STANDARD DETAILS

THESE DRAWINGS ILLUSTRATE SOME OF THE MINIMUM ONTARIO BUILDING CODE REQUIREMENTS WHICH APPLY TO RESIDENTIAL CONSTRUCTION IN ONTARIO, AND ARE PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY. THE DETAILS PROVIDED ARE NOT MEANT AS LEGAL OR TECHNICAL ADVICE AND IT SHOULD NOT BE RELIED UPON AS SUCH. THEY DO NOT NECESSARILY REPRESENT EVERY DETAIL OF BUILDING CONSTRUCTION, OR ALL MINIMUM STANDARDS WHICH MAY APPLY. FOR MORE DETAILED INFORMATION ABOUT CONSTRUCTION REGULATIONS REFER TO THE ONTARIO BUILDING CODE, YOUR MUNICIPAL BUILDING DEPARTMENT, OR A QUALIFIED DESIGNER.

CLIMATIC DESIGN REQUIREMENTS

THESE DETAILS APPLY TO ZONE 1 NON-ELECTRIC SPACE HEATING ONLY. AREAS OUTSIDE GREATER TORONTO MAY BE SUBJECT TO DIFFERENT CLIMATIC CONDITIONS WHICH MAY SIGNIFICANTLY AFFECT CONSTRUCTION REQUIREMENTS. THE CLIMATIC DESIGN DATA WHICH APPLIES TO THE SPECIFIC BUILDING LOCATION SHOULD BE CONFIRMED BEFORE ADOPTING ANY OF THE DETAILS IN A PROPOSED DESIGN. CLIMATIC DESIGN INFORMATION MAY BE FOUND IN THE SUPPLEMENTARY STANDARD SB-1 OF THE ONTARIO BUILDING CODE.

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BUILDING PERMITS MUST BE OBTAINED BEFORE YOU START WORK ON A NEW HOUSE, AN ADDITION, OR ANY ALTERATIONS TO AN EXISTING HOUSE WHICH ARE SIGNIFICANT IN NATURE. PERMITS ARE GEARED TO THOSE PROJECTS WHERE HEALTH & SAFETY MATTERS ARE INVOLVED, AND EXIST TO PROTECT YOU, OTHER HOMEOWNERS, BUILDING OCCUPANTS, FUTURE OWNERS AND THE COMMUNITY.

WHEN DO I NEED A PERMIT ?

CONTACT YOUR LOCAL MUNICIPAL OFFICE FOR SPECIFIC PERMIT REQUIREMENTS FOR ANY PARTICULAR PROJECT.

PERMITS ARE NORMALLY REQUIRED FOR:

Building any detached structure larger than 10m²
Building any addition to your home
Raised porches or decks
Carports or garages
Structural alterations
Moving or lifting your house
Installing a wood stove or fireplace
Partitioning a basement or adding a basement entrance
Creating an apartment or secondary suite in your house
Altering or adding any plumbing
Demolishing a house

PERMITS ARE NOT NORMALLY REQUIRED FOR:

Replacement of windows, doors, roofing or siding
New interior wall, floor or ceiling finishes
Repairs to chimneys, porches, decks or roofs
Waterproofing repairs to a basement
Replacement of plumbing fixtures
Replacement of a furnace
Storage shed with area of $15m^2$ or less

HOW DO I GET THE PERMIT ?

1. Prepare drawings which accurately and to scale describe the construction you propose. Standard technical details are available at your local municipal office to assist in the preparation of your plans. The attached sample plans are an example of the scope of drawings usually required for an addition to a house. THESE DRAWINGS ARE NOT INTENDED FOR USE IN YOUR PERMIT APPLICATION. If you have someone else prepare your plans, ensure the designer has the appropriate qualifications required in the building code. It is usually advisable to verify with your local municipal office that your proposed site plan will meet local zoning standards before you prepare the complete construction plans.
2. Visit the website or the office of your local municipality, and complete a building permit application.
3. Provide the required construction drawings, including a site plan.
4. Pay the permit fee.
5. If the approval of other agencies such as the Conservation Authority applies to your application, contact the agency and apply for approval. Your local municipality can advise you if any outside agency approvals apply to your application.

WHEN WILL I GET THE PERMIT ?

Your permit will usually be issued within 10 to 15 business days if your drawings are complete and the proposed construction meets local zoning standards and the Ontario Building Code. If the approval of other agencies is required due to the location of your construction, such as the Conservation Authority, the permit may be delayed.

WHAT DO I HAVE TO DO AFTER I GET THE PERMIT ?

Review your approved permit drawings before you start work, and keep them on the project site at all times. Make working copies if necessary. The permit must be posted in a conspicuous place on your property prior to starting work. You can commence construction any time after obtaining the permit and your permit will remain valid for a minimum of six months. Local utilities such as hydro, gas and telephone operate independently from your municipality and should be contacted regarding their specific approval and inspection requirements. All utilities must be contacted prior to commencing any excavation to determine the location of any nearby underground services.

Inspection requirements are normally noted on your permit drawings or the permit itself and must be arranged by contacting the municipal building inspection office prior to covering the work. For a house addition, an inspection is usually required for footings & foundations, structural framing, plumbing, heating, insulation & vapour barriers and final inspections before using the new space. Smaller projects such as decks, garages and minor alterations will usually involve fewer inspections.

If changes to the approved work are anticipated, speak with the inspector to determine if a revision to your permit is required.

PLEASE REMEMBER TO WORK SAFELY!

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A small housing addition will usually require the submission of the following drawings. All drawings must be accurately drawn to scale. If the drawings are prepared by someone other than the owner, the designer must have the qualifications specified in the building code.

SITE PLAN

A SITE PLAN is a drawing showing the complete property and identifying all structures in relation to the property boundaries. A property survey is commonly used as a template for developing the site plan.
the site plan include:

- Scale
- North arrow
- Street location & name
- Lot lines & dimensions to all buildings
- Existing & proposed buildings
- proposed changes to existing grade

FLOOR PLANS

A FLOOR PLAN is a drawing of the structure as seen as if it is cut horizontally a few feet above the floor line. One floor plan is required for every floor of the house which is affected by the new construction. Each plan shows the interior layout of the level in question as well as providing the structural framing information for the floor or roof above. floor plans should include:

- Scale
- Use of rooms & spaces
- Dimensions
- Extent of new construction inculding new work within existing building
- Size, type and location of exterior and interior walls and partitions
- Widths, locations and lintel sizes of all openings
- Location, dimensions and direction of stairs
- References to detailed drawings
- Material specifications or notes
- Heating and ventilation details
- Location of smoke alarms and carbon monoxide detectors

ELEVATIONS

ELEVATIONS show the exterior view of each side of the house. Each elevation is identified by the direction it is facing, and should include:

- Scale
- Use of rooms & spaces
- Dimensions
- Extent of new & existing construction
- Dimensions of walls, windows & doors
- Grade level
- Exterior wall cladding, finishes & flashing
- Overhang dimensions
- Roof shape, slope & finish
- Rain water leader & eavestrough

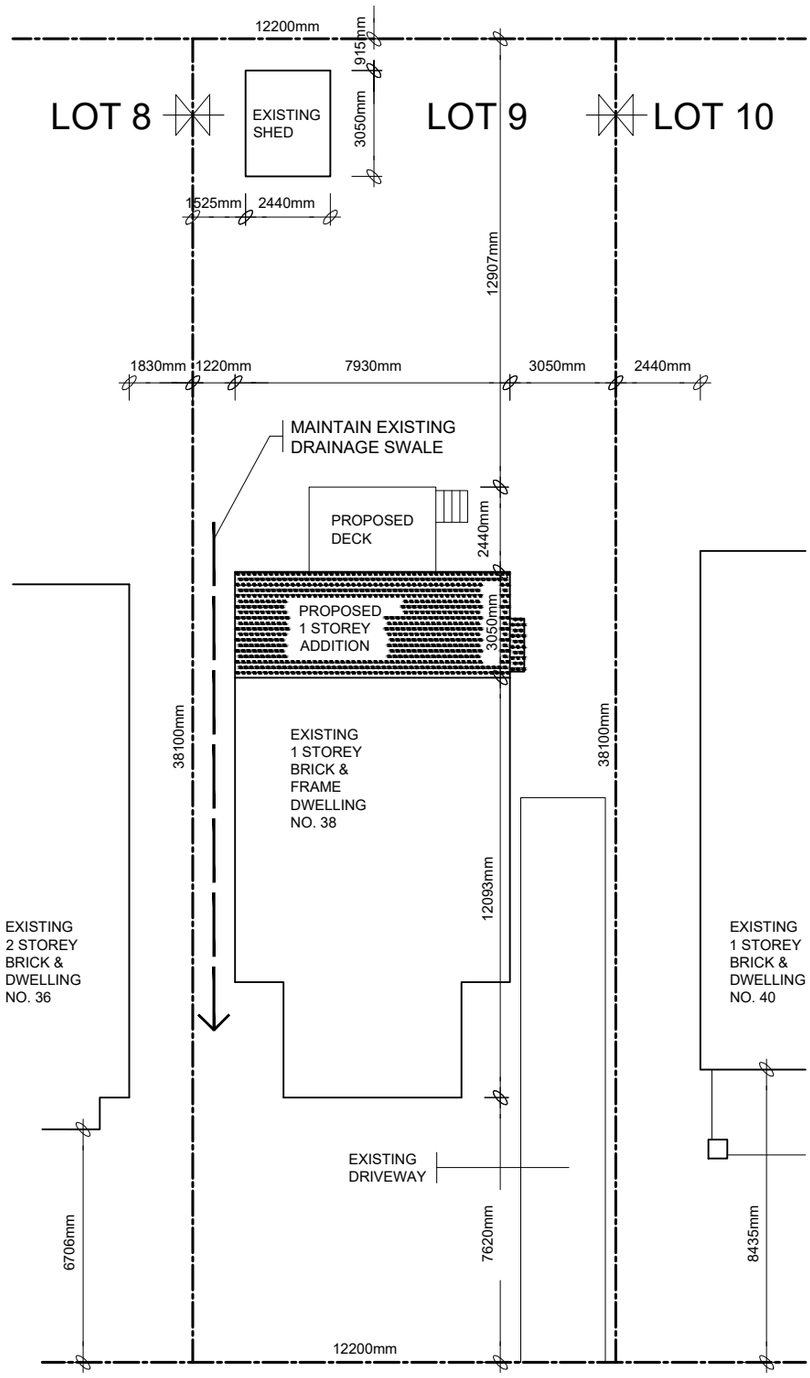
SECTIONS and DETAILS

A SECTION represents a view of the house along an imaginary line at a particular location, & illustrates construction details. The extent of the section should correspond with the sectional arrow shown on the plans. Sections should indicate the following:

- Scale
- Details of footings, foundations, walls, floors & the roof
- Distance from grade to floor & underside of footing
- Attic & crawl space ventilation

Some aspects of the project may require some specific details, such as engineered roof truss drawings. An inventory of standard construction details is available from your local municipal office, which can be used to augment your plans.

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SITE PLAN

SCALE 1:200

SKETCH OF SURVEY OF
LOT 9
REG.'D PLAN 4220
CITY OF TORONTO
B.C. TRANSIT. O.L.S.
DECEMBER 31ST, 2024

KHALMUR CRESCENT

ZONING	*LOT NO:*	*PLAN NO:*	*LOT AREA:*	*LOT FRONTAGE*	*LOT DEPTH*
R2 Z0.6	LOT 9	4220	580.64m²	12200mm	38110mm

DESCRIPTION	*EXISTING*	*ADDITION*	*TOTAL*	*%*	*ALLOWED*	*%*
LOT COVERAGE	86.52m²	24.15m²	110.65m²	19.0	----------	
GROSS FLOOR AREA	86.52m²	24.15m²	110.65m²	19.0	348.39m²	60.0
LANDSCAPED AREA	----------	----------	----------		----------	
NO. OF STORIES HEIGHT	1 STOREY 4550mm	1 STOREY 4550mm	1 STOREY 4550mm		10000mm	
WIDTH	7930mm	7930mm	7930mm		----------	
DEPTH	12093mm	3050mm	15143mm		17000mm	
PARKING	----------	----------	----------		----------	

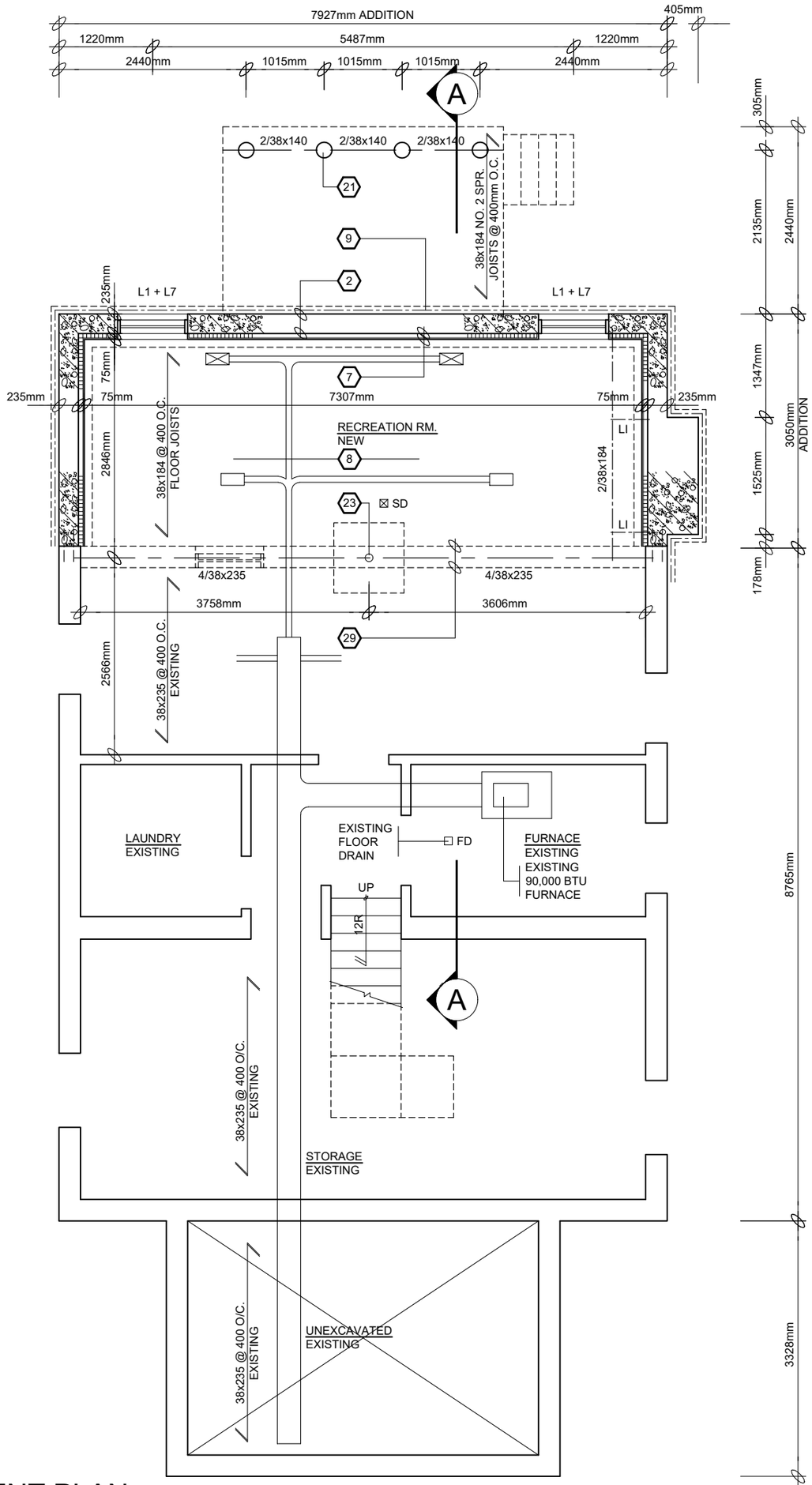
SETBACKS	*EXISTING*	*PROPOSED*
FRONT YARD	7620mm	7620mm
REAR YARD	18390mm	12907mm
INTERIOR SIDE (east)	3050mm	3050mm
INTERIOR SIDE (west)	1220mm	1220mm
EXTERIOR	----------	----------

NOTE: ZONING RESTRICTIONS VARY IN EVERY MUNICIPALITY. CONTACT YOUR LOCAL MUNICIPAL OFFICE FOR SPECIFIC SETBACKS AND OTHER LIMITATIONS IN YOUR AREA.

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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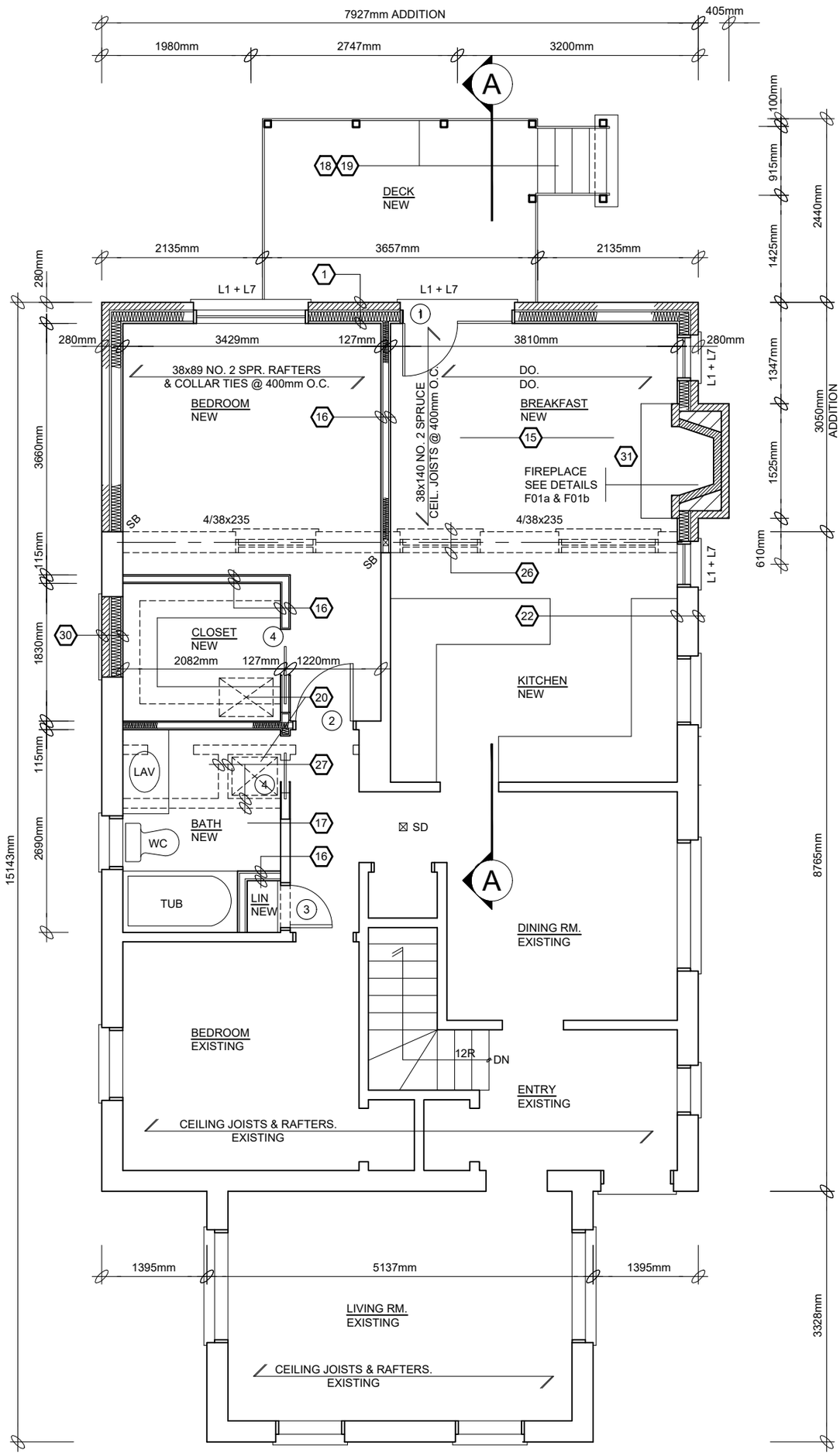
BASEMENT PLAN

SCALE 1:50

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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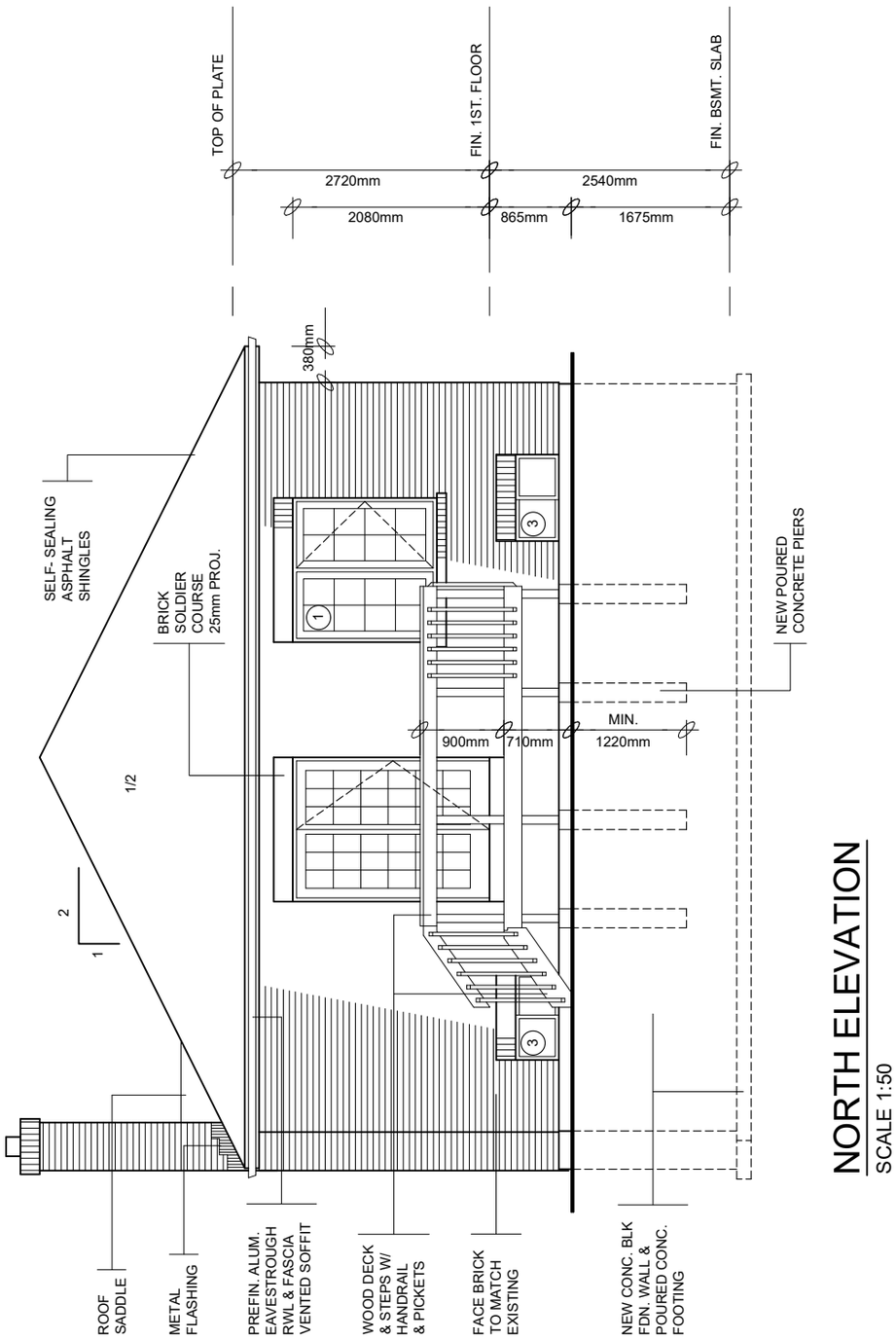
GROUND FLOOR PLAN

SCALE 1:50

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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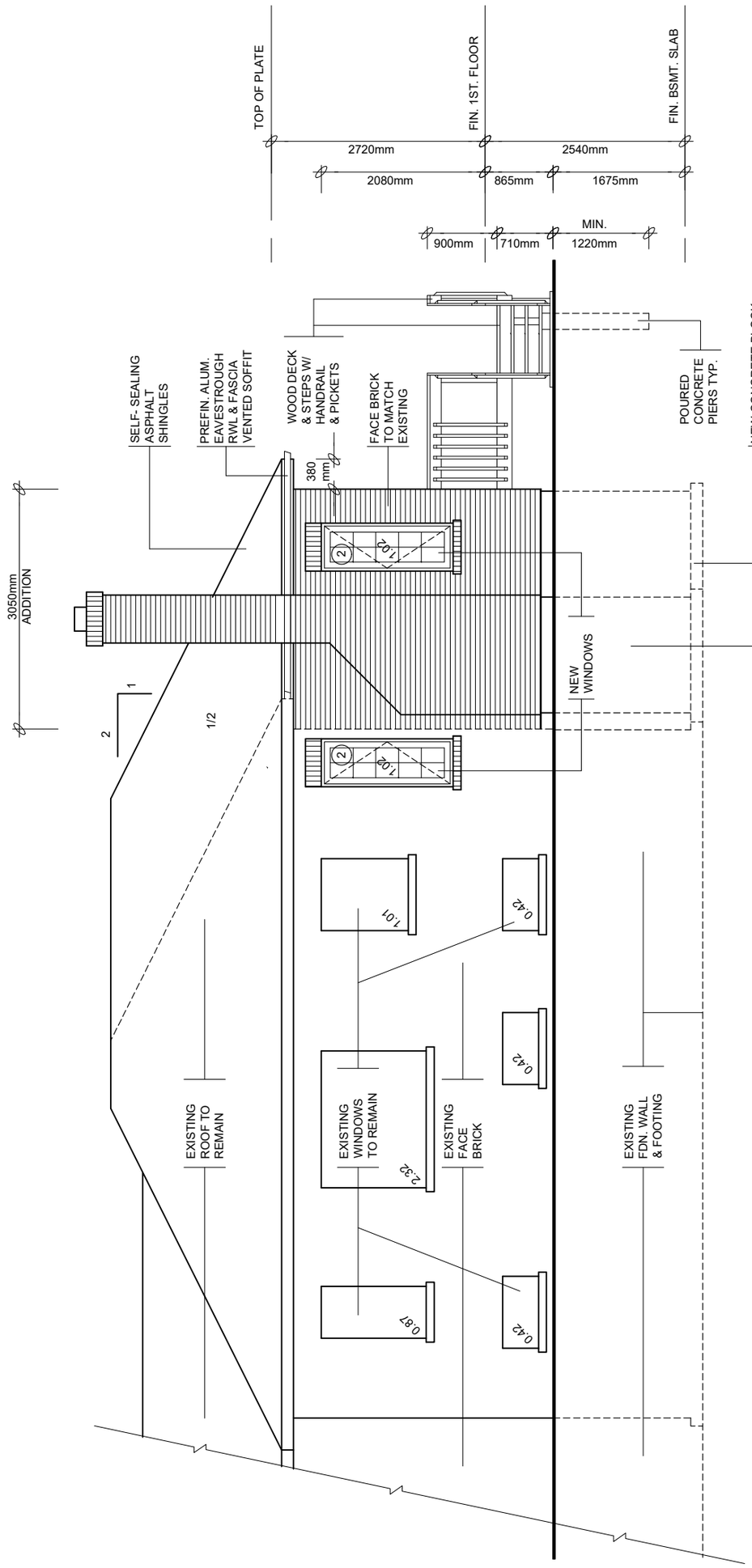
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NORTH ELEVATION
SCALE 1:50

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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EAST ELEVATION

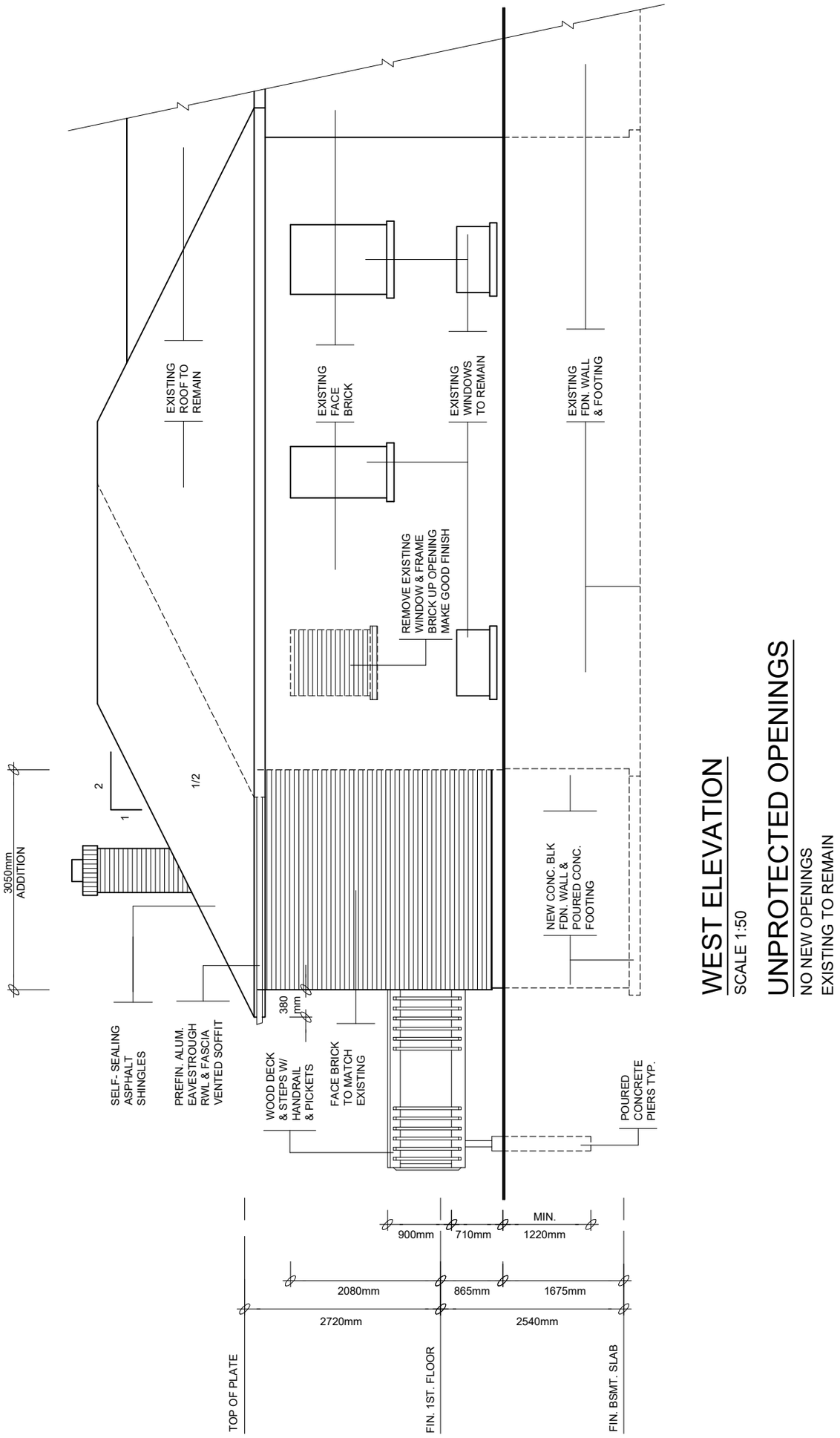
SCALE 1:50

UNPROTECTED OPENINGS

WALL AREA	42.36m²
LIMITING DISTANCE	3050mm @ 18.00%
MAX. ALLOWABLE OPENINGS	7.62m²
TOTAL OPENINGS PROVIDED	7.50m²

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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WEST ELEVATION

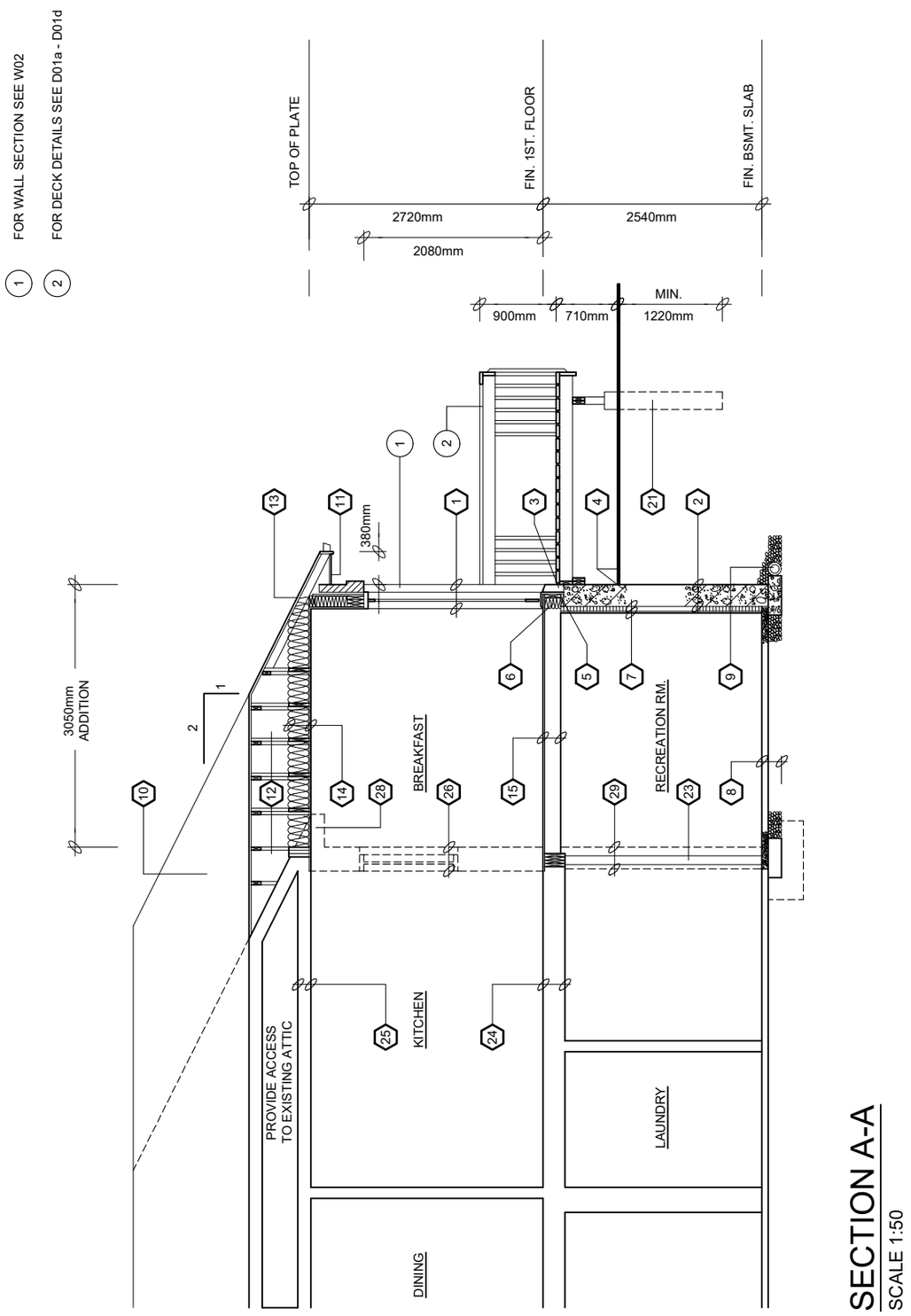
SCALE 1:50

UNPROTECTED OPENINGS

NO NEW OPENINGS
EXISTING TO REMAIN

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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SECTION A-A
SCALE 1:50

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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CONSTRUCTION SPECIFICATIONS

1 BRICK VENEER WALL

90mm FACE BRICK, 25mm AIR SPACE
0.76mm THICK x 22mm WIDE GALVANIZED
METAL TIES INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZ., 600mm O.C. VERT.
AIR BARRIERS, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIDGE INSULATION
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 400 O.C.
RSI 3.34 BATT INSUL. IN CONTINUOUS
CONTACT W/ EXTERIOR SHEATHING
CONTINUOUS AIR / VAPOUR BARRIER
12.7mm INTERIOR DRYWALL FINISH
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM

2 FOUNDATION WALL

BITUMINOUS DAMPPROOFING ON
MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL
TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE
PROVIDE PARGING COVED OVER
450mmx150mm POURED CONC. FOOTING
TO BEAR ON UNDISTURBED SOIL
PROVIDE DRAINAGE LAYER
- MIN. 19mm MINERAL FIBRE INSULATION W/ A DENSITY OF NOT LESS THAN 57kg/m3. OR
- MIN. 100mm OF FREE DRAINING GRANULAR MATERIAL OR
- A B.M.E.C.APPROVED DRAINAGE LAYER MATERIAL

3 BRICK VENEER @ FDN. WALL

0.5mm POLY FLASHING MINIMUM
150mm UP BEHIND SHEATHING PAPER
WEEP HOLES @ MIN. 800mm APART

4 GRADE

SLOPE GRADE AWAY FROM
BUILDING FACE & PROVIDE
SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

5 SILL PLATE

38x140 SILL PLATE FASTENED
TO FOUNDATION WALL WITH
MIN. 12.7mm DIA. ANCHOR BOLTS
EMBEDDED MIN, 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE A
CONTINUOUS AIR BARRIER BETWEEN
THE FOUNDATION WALL & WOOD
FRAME CONSTRUCTION

6 FLOOR INSULATION

CONTINUOUS HEADER JOIST WITH
RSI 5.46 BATT INSULATION, EXTEND
VAPOUR / AIR BARRIER & SEAL
TO JOIST AND SUBFLOOR

7 FOUNDATION INSULATION

12.7mm INTERIOR FRYWALL FINISH
38x89 WOOD STRAPPING @ 400mm O.C.
MIN. RSI 3.52 INSULATION W/ 0.15mm POLY
VAPOUR BARRIER FULL HEIGHT.
MOISTURE BARRIER TO HEIGHT OF
EXTERIOR GRADE BETWEEN
FOUNDATION WALL & WOOD FRAMING

8 BASEMENT SLAB

75mm POURED CONCRETE SLAB
(25MPa CONC. STRENGTH)
100mm CRUSHED STONE BELOW

9 DRAINAGE

100mm DIA. WEEPING TILE W/
150mm CRUSHED STONE COVER

10 ROOF CONSTRUCTION

20 YEAR ASPHALT SHINGLES W/
EAVES PROTECTION ON MIN. 9.5mm
EXTERIOR PLYWOOD SHEATHING
ON APPROVED ROOF TRUSSES OR
CONVENTIONAL FRAMING (SEE PLANS)
USE 'H' CLIPS IF 600mm O.C. SPACING

11 OVERHANG CONSTRUCTION

PREFINISHED ALUMINUM FASCIA,
EAVESTROUGH & RAIN WATER LEADERS
TO MATCH EXISTING FINISHES. PROVIDE
DRIP EDGE AT FASCIA & VENTED SOFFIT
EXTEND DOWNSPOUTS TO GRADE LEVEL

12 ROOF VENTILATION

1:300 OF THE INSULATED CEILING
AREA UNIFORMLY DISTRIBUTED.

13 EAVES PROTECTION

EAVES PROTECTION MEMBRANE TO
EXTEND FROM THE EDGE OF THE
ROOF, 900mm UP THE SLOPE BUT NOT
LESS THAN 300mm BEYOND THE
INTERIOR FACE OF THE EXTERIOR WALL

14 CEILING CONSTRUCTION

15.9mm INTERIOR DRYWALL FINISH
CONTINUOUS AIR/ VAPOUR BARRIER
W/ MIN. RSI 10.56 BATT INSULATION

15 FLOOR CONSTRUCTION

15.5mm T&G PLYWOOD SUBFLOOR
38x184 FLOOR JOISTS @ 400mm O.C.
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19mmx64mm STRIPPING
OR 2 ROWS OF 38mmx38mm CROSS
BRIDGING OR SOLID BLOCKING

16 INTERIOR STUD PARTITION

12.7mm DRYWALL FINISH BOTH SIDES OF
38x89 WOOD STUDS @ 400mm O.C.
2 TOP PLATES & 1 BOTTOM PLATE
PROVIDE REINFORCEMENT FOR FUTURE
GRAB BAR INSTALLATION IN BATHROOM

17 MECHANICAL VENTILATION

PROVIDE MIN. 5.0 L/S IN KITCHENS
AND BATHROOMS, 37.5 L/S FOR
PRINCIPAL EXHAUST FAN

18 STAIRS INTERIOR / EXTERIOR

MAXIMUM RISE	=	200mm
MINIMUM RISE	=	125mm
MINIMUM RUN	=	255mm
MAXIMUM RUN	=	355mm
MINIMUM TREAD	=	255mm
MAXIMUM TREAD	=	380mm
MAXIMUM NOSING	=	25mm
MINIMUM WIDTH	=	860mm
MINIMUM HEADROOM	=	1950mm

19 GUARDS

INTERIOR LANDINGS	=	900mm
EXTERIOR BALCONY	=	1070mm
INTERIOR STAIRS	=	900mm
EXTERIOR STAIRS	=	900mm
MAX. BETWEEN PICKETS	=	<100mm

GUARD HEIGHT IF
DECK TO GRADE IS:

GREATER THAN 1800mm	=	1070mm
1800mm OR LESS	=	900mm

NO MEMBER OR ATTACHMENT
BETWEEN 140mm & 900mm HIGH
SHALL FACILITATE CLIMBING

20 ATTIC ACCESS

PROVIDE ATTIC ACCESS
MIN. 545mmx588mm W/ INSULATION
& WEATHER STRIPPING

21 PIERS

PROVIDE 200mm SIA. SONO TUBE
FOR POURED CONCRETE PIERS
MINIMUM 1200mm BELOW GRADE

22 EXISTING SOLID MASONRY EXTERIOR WALL TO REMAIN

23 73mm DIA. PIPE COLUMN W/ 100mmx100mmx6.35mm TOP & BOTTOM PLATE 1mx1mx450mm CONCRETE FOOTING

24 EXISTING FLOOR STRUCTURE TO REMAIN

25 EXISTING CEILING STRUCTURE TO REMAIN

26 REMOVE EXISTING EXTERIOR WALL AS SHOWN DOTTED

27 REMOVE EXISTING INTERIOR STUD PARTITIONS AS SHOWN DOTTED

28 REMOVE EXISTING ROOF OVERHANG AS SHOWN DOTTED

29 REMOVE EXISTING FOUNDATION WALL AS SHOWN DOTTED

30 REMOVE EXISTING WINDOW & FRAME MAKE GOOD OPENING W/ BRICK TO MATCH EXISTING ON THE EXTERIOR

31 INSTALL A CARBON MONOXIDE DETECTOR CONFORMING TO CAN/CGA-6.19 OR UL 2034

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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ROOM FINISH SCHEDULE

RM NO.	ROOM NAME	FLOOR		BASE		WALLS		CEILING			REMARKS
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
	FIRST FLOOR										
1.	KITCHEN	CERAMIC TILE	----------	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	
2.	BREAKFAST	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
3.	BEDROOM	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
4.	CLOSET	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
5.	BATH	CERAMIC TILE	----------	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	
	BASEMENT										
6.	REC. ROOM	CONC.	CERAMIC TILE	WOOD	PAINT	DRYWALL	PAINT			2340mm	

DOOR SCHEDULE

NO.	TYPE	SIZE	QTY.	REMARKS
1.	EXTERIOR	1525mm x 2030mm	1.	FRENCH DOOR
2.	SLAB	760mm x 2030mm	1.	800 SERIES
3.	SLAB	610mm x 2030mm	1.	800 SERIES
4.	POCKET DOOR	610mm x 2030mm	2.	

LINTEL SCHEDULE

NO.	DESCRIPTION
L1	2-38x184 SPRUCE
L2	3-38x184 SPRUCE
L3	2-38x235 SPRUCE
L4	3-38x235 SPRUCE
L5	2-38x286 SPRUCE
L6	3-38x286 SPRUCE
L7	90mm x 90mm x 6mm L
L8	90mm x 90mm x 8mm L
L9	100mm x 90mm x 6mm L

LEGEND

- WP — DUPLEX OUTLET (WEATHERPROOF)
- 1050 — DUPLEX OUTLET (HGT. ABOVE FLR.)
- DUPLEX OUTLET (300mm ABOVE FLR.)
- EXHAUST FAN
- SWITCH
- HB — HOSE BIB
- SD — SMOKE DETECTOR
- HEAVY DUTY OUTLET
- LIGHT FIXTURE (WALL MOUNTED)
- LIGHT FIXTURE (CEILING MOUNTED)
- P — POT LIGHT FIXTURE
- R — LIGHT FIXTURE (WATER RESISTANT)
- LIGHT FIXTURE (CAPPED)
- FL — FLUORESCENT LIGHT FIXTURE
- SOLID WOOD BEARING
- FD — FLOOR DRAIN
- TV CABLE OUTLET
- TELEPHONE OUTLET
- C — COMPUTER OUTLET
- DE — DRYER EXHAUST

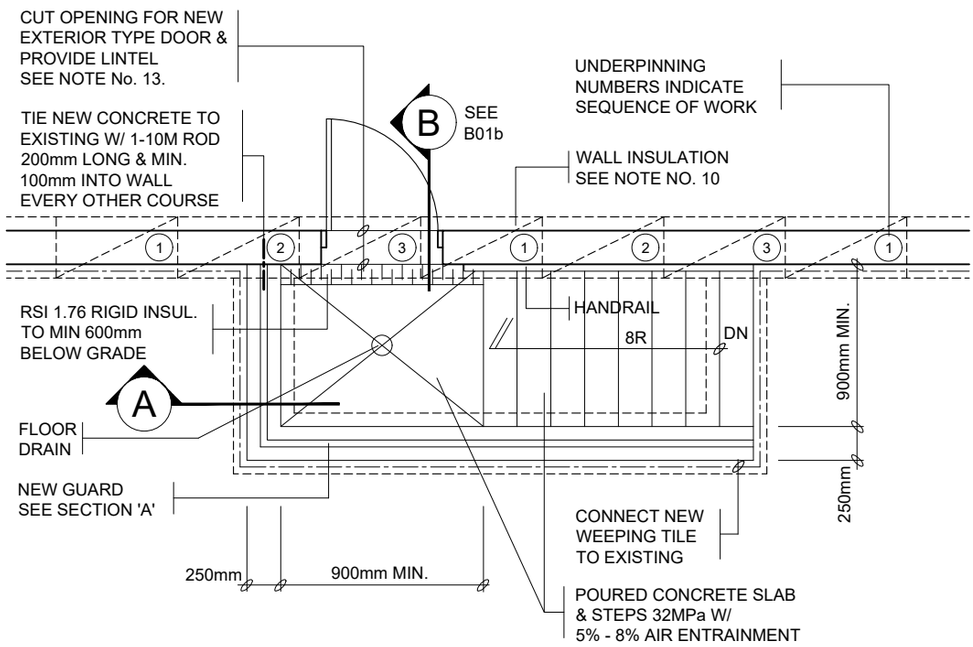
WINDOW SCHEDULE

ONE WINDOW PER FLOOR TO HAVE AN UNOBSTRUCTED OPEN PORTION W/ A MIN. AREA OF 0.35m2 W/ NO DIMENSION LESS THAN 380mm & MAXIMUM SILL HEIGHT OF 1M ABOVE FLOOR

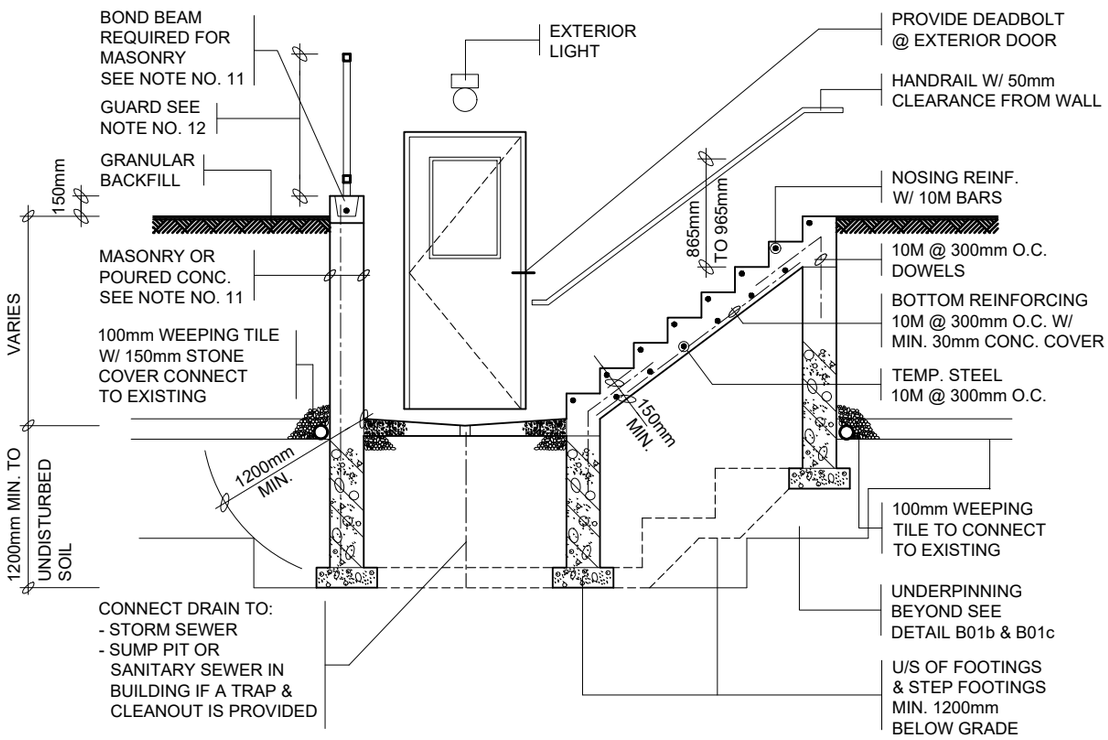
NO.	TYPE	SIZE	QTY.	REMARKS
1.	CASEMENT	1525mm x 1525mm	1.	MAXIMUM U-VALUE 1.8
2.	CASEMENT	610mmx 1525mm	2.	MAXIMUM U-VALUE 1.8
3.	SLIDER	915mmx 450mm	2.	MAXIMUM U-VALUE 1.8

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

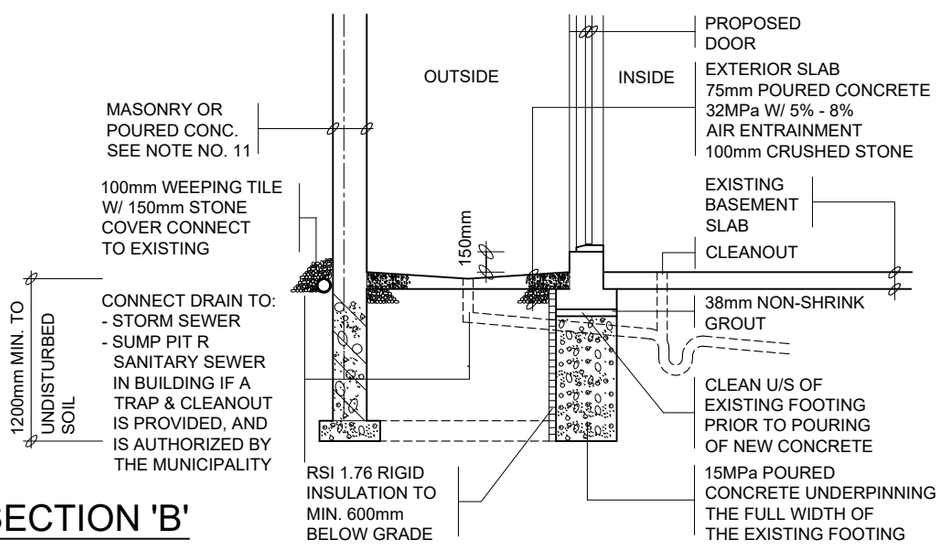
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PLAN



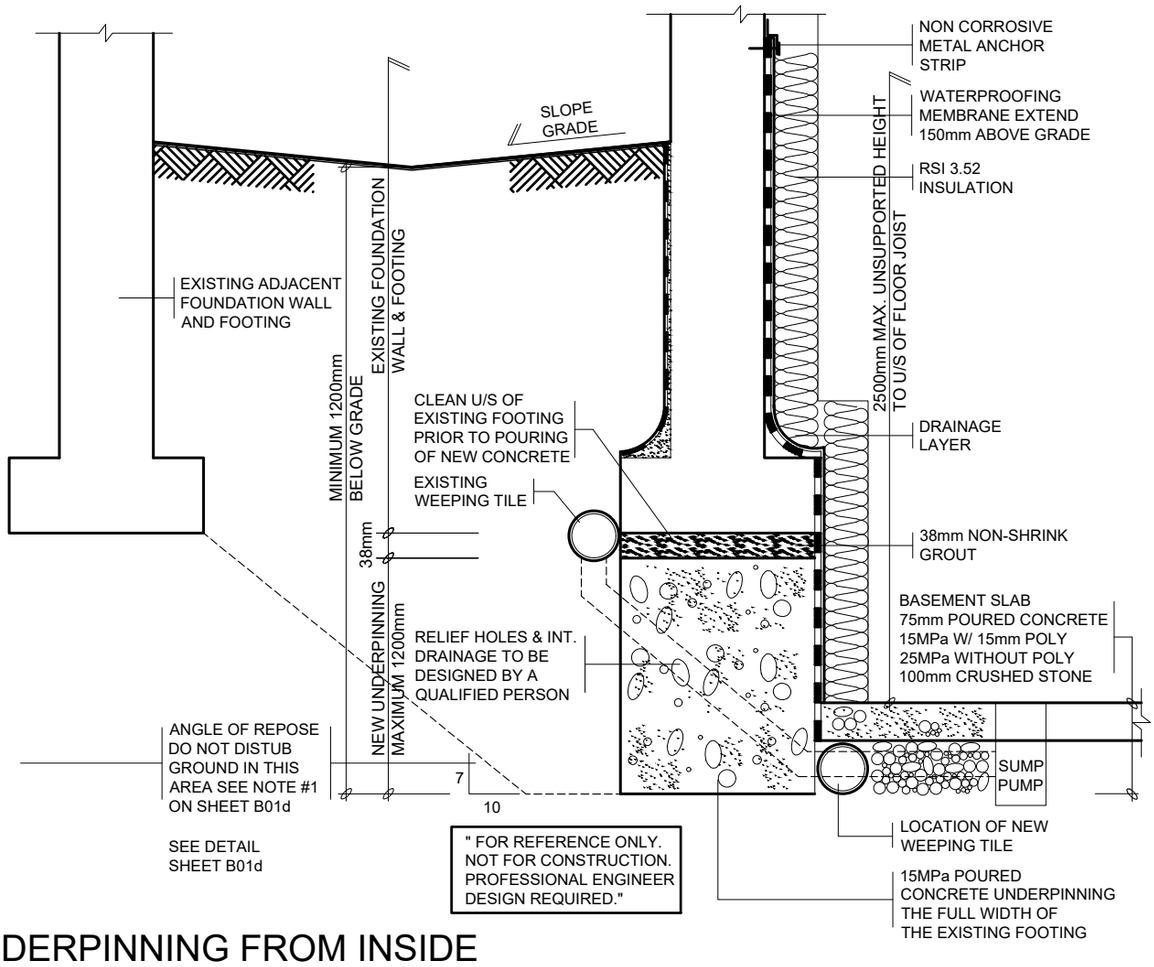
SECTION 'A'



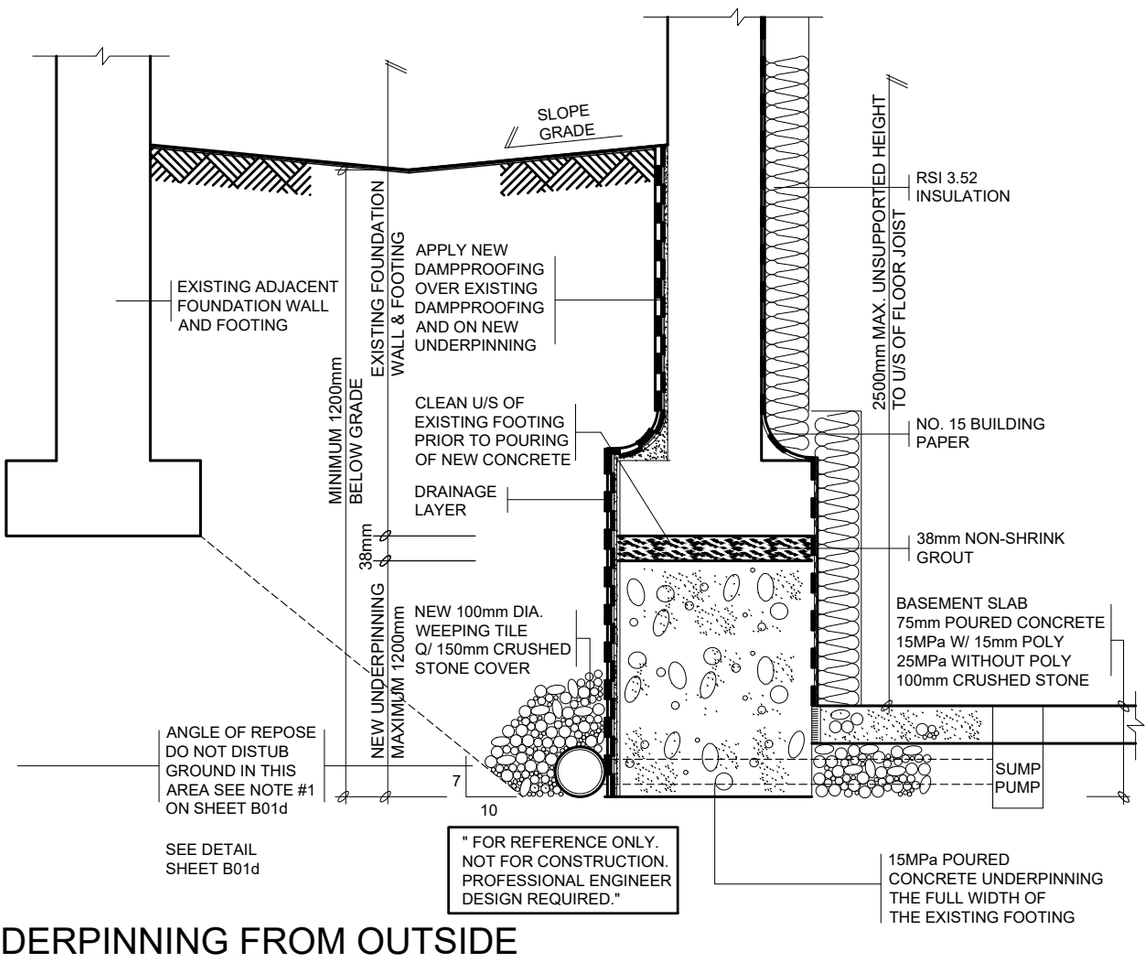
SECTION 'B'

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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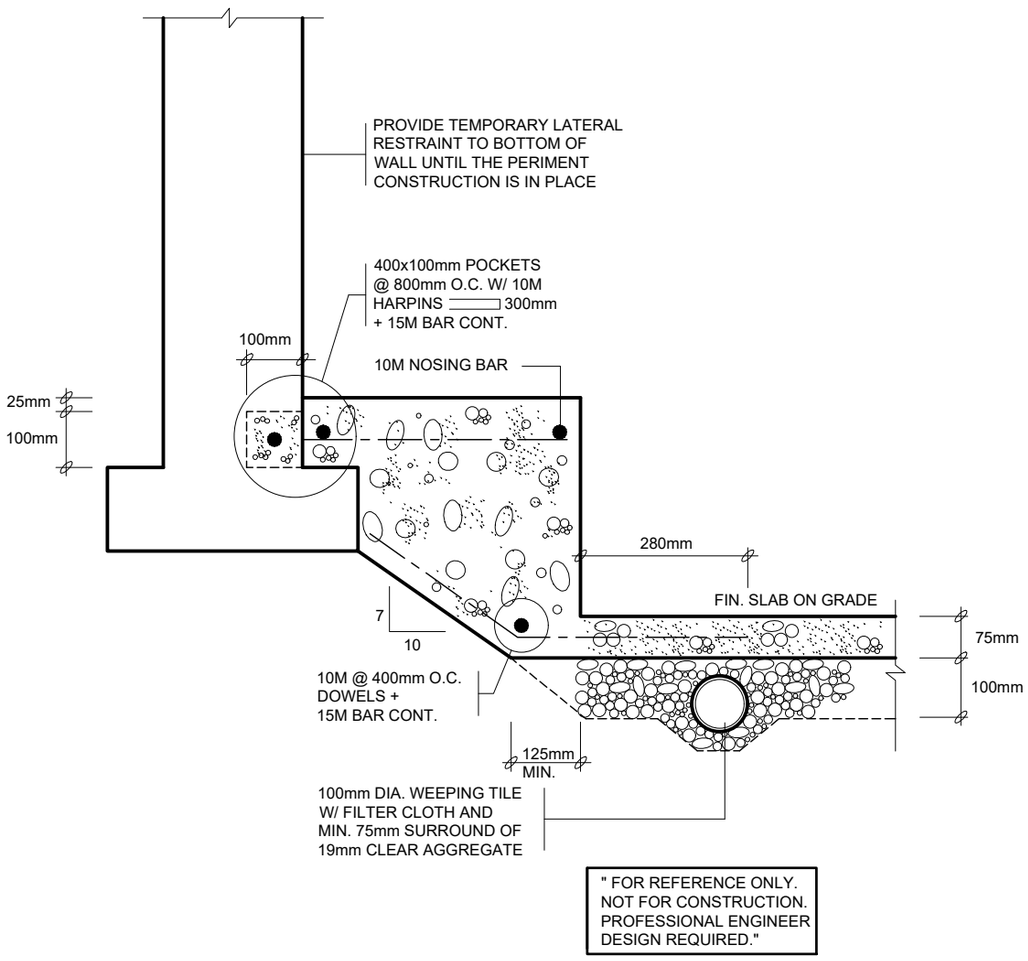
UNDERPINNING FROM INSIDE



UNDERPINNING FROM OUTSIDE

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

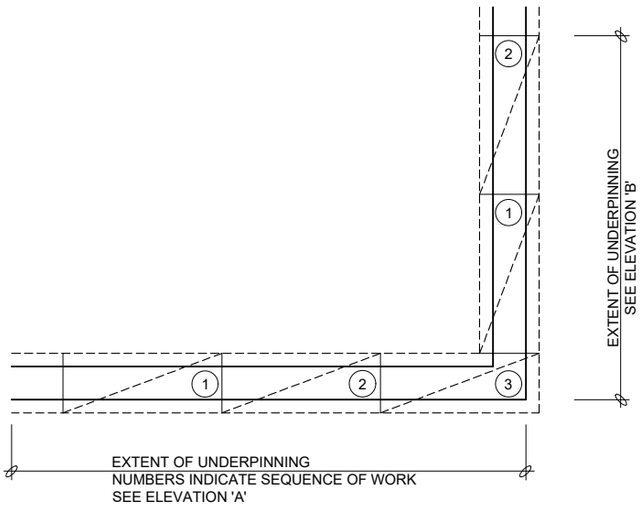
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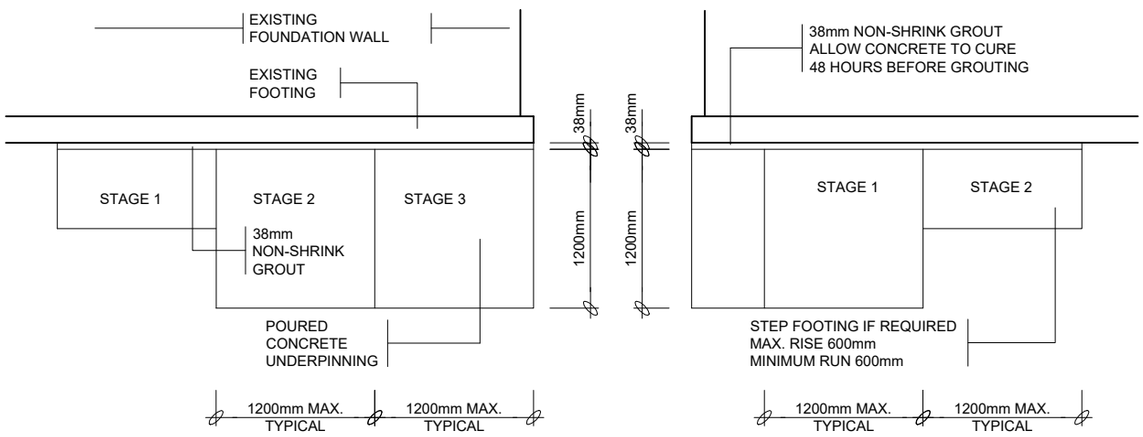
LOWERING OF BASEMENT FLOOR SLAB FROM INSIDE

GENERAL NOTES

1. EXCAVATION FOR THE PROPOSED WORK SHOULD NOT UNDERMINE THE FOUNDATIONS OF ADJOINING BUILDINGS, OR CAUSE DAMAGE TO UTILITIES, ROADS AND SIDEWALKS. A MAXIMUM 7:10 ANGLE OF REPOSE SHALL BE MAINTAINED UNLESS OTHERWISE CERTIFIED BY A GEOTECHNICAL ENGINEER.
2. PROVIDE ALL BRACING, SHORING AND NEEDLING NECESSARY FOR THE SAFE EXECUTION OF THIS WORK.
3. CONCRETE STRENGTH SHALL BE A MINIMUM 15MPa AT 28 DAYS.



PLAN



ELEVATION 'A'

ELEVATION 'B'

GENERAL NOTES

1. WHERE THE FOUNDATIONS OF A BUILDING ARE TO BE CONSTRUCTED BELOW THE LEVEL OF THE FOOTINGS OF AN ADJACENT BUILDING AND WITHIN THE ANGLE OF REPOSE OF THE SOIL, OR THE UNDERPINNING EXCEEDS 1200mm OF LATERALLY UNSUPPORTED HEIGHT OR THE SOIL IS CLAY OR SILT, THE UNDERPINNING & RELATED CONSTRUCTION SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

2. EXCAVATION SHALL BE UNDERTAKEN IN A MANNER SO AS TO PREVENT MOVEMENT WHICH WOULD CAUSE DAMAGE TO ADJACENT PROPERTY, STRUCTURES, UTILITIES, ROADS & SIDEWALKS. CONTACT YOUR LOCAL UTILITIES PRIOR TO COMMENCING EXCAVATION.

3. MINIMUM CONCRETE STRENGTH FOR UNDERPINNING SHALL BE 15MPa AT 28 DAYS. ALL EXTERIOR CONCRETE SHALL BE 32MPa W/ 5%-8% AIR ENTRAINMENT.

4. CONCRETE SHALL BE CURED MINIMUM 48 HOURS BEFORE GROUTING AND PROCEEDING TO THE NEXT STAGE.

5. SHORE & BRACE WHERE NECESSARY TO ENSURE THE SAFETY & STABILITY OF THE EXISTING STRUCTURE DURING UNDERPINNING.

6. WEEPING TILE IS TO DRAIN TO THE STORM SEWER, DITCH, DRYWELL OR INSTALL COVERED SUMP PIT WITH AN AUTOMATIC PUMP.

7. FOOTINGS
   450mm x 100mm POURED CONC. FOOTING
   ALL FOOTINGS SHALL REST ON
   NATURAL UNDISTURBED SOIL
   OR COMPACTED GRANULAR FILL

"FOR REFERENCE ONLY.
NOT FOR CONSTRUCTION.
PROFESSIONAL ENGINEER
DESIGN REQUIRED."

8. CONCRETE
   MINIMUM COMPRESSIVE STRENGTH
   OF 32MPa @ 28 DAYS W/
   5% TO 8% AIR ENTRAINMENT

9. EXTERIOR STAIRS

200mm RISE MAXIMUM	125mm MINIMUM
255mm RUN MINIMUM	355mm MAXIMUM
255mm TREAD MINIMUM	380mm MAXIMUM

10. INSULATION
    - MIN. RSI 4.23 (R24) INSULATION & VAPOUR BARRIER ON THE INSIDE FACE OF THE EXPOSED FOUNDATION WALL
    - MIN. RSI 1.76 (R10) INSULATION FOR 600mm BELOW GRADE AT WALKOUT LANDING

11. RETAINING WALL
    250mm MASONRY OR POURED CONCRETE
    W/ NO REINFORCING REQUIRED FOR
    WALL HEIGHTS TO A MAX. OF 1200mm
    PROVIDE 25M VERTICAL REINFORCEMENT
    @ 600mm O.C. AND A BOND BEAM
    CONTAINING AT LEAST ONE 15M REINFORCEMENT
    FOR BACKFILL HEIGHTS TO A MAX. OF 2400mm

12. PRE-ENGINEERED GUARDS
    1070mm HIGH WHERE DISTANCE FROM GRADE
    TO BOTTOM OF WALKOUT EXCEEDS 1800mm;
    900mm FOR LESSER HEIGHTS. MAXIMUM 100mm
    BETWEEN VERTICAL PICKETS

13. LINTELS (FOR MAX. 1200mm OPENINGS)
    1. SOLID MASONRY: 2- 90mm x 90mm x 6mm ANGLES
    2. BRICK VENEER: 1- 90mm x 90mm x 6mm L + 2-38x184
    3. WOOD FRAME/SIDING: 2-38 x 184

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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MINIMUM ROOM AREAS (OBC 9.5.3A - 9.5.3F)

APARTMENTS FOR ONE OR TWO PERSONS WHERE SPACE IS NOT PARTITIONED		
REQUIRED SPACE	MINIMUM AREA	
LIVING, DININS, KITCHEN 4 SLEEPING SPACE	13.5m^2	IN TOTAL
OTHER PARTITIONED APARTMENTS		
LIVING AREA	13.5m^2	
	11.0m^2	IF LIVING AREA IS COMBINED W/ DINING & KITCHEN SPACE
DINING AREA	7.0m^2	
	3.25m^2	IF DINING AREA IS COMBINED W/ ANOTHER SPACE
KITCHEN	3.7m^2	
AT LEAST CNE BEDROOM	9.8m^2	
	8.8m^2	IF A BUILT IN CLOSET IS PROVIDED
	4.2m^2	IF THE BEDROOM AREA IS COMBINED W/ ANOTHER SPACE
OTHER BEDROOMS	7.0m^2	
	6.0m^2	IF A BUILT IN CLOSET IS PROVIDED
	4.2m^2	IF THE BEDROOM AREA IS COMBINED W/ ANOTHER SPACE

- MINIMUM CEILING HEIGHT SHALL BE NOT LESS THAN 1950mm [OBC 9.5.3.1.(2)]
- CLEAR HEIGHT UNDER BEAMS AND DUCTING SHALL BE NOT LESS THAN 1.85mm [OBC 9.5.3.1.(3)]

MINIMUM WINDOW AREAS FOR LIGHT [OBC 9.7.2.3., 11.5.1.1.-C: C79]

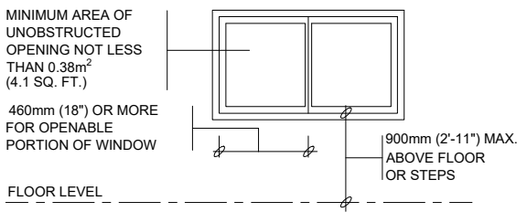
LOCATION	MINIMUM UNOBSTRUCTED CLASS AREA
LAUNDRY ROOM, KITCHEN, WATER CLOSET ROOM	WINDOWS NOT REQUIRED
LIVING/DINING ROOMS	5% OF FLOOR AREA
BEDROOMS AND OTHER FINISHED ROOMS	2 1/2% OF FLOOR AREA

- WHERE A POOR ON THE SAME LEVEL AS A BEDROOM IS NOT PROVIDED, A WINDOW THAT IS ABLE TO BE OPENED FROM THE INSIDE WITHOUT THE USE OF TOOLS PROVIDING AN INDIVIDUAL UNOBSTRUCTED OPEN PORTION HAVING A MINIMUM AREA OF 0.35m^2 WITH NO DIMENSION LESS THAN 380mm SHALL BE PROVIDED. IF THIS WINDOW OPENS INTO A WINDOW WELL, A CLEARANCE OF NOT LESS THAN 550mm SHALL BE PROVIDED IN FRONT OF THE OPERATING SASH.
- NEW OPENINGS IN EXTERIOR WALLS ARE NOT PERMITTED IF THE DISTANCE FROM THE WALL TO AN ADJACENT LOT LINE IS LESS THAN 1200mm.

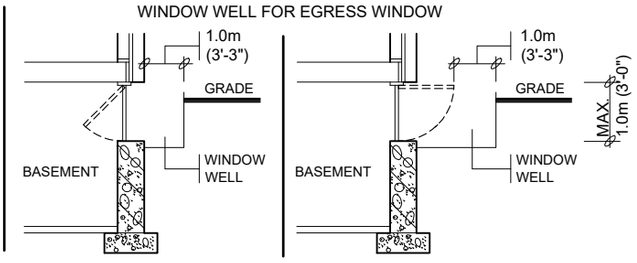
EGRESS REQUIREMENTS

EGRESS PROVIDED FROM APARTMENT	CONDITIONS
A SEPARATE DOOR LEADING DIRECTLY TO THE EXTERIOR FROM THE ACCESSORY APARTMENT	SMOKE ALARMS IN EACH DWELLING
A 'SHARED EXIT', SUCH AS A STAIRWAY USED BY BOTH UNITS	1/2 HOUR FIRE SEPARATION AROUND EXIT, AND INTERCONNECTED SMOKE ALARMS IN BOTH UNITS AND ALL COMMON AREAS.
EGRESS AVAILABLE ONLY THROUGH ANOTHER DWELLING	AN EGRESS WINDOW MUST BE PROVIDED. INTERCONNECTED SMOKE ALARMS MUST BE INSTALLED IN BOTH UNITS, AND ALL COMMON AREAS, OR THE ENTIRE BUILDING MUST BE SPRINKLERED, AND SMOKE ALARMS INSTALLED IN BOTH UNITS.

EGRESS WINDOW



WINDOW WELL FOR EGRESS WINDOW



SEPARATION BETWEEN UNITS [OBC 9.10.9.16., 11.5.1.1.-C: C156]

REQUIRED FIRE SEPARATIONS/CLOSURES	CONDITIONS
50 MINUTE FIRE SEPARATION (12.7mm TYPE 'X' GYPSUM BD. CEILING)	SMOKE ALARM IN BOTH UNITS
15 MINUTE HORIZONTAL FIRE SEPARATION	INTERCONNEOTED SMOKE ALARMS IN BOTH UNITS AND IN ALL COMMON AREAS
NO FIRE SEPARATIONS	THE ENTIRE BUILDING MUST BE SPRINKLERED
20 MINUTE LABELED DOORS, UNLABELED MINIMUM 45mm THICK SOLID CORE WOOD DOOR OR METAL CLAD	EQUIPPED WITH SELF CLOSERS
UNRATED CLOSURES	THE APARTMENT FLOOR AREA MUST BE SPRINKLERED

- REQUIRED FIRE SEPARATION CAN BE WAIVED WHEN A CONTINUOUS SMOKE-TIGHT BARRIER OF NOT LESS THAN 15.9mm TYPE 'X' GYPSUM BOARD INSTALLED ON BOTH SIDES OF WALLS AND UNDERSIDE OF FLOOR-CEILING [OBC 9.10.9.16.(4)]

SMOKE ALARMS AND CARBON MONOXIDE DETECTORS

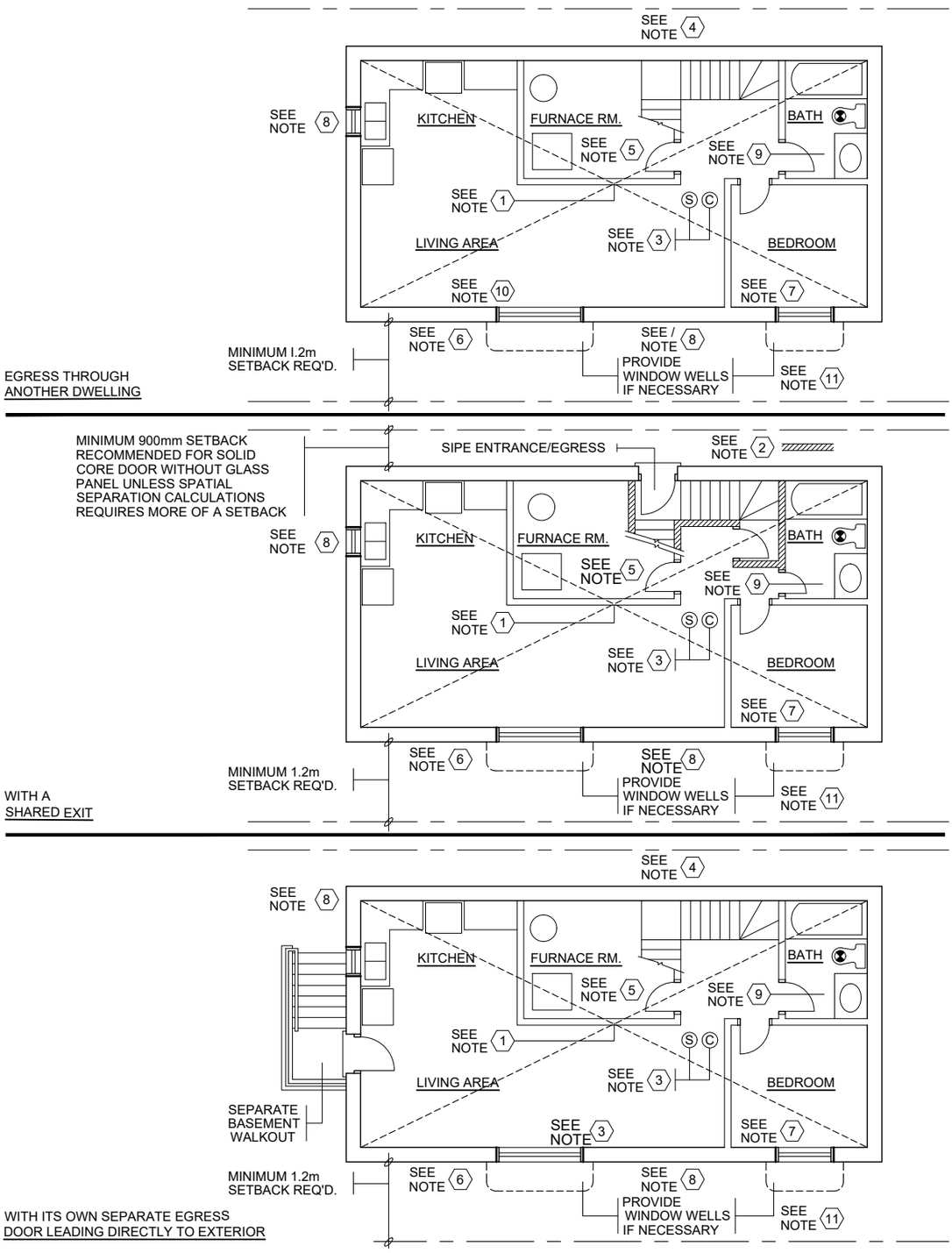
REQUIRED SMOKE ALARMS WITHIN EACH DWELLING UNIT BETWEEN THE BED RM. AND REMAINDER OF SUITE AND IN EACH BED RM.	MAY BE BATTERY OPERATED EXCEPT WHERE SMOKE ALARMS ARE REQUIRED TO BE INTERCONNECTED DUE TO **SEPARATION BETWEEN UNITS** AND **EGRESS REQUIREMENTS.** ALARMS MUST BE LOCATED ON OR NEAR THE CEILING WITHIN 5M OF BEDROOM DOORS.
REQUIRED CARBON MONOXIDE DETECTORS WITHIN EACH DWELLING UNIT ADJACENT TO EACH SLEEPING AREA	MUST CONFORM TO CAN/CSA-6.19 OR UL 2034. CO DETECTORS MAY BE BATTERY OPERATED OR PLUGGED INTO AN ELECTRICAL OUTLET.
REQUIRED VISUAL DEVICE BY EACH SMOKE ALARM	MUST CONFORM TO 18.5.3 OF NFPA 72 & INTERCONNECTED TO SMOKE ALARMS

PLUMBING, HEATING AND VENTILATION

CENTRAL HEATING SYSTEM	EXISTING SYSTEM MAY SERVE BOTH UNITS PROVIDED i) BOTH UNITS ARE EQUIPPED WITH SMOKE ALARMS, AND ii) A SMOKE DETECTOR IS INSTALLED IN THE SUPPLY OR RETURN AIR DUCT SYSTEM WHICH WOULD TURN OFF THE FUEL SUPPLY AND ELECTRICAL POWER TO THE HEATING SYSTEM UPON ACTIVATION.
NATURAL VENTILATION (OPENABLE WINDOWS/DOORS) FOR LIVING/DINING ROOMS, BEDROOMS, KITCHEN	MINIMUM 0.28m^2 (3 SQ. FT.) PER ROOM OR COMBINATION OF ROOMS
NATURAL VENTILATION (OPENABLE WINDOW) FOR BATHROOMS OR WATER CLOSET ROOMS	MINIMUM 0.09m^2 (0.97 SQ. FT.)
MECHANICAL VENTILATION, IF NATURAL VENTILATION IS NOT PROVIDED	ONE-HALF AIR CHANGE PER HOUR IF THE ROOM IS MECHANICALLY COOLED IN SUMMER, AND ONE AIR CHANGE PER HOUR IF IT IS NOT.
REQUIRED PLUMBING FACILITIES	
• KITCHEN SINK • LAUNDRY FACILITIES • BATHROOM WITH LAVATORY, TOILET AND BATHTUB OR SHOWER STALL	

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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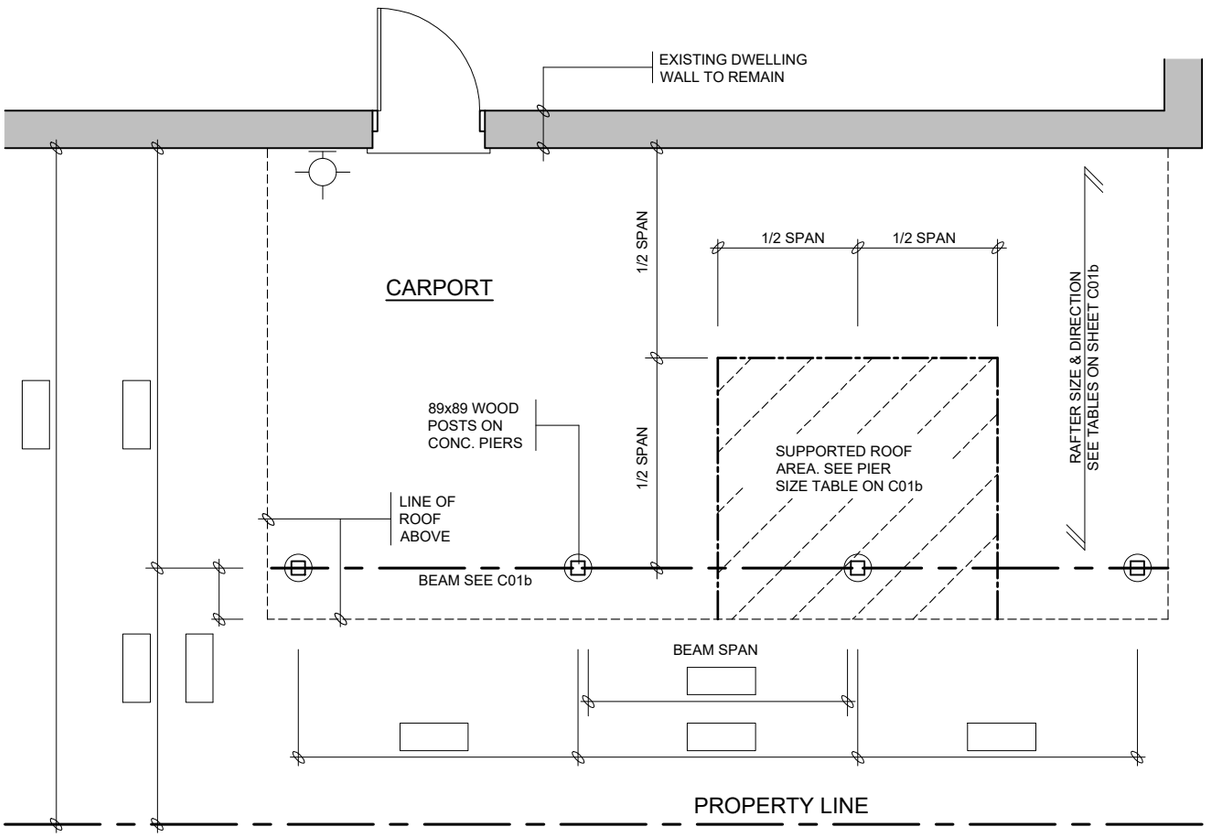


NOTES RELATED TO BASEMENT SECONDARY SUITES:

1. MINIMUM 30-MINUTE FIRE SEPARATION UNLESS INTERCONNECTED SMOKE ALARMS ARE PROVIDED IN BOTH UNITS AND ALL COMMON AREAS,
   IN WHICH CASE, A 15-MINUTE FIRE SEPARATION WOULD ONLY BE REQUIRED. INSTALLING SPRINKLERS THROUGHOUT THE BUILDING WOULD WAIVE ALL FIRE SEPARATION REQUIREMENTS. [11.5.1.1.-C, C156]
2. MINIMUM 30-MINUTE FIRE SEPARATION AROUND SHARED EXIT. [11.5.1.1.-C, C157]
   *NO FIRE SEPARATIONS ARE REQUIRED WHEN CONTINUOUS SMOKE-TIGHT BARRIER (15.9 MM TYPE 'X' GYPSUM BOARD) INSTALLED ON BOTH SIDES OF WALLS, AND THE UNDERSIDE OF FLOOR-CEILING FRAMING. [9.10.9.16.(4)]
3. SEE REQUIRED INSTALLATION INFORMATION FOR SMOKE ALARMS & CARBON MONOXIDE DETECTORS ON ATTACHED SHEET B02a.
4. STAIRWELL TO BE ENCLOSED AT TOPMOST, OR AT BOTTOM MOST LEVELS.
5. EXISTING FURNACE MAY SERVE BOTH UNITS PROVIDED A SMOKE DETECTOR IS INSTALLED IN THE SUPPLY OR RETURN AIR DUCT SYSTEM WHICH WOULD TURN OFF THE FUEL SUPPLY AND ELECTRICAL POWER TO THE HEATING SYSTEM UPON ACTIVATION OF SUCH DETECTOR. [9.10.18.5.(1)]
6. MINIMUM 5% OF LIVING/DINING FLOOR AREA OF NATURAL LIGHT (GLASS AREA) TO BE PROVIDED. [11.5.1.1.-C, C79]
7. MINIMUM 2 1/2% OF BEDROOM AND OTHER FINISHED ROOMS FLOOR AREAS OF NATURAL LIGHT (GLASS AREA) TO BE PROVIDED. [11.5.1.1.-C, C80]
8. THREE SQ. FT. CLEAR OPENING OF NATURAL VENTILATION REQUIRED FOR LIVING/DINING, BEDROOMS, AND KITCHEN. [TABLE 9.32.2.2.]
9. ONE SQ. FT. CLEAR OPENING OF NATURAL VENTILATION REQUIRED FOR BATHROOMS. MECHANICAL VENT PROVIDING 1 AIR CHANGE PER HOUR IS ACCEPTABLE. [TABLE 9.32.2.2.]
10. AN EGRESS WINDOW OR CASEMENT WINDOW, AS DESCRIBED ON ATTACHED SHEET, MUST BE PROVIDED IN THE ACCESSORY APARTMENT. OR, THE ENTIRE BUILDING IS TO BE SPRINKLERED AND SMOKE ALARMS INSTALLED IN BOTH UNITS.
11. FOR WINDOWS USED AS MEANS OF ESCAPE, WITHIN WINDOW WELLS, SEE ATTACHED SHEET FOR CLEARANCES.
12. LAUNDRY FACILITIES SHALL BE PROVIDED IN EACH DWELLING UNIT OR GROUPED IN A LOCATION IN THE BUILDING ACCESSIBLE TO OCCUPANTS OF EACH DWELLING UNIT. [9.31.4.1A.]
13. CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN EACH RESIDENTIAL SUITE. [9.32.3.9A.]
14. CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM, ADJACENT TO EACH SLEEPING ROOM, AND ON EACH STOREY WITHOUT A SLEEPING ROOM. [9.32.3.9A.]

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

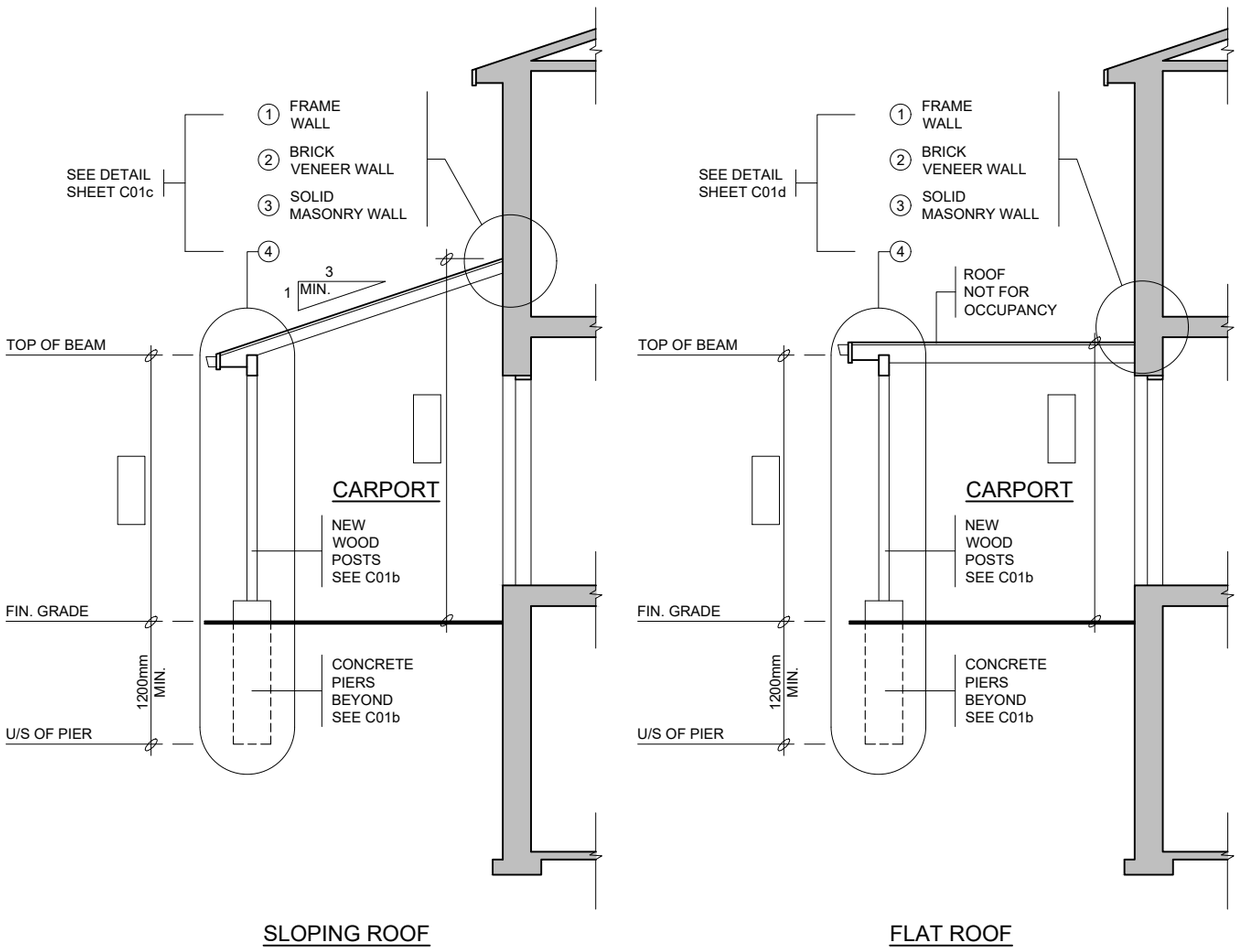
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PLAN

CARPORT PLAN (PROVIDE DIMENSIONS IN BOXES)

SEE C01b FOR STRUCTURAL SIZES



SLOPING ROOF

FLAT ROOF

SECTIONS

CARPORT SECTIONS

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
RAFTER SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	3.11	2.83	2.47	2.72	2.47	2.16
38x140	4.90	4.45	3.89	4.28	3.89	3.40
38x184	6.44	5.85	5.11	5.62	5.11	4.41
38x235	8.22	7.47	6.38	7.18	6.52	5.39

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
JOIST SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	2.47	2.24	1.96	2.16	1.96	1.71
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52

ROOFING

ROOF FRAMING (mm) O.C.	ROOF SHEATHING
RAFTERS @ 300	7.5mm PLYWOOD W/ H-CLIPS OR 17mm LUMBER
RAFTERS @ 400	
RAFTERS @ 600	9.5 PLYWOOD W/ H-CLIPS OR 19mm LUMBER

BEAMS

MAXIMUM CLEAR SPAN (m)		MINIMUM BEAM SIZE
ROOF SNOW LOAD		
1.0 kPa	1.5 kPa	
2.35	2.02	2 - 38x184
2.88	2.47	2 - 38x235
3.34	2.87	2 - 38x286

FLOOR JOISTS

PIER SIZE (mm)	SUPPORTED ROOF AREA (m^2)					
	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	ALLOWABLE BEARING CAPACITY OF SOIL			ALLOWABLE BEARING CAPACITY OF SOIL		
	75 kPa	120 kPa	190 kPa	75 kPa	120 kPa	190 kPa
200 DIA.	1.95	3.25	5.48	1.39	2.32	3.62
250 DIA.	3.07	5.11	8.08	2.14	3.62	5.76
300 DIA.	4.37	7.34	11.71	3.16	5.20	8.36
350 DIA.	5.95	9.94	15.87	4.27	7.06	11.33
400 DIA.	7.62	13.01	20.72	5.48	9.29	14.77

FLOOR JOISTS

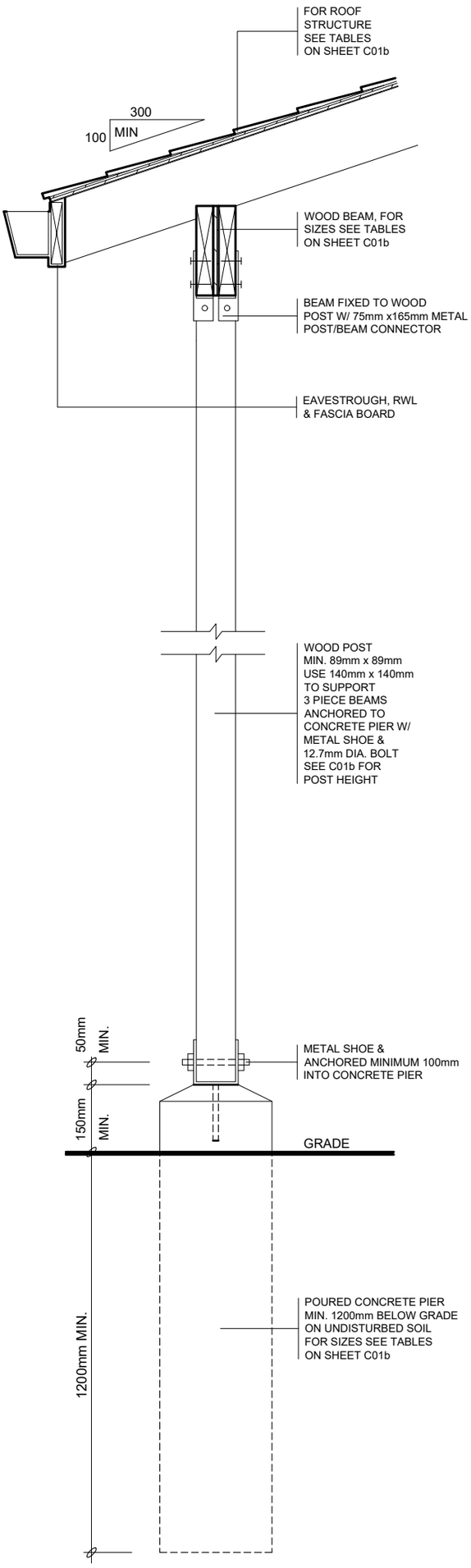
POST SIZE (mm) (SEE NOTE 5)	MAX. HEIGHT (m)	SUPPORTED ROOF AREA (m^2) ROOF SNOW LOAD (kPa)				
		1.0	1.5	2.0	2.5	3.0
89x89	1.0	17.19	12.98	10.43	8.71	7.48
	1.5	9.39	7.09	5.69	4.76	4.09
	2.0	4.98	3.76	3.02	2.53	2.17
140x140	2.0	21.65	16.35	13.13	10.98	9.43
	2.5	14.77	11.15	8.96	7.48	6.43
	3.0	10.06	7.60	6.10	5.10	4.38
	3.5	6.98	5.27	4.23	3.54	3.04

GENERAL NOTES

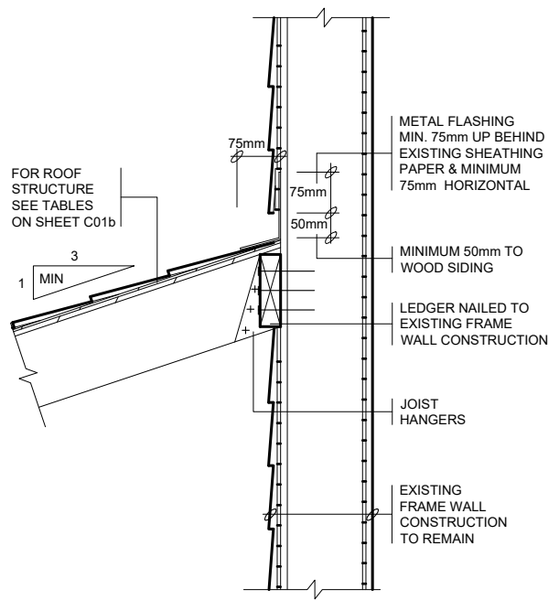
1. ALL LUMBER TO BE NO. 1 & 2 SPF OR BETTER.
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE.
3. WHERE SUPPORTED ROOF AREAS EXCEED THOSE LISTED IN THIS TABLE, THE POSTS SHALL BE BRACED AS SHOWN IN D01c.
4. WOOD POSTS TO BE MINIMUM 89mmx89mm.
5. BEARING CAPACITY OF SOIL SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

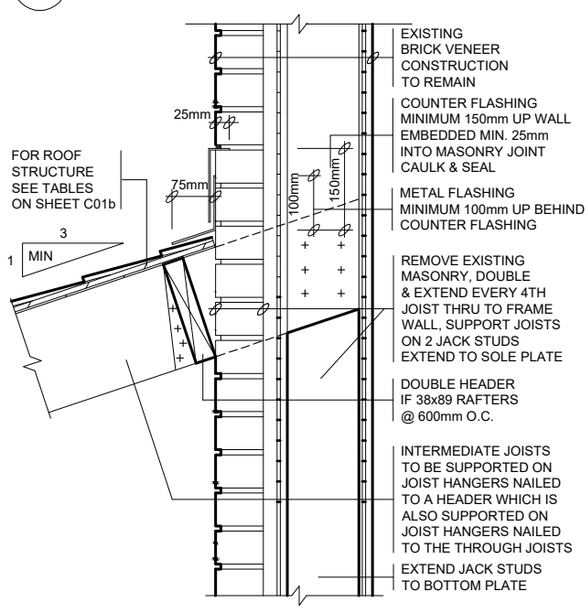
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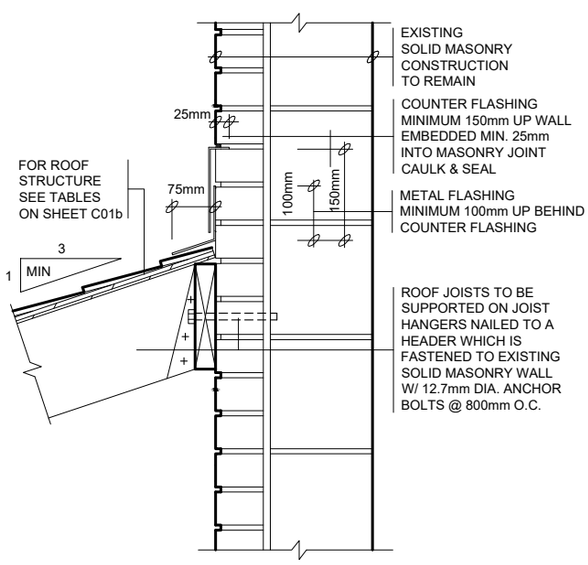
4 SUPPORT DETAIL



1 FRAME WALL



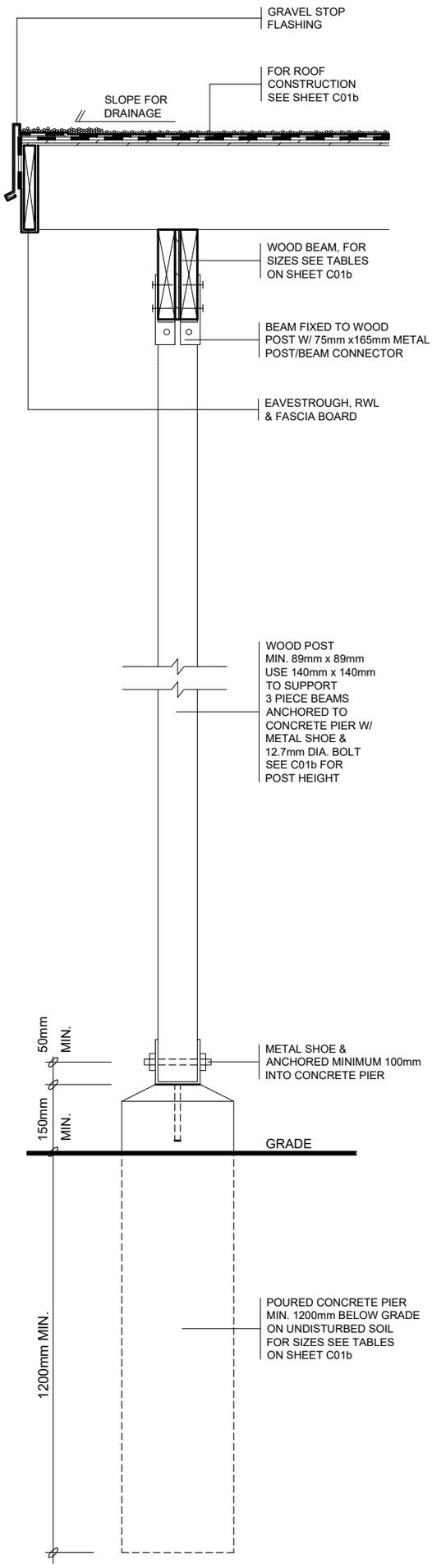
2 BRICK VENEER WALL



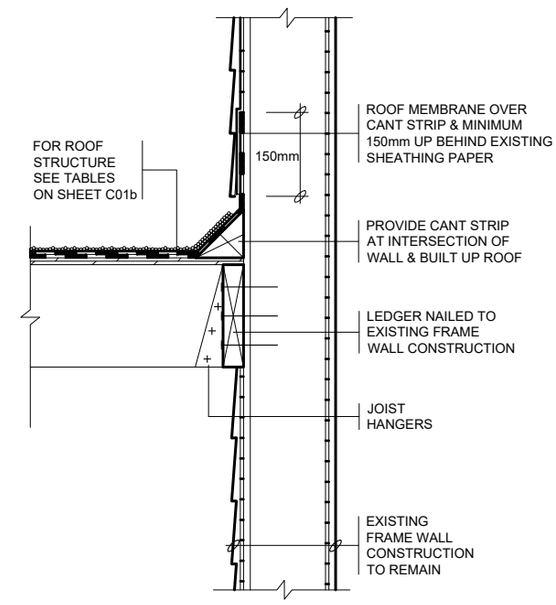
3 SOLID MASONRY WALL

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

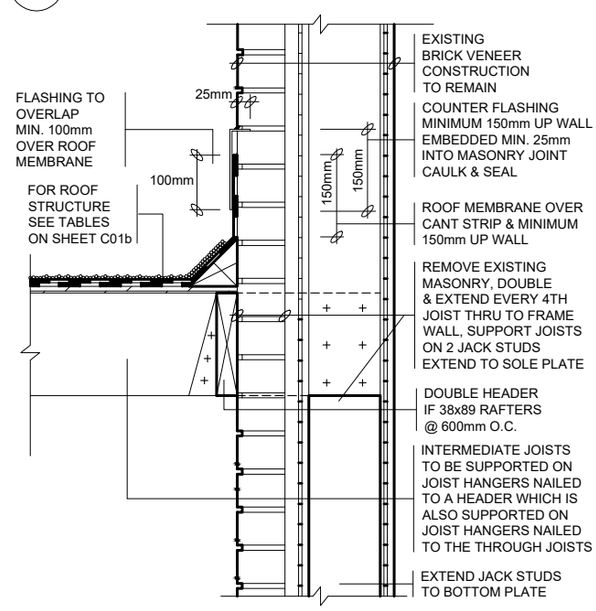
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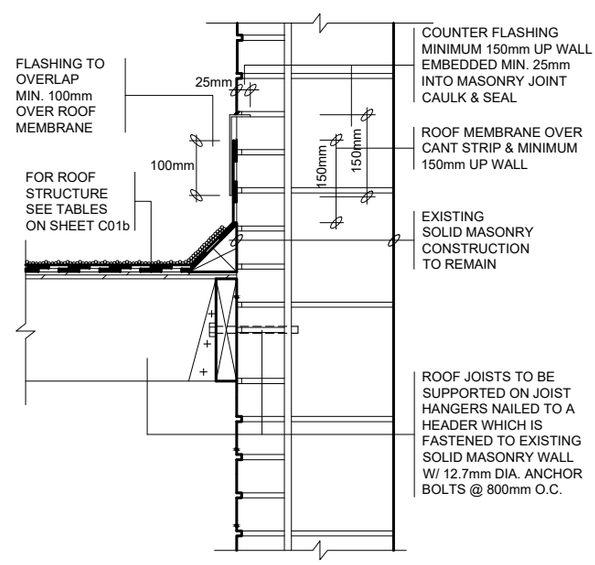
4 SUPPORT DETAIL



1 FRAME WALL



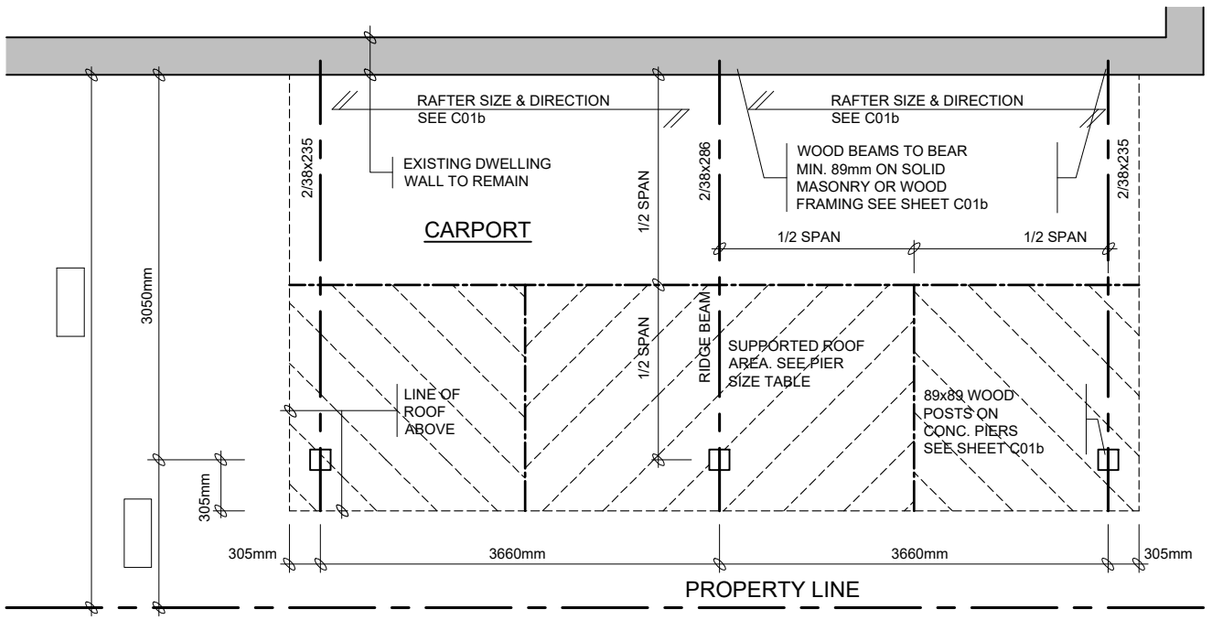
2 BRICK VENEER WALL



3 SOLID MASONRY WALL

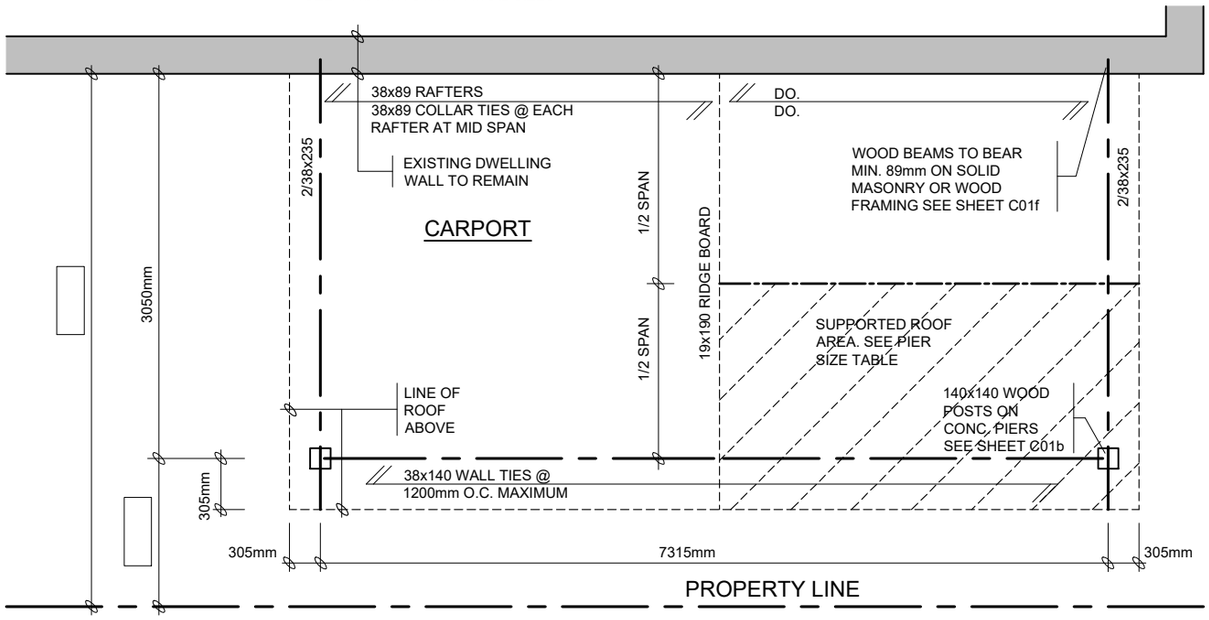
Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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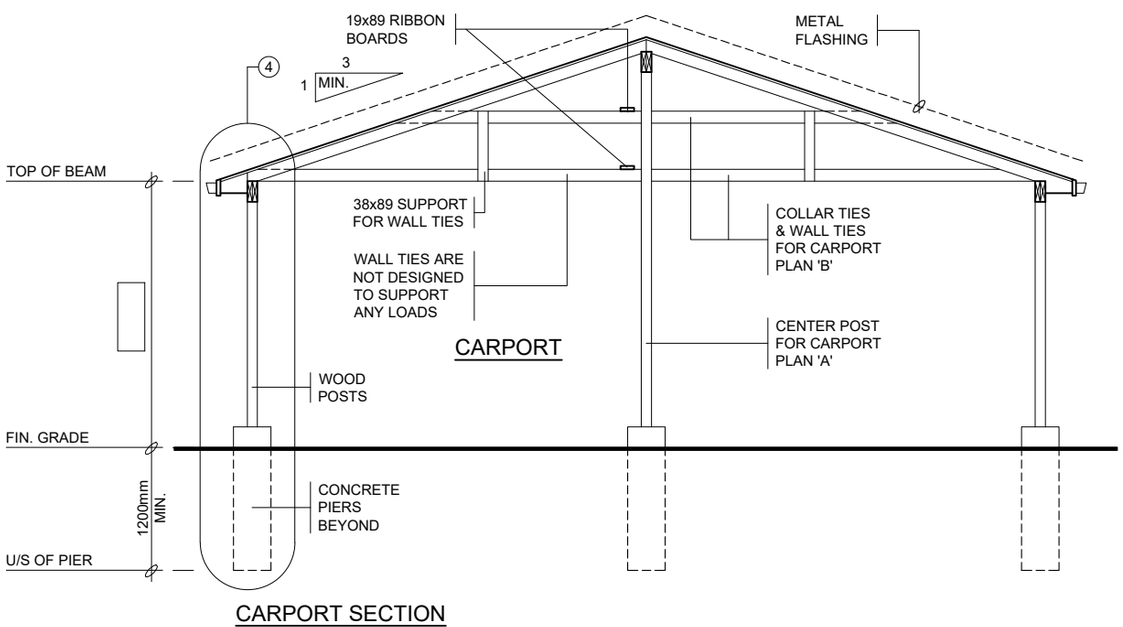
CARPORT PLAN 'A' POST & BEAM (PROVIDE DIMENSIONS)

SEE C01b FOR STRUCTURAL SIZES



CARPORT PLAN 'B' CONVENTIONAL FRAMING (PROVIDE DIMENSIONS)

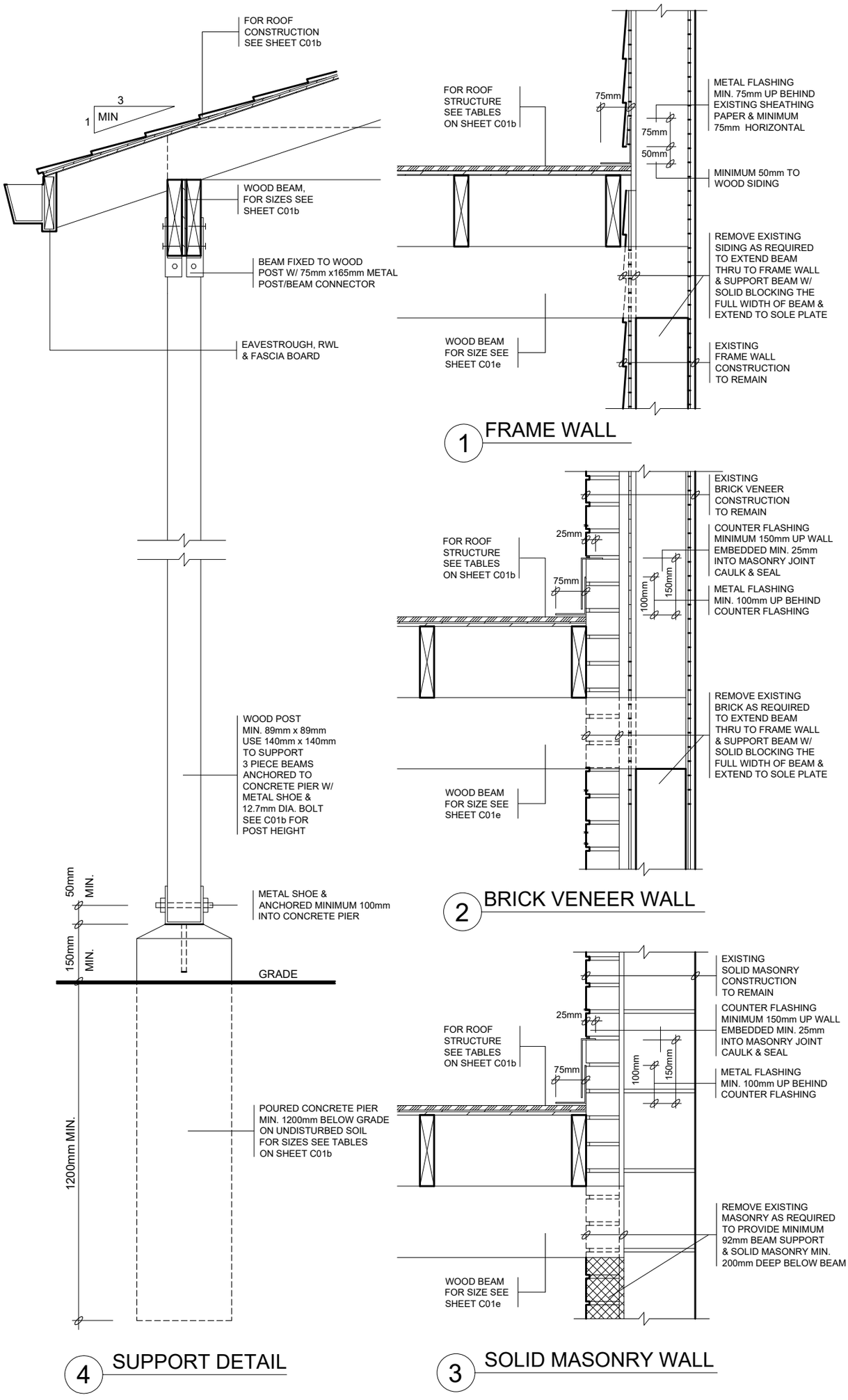
SEE C01b FOR STRUCTURAL SIZES



CARPORT SECTION

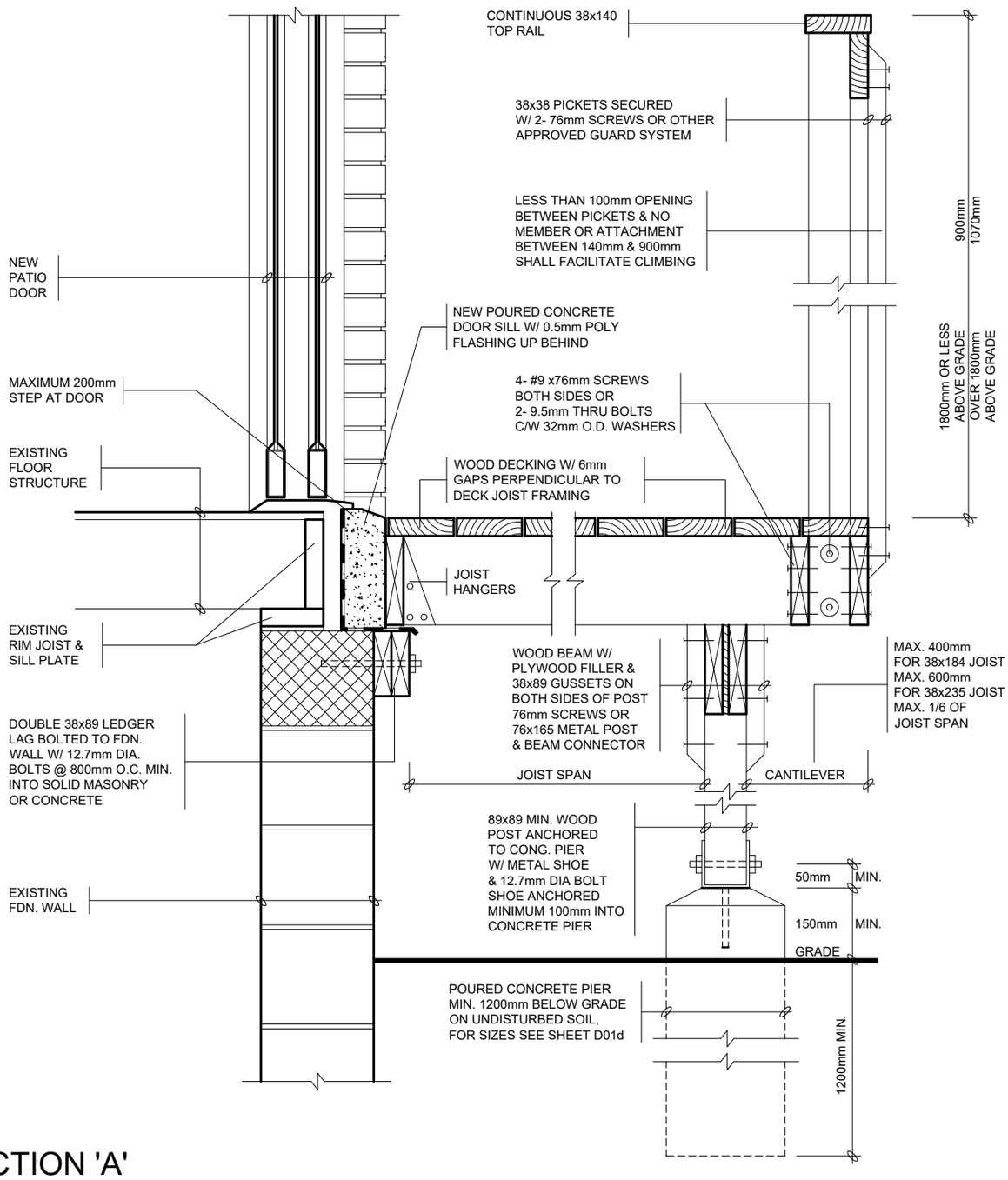
Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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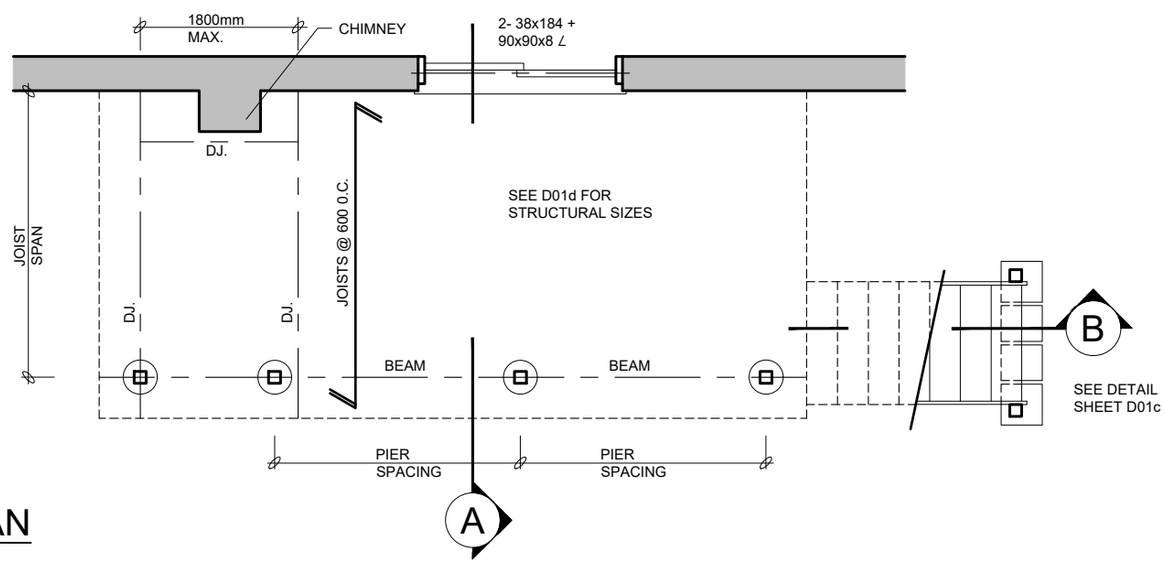


Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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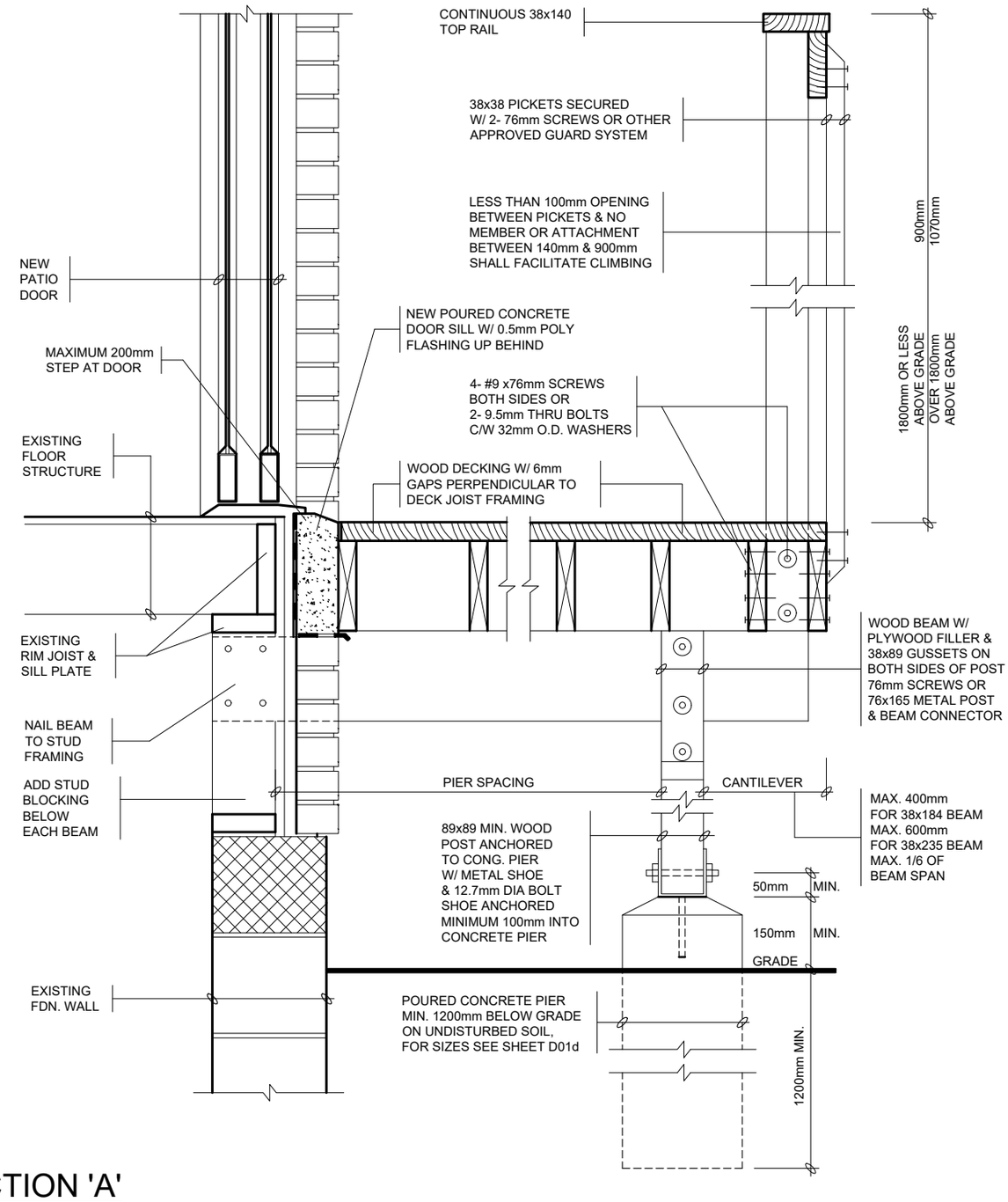
SECTION 'A'



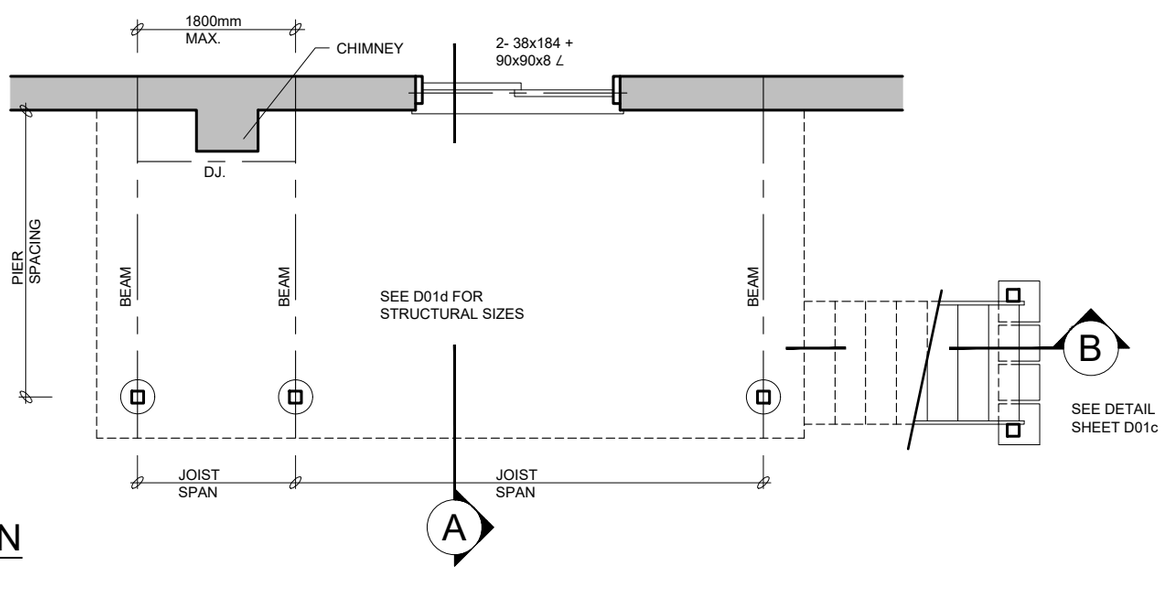
PLAN

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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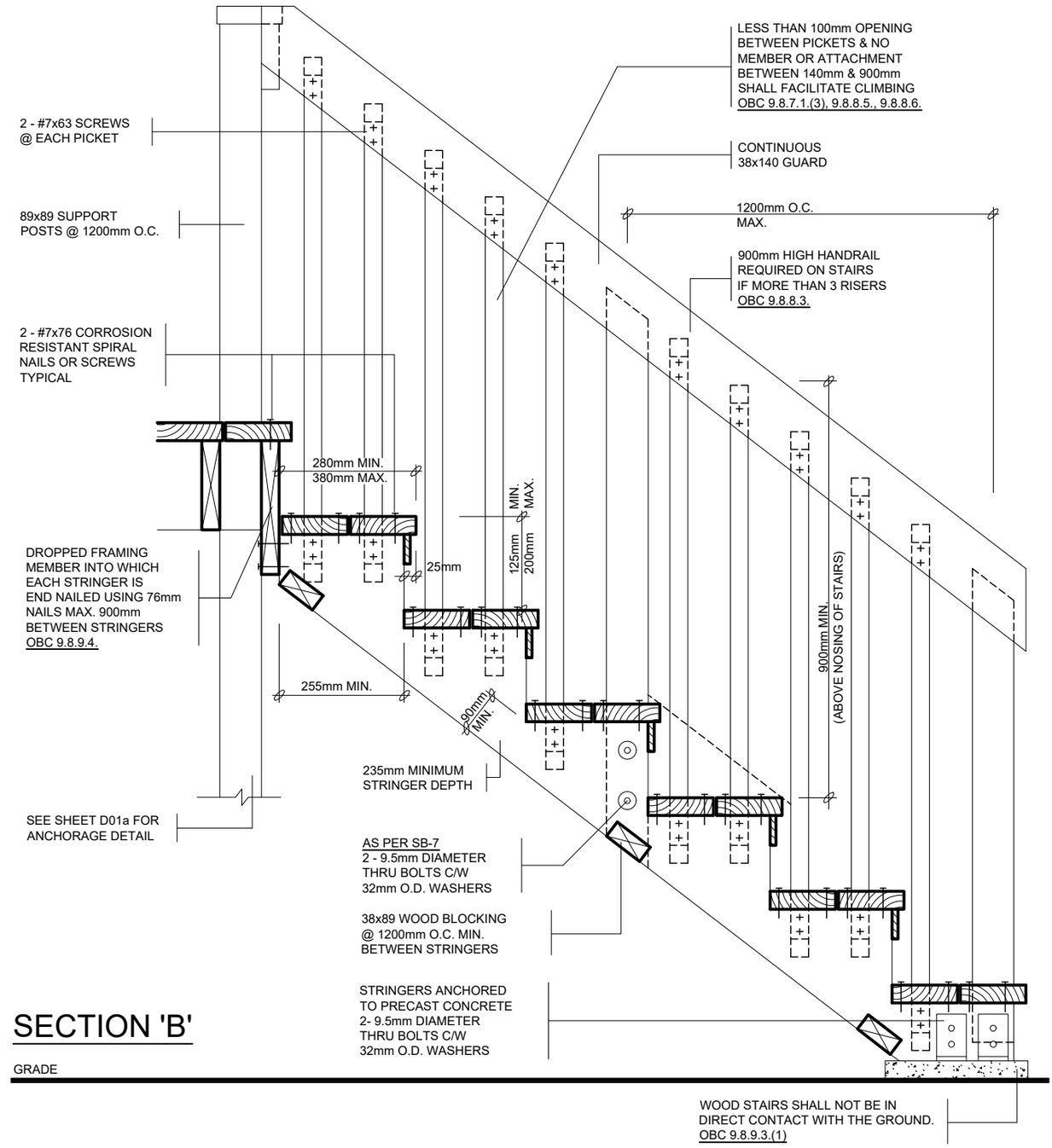
SECTION 'A'

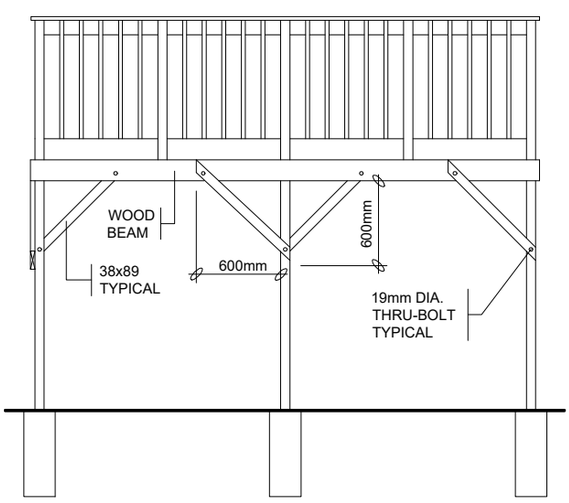


PLAN

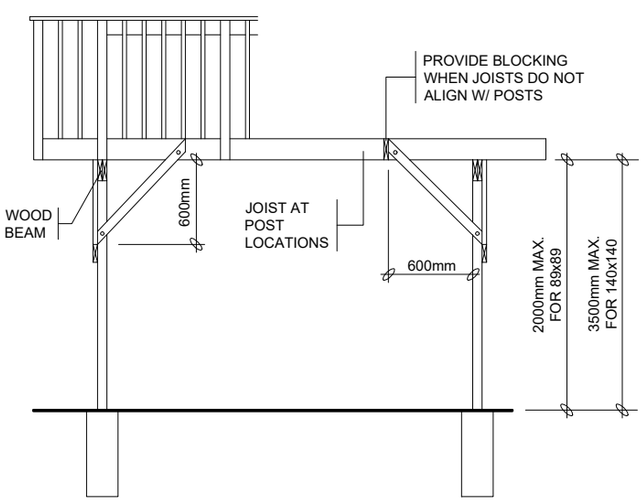
Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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BRACING PARALLEL TO BEAM



BRACING PERPENDICULAR TO BEAM

FREE STANDING DECKS GREATER THAN 600mm ABOVE GRADE SHALL RESIST LATERAL LOADING & MOVEMENT. ALL POSTS MUST BE BRACED WHERE THE SUPPORTED AREA EXCEEDS THOSE LISTED IN THE TABLE ON D01d

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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BEAM SIZING TABLE

SUPPORTED JOIST LENGTH (mm)	ROOF SNOW LOAD 1.9 kPa			ROOF SNOW LOAD 2.5 kPa			ROOF SNOW LOAD 3.0 kPa		
	PIER SPACING (mm)			PIER SPACING (mm)			PIER SPACING (mm)		
	2000	3000	4000	2000	3000	4000	2000	3000	4000
1500	2/ 38X140	2/ 38X184	2/ 38X235	2/ 38X140	2/ 38X184	2/ 38X235	2/ 38X140	2/ 38X235	2/ 38X286
2000	2/ 38X140	2/ 38X184	2/ 38X235	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286
2500	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286
3000	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286
3500	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X286	N/A
4000	2/ 38X184	2/ 38X235	2/ 38X286	2/ 38X184	2/ 38X286	N/A	2/ 38X184	2/ 38X286	N/A

JOIST SIZING TABLE

JOIST SPAN (mm)	ROOF SNOW LOAD 1.9 kPa			ROOF SNOW LOAD 2.5 kPa			ROOF SNOW LOAD 3.0 kPa		
	JOIST SPACING (mm)			JOIST SPACING (mm)			JOIST SPACING (mm)		
	300	400	600	300	400	600	300	400	600
2000	38X140	38X140	38X140	38X140	38X140	38X140	38X140	38X140	38X140
2500	38X140	38X140	38X184	38X140	38X140	38X184	38X140	38X184	38X184
3000	38X140	38X184	38X184	38X184	38X184	38X235	38X184	38X184	38X235
3500	38X184	38X184	38X235	38X184	38X235	38X235	38X235	38X235	38X235
4000	38X235	38X235	38X286	38X235	38X235	38X286	38X235	38X235	38X286

FOOTING SIZES

SOIL BEARING CAPACITIES (kPa)	
SOIL TYPE	BEARING PRESSURE (kPa)
SOFT CLAY	40
LOOSE SAND OR GRAVEL	50
FIRM CLAY	75
DENSE OR COMPACT SILT	100
STIFF CLAY	150
DENSE COMPACT SAND OR GRAVEL	150
TILL	200
CLAY SHALE	300
SOUND ROCK	500

PIER SIZES

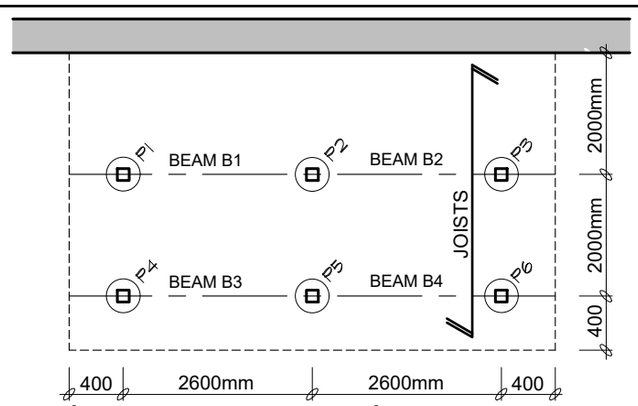
DIAMETER (MM)	m^2
200	0.03
250	0.05
300	0.08
350	0.10
400	0.13
500	0.20
600	0.30

POST SIZING TABLE

POST SIZE (mm)	MAXIMUM HEIGHT (m)	MAX. SUPPORTED DECK AREA (m^2) LIVE LOAD (kPa)		
		1.9	2.5	3.0
89x89	1.0	10.86	8.71	7.48
	1.5	5.93	4.76	4.09
	2.0	3.15	2.53	2.17
140x140	2.0	13.67	10.98	9.43
	2.5	9.32	7.48	6.43
	3.0	6.35	5.10	4.38
	3.5	4.41	3.54	3.04

EXAMPLE PLAN

PIERS	SUPPORTED DECK AREA
P1	2 x 1.7 = 3.4 m^2
P2	2 x 2.6 = 5.2 m^2
P3	2 x 1.7 = 3.4 m^2
P4	1.4 x 1.7 = 2.4 m^2
P5	1.4 x 2.6 = 3.6 m^2
P6	1.4 x 1.7 = 2.4 m^2
BEAMS	SUPPORTED JOIST LENGTH
B1	2000mm
B2	2000mm
B3	1400mm
B4	1400mm
BEAM SPAN = 2600mm	
JOIST SPAN = 2000mm	



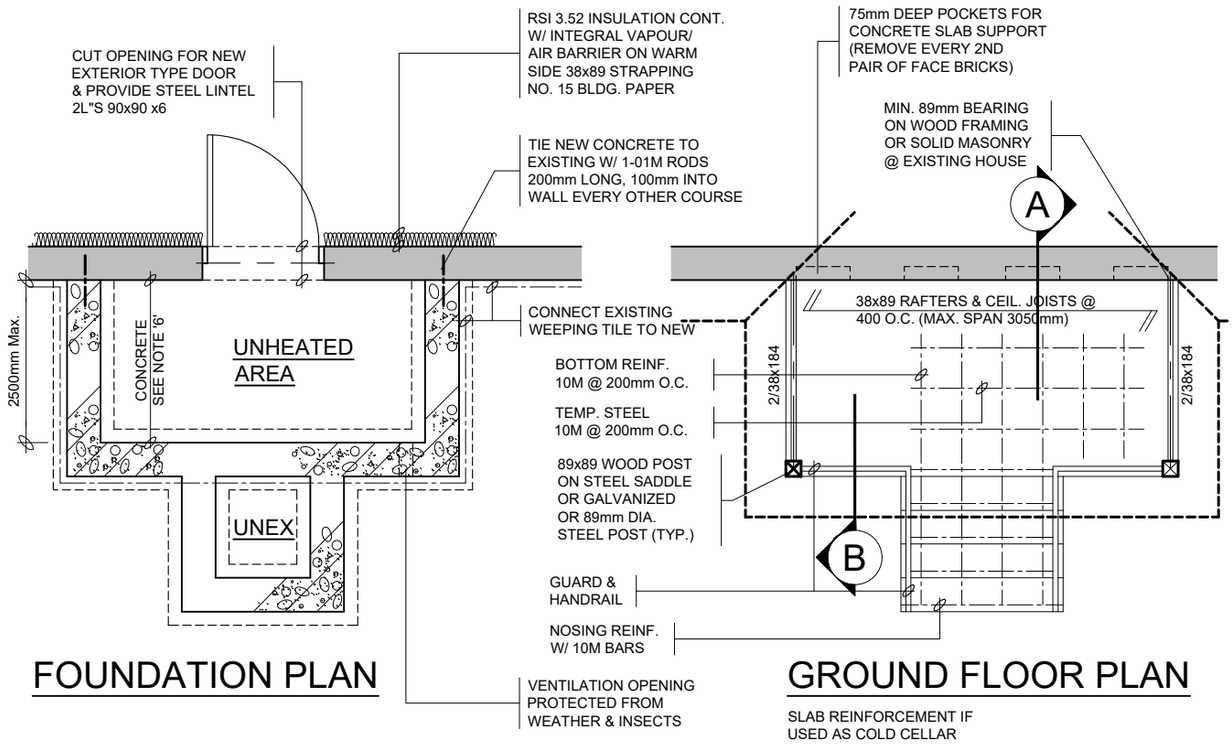
PIER SIZE (m^2) = SUPPORTED DECK AREA (m^2) x MIN. 1.9 (kPa) LIVE LOAD / SOIL BEARING CAPACITY (kPa)

GENERAL NOTES

1. A MINIMUM LIVE LOAD OF 1.9 kPa SHALL BE APPLIED IN ALL LOCATIONS.
2. THE PRESCRIBED SNOW LOAD FOR 225 SELECTED ONTARIO LOCATIONS IS INDICATED IN COLUMN 12 OF TABLE 1.2 IN SUPPLEMENTARY GUIDELINE SB-1 OF THE ONTARIO BUILDING CODE. THE SNOW LOAD SHALL BE APPLIED AS THE MINIMUM LIVE LOAD WHERE IT IS GREATER THAN 1.9 kPa
3. A SITE PLAN OR SURVEY IS REQUIRED SHOWING AL LOT LINES & DIMENSIONS, SIZE & LOCATION OF ALL EXISTING BUILDINGS & DECKS.
4. LUMBER NO. 2 SPF OR BETTER WOOD POSTS MIN. 89x89 (SOLID). USE CORROSION RESISTANT SPIRAL NAILS OR SCREWS.
5. A DECK IS NOT PERMITTED TO BE SUPPORTED ON BRICK VENEER.
6. CANTILEVERED JOISTS AND BEAMS ARE LIMITED TO 1/6 THE MEMBERS LENGTH.
7. CONCRETE PIERS SHALL BEAR ON UNDISTURBED SOIL. THE BEARING CAPACITY OF THE SOIL SHALL BE DETERMINED PRIOR TO CONSTRUCTION.
8. MAXIMUM HEIGHT REFERS TO THE HEIGHT OF THE POST FROM THE TOP OF THE PIER TO THE DECK SURFACE.
9. BEAMS WITH MORE THAN 2 MEMBERS MUST BE SUPPORTED BY 140x140 POSTS.
10. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE REDUCED BY 50% WHILE THE WATER IS AT OR NEAR THE BOTTOM OF THE FOOTING EXCAVATION.
11. CONTACT YOUR LOCAL BUILDING DEPARTMENT FOR FURTHER INFORMATION ABOUT LOCAL SOIL BEARING CAPACITIES.
12. JOISTS SPANNING MORE THAN 2100mm ARE TO HAVE BRIDGING AT LEAST EVERY 2100mm O.C.

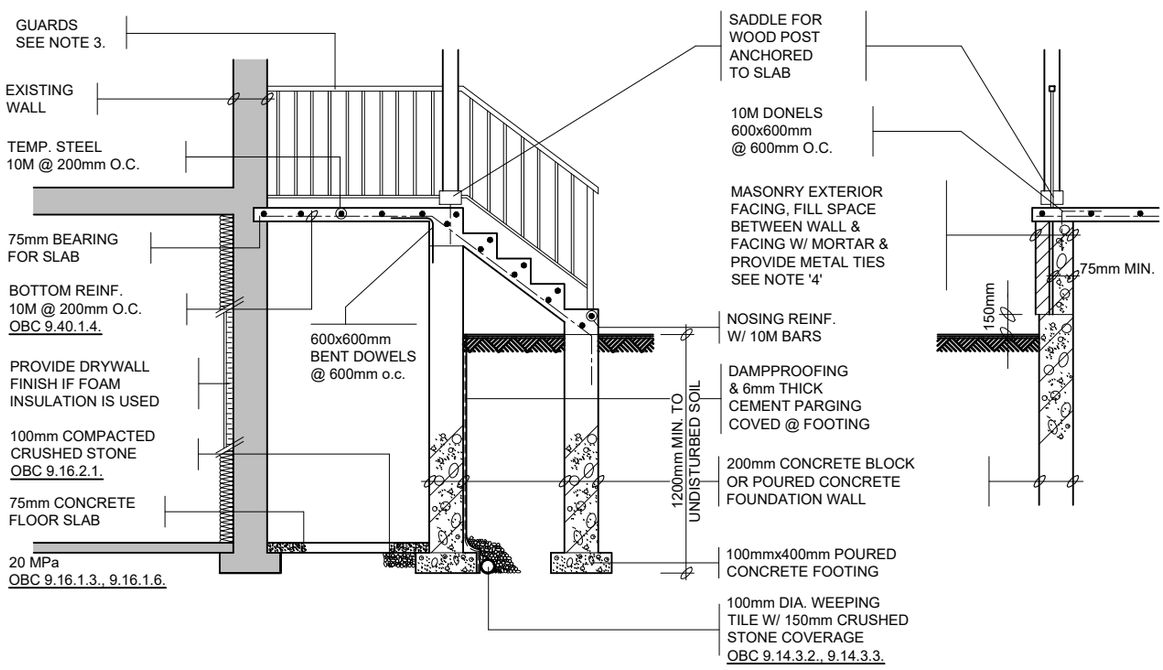
Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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FOUNDATION PLAN

GROUND FLOOR PLAN



SECTION 'A'

SECTION 'B'

GENERAL NOTES

1. EXTERIOR STAIRS [OBC 9.8.4.1.]
   125mm - 200mm RISE
   255mm - 355mm RUN
   280mm - 380mm TREAD
   STEPS ARE TO BE UNIFORM THROUGHOUT FLIGHT

2. HANDRAILS [OBC 9.8.7.1.]
   ARE REQUIRED WHERE STEPS HAVE MORE THAN 3 RISERS. HANDRAIL HEIGHT 865mm - 1070mm

3. GUARDS [OBC 9.8.8.]
   ARE REQUIRED AROUND CONCRETE SLAB IF MORE THAN 600mm ABOVE GRADE & ON BOTH SIDES OF STAIRS
   MINIMUM 900mm HIGH FOR STAIRS
   MINIMUM 900mm HIGH FOR PORCHES UP TO 1800mm ABOVE GRADE.
   MINIMUM 1070mm HIGH FOR GREATER HTS.
   MAXIMUM 100mm BETWEEN PICKETS AND NO MEMBER DESIGNED TO FACILITATE CLIMBING BETWEEN 140mm & 900mm

4. MASONRY TIES
   WHEN BRICK FACING IS USED ABOVE GROUND LEVEL, PROVIDE
   0.76mm THICK & 22mm WIDE CORROSION RESISTANT METAL TIES @ 600mm HORIZ. & 500mm VERTICAL

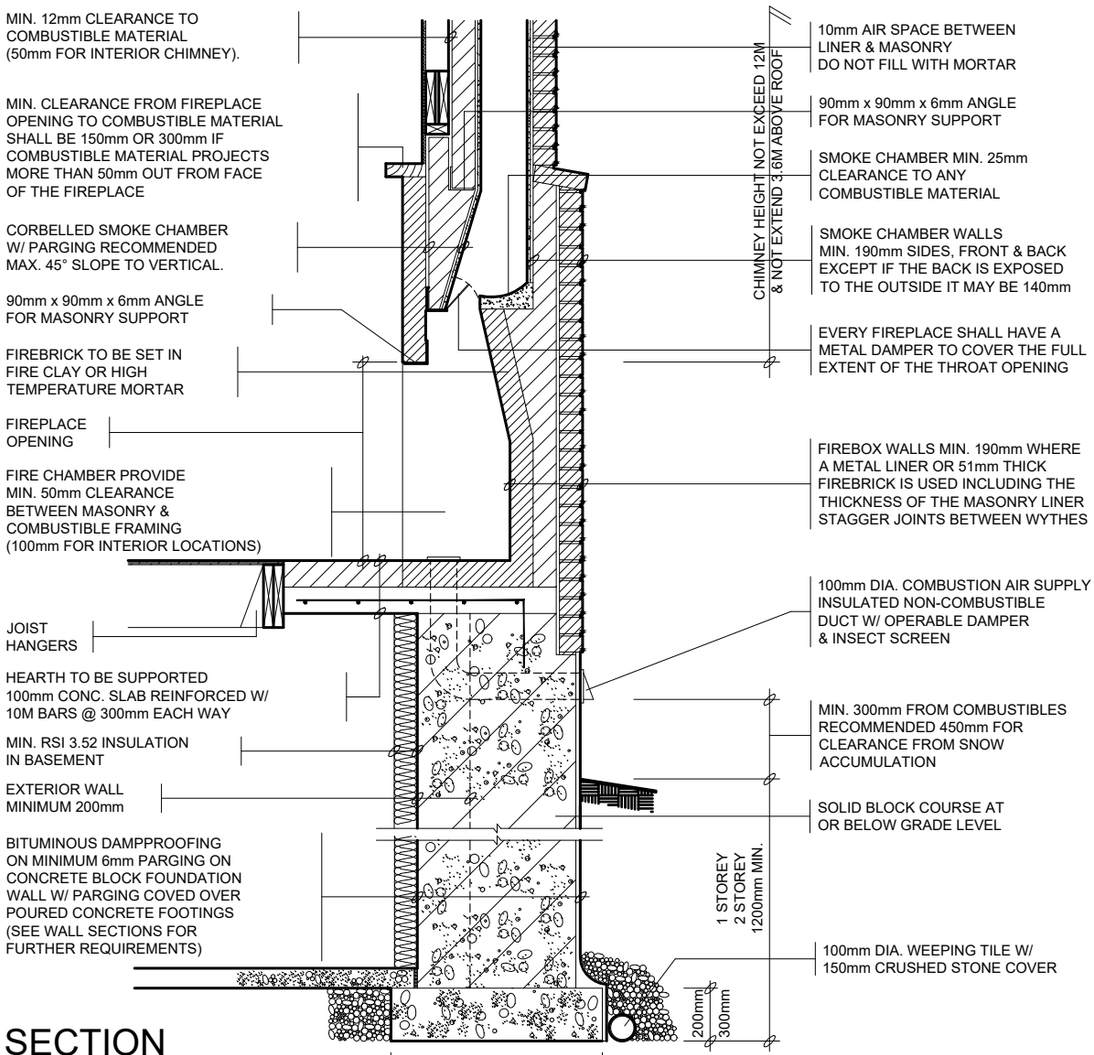
5. FOUNDATION WALLS (LESS THAN 3M IN HEIGHT)
   THICKNESS OF UNREINFORCED FOUNDATION WALLS LATERALLY SUPPORTED AT THE TOP ARE DEPENDANT UPON HEIGHT OF FINISH GRADE ABOVE BASEMENT FLOOR

   UNIT MASONRY THICKNESS 190mm - MAX. HEIGHT 1200mm
   UNIT MASONRY THICKNESS 240mm - MAX. HEIGHT 1800mm
   UNIT MASONRY THICKNESS 290mm - MAX. HEIGHT 2200mm

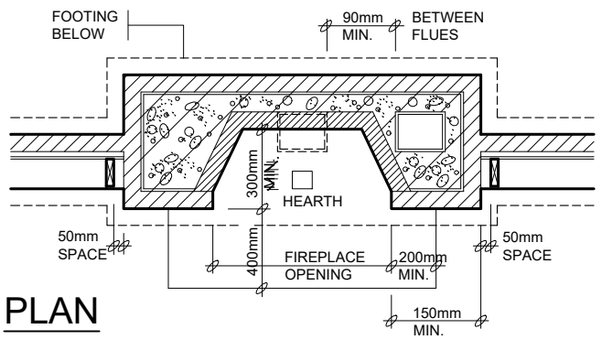
6. CONCRETE [OBC 9.3.1.6. & 9.40.1.4]
   MINIMUM CONCRETE STRENGTH SHALL BE 32Mpa W/ 5%-8% AIR ENTRAINMENT
   CONCRETE SLAB THICKNESS 125mm
   PROVIDE MIN. 30mm CLEAR CONCRETE COVER TO REINFORCING BARS

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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SECTION



PLAN

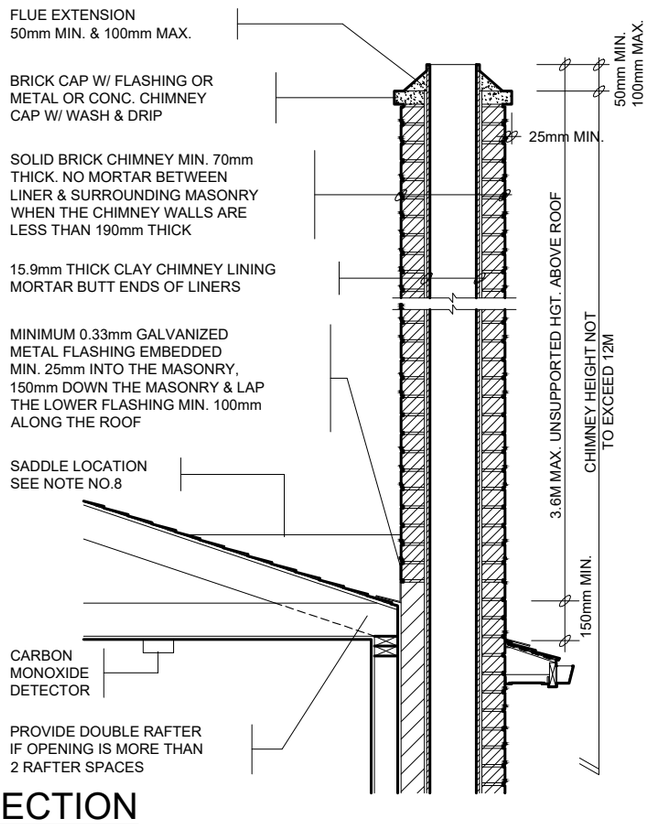
GENERAL NOTES

1. JOISTS OR BEAMS SUPPORTED ON CHIMNEY FLUE SHALL BE SEPARATED BY 290mm OF SOLID MASONRY
2. MAXIMUM ANGLE OF SLOPE FOR SMOKE CHAMBER IS 45° FROM VERTICAL
3. COMBUSTIBLE FLOORING, SUB FLOORING & CEILING FINISHES SHALL HAVE A MINIMUM 12mm CLEARANCE TO MASONRY CHIMNEY.
5. EXCEPT AS REQUIRED IN SENTENCE (2) FIREPLACES SHALL HAVE A NONCOMBUSTIBLE HEARTH EXTENDING NOT LESS THAN 400mm IN FRONT OF THE FIREPLACE OPENING MEASURED FROM THE FACING & NOT LESS THAN 200mm BEYOND EACH SIDE OF THE FIREPLACE OPENING.
6. WHERE THE HEARTH IS ELEVATED MORE THAN 150MM ABOVE THE HEARTH EXTENSION. THE WIDTH OF THE HEARTH EXTENSION SHALL BE INCREASED BY:
   (A) 50mm FOR AN ELEVATION ABOVE 150mm & NOT MORE THAN 300mm &
   (B) AN ADDITIONAL 25mm FOR EVERY 50mm IN ELEVATION ABOVE 300mm
7. INSTALL A CARBON MONOXIDE DETECTOR CONFORMING TO CAN/CGA-6.19 OR UL 2034 ADJACENT TO EACH SLEEPING AREA
8. PROVIDE FIRESTOPPING BETWEEN FLOOR, CEILING LEVELS AND CHIMNEY

FIREPLACE OPENING (M2)	CHIMNEY HEIGHT (M)							
	3.0 - 4.5		> 4.5 - 5.9		> 5.9 - 8.9		> 8.9 - 12.0	
	FLUE SIZES (mm)							
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
UP TO 0.15	200x200	200x200	100x200	100x200	100x200	100x200	100x200	100x200
0.151 - 0.250	200x200	200x200	200x200	200x200	200x200	200x200	200x200	200x200
0.251 - 0.350	200x300	200x300	200x200	200x300	200x200	200x200	200x200	200x200
0.351 - 0.500	300x300	300x300	200x300	200x300	200x300	200x300	200x200	200x300
0.501 - 0.650	300x300	300x400	300x300	300x300	300x300	300x300	200x300	200x300
0.651 - 0.800	300x400	300x400	300x300	300x400	300x300	300x300	300x300	300x300
0.801 - 1.00	400x400	400x400	300x400	300x400	300x400	300x400	300x300	300x300
1.01 - 1.20	400x400	400x400	400x400	400x400	300x400	300x400	300x400	300x400
1.21 - 1.40			400x400	400x400	400x400	400x400	300x400	300x400
1.41 - 1.60					400x400	400x400	400x400	400x400
1.61 - 1.80							400x400	400x400
1.81 - 2.00							400x400	400x400
COLUMN 1.	2.	3.	4.	5.	6.	7.	8.	9.

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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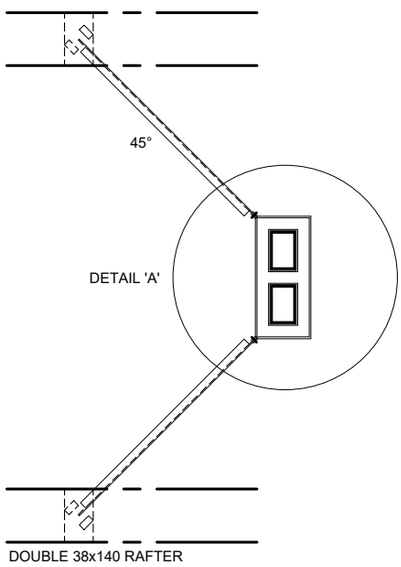


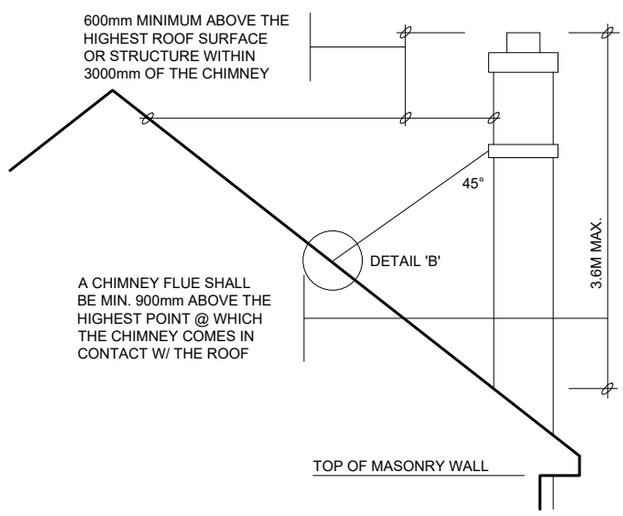
SECTION

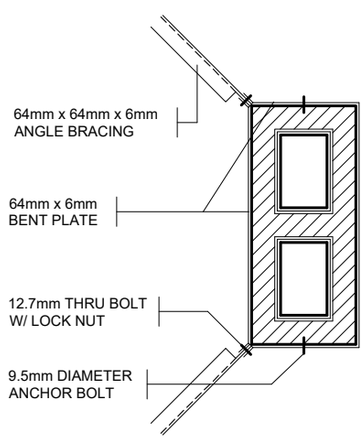
GENERAL NOTES

1. ALL STRUCTURAL STEEL SHALL BE 300W GRADE ALL BOLTS SHALL BE A-307 GRADE OR SAE STANDARD GRADE 1 W/ MINIMUM TENSILE STRENGTH OF 414 MPa. ALL EXPOSED STEEL & FASTENERS SHALL BE GALVANIZED OR PAINTED WITH 2 COATS OF ZINK-RICH PAINT.
2. ALL TIMBER SHALL BE MIN. SPRUCE NO. 2 GRADE.
3. ROOF RAFTERS TO BE 38X140 NO. 2 SPR. @ 400mm O.C W/ A MAXIMUM SPAN OF 3900mm. FOR OTHER ROOF RAFTER CONSTRUCTION, ROOF REINFORCEMENT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
4. FOR HOUSE W/ ROOF TRUSS STRUCTURE, TRUSS DESIGN ENGINEER TO DESIGN FOR A MINIMUM ADDITIONAL UNFACTORED CHIMNEY BRACE LOAD OF 4.2KN
5. BASIC HOURLY WIND PRESSURE q= 0.52 kPa. DESIGN ROOF SNOW LOAD = 1.5 kPa.
6. CHIMNEYS W/ MORE THAN DOUBLE FLUE AND/OR EXTENDED MORE THAN 4.40M ABOVE ROOF SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
7. CHIMNEY BRACES EXCEEDING 2500mm IN LENGTH SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
8. SADDLE NOT REQUIRED IF FLASHING USED THAT EXTENDS UP THE CHIMNEY TO HEIGHT EQUAL TO NOT LESS THAN 1/6 THE WIDTH OF THE CHIMNEY BUT NOT LESS THAN 150mm UP THE ROOF SLOPE TO A POINT EQUAL IN HEIGHT TO THE FLASHING ON THE CHIMNEY, BUT NOT LESS THAN 1 1/2 TIMES THE SHINGLE EXPOSURE. PROVIDE COUNTERFLASHING AT THE CHIMNEY.

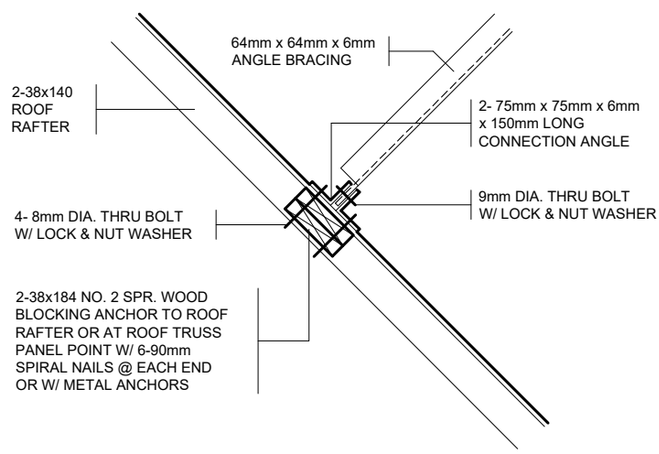
LATERAL BRACING FOR CHIMNEYS EXTENDING MORE THAN 3.6M ABOVE ROOF







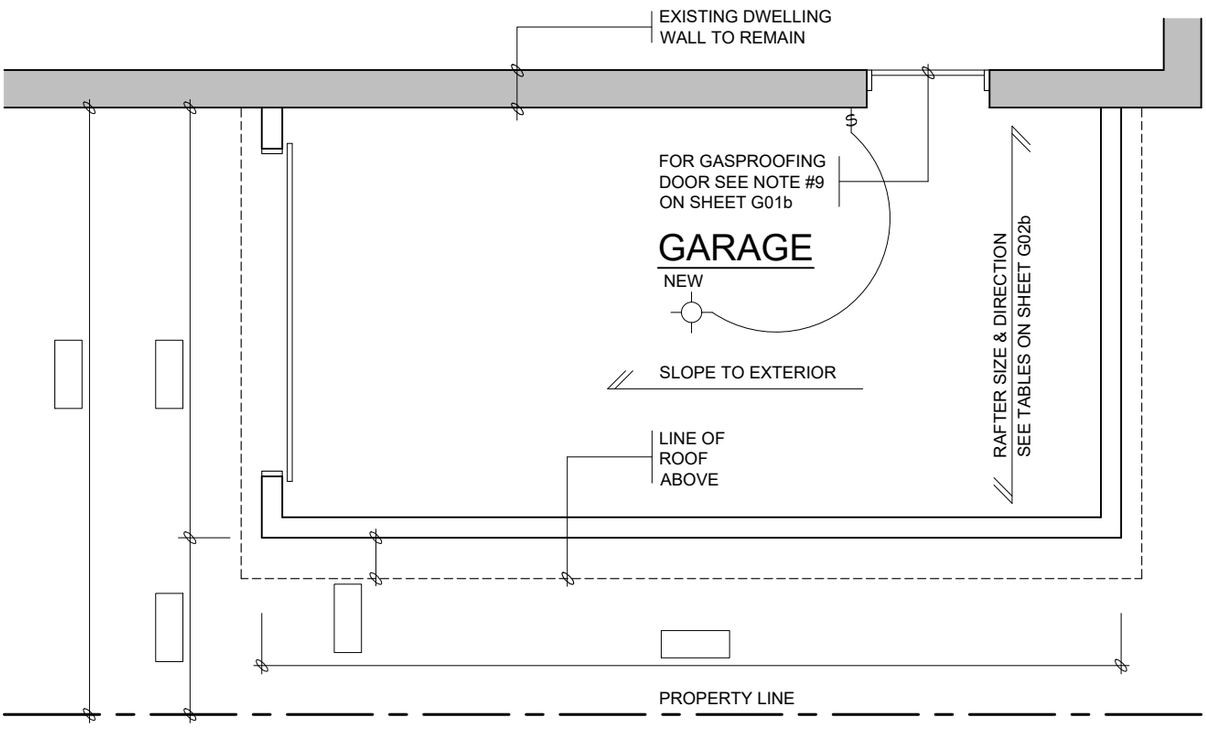
DETAIL 'A'



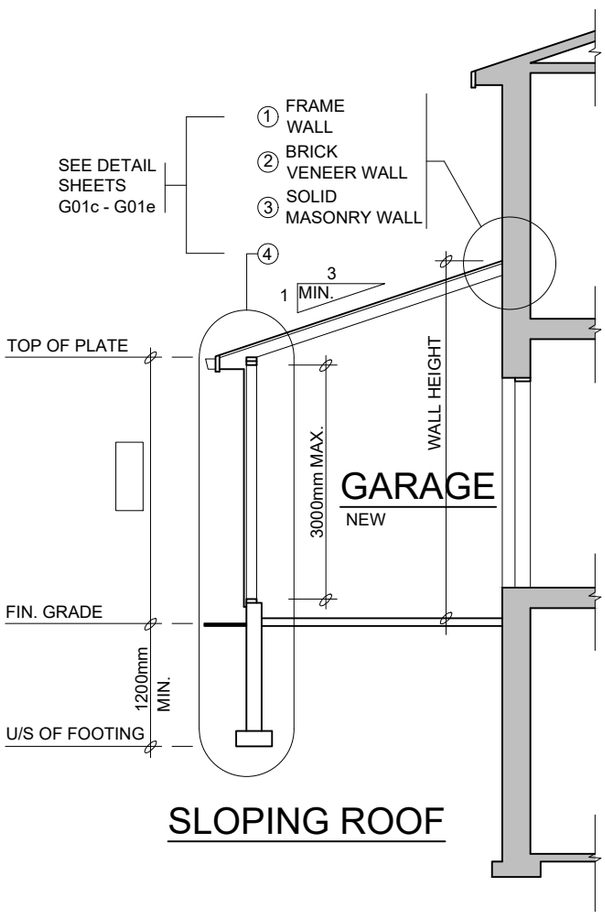
DETAIL 'B'

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

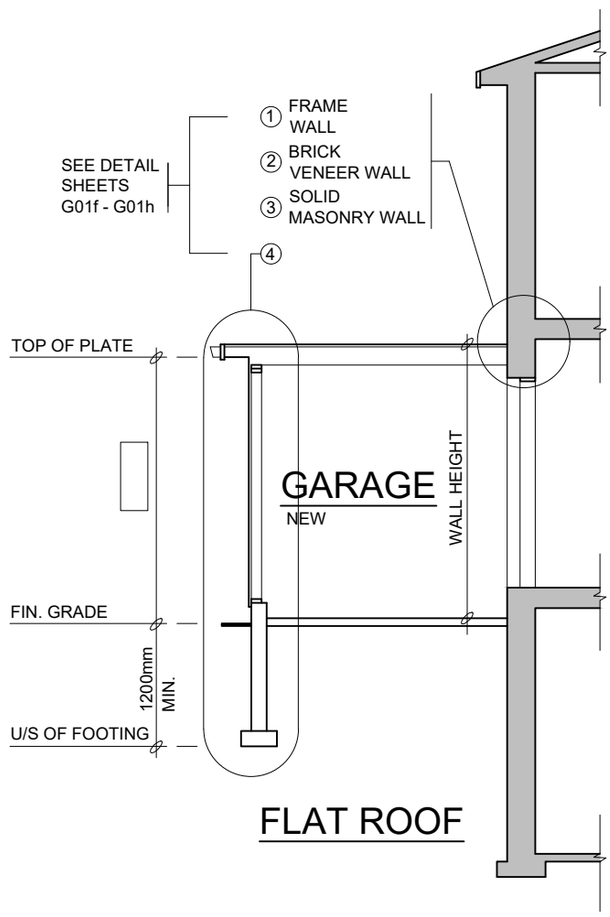
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GARAGE PLAN (PROVIDE DIMENSIONS IN BOX)



SLOPING ROOF



FLAT ROOF

SECTIONS

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

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ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
RAFTER SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	3.11	2.83	2.47	2.72	2.47	2.16
38x140	4.90	4.45	3.89	4.28	3.89	3.40
38x184	6.44	5.85	5.11	5.62	5.11	4.41
38x235	8.22	7.47	6.38	7.18	6.52	5.39

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
JOIST SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	2.47	2.24	1.96	2.16	1.96	1.71
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52

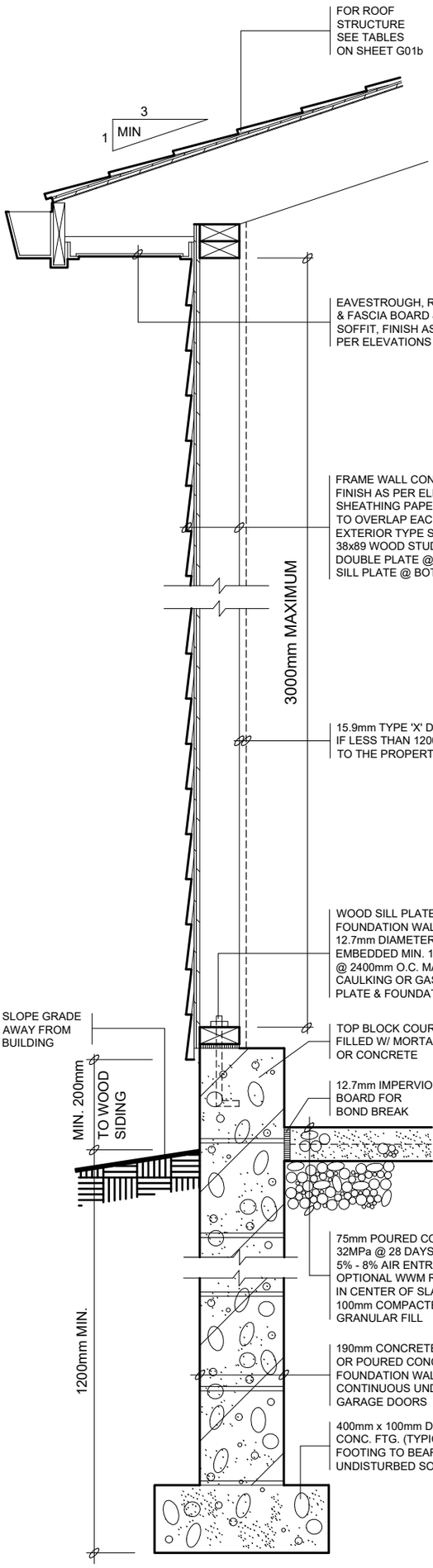
LINTELS (MAXIMUM 1.5 kPa SNOW LOAD)

DOOR WIDTH	LINTELS FOR WOOD FRAMING		LINTELS FOR BRICK VENEER 90mm		LINTELS FOR SOLID MASONRY 200mm	
	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF
UP TO 3000mm	2/ 38x184	2/ 38x286	2/ 38x184 + ANGLE 125x90x8	2/ 38x286 + ANGLE 125x90x8	2 ANGLES 150x100x10	W150x22 + PLATE 200x10
UP TO 4900mm	2/ 38x286	2/ 38x286 OR 2- 45x300 1.9E LVL	W200x27 + PLATE 200x10	W200x27 + PLATE 200x10	MUST BE DESIGNED	MUST BE DESIGNED

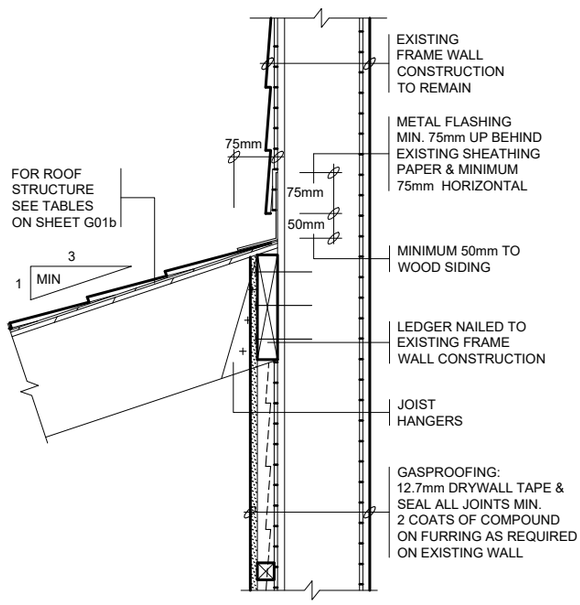
GENERAL NOTES

1. ALL LUMBER TO BE NO. 1 & 2 SPF OR BETTER
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE
3. ALL FOOTING SHALL BEAR ON UNDISTURBED SOIL
4. IF GARAGE WALL IS LESS THAN 1200mm TO THE PROPERTY LINE PROVIDE 15.9mm TYPE 'X' DRYWALL INTERIOR SHEATHING. NO WINDOWS ARE PERMITTED.
5. IF GARAGE WALL IS LESS THAN 1200mm TO THE PROPERTY LINE NON-COMBUSTIBLE CLADDING OR VINYL SIDING W/ GYPSUM SHEATHING IS REQUIRED.
6. GARAGE WALLS ADJOINING DWELLING MUST BE COMPLETELY SEALED TO PREVENT ANY INFILTRATION OF GASES INTO THE DWELLING.
7. CAULK ALL PENETRATIONS SUCH AS HOSE BIB & JOINTS BETWEEN GYPSUM BD. & OTHER SURFACES W/ ACOUSTICAL SEALANT.
8. WHERE ATTACHED GARAGE IS ADJACENT TO AN ATTIC SPACE, CARRY GYPSUM BOARD UP TO ROOF SHEATHING & SEAL W/ FLEXIBLE CAULKING.
9. DOORS BETWEEN THE GARAGE & DWELLING MUST BE EXTERIOR TYPE, TIGHT FITTING, WEATHERSTRIPPED $ PROVIDED W/ A SELF CLOSING DEVICE & A DEADBOLT LOCK. DOOR MUST NOT OPEN DIRECTLY INTO A BEDROOM.
10. GARAGE SLAB SHALL BE SLOPED TO DRAIN TO THE OUTSIDE. CONCRETE SHALL BE MIN. 32MPa W/ 5% - 8% AIR ENTRAINMENT.
11. ALL ROOF SHEATHING TO BE 9.5mm PLYWOOD OR 11mm OSB, FOR ROOF RAFTERS @ 300mm OR 400mm O.C. USE 'H' CLIPS FOR ROOF RAFTERS @ 600mm O.C.
12. STEPPED FOOTINGS, IF REQUIRED, SHALL HAVE A MAXIMUM RISE OF 600mm & A MINIMUM RUN OF 600mm.
13. PROVIDE A LIGHT FIXTURE IN THE GARAGE.
14. STEEL BEAMS TO BE SUPPORTED BY SOLID MASONRY (190mm BEARING ON MASONRY OR 73mm DIA. STEEL COLUMN).
15. LINTELS AND BEAMS TO BE DESIGNED BY A QUALIFIED PERSON FOR SPANS GREATER THAN 4900mm.

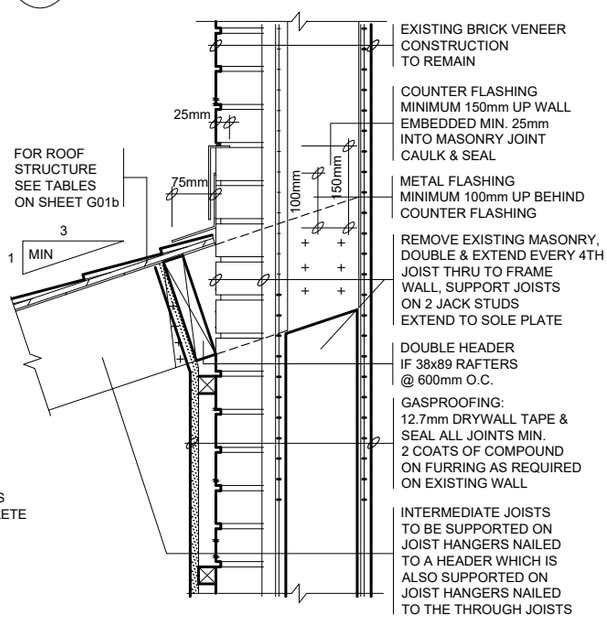
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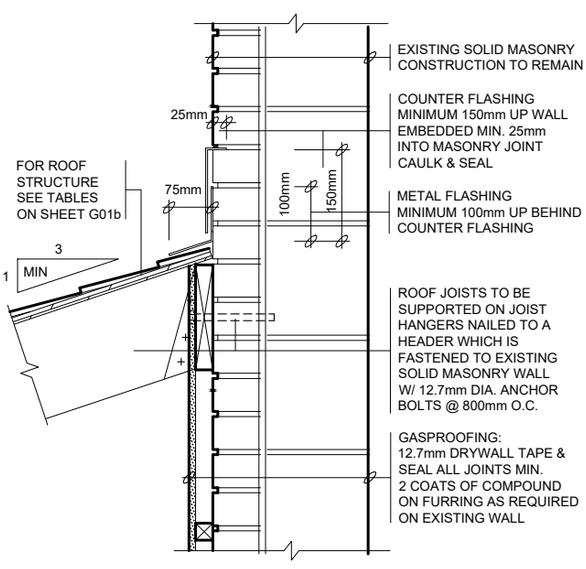
4 FRAME WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL

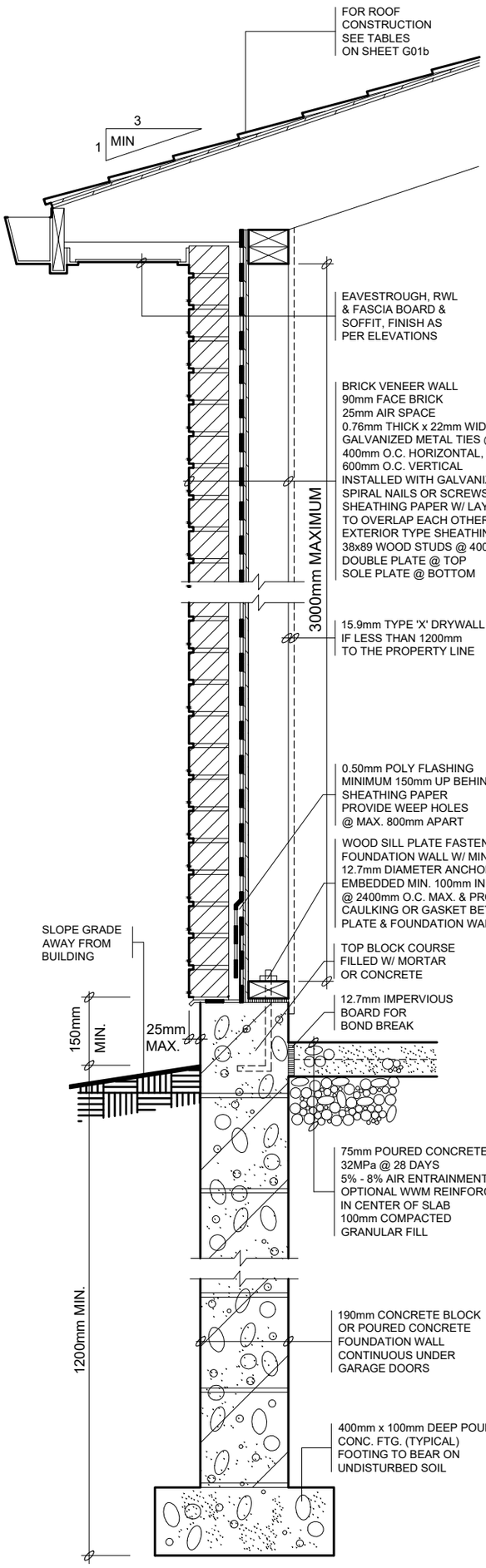


3 SOLID MASONRY WALL

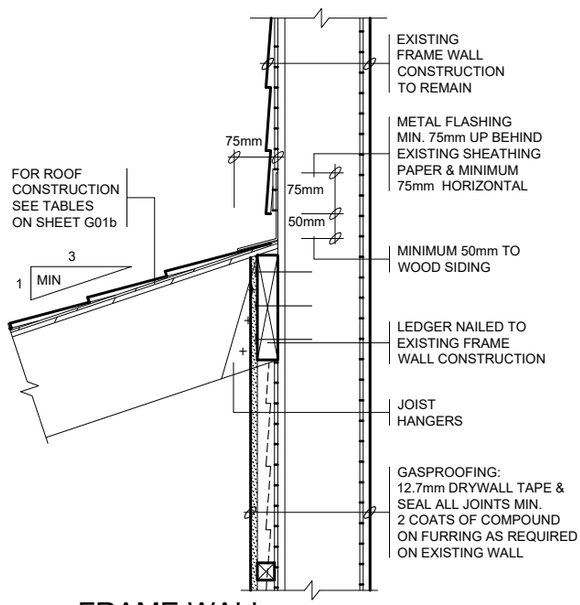
NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

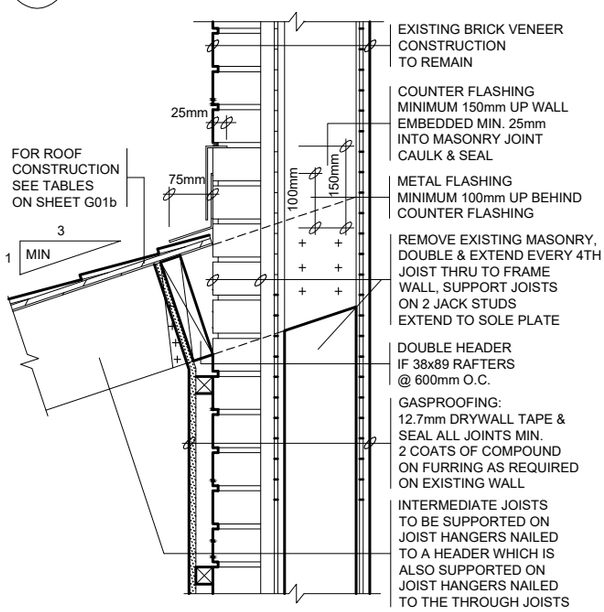
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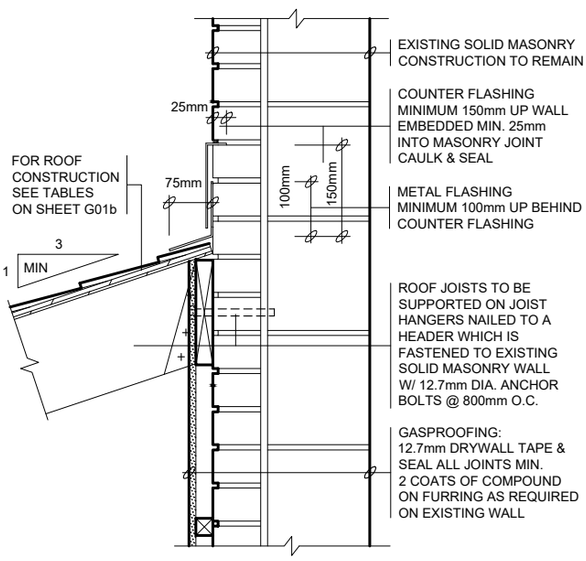
4 BRICK VENEER SECTION



1 FRAME WALL



2 BRICK VENEER WALL

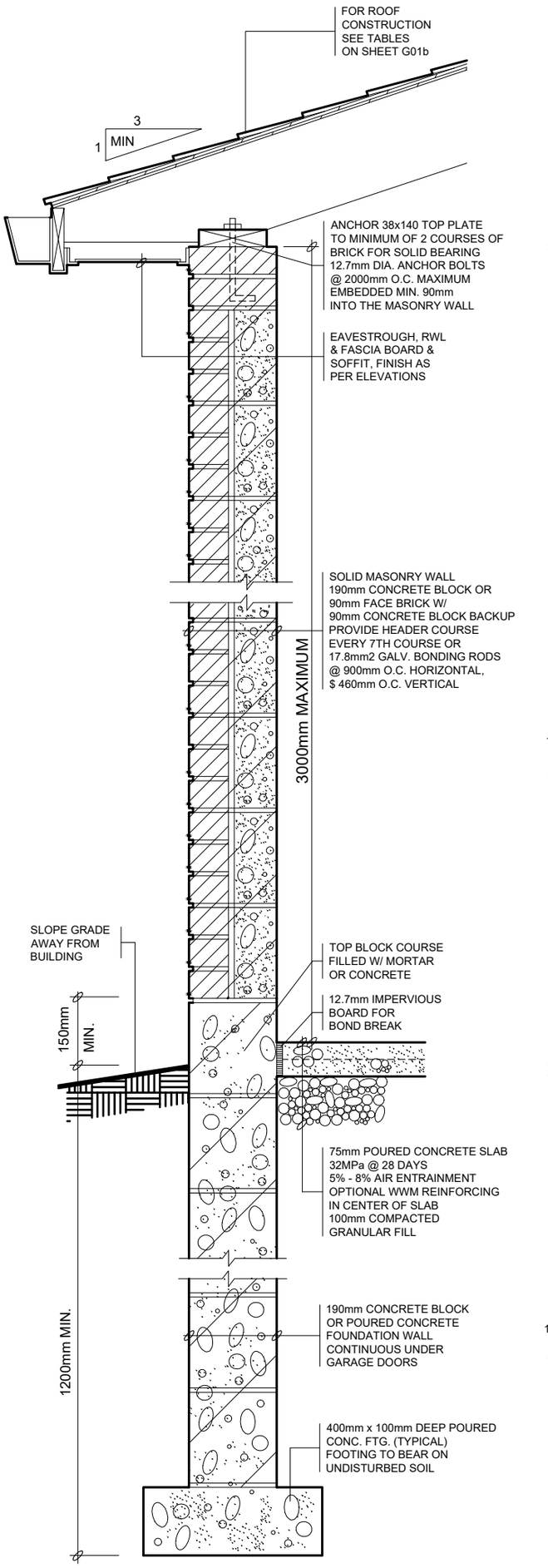


3 SOLID MASONRY WALL

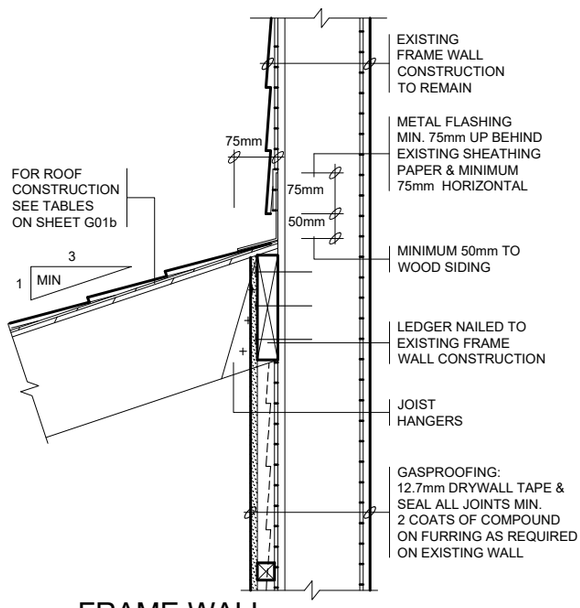
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Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

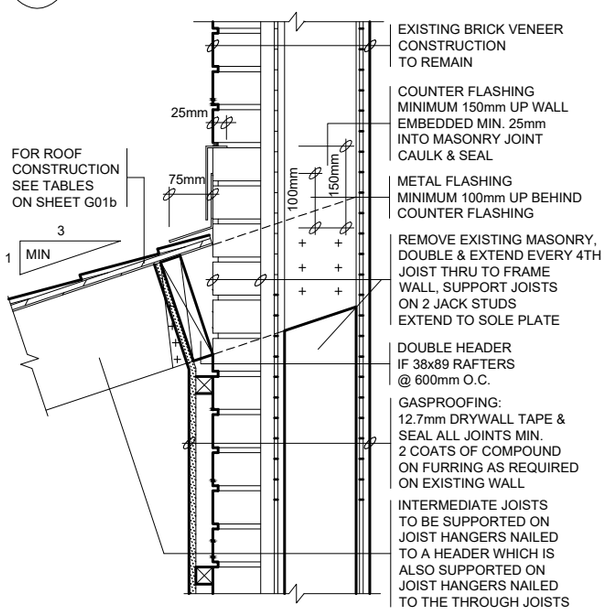
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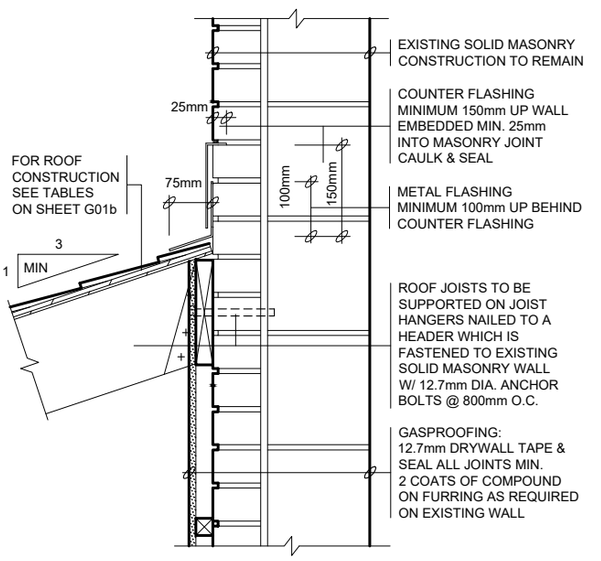
4 SOLID MASONRY SECTION



1 FRAME WALL



2 BRICK VENEER WALL

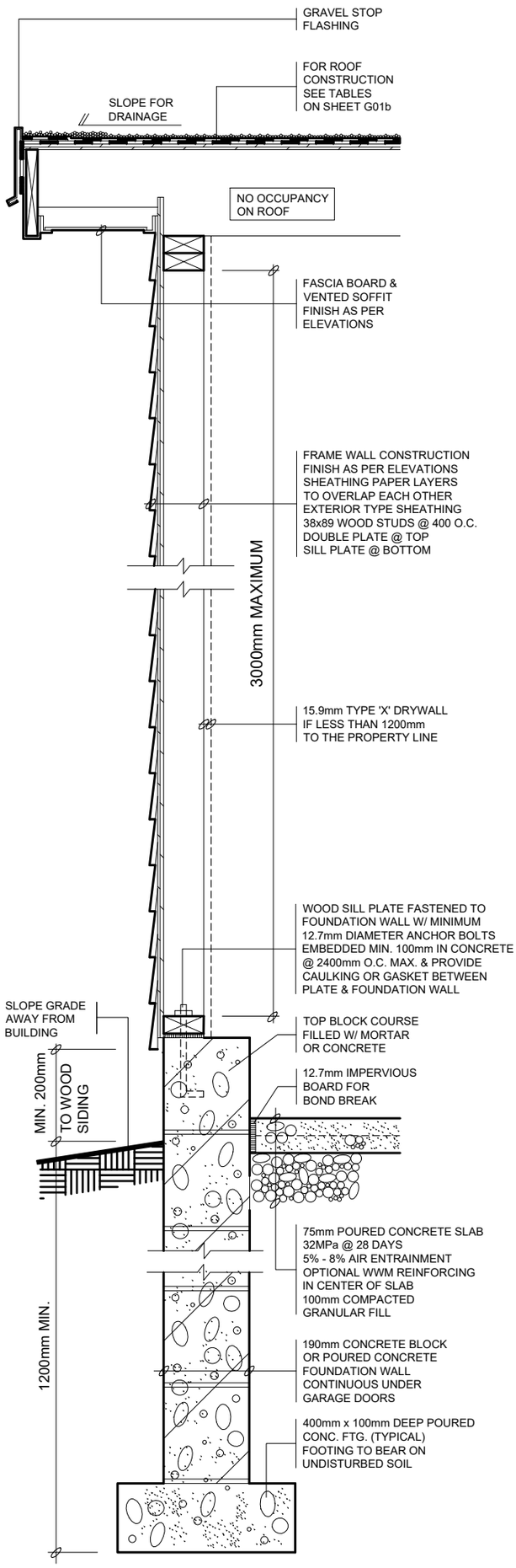


3 SOLID MASONRY WALL

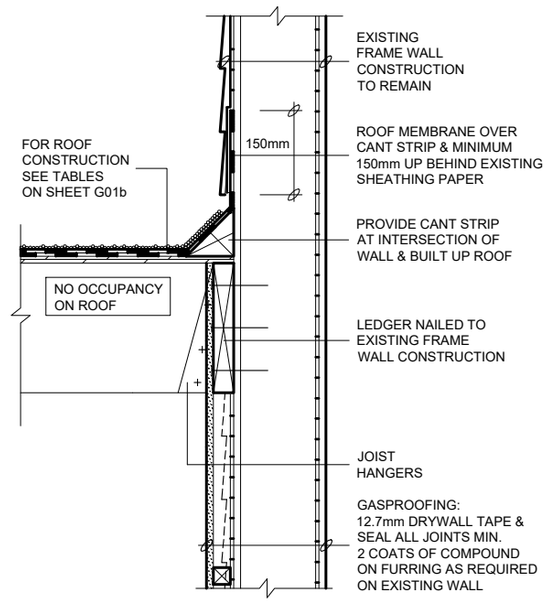
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Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

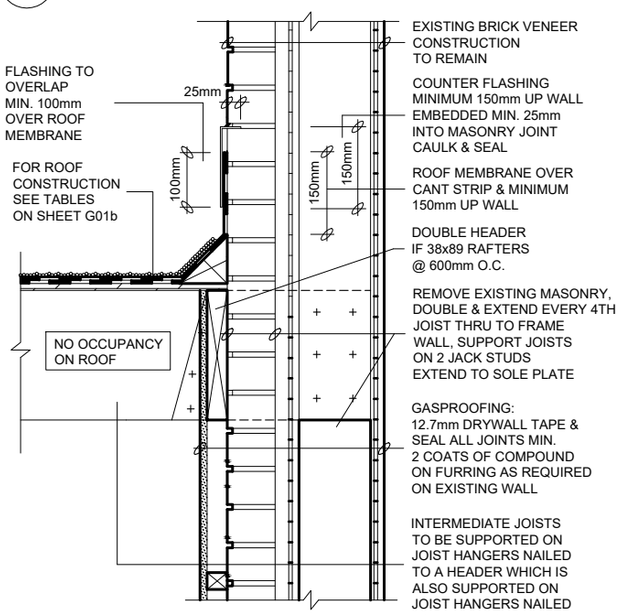
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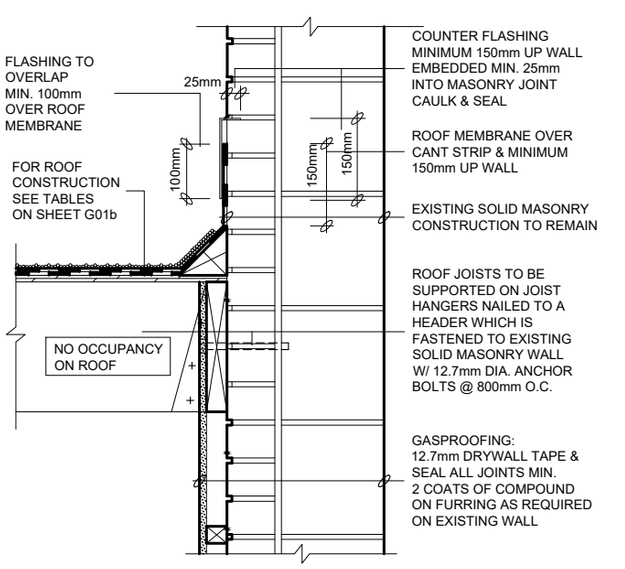
4 WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL

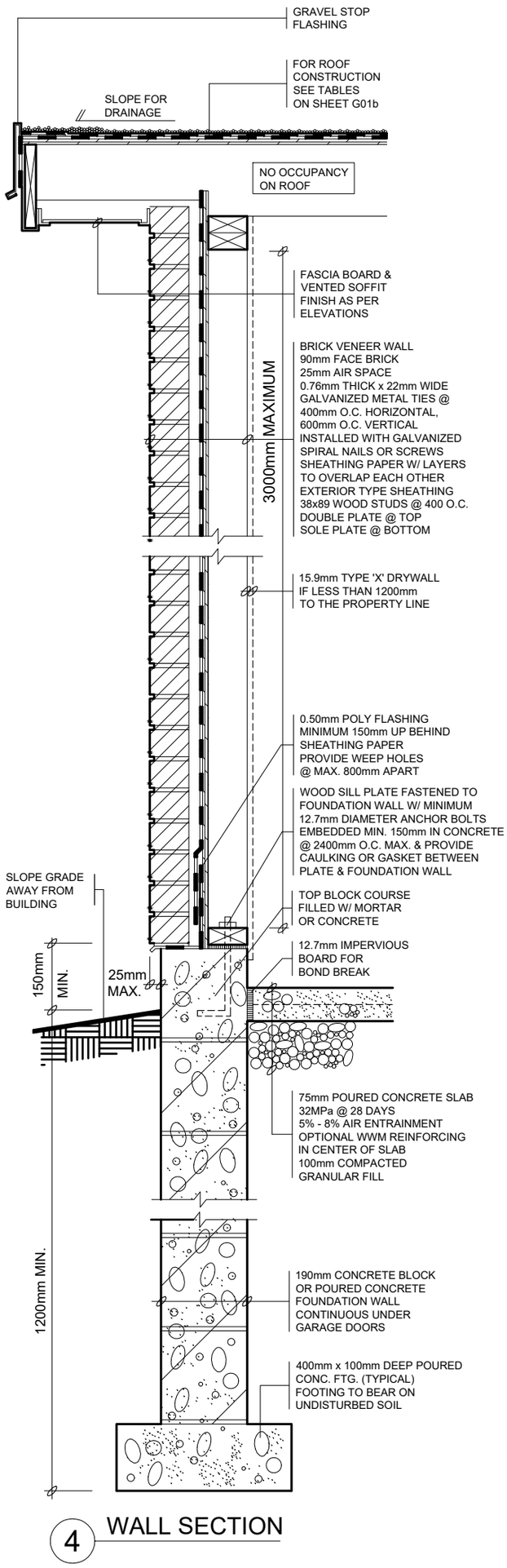


3 SOLID MASONRY WALL

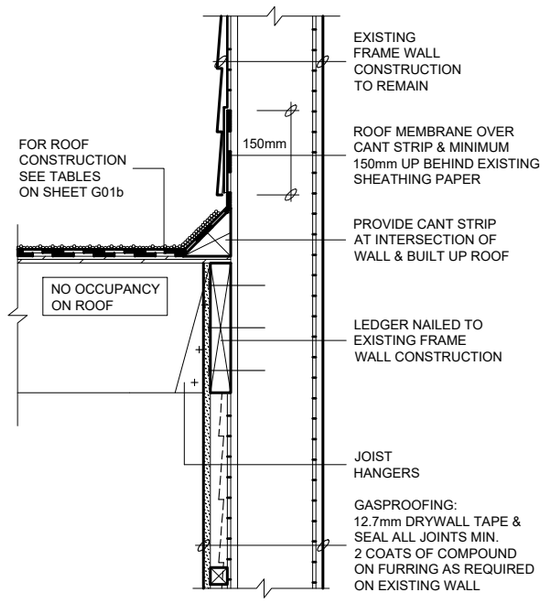
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Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

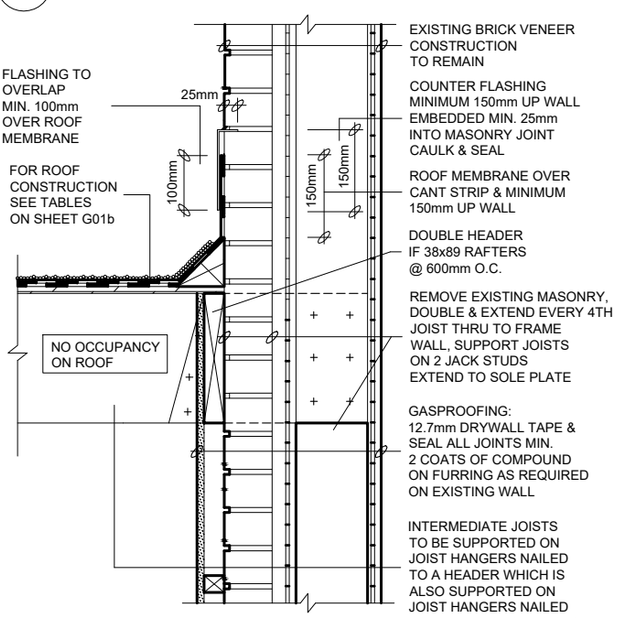
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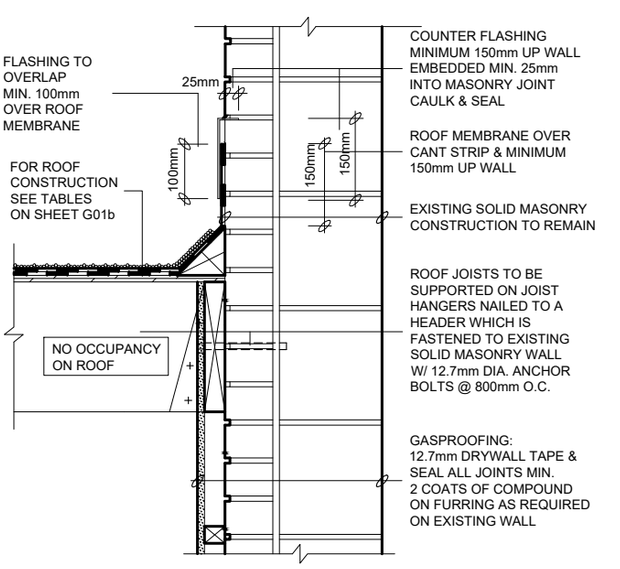
4 WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL

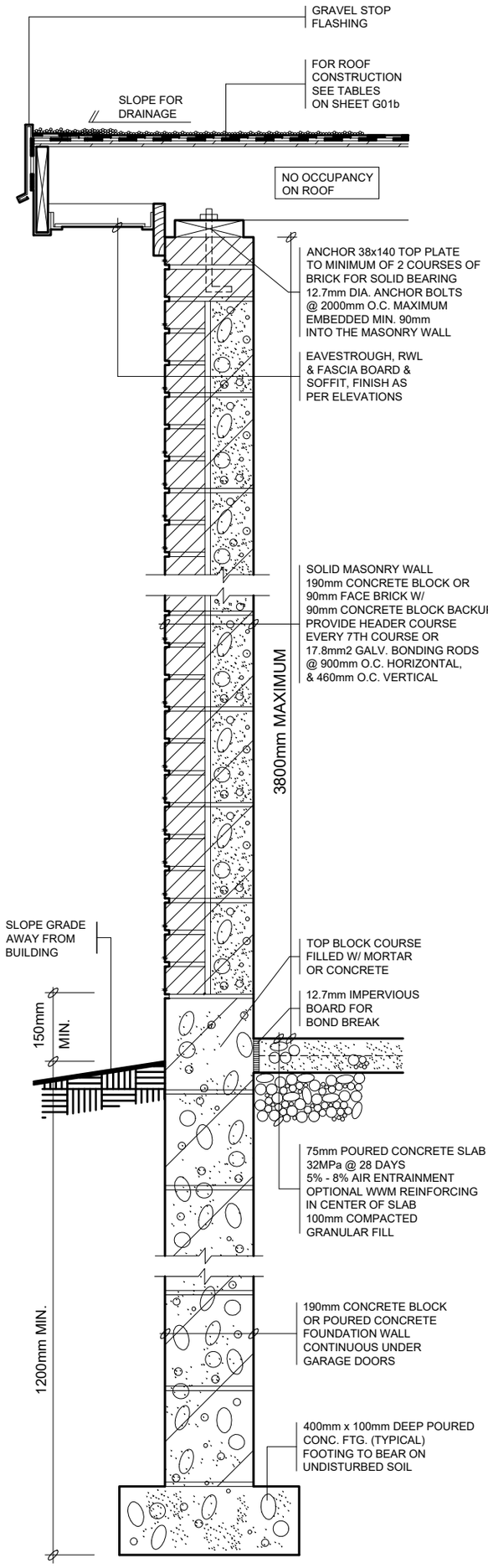


3 SOLID MASONRY WALL

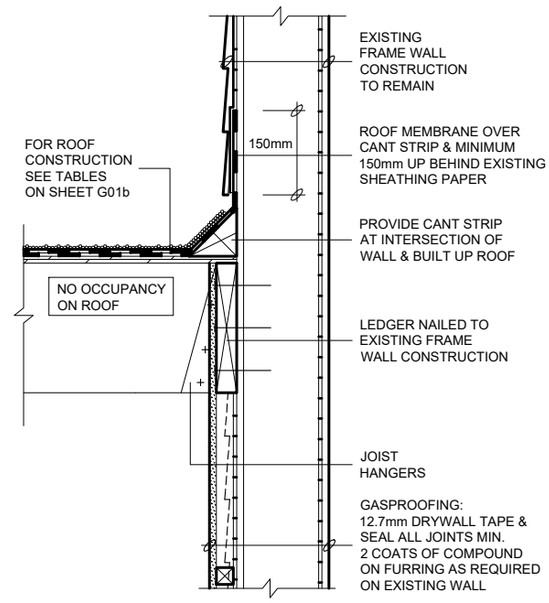
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Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

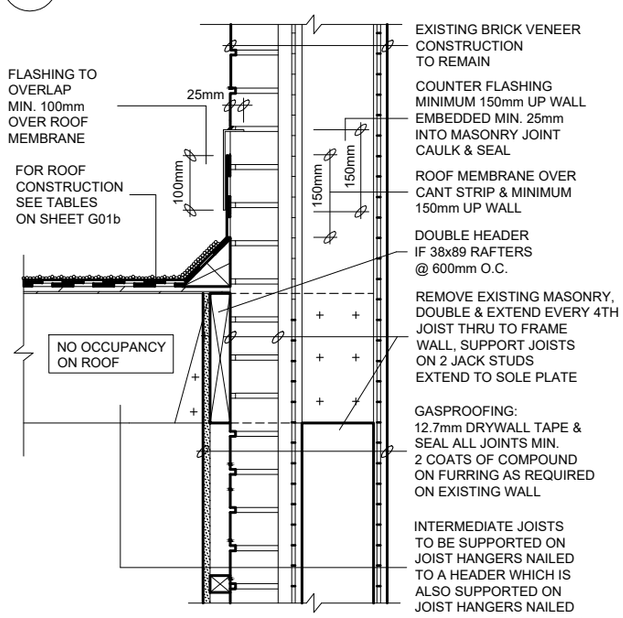
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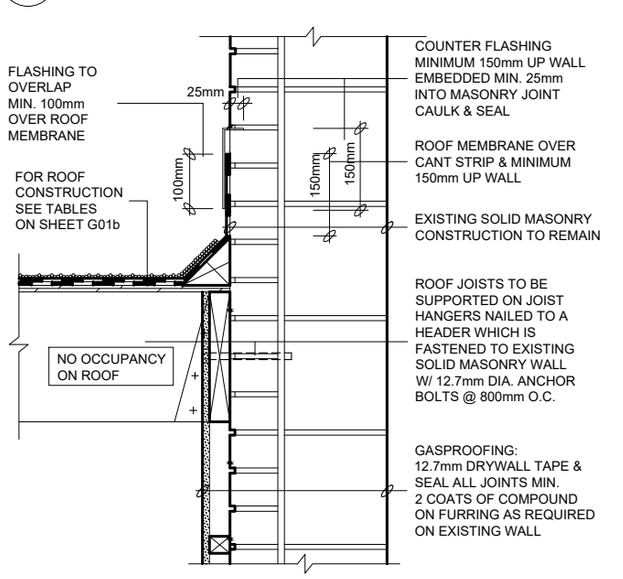
4 WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL

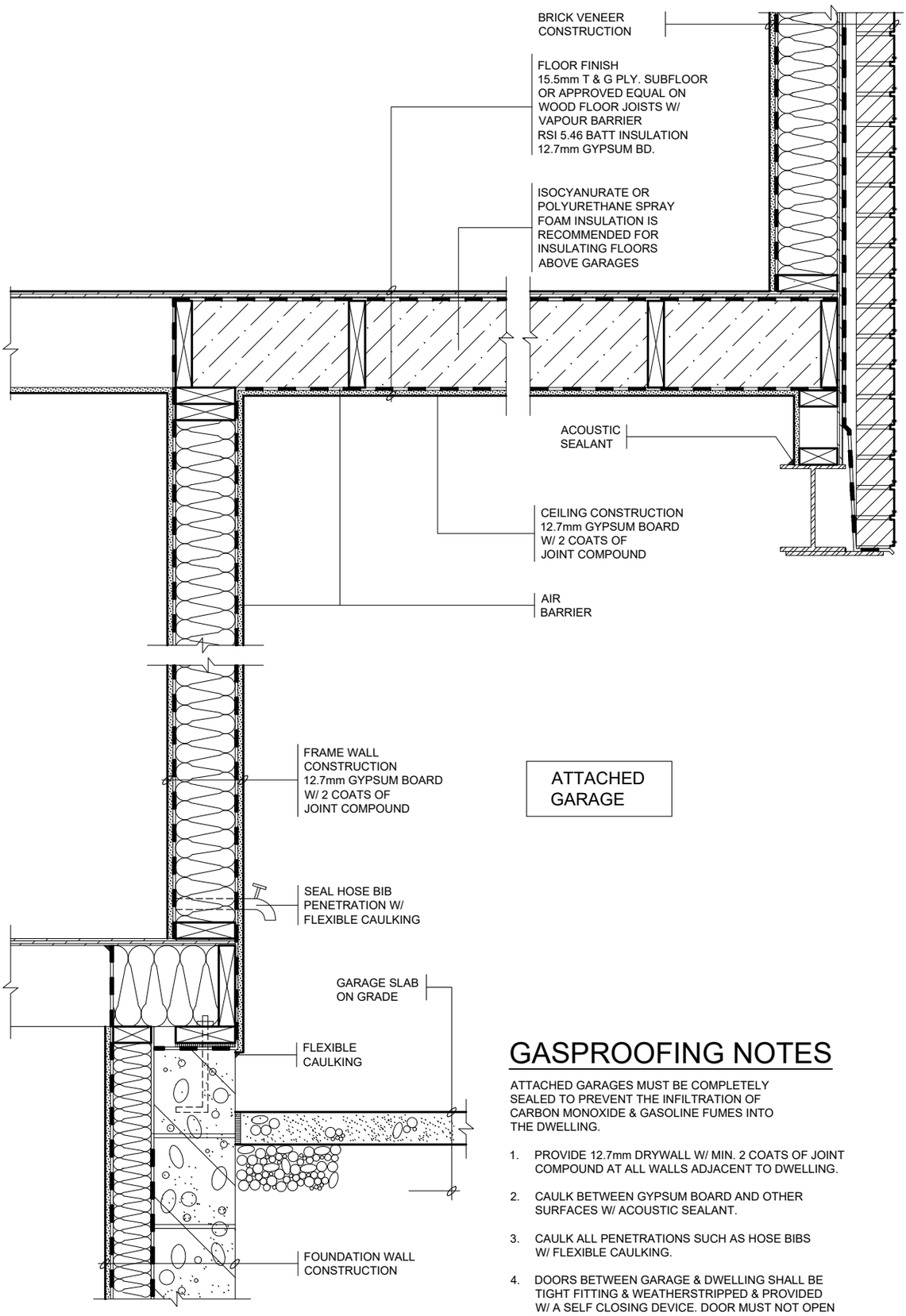


3 SOLID MASONRY WALL

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Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

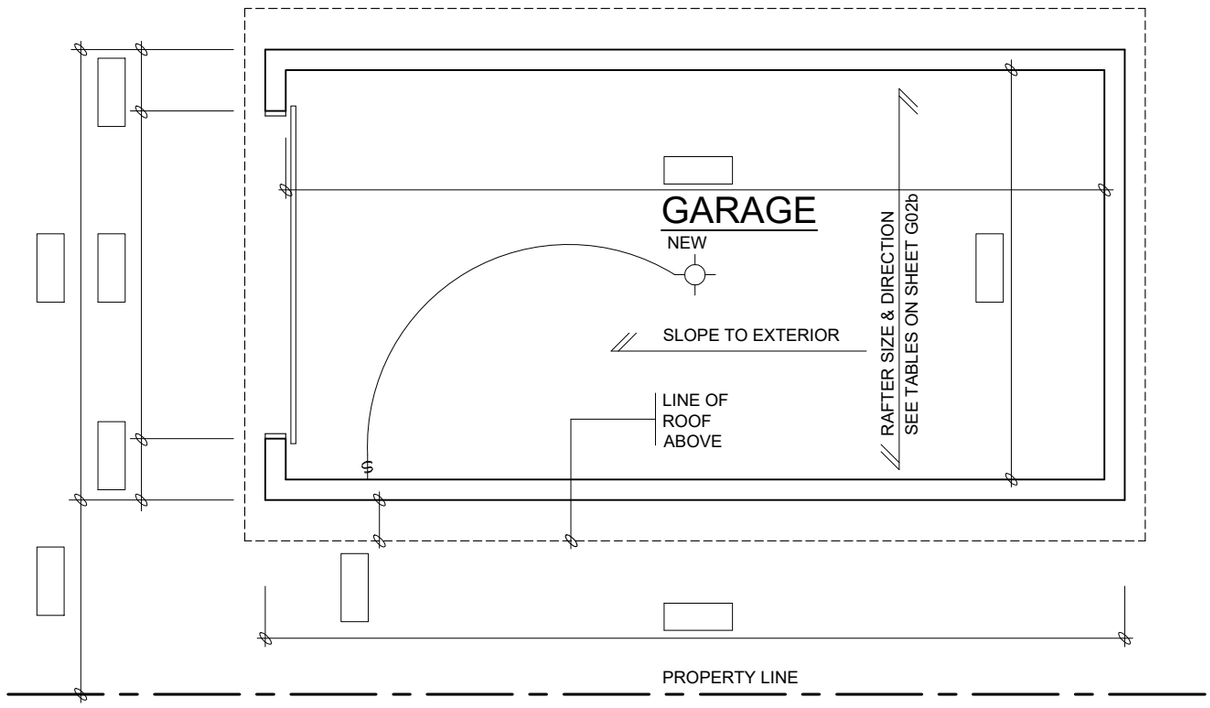
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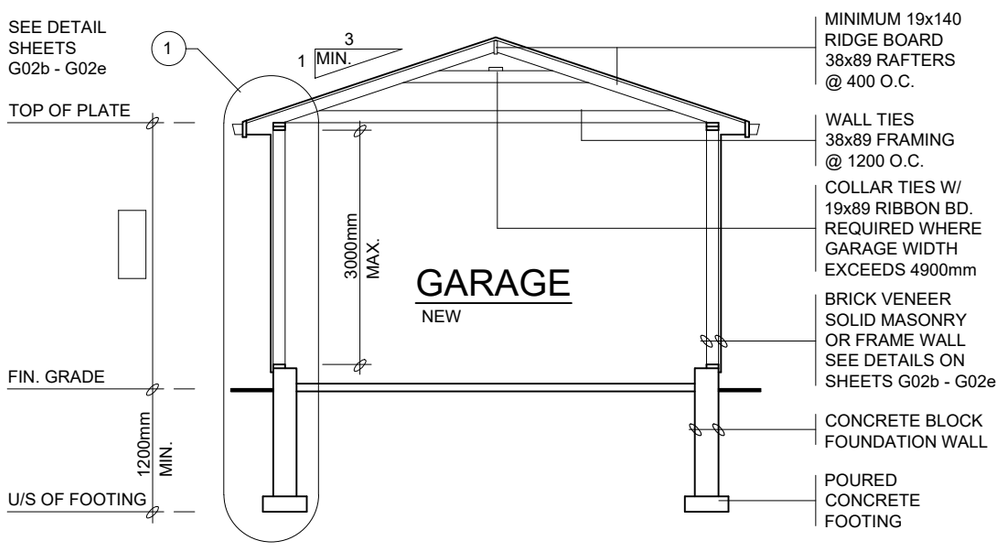
GASPROOFING NOTES

ATTACHED GARAGES MUST BE COMPLETELY SEALED TO PREVENT THE INFILTRATION OF CARBON MONOXIDE & GASOLINE FUMES INTO THE DWELLING.

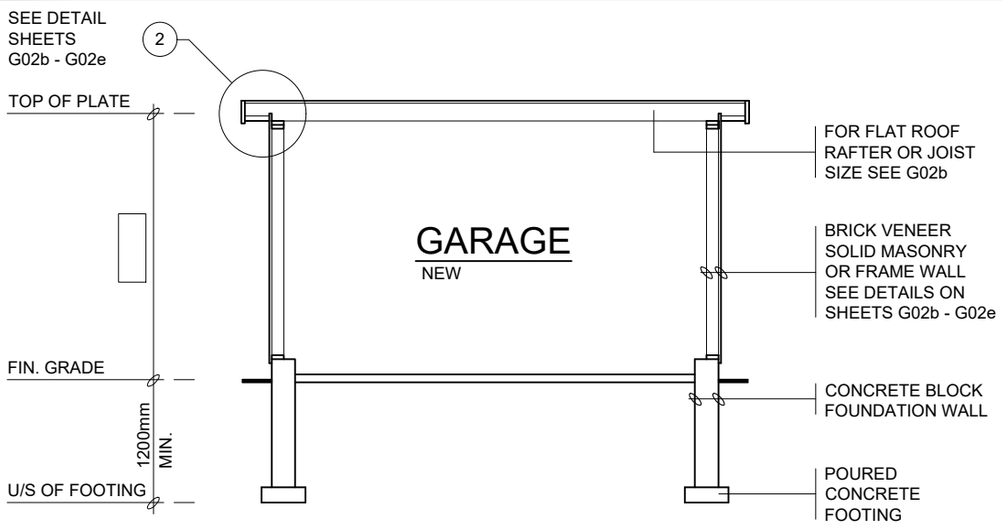
1. PROVIDE 12.7mm DRYWALL W/ MIN. 2 COATS OF JOINT COMPOUND AT ALL WALLS ADJACENT TO DWELLING.
2. CAULK BETWEEN GYPSUM BOARD AND OTHER SURFACES W/ ACOUSTIC SEALANT.
3. CAULK ALL PENETRATIONS SUCH AS HOSE BIBS W/ FLEXIBLE CAULKING.
4. DOORS BETWEEN GARAGE & DWELLING SHALL BE TIGHT FITTING & WEATHERSTRIPPED & PROVIDED W/ A SELF CLOSING DEVICE. DOOR MUST NOT OPEN DIRECTLY INTO A ROOM INTENDED FOR SLEEPING.
5. GARAGE SLAB SHALL BE SLOPED TO DRAIN OUTDOORS
6. WHERE AN ATTACHED GARAGE IS ADJACENT TO AN ATTIC SPACE CARRY DRYWALL UP TO ROOF SHEATHING & CAULK W/ FLEXIBLE CAULKING.
7. UNIT MASONRY WALLS FORMING THE SEPARATION BETWEEN THE DWELLING & ATTACHED GARAGE SHALL BE PROVIDED W/ 2 COATS OF A SEALER OR COVERED W/ PLASTER OR GYPSUM BOARD ON THE GARAGE SIDE.



GARAGE PLAN (PROVIDE DIMENSIONS IN BOX)



GABLE ROOF



FLAT ROOF

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
RAFTER SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	3.11	2.83	2.47	2.72	2.47	2.16
38x140	4.90	4.45	3.89	4.28	3.89	3.40
38x184	6.44	5.85	5.11	5.62	5.11	4.41
38x235	8.22	7.47	6.38	7.18	6.52	5.39

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
JOIST SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52
38x286	7.94	7.21	6.30	6.94	6.30	5.50

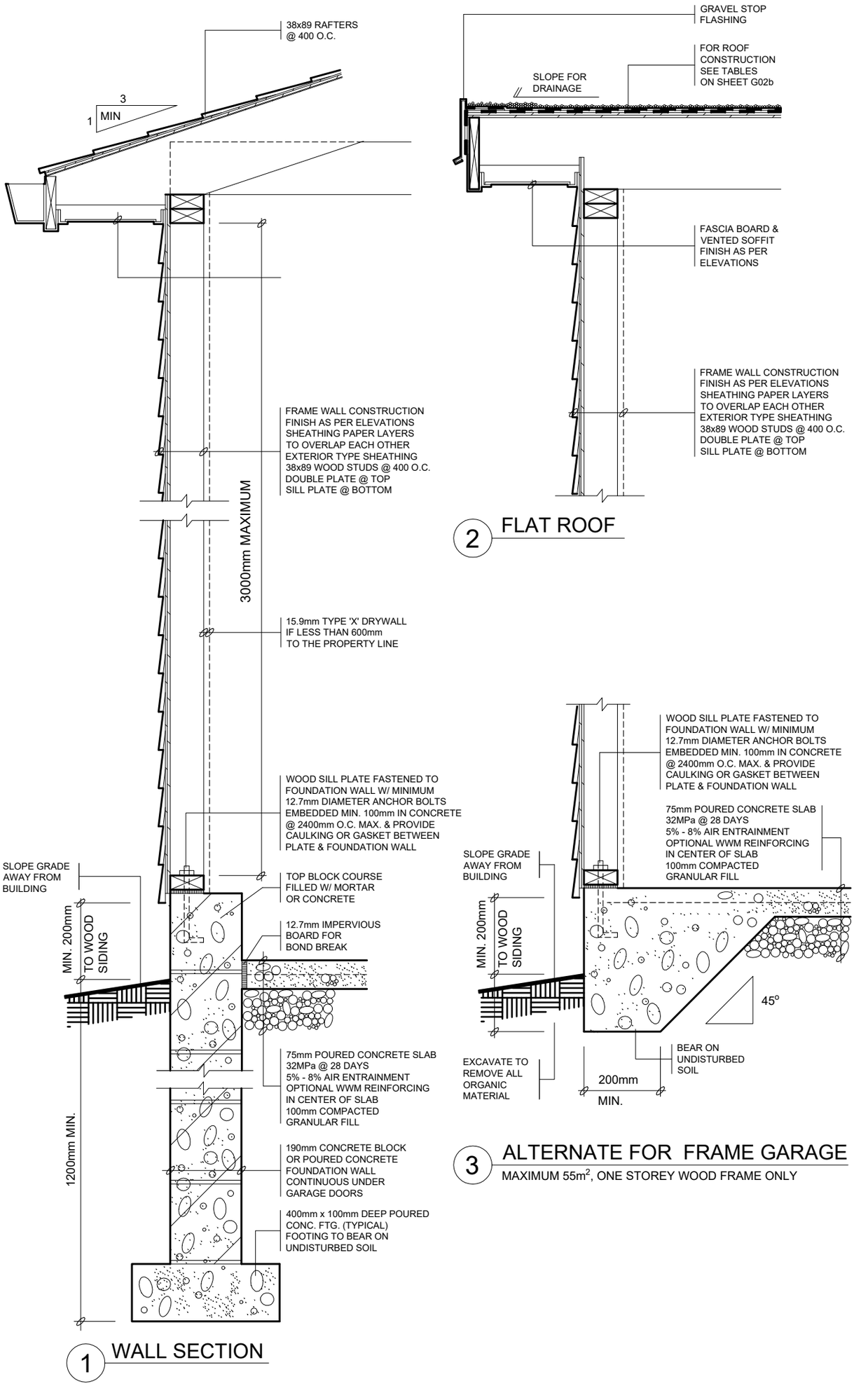
LINTELS (MAXIMUM 1.5 kPa SNOW LOAD)

DOOR WIDTH	LINTELS FOR WOOD FRAMING		LINTELS FOR BRICK VENEER 90mm		LINTELS FOR SOLID MASONRY 200mm	
	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF
UP TO 3000mm	2/ 38x184	2/ 38x286	2/ 38x184 + ANGLE 125x90x8	2/ 38x286 + ANGLE 125x90x8	2 ANGLES 150x100x10	W150x22 + PLATE 200x10
UP TO 4900mm	2/ 38x286	2/ 38x286 OR 2- 45x300 1.9E LVL	W200x27 + PLATE 200x10	W200x27 + PLATE 200x10	MUST BE DESIGNED	MUST BE DESIGNED

GENERAL NOTES

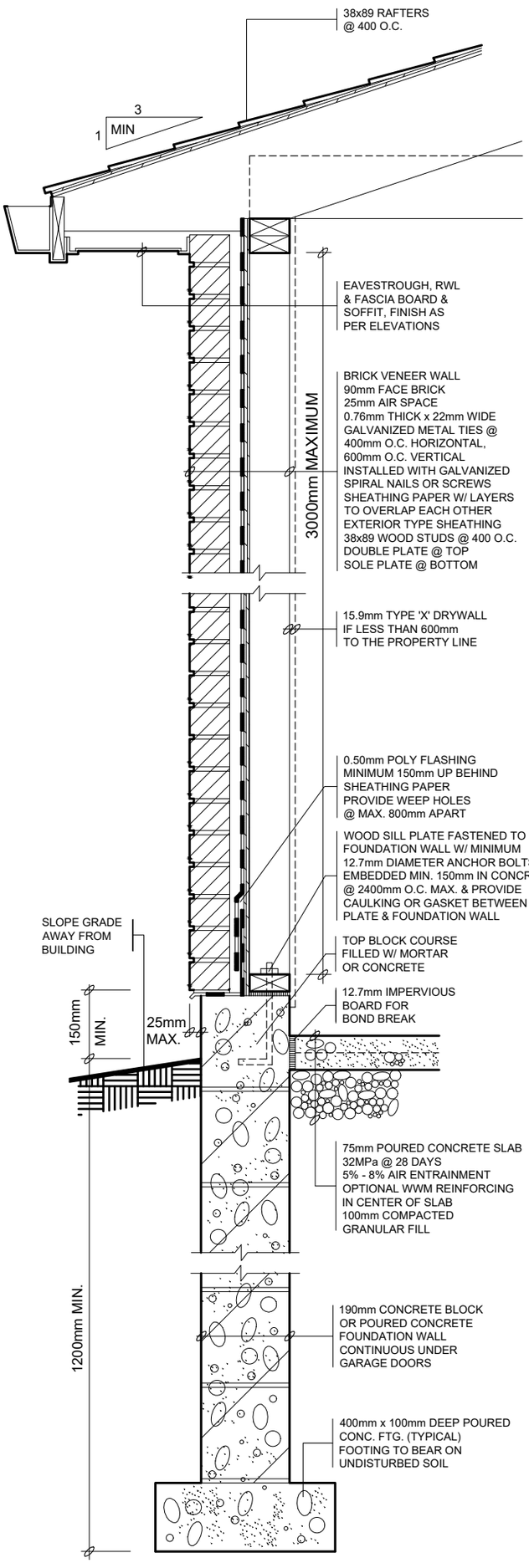
1. ALL LUMBER TO BE NO. 1 & 2 SPF OR BETTER
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE
3. ROOF LOAD DESIGN 1.0 kPa OR 1.5 kPa
4. ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL.
5. IF GARAGE WALL IS LESS THAN 1200mm TO THE PROPERTY LINE PROVIDE 15.9mm TYPE 'X' DRYWALL INTERIOR SHEATHING. NO WINDOWS ARE PERMITTED IN GARAGE WALLS LESS THAN 1200mm FROM PROPERTY LINE.
6. FOR ONE STOREY WOOD FRAME DETACHED GARAGES LESS THAN 55m^2 AN ALTERNATE FOOTING MAY BE USED, SEE DETAIL SHEET G02c.
7. GARAGE SLAB SHALL BE 32MPa CONCRETE W/ 5% - 8% AIR ENTRAINMENT SLOPED TO DRAIN TO THE OUTSIDE.
8. ROOF SHEATHING SHALL BE MIN. 9.5mm PLYWOOD PROVIDE 'H' CLIPS IF RAFTERS OR JOISTS ARE SPACED GRATER THAN 400mm O.C.
9. PROVIDE A LIGHT FIXTURE IN THE GARAGE.
10. STEEL BEAMS TO BE SUPPORTED BY SOLID MASONRY (190mm BEARING ON MASONRY OR 73mm DIA. STEEL COLUMN).
11. LINTELS AND BEAMS TO BE DESIGNED BY A QUALIFIED PERSON FOR SPANS GREATER THAN 4900mm.

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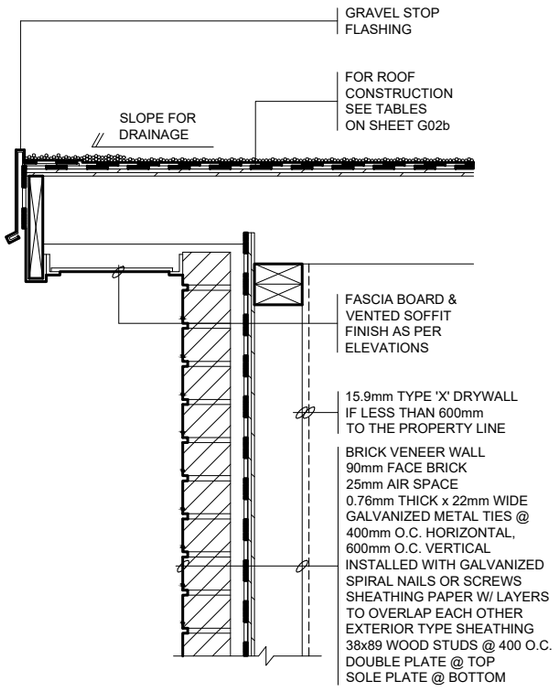


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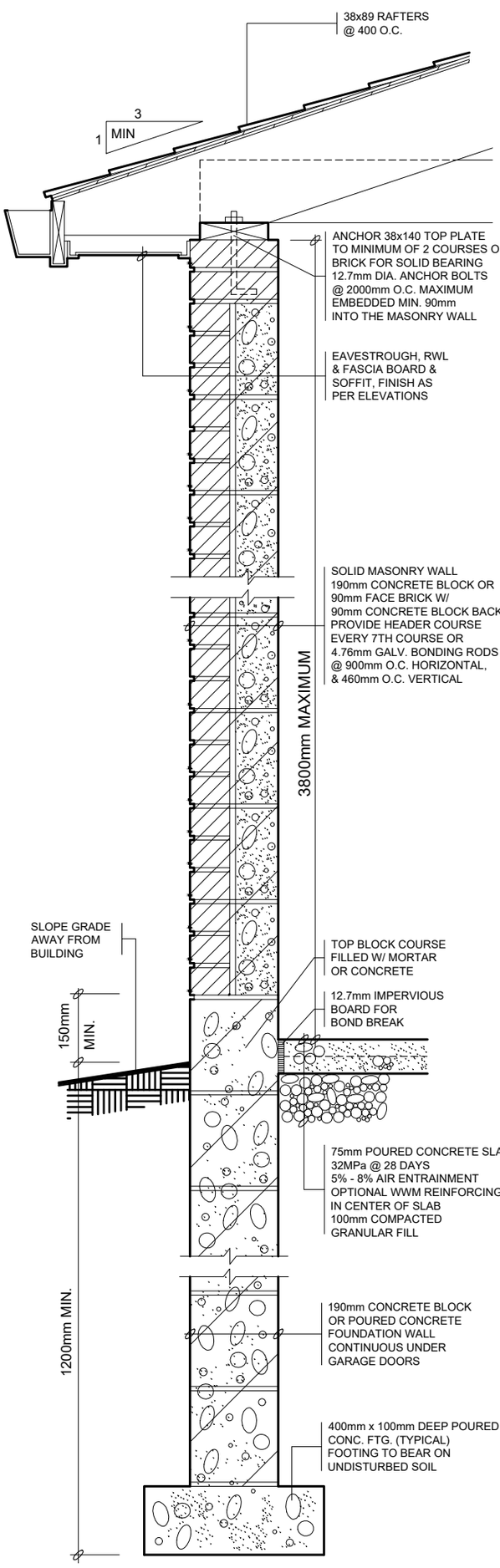
1 WALL SECTION



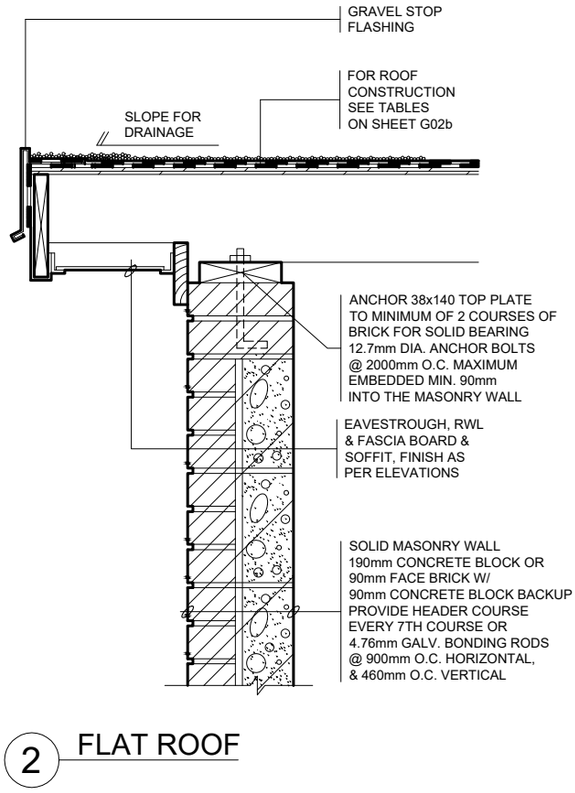
2 FLAT ROOF

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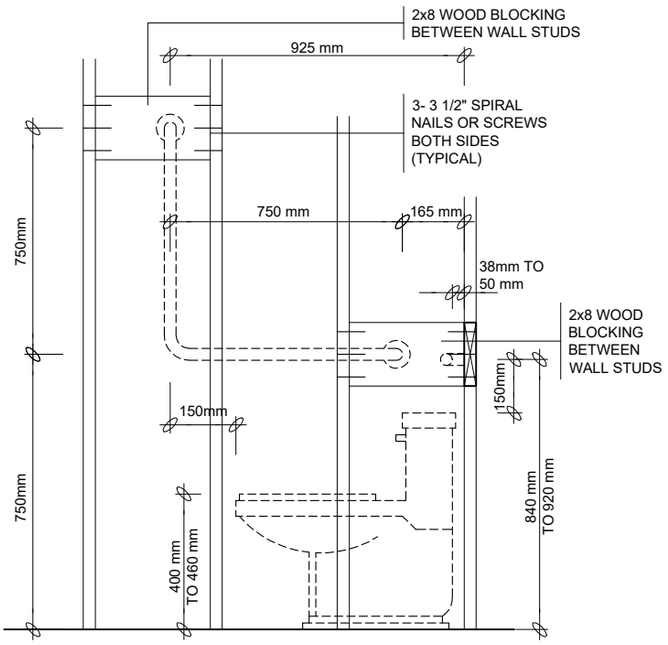
1 WALL SECTION



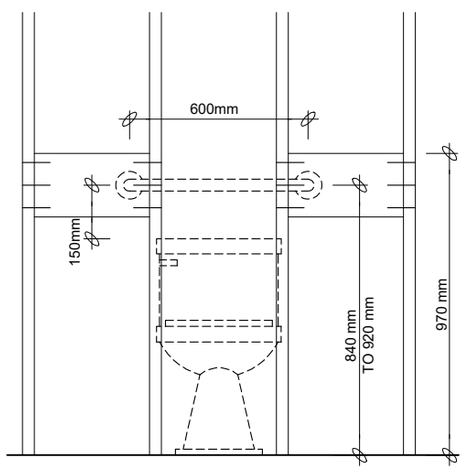
2 FLAT ROOF

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

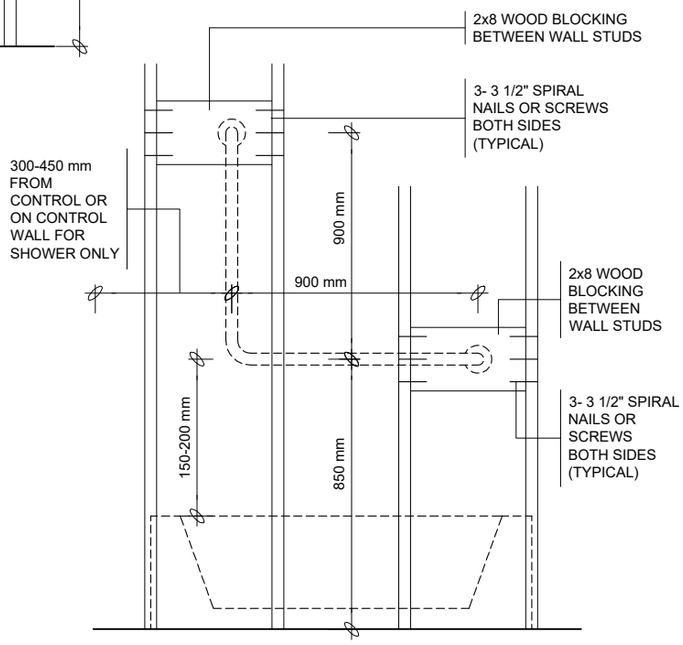
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W.C. SIDE ELEVATION



W.C. FRONT ELEVATION



SHOWER/TUB WALL SIDE ELEVATION

GRAB BAR REINFORCEMENT

REINFORCEMENT SHALL BE INSTALLED TO PERMIT THE FUTURE INSTALLATION OF A GRAB BAR IN THE MAIN BATHROOM OF A DWELLING UNIT. IF GRAB BAR IS NOT INSTALLED AT TIME OF CONSTRUCTION, BLOCKING FOR BOTH CONFIGURATIONS AT SIDE OF WATER CLOSET IS REQUIRED.

GRAB BAR INSTALLATION SPECIFICATION

1. BESIDE WATER CLOSET

OPTION 1
L-SHAPED GRAB BAR WITH 760mm LONG HORIZ. AND VERT. COMPONENTS MOUNTED W/ HORIZ. COMPONENT 750mm TO 900mm A.F.F. AND THE VERTICAL COMPONENT 150mm IN FRONT OF TOILET BOWL.
OPTION 2
MIN. 760mm LONG GRAB BAR MOUNTED AT A 30° TO 50° ANGLE SLOPING UPWARDS AWAY FROM WATER CLOSET W/ LOWER END OF BAR MOUNTED 750mm TO 900mm A.F.F. AND 50mm IN FRONT OF TOILET BOWL.

2. BEHIND WATER CLOSET

MIN. 600mm LONG GRAB BAR MOUNTED HORIZONTALLY ON WALL 840mm TO 920mm ABOVE THE FLOOR AND 150mm ABOVE THE WATER TANK IF APPLICABLE.

3. BEHIND BATHTUB OR SHOWER

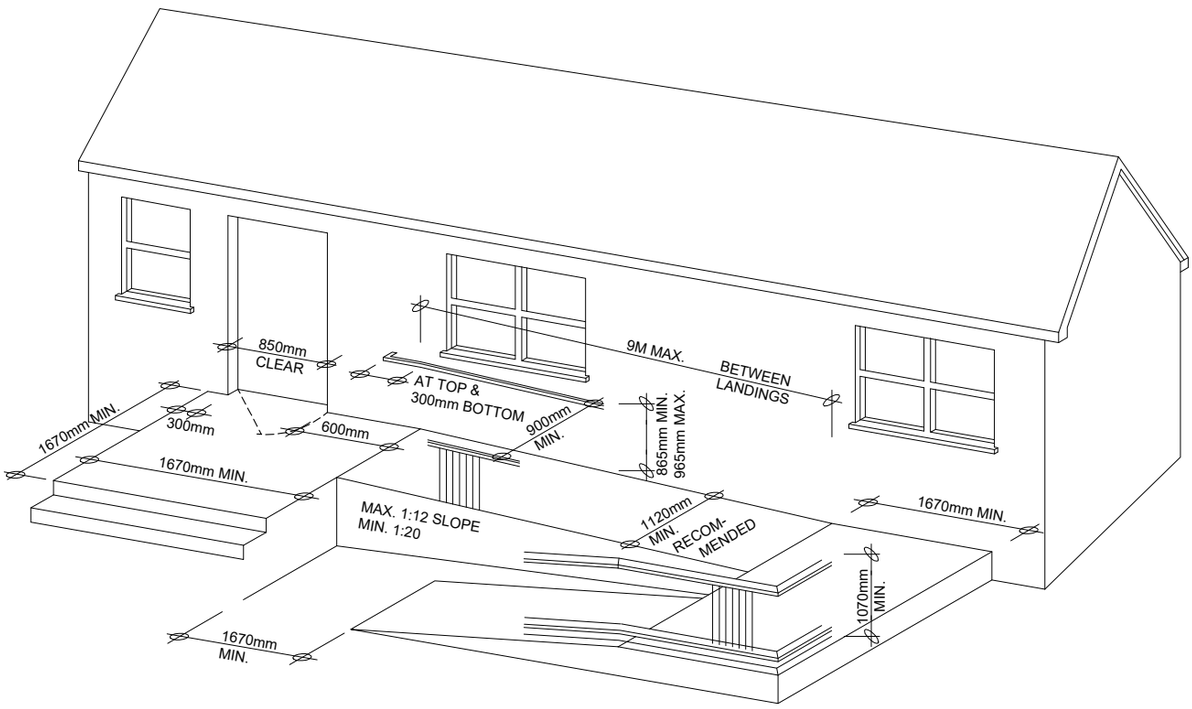
L-SHAPED GRAB BAR MIN. 900mm LONG VERTICAL & HORIZONTALLY. HORIZONTAL COMPONENT WITHIN 100mm FROM EDGE OF SHOWER SEAT. HORIZONTAL COMPONENT 850mm ABOVE FINISH FLOOR & 150-200mm ABOVE TUB RIM.

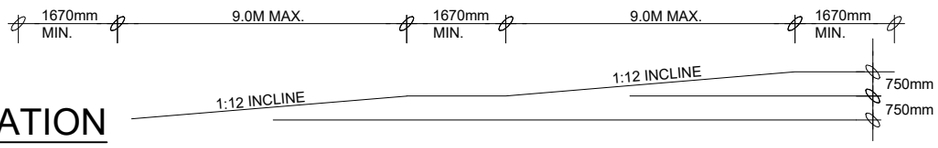
4. GRAB BAR ATTACHMENT

GRAB BAR MUST BE ATTACHED WITH SCREWS WHICH PENETRATE AT LEAST 32mm INTO THE SOLID BLOCKING.

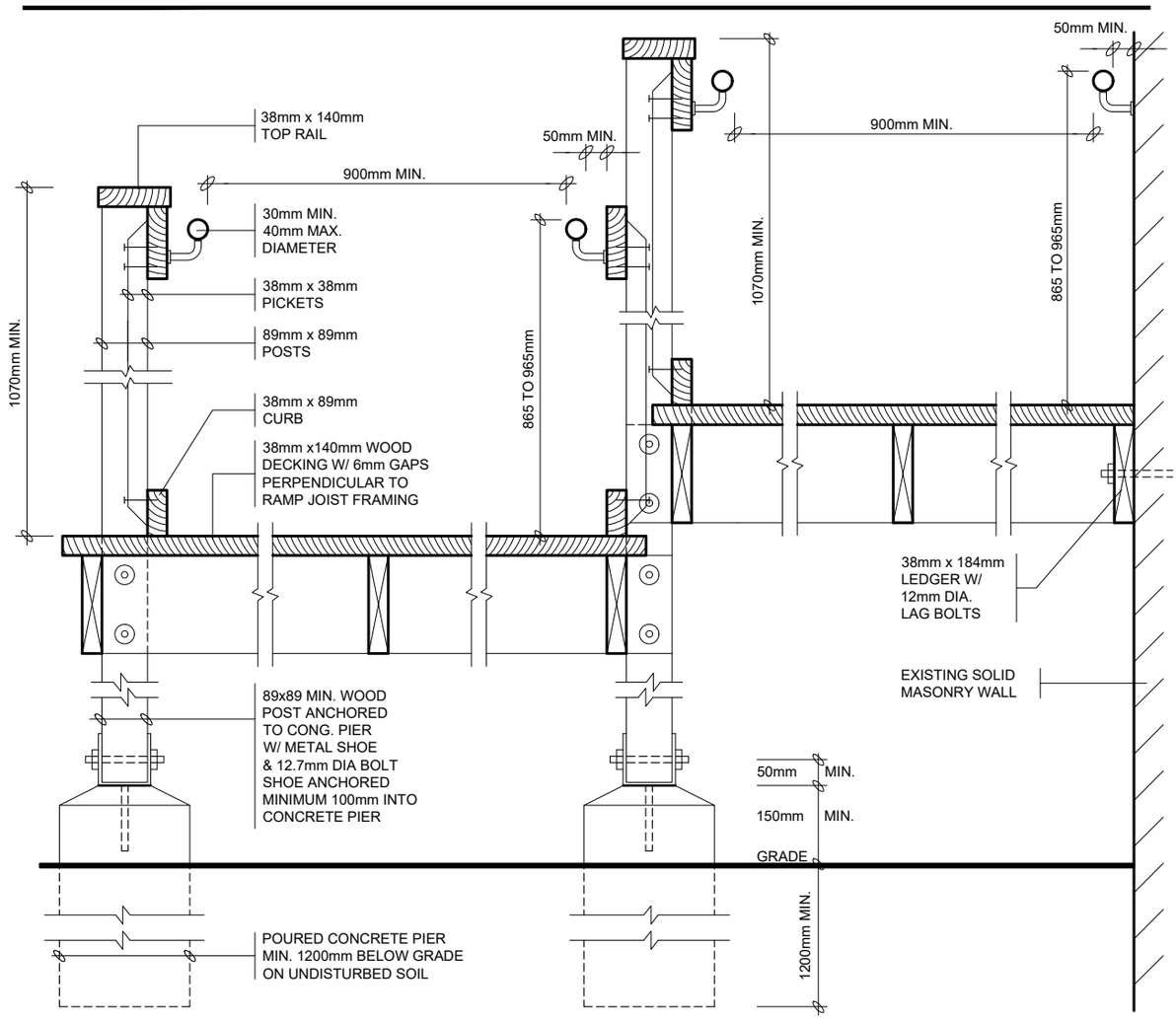
RESERVED

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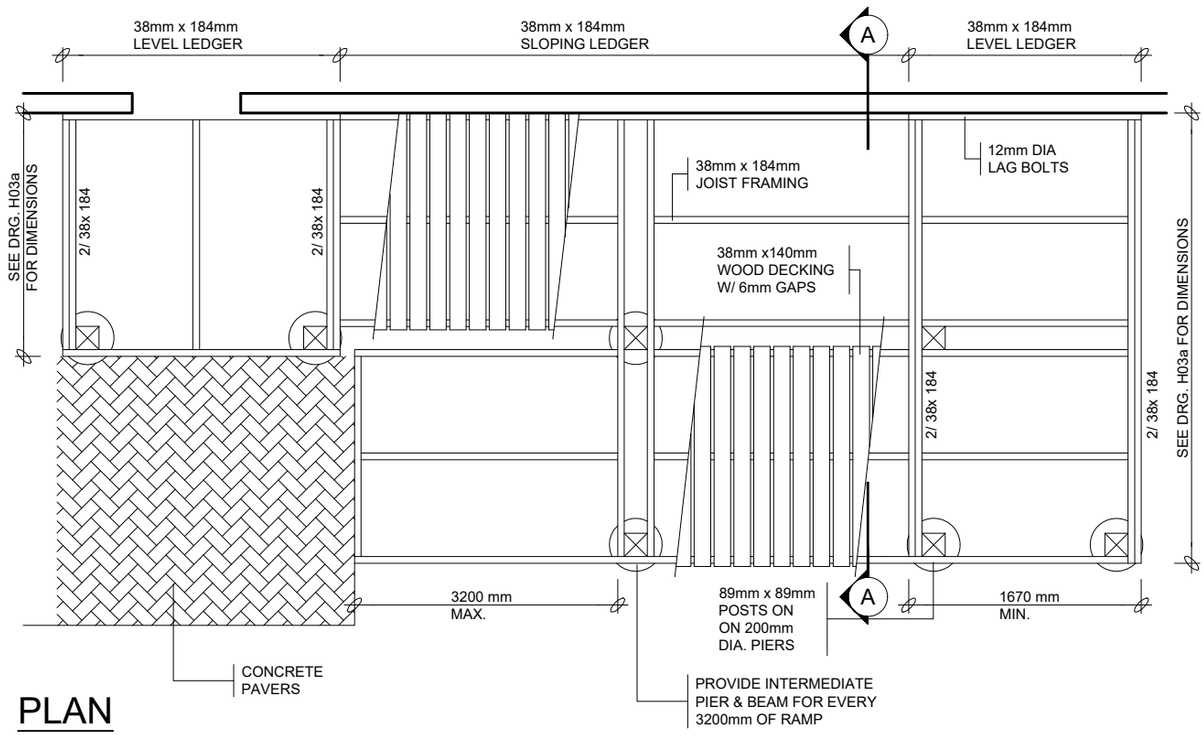
ELEVATION



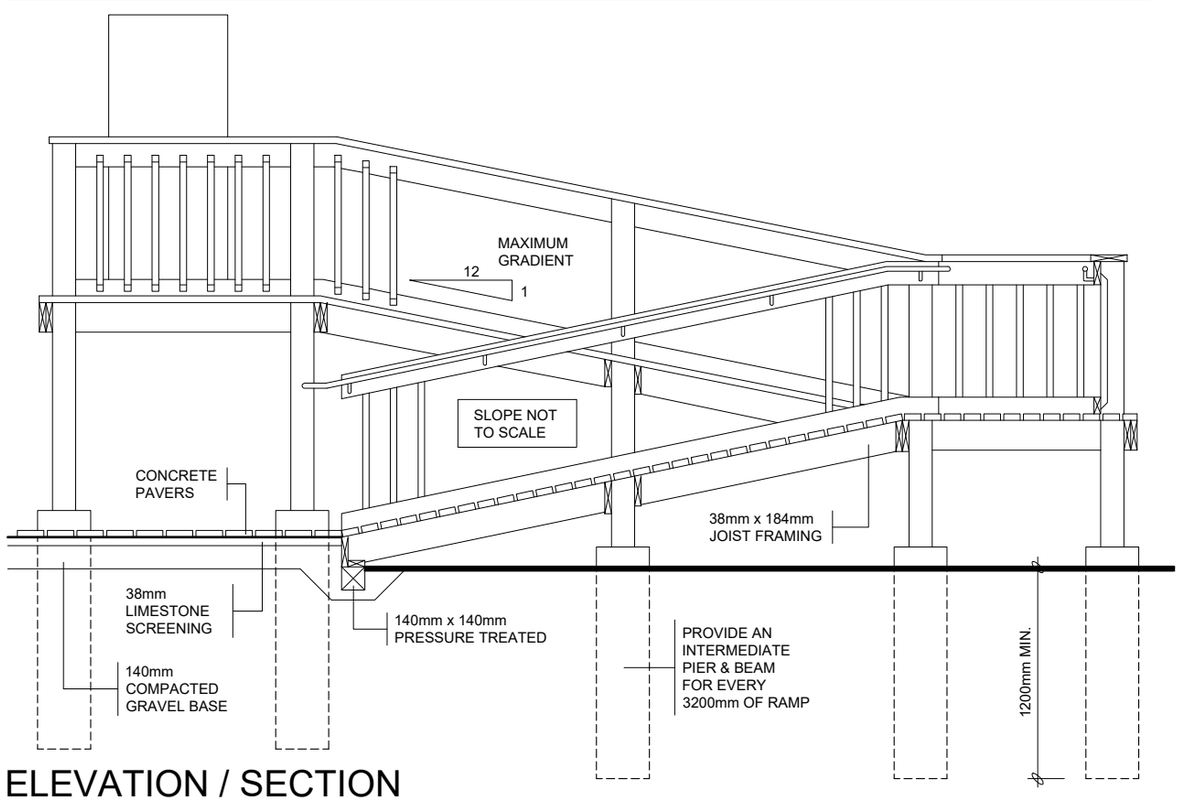
SECTION 'A-A'

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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PLAN



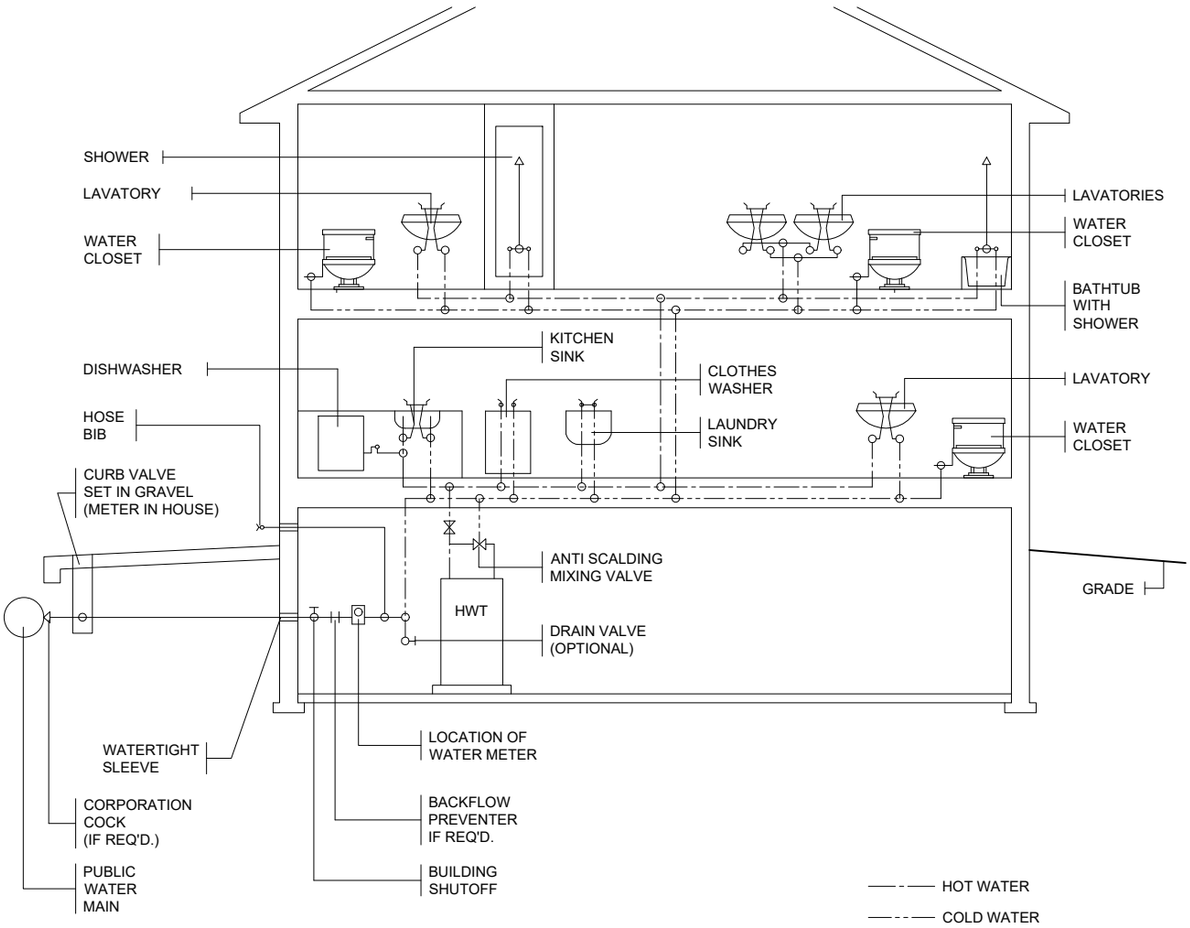
ELEVATION / SECTION

GENERAL NOTES

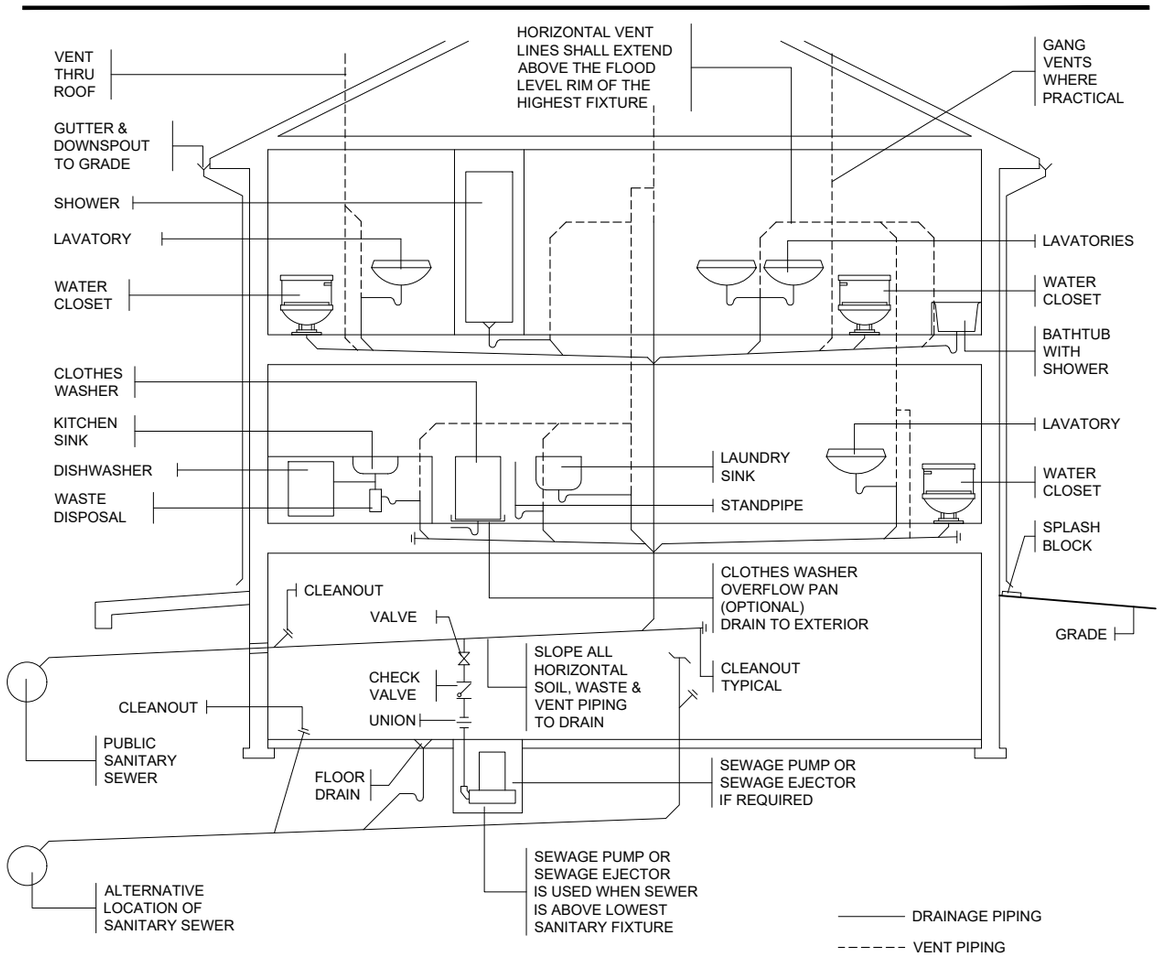
1. A SITE PLAN OR SURVEY IS REQUIRED SHOWING ALL LOT LINES & DIMENSIONS, SIZE & LOCATION OF ALL BUILDINGS, LOCATION & SIZE OF RAMP & LANDING.
2. LUMBER NO. 2 SPF OR BETTER, WOOD POSTS MIN. 89x89 (SOLID). USE CORROSION RESISTANT SPIRAL NAILS OR SCREWS.
3. CONCRETE PIERS SHALL BEAR ON UNDISTURBED SOIL. THE BEARING CAPACITY OF THE SOIL SHALL BE A MINIMUM 75kPa.
4. HANDRAILS, ON BOTH SIDES, W/ 30-40mm CIRCULAR CROSS SECTION OR 100-155mm NON-CIRCULAR PERIMETER W/ MAX. 57mm CROSS SECTIONAL DIMENSION.
5. HANDRAILS MUST BE TERMINATED IN A MANNER THAT WILL NOT OBSTRUCT PEDESTRIAN TRAVEL OR CREATE A HAZARD.
6. PROVIDE A MIN. 40mm CLEARANCE BETWEEN THE HANDRAIL AND THE MOUNTING SURFACE.
7. HANDRAILS/GUARDS SHALL BE DESIGNED AND CONSTRUCTED SUCH THAT THEY WILL WITHSTAND O.9kN POINT LOADS AND O.7kN/m UNIFORM LOADS FROM ANY DIRECTION.

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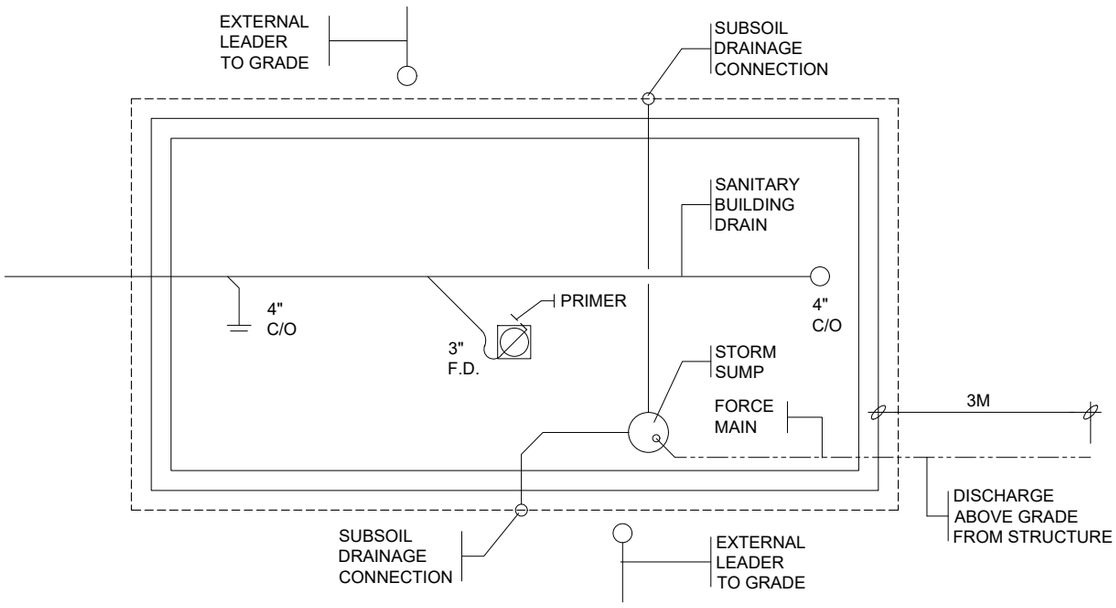
WATER SUPPLY PIPING



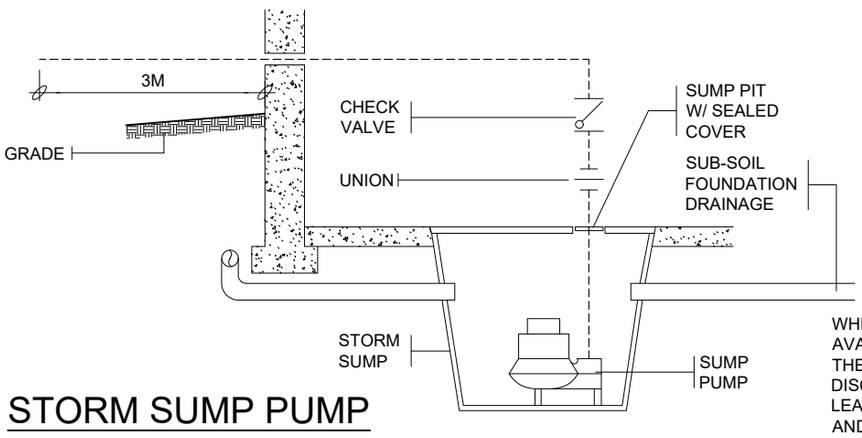
DRAINAGE & VENTING

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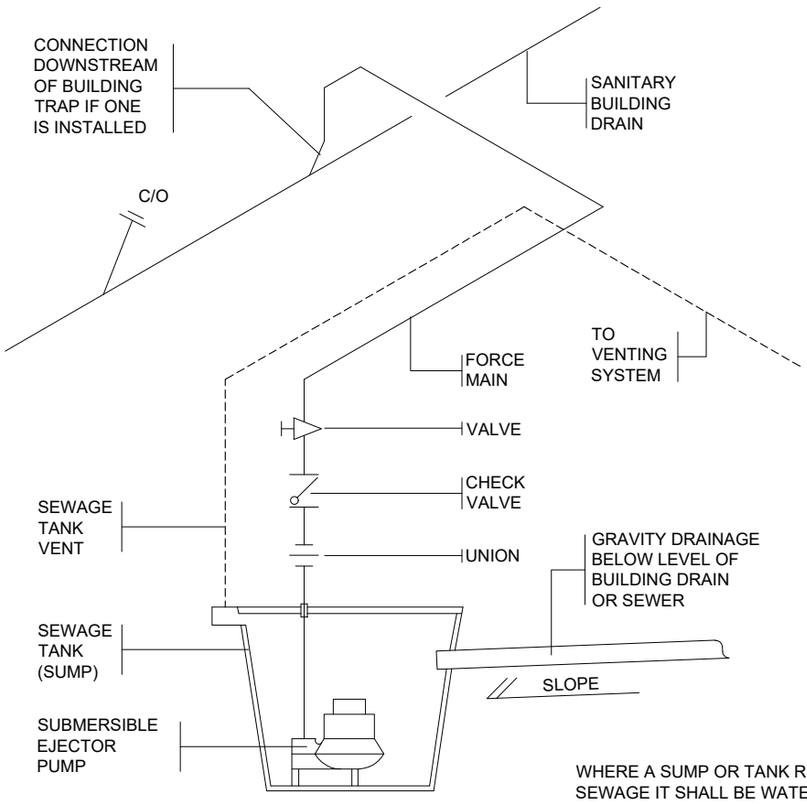


DISCHARGING SUBSOIL DRAINAGE ABOVE GRADE - SEPARATE SYSTEM



STORM SUMP PUMP

WHEN NO STORM DRAIN IS AVAILABLE OR IT IS NOT ALLOWED, THE FOUNDATION DRAINAGE MUST DISCHARGE ABOVE GRADE AT LEAST 3M FROM THE BUILDING AND MUST NOT CREATE A HAZARD

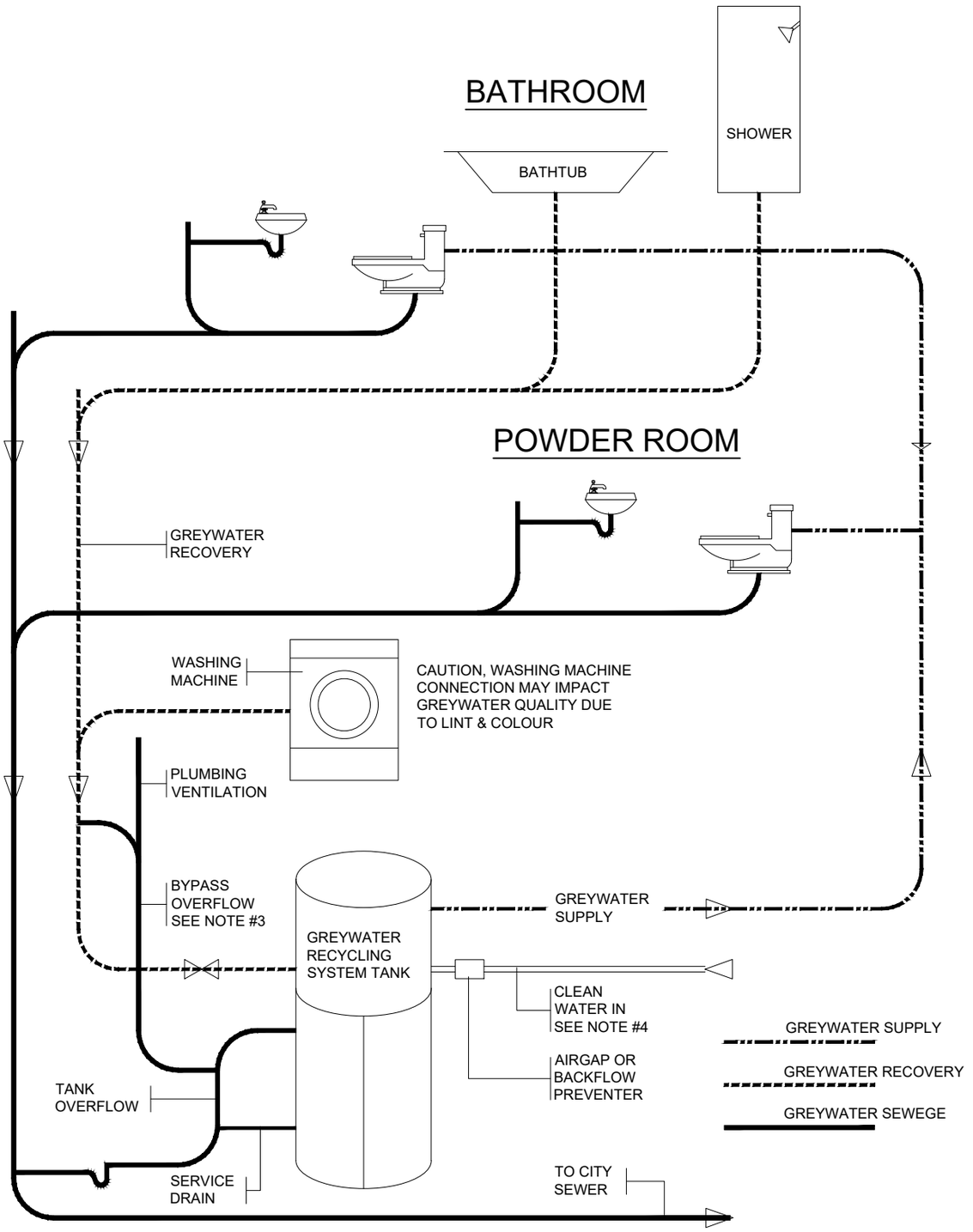


WHERE A SUMP OR TANK RECEIVES SEWAGE IT SHALL BE WATER TIGHT, AIR TIGHT AND SHALL BE VENTED.

SANITARY SEWAGE PUMP

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NOTES:

1. The building code permits toilets, urinals and trap seals to be supplied by recycling greywater rather than by the potable water supply system. Greywater is the discharge from fixtures other than toilets, urinals, bidets or other sanitary units. [7.1.2.3.(2)]
2. The greywater system must be completely separated from the sanitary drainage system using independent greywater supply and drainage piping, as shown on the schematic diagram. All connected fixtures must be connected and vented according to the building code.
3. An overflow pipe connected to a sanitary drain must be installed from the greywater supply tank which incorporates an air gap or check valve to prevent contamination in the event of a sanitary sewage backup. [7.4.2.2.(1)]
4. Backup potable water supply to the greywater supply tank is requires to maintain supply in the event connected fixture demand exceeds the tank supply capacity. The potable water supply pipe must be protected with an air gap or testable reduced pressure principle backflow preventor. [7.4.6.4.]
5. A non-potable water system shall not be connected to a potable water system. [7.6.2.1.]
6. Non-potable water supply piping shall be identified by markings that are permanent, distinct and easily recognized. [7.7.1.2.]
7. An outlet from a non-potable water system shall not be located where it can discharge into a sink or lavatory, a fixture into which an outlet from a potable water system is discharged or a fixture that is used for a purpose related to the preparation, handling or dispensing of food, drink or products that are intended for human consumption. [7.7.1.3.]

1. PLUMBING MATERIALS & EQUIPMENTS:

- A 'T' fitting shall not be used in a drainage system except to connect a vent pipe. [7.2.4.1.]
- A cross fitting shall not be used in a drainage system. [7.2.4.1.]
- No double Y, double TY, double T or double waste fitting shall be installed in a nominally horizontal soil or waste pipe. [7.2.4.4.]

2. DRAINAGE SYSTEM:

- Every sanitary drainage system and storm drainage system shall be provided with cleanouts that will permit cleaning of the entire system. [7.4.7.1.(1)]
- A cleanout fitting shall be provided on the upstream side and directly over every running trap, horizontal soil or waste pipe. [7.4.7.1.(2)]
- Where there is a change of direction greater than 45 degrees in a sanitary building drain or sanitary building sewer, a cleanout shall be installed at each change in direction. [7.4.7.1.(9)]
- Every sanitary building drain or storm building drain shall be provided with a cleanout fitting that is located as close as practical to the place where the drain leaves the building. [7.4.7.1.(6)]
- Every soil or waste stack shall be provided with a cleanout fitting at the bottom of the stack. [7.4.7.1.(7)]
- A cleanout shall be installed on a fixture drain serving a kitchen sink. [7.4.7.1.(10)]
- When gravity drainage to a sanitary drainage system is possible, a floor drain shall be installed in a basement, forming part of a dwelling unit. [7.4.3.1.(1)]
- Sanitary units, bathtubs and shower baths shall not be installed adjacent to wall and floor surfaces that are pervious to water. [7.4.3.1.(1)]
- Every fixture shall be protected by a separate trap. [7.4.5.1.]
- Provision shall be made for maintaining the trap seal of a floor drain by the use of a trap seal primer. [7.4.5.5.]
- Every drainage pipe that is NPS 3 or less shall have a downward slope in the direction of flow of at least 1 in 50. [7.4.8.1.(1)]
- Where it is not possible to comply with 1 in 50 slope, a lesser slope may be used if it will provide a gravity flow of not less than 0.60m per second. [7.4.8.1.(3)]
- Every sanitary building drain and every sanitary building sewer shall be not less than NPS 4. [7.4.9.4.(1)]
- Every storm building drain and every storm building sewer shall be not less than NPS 4. [7.4.9.4.(2)]
- Indirect connections or any trap that may overflow shall not be located in a crawl space or any other unfrequented area. [7.4.3.2.(1)]
- There shall be no unused open ends in a drainage system and dead ends shall be so graded that water will not collect in them. [7.4.6.1.(3)]
- Only piping that is too low to drain into a building sewer by gravity shall be drained to a sump or receiving tank. [7.4.6.3.(1)]
- Where the sump or tank receives sanitary sewage, it shall be water and air-tight and shall be vented. [7.4.6.3.(2)]
- The discharge pipe from every pumped sanitary sewage pump shall be equipped with a union, a check valve and a shut-off valve installed in that sequence in the direction of discharge. [7.4.6.3.(9)]
- A subsoil drainage pipe that drains into a sanitary drainage system that is subject to surcharge shall be connected in such a manner that sewage cannot back up into the subsoil drainage pipe. [7.4.6.4.(5)]
- The developed length of every fixture outlet pipe shall not exceed 1200mm. [7.4.8.2.(1)]
- Where clothes washers do not drain to a laundry tray, the trap inlet shall be not less than NPS 2 and be fitted with a vertical standpipe that is not less than 600mm long measured from the trap weir and terminates above the flood level rim of the clothes washer. [7.4.9.3.(3)]

3. VENTING SYSTEM:

- Every trap shall be vented. [7.5.1.1.]
- Every sanitary building drain shall terminate at its upstream end in a stack of at least NPS 3 in size. [7.5.1.1.]
- A stack shall be a soil stack if one is available and may be a vent stack or waste stack that provides at least NPS 3 stack vent and that goes to open air above the roof, either directly or through a header. [7.5.7.2.(3)]
- Every sump or tank that receives sanitary sewage shall be provided with a vent pipe that is connected to the top of the sump or tank. [7.5.5.1.]
- The minimum nominal pipe size of the vent pipe for a sewage sump or neutralizing or dilution tank shall be one NPS smaller than the NPS of the largest branch or fixture drain draining to the sump. [7.5.7.7.(1)]
- Air admittance valves shall only be used in buildings undergoing renovation and installations where connection to a vent may not be practical. [7.5.9.2.(1)]
- Installed air admittance valves shall be accessible and located in a space that allows air to enter the valve. [7.5.9.3.(4)]

4. POTABLE WATER:

- Every pressure vessel that is part of a plumbing system or connected to a plumbing system shall be equipped with a pressure relief valve designed to open when the water pressure in the tank reaches the rated working pressure of the tank, and so located that the pressure in the tank shall not exceed 1100 kPa or one-half the maximum test pressure sustained by the tank, whichever is the lesser. [7.6.1.7.(1)]
- Every fixture supplied with separate hot and cold water controls shall have the hot water control on the left and the cold on the right. [7.6.1.1.(1)]
- A building control valve shall be provided on every water service pipe at the location where the water service pipe enters the building. [7.6.1.3.(1)]
- Every water closet shall be provided with a shut-off valve on its water supply pipe. [7.6.1.3.(4)]
- Every water pipe that supplies a hot water tank, pressure vessel, plumbing appliance or water using device shall be provided with a shut off valve located close to the tank, pressure vessel, plumbing appliance or water using device. [7.6.1.3b.]
- Every pipe that passes through an exterior wall to supply water to the exterior of the building shall be provided with a frost-proof hydrant with a separate shut-off valve or a stop-and-waste cock located inside the building and close to the wall. [7.6.1.4.(1)]
- Where a hose bib is installed outside a building, inside a garage or where there is an identifiable risk of contamination, the potable water system shall be protected against backflow by a backflow preventer. [7.6.2.7.]
- No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater shall be less than NPS ¾. [7.6.3.4.(4)]
- Every water service pipe shall not be less than NPS ¾. [7.6.3.4.(1)]
- A check valve shall be installed at the building end of the water service pipe where the pipe is made of plastic that is suitable for cold water use only. [7.6.1.5.(1)]
- Protection against thermal expansion shall be required when a check valve, a backflow preventer or a pressure reducing valve is required. [7.6.1.11.(1)]

5. HOT WATER TEMPERATURE CONTROL:

- Shower valves shall be pressure balanced or thermostatic mixing valves. a pressure balanced or thermostatic mixing valve shall not be required for showers where the hot water supply for showers, are controlled by a master thermostatic mixing valve. Pressure balanced or thermostatic mixing valves shall be designed such that the outlet temperature does not exceed 49 °c (120 °f). [7.2.10.7b]

1. EXCAVATION & BACKFILL:

- Excavation shall be undertaken in such a manner so as to prevent damage to existing structures, adjacent property, and utilities. [9.12.1.4.(1)]
- The topsoil and vegetable matter in unexcavated areas under a building shall be removed. [9.12.1.1.(1)]
- If termites are known to exist, all stumps, roots, and wood debris shall be removed to a minimum depth of 300mm in excavated areas under a building, and the clearance between untreated structural wood elements and the ground shall be no less than 450mm. [9.12.1.1.(2)]
- The bottom of excavations for foundations shall be free of all organic material. [9.12.1.1.(3)]
- Excavations shall be kept free of standing water. [9.12.1.2.]
- The bottom of excavations shall be kept from freezing throughout the entire construction period. [9.12.1.3.]
- Material shall not be placed nor shall equipment be operated or placed in or adjacent to an excavation in a manner that may endanger the integrity of the excavation or its supports. [9.12.1.4.(2)]
- Backfill within 600mm of the foundation walls shall be free of deleterious debris and boulders over 250mm in diameter. [9.12.3.3.(1)]

2. DAMPPROOFING & DRAINAGE:

- In normal soil conditions, the exterior surfaces of foundation walls enclosing basements and crawl spaces shall be dampproofed. Where hydrostatic pressure occurs, a waterproofing system is required. [9.13.1.1.]
- Masonry foundation walls shall be parged with 6mm of mortar coved over the footing prior to dampproofing. [9.13.2.3.]
- 100mm dia. foundation drains shall be laid on level, undisturbed ground adjacent to the footings at or below the top of the basement slab or crawl space floor and shall be covered with 150mm of crushed stone. Foundation drains shall drain to a storm sewer, drainage ditch, dry well, or sump.
[9.14.3.2., 9.14.3.3., 9.14.5.1.]
- Window wells shall be drained to the footing level or to a ditch or sump pump. [9.14.6.3.]
- Downspouts not directly connected to a storm sewer shall have extensions to carry water away from the building, and provisions shall be made to prevent soil erosion. [9.26.18.2.]
- Concrete slabs in attached garages shall be sloped to drain to the exterior. [9.35.2.2.]
- The building site shall be graded so that surface, sump, and roof drainage will not accumulate at or near the building and will not adversely affect adjacent properties. [9.14.6.1.]

3. SOIL GAS CONTROL:

- Dwelling units and buildings containing residential occupancies shall be provided with the rough-in for a radon extraction system, unless the space between the air barrier system and the ground is designed to be accessible for the future installation of a subfloor depressurization system. [9.13.4.2.]
- Rough-in for subfloor depressurization shall consist of a gas-permeable layer, an inlet and an outlet in the conditioned space, or clean granular material and a pipe not less than 100mm installed through the floor. [9.13.4.3.]

4. FOOTINGS:

- Minimum 15 MPa poured concrete. [9.15.2.2.]
- Minimum 1200mm below finished grade. [9.12.2.2.]
- Footings shall be founded on natural undisturbed soil, rock, or compacted granular fill with a minimum bearing capacity of 75 kPa and 100 kPa for ICF. [9.15.3.2., 9.15.1.1.]

5. FOOTING SIZES:

Floors Supported	Supporting Ext. Wall	Supporting Int. Wall	Column Area
1	250mm	200mm	0.40m^2
2	350mm	350mm	0.75m^2
3	450mm	500mm	1.00m^2

- Increase exterior footing width by 65mm for each storey of brick veneer supported, by 130mm for each storey of masonry and by 150mm for ICF.
- Increase interior footing width by 100mm for each storey of masonry above footing, and by 100mm for each storey of masonry above footing, and by 100mm for each 2700mm of wall height above 5500mm.
- The projection of an unreinforced footing beyond the wall supported shall not be greater than its thickness.
- Column area based on max. 3000mm spacing.

6. STEP FOOTINGS:

- Step footings must have a maximum of 600mm vertical rise and a minimum of 600mm horizontal run. [9.15.3.9.]

7. FOUNDATION WALLS:

- To be poured concrete, unit masonry, ICF, or preserved wood (see drawings for type and thickness). [9.15.1.1.]
- Dampproofing shall consist of one of the following: a vapour-resistant coating, a cold-fluid-applied or hot-rubberized bituminous dampproofing membrane, a liquid-applied or spray-applied asphalt-based emulsion dampproofing, or a Type iii hot-applied asphalt. [9.4.4.2.]
- A drainage layer is required on the outside of a foundation wall where the interior insulation extends more than 900mm below exterior grade. A drainage layer shall consist of: minimum 19mm mineral fiber insulation with a minimum density of 57 kg/m^3, minimum 100mm of free-draining granular material, or an approved system that provides equivalent performance. [9.14.2.1.]
- Foundation wall to extend a minimum of 150mm above finished ground level. [9.15.4.6.]

8. CONCRETE FLOOR SLABS:

- Garage, carport, and exterior slabs and steps shall be 32 MPa concrete with 5 - 8% air entrainment. [9.3.1.6.]
- Basement slab: 25 MPa concrete, minimum 75mm thick, placed on a minimum 100mm of coarse, clean granular material. [9.16.4.3., 9.16.2.1.]
- All fill other than coarse clean material placed beneath concrete slabs shall be compacted to provide uniform support. [9.16.2.2.(3)]

9. MASONRY WALLS:

- Where constructed of 90mm brick, wall shall be bonded with a header course every 600mm o/c vertically and horizontally and 900mm o/c for block or tile. [9.20.9.3.]
- Provide 50mm solid masonry or concrete-filled top course or continuous 38x89 wood plate under roof and floor framing members. [9.20.8.1.]
- Provide 190mm solid masonry under beams and columns. [9.20.8.4.]
- Masonry wall to be tied to each tier of joists with 40mm x 4.76mm corrosion-resistant steel straps, keyed a minimum of 100mm into masonry. when joists are parallel to the wall, ties are to extend across at least 3 joists @ 2000mm o.c. [9.20.11.]
- Inside of wall to be parged and covered with no. 15 breather-type asphalt paper. [9.20.13.9.]
- For reduced foundation walls to allow a brick facing while maintaining lateral support, tie minimum 90mm brick to minimum 90mm backup block with corrosion resistant ties at least 17.8mm^2 in cross sectional area spaced 400mm vertically and 900mmhorizontally, with joints completely filled with mortar. [9.20.9.4.]
- Masonry over openings shall be supported on corrosion resistant or prime painted steel lintels with a minimum of 150mm end bearing. [9.20.5.2.]

10. MASONRY VENEER:

- Minimum 70mm thick if joints are not raked and 90mm thick if joints are raked [9.20.6.4.]
- Minimum 25mm air space to sheathing [9.20.6.4.]
- Provide weep holes @ 800mm o.c. at the bottom of the cavity and over doors and windows [9.20.13.8.]
- Direct drainage through weep holes with 0.5mm poly flashing extending a minimum of 150mm up behind the sheathing paper [9.20.13.6.]
- Veneer ties: minimum 0.76mm thick x 22mm wide corrosion-resistant straps spaced @ 500mm vertically and 600mm horizontally [9.20.9.5.]
- Fasten ties with corrosion-resistant 3.18mm diameter screws or spiral nails which penetrate at least 30mm into studs [9.20.9.5.]

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11. WOOD FRAME CONSTRUCTION:

- All lumber shall be spruce-pine-fir no. 1 & 2, and shall be identified by a grade stamp.
- Maximum moisture content: 19% at the time of installation. [9.3.2.5.]
- Wood framing members supported on concrete in direct contact with soil shall be separated from the concrete with 0.05mm polyethylene or Type 'S' roll roofing. [9.17.4.3.]

12. WALLS:

- Exterior walls shall consist of: cladding, air barrier system lapped 100mm at joints, 25mm rigid insulation RSI 0.88ci, lumber, plywood, OSB, or gypsum sheathing, 38x140 studs @ 400mm o.c., RSI 3.34 insulation, 38x140 bottom plate, 38x140 double top plate [9.20.6.4.]
- Interior loadbearing walls shall consist of: 38x89 studs @ 400mm o.c., 38x89 bottom plate and double 38x89 top plate, 38x89 mid-girts if not sheathed, 12.7mm gypsum board sheathing [9.20.6.4.]

13. FLOORS:

- Refer to drawing S01d for floor joist size and spacing requirements [9.23.9.1.]
- Joists to have a minimum of 38mm of end bearing [9.23.9.1.]
- Joists shall bear on a sill plate fixed to the foundation with 12.7mm anchor bolts @ 2400mm o.c. [9.23.6.1.(2)]
- Header joists between 1200mm and 3200mm in length shall be doubled. Header joists exceeding 3200mm shall be sized by calculations [9.23.9.5.]
- Trimmer joists shall be doubled when the supported header is between 800mm and 2000mm. trimmer joists shall be sized by calculations when the supported header exceeds 2000mm [9.23.9.6.]
- 38x38 cross-bridging required not more than 2100mm from each support and from other rows of bridging [9.23.9.4.]
- Joists shall be supported on joist hangers at all flush beams, trimmers, and headers [9.23.9.2.]
- Non-loadbearing partitions shall be supported on a joist or on blocking between joists [9.23.9.8.]
- Refer to drawing S01d for subflooring requirements [9.23.9.1.]

14. ROOF & CEILINGS:

- Refer to drawing S01d for rafter, roof joist, and ceiling joist size and spacing requirements [9.23.14.6.]
- Hip and valley rafters shall be not less than 50 mm greater in depth than the common rafters and not less than 38 mm thick, actual dimension [9.23.14.6.]
- 38x89 collar ties @ rafter spacing with 19x89 continuous brace at mid-span if the collar tie exceeds 2400mm in length [9.23.14.7.]
- Refer to drawing S01d for roof sheathing requirements [9.23.14.6.]

15. NOTCHING & DRILLING OF TRUSSES, JOISTS, RAFTERS:

- Holes in floor, roof, and ceiling members must not exceed 1/4 the actual depth of the member and must be at least 50mm from the edges [9.23.5.1.]
- Notches in floor, roof, and ceiling members must be located on the top of the member within 1/2 the actual depth from the edge of bearing and must not exceed 1/3 the joist depth [9.23.5.2.]
- Wall studs may be notched or drilled provided that no less than 2/3 the depth of the stud remains, if load bearing, and 40mm if non-loadbearing [9.23.5.3.]
- Roof truss members shall not be notched, drilled, or weakened unless accommodated in the design [9.23.5.5.]

16. ROOFING:

- Fasteners for roofing shall be corrosion-resistant [9.26.2.3.]
- Roofing nails shall penetrate through or at least 12mm into roof sheathing [9.26.2.3.]
- Every asphalt shingle shall be fastened with at least 4 nails for a 1000mm wide shingle (or 6 11mm staples) [9.26.7.4.]
- Eave protection shall extend 900mm up the roof slope from the edge and at least 300mm from the inside face of the exterior wall and shall consist of: Type M or Type S Roll Roofing laid with a minimum 100mm head and end laps cemented together, or glass fiber or polyester fiber coated base sheets, or self-sealing composite membranes consisting of modified bituminous-coated material, or no.15 saturated felt lapped and cemented [9.26.5.1., 9.26.5.2.]
- Eave protection is not required for unheated buildings, for roofs exceeding a slope of 1 in 1.5, or where a low slope asphalt shingle application is provided [9.26.5.1.(2)]
- Open valleys shall be flashed with 2 layers of roofing or 1 layer of sheet metal minimum 600mm wide [9.26.4.3.(5)]
- Flashing shall be provided at the intersection of shingle roofs with exterior walls and chimneys [9.26.4.1.]
- Sheet metal flashing shall consist of not less than 1.73mm sheet lead, 0.33mm galvanized steel, 0.33mm copper, 0.35mm zinc, or, 0.48mm aluminum [9.26.4.2.]

17. COLUMNS, BEAMS & LINTELS:

- Steel beams and columns shall be shop primed 350W steel [9.15.5.2.]
- Minimum 89mm end bearing for wood and steel beams, with 190mm solid masonry beneath the beam [9.15.5.2.]
- Steel columns to have minimum outside diameter of 73mm and minimum wall thickness of 4.76mm [9.17.3.1.]
- Wood columns for carports and garages shall be minimum 89mm x 89mm; In all other cases either 140mm x 140mm or 184mm round, unless calculations based on actual loads show lesser sizes are adequate. All columns shall be not less than the width of the supported member [9.35.4.2., 9.17.4.1.]
- Masonry columns shall be a minimum of 290mm x 290mm or 240mm x 380mm [9.17.5.2.(1)]
- Provide solid blocking the full width of the supported member under all concentrated loads [9.17.5.2.(1)]

18. INSULATION & WEATHERPROOFING:

- Ceiling with attic: RSI 10.56
- Roof without attic: RSI 5.46
- Exposed floor: RSI 5.46
- Exterior walls: RSI 3.34 + 0.88 ci
- Basement walls: RSI 2.11 + 1.76 ci (RSI 3.52)
- Slab on grade: RSI 1.76 [SB-12 Package A2]
- Insulation shall be protected with gypsum board or an equivalent interior finish, except for unfinished basements where 0.15mm poly is sufficient for fibreglass type insulations. [9.25.2.3.]
- Ducts passing through unheated space shall be made airtight with tape or sealant. [9.25.3.3.]
- Caulking shall be provided for all exterior doors and windows between the frame and the exterior cladding. [9.20.13.11.]
- Weatherstripping shall be provided on all doors and access hatches to the exterior, except doors from a garage to the exterior. [9.25.3.3.]
- Exterior walls, ceilings and floors shall be constructed so as to provide a continuous barrier to the passage of water vapour from the interior and to the leakage of air from the exterior. [9.25.3.1.]
- Insulation shall be installed over the full height of foundation walls enclosing a basement or heated crawl space. [9.25.2.3.(4)]

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19. NATURAL VENTILATION:

- Every roof space above an insulated ceiling shall be ventilated with unobstructed openings equal to not less than 1/300 of the insulated ceiling area. [9.19.1.2.(1)]
- Insulated roof spaces not incorporating an attic shall be ventilated with unobstructed openings equal to not less than 1/150 of the insulated ceiling area. [9.19.1.2.(2)]
- Roof vents shall be uniformly distributed with a minimum of 25% at the top and 25% at the bottom of the space and designed to prevent the entry of rain, snow, or insects. [9.19.1.2.(3)]
- Unheated crawl spaces shall be provided with no less than 0.1m² of ventilation for each 50m². [9.18.3.1.]
- Minimum natural ventilation areas, where mechanical ventilation is not provided, are: bathrooms 0.09m², other rooms 0.28m², unfinished basement 0.2% of floor area. [Table 9.32.2.2.]

20. DOORS & WINDOWS:

- Every floor level containing a bedroom and not served by an exterior door shall contain at least one window having an unobstructed open area of 0.35m² and no dimension less than 380mm, which is openable from the inside without tools. Maximum sill height 1000mm for finished floors above grade. [9.9.10.1.]
- Exterior house doors and windows within 2000mm of grade must resist forced entry and be fitted with a deadbolt lock. [9.7.5.3.]
- The principal entry doors shall have either a door viewer, transparent glazing, or a sidelight. [9.7.2.1]

21. EXTERIOR WALLS:

- No windows or other unprotected openings are permitted in exterior walls less than 1200mm from property lines [9.10.14.4.]
- 15.9mm type 'X' fire rated drywall shall be installed on the inside face of attached garage exterior walls and gable ends of roofs which are less than 1200mm and not less than 600mm from property lines [9.10.14.4.]
- Non-combustible cladding shall be installed on all exterior walls less than 600mm from property lines [9.10.14.4.]

22. CERAMIC TILE:

- When ceramic tile is applied to a mortar bed with adhesive, the bed shall be a minimum of 12.5mm thick and reinforced with galvanized diamond mesh lath, applied over polyethylene on subflooring on joists at no more than 400mm o.c. with at least 2 rows cross bridging [9.23.15.5.(3)]

23. ACCESS TO ATTICS & CRAWL SPACES:

- Access hatch minimum 545mm x 588mm to be provided to every roof space which is 10m² or more in area and more than 600mm in height [9.19.2.1.]
- Access hatch minimum 500mm x 700mm to be provided to every crawl space serving a house. Other than in a house, access hatch must be the minimum of 550mm by 900mm [9.18.2.1.]

24. GARAGE GASPROOFING:

- Walls and ceilings of attached garages shall be constructed and sealed so as to provide an effective barrier to exhaust fumes [9.10.9.18.(4)]
- All plumbing and other penetrations through the walls and ceiling shall be caulked [9.10.9.18.(5)]
- Doors between the dwelling and attached garage may not open into a bedroom and shall be weatherstripped and have a self-closer [9.10.13.15.]

25. ALARMS & DETECTORS:

- At least one smoke alarm shall be installed on each floor, in each bedroom and in the basement level 900mm or more above an adjacent level [9.10.19.1.]
- Smoke alarms shall be interconnected wirelessly or by hard-wiring and installed on or near the ceiling and provided with a battery backup [9.10.19.5.]
- All smoke alarms to have a visual signaling component conforming to NFPA 72. visual device to be interconnected to smoke alarm [9.10.19.1.(2)]
- Carbon monoxide alarms shall be installed in each residential suite with fuel-burning or forced-air fuel burning appliance, or an attached garage [9.32.3.9a.]
- Carbon monoxide alarms shall be installed in each sleeping room, adjacent to each sleeping room, and on each storey without a sleeping room [9.32.3.9a.]

26. STAIRS:

- Stair dimensions:
- Maximum rise: 200mm,
- Minimum run: 255mm,
- Minimum tread: 280mm,
- Minimum headroom: 1950mm,
- Clear headroom under beams and ducting in secondary suite: 1850mm, minimum width: 860mm [9.8.4.1., 9.8.2.2.]
- Curved stairs shall have a minimum run of 150mm at any point and a minimum average run of 300mm [9.8.4.3.]
- Winders which converge to a point in stairs must turn through an angle of no more than 90° with no less than 30° or more than 45° per tread. Sets of winders must be separated by 1200mm along the run of the stair [9.8.4.6.]
- A landing is required at the top of any stair leading to the principal entrance to a dwelling and other exterior entrances with more than 3 risers [9.8.6.2.]
- Exterior concrete stairs with more than 2 risers require foundations [9.8.9.2.]

27. HANDRAIL & GUARDS:

- A handrail is required for interior stairs containing more than 2 risers and exterior stairs containing more than 3 risers. [9.8.7.1.(3)]
- Guards are required around every accessible surface more than 600mm above an adjacent level and where the adjacent surface has a slope more than 1:2 [9.8.8.1.(1)]
- Interior and exterior guards minimum of 900mm high. [9.8.8.3.]
- Exterior guards must be 1070mm high where the height above the adjacent surface exceeds 1800mm [9.8.8.3]
- Guards must have openings smaller than 100mm and no member between 140mm and 900mmthat facilitates climbing. [9.8.8.5., 9.8.8.6.]
- The triangular openings formed by stair risers, stair treads and the bottom element of a required guard shall be of a size that prevents the passage of a 150mm diam sphere. [9.8.8.5.(2)]

28. PLUMBING:

- Every dwelling requires a kitchen sink, lavatory, water closet, bathtub or shower stall, and the installation or availability of laundry facilities. [9.31.4.1., 9.31.4.1a.]
- A floor drain must be installed in the basement and connected to the sanitary sewer where gravity drainage is possible. Otherwise, it must connect to a sewage ejection pump. [9.31.4.3.]

29. ELECTRICAL:

- An exterior light controlled by an interior switch is required at every entrance. [9.34.2.1.]
- A light controlled by a switch is required in every kitchen, bedroom, living room, utility room, laundry room, dining room, bathroom, vestibule, hallway, garage, and carport. A switched receptacle may be provided instead of a light in bedrooms and living rooms. [9.34.2.2.]
- Stairs shall be lighted, and except where serving an unfinished basement shall be controlled by a 3-way switch at the head and foot of the stairs. [9.34.2.3.]
- Basements require a light for each 30m², controlled by a switch at the head of the stairs. [9.34.2.4.]

30. MECHANICAL VENTILATION:

- A mechanical ventilation system is required with a total capacity at least equal to the sum of: 10.0 L/s for each basement and master bedroom, 5.0 L/s for each additional room. [Table 9.32.2.3.]
- A principal dwelling exhaust fan shall be installed and controlled by a centrally located switch identified as such. [9.32.3.3.]
- A supplemental exhaust fan with a rated capacity not less than 50 L/s shall be installed in the kitchen, and 25 L/s in the bathrooms. [9.32.3.7.]
- A Heat Recovery Ventilator (HRV) may be employed in lieu of exhaust to provide ventilation. An HRV is required if any solid fuel-burning appliances are installed. [9.32.3.3.]
- Supply air intakes must be located to avoid contamination from exhaust outlets. [9.32.3.13.]

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ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
RAFTER SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	3.11	2.83	2.47	2.72	2.47	2.16
38x140	4.90	4.45	3.89	4.28	3.89	3.40
38x184	6.44	5.85	5.11	5.62	5.11	4.41
38x235	8.22	7.47	6.38	7.18	6.52	5.39

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (m)						
JOIST SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	2.47	2.24	1.96	2.16	1.96	1.71
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52

FLOOR JOISTS

MAXIMUM CLEAR SPAN (m)												
JOIST SIZE	19x64mm STRAPPING OR DRYWALL CLG.			38x38mm CROSS BRIDGIING			BOTH STRAPPING & BRIDGING			38-51mm CONCRETE TOPPING		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600	300	400	600	300	400	600
38x89	1.8	1.72	1.58	1.99	1.81	1.58	1.99	1.81	1.58	1.99	1.81	1.58
38x140	2.92	2.71	2.49	3.14	2.85	2.49	3.14	2.85	2.49	3.14	2.85	2.49
38x184	3.54	3.36	3.20	3.81	3.58	3.27	3.99	3.72	3.27	4.12	3.75	3.27
38x235	4.17	3.96	3.77	4.44	4.17	3.92	4.60	4.29	4.00	5.27	4.79	4.13
38x286	4.75	4.52	4.30	5.01	4.71	4.42	5.17	4.82	4.49	6.23	5.81	4.79

CEILING JOISTS

MAXIMUM CLEAR SPAN (m)			
JOIST SIZE	JOIST SPACING (mm) O.C.		
	300	400	600
38x89	3.11	2.83	2.47
38x140	4.90	4.45	3.89
38x184	6.44	5.85	5.11
38x235	8.22	7.47	6.52

SUBFLOORING

FLOOR JOIST UP TO (mm) O.C.	SUBFLOORING MIN. THICKNESS (mm)		
	PLYWOOD	WAFER BD.	LUMBER
400	15.5	15.9	17.0
500	15.5	15.9	19.0
600	18.5	19.0	19.0

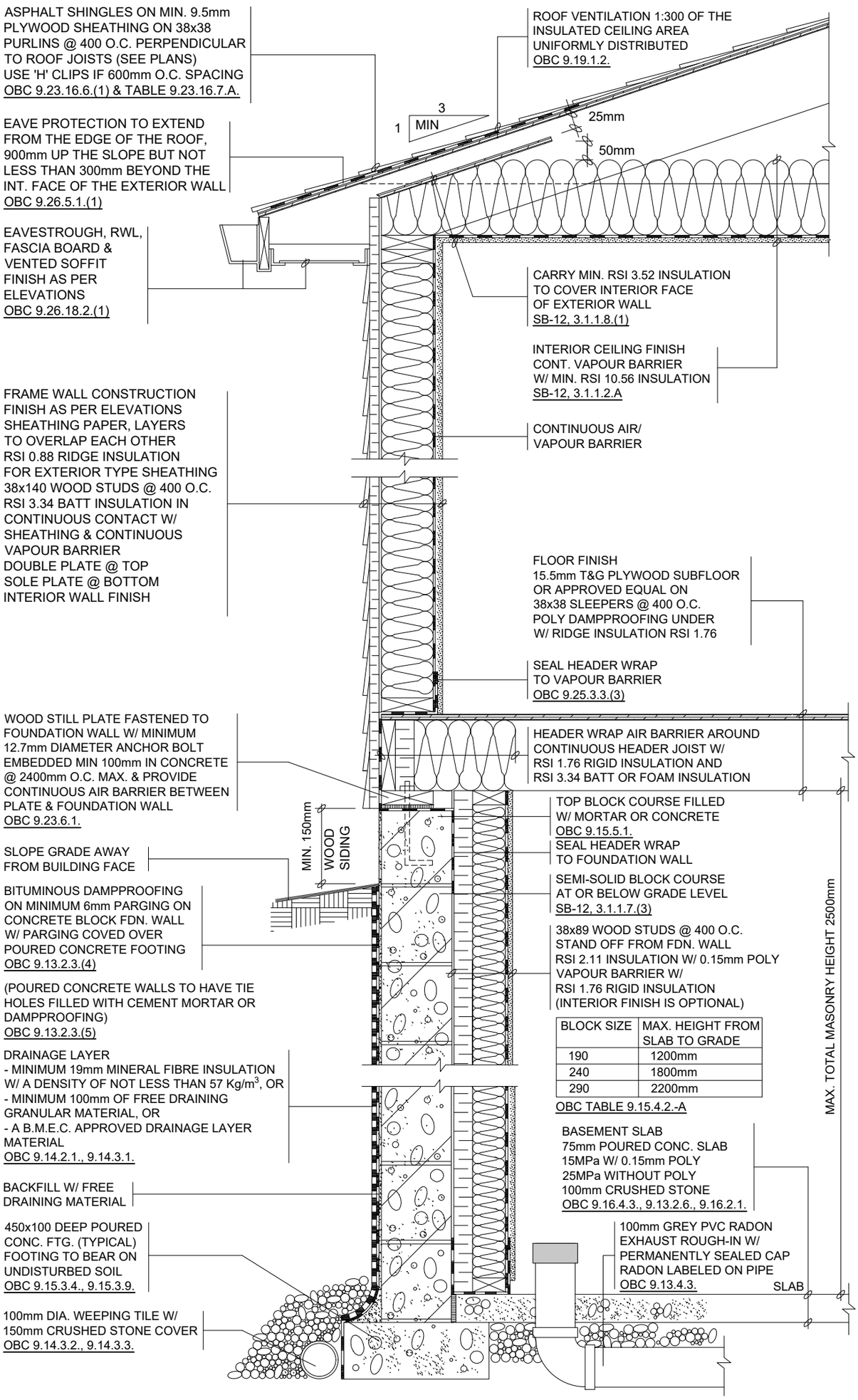
ROOF SHEATHING

ROOF FRAMING UP TO (mm) O.C.	ROOF SHEATHING MIN. THICKNESS (mm) UNSUPPORTED EDGES	ROOF SHEATHING MIN. THICKNESS (mm) TONGUE & GROOVE, 'H'-CLIPS OR OTHER EDGE SUPPORT
300	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER
400	9.5 PLYWOOD, 11.1 WAFER BD. OR 17.0 LUMBER	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER
600	12.5 PLYWOOD OR 19.0 LUMBER	9.5 PLYWOOD, 11.1 WAFER BD. OR 19.0 LUMBER

GENERAL NOTES

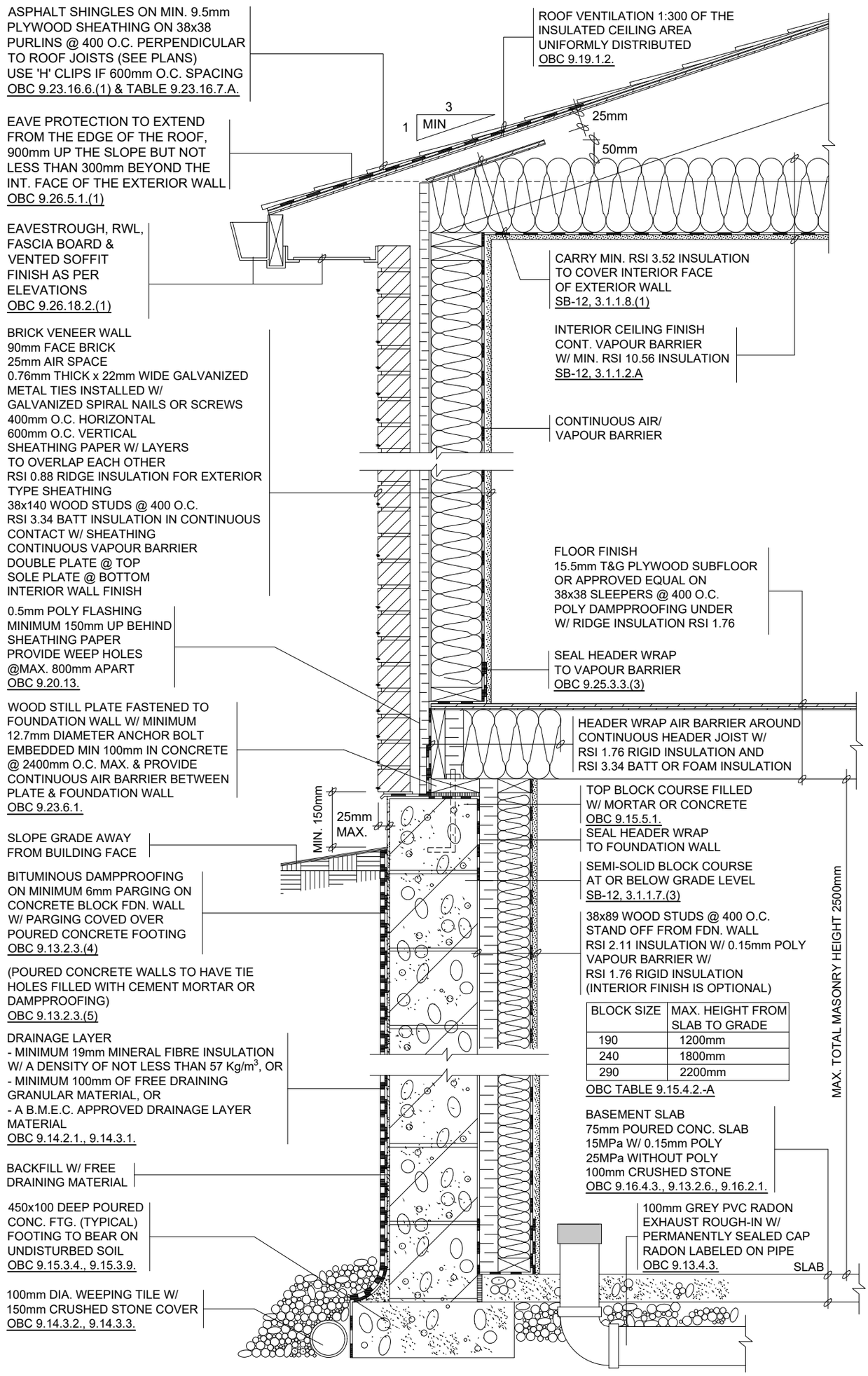
1. ALL LUMBER TO BE NO. 1 & 2 SPF OR BETTER
2. STRAPPING & CROSS BRIDGING MAXIMUM 2100mm FROM SUPPORT & OTHER ROWS OF STRAPPING & BRIDGING.
3. CEILING JOIST TABLE MAY BE APPLIES ONLY WHERE ATTIC IS BOT ACCESSIBLE BY A STAIRWAY.
4. WHERE FINISHED FLOORING CONSISTS OF 19mm WOOD STRIPS, SUBFLOOR MAY BE REDUCED TO 12.7mm.

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Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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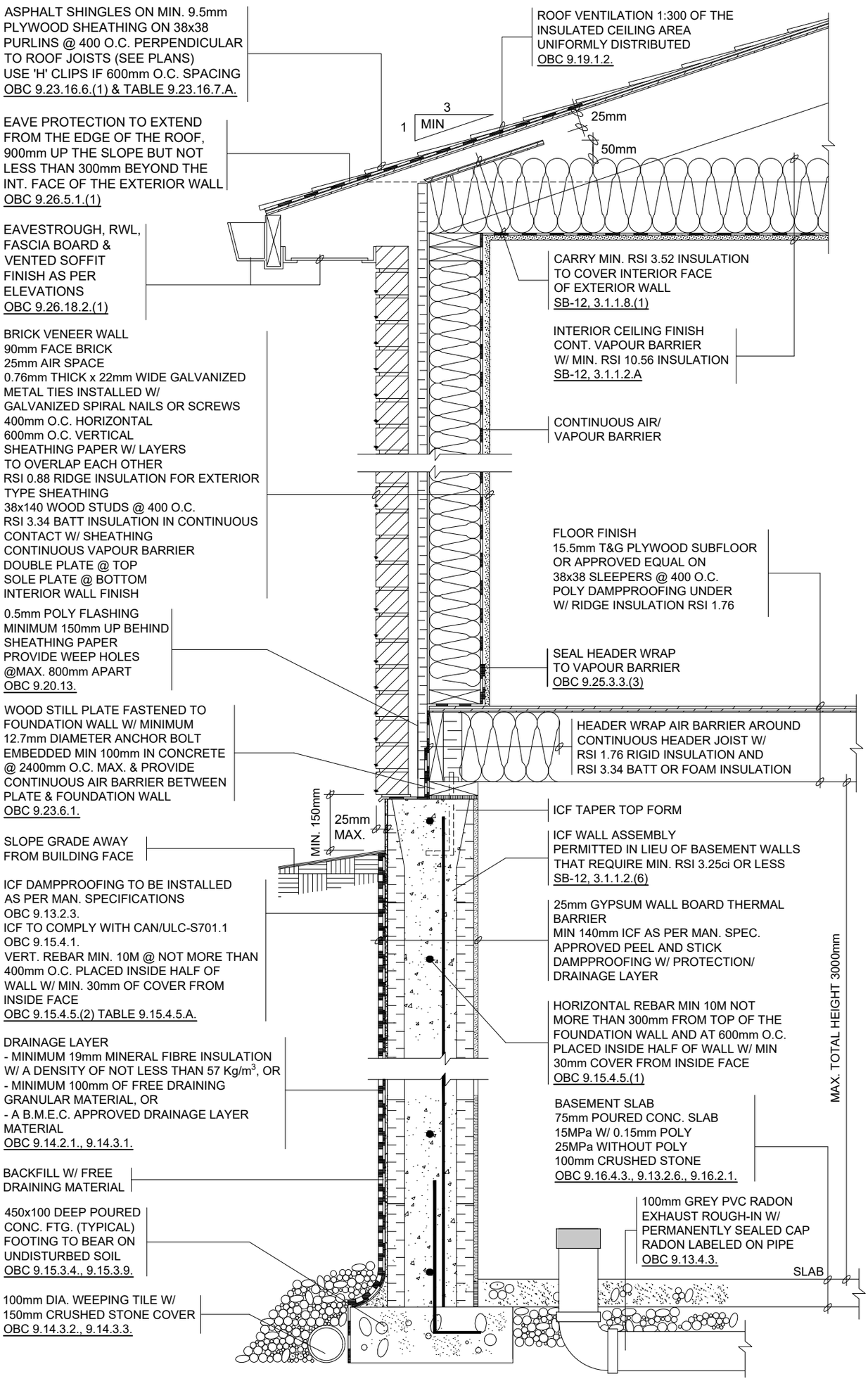


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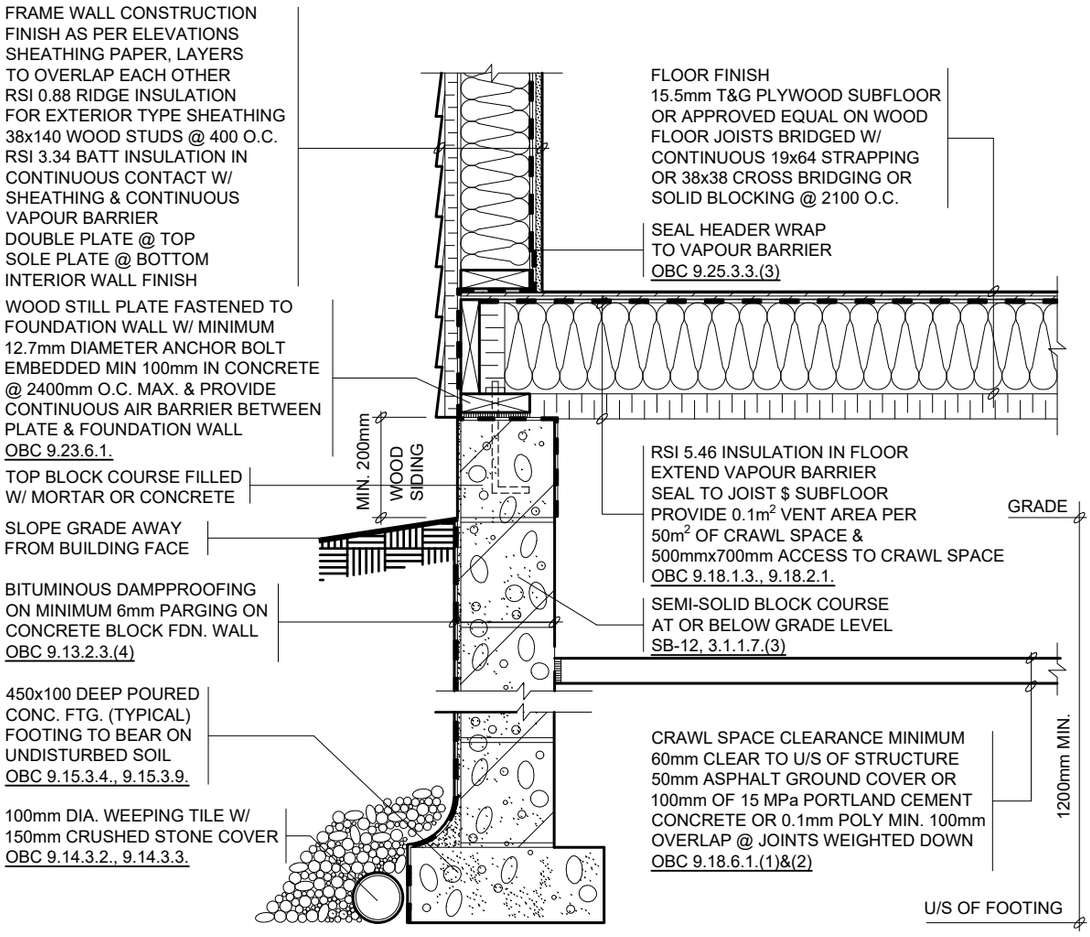
BRICK VENEER WALL SECTION | W02b

ICF FOUNDATION WALL | OBC 2024

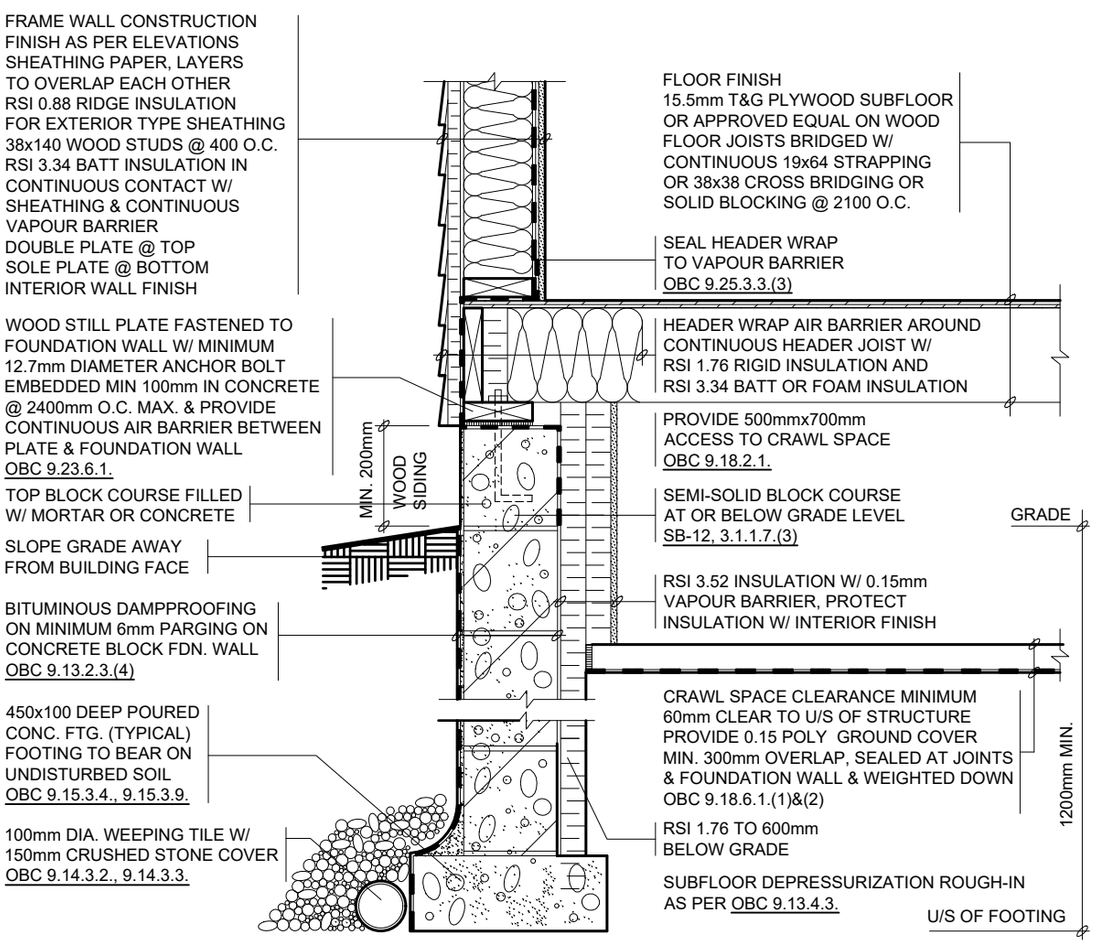


Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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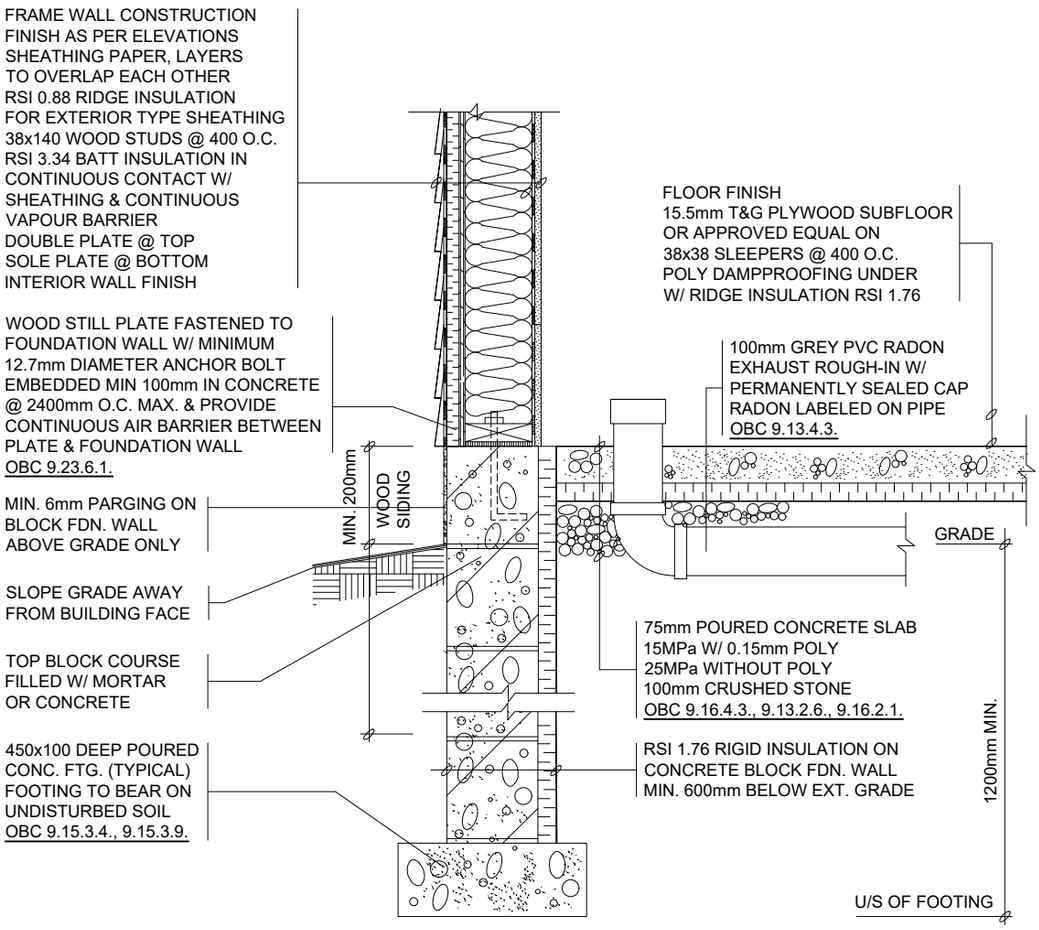
UNHEATED CRAWL SPACE

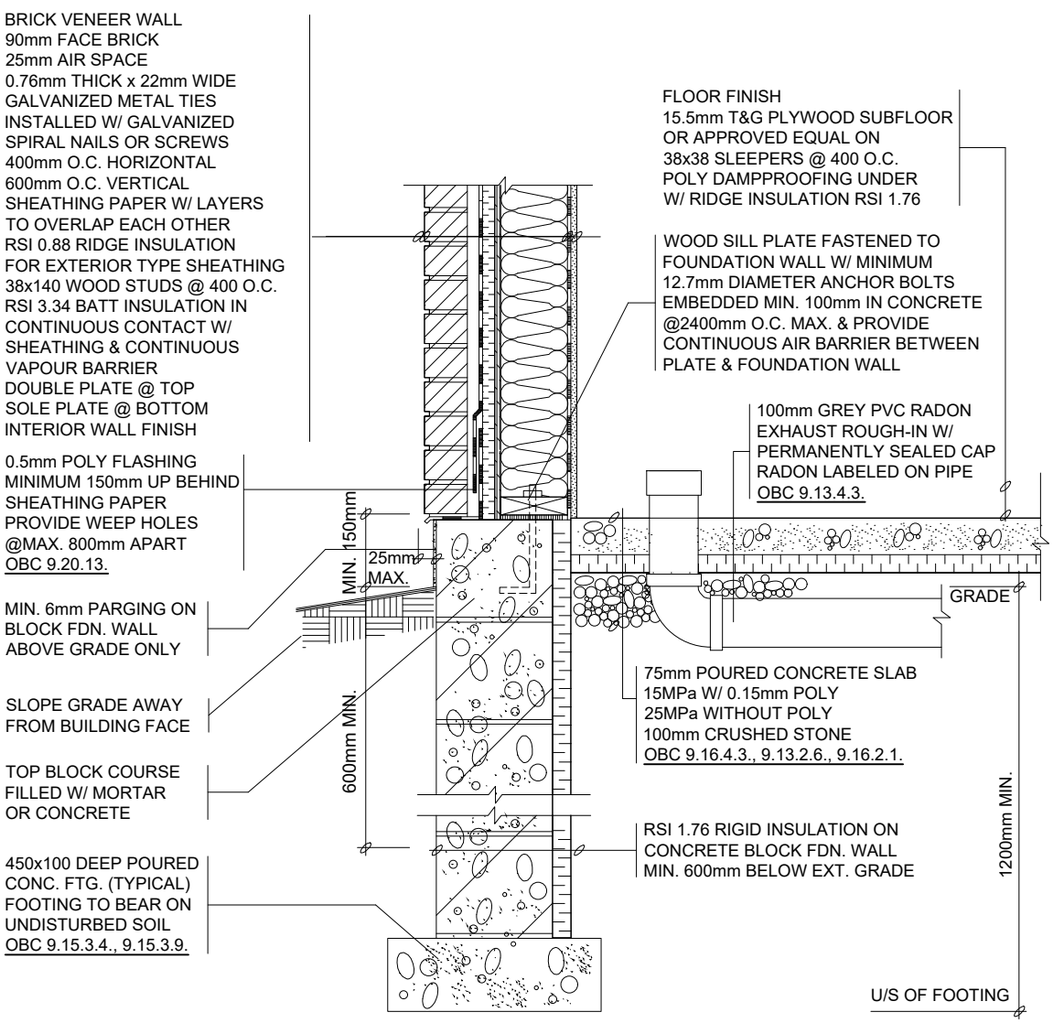


HEATED CRAWL SPACE

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

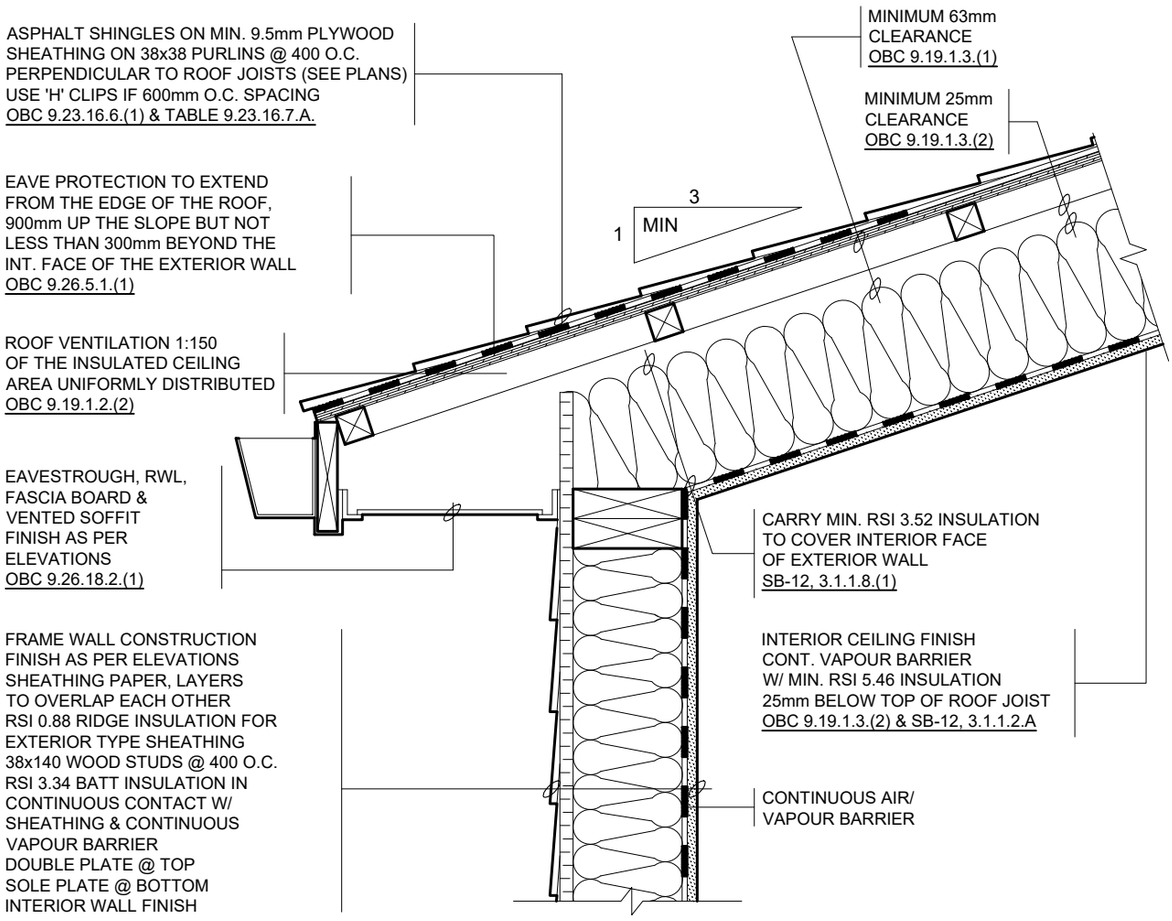
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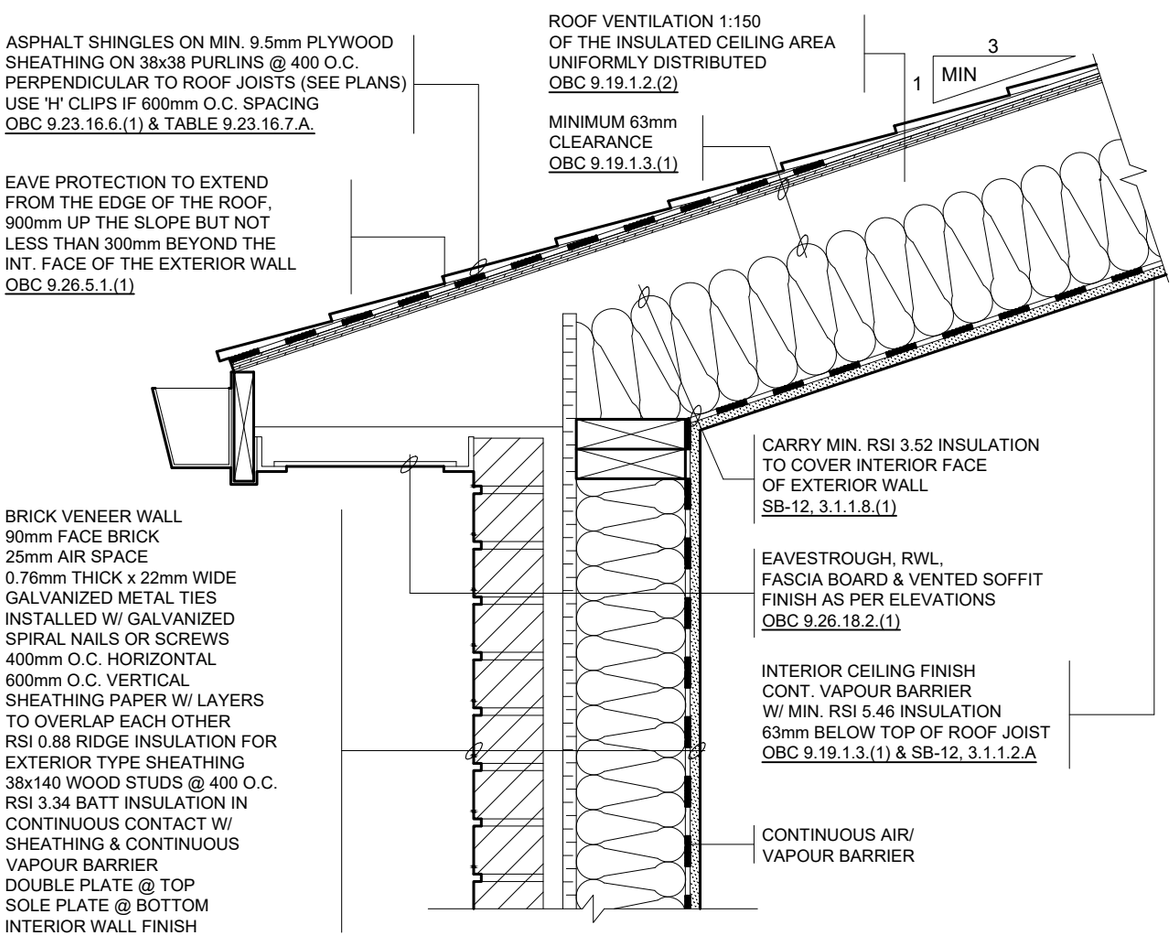




Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

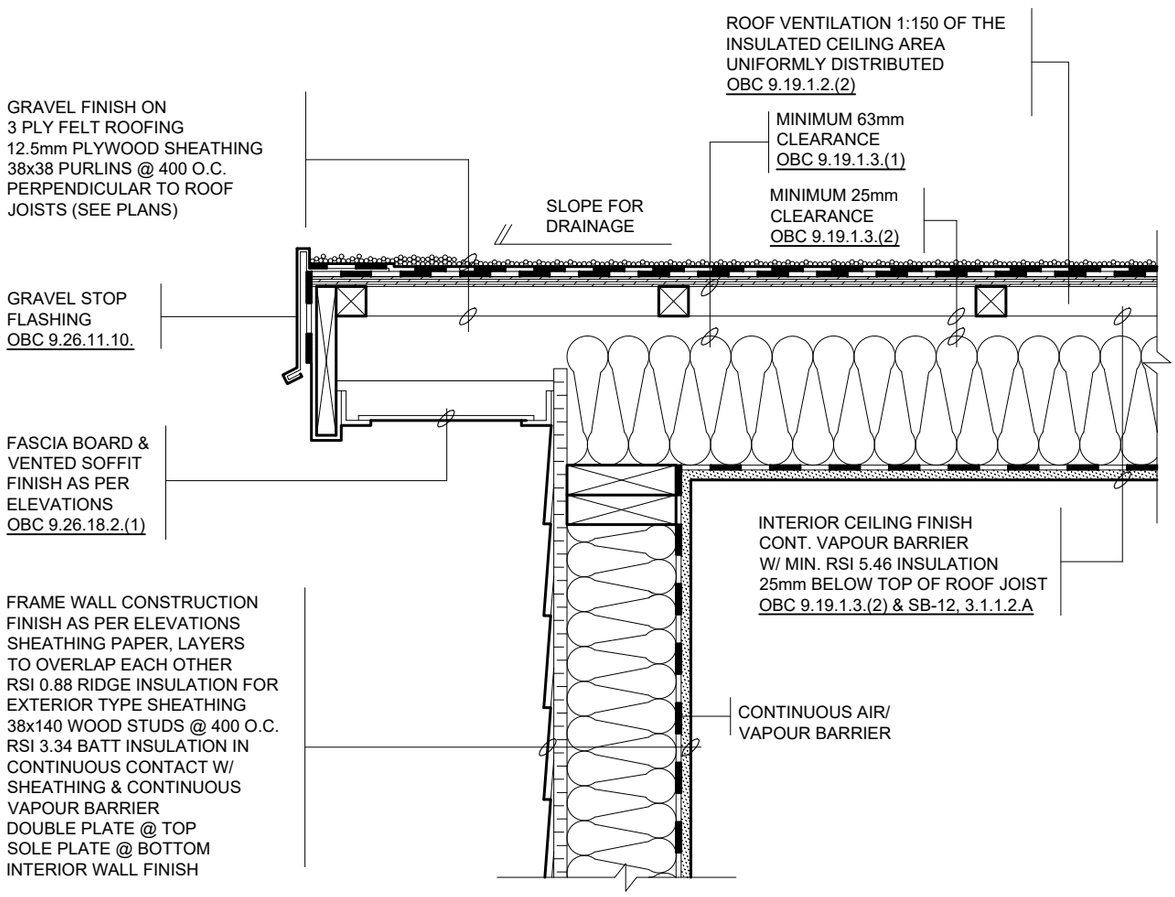
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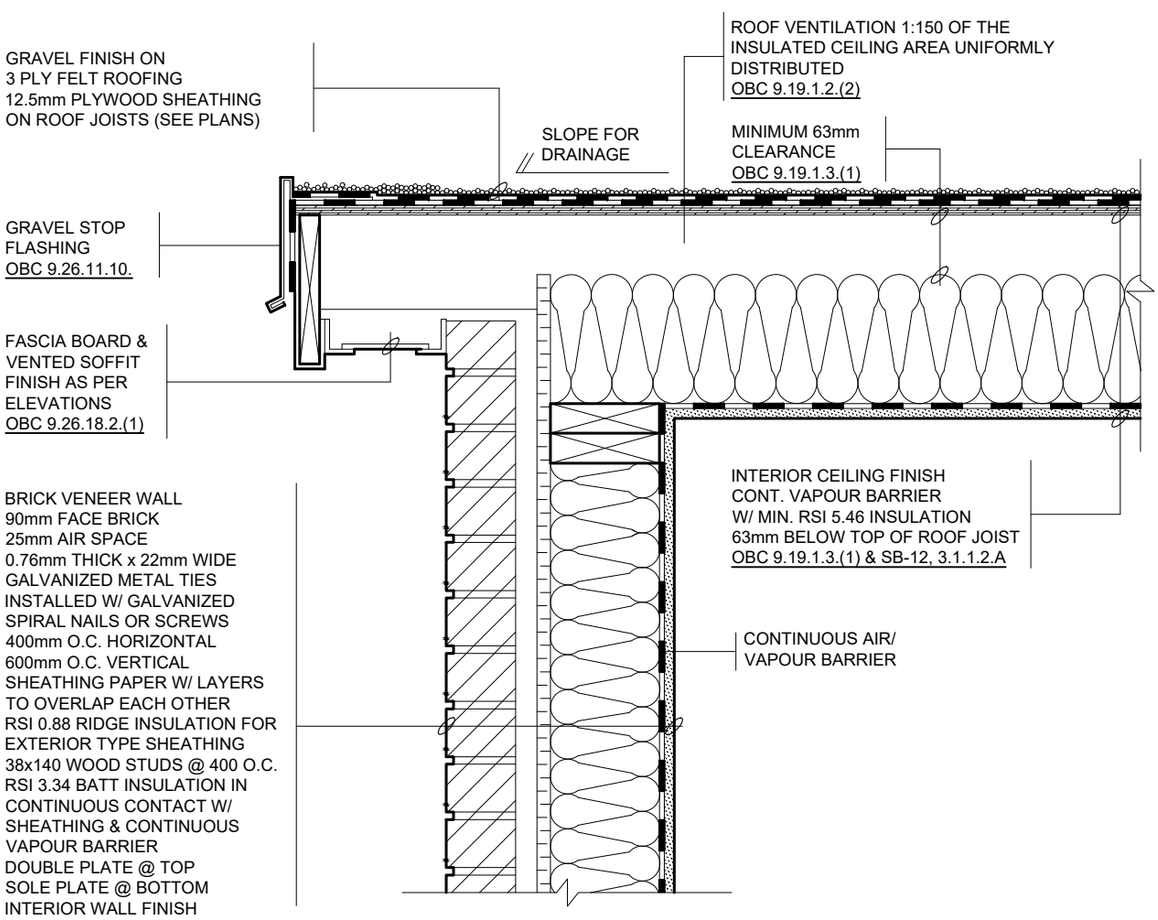




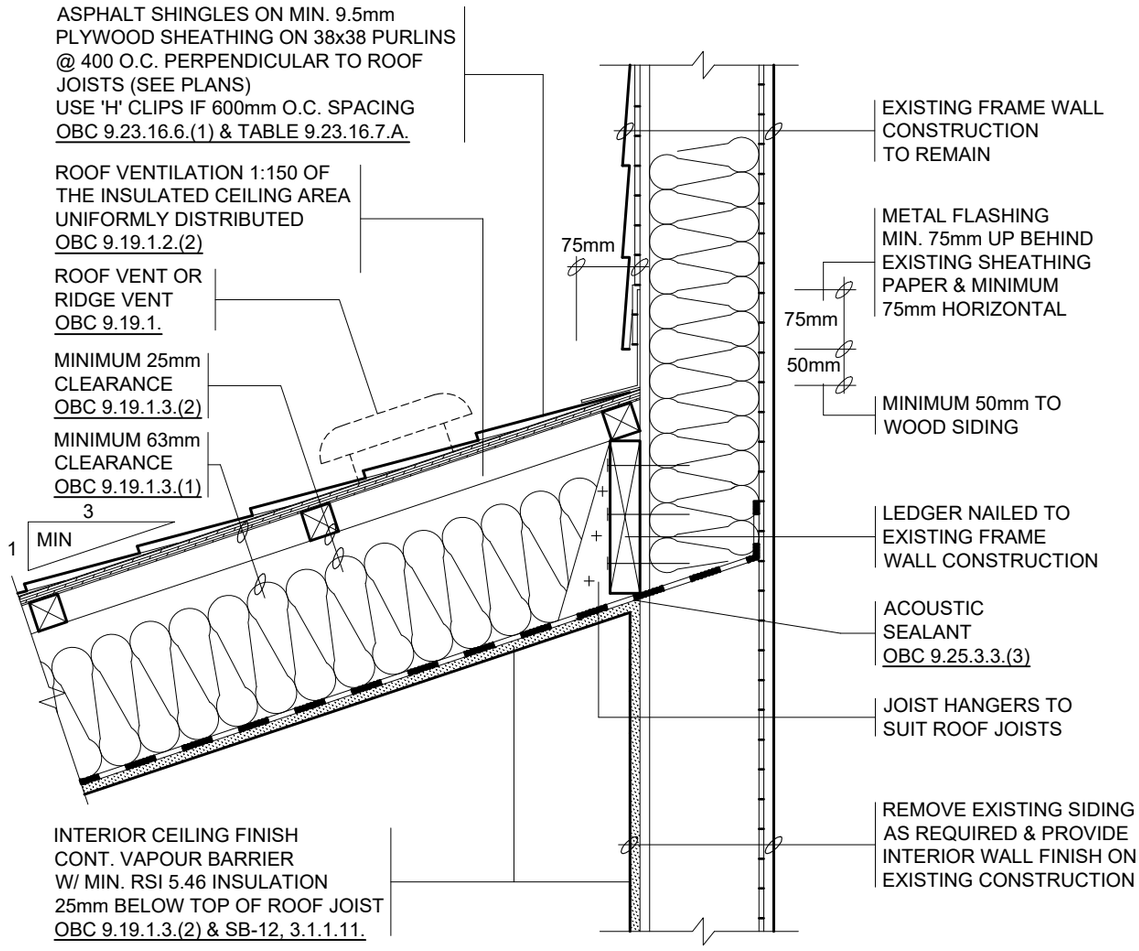
Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

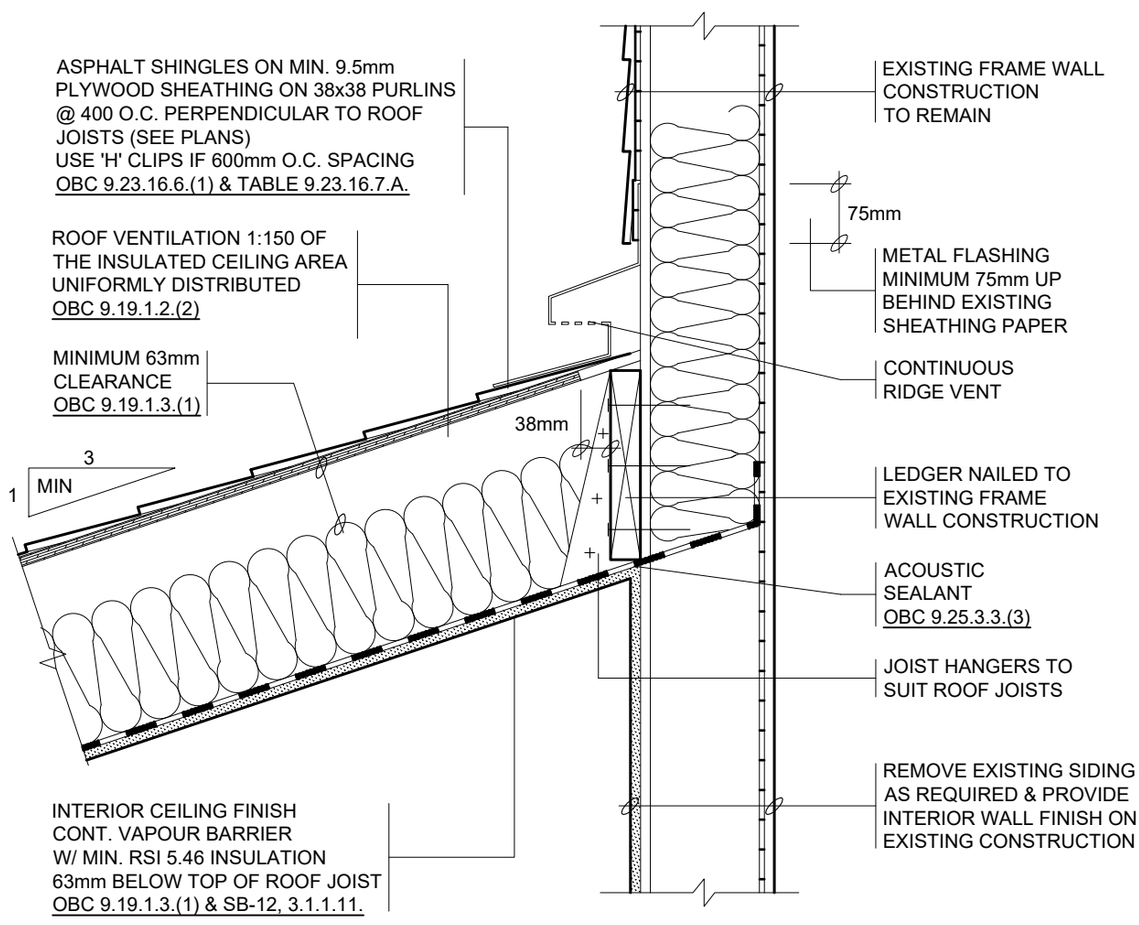
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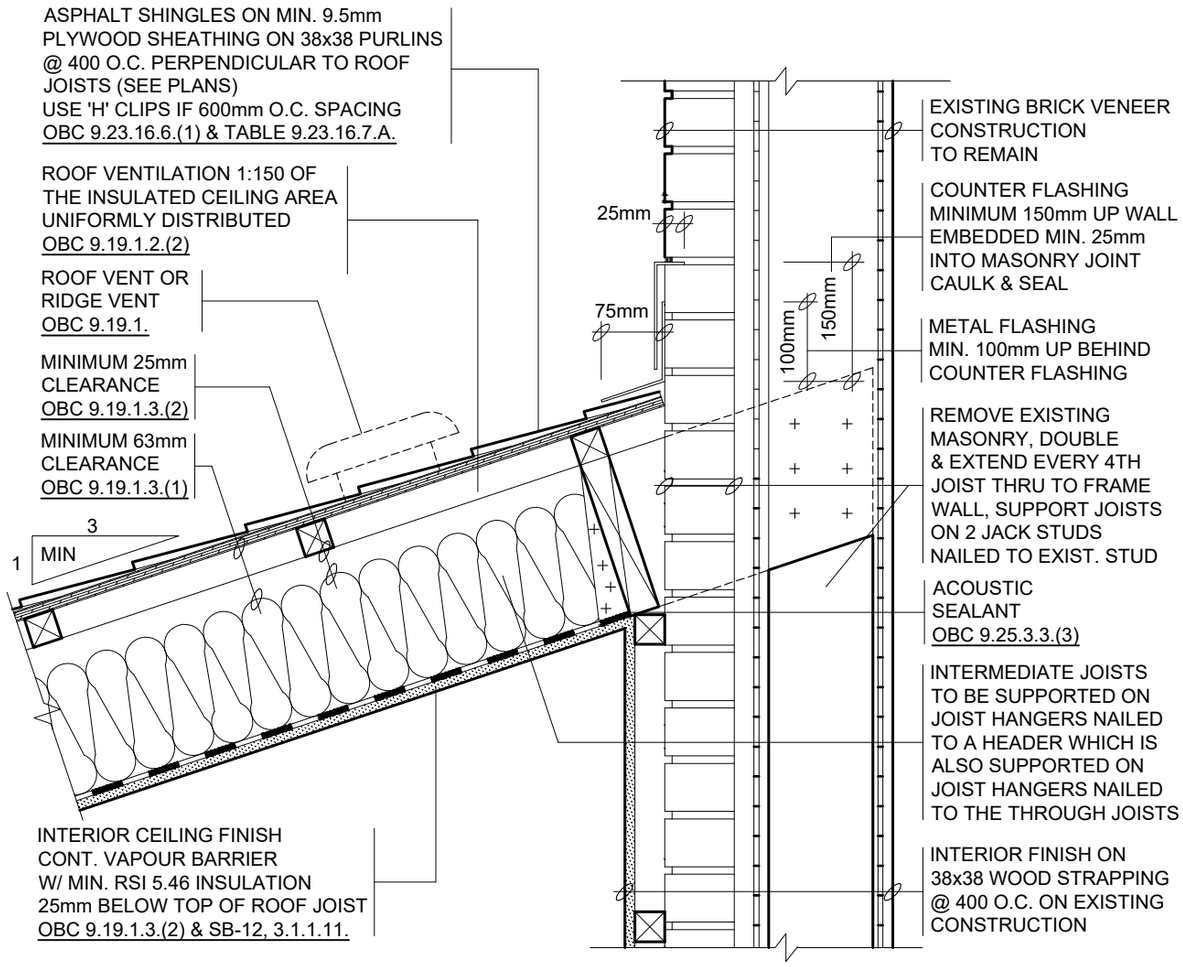
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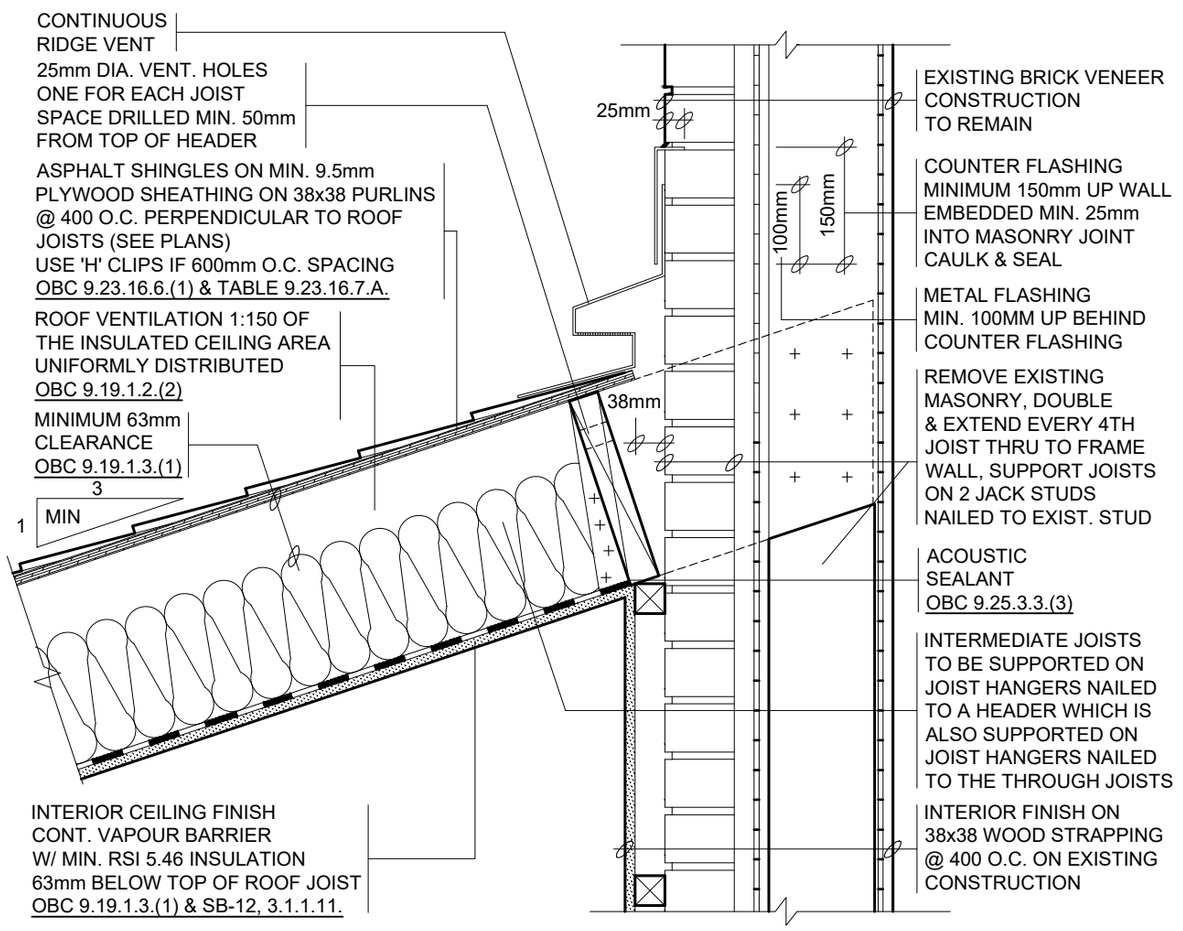




Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

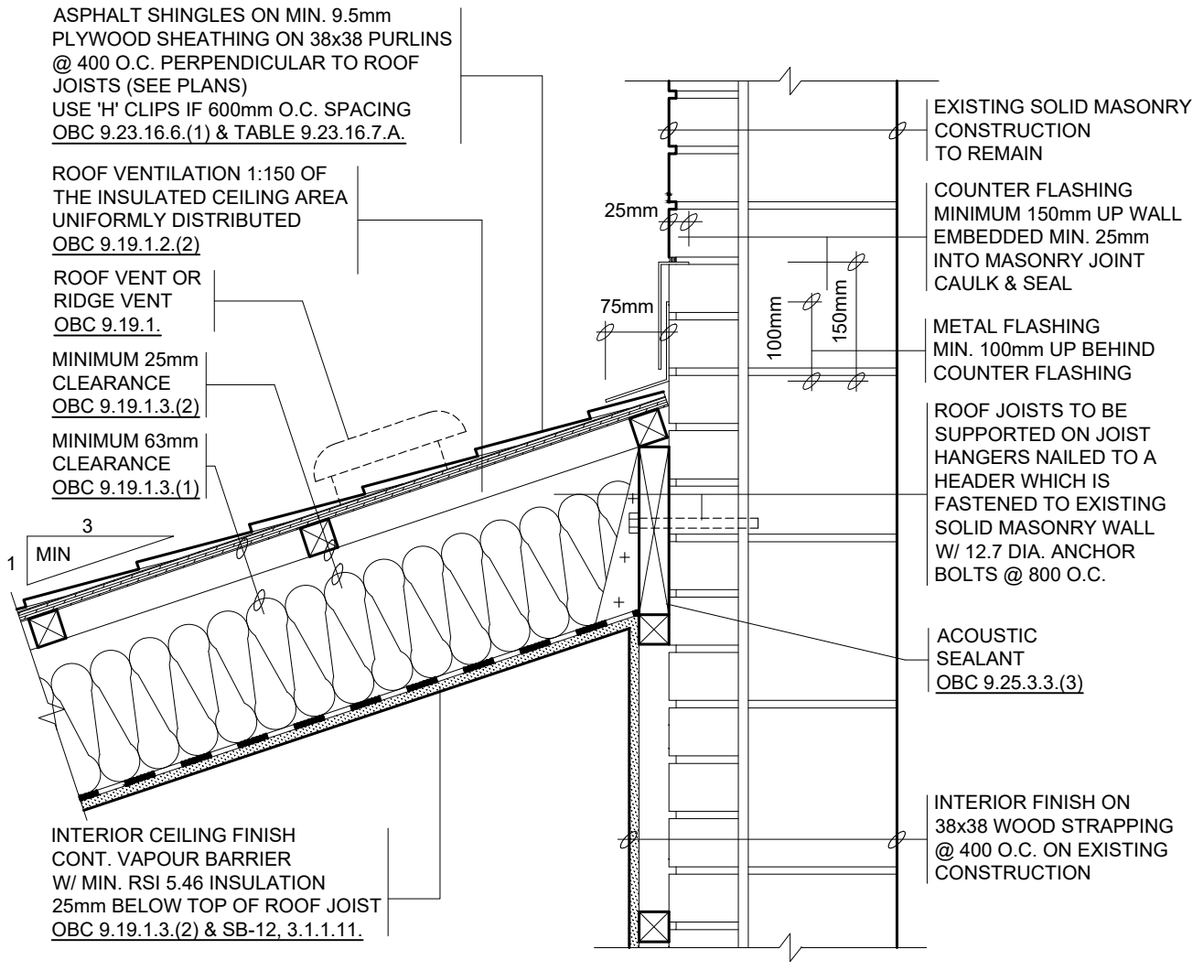
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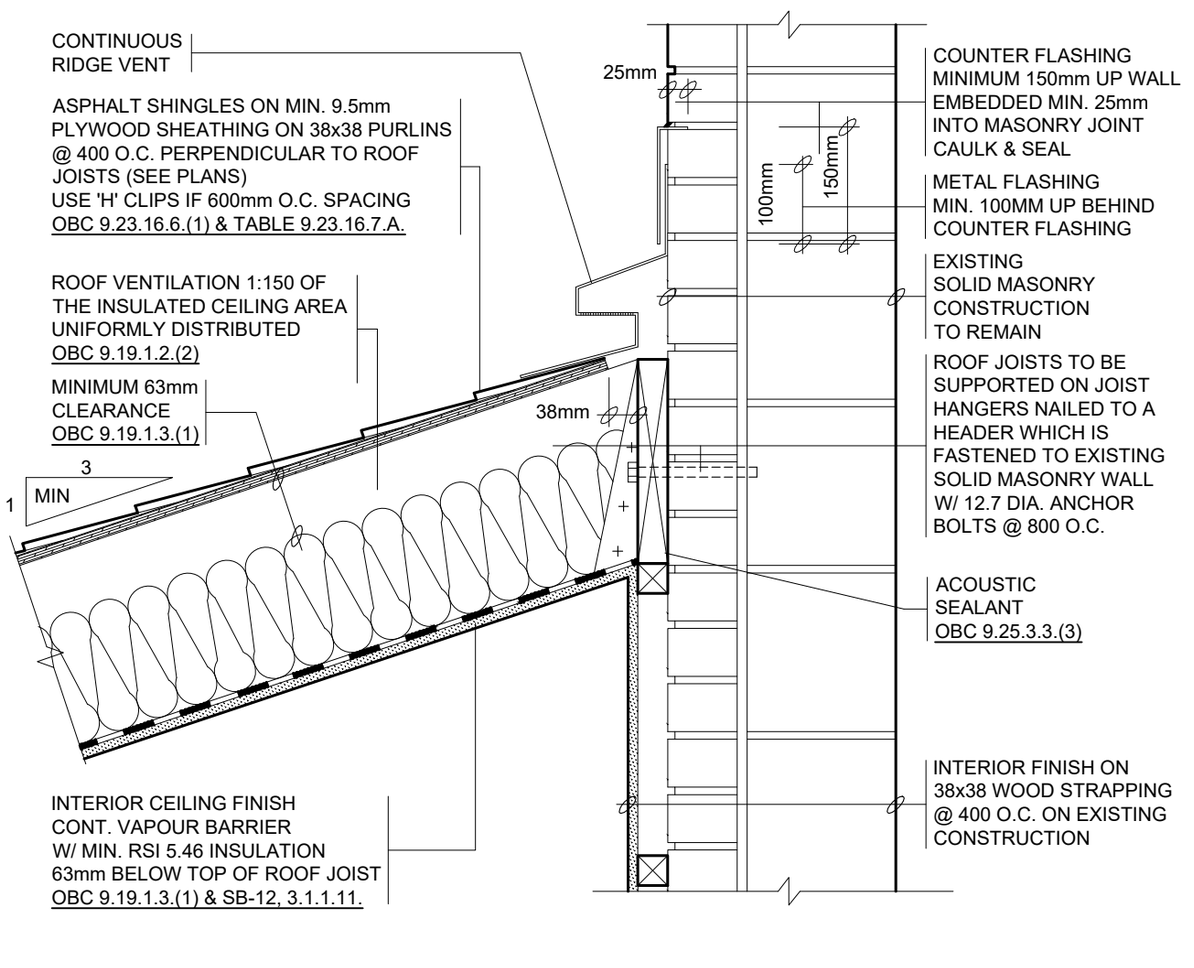




Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

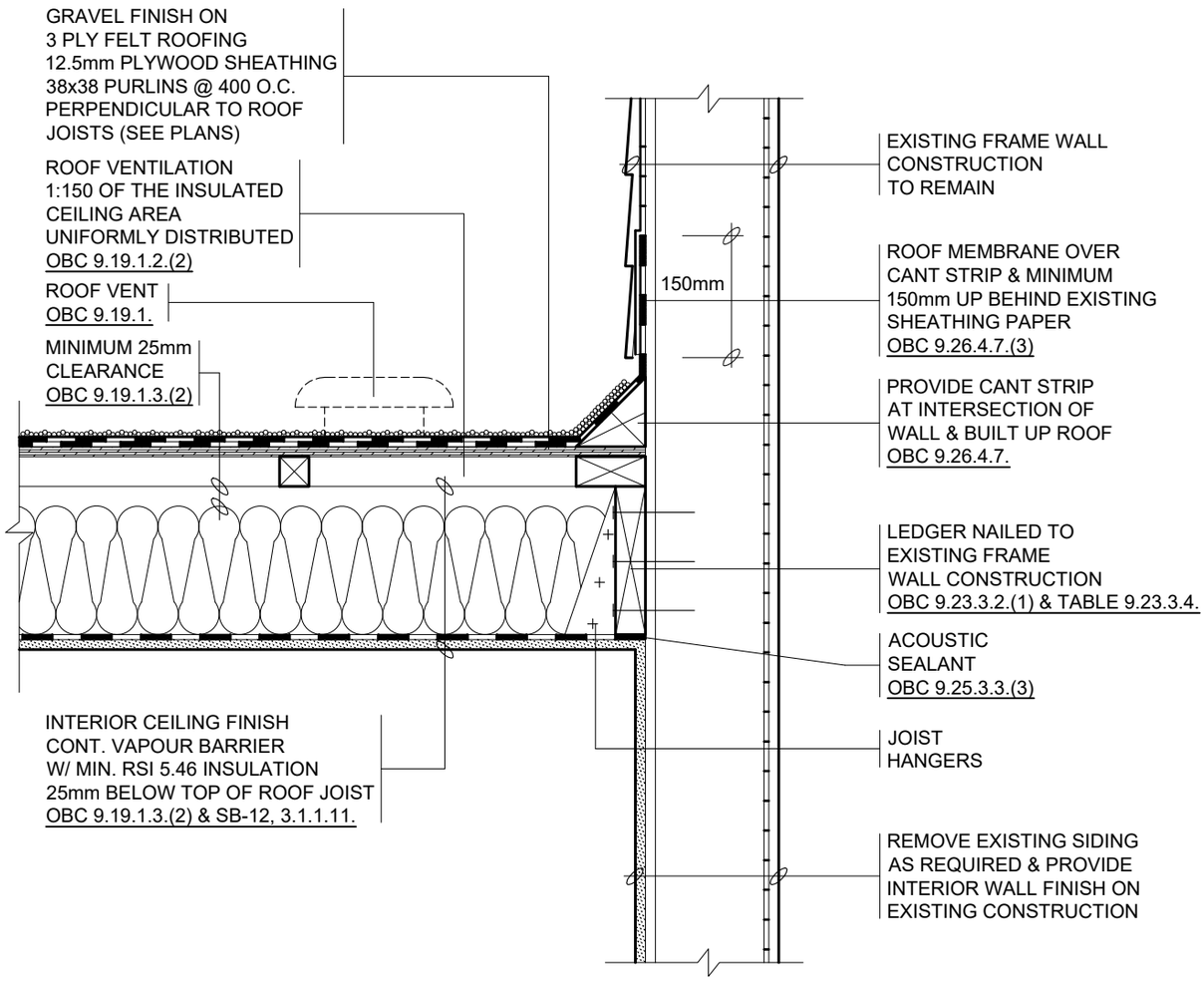
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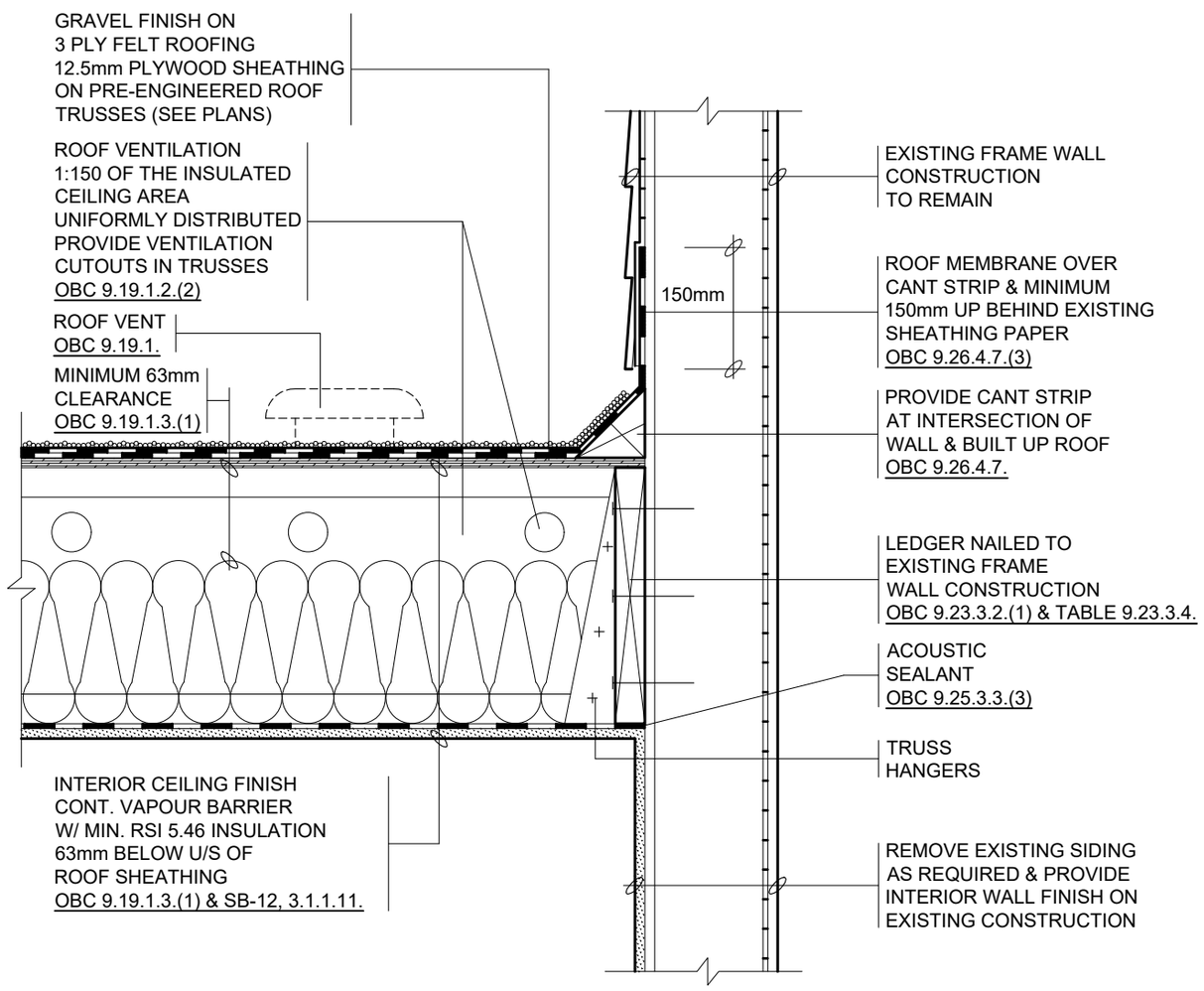




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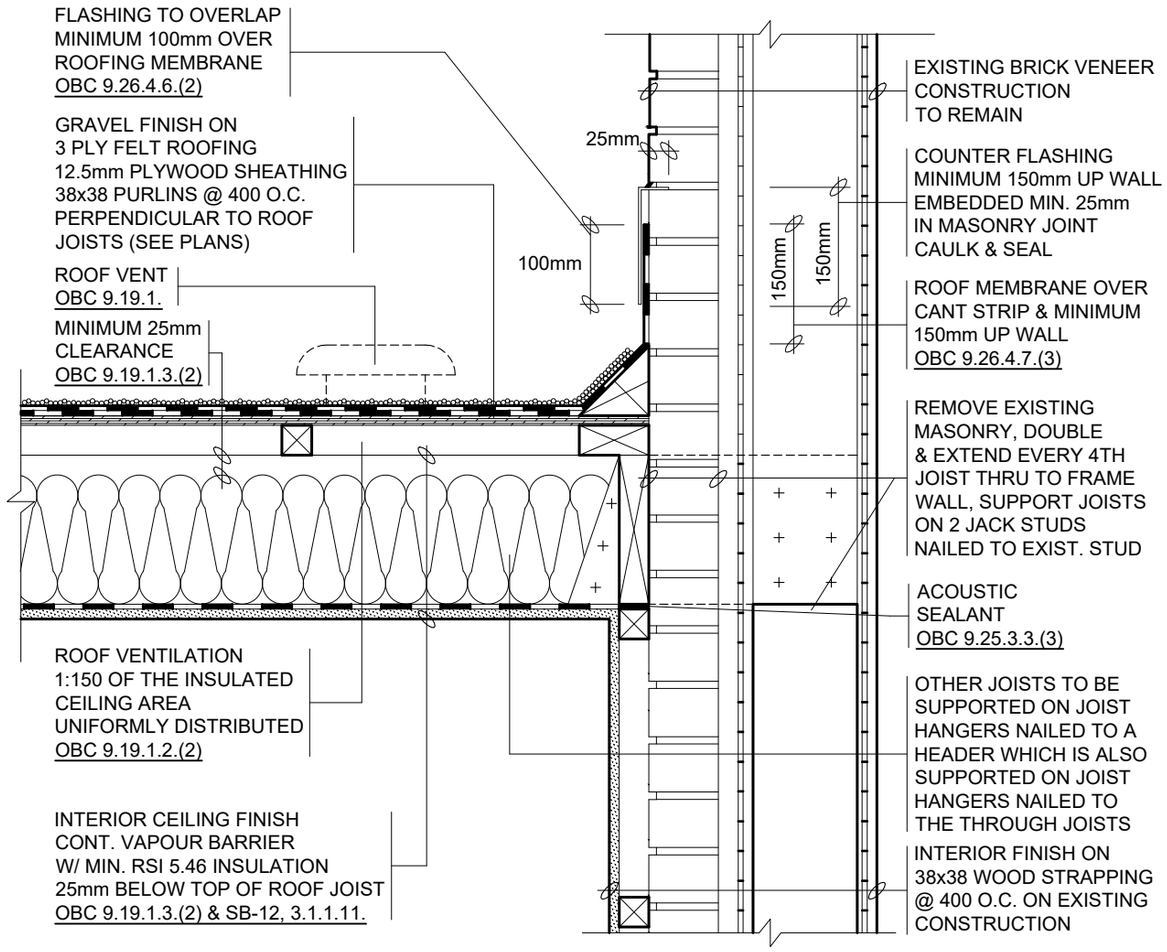
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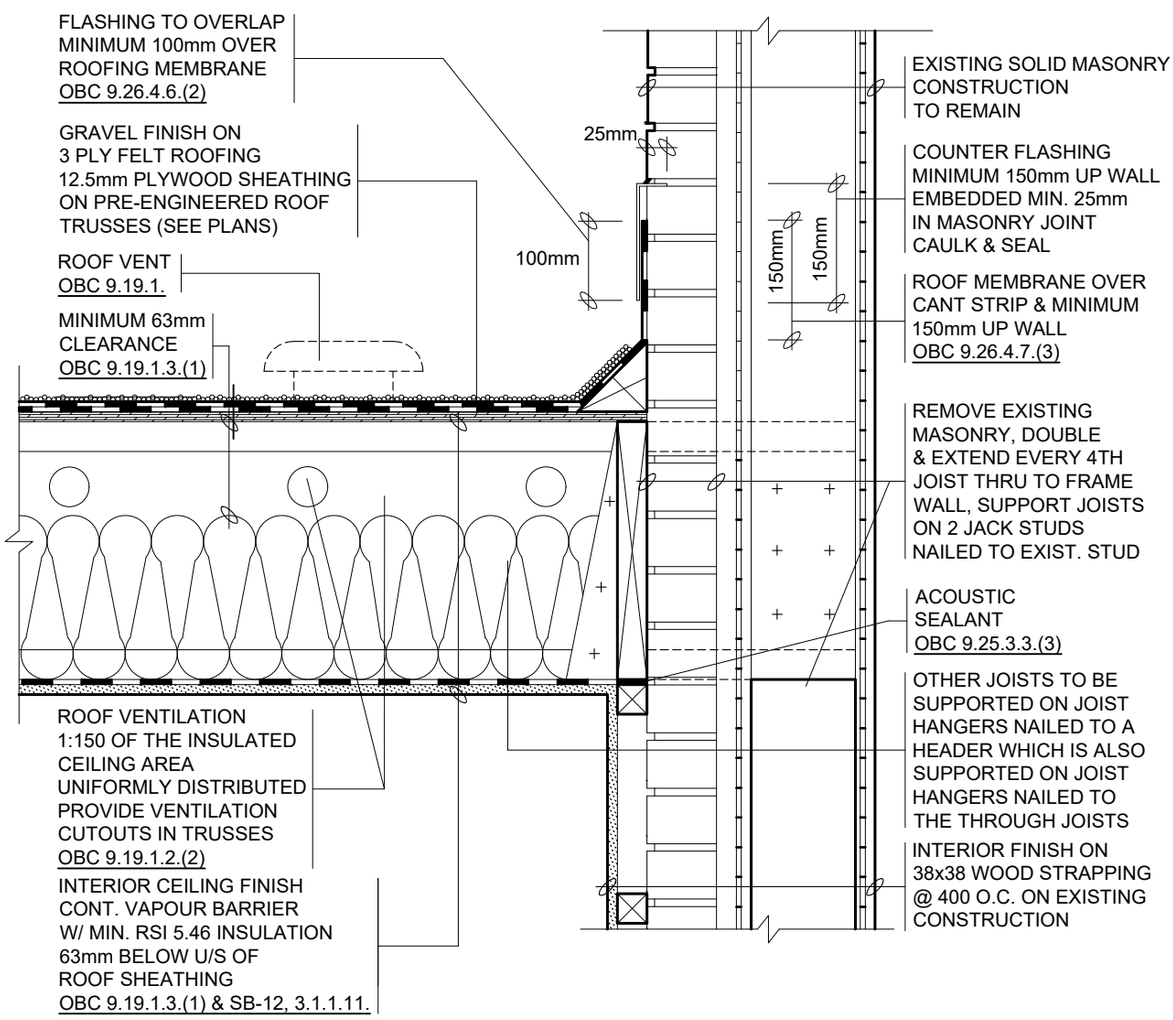




Energy Efficiency Compliance: SB-12: SB-12 Table 3.1.1.11. Zone 1

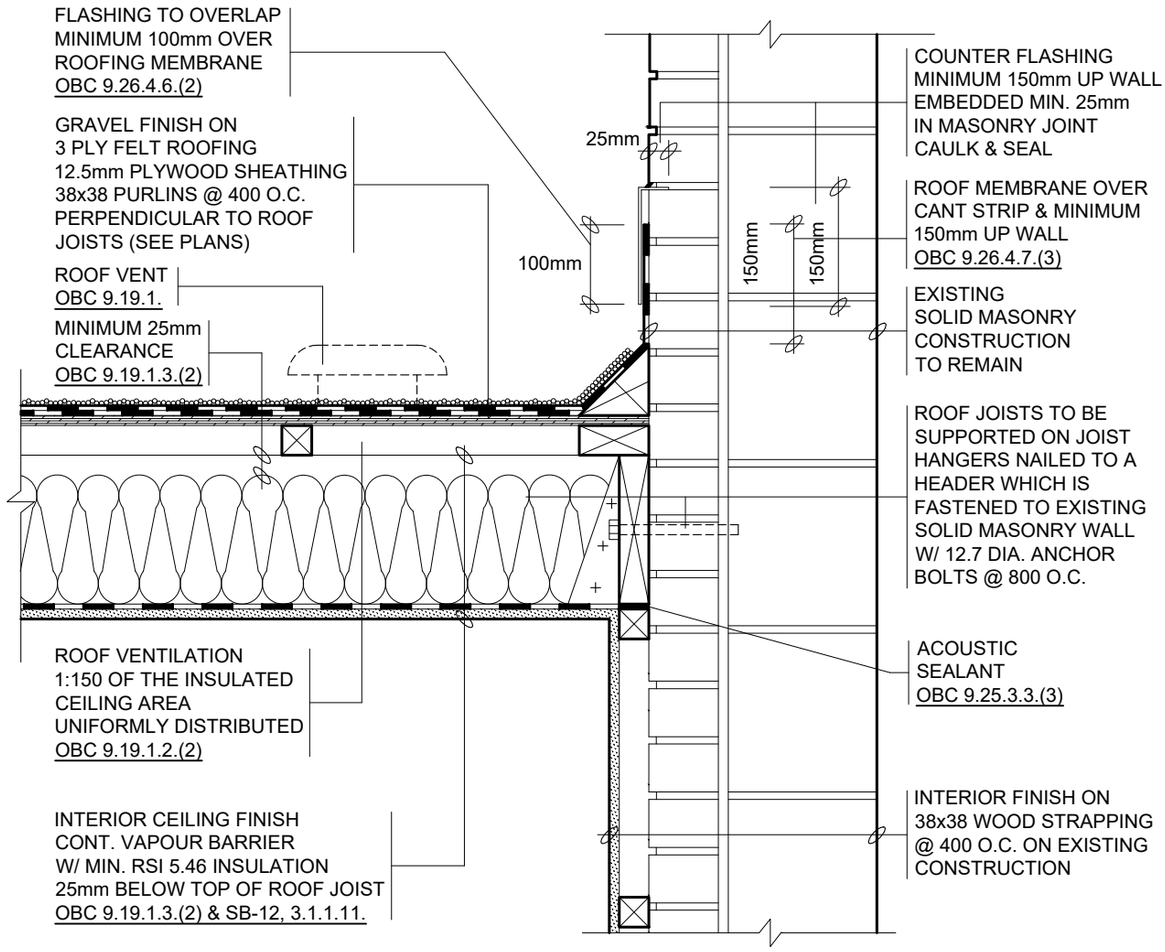
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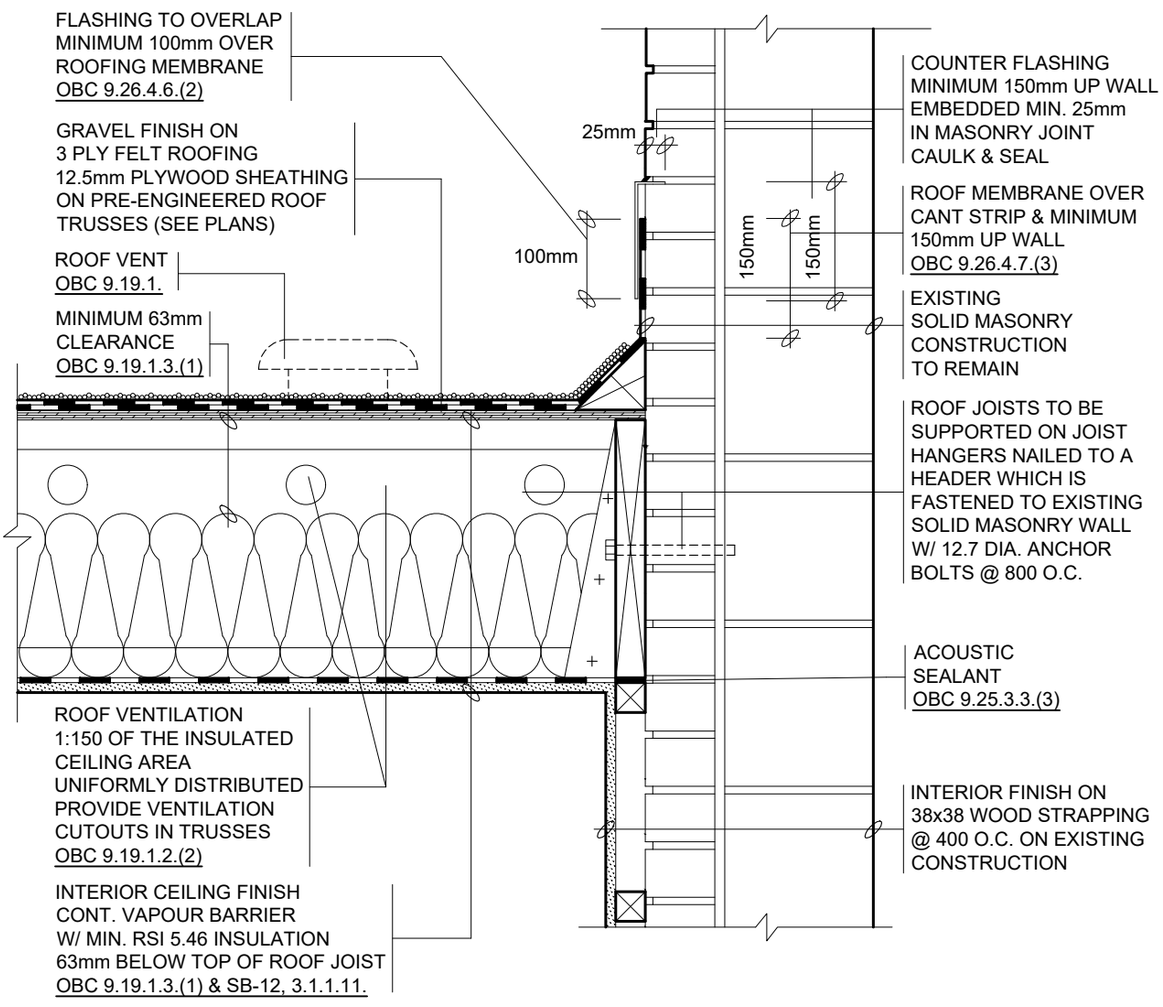




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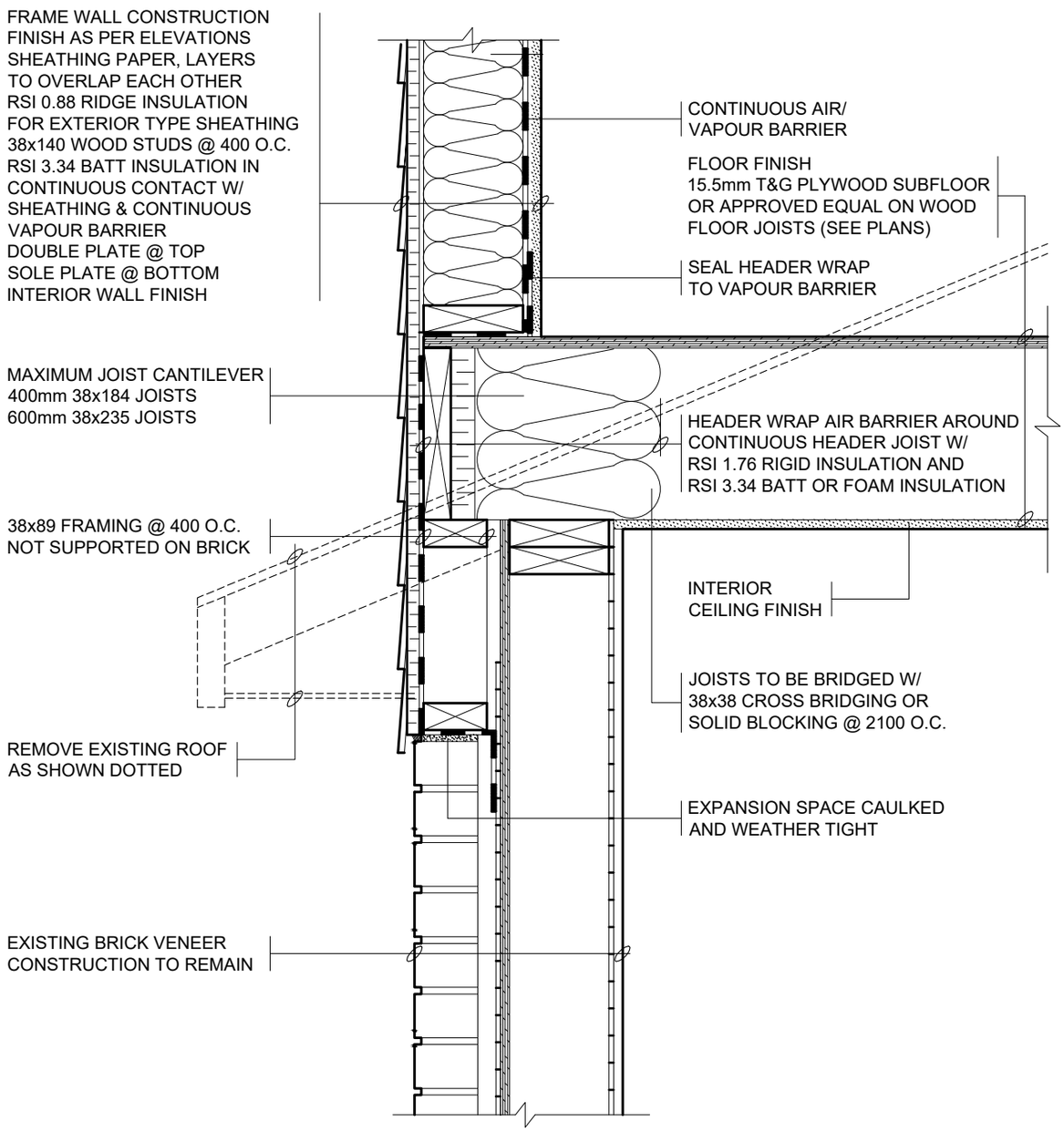
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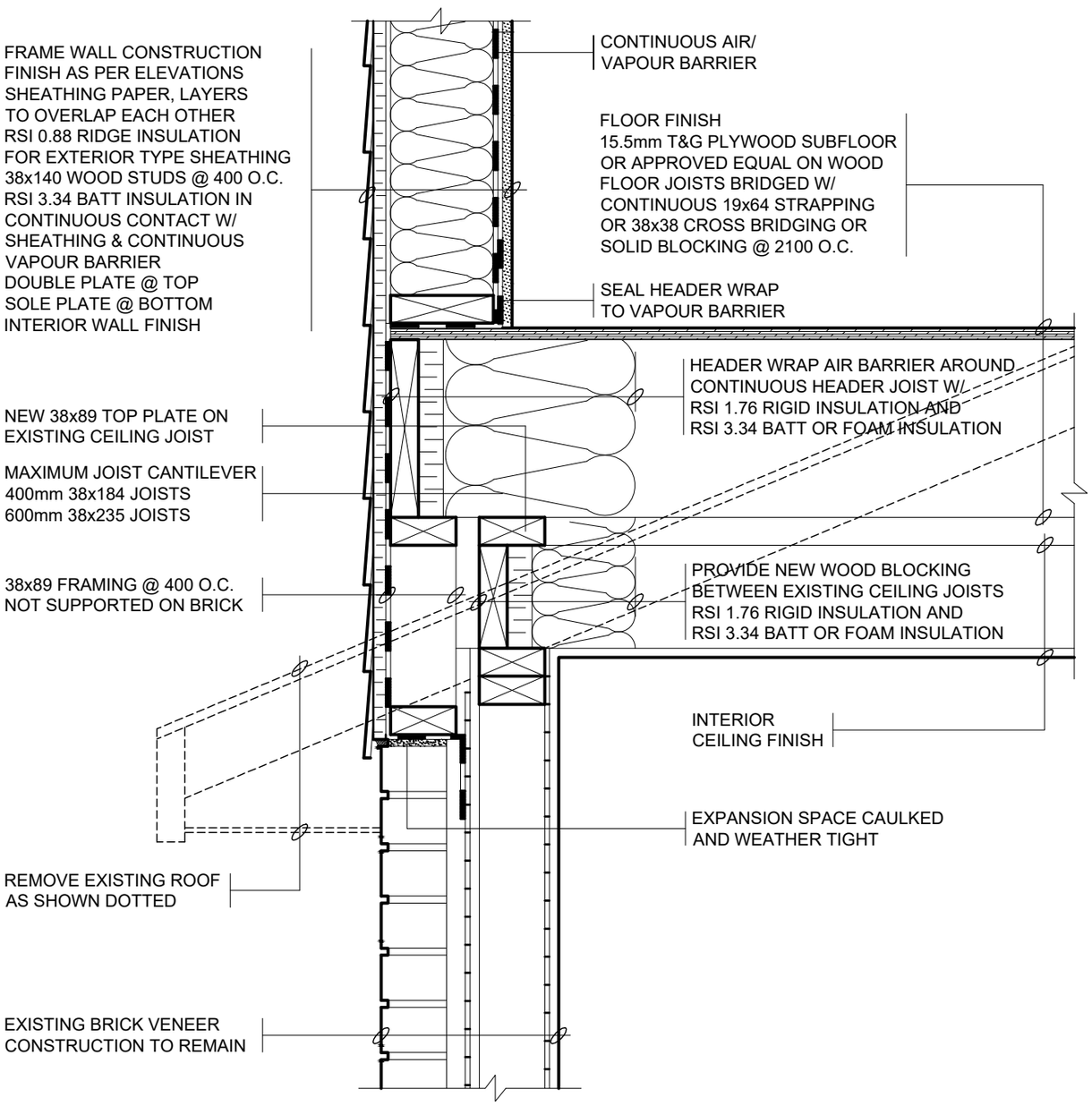
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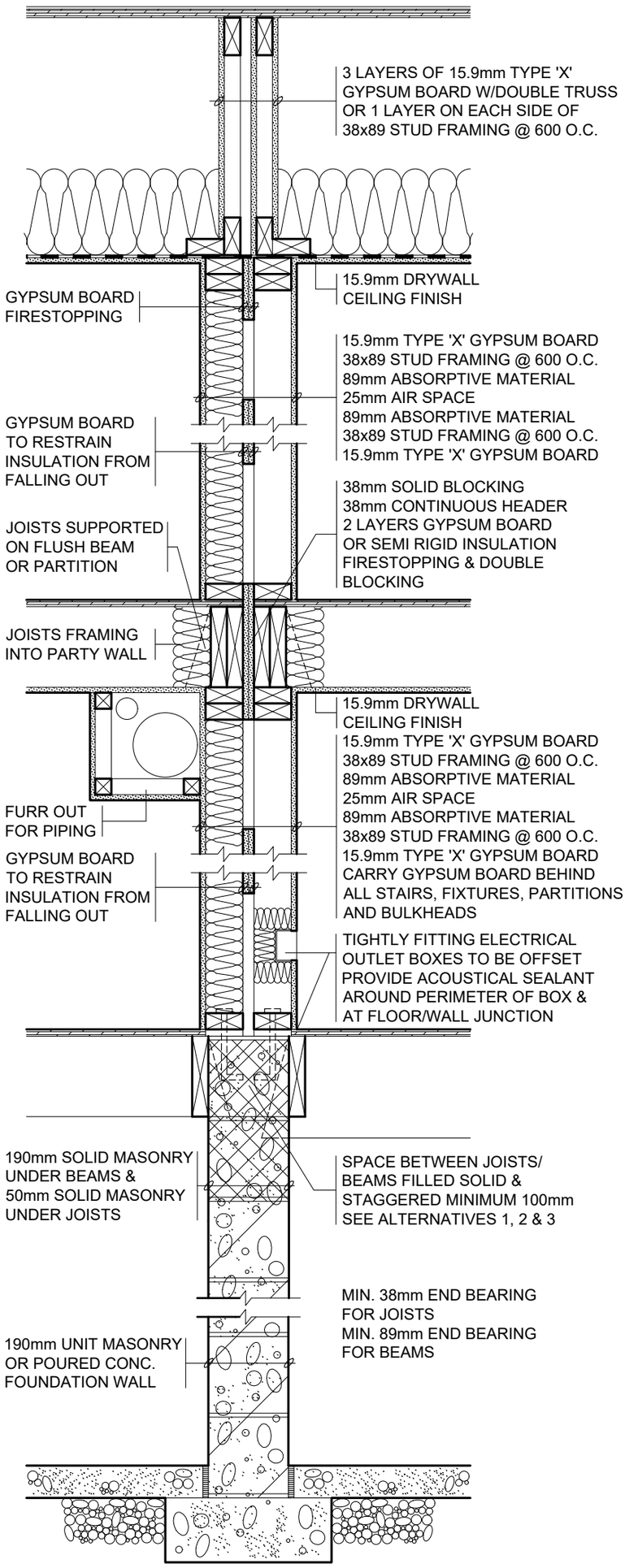
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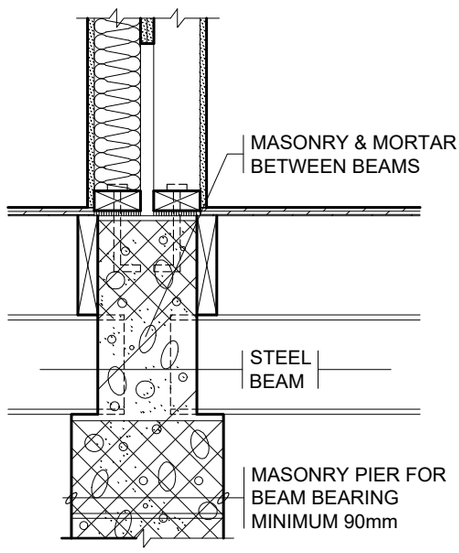
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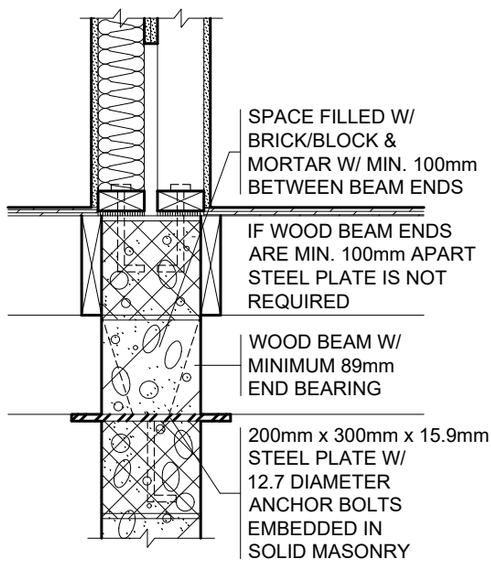
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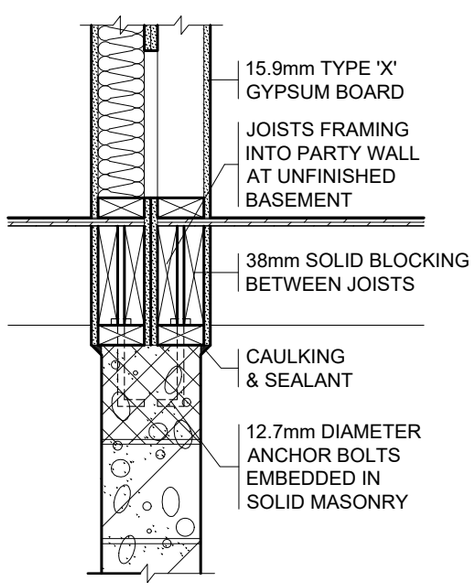




ALTERNATIVE 1



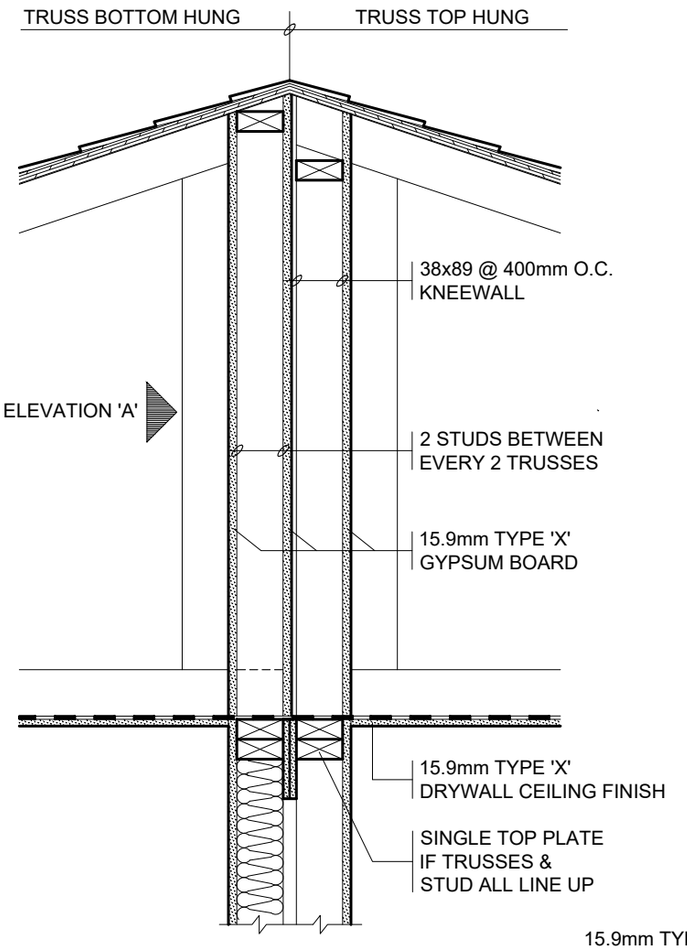
ALTERNATIVE 2



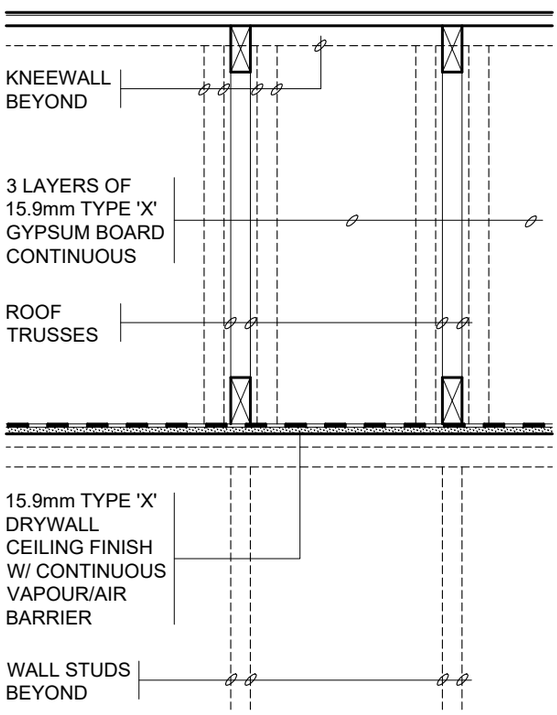
ALTERNATIVE 3

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

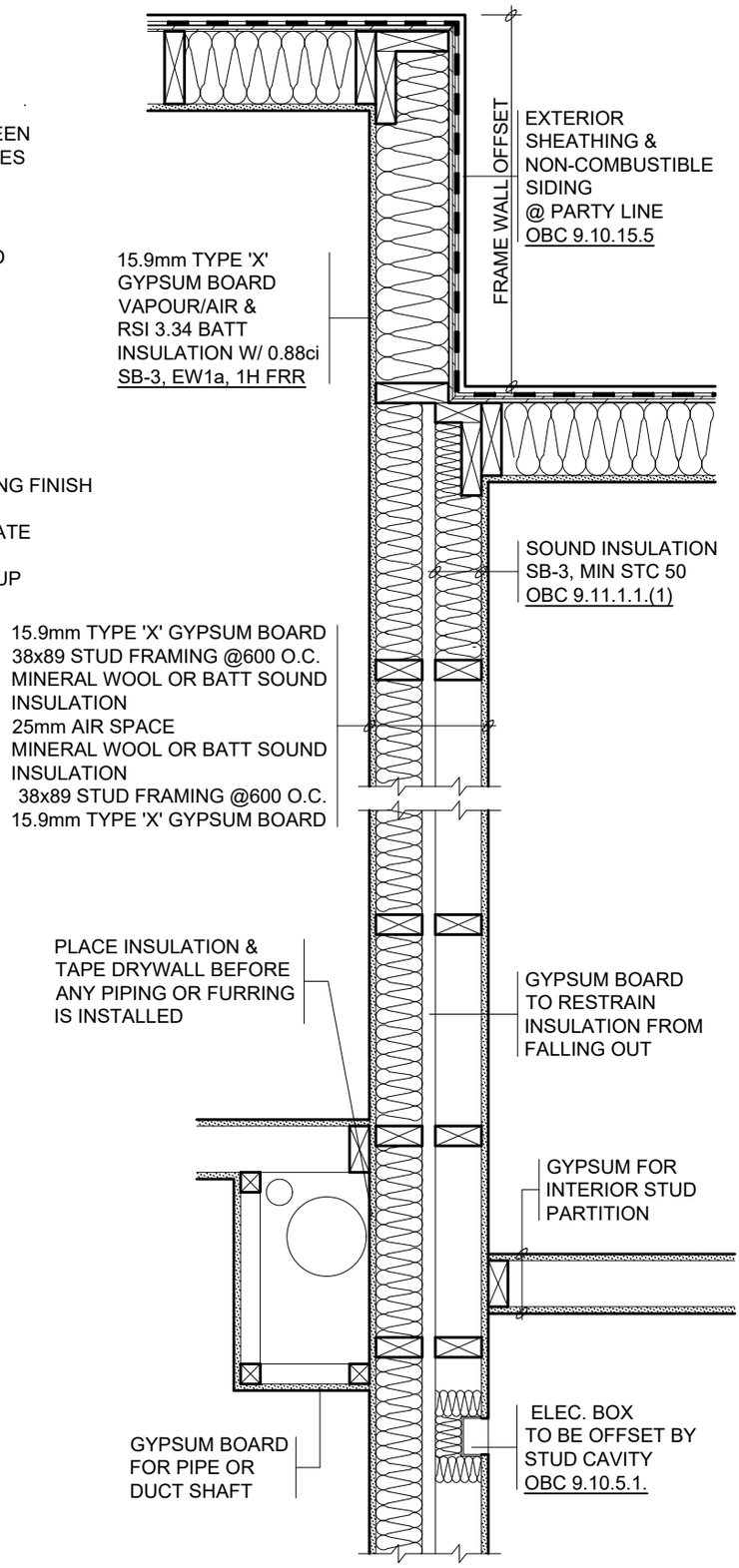
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VERTICAL SECTION TRUSSES NORMAL TO PARTY WALL



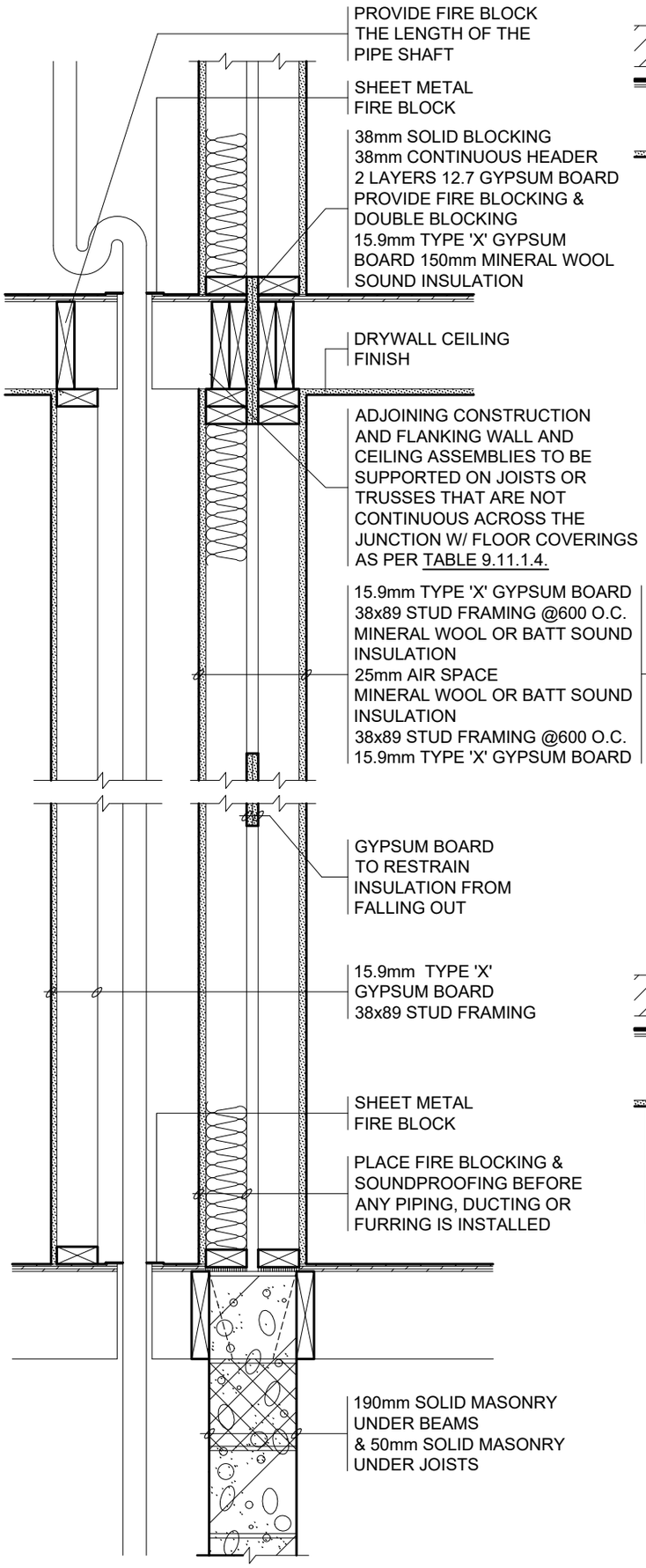
ELEVATION 'A'



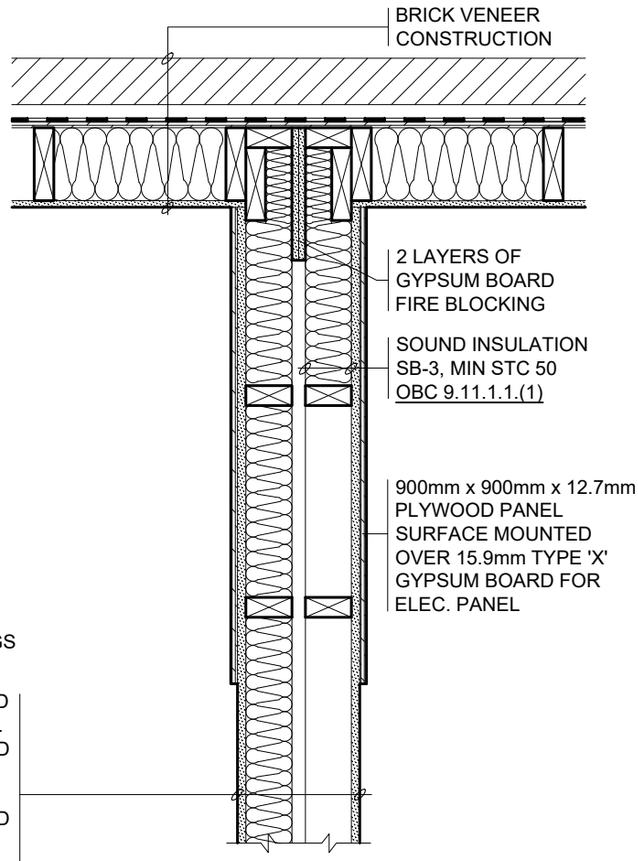
HORIZONTAL SECTION

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

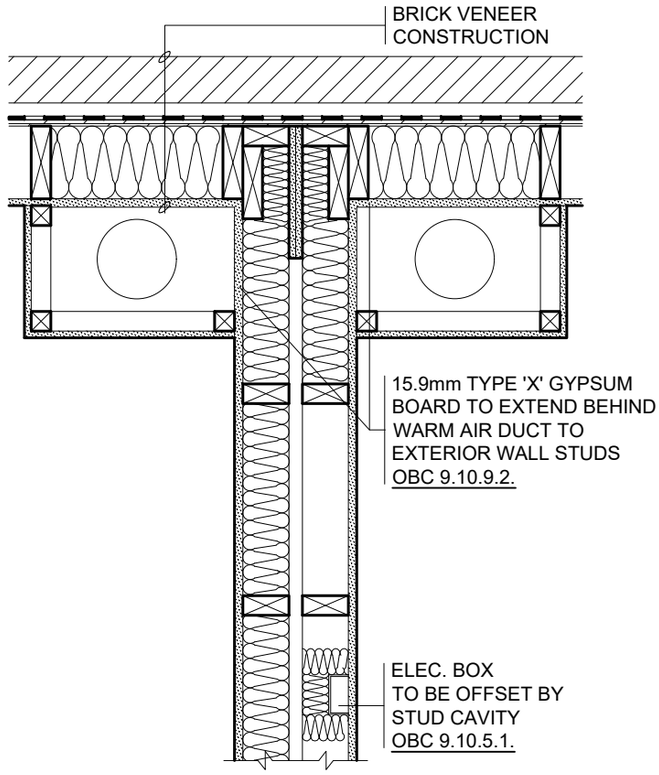
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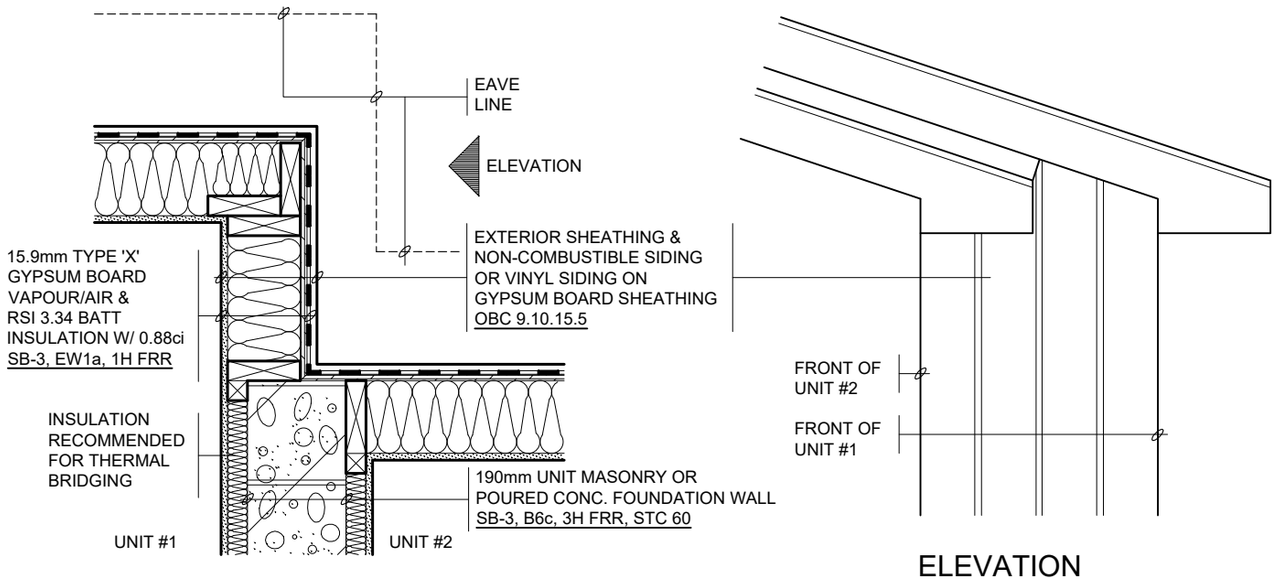
HORIZONTAL SECTION
MOUNTING OF
ELEC. PANEL BOXES



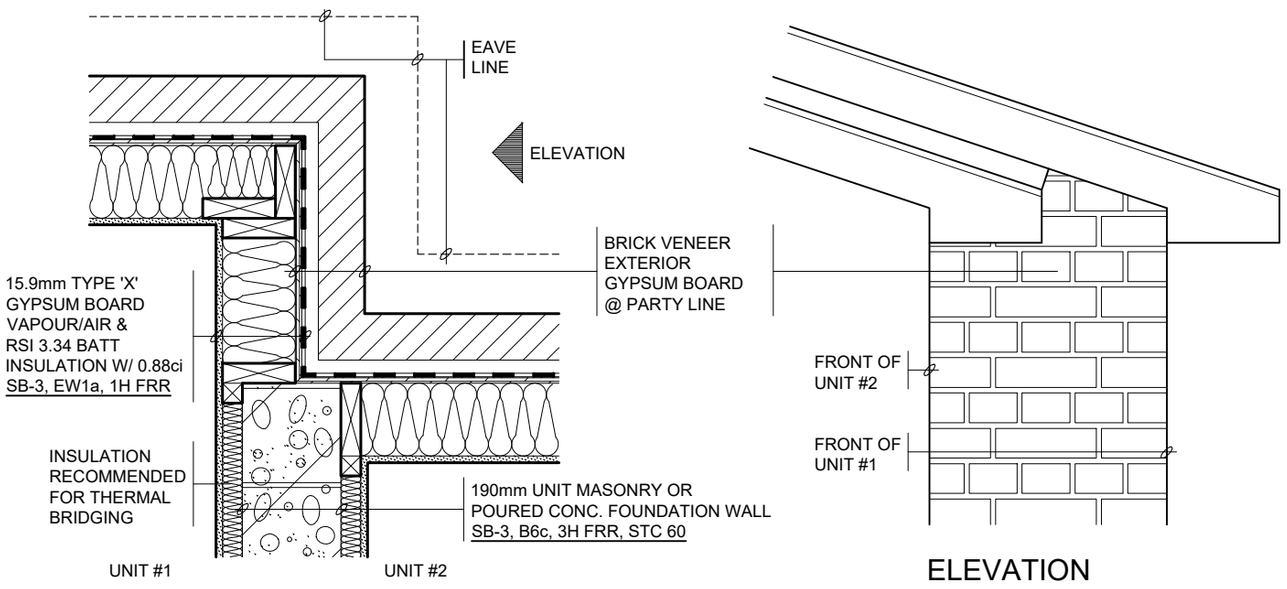
PLAN VIEW OF PARTY WALL

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

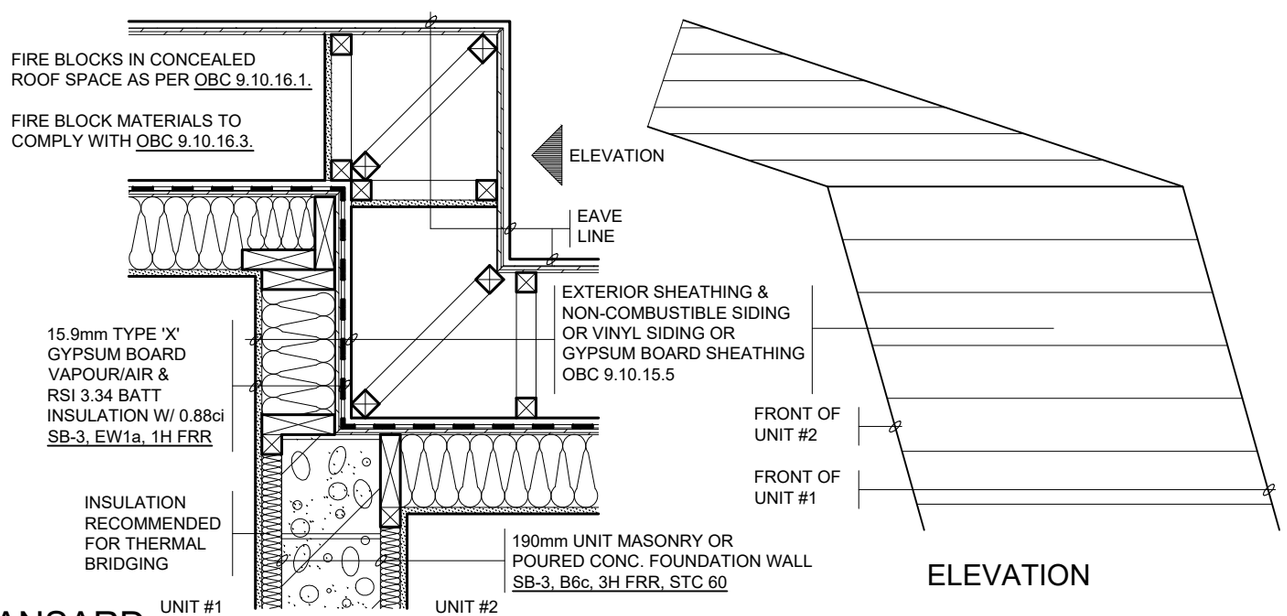
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NON-COMBUSTIBLE SIDING



BRICK VENEER



MANSARD

Energy Efficiency Compliance: SB-12: Zone 1 - Package A2

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