE 'A'. ALL SUITE SMOKE ALARMS AND OR CO DETECTORS TO BE WIRED WITH LIGHTING ON NON ARCH FAULT CIRCUIT.

1	03/26/25	ISSUED AS PROTOTYPICAL DRAWING
NO.	DATE	DESCRIPTION

PROJECT:
CMHC HOUSING
CATALOGUE

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SHEET TITLE:
AB FOURPLEX 02 - THIRD
FLOOR ELECTRICAL PLAN

PROJECT NO: 241058
SCALE: 1:50

SHEET NO:
E203

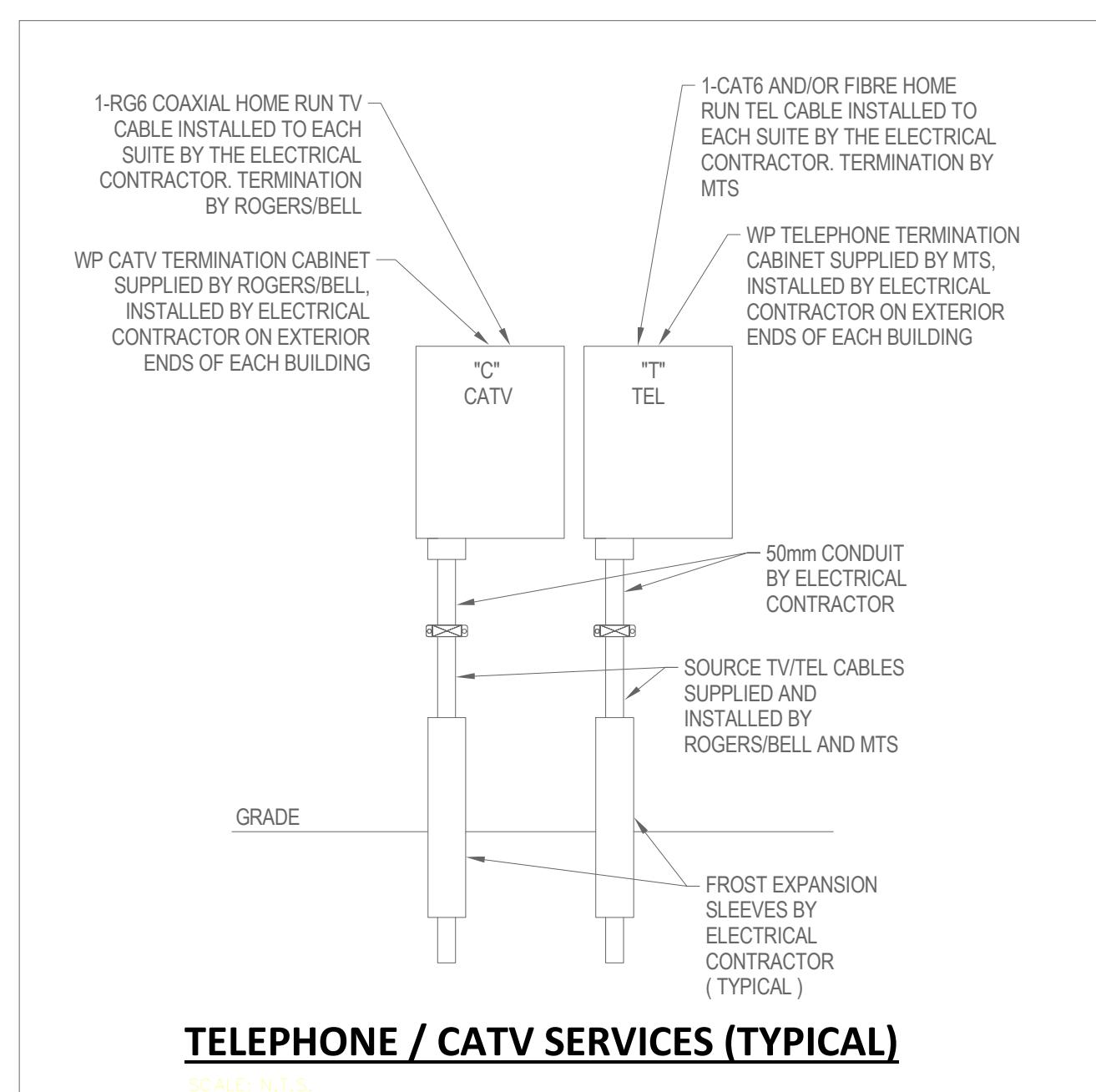
LIGHTING FIXTURE SCHEDULE

NOTES:
EQUIVALENT FIXTURES ARE ACCEPTABLE UPON APPROVAL OF ENGINEER AND INTERIOR DESIGNER.
REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR EXACT FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
LIGHT FIXTURES AND LAMPS TO HAVE A COLOR TEMPERATURE OF 3500~4000K UNLESS NOTED OTHERWISE

Type	Manufacturer	Model Number	Voltage	Wattage	Lamp	Mounting	Description
INTERIOR							
S1	BY CONTRACTOR	BY CONTRACTOR	120 V	21 VA	1815 LUMEN LED	SURFACE MOUNT	13" DIAMETER, WHITE FINISH, DIMMING
S2	BY CONTRACTOR	BY CONTRACTOR	120 V	15 VA	1300 LUMEN LED	SURFACE MOUNT	10" DIAMETER, WHITE FINISH, DIMMING
S3	BY CONTRACTOR	BY CONTRACTOR	120 V	10 VA	784 LUMEN LED	RECESSED	4" LED WET LISTED DOWNLIGHT, PHASE DIMMABLE SPRING CLIP MOUNTED C/W UNIVERSAL MOUNTING PLATE.
S4	BY CONTRACTOR	BY CONTRACTOR	120 V	30 VA	- LUMEN LED	WALL MOUNT	WALL MOUNT VANITY, TRIAC DIMMABLE, 3xMED BASE E26 SCREW-IN LAMPS.
S5	BY CONTRACTOR	BY CONTRACTOR	120 V	10 VA	650 LUMEN LED	RECESSED	4" RECESSED LED OPEN DOWNLIGHT - REGRESSED BAFFLE, SPRING CLIP C/W UNIVERSAL MOUNTING PLATE
SX1	BY CONTRACTOR	BY CONTRACTOR	120 V	23 VA	784 LUMEN LED	RECESSED	4" LED WET LISTED DOWNLIGHT, PHASE DIMMABLE SPRING CLIP MOUNTED C/W UNIVERSAL MOUNTING PLATE.

DISCLAIMER

This design was created for use solely as part of the CMHC Housing Design Catalogue. It is a sample of standardized housing design, reflecting general design intention only and does not incorporate any elements of other information specific to any location or project. This design is provided for illustrative purposes only and must not be used for construction or permitting purposes. In using this design, you are responsible for your compliance with the Terms and Conditions, including but not limited to engaging the services of a Qualified Professional.



TELEPHONE / CATV SERVICES (TYPICAL)

The diagram illustrates the internal components and connections of a Suite Communications Cabinet. The cabinet is a 14" x 30" flush-mounted unit with a hinged door, similar to a Primex P3000 model. Inside, there is a 6-way 2GHz coax splitter connected to a coaxial cable run to a CATV terminal board or cabinet. The cabinet also contains a Home Security Module, a Telephone Patching Board, and space for a resident's modem, router, etc. A 6 port CAT 6 voice & data board is used to terminate suite telephone and data locations. A duplex receptacle is installed in the bottom of the cabinet. The diagram also provides instructions for running RG6 coax cable to a CATV terminal board or cabinet and for running 1-CAT 6 or fiber cable to a telephone terminal board (TBB), confirming with a general contractor prior to bid submission and rough-in.

RUN RG6 COAX CABLE TO CATV TERMINAL BOARD OR CABINET

RUN 1-CAT 6 OR FIBER CABLE TO TELEPHONE TERMINAL BOARD (TBB). CONFIRM WITH GENERAL CONTRACTOR PRIOR TO BID SUBMISSION AS WELL AS ROUGH IN FOR TELEPHONE CABLING TO EACH SUITE. REFER TO RISER DIAGRAM.

HOME SECURITY MODULE

TELEPHONE PATCHING BOARD

SPACE AVAILABLE FOR RESIDENT'S MODEM, ROUTER, ETC.

14" x 30" CABINET FLUSH MOUNTED C/W HINGED DOOR EQUAL TO PRIMEX P3000

6-WAY 2GHz COAX SPLITTER

6 PORT CAT 6 VOICE & DATA BOARD, TERMINATE SUITE TEL/DATA LOCATIONS TO REAR

DUPLEX RECEPTACLE INSTALLED FLUSH IN BOTTOM OF CABINET

WHITE COMMUNICATIONS CABINET

SECOND FLOOR SUITES

MAIN FLOOR SUITES

MAIN CATV/TEL SERVICE BOXES.

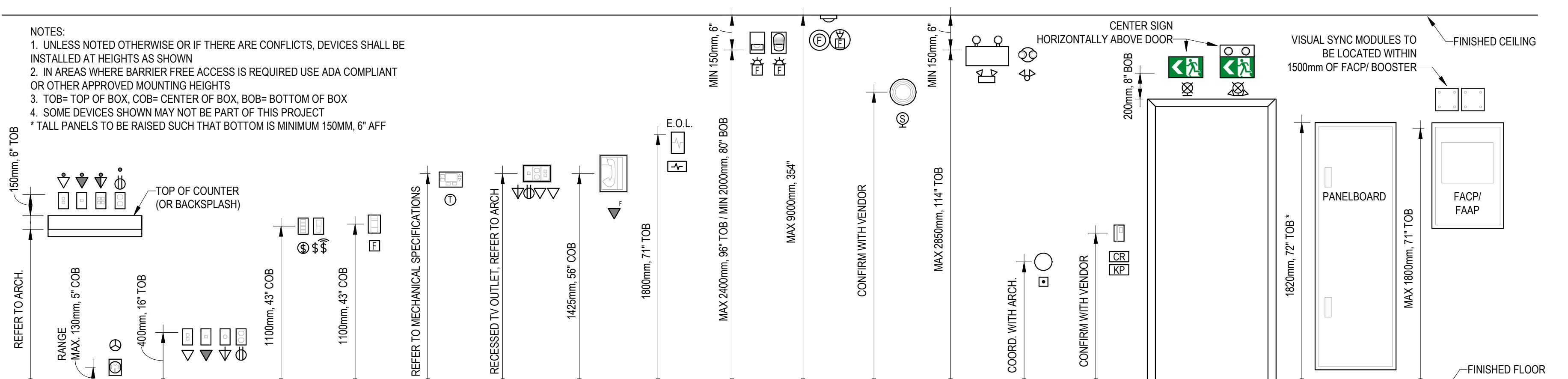
EXTERIOR BUILDING WALL MOUNT

MAIN TTB

MAIN TVTB

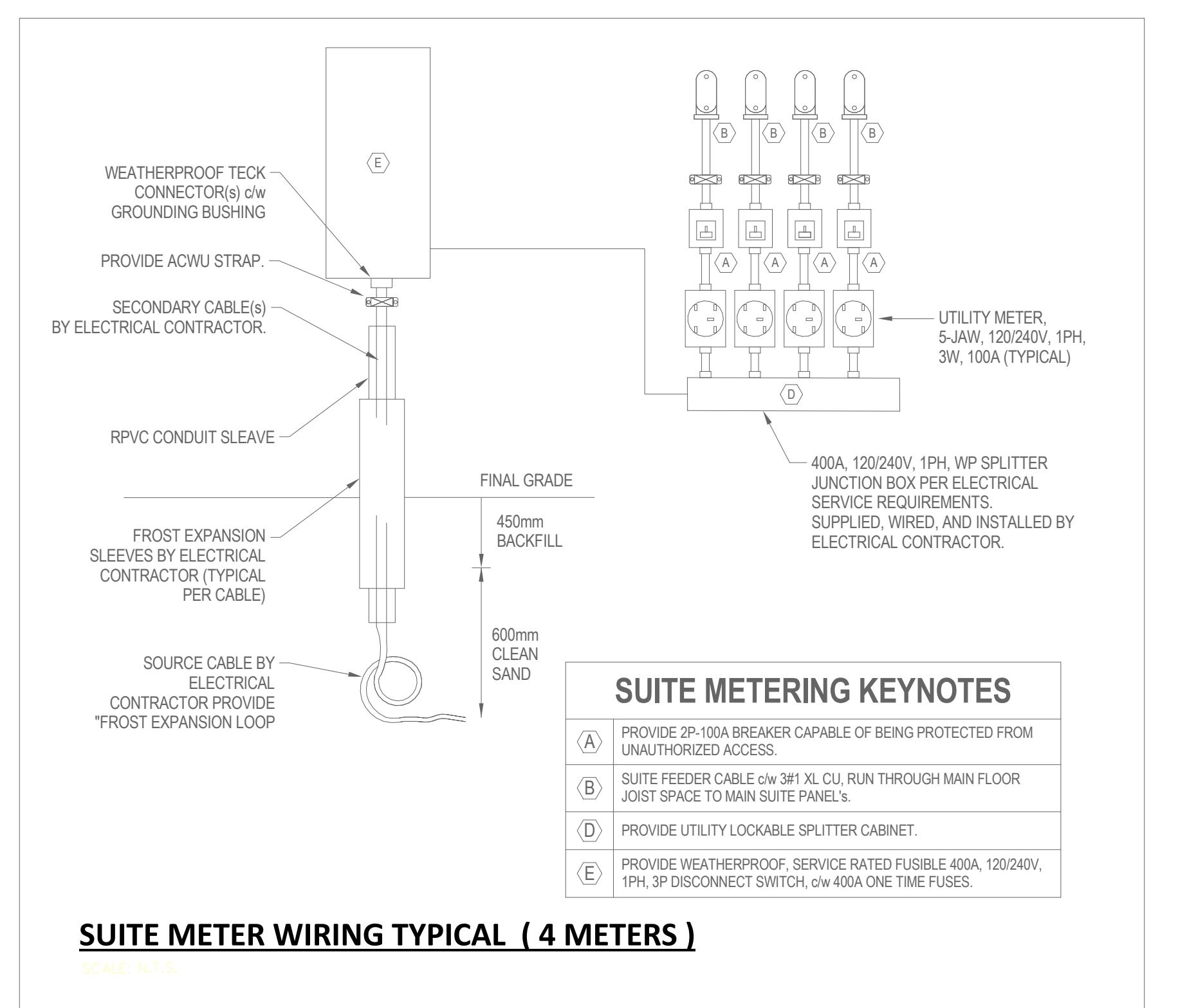
1-CAT6 / FIBER AND 1-RG6 COAX

TOWNHOME TELEPHONE RISER



TYPICAL MOUNTING HEIGHTS

SCALE: N.T.S.



SUITE METER WIRING TYPICAL (4 METERS)

SCALE: N.T.

03/26/25	ISSUED AS PROTOTYPICAL	
NO.	DATE	DESCRIPT
PROJECT:	CMHC HOUSING CATALOGUE	

ADDRESS
**NOT FOR PERMIT
OR CONSTRUCTION**

HEET TITLE:
**AB FOURPLEX 02 -
DETAILS**

PROJECT NO: 241058
CALE: N.T.S.

HEET NO:

E300

ELECTRICAL CONTRACTOR GENERAL REQUIREMENTS

General Requirements, Division 1, shall form part of this Division, and all instructions to bidders, General Conditions, amendments thereto, and General Requirements of that Division apply to and govern the work of this Division.

- This section contains requirements applicable and supplementary to other Divisions, and are to be read in conjunction with those Divisions.
- "Utility" shall hereafter mean the electrical power supply company, telephone supply company, fibre network supply company and cable TV supply company.
- The electrical installation shall adhere to the latest edition of the Canadian Electrical Code (CEC), applicable building code, and all other codes in force by the local Authority Having Jurisdiction (AHJ).
- Electrical drawings and these specifications are complementary to each other. Treat discrepancies between them as requirement to adhere to the most restrictive conditions. Contact Engineer 5 days prior to tender if any discrepancies are found.
- Provide all labour, materials, tools, equipment, and transportation required for the complete installation and testing of all systems described herein.
- Obtain exact dimensions and coordinate placement of electrical equipment, conduit, devices and fittings from architectural and structural drawings. Make any necessary adjustments to accommodate structural and architectural conditions without additional charge. Notify engineer prior to any significant revisions.
- Materials are to be new, not inferior to quality specified, and conform to standards issued by CSA, ULC, or any other Canadian standards agency.
- Where materials are specified by description, provide the commercial qualities and/or characteristics required by the description.
- Buy materials uniform in quality, type, and size, and of the best quality obtainable throughout the work.
- All work and materials covered by these specifications shall be subject to inspection at any and all times by the Engineer or the Owner's representative. If the inspection finds any material that does not conform to these specifications, Electrical Contractor shall, within three (3) days after being notified by the Engineer or Owner, remove the material from the premises and is not entitled to any additional charge.
- Inform Engineer of all specifications at AHJ at least 48 hours in advance.
- Provide all necessary measurements and assistance to Engineer on his visits to the site at any phase of the project, including after completion.
- No deviations from the drawings shall be permitted without written permission from the Engineer.

A. All work is to be executed in a neat and orderly manner, with all surface conduit following building lines, and concrete-embedded conduit having minimum 25% of slab thickness coverage. Coordinate with structural engineer.

B. Keep a competent foreman on the project for its duration, unless able to provide satisfactory reasons for changing that person.

C. Tradesmen under foreman, including specialty Electrical sub-trades, to be competent in all aspects of work to which they are assigned. Specialty sub-trades include, but may not be limited to, audio visual, security, fire alarm, and fire protection.

D. Do not remove devices or parts based on Electrical drawings unless dimensions are determined. Placement of device boxes from Architectural drawings. If placement is not shown, consult with Architect or Engineer for clarification.

a. Place adjacent device boxes horizontally or vertically so their centres align. Boxes on opposite sides of a wall are to be separated by at least one stud space, unless directed otherwise, or provide sound-deadening material between them.

b. Locate devices 3 meters or less from junction boxes as directed by engineer, where and if surface mount conduit and junction boxes will be allowed. Electrical contractor to coordinate with general contractor for placement of junction boxes in accessible areas as required by CEC.

c. Any damage by this contractor is to be repaired at no expense to Owner.

D. Receive and protect electrical equipment by Owner.

E. Where panels or other items are scratch, repair entire affected surface to same finish as other sides or to voltage or system-coded colours.

F. All new installed equipment to be left clean and in new condition at the completion of the project.

14. Excavate, backfill, and grade all areas to be excavated, trenching, etc. shall be the responsibility of the electrical contractor.

B. All underground work to be coordinated with Utility companies and General Contractor.

C. All trench boxes to have 80mm of screen sand as base for conduits. Provide 300mm of screen sand on top of conduits prior to backfilling.

D. Where underground conduits require protection, Provide 75mm of concrete encasement. Electrical contractor to confirm with utility companies, and local inspection department, requirements of encasement prior to backfilling.

E. This section is to be read in conjunction with the electrical contractor to notify the inspection department prior to backfilling.

F. Prior to commencing any work, the electrical contractor is responsible for reviewing all mechanical / electrical services including deep service to avoid any possible conflict. Refer to Mechanical and Civil drawings prior to starting work.

15. Visit site / premises before tender in order to ascertain working conditions. No extras will be paid based on site or working conditions.

16. Provide sleeves, inserts, etc. as required, to General Contractor for placement in concrete, and supervise their placement. Correct incorrect placement at own expense.

A. X-Ray scan of concrete prior to cutting, coring, etc. Provide scan results to owner/engineer upon request. Review results with all disciplines with infrastructure that may be affected by cutting, coring, etc.

17. Remove debris and surplus materials resulting from the site's work.

18. No consideration will be given to requests for extras or equipment substitution due to late ordering of material, including delays due to rejection of shop drawings.

SHOP DRAWINGS SUBMITTALS

1. All shop drawings shall be manufacturers' data sheets and information. Provide shop drawings in electronic PDF format. No facsimiles, screen captures, blank catalogue pages, or poor quality reproductions will be accepted.

2. Include all information relative to the equipment to which the shop drawing is submitted. Where equipment choices exist on cut sheets, indicate the proposed equipment with arrows or highlighting. Additionally, provide a list of the submitted equipment. Shop drawings to clearly state equipment tag/designation.

3. All shop drawings submitted to the Engineer must bear the approvals of the Contractor prior to engineer review. Work shall not proceed with units until Engineer's reviews are complete and shop drawings are returned.

4. Consultant review will be for conformance with the design concept and requirements of any and all related construction documents, and that the materials suit the site conditions and fit in the available space.

5. Submit shop drawings for at least the following items or item types:

A. Distribution and sub-distribution panels, paneboards, disconnect switches, transformers, SPDs, circuit breakers, fuses, and their characteristics, instrument transformers, protective relays, etc., and complete fault and coordination study.

B. Motor control equipment, including starters, contactors, overload heaters, control relays, time-delay relays, motor circuit and control fuses and breakers, pilot lights, control transformers, and selector switches.

C. All lugs/twists and splices including wire, cable, and busbar connections.

D. All low voltage systems' components including fuse, switches, power poles, cable tray, data racks, UPS systems, and disconnect switches.

E. Emergency general and transfer switch equipment (where specified).

F. Firestopping system and details (See firestopping section below).

ALTERNATES

1. No alternates will be allowed without written acceptance on alternate submittals from the engineer prior to close of tender.

2. The contractor remains solely responsible for ensuring that the materials meet or exceed the requirements of any and all related construction documents, and that the materials will suit the site conditions and fit in the available space.

PERMITS, CERTIFICATES, AND FEES

1. Obtain, pay for, and submit all permits and necessary documents (including drawing approvals by the Electrical Inspection Authority) necessary for the electrical work to commence.

2. On completion of the work, submit a Certificate of Acceptance from the Inspection Authority to the Engineer.

FIRE STOPPING

1. The electrical contractor, in coordination with the general contractor, is responsible for the installation of all firestopping systems relative to electrical penetrations through fire rated ceiling, wall, or assemblies. The electrical contractor shall submit plans and details for all areas and shall have passed the CAN/ULC-S115 for success testing procedure.

2. The electrical contractor must provide adequate information to the engineer that firestopping has been installed to allow for field observations and reporting prior to concealment.

3. Submit shop drawings for approval, of all firestopping system details, including but not limited to, product manufacturer's specifications, technical data for each material and CUL approved documentation.

PROGRESS CLAIMS, EXTRAS, AND CREDITS

1. Immediately after award of contract, provide Engineer with an itemized schedule of the tender price, with major items, milestones, etc. as line items (examples: Mobilization, Conduit, Service Equipment, Luminaires, etc.). Volumetric system showing bidding to the quoted price. Thereafter when calculating progress claims, this schedule shall be used, and claims shall be made based upon percentage completion of each item. Extra costs shall be shown added or deleted to main contract.

2. Any claim for progress or extras or credit with respect to proposed electrical changes must be accompanied by a complete breakdown of labour and materials, together with explanation of any condition warranting additional consideration. Failure to supply such information will result in immediate rejection of the claim or offer.

A. Such claim must show quantities, unit price, labour rates and hours, suppliers' invoices, and any other substantiating documentation.

B. All equipment and material related to a claim must be installed or stored on site in a secure and safe location.

C. Where agreement cannot be arrived at, claims are to be dealt with under General Conditions, and proposed changes are to be enacted as directed in writing.

INSPECTIONS AND TESTS

1. Before energizing any portion of the electrical system, provide and pay for testing equipment as part of this contract to perform 1000 volt megger tests (L-L, L-N, L-G) on all feeders and branch circuits, and verify that results conform to the Canadian Electrical Code, and to the satisfaction of the Inspection Authority and to the Engineer.

ENGINEER SITE OBSERVATIONS

1. Contact the Engineer for field reviews at the following stages of construction (provide 5 (five) working days notice):

A. Rough-in

B. Substantial Completeness

C. Completion of Deficiencies (if required).

The following items are to be confirmed prior to substantial inspection:

A. Fire alarm system to be installed in accordance with the manufacturer's representative and witnessing engineer's certificate to be completed. Send copies to Engineer.

B. Connection of fire alarm system to central monitoring agency as per ILC-S561 to be complete and operational with certificate.

C. All emergency and exit lighting to be installed, operational and fully charged as per drawings. Contractor to conduct load test prior to review.

D. All devices not installed must have terminated inside a junction box (no exposed wiring).

E. All electrical equipment to have covers and doors installed.

F. All firestopping details to be in accordance with the applicable codes as described above may result in the Engineer being unable to issue an "Assurance of Professional Review and Compliance" (Schedule 'C') to the local building authority unless it is required for occupancy.

4. Cost for additional site reviews being required due to failure to comply with these requirements will be charged to the contractor.

AS-BUILT DRAWINGS

1. Maintain one set of as-built drawings, one set of prints on which is recorded, day-by-day, all outlets, conduit, fixtures, and equipment as installed; together with any changes made to the work. Checking of progress on the presentation of the as-built drawings will be carried out by the supervising Engineer regularly.

2. Dimension underground services installed relative to the structure, clearly dimension and mark, to ensure ease of locating at future date, all concealed conduits and/or other equipment.

3. Upon completion, obtain the most current floor plan from the engineer and transpose all as-built markups onto a clean set and scan to PDF.

OPERATION AND MAINTENANCE MANUALS

1. Provide to the Owner electronic copy of CMU Manuals for the electrical systems and equipment in PDF format. PDF shall be organized with bookmarked chapters and sections. Manuals to include written system descriptions, system drawings, drawing list, maintenance and installation instructions, test reports, maintenance schedules, shop drawings, warranty letter, list of subcontractors and equipment suppliers, clw addresses and phone numbers. Instruct the Owner in the operation and maintenance of the electrical systems. A suitable deficiency holdback will be retained until the above and related contact close-out requirements are completed.

GUARANTEE/WARRANTY

1. All electrical equipment and systems installed and connected shall be guaranteed free of defective material and workmanship for a period of the greater of one year or any manufacturer offered extended warranty or specific items or systems, with time started from date of substantial completion (or system start-up, if later than substantial completion). Any defects shall be remedied without cost to Owner during this period.

2. Provide documents of guarantee/warranty in the OMU Manuals, stating commencement of warranty period. Any manufacturer's extended warranty/warranties shall be provided as part of these documents, and drawn to the Owner's notice on turnover of manuals.

IDENTIFICATION and LABELING

1. All items of new electrical equipment such as power, lighting, signal, telephone panels, disconnect switches, manual and automatic control devices, etc., shall have nameplates. These nameplates shall be, unless otherwise specified, black plastic nameplate with engraved white lettering. Nameplates shall be neat and uniform in appearance.

2. Nameplates shall indicate the use and voltage of equipment, as specified and shown on the drawings.

A. Panels: Voltage, phase, identification

B. Low Voltage Panels: Name, location

C. Motor Controls: Name of equipment controlled

D. Automatic Controls: Identify as on schematic diagrams

3. Distribution panels shall have date of installation and individual nameplates indicating each circuit's use.

4. Branch circuit panels shall have typed circuit directories behind clear plastic, on the inside of the panel door.

5. Identify all receptacle coverplates with clear self-adhesive Mylar tape with black lettering indicating panel and circuit number (i.e. "A25"). Alternatively coverplates can be mechanically engraved.

6. All labels and markings shall have adjusted trip settings to have lamco label stating "MOPC...A".

7. Identification of Panels and Junction Boxes

A. Each panel, junction box and junction box cover shall be colour identified by system type carried.

B. Voltage colour identification for low voltage equipment shall be as follows:

a. 120/208 V or 120/240 V Grey

b. 277/480 V Yellow

c. 347/600 V Red

d. High voltage (above 750 V) Orange

C. System colour identification for low voltage systems equipment shall be as follows:

a. Fire Alarm / Telephone Red

b. Security CCTV Yellow

c. Data / Telephone Wiring Green

d. Access Control Yellow

e. Intercom

f. LV Emergency Lighting

g. Low Voltage Switching

h. Nurse Call

g. Green

8. Conductors to be colour coded per following schedule for 120V and above:

Phase 'A' Red

Phase 'B' Black

Phase 'C' Blue

Neutral White

Ground Green

GROUNDING and BONDING

1. Provide grounding and ground rod network in accordance with CEC Section 10 and Table 16.

2. Ground rods to be 19mm x 300mm, install minimum of three rods spaced 300mm apart.

3. Maximum resistance to ground shall be 20 ohms.

4. Buried grounding conductors shall be #20 AWG bare copper. Use approved connection method only, refer to local inspection department and utility service provider requirements.

5. Above ground conductors shall be #10 AWG bare copper.

6. Bond all ground connected equipment to ground using suitable connectors. Equipment bonding conductors shall be sized according to CEC Table 16.

7. Bond all ground rods to ground using suitable connectors.

8. Bond all ground rods to ground using suitable connectors.

9. Bond incoming gas and water mains with minimum #6 AWG to main building ground.

10. Bond all pools, jacuzzis, hot tubs and spas to CEC section 68. Ensure all metal parts, railings, fittings, re-bar have been properly bonded to ground and inform both the electrical inspection department having jurisdiction and electrical engineer when permitted to facilitate an inspection prior to concealment. Coordinate additional requirements with pool supplier.

11. Provide grounding bus bar c/w lugs at all telephone/TV backboards, communications cabinets, and data racks. Bond all wall or free standing data racks to ground with #6 green insulated ground wire.

12. Provide ground connection to all electrical equipment.

13. Provide ground connection to all electrical equipment.

14. Provide ground connection to all electrical equipment.

15. Provide ground connection to all electrical equipment.

16. Provide ground connection to all electrical equipment.

17. Provide ground connection to all electrical equipment.

18. Provide ground connection to all electrical equipment.