



STAGE: PERMIT

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The following design elements have been specified by other designers: - Truss Design / Placemakers	www.A1homes.co.nz	Proposed New Home for: Burgess & Allen Address: 7 Whitehaven Street Oamaru Job no: OS1150 Date: 24/06/2024
	All documentation copyright to A1 Homes NZ Ltd	

Foundation (NZS3604- Masonary Block Foundation)
100mm thick conc. slab, SE62 500E reinforcing mesh, min 225mm lap on 0.25 polythere.

UNDER SLAB INSULATION: R1.32EPS insulation under slab, 50mm thick.

Property	Unit	EXPOL ThermaSlab S
Material		Expanded Polystyrene
Density	kg/m3	16
Thickness / R Value	m2K/W 50mm	R 1.32

R1.52 construction value

Min. 5mm - 25mm max. sand blinding to cover hardfill to ensure the vapour barrier is protected from any granular protrusions
Malthoid under all bottom plates, overlapping timber by min. 6mm.

External Walls (SG8)

90x45 H1.2 frame + 90x45 top plate, studs @ 600crs max, nogs @ 800crs.

Stacker slider walls:
140x45 H1.2 frame +140x45 top plate, studs @ 600crs max, nogs @ 800crs.

single storey: 90x45 studs @ 600crs max

James Hardie Scyon Linea Weatherboard:
The following framing must be provided for cavity construction method:
• Double studs are required at internal corners.
• Extra packers may be required at external corners.
• Extra studs are required for aluminium internal corner sections.

Oblique Cladding:
• An extra stud is required in internal corners

MARSHALL WATERPROOFING Tekton building wrap to all exterior frames

Standard 10mm GIB linings throughout, except wet areas. Fixed to comply with the latest Winstones GIB Manual - level 4 paint finish

Wall framing behind cavities
Where stud spacing's are greater than 400 mm. and flexible wall underlay's only are used, an intermediate means of restraining the flexible wall underlay and insulation from bulging into the drained cavity shall be installed.
An acceptable method to achieve this is using one of the following:
• intermediate cavity batten between the studs.
• 75mm galvanised mesh.
• Polypropylene tape or galvanized wire at 300 mm centres fixed horizontally and drawn taut

Bottom plate fixing: Refer to Ramset table (or equivalent fixing installed as per manufacturers specs). M12x140mm bolt/screw with 50mmx3mm sq washer min 90mm embedment. 150 mm off each end of the plate and be spaced at a max. of 900crs, or 600crs when used on slab edges formed by masonry header

Exterior Cladding

James Hardie 180 LINEA weatherboards installed, flashed and finished to the latest James Hardie specifications and in accordance with NZBC: E2/AS1 External Moisture. Merchant to include all flashings & fixings as required by cladding system.

Cavity battens (ex50x20 H3.1 timber cavity battens fixed to studs):
• be minimum 18mm thick.
• be minimum as wide as the width of studs.
• be fixed by the cladding fixings to the main framing through the building underlay.
• until claddings are fixed the battens need only to be tacked to framing. (Batten fixing is required temporarily to keep them straight on the wall during construction.)
The cavity battens are installed as described below:
• Fix cavity battens to studs at maximum 600mm centres.
• Battens should be fixed with 40 x 2.8mm nails at 800mm centres maximum

James Hardie Vertical Oblique (200-300) weatherboards installed, flashed and finished to the latest James Hardie specifications and in accordance with NZBC: E2/AS1 External Moisture. Merchant to include all flashings & fixings as required by cladding system.

Horizontal cavity battens (2700mm long, 45mm wide and 20mm thick, H3.1 timber cavity battens):
• are minimum 20mm thick and 45mm wide.
• fixed horizontally to nogs.
• fixed vertically to studs at corners and openings.
• must be fixed by the cladding fixings to the main framing over the flexible underlay.
Therefore until claddings are fixed the battens only need to be tacked to framing by 40 x 2.8mm or longer nails at 800mm c/c;
• permit air circulation and water drainage.

External Joinery

Aluminium joinery installed to comply with NZBC: E2/AS1.
Pre-primed jambs, architraves.
Approved window sealing tape to all openings.
Protecto Tape flashing tape over flashing fixings. Do not fix cladding through flashings.
Glazing to comply with NZS:4223:2008/2016 amendments.

Internal walls (incl. LBW) (SG8)

90x45 H1.2 frame + 90x45 top plate, studs @ 600crs max, nogs @ 800crs.
Standard 10mm gib linings throughout, except wet areas. Fixed to comply with the latest Winstones Gib Manual.- level 4 paint finish
Bottom plate fixing: Ramset HD875 drive pin + washer (or equivalent) @ 600crs (150 off each end) (or equivalent fixing installed as per manufacturers specs)

Wet Areas

Floor finish: Refer to Floor Plan, 'Floor Finishes Key'
Non-slip vinyl lining over sealed floor. Minimum slip resistance co-efficient for level surface between 0.25 - 0.50 acceptable in accordance with NZBC: D1/AS1 Access.
Option 1 - Cove vinyl up wall 100mm, fix skirting or vinyl smooth edge to wall junction
Option 2 - Waterproof seal vinyl to edge of painted skirting, contractor to comply with NZBC: E3/AS1 Internal Moisture.

Wall & Ceiling finish: BATHROOM & ENSUITE
GIB Aqualine: 10mm to walls and 13mm to ceilings 1/coat GIB Sealer with 2/coats semi-gloss or gloss, acrylic enamel paint

Ceilings (SG8)

Rondo battens on clips fixed to trusses as per manufacturers specifications @ 600crs.
Ensure battens are straight prior to lining. 13mm Gib linings with 32mm x 6g GIB® Grabber™ Screws @ 600crs. Glue daubs to be minimum of 200mm from centre screw. Do not screw where you glue. 32mm x 6g GIB® Grabber™ Screws @ 200crs around the perimeter. Gib stopping to level 4 paint finish. 1/850sq ceiling access to roof space. Bottom chord restraints are required as per truss design.
Fix 90x45 runners to top of bottom chords.

Roof (SG8)

Truss Design:
Pre-fabricated GANGNAIL 5° pitch H1.2 trusses @ 900crs - galv wire netting with synthetic breathable type self supporting underlay laid horizontally with min 150mm lap.

70x45 H1.2 purlins, spanning 900mm.
Purlin spacings - End Span - 600mm, Intermediate Span - 900ctrs.
Fixing - Type T - 1/10g self-drilling screw, 80mm long purlin/truss connection (2.4KN fixing)

Lumberlok strip brace & tensioners tightened firmly across roof planes.

Longrun colorsteel roofing as per elevations. Roofing fixed with compatible roofing nails or screws and sealing washers, by qualified persons with flashings as required to all junctions - flashings fixed with compatible roofing screws and sealing washers
Fixing pattern = T1 fixing pattern = fix every crest
Note: every sheet of roof cladding to span at least 3 supports)

8.4.8 Fixings:
Fixings shall be as shown in Tables 11, 12, 14 and 15, and shall be a minimum 12-gauge screw, as shown in Figure 39, which complies with Class 4 ofAS 3566: Part 2.
8.4.8.1 Fixing requirements
Fixings shall:
a) Be fixed through crests,
b) Penetrate purlins by a minimum of 40 mm for nail fixings and 30 mm for screw fixings,
c) Include sealing washers of:
i) neoprene (having a carbon black content of 15% or less by weight),
ii) profiled washer and EPDM washer where required to allow for expansion of the profiled metal roof cladding.

NZBC E2/AS1 8.4.10 Allowance for Expansion
Allowance shall be made for expansion of corrugated and trapezoidal roof cladding as shown in Table 16.
Refer also to the latest NZ metal roof & wall cladding code of practice

Insulation

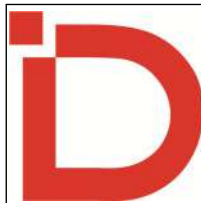
R4C Pink Batts insulation to all ceilings, except garage.
Maintain a 25mm gap clearance between the insulation and roof underlay with Insulation Guard. Notch over trusses.
R2.8W Pink Batts insulation to all 90mm exterior wall cavities excluding garage, however including walls between house & garage. Friction fitted.
R3.2W Pink Batts insulation to all 140mm exterior wall

R0.50 Joinery. (Low E₄ glass, Thermally broken frame, Argon gas)
R0.34 Internal hollow core garage door

Soffit

4.5mm Hardiflex soffit lining fixed to underside of truss top chord extensions.
Refer to roof plan for eave widths, 25x19pp soffit mould.
Colorsteel Fascia & spouting with Marley Downpipe system.

ARCHITECTURAL DRAWINGS TO BE READ IN
CONJUNCTION WITH ALL RELEVANT
PRODUCER STATEMENTS AND
MANUFACTURERS SPECIFICATIONS.

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							Rev:			
		Design: A1 Drawn: AK Check: UP LBP: UP Date: 24/06/2024					www.A1homes.co.nz			
		Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa	Climate: 5				



- Notes:
- Coordinates in terms of Observation Point 2000 Circuit , Origin at Oamaru Coquet
X= 426790.64 Y= 879796.41
 - Heights in terms of NZVD2016, Origin at Oamaru Coquet Z= 13.86
 - Heights on top of kerb shown... 75.50 k



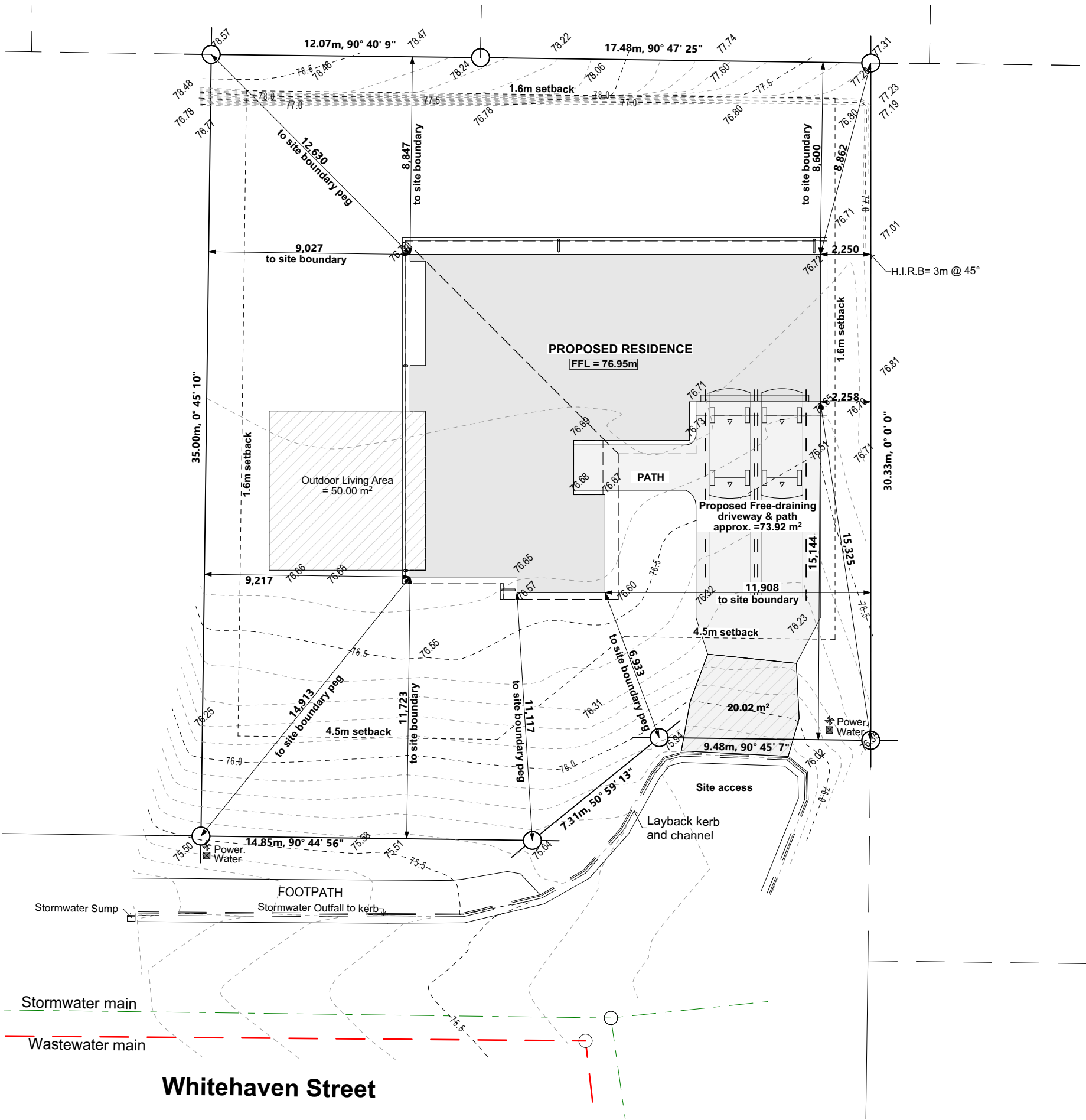
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TOPOGRAPHICAL PLAN					Scale:	Sheet no:
Design: A1	Drawn: AK	Check: UP	LBP: UP	Date: 24/06/2024	Rev:	2
Wind:	Earthq:	Exposure:	Snow:	Climate:	www.A1homes.co.nz	
High	1	B	N5 1kPa	5		

Client Details:	Job no: OS1150
Burgess & Allen	
Address:	
7 Whitehaven Street	
Oamaru	
Alt. KH187	





Cautionary Notes:
BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAYLIGHTING & BUILDING RESTRICTIONS ARE COMPLIED WITH.
NO LIABILITY FOR ENCROACHMENT SHALL BE HELD BY DESIGNER IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF FOUNDATIONS.

Construction Notes:
Before building is erected on site, all rubbish, noxious matter and organic matter shall be removed from the area to be covered by the building.

Ensure final building platform & finished ground have an even fall away from building to ensure water not be allowed to accumulate in buildings subfloor.
Any fill to be dry & approved by engineer & compacted down in accordance with NZS.3604.2011

Contractor to

- confirm ground has adequate bearing to comply with NZS 3604: 2011, except in the case of SED design, or when using Firth RibRaft Floor System (refer Ribraft manual).
- locate all service connections points on site prior to commencement of works. Check invert levels or pipes and manholes.
- confirm plumbing route and fixture positions on site prior to commencement of works.
- locate all electrical and water services on site.
- confirm on site all boundary bearings, lengths & peg locations on site prior to commencement of works, to ensure house position is correct.

HIRB = Height in Relation to Boundary

Sediment Control:

- No building work will be started on this project until the construction of an approved stormwater outfall has been completed for this proposed Lot
- All erosion and sediment control structures are to be inspected and maintained daily
- Prevent any backfill or debris from washing onto council or neighbouring properties
- All ground cover vegetation outside the immediate building area to be preserved during the building phase
- All erosion and sediment control measures are to be installed prior to commencement of earthworks
- Stockpiles of clay and materials are to be covered with impervious sheeting
- Roof water downpipes to be connected to the main stormwater system as soon as roof sheathing & spouting is installed

NZBC F5:
Construction and Demolition Hazards
Acceptable Solution F5/AS1

1.0 Work-Site Barriers
1.0.1 The necessity for barriers will depend mainly on the site location. The need will be greater in areas with high levels of pedestrian traffic (i.e. in Central Business Districts), than in industrial or rural areas.
Barriers are not necessary for domestic dwellings up to 2 storeys above ground level unless specific hazards exist.

- At all work-sites hazard evaluation will take account of:
1. Pedestrian counts adjacent to the site.
 2. Car parking adjacent to the site.
 3. Location of neighbouring buildings.
 4. Presence of neighbouring work-sites or recreation areas.
 5. Proximity to schools or early childhood centres.
 6. Proximity to housing.
 7. The depth of a water hazard.
 8. The period of time for which ponded water will be present.
 9. The accessibility and 'visibility' of the site.
- 1.0.2 If a work-site is not completely enclosed, and unauthorised entry by children is likely, it is acceptable for specific hazards to be fenced only when workers are absent from the immediate vicinity.

1.1 Site Fences and Hoardings
1.1.1 Fences and hoardings shall extend at least 2.0 m in height from ground level on the side accessible to the public.
1.1.2 An acceptable fence may be constructed with galvanised chainlink netting having a maximum sized grid of 50 mm x 50 mm. Post spacing shall be a maximum of 2.5 m, and the gap between the bottom of the fence and ground no greater than 100 mm.

Finished Floor Level (FFL) shall be:
a) For sites level with or above the road, no less than 150 mm above the road crown on at least one cross-section through the building and roadway
b) For sites below the road, no less than 150 mm above the lowest point on the site boundary
c) FGL to be a minimum of 225mm below FFL with a fall away from the building
d) FFL to be a minimum of 150mm above paving level at foundation, with a fall away from building

Lot:	4
DP:	585523
Site Area:	985m²
Gross Plan Area:	199.08m² (includes covered areas)
Site Coverage:	20% (40% maximum)
Maximum Building Ht:	8m
Territorial Authority:	Waitaki District Council
Planning Zone:	Residential



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SITE PLAN

Design: A1	Drawn: AK	Check: UP	LBP: UP
Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa

Scale: 1:200
Rev:
Date: 24/06/2024

Sheet no: 3

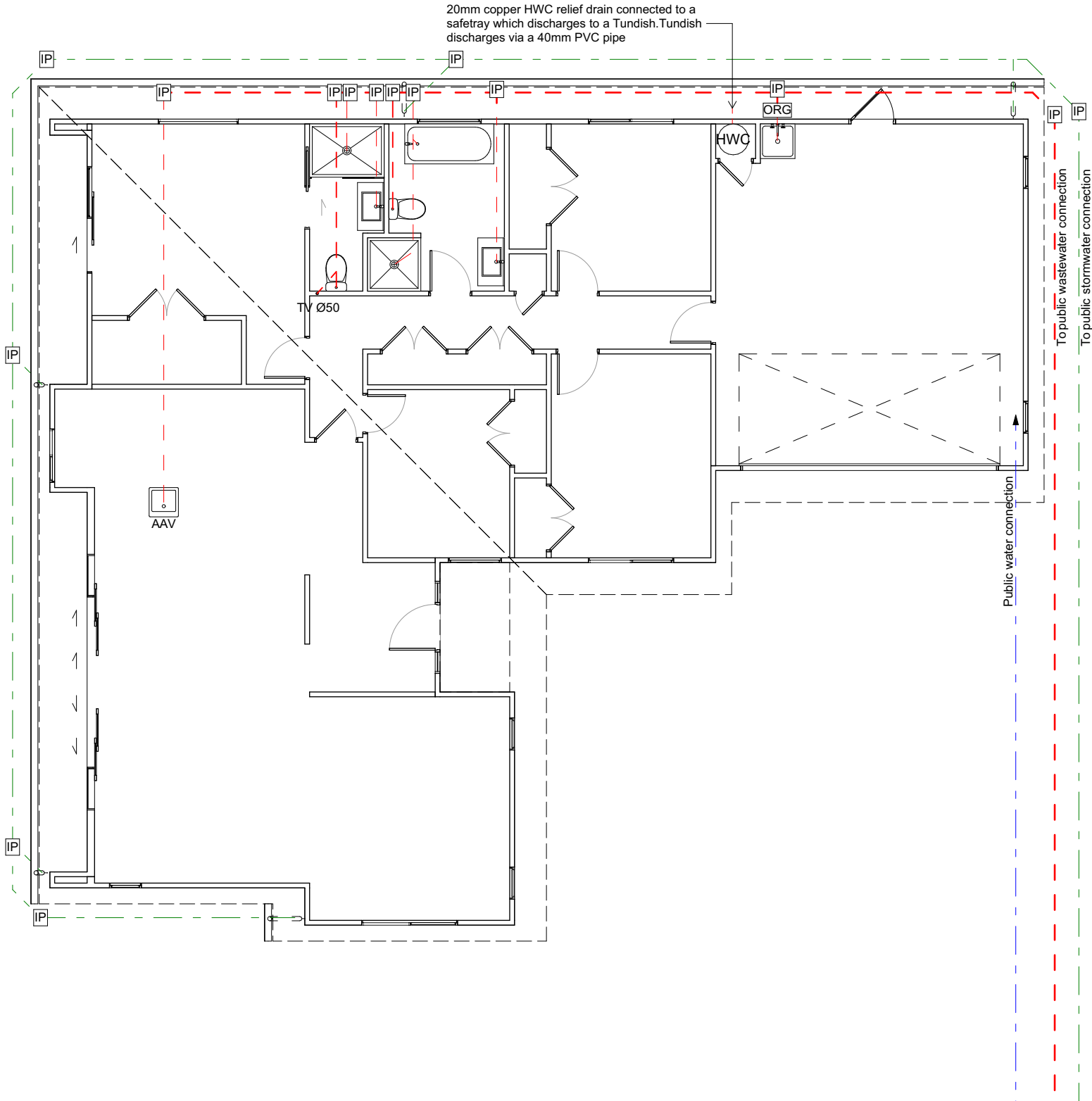
Client Details:
Burgess & Allen

Address:
7 Whitehaven Street
Oamaru

Job no: OS1150

Alt. KH187





Construction Notes:
Plumbing to AS/NZS:3500.2.2 (min 1:60 pipe gradient) by qualified tradesman.
Contractor to locate all service connections on site prior to earthworks confirm all boundary setbacks & restrictions comply with current regulations prior to commencement of foundations.
All waste pipes PVC. Sizes, fall, venting & discharge to be confirmed by NZ qualified plumber. Confirm positions of available services cabling etc on site prior to any excavation

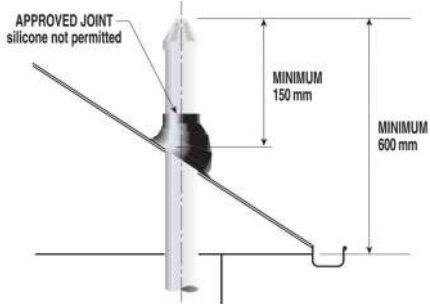
Water Supply:
Internal water pipes to Polybutylene.
All pipework and pipes exposed to freezing to be lagged with closed cell foam - Closed cell foam polymer insulation or fibre glass insulation which is preformed to the shape of the pipe and not less than 13 mm thick, is acceptable material for preventing pipes less than or equal to 40 mm diameter from freezing. Any insulation material that absorbs moisture shall be protected in a waterproof membrane.

Fixture unit rating: 25 units
Bathroom Group- 6 (x2)
WC- 4
Basin - 1
Laundry tub - 5
Kitchen sink - 3

Table 3.9.3.1 — Size and rating of vents		
Size of vent pipe DN	Fixture units discharging to drain	Vent rating
40	> 1 ≤ 10	0.5
50	> 10 ≤ 30	1
65	> 30 ≤ 175	2
80	> 175 ≤ 400	3
100	> 400 ≤ 600	6

TV min 50mm Ø NZS3500

Plumbing Legend as per AS/NZS 3500 part 2 : 2018			
Symbol	Item	Symbol	Item
	Inspection point		DN100 uPVC SS pipe, DN100 min water closets (ref specs) min 1:60 gradient
	Downpipe		DN100 uPVC SW pipe, min 1:120 gradient
HT *	Hose Tap		min uPVC fixture waste pipe sizes: DN40 basins, single head showers, baths, sinks, dishwasher & ldy tubs, DN50 multiple heads showers, sinks + dishwashers, Ldy tub + washing machine (combined)
org	Overflow relief gully		DN65 unvented branch drains exceeding 2.5m long (max 5 fixture unit rating)
oTV	Terminal vent 50mm		DN65 to all wastes discharging directly into drain under slab min 1:40 gradient. 20mm HWC vent drain (copper)
Water supply pipe (from council mains) = DN20			



NZBC: E1 Surface Water
3.7 Access for maintenance
3.7.1 Access for maintenance shall be provided on all drains. Access is to be achieved via an inspection point, rodding point, inspection chamber or access chamber, complying as appropriate with Figures 10, 11 or 12.
3.7.2 Points of access shall be spaced at no further than:
a) 50 m where rodding points are used.
b) 100 m where inspection points, inspection chambers or access chambers are used.
3.7.3 Points of access are required at:
a) Changes in direction of greater than 45°,
b) Changes in gradient of greater than 45°,and
c) Junctions of drains other than a drain, serving a single downpipe, that is less than 2.0 m long.
3.7.4 Inspection chambers or access chambers (see Figures 11 and 12) shall be provided where changes in both gradient and direction occur and where either is greater than 22.5°.
3.7.5 Where the depth to the invert of the drain exceeds 1.0 m, an inspection chamber is not acceptable and an access chamber shall be used.

Figure 7: Bedding and backfilling
Paragraphs 2.1.1, 5.2.1, 5.3.1 and 5.4.1



NOTE:

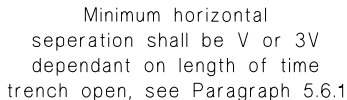
1. Fill shall be:

- Ordinary fill where drains are located below gardens and open country.
- Compacted selected fill where the drains are located below residential driveways and similar areas subject to light traffic.

Proximity of trench to building

3.9.7 Proximity of trench to building
For light timber frame and concrete masonry buildings founded on good ground and constructed in accordance with NZS 3604 or NZS 4229, pipe trenches which are open for no longer than 48 hours shall be located no closer than distance 'V' (see Figure 14) to the underside of any building foundation. Where the trench is to remain open for periods longer than 48 hours, the minimum horizontal separation shall increase to 3V in all ground except rock.

Figure 8: Relationship of pipe trench to building foundation
Paragraph 5.6.1



NZBC: E1 Surface water:

3.9 Bedding and backfilling

3.9.1 General

NZBC B1 requires all drains be constructed to withstand the combination and frequency of loads likely to be placed upon them without collapse, undue damage, undue deflection or undue vibration.

In addition, adequate support needs to be provided to prevent gradients becoming less than those required as a result of:

- a) Differential settlement, or
- b) Deflection of an unsupported span.

3.9.2 Bedding and backfilling

Figure 13 gives acceptable solutions for the bedding and backfilling of the drainage pipes except where:

- a) The trench is located within or above peat, or
- b) Scouring of the trench is likely due to unstable soils, or
- c) The horizontal separation between any building foundation and the underside of the pipe trench is less than that required by Paragraph 3.9.7, or
- d) The cover H to the pipe is more than 2.5 m.

3.9.3 Trench slope

Where the slope of the trench is 1 in 8 or greater, anti-scour blocks shall be provided.

These anti-scour blocks shall be:

- a) Constructed from 150 mm thick concrete (17 MPa),
- b) Keyed into the sides and floor of the trench by 150 mm,
- c) Extended to 300 mm above the drain or to ground level where the drain cover is less than 300 mm, and
- d) Spaced at:
 - i) 7.5 m centres for trench slopes between 1 in 8 and 1 in 5, or
 - ii) 5.0 m centres for trench slopes greater than 1 in 5.

3.9.4 Trench width

The width B of the trench shall be no less than the pipe diameter D plus 200 mm.

Trench width at the top of the pipe shall be no more than 600 mm unless the pipe(s)

in the trench are covered with concrete, as shown in Figure 13 (c).

3.9.5 Acceptable materials

Acceptable fill materials shown in Figure 13 are:

- a) Bedding material of clean granular noncohesive material with a maximum particle size of 20 mm, or
- b) Selected compacted fill of any fine-grained soil or granular material which is free from topsoil and rubbish and has a maximum particle size of 20 mm, or
- c) Ordinary fill which may comprise any fill or excavated material.

3.9.6 Placing and compacting

- a) Granular bedding and selected fill shall be placed in layers of no greater than 100 mm loose thickness and compacted.
- b) Up to 300 mm above the pipe, compaction shall be by tamping by hand using a rod with a pad foot (having an area of 75 ± 25 mm by 75 ± 25 mm) over the entire surface of each layer to produce a compact layer without obvious voids.
- c) More than 300 mm above the pipe, compaction shall be by at least four passes of a mechanical tamping foot compactor (whacker type) with a minimum weight of 75 kg.

Downpipe calculations: NZBC:E1
Plan area of roof per single downpipe for roof pitch 0-25° = 85m² of roof area for (minimum internal size) DN74 downpipe.

Plan Roof area 1 =227.43m²
Calc. - Plan Roof area/area served by DP = DP's required
227.43/ 85 = 2.6 = 3 DP

Plan Roof area 2 =3.54m²
Calc. - Plan Roof area/area served by DP = DP's required
3.54/ 85 = 0.04 = 1 DP

Therefore minimum number of downpipes required = 4
Number of DP's provided = 5

Roof gutter profile calculations:
Colorsteel Colonial Quadline Gutter
Cross sectional area of gutter (CSAG) = 6967mm². 60m² of plan roof area (based on 100mm/hr.)

Rainfall intensity = 50mm/hr.

Plan Roof area 1= 227.43m²
Modified Plan Roof Area = 227.43 x 50 / 100 = 113.71 m²
Number of downpipes required to accomodate Modified Roof Area:
113.71 / 60 = 1.8 (2 DPs)

Plan Roof area 2= 3.54m²
Modified Plan Roof Area = 3.54 x 50 / 100 = 1.77 m²
Number of downpipes required to accomodate Modified Roof Area:
1.77 / 60 = 0.02 (1 DP)

Table 5: Downpipe Sizes for Given Roof Pitch and Area
Paragraph 4.2.1

Downpipe size (mm) (minimum internal sizes)	Roof pitch			
	0-25°	25-35°	35-45°	45-55°
	Plan area of roof served by the downpipe (m²)			
63 mm diameter	60	50	40	35
74 mm diameter	85	70	60	50
100 mm diameter	155	130	110	90
150 mm diameter	350	290	250	200
65 x 50 rectangular	60	50	40	35
100 x 50 rectangular	100	80	70	60
75 x 75 rectangular	110	90	80	65
100 x 75 rectangular	150	120	105	90

Figure 15: Cross-sectional Area of External Gutter
Paragraphs 5.1.2 and 5.1.3

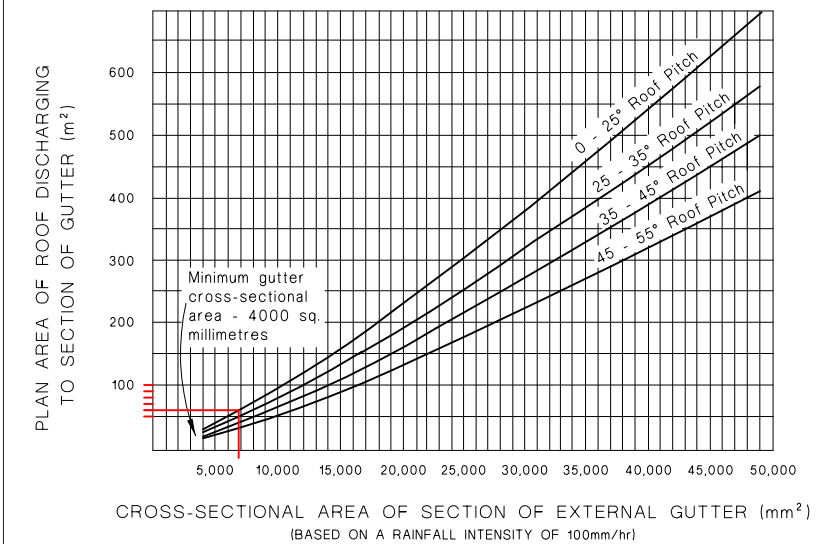
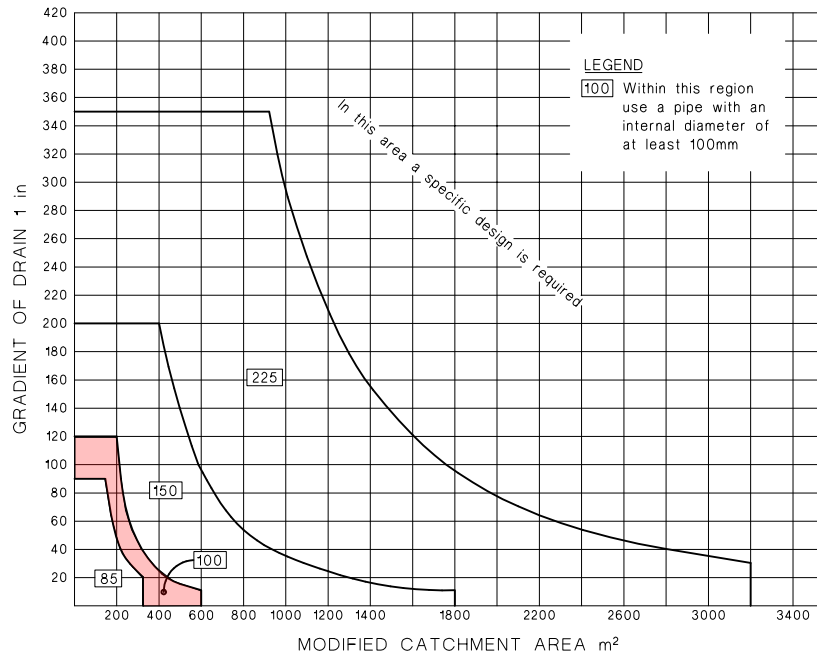


Figure 3: Sizing of Surface Water Drains
Paragraphs 3.2.2 and 3.2.3



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ROOF DRAINAGE PLAN

Design: A1 Drawn: AK Check: UP LBP: UP

Wind: High Earthq: 1 Exposure: B Snow: N5 1kPa Climate: 5

Scale: 1:100 Sheet no: 6

Rev: Date: 24/06/2024

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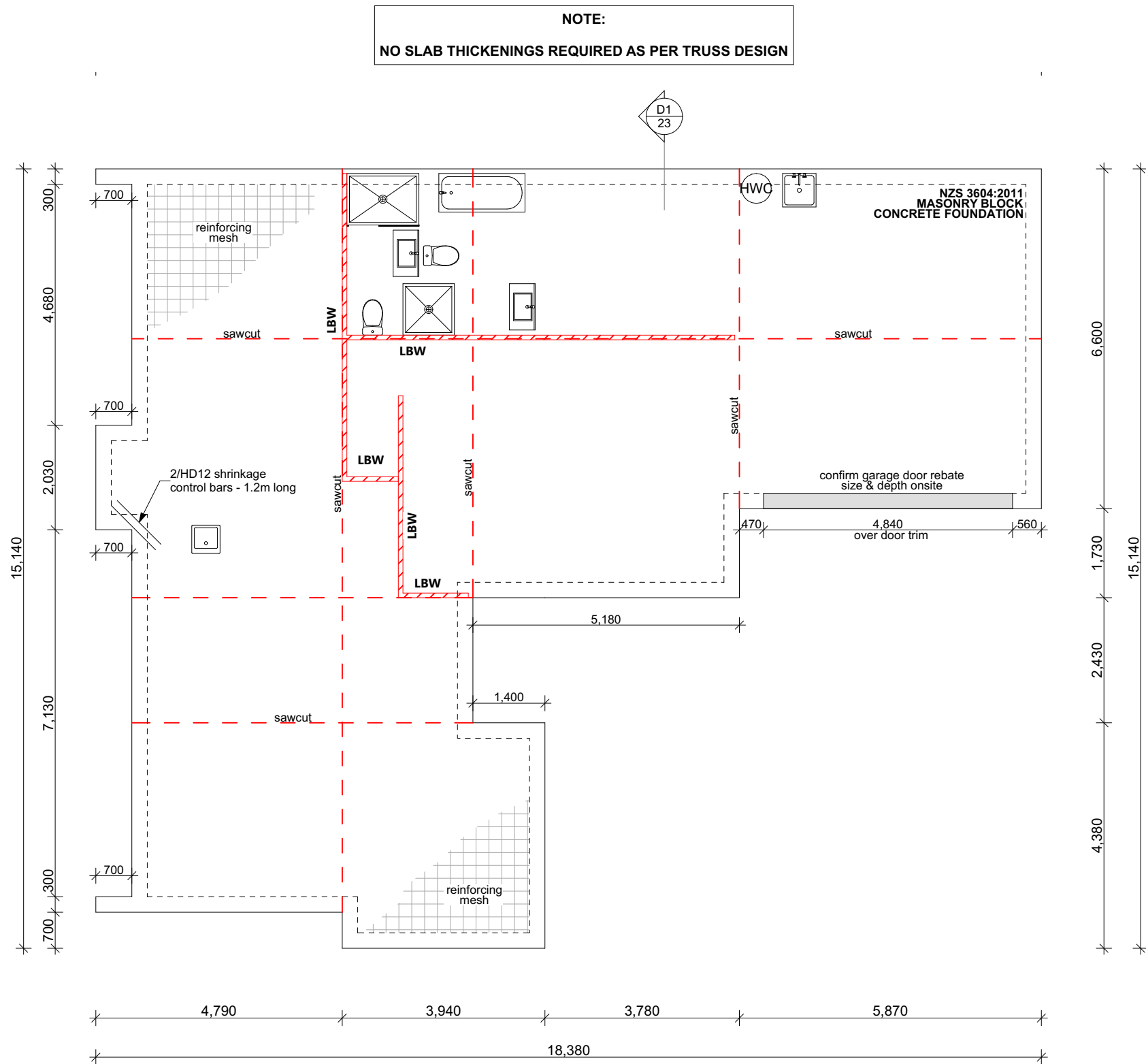
Client Details:
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Job no: OS1150

Alt. KH187





Cautionary Notes:
Always cross reference the foundation plan with the framing plan prior to setting out

The contractor shall accurately locate the position of all public drains on site prior to starting work, If any discrepancies are found in these drawings then the contractor must contact A1 Homes before proceeding with any further works.

Construction Notes:

- The site requirements of NZS 3604: 2011 are concerned with soil conditions under or adjacent to the building.
- If a site does not comply with the definition of good ground, the foundations shall be the subject of specific engineering design (SED) and investigation as appropriate. When using the Firth RibRaft Floor System, good ground may be established using Firth's approved Scala Penetrometer test (refer Ribraft Manual).
- All foundations shall bear upon solid bottom in undisturbed good ground material or upon firm fill for which a certificate of suitability has been issued under NZS 4431
- Where good ground is at a depth greater than 0.6 m, the excavation between the good ground and the foundation base may be filled with mass concrete having a minimum strength of 10 MPa at 28 days.
- Granular fill material complying with 7.5.3.2 shall be placed and compacted in layers of 150 mm maximum thickness, over the area beneath the proposed ground slab, so that the total thickness of granular base is not less than 75 mm nor more than 600 mm. Compact each layer until the material is tightly bound together and does not visibly deform under the weight of a pressed adult heel. SED is required if filling is in excess of 600 mm.

7.5.3.2
Granular fill material shall be composed of rounded gravel, crushed rock, scoria or approved material.

(a) Not more than 5 % shall pass through a 2.2 mm sieve with the exception of the conditions in 7.5.3.3;

(b) 100 % shall pass either:

(i) A 19 mm sieve for any fill thickness; or

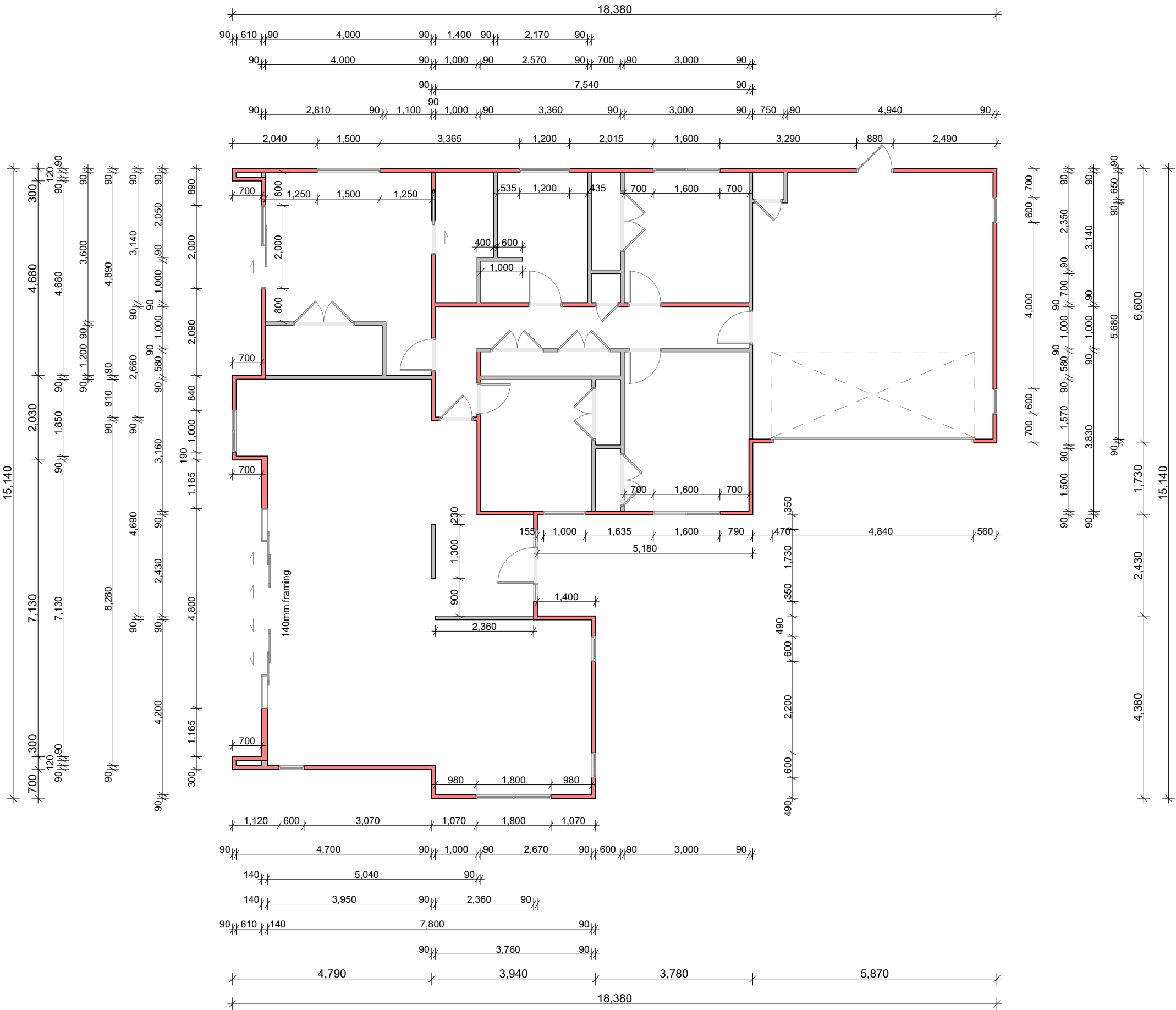
(ii) A 37.5 mm sieve for a fill thickness exceeding 100 mm.

Where it can be demonstrated that site conditions ensure that capillary water is unlikely to reach the underside of the slab, then the requirements of 7.5.3.2(a) can be waived.

- Min. 5mm - 25mm max. sand blinding to cover hardfill to ensure the vapour barrier is protected from any granular protrusions. Conc. floor to comply with NZS.3109, surface tolerances, & NZS.3114, maximum deviations of 3mm

Steel reinforcing within concrete floors and walls of rooms that contain a bath or shower must be bonded to the earth system as per AS/NZS 3000:2007 Electrical Installations. See clause 5.6.2.5

Confirm layout & fittings of kitchen & bathrooms etc before foundation commences



Cautionary Notes:
Always cross reference the foundation plan with the framing plan prior to setting out

Joinery sizes shown are box sizes & are preliminary only.
Site measure and confirm all joinery sizes, reporting to designer any changes, PRIOR to ordering joinery. No liability shall be held by designer for incorrect supply of joinery.

Refer to all written dimensions, DO NOT scale off drawings.

Always cross reference the foundation plan with the floor plan prior to setting out.
If any discrepancies occur contact:
admin@idesignarchitecture.co.nz immediately.

Note:
2420 stud ht. throughout

James Hardie Linea 180mm Weatherboard
James Hardie Vertical Oblique 200-300mm



DO NOT scale off drawings. Cross reference all drawings. Any discrepancies MUST be clarified with the designer immediately before commencing works or ordering. NO construction or site works are to commence until Building Consent becomes unconditional.

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FRAMING PLAN

Design: A1Drawn: AKCheck: UPLBP: UP

Wind: HighEarthq: 1Exposure: BSnow: N5 1kPaClimate: 5

Scale: 1:100

Rev:

Date: 24/06/2024

Sheet no: 8

www.A1homes.co.nz

Client Details:

Burgess & Allen

Address:

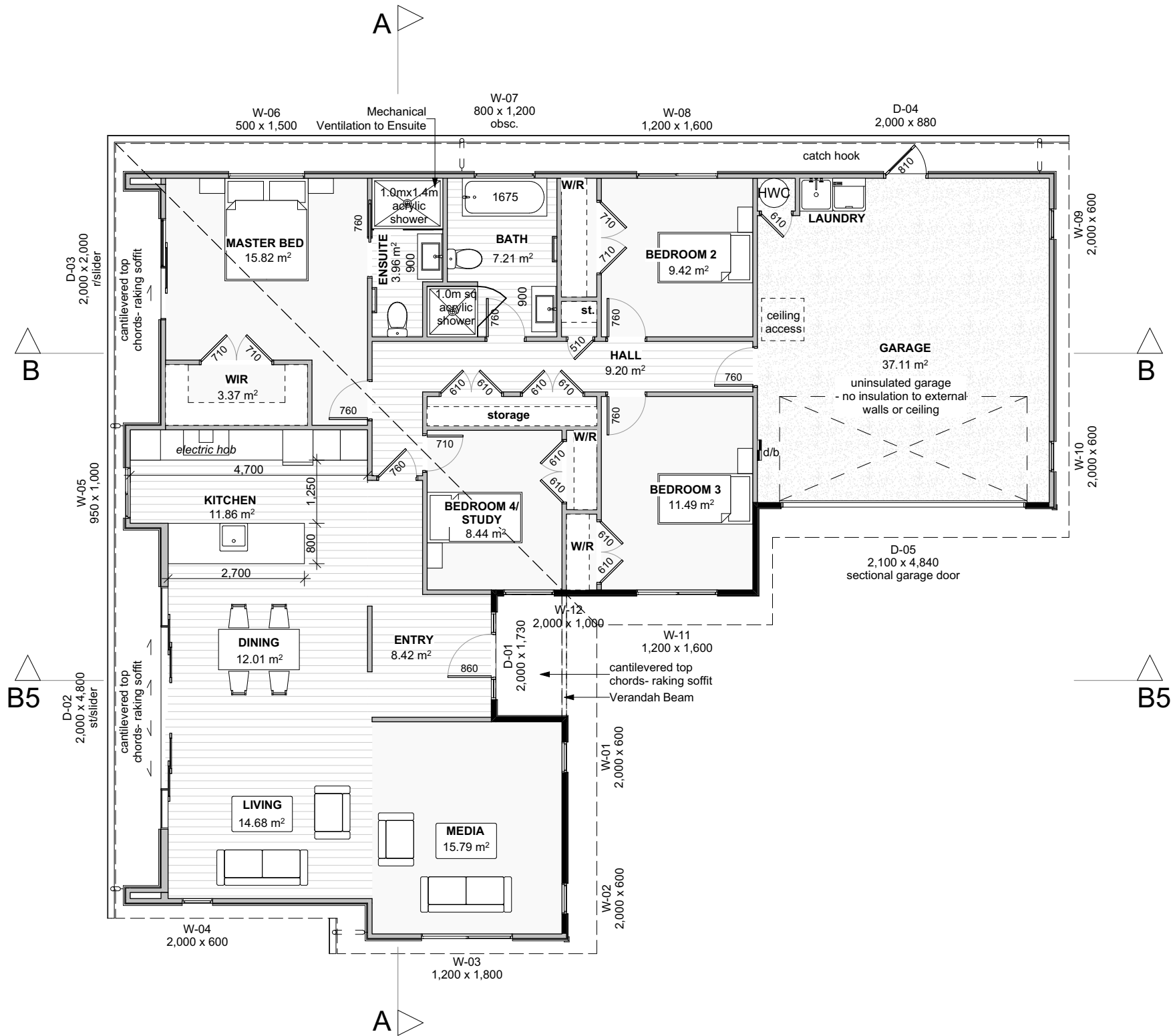
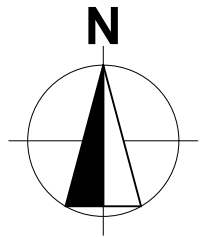
7 Whitehaven Street

Oamaru

Job no: OS1150

Alt. KH187





FLOOR FINISHES:

- Carpet**
- Master Bed
 - Bedroom 2
 - Bedroom 3
 - Bedroom 4/Study
 - W/R
 - Media
 - WIR
- Vinyl**
- Bath
 - Ensuite
 - Entry
 - Kitchen
 - Dining
 - Living
 - Storage
 - Hall
- Concrete**
- Garage
 - Laundry

FLOOR AREAS:	
Ground o/frame area =	148.64 m ²
Garage o/frame area =	38.74 m ²
Total area =	187.38 m²

CLADDING KEY:

- JH Linea 180mm
- JH Vertical Oblique 200-300mm

Note:
2420 stud ht. throughout

Cautionary Notes:

Always cross reference the foundation plan with the framing plan prior to setting out

Joinery sizes shown are box sizes & are preliminary only.
Site measure and confirm all joinery sizes, reporting to designer any changes, PRIOR to ordering joinery. No liability shall be held by designer for incorrect supply of joinery.

Refer to all written dimensions, DO NOT scale off drawings.

Construction Notes:

Electric hobs with vented r/hood.
Polybutylene water supply pipes.
Hot water supply pipes shall be thermally insulated to comply with H1/AS1 5.0
Mains pressure 180L HWC with tempering valve & seismic restraint in accordance with NZBC: 2004 section G12.
The delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C

Tapered edge joints in ceilings
To reduce the risk of cracks caused by substrate movement, back-blocking of tapered edge joints is required in the following situations.
• When timber battens have been used:
Any area containing 3 or more tapered joints
• When steel battens have been used:
Any area containing 6 or more tapered joints

Please confirm layout & fittings of kitchen & bathrooms etc before foundation commences

Note:

- Kitchen layout diagramatic and only to be used for drainage reference, refer to kitchen plans for exact design.

Separation between electric hob and the Gib lined wall:
Cut out for hob: min. 55mm from back of bench top.
Overhead clearances: not less than 650mm from hob surface to range hood
Side clearances: Where dimension to any vertical combustible surface is less than 150 mm, surface shall be protected to a min. height of 150 mm above hob for full dimension (width or depth) of cooking surface area.
Protection of combustible surfaces: 5mm thick ceramic tiles or graphic glass is suitable to protect 10mm Gib board.

G3/AS1

1.1.3 Food preparation surfaces shall be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminate, and tiles are examples of suitable materials for these surfaces.

1.6 Wall linings

Wall linings adjacent to appliances and facilities shall have surfaces that can be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminate, tiles, wallboards with painted or applied impervious coatings or films, are examples of suitable materials for these surfaces.

Note:

- Kitchen layout diagramatic and only to be used for drainage reference, refer to kitchen plans for exact design.

Stairs to comply with NZBC:D1 access; main private
max 190rise, min 280 tread. Wall mounted grab rail @900ht from tread nosing

A landing min 900deep shall be provided at the top & bottom of every flight of stairs where the rise of the flight is more than 600mm. Handrails are required to one side of all stairs with 4 or more risers - NZBC D1/AS1: Access routes

	DO NOT scale off drawings. Cross reference all drawings. Any discrepancies MUST be clarified with the designer immediately before commencing works or ordering. NO construction or site works are to commence until Building Consent becomes unconditional. COPYRIGHT: Any and all drawings commissioned remain the property of A1 Homes NZ Limited, including all copyright and similar rights subsisting in those drawings, and are solely for use as described on the drawings, and may not be used for any other purpose or reproduced in whole or in part without written permission obtained from A1 Homes NZ Limited.	FLOOR PLAN				Scale: 1:100	Sheet no: 9	Client Details: Burgess & Allen Address: 7 Whitehaven Street Oamaru	Job no: OS1150	Alt. KH187
		Design: A1	Drawn: AK	Check: UP	LBP: UP	Rev:				
		Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa	Climate: 5				
		www.A1homes.co.nz				Date: 24/06/2024				

General Notes:
Any encroachments shown are to be confirmed by a registered surveyor prior to commencement of foundations. No liability shall be held by designer with this confirmation.

Cautionary Notes:
BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAYLIGHTING & BUILDING RESTRICTIONS ARE COMPLIED WITH.
NO LIABILITY FOR ENCROACHMENT SHALL BE HELD BY DESIGNER IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF FOUNDATIONS.

Construction Notes:
Glazing in accordance with NZS 4223:2008/2016 plus amendments
All glazing low-e clear float except for obscure glass to bathrooms & wc
Double glazing to all window and door joinery

Aluminium joinery head heights to be 2.0m
Refer to floor plan for door & window sizes. Joinery schedule & sizes to be confirmed by pre-cut manufacturer & joinery fabricator PRIOR to manufacture by way of communication via e-mail, phone or other.

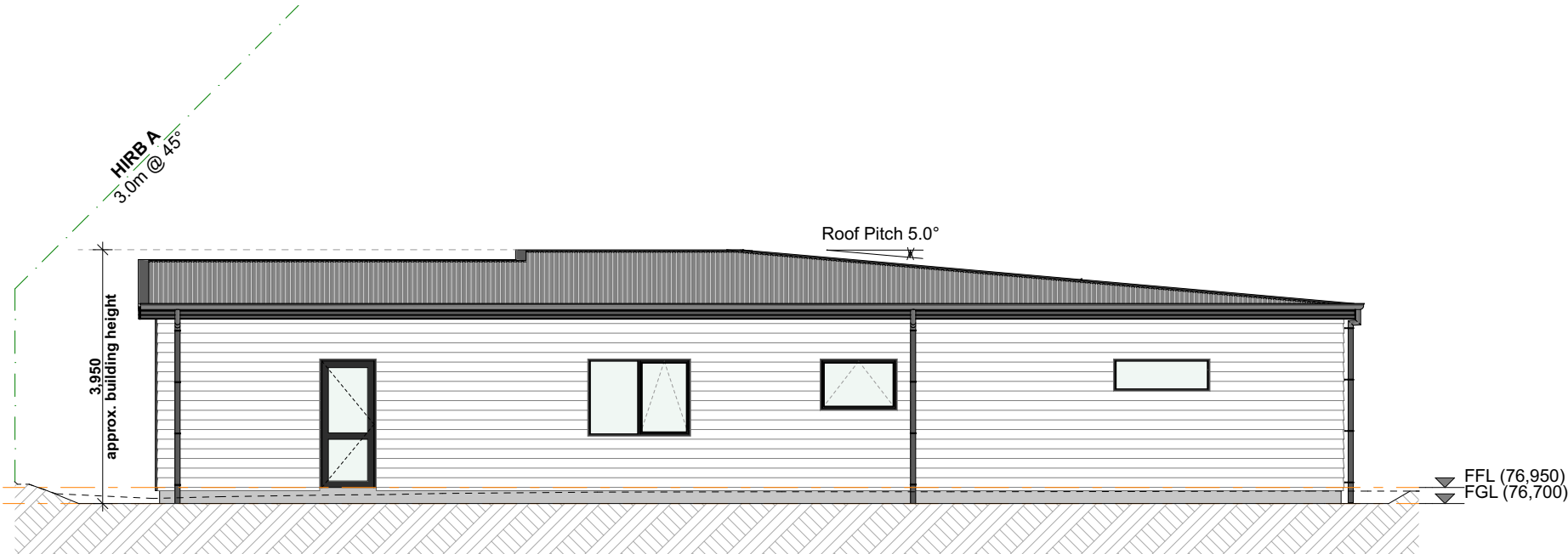
HIRB = Height in Relation to Boundary

NZBC D1/AS1 Access Routes:
Concrete (min 150mm below FFL, max 190mm) or H5 timber step to all access points (owners care)
Acceptable Slip Resistance for Walking Surfaces:
• Portland cement concrete
- Broomed (Class 5 or 6) or wood float finish (Class U2)
Concrete surface finishes complying with NZS 3114.
- Coated and sand/grit impregnated
The sand/grit, which is sprinkled over the complete surface of the final paint coating, should be a hard angular material such as silica sand or calcined bauxite. The particle size should not be less than 0.2 mm so that it is not submerged by the coating and not greater than about 2–3 mm so that it remains tightly bound to the surface.
- Exposed aggregate finish
crushed aggregate
• Asphaltic concrete
• Concrete pavers
- Dry press concrete
- Interlocking concrete block paving to NZS 3116.
• Anti-slip tapes
- will normally require regular replacement to remain effective. To ensure foot contact, tapes should be placed at right angles to the line of travel and be spaced at no more than 150 mm centres.

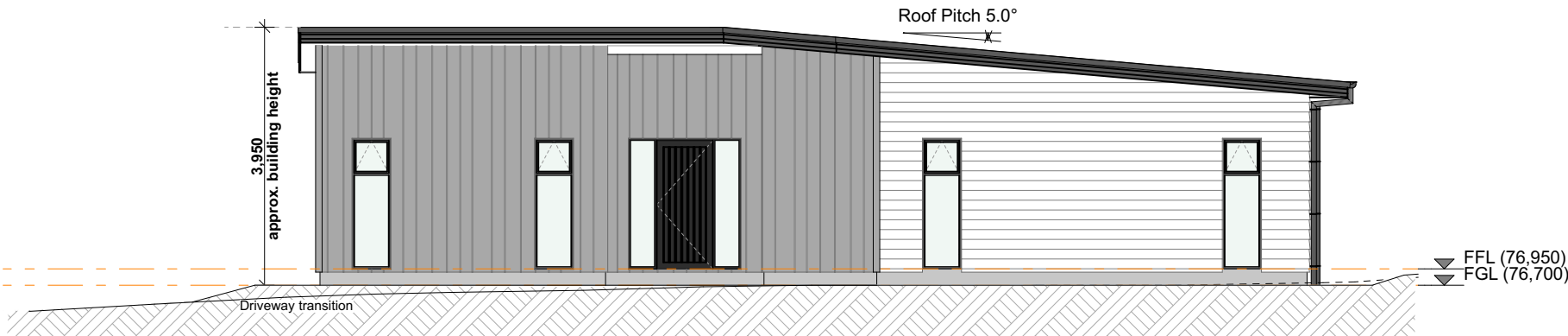
NZBC D1/AS1 Access Routes:
H3.2 timber steps and landing to all access points, H5 timber to ground (owners care)
Acceptable Slip Resistance for Walking Surfaces:
• Timber
- Uncoated profiled
Profile at right angles to direction of pedestrian traffic. Algal growth on uncoated timber walkways significantly reduces slip resistance when wet and requires regular removal, e.g. by high pressure waterblasting.

Risk Factor	Description	Risk	Score
Wind Zone	High	M	1
Number of Storeys	Single Storey	L	0
Roof/Wall Intersection Design	Fully exposed (e.g. parapets, exposed boundaries or eaves at greater than 90 degrees to soffit lining)	H	3
Eaves Width	100mm - 450mm wide	H	2
Envelope Complexity	Moderately complex shape with no more than 2 cladding types.	M	1
Deck Design	None	L	0
		Total Score:	7

Selected Claddings:
1. Bevel back timber weatherboard over nominal 20mm drained cavity
2. Bevel back timber weatherboard over nominal 20mm drained cavity



NORTH ELEVATION



EAST ELEVATION

Foundation:
NZS3604 Masonry Block Foundation

Wall Cladding:
James Hardie Linea weatherboard - 180 mm
James Hardie Vertical Oblique 200-300mm

Roof Cladding:
5° pitch. NZS Colorsteel Trapezoidal Endura profile

Fascia and Spouting:
185 Colorsteel fascia
Colorsteel Colonial Qaudline spouting
Marley PVC 80mmØ round downpipes

Joinery:
APL Residential suite Aluminium joinery



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ELEVATIONS

Design: A1

Drawn: AK

Check: UP

LBP: UP

Wind: High

Earthq: 1

Exposure: B

Snow: N5 1kPa

Climate: 5

Scale: 1:100

Rev:

Date: 24/06/2024

Sheet no: 10

www.A1homes.co.nz

Client Details:

Burgess & Allen

Address:

7 Whitehaven Street

Oamaru

Job no: OS1150

Alt. KH187



General Notes:
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Construction Notes:
Glazing in accordance with NZS 4223:2008/2016 plus amendments
All glazing low-e clear float except for obscure glass to bathrooms & wc
Double glazing to all window and door joinery

Aluminium joinery head heights to be 2.0m
Refer to floor plan for door & window sizes. Joinery schedule & sizes to be confirmed by pre-cut manufacturer & joinery fabricator PRIOR to manufacture by way of communication via e-mail, phone or other.

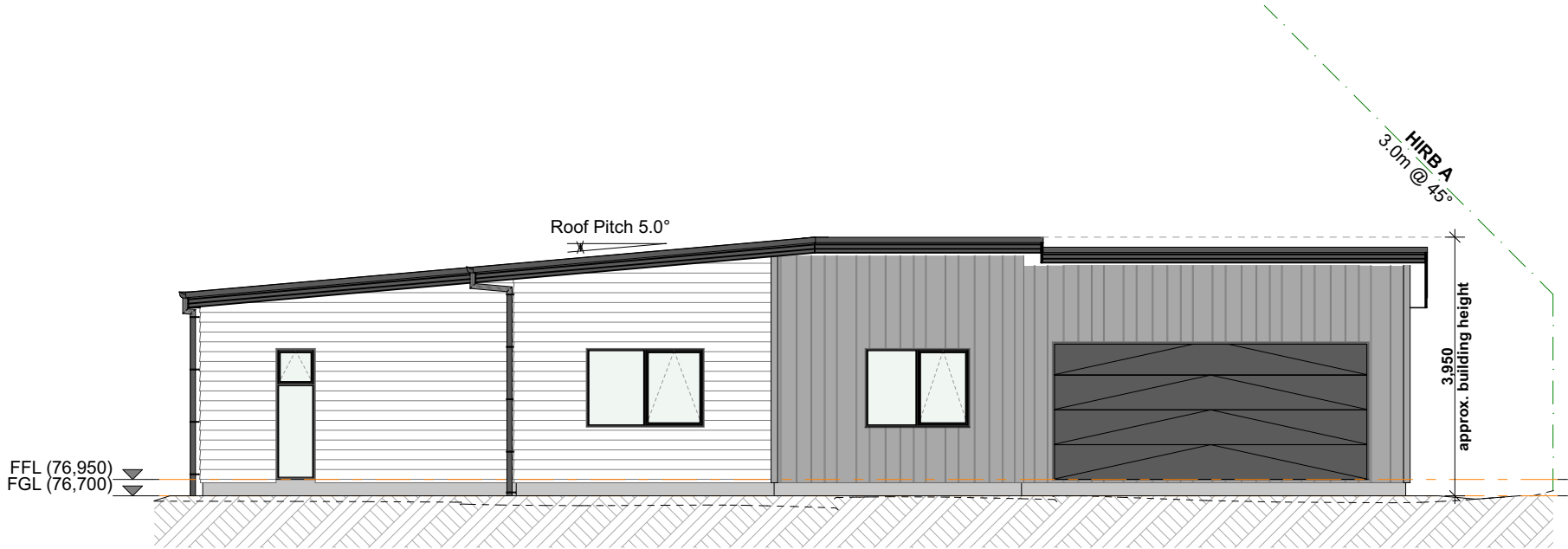
HIRB = Height in Relation to Boundary

NZBC D1/AS1 Access Routes:
Concrete (min 150mm below FFL, max 190mm) or H5 timber step to all access points (owners care)
Acceptable Slip Resistance for Walking Surfaces:
• Portland cement concrete
- Broomed (Class 5 or 6) or wood float finish (Class U2)
Concrete surface finishes complying with NZS 3114.
- Coated and sand/grit impregnated
The sand/grit, which is sprinkled over the complete surface of the final paint coating, should be a hard angular material such as silica sand or calcined bauxite. The particle size should not be less than 0.2 mm so that it is not submerged by the coating and not greater than about 2–3 mm so that it remains tightly bound to the surface.
- Exposed aggregate finish
crushed aggregate
• Asphaltic concrete
• Concrete pavers
- Dry press concrete
- Interlocking concrete block paving to NZS 3116.
• Anti-slip tapes
- will normally require regular replacement to remain effective. To ensure foot contact, tapes should be placed at right angles to the line of travel and be spaced at no more than 150 mm centres.

NZBC D1/AS1 Access Routes:
H3.2 timber steps and landing to all access points, H5 timber to ground (owners care)
Acceptable Slip Resistance for Walking Surfaces:
• Timber
- Uncoated profiled
Profile at right angles to direction of pedestrian traffic. Algal growth on uncoated timber walkways significantly reduces slip resistance when wet and requires regular removal, e.g. by high pressure waterblasting.

Risk Factor	Description	Risk	Score
Wind Zone	High	M	1
Number of Storeys	Single Storey	L	0
Roof/Wall Intersection Design	Fully exposed (e.g. parapets, exposed boundaries or eaves at greater than 90 degrees to soffit lining)	H	3
Eaves Width	100mm - 450mm wide	H	2
Envelope Complexity	Moderately complex shape with no more than 2 cladding types.	M	1
Deck Design	None	L	0
		Total Score:	7

Selected Claddings:
1. Bevel back timber weatherboard over nominal 20mm drained cavity
2. Bevel back timber weatherboard over nominal 20mm drained cavity



SOUTH ELEVATION



WEST ELEVATION

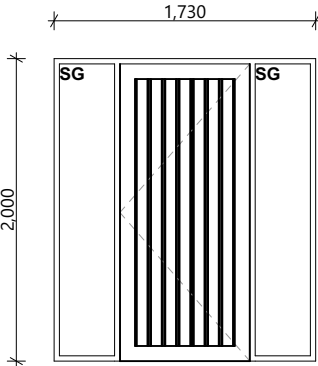
Foundation:
NZS3604 Masonry Block Foundation

Wall Cladding:
James Hardie Linea weatherboard - 180 mm
James Hardie Vertical Oblique 200-300mm

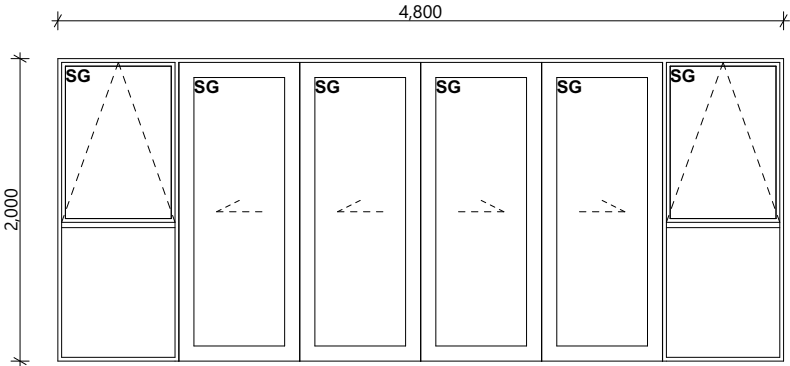
Roof Cladding:
5° pitch. NZS Colorsteel Trapezoidal Endura profile

Fascia and Spouting:
185 Colorsteel fascia
Colorsteel Colonial Qaudline spouting
Marley PVC 80mmØ round downpipes

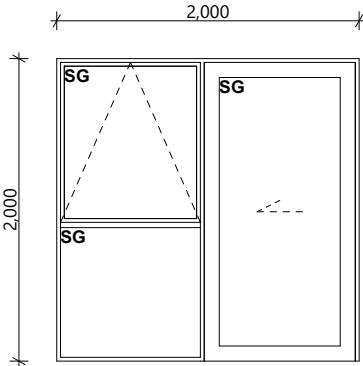
Joinery:
APL Residential suite Aluminium joinery



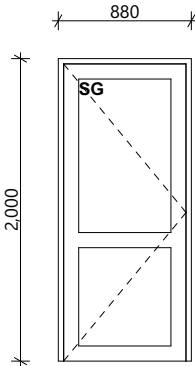
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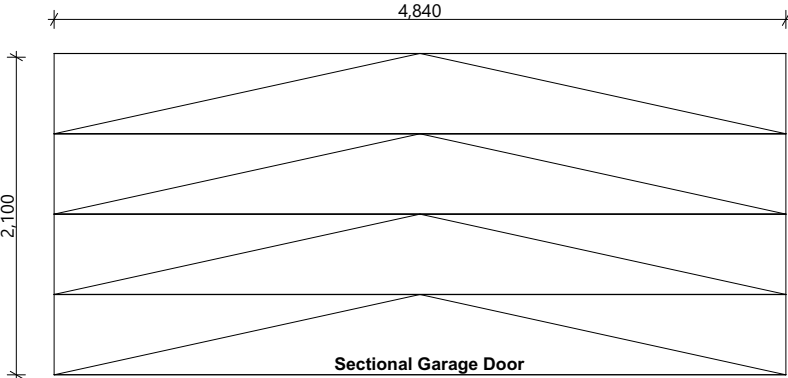
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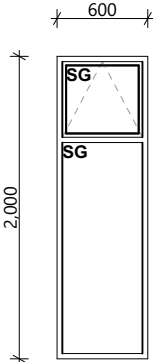
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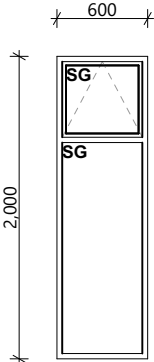
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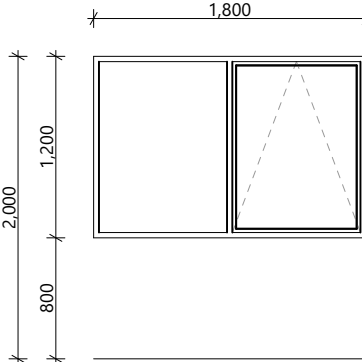
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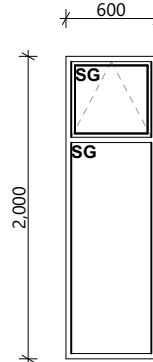
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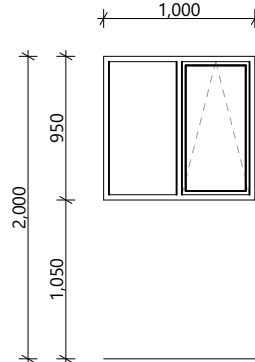
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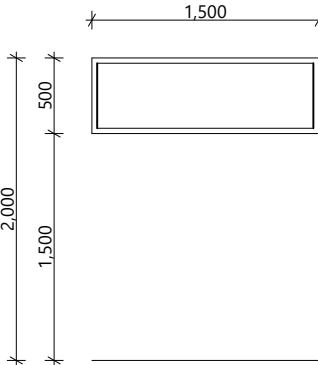
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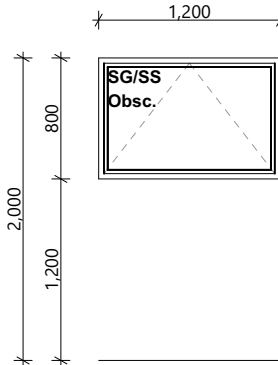
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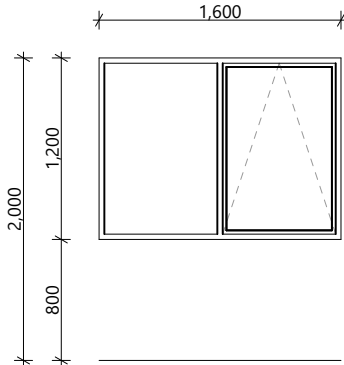
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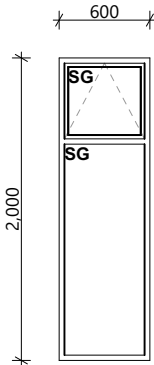
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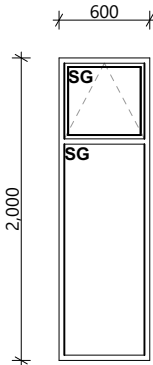
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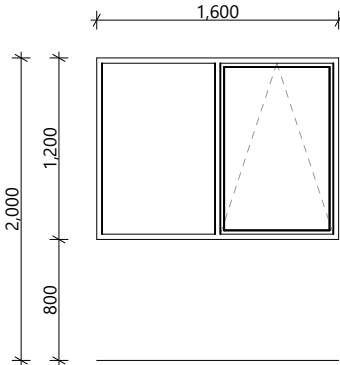
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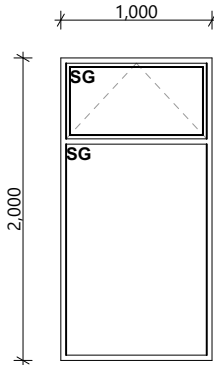
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W-10



W-11

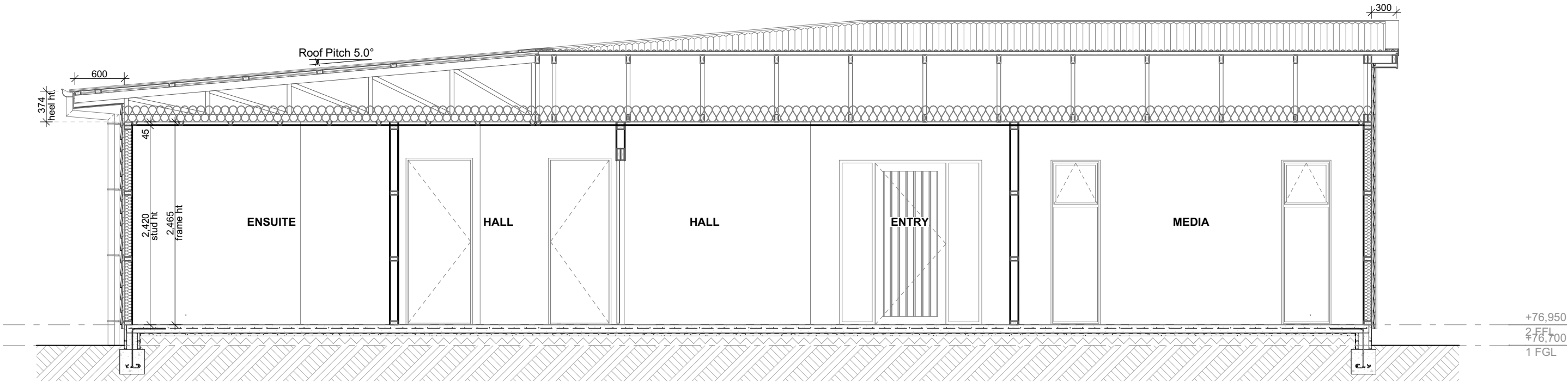


W-12

Safety restrictor stays:
ss = safety stays
- a restrictor fitted to limit the maximum opening so that a 100mmø sphere cannot pass through

Window restrictors are required to the following sized openings where the adjacent Ground Level is 1.0m below FFL or greater;
- openings less than 1.0m wide with sill ht within 760mm of FFL
- openings more than 1.0m wide with sill ht within 1000mm of FFL

Window restrictors are also required to outward opening windows that may protrude into walk paths
- Refer to Site plan for 'walk paths'
sg = safety glass



NZS3604 MASONRY BLOCK CONCRETE FOUNDATION

CROSS SECTION - AA

1:50

Table 4 – Allowable moisture content (%)⁽¹⁾ at time of installation or in the case of framing timber at time of enclosure

Use category level of finish	Air-conditioned or centrally heated buildings	Intermittently heated buildings ⁽²⁾	Unheated buildings
1 Timber to which linings are attached to achieve a "level of finish" 4 to 5	8 – 18	12 – 18	12 – 18
2 Enclosed framing (including roof trusses) to achieve a "level of finish" 0 to 3	12 – 18	12 – 24	12 – 24
3 Load-bearing lintels and beams	8 – 18	12 – 20	12 – 20
4 Weatherboards, exterior joinery and finishing timbers	14 – 18	14 – 18	14 – 18
5 Flooring exposed to ground atmosphere	10 – 14	12 – 16	14 – 18
6 Interior joinery and finish, furniture, corestock	8 – 12	10 – 14	12 – 16
7 Flooring not exposed to ground atmosphere	8 – 12	10 – 14	12 – 16
NOTE – (1) Allowable ranges of moisture content are specified on the basis that 90 % of pieces shall be within the specified range, the remainder shall be within a further 2 % moisture content above or below. The moisture content of individual boards shall be normally distributed within the range allowed. In special circumstances, e.g. flooring exposed in rooms with large window area, the upper limits may be reduced. (2) Buildings periodically heated by open fires, electric heaters, etc., such as most domestic buildings.			

Acceptable Solution E2/AS1
10.0 Construction Moisture

10.1 Moisture in materials
Moisture contained in the building structure at completion of construction shall not be permitted to damage the building elements.
Construction moisture includes the moisture contained in:
a) Timber products as a result of a treatment or manufacturing process,
b) Green timber, and timber or other materials that have been exposed to the weather, and
c) Concrete, mortar or plaster that is not completely cured.

10.2 Maximum acceptable moisture contents
The maximum moisture contents shall be:
a) For timber framing at the time of installing interior linings, the maximum acceptable moisture content shall be the lesser of:
i) 20% for insulated buildings, 24% for non-insulated buildings, or
ii) as specified in NZS 3602,
b) For timber weatherboards and exterior joinery, 20% at the time of painting,
c) For reconstituted wood products, 18% at all times, and
d) For concrete floors, sufficiently dry to give a relative humidity reading of less than 75%
at the time of laying fixed floor coverings.

• Where nail popping, joint peaking and ridges formed by stud warping and twisting are undesirable on the finished surfaces within 12 months of installation of wall linings, kiln dried timber shall be used, or alternatively the timber framing shall be dried to less than 18 % moisture content before wall linings are installed.

• Where timber framing is installed green or kiln dried timber that is wetted and allowed to dry, those members which are likely to deflect under their own weight shall be propped until they dry below a moisture content of 20 %.

Microclimatic Considerations:
In addition to exposure zones, evidence of local environmental effects (microclimates), and those produced by the erection of a structure or installation of equipment, shall be considered.

Significant acceleration of the corrosion of structural fasteners and fixings beyond what could be expected from the geographical location can occur in the following circumstances:

- (a) Industrial contamination & corrosion atmospheres;
(b) Contamination from agricultural chemicals or fertilisers; and
(c) Geothermal hot spots. Hot spots are defined as being within 50m of a bore, mud pool, steam vent, or other source.

Microclimatic conditions (a) to (c) require specific engineer design.



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CROSS SECTION AA

Design: A1 Drawn: AK Check: UP LBP: UP

Wind: High Earthq: 1 Exposure: B Snow: N5 1kPa Climate: 5

Scale: 1:50

Rev:

Date: 24/06/2024

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Sheet no:

13

Client Details:

Burgess & Allen

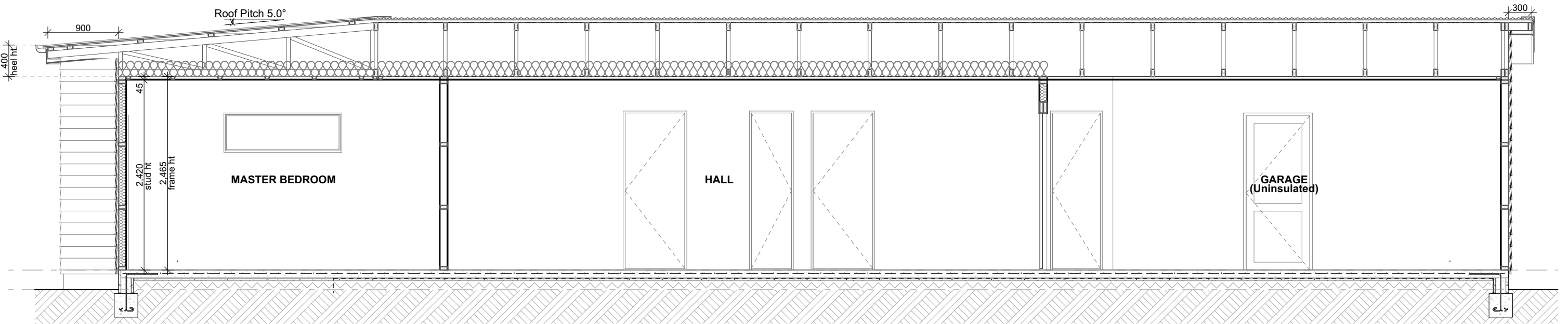
Address:

7 Whitehaven Street
Oamaru

Job no: OS1150

Alt. KH187





NZS3604 MASONRY BLOCK CONCRETE FOUNDATION
CROSS SECTION - BB
1:50

Note: Exposure Zone B
(exposure environments as defined by NZS 3604 : fig 4.2 & table 4.1)

Fixings & Fastenings (excludes nails and screws):
Nail Plates - In 'closed' & 'roof space' environments = continuously coated galv. steel
Wire Dogs & Bolts - In 'closed' & 'roof space' environments = hot-dip galv. steel
All other structural fixings - In 'closed' environments = mild steel (uncoated, non-galvanized)

All other structural fixings (except fabricated brackets (1))
- In sheltered environments = hot-dip galv. steel
- In exposed environments = type 304 stainless steel

Nails & screws used for framing & cladding:
Non-structural cladding (15 year durability) = galv. steel
Framing in 'closed' areas including roof spaces = mild steel (3)
Framing in 'exposed or sheltered' areas = galv. steel (3)

*1. - "fabricated brackets" shall be made from 5mm (minimum thickness) mild steel and shall be hot-dip galv.
*3. - steel fixings and fastenings in contacts with timber treated with copper-based timber preservatives (H3.2 or higher) shall be minimum of type 304 stainless steel (exposed and Sheltered environments), and hot-dip galv. steel (all other locations)

Concrete Masonry:
(a) comply with the provisions of NZS 4210
(b) Minimum cover to steel reinforcement from an uncoated masonry external face 45mm
(c) Minimum grout strength, 17.5MPa (interior conditions and Zone B)

Fixing Materials: (as per Acceptable Solution E2/AS1) - for definitions refer to E2/AS1
Hidden/Exposed/Sheltered:
Aluminium , or Bronze, or type 304 stainless steel
Nails = galv. steel
Screws = galv. steel, Painted or unpainted to AS 3566: Part 2

* The use of stainless steel fixings is not recommended by steel manufacturers for use with coated steel in severe marine and industrial environments, as they are considered to cause deterioration



Cautionary Notes:
This layout is preliminary. Read in conjunction with final PS1 & pre-cut design & documents. Truss manufacturer to inform designer of any further load bearing footing / slab thickenings (piles or bearer lines) that are required to support roof loads. If a discrepancy occurs contact I Design Architecture immediately.

Construction Notes:
Ensure that all downpipes are positioned clear of Joinery units

Fixing Notes:
- refer to Lumberlok manual

Lintel Key:
190x90 - G ← Fixing
Size

Trimming Studs:
JS1 = Jamb studs
- refer to CHH Design IT calcs
Refer to following page for trimming stud requirements
All Lintels GREATER than 1.8m span require an additional trimming stud

Rondo Clip System:
Bottom chord restraints are required as per truss design.
Fix 90x45 runners to top of bottom chords.

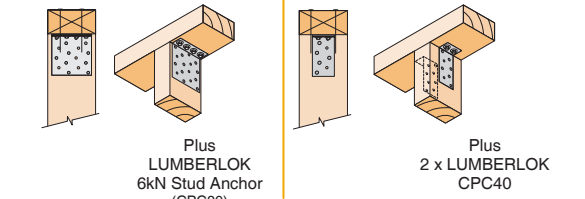
All Lintels and beams have been specified by Placemakers
- refer to documentation

Stud to Top Plate Fixings:
- refer to Lumberlok manual

Stud to top plate:
Type B As per Truss Design

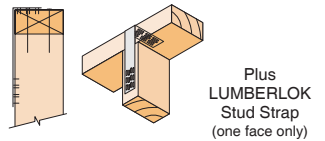
FIXING TYPE B 4.7kN CHOOSE ANY OF THE 3 OPTIONS BELOW

2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.

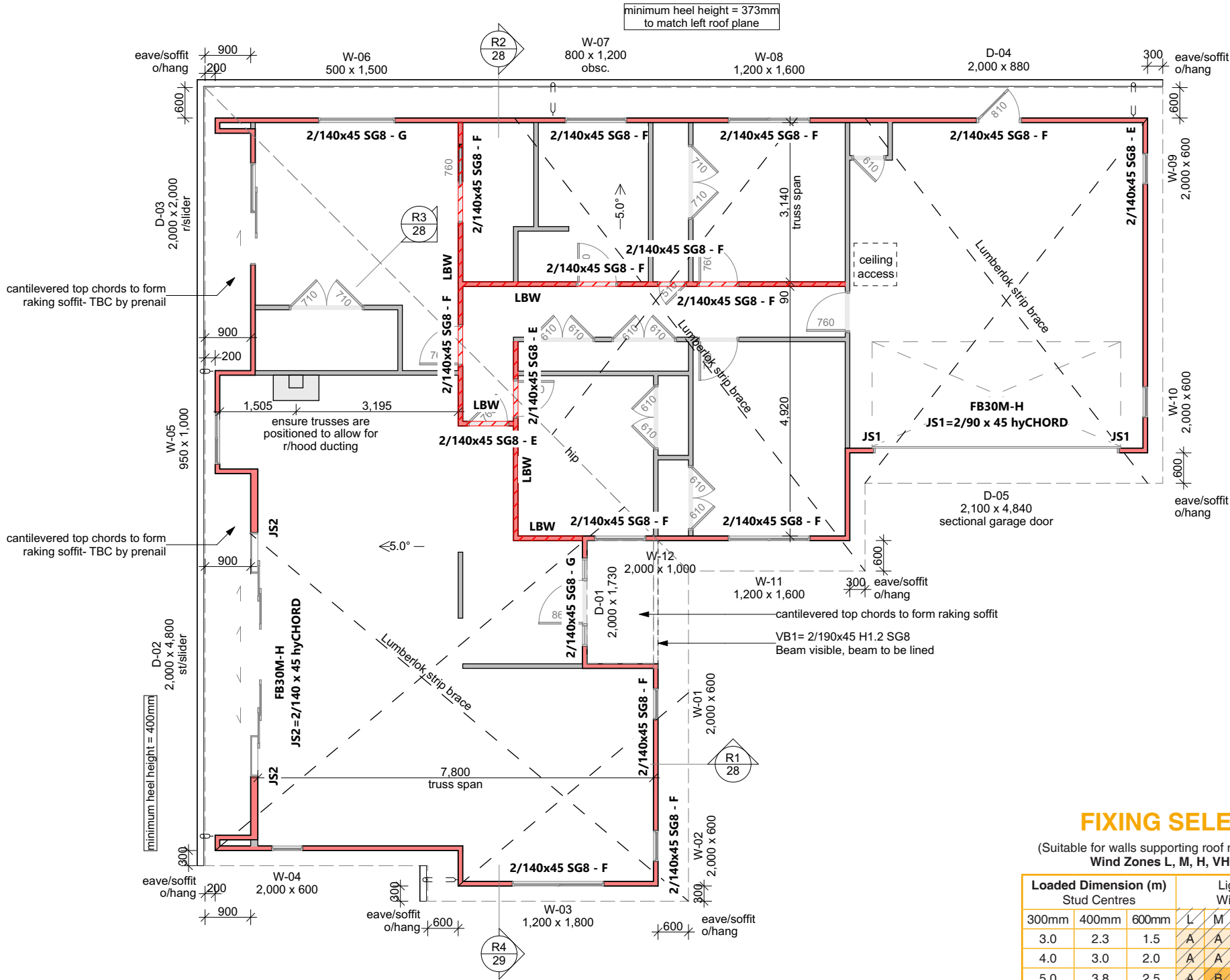


Recommended for internal wall options to avoid lining issues

2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



NOTE:
To calculate the number of B type fixings required, divide the wall length by the stud centres, add 1 to this figure and locate this number of fixings as evenly as possible along the wall length. This figure includes the start and end studs in each wall length.



FIXING SELECTION CHART

(Suitable for walls supporting roof members at 600, 900 or 1200mm crs.)
Wind Zones L, M, H, VH, EH, as per NZS 3604:2011

Loaded Dimension (m) Stud Centres			Light Roof Wind Zone					Heavy Roof Wind Zone				
300mm	400mm	600mm	L	M	H	VH	EH	L	M	H	VH	EH
3.0	2.3	1.5	A	A	B	B	B	A	A	B	B	B
4.0	3.0	2.0	A	A	B	B	B	A	A	B	B	B
5.0	3.8	2.5	A	B	B	B	B	A	A	B	B	B
6.0	4.5	3.0	A	B	B	B	B	A	A	B	B	B
7.0	5.3	3.5	A	B	B	B	B	A	A	B	B	B
8.0	6.0	4.0	A	B	B	B	B	A	A	B	B	B
9.0	6.8	4.5	B	B	B	B	B	A	A	B	B	B
10.0	7.5	5.0	B	B	B	B	B	A	A	B	B	B
11.0	8.3	5.5	B	B	B	B	B	A	A	B	B	B
12.0	9.0	6.0	B	B	B	B	B	A	A	B	B	B

NZS 3604:2011 8.5.2 Trimming studs
A trimming stud shall be provided to each side of any opening as follows;
• must be the same width as the studs in the wall
• whether single or double, shall not contain holes, notches, checks, or cuts in the middle third of their length.
• Where a doubling stud which provides support for a lintel is shorter by 400 mm or more than the full stud height, its thickness shall not be included as contributing to the thickness of trimming studs from table 8.5

Table 8.5 – Trimming studs (see 8.5.2.1)

Maximum clear width of opening (span of lintel)	Stud thickness required for 600 mm spaced studs	Thickness of trimming studs*
(a) Single storey, top storey or non-loadbearing walls		
(m)	(mm)	(mm)
1.8	35	45
	45	45
	70	90
	90	115
3.0	35	45
	45	70
	70	90
	90	135
3.6	35	70
	45	90
	70	140
	90	180
4.2	35	105
	45	135
	70	210
	90	270
(b) Any other location		
0.9	35	45
	45	70
	70	90
	90	135
1.8	35	70
	45	70
	70	115
	90	135
3.0	35	70
	45	90
	70	140
	90	180

* For brick veneer openings add extra stud for fixing veneer ties.
NOTE – To use this table:
(1) Enter the row corresponding to the lintel span being considered.
(2) From the second column, select the thickness of the studs required for the body of the wall, assuming that they are spaced at 600 mm.
(3) Read the trimming stud thickness from the right side column.

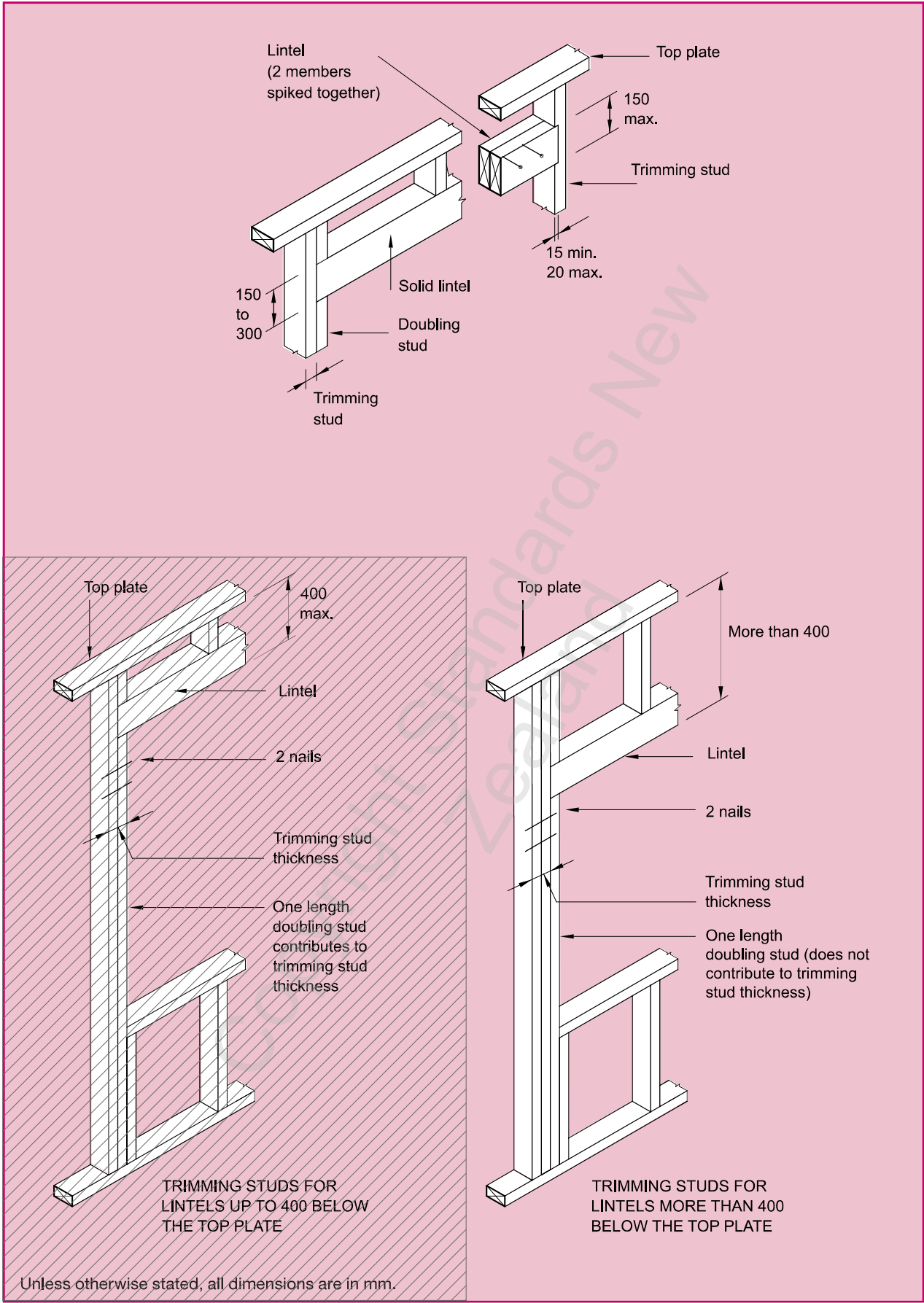


Figure 8.5 – Trimming studs and lintels (see 8.5.2.1)

LINTEL FIXING SCHEDULE

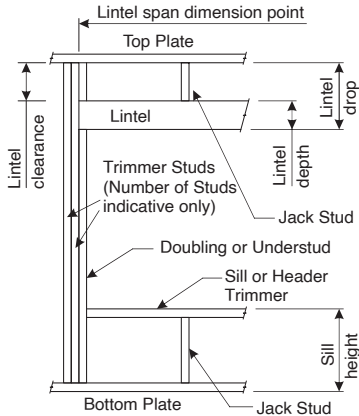
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12

NZS 3604:2011

NOTE:

- All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20kPa
- Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist horizontal loads
- These fixings assume the correct choice of rafter/truss to top plate connections have been made
- All fixings assume bottom plate thickness of 45mm maximum
- Note: TYLOK options on timber species
- Wall framing arrangements under girder trusses are not covered in this schedule
- All timber selections are as per NZS 3604:2011

DEFINITIONS



Roof Tributary Area	Lintel Supporting Girder Trusses					
	Light Roof			Heavy Roof		
	Wind Zone			Wind Zone		
	L, M, H	VH	EH	L, M, H	VH	EH
8.6m²	G	G	H	G	G	H
11.6m²	G	H	H	G	G	H
12.1m²	G	H	H	G	H	H
15.3m²	H	H	-	G	H	H
19.1m²	H	-	-	G	H	-
20.9m²	H	-	-	H	H	-
21.8m²	H	-	-	H	-	-
34.3m²	-	-	-	H	-	-

NOTES:

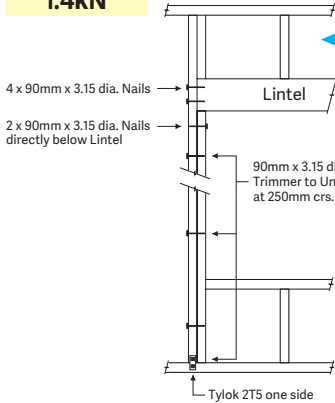
1. Roof Tributary Area = approx. 1/2 x (Total roof area on girder and rafter trusses supported by lintel)
2. Assumed girder truss is at mid-span or middle third span of lintel
3. Use similar fixings for both ends of lintel
4. All other cases require specific engineering design

Selection Chart for Lintel Fixing											
Lintel Span (m)	Loaded Dimension (m) (See Fig. 1.3 NZS 3604:2011)	Light Roof Wind Zone					Heavy Roof Wind Zone				
		L	M	H	VH	EH	L	M	H	VH	EH
1.0	2.0	E	E	E	F	F	E	E	E	E	F
	3.0	E	E	F	F	F	E	E	E	F	F
	4.0	E	F	F	F	G	E	E	F	F	F
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	E	F	F	G	G	E	E	F	F	G
1.2	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	F	F	G	G	H	E	E	F	G	G
1.5	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	F	F	F	G	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	F	F	G	G	H	E	E	F	G	G
	6.0	F	F	G	H	H	E	E	F	G	H
2.0	2.0	E	F	F	F	G	E	E	F	F	F
	3.0	E	F	F	G	G	E	E	F	F	G
	4.0	F	F	G	G	H	E	E	F	G	G
	5.0	F	F	G	H	H	E	E	F	G	H
	6.0	F	G	G	H	H	E	E	F	G	H
2.4	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	G	H	E	E	F	G	G
	4.0	F	F	G	H	H	E	E	F	G	H
	5.0	F	G	G	H	H	E	E	F	G	H
	6.0	F	G	H	H	-	E	F	G	H	H
3.0	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	G	H
	4.0	F	G	G	H	H	E	E	F	G	H
	5.0	F	G	H	H	-	E	F	G	H	H
	6.0	F	G	H	-	-	E	F	G	H	-
3.6	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	F	G	H	H	E	E	F	G	H
	4.0	F	G	H	H	-	E	F	G	H	H
	5.0	F	G	H	-	-	E	F	G	H	-
	6.0	G	H	H	-	-	E	F	H	-	-
4.2	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	H	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.5	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.4	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
4.8	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.2	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
5.1	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.5	F	G	H	-	-	E	F	G	H	-
	4.0	G	G	H	-	-	E	F	H	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
5.4	2.0	F	F	G	H	H	E	E	F	G	H
	2.8	F	G	H	H	-	E	F	G	H	H
	3.0	F	G	H	-	-	E	F	G	H	-
	4.0	G	H	H	-	-	E	F	H	-	-
	5.0	G	H	-	-	-	E	F	H	-	-

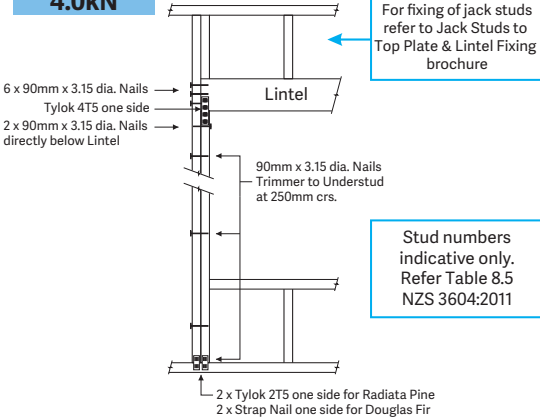
LINTEL FIXING OPTIONS

(Characteristic Uplift)

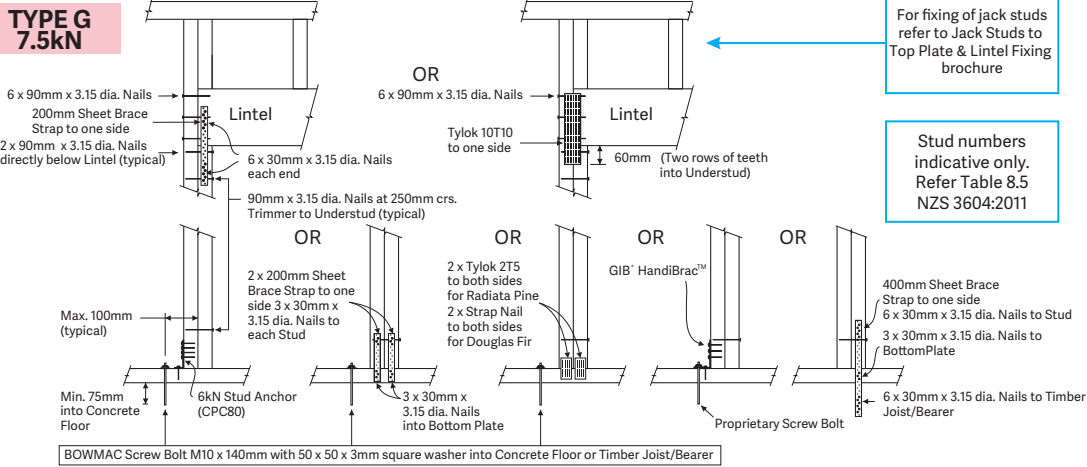
TYPE E 1.4kN



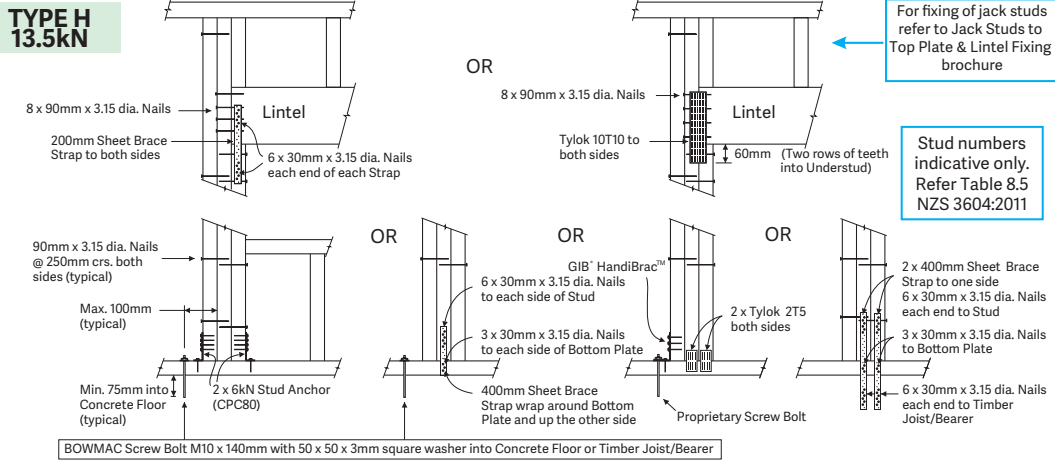
TYPE F 4.0kN



TYPE G 7.5kN



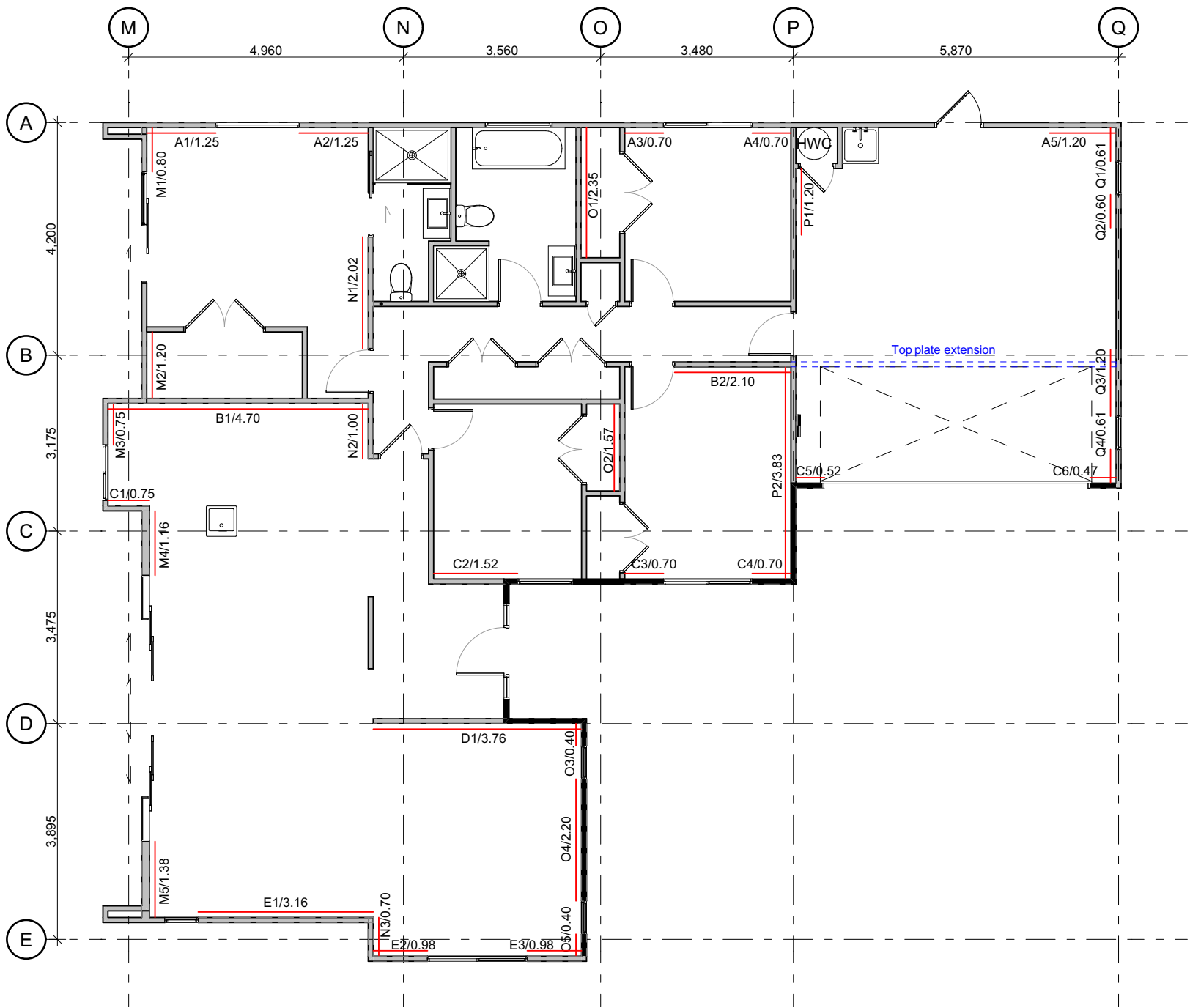
TYPE H 13.5kN



All bracing elements are GS1-N
unless otherwise stated

Cautionary Notes:
ALL GIB BRACES FIXED IN ACCORDANCE WITH THE LATEST
WINSTONES GIB BRACING MANUAL & GIB SITE GUIDE

Bracing Element Table	
Brace Type	
GS1-N	10mm GIB std plasterboard on one side, min. length 0.4m
	All braces are GS1-N, unless otherwise stated



Label No.
A1 / 1800
Brace Length

Openings in Bracing Elements
(as per GIB Ezybrace System)
SMALL OPENINGS
Small openings (e.g. power outlets) of 90 x 90mm or less maybe placed no closer than 90mm to the edge of the braced element. A block may need to be provided alongside the perimeter stud as shown below.
LARGE OPENINGS
Openings above 90 x 90mm such as switch boards, recessed cabinets and TV's etc. should be placed outside of the bracing element or locate bracing on the other side of the wall framing.

Connecting top plates to external walls:
Each wall that contains one or more wall bracing elements shall be connected at the top plate level, either directly, or through a framing member in the line of the wall, to external walls at right angles to it. - Refer to following page.



DO NOT scale off drawings. Cross reference all drawings. Any discrepancies MUST be clarified with the designer immediately before commencing works or ordering. NO construction or site works are to commence until Building Consent becomes unconditional.

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BRACING PLAN

Design: A1	Drawn: AK	Check: UP	LBP: UP
Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa

Scale: 1:100	Sheet no: 18
Rev:	
Date: 24/06/2024	
www.A1homes.co.nz	

Client Details: Burgess & Allen Address: 7 Whitehaven Street Oamaru	Job no: OS1150 Alt. KH187
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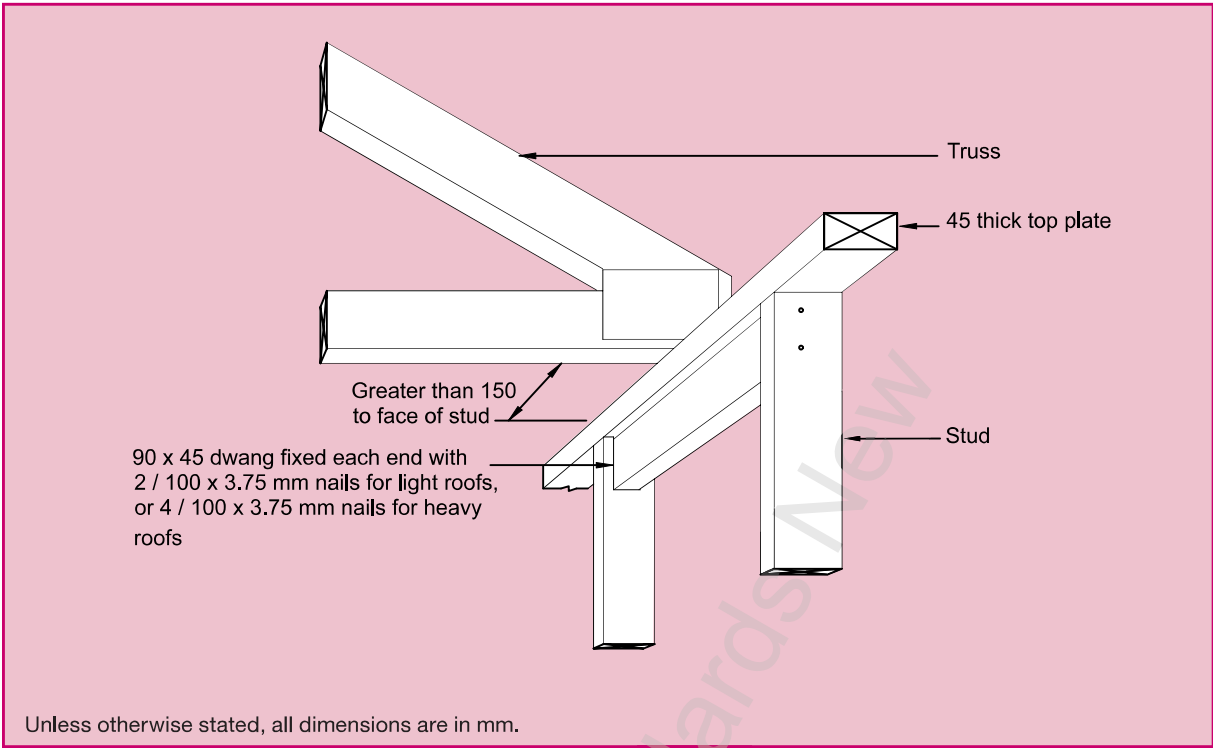


Figure 8.13 – Strengthening top plate (see 8.7.1.1 and table 8.16)

Joints in plates:
Joints in top plates shall be made only over supports being either a stud or blocking.
Joints in the top plate of a wall that does not contain any wall bracing elements (either in line or at wall intersections), shall be halved and nailed at the joints, see figure 8.14 (A), or be butted over blocking and nailed, see figure 8.14 (B), or be provided with an alternative fixing, having a capacity in tension or compression of 3 kN.

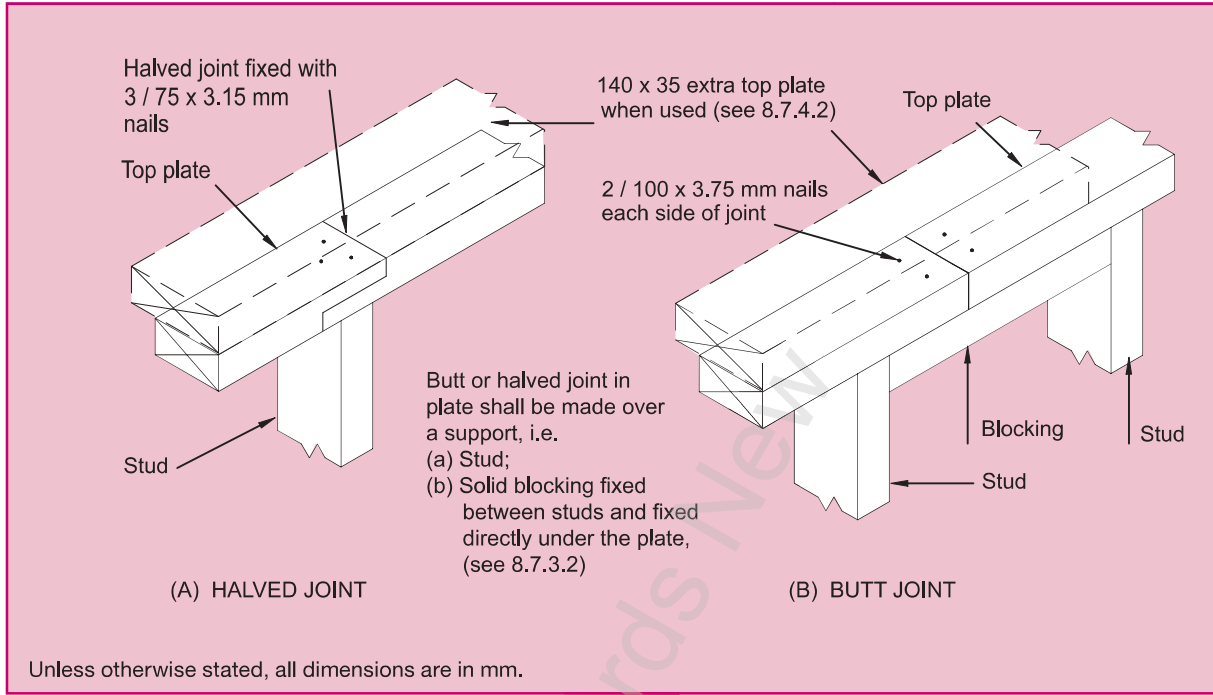
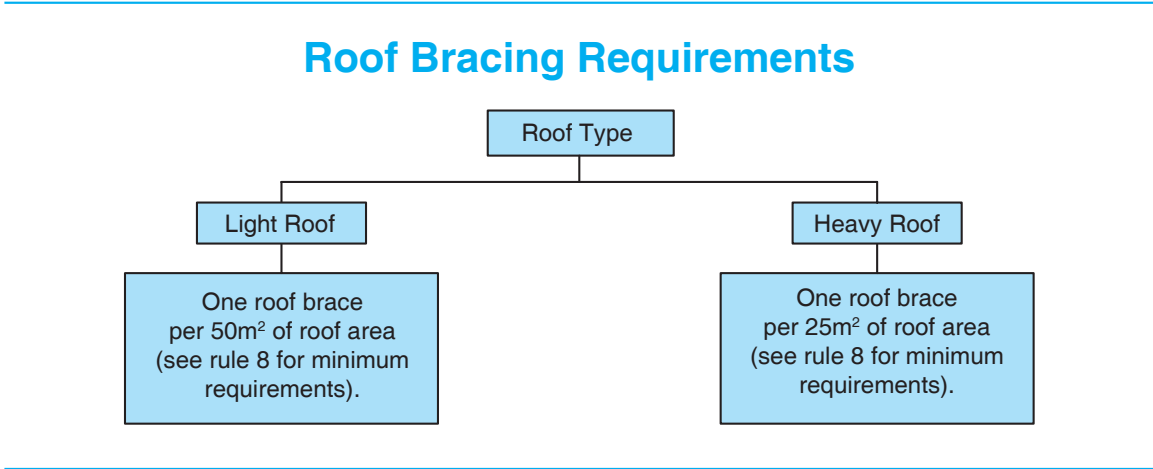


Figure 8.14 – Connecting top plates – Walls not containing bracing (see 8.7.3.2)

ROOF BRACING SPECIFICATION AS PER NZS 3604:2011

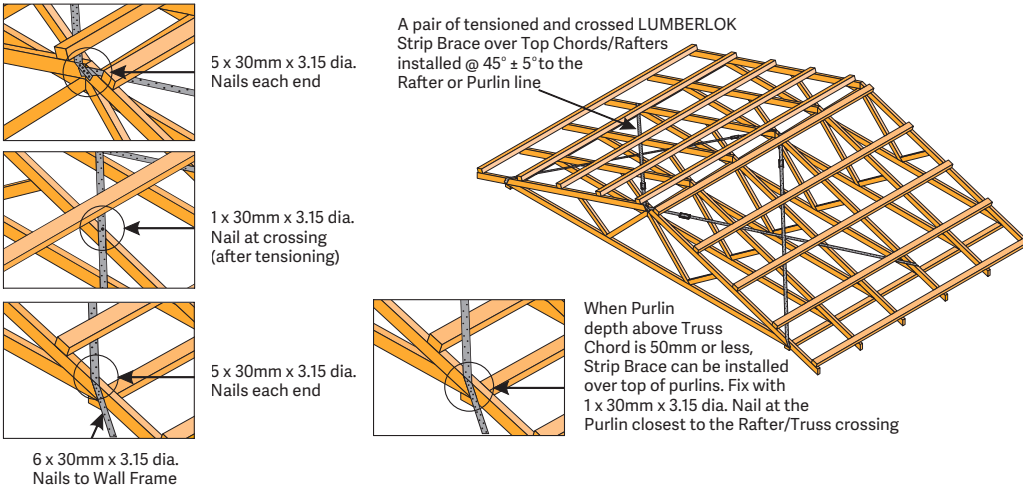
- Covers roof bracing requirements to resist horizontal loads as set out in Section 10 NZS 3604:2011
- A definitive guide to the description and installation of Roof Plane Braces and Roof Space Braces



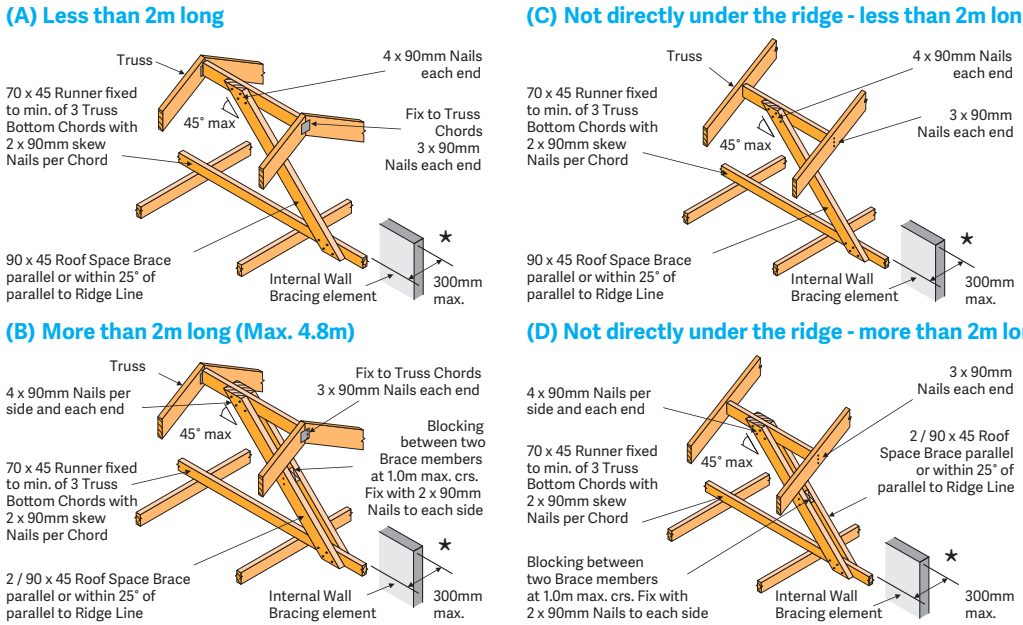
- Roof Bracing - Rules & Definitions**
- The bracing described in this brochure covers both framed roofs and fully trussed roofs.
 - Roof planes less than 6m² (e.g. dormers & porches) do not require bracing.
 - Roof braces can consist of either
 - i) Roof Plane Brace or
 - ii) Roof Space Brace or combination of the two.
 - Roof braces are not required on roofs where sarking is installed as per Clause 10.4.4 NZS 3604:2011 or where a ceiling diaphragm is installed and is attached to the rafters.
 - Roof area is the actual plan area of the roof and includes overhangs.
 - A hip or valley rafter running continuously from ridge to top plate can be classed as one roof plane brace.
 - A pair of crossed LUMBERLOK Strip Brace (preferred for ease of installation) can be classed as one roof plane brace and shall be installed as detailed in this brochure.
 - There must be at least one roof plane brace in each roof plane. Each ridge line shall have a minimum of two roof braces.
 - Every design effort should be made to distribute the roof braces as evenly as possible over the entire roof area and run alternately in opposite directions.

Roof Bracing Options i) ROOF PLANE BRACE

- Each roof plane brace can be:
- A hip or valley rafter running continuously from ridge to the top plate in accordance with Clauses 10.2.1.3.2 or 10.2.1.3.3 NZS 3604:2011.
 - OR
 - A pair of tensioned and crossed LUMBERLOK Strip Brace running continuously from ridge to wall frame installed as detailed below.



ii) ROOF SPACE BRACE



*Not required when a ceiling diaphragm complying with Clause 13.5 NZS 3604:2011 is used.

Connecting top plates to external walls:
For single-storey buildings the connection in line of the top plate of a wall that contains one or more wall bracing elements shall be jointed according to the bracing capacity of the highest-rated individual wall bracing elements as follows:
(a) Bracing capacity not exceeding 100 bracing units: A 3 kN connection as shown in figure 8.15;
(b) Bracing capacity exceeding 100 bracing units: A 6 kN connection as shown in figure 8.15.
(c) Wall top plates to which ceiling diaphragms are attached: A 6 kN connection as shown in figure 8.15

Each wall that contains one or more wall bracing elements shall be connected at the top plate level, either directly, or through a framing member in the line of the wall, to external walls at right angles to it. Top plate fixing(s) of the capacity in tension or compression along the line of the wall bracing element are given as follows:
(a) For each wall containing wall bracing elements with a total bracing capacity of not more than 125 bracing units: to at least one such external wall by a fixing as shown in figure 8.16 of 6 kN capacity;
(b) For each wall containing wall bracing elements with a total bracing capacity of not more than 250 bracing units: to at least 2 external walls by fixings as shown in figure 8.16 each of 6 kN capacity;
(c) For each wall containing wall bracing elements with a total bracing capacity of more than 250 bracing units: to at least 2 external walls by fixings as shown in figure 8.16 each having a rating of not less than 2.4 kN per 100 bracing units.

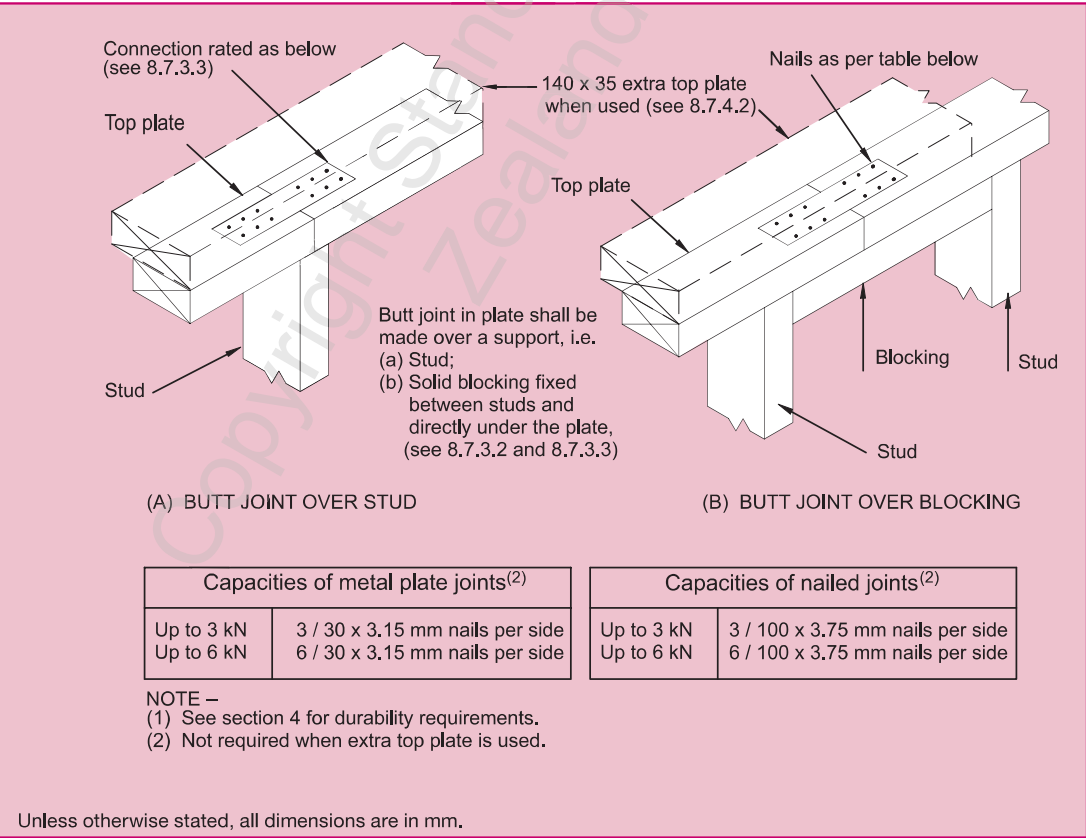


Figure 8.15 – Connecting top plates in line – Walls containing bracing (see 8.7.3.3)

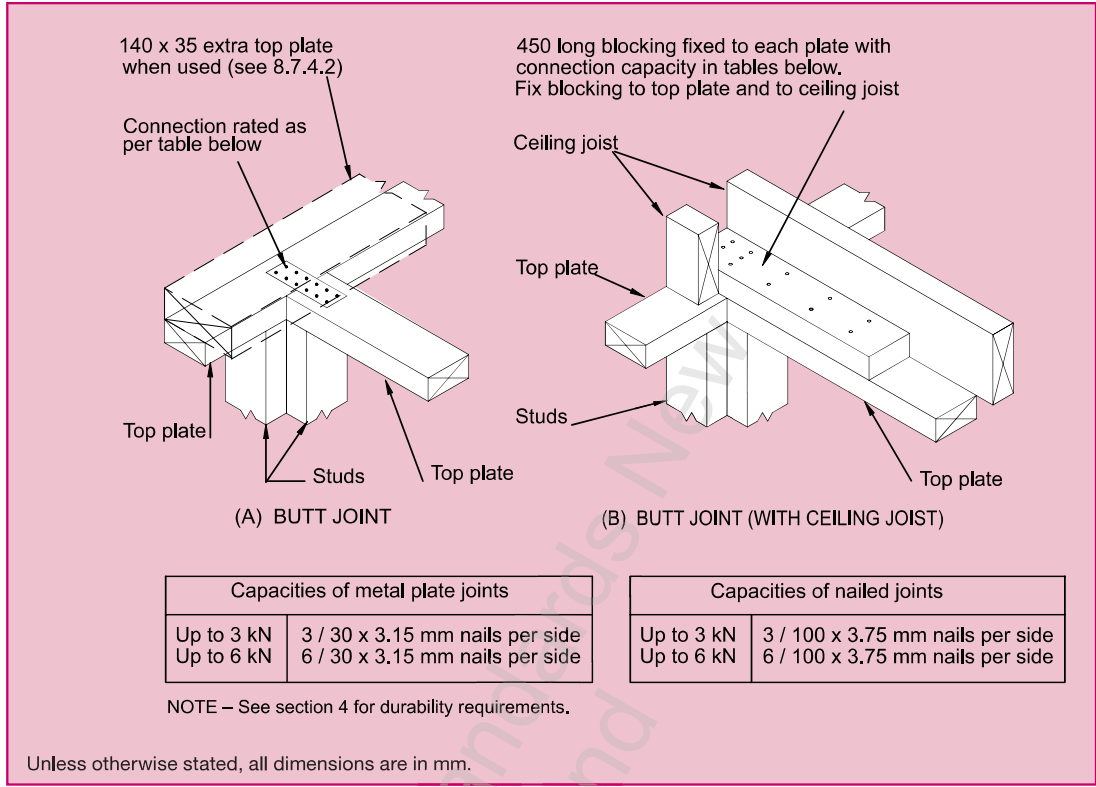


Figure 8.16 – Connecting top plates to external walls at right angles – Walls containing bracing (see 8.7.3.4)

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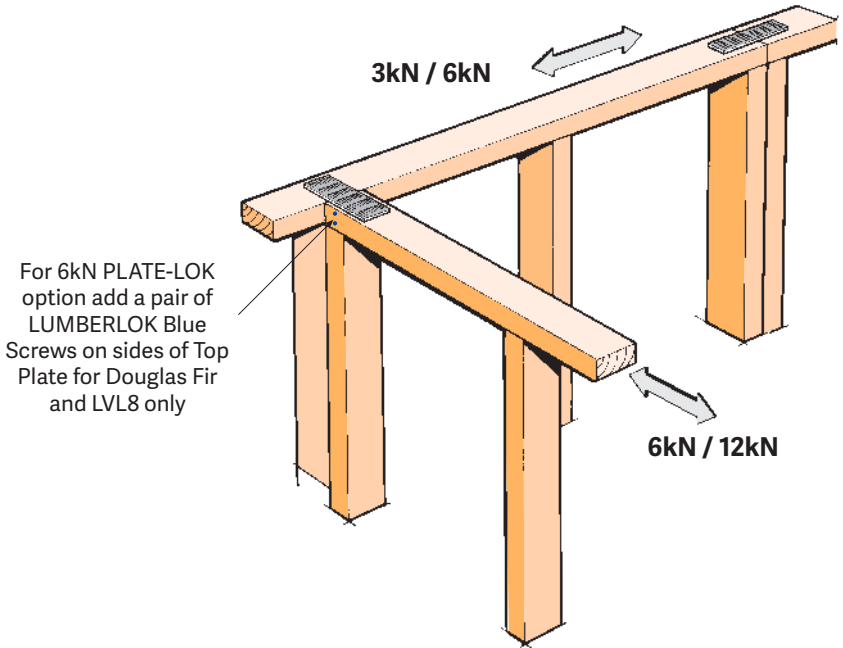
TOP PLATE JOINTING AS PER CLAUSE 8.7.3 NZS 3604:2011

Top Plates at Right Angles

Connection capacity	LUMBERLOK Connector
6kN	Tylok 6T10 OR PLATE-LOK
12kN	2 x Sheet Brace Straps fixed with 6 x LUMBERLOK Product Nails 30mm x 3.15 dia. per end per strap (24 nails total)

Top Plates in Line

Connection capacity	LUMBERLOK Connector
3kN	Tylok 6T5
6kN	Tylok 6T10 OR PLATE-LOK



Available from leading Builders Supply Merchants
throughout New Zealand

Notes:
All electrical work & items to comply with;
NZBC F7/AS1, AS/NZS 3000, AS/NZS 3008,
AS 3786, AS/NZS 5000.2: 2006

SD - Approved smoke detectors required within 3.0m of any sleeping space
- first alert/Orca or similar. smoke alarms to have both a test & hush button

Position of Smoke detectors:
SD - Not less than 200mm from a wall
- Ideally in the centre of ceiling where possible (hallways)

Down lights to be IC-F or IC-4 Rated (max 1 per 5m²).

Ventilation system to vent ducts & r/hood to soffit outlet
Ventilation system to have mechanical exhaust rates in accordance with NZBC G4/AS1

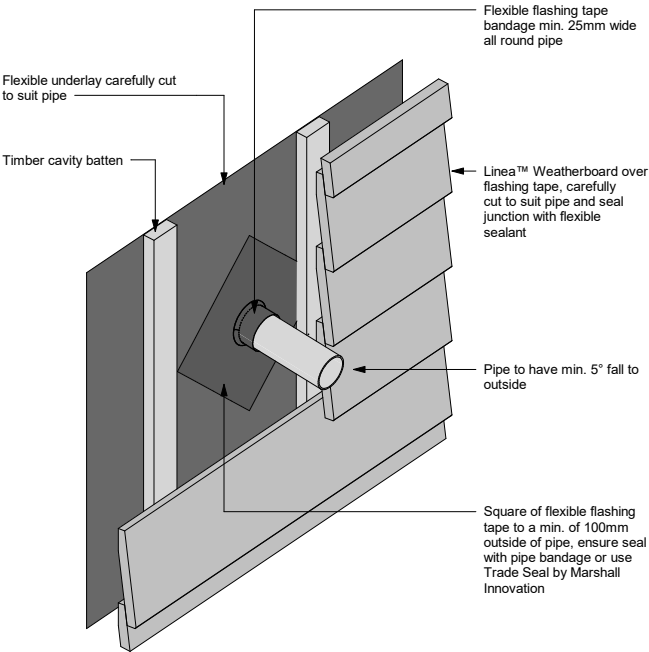
Ventilation of Sanitary rooms
Percentage of ventilated opening to be minimum 5% of room floor area

Room	Floor Area	Window Opening	Percentage
Bath	7.21m²	800x1200 = 0.96m²	13.31%

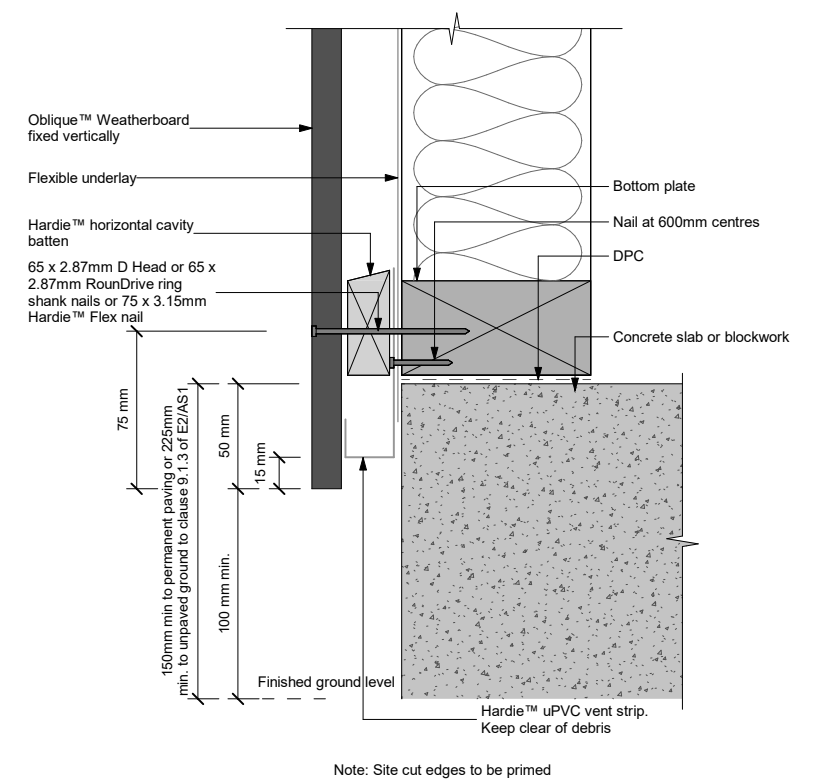
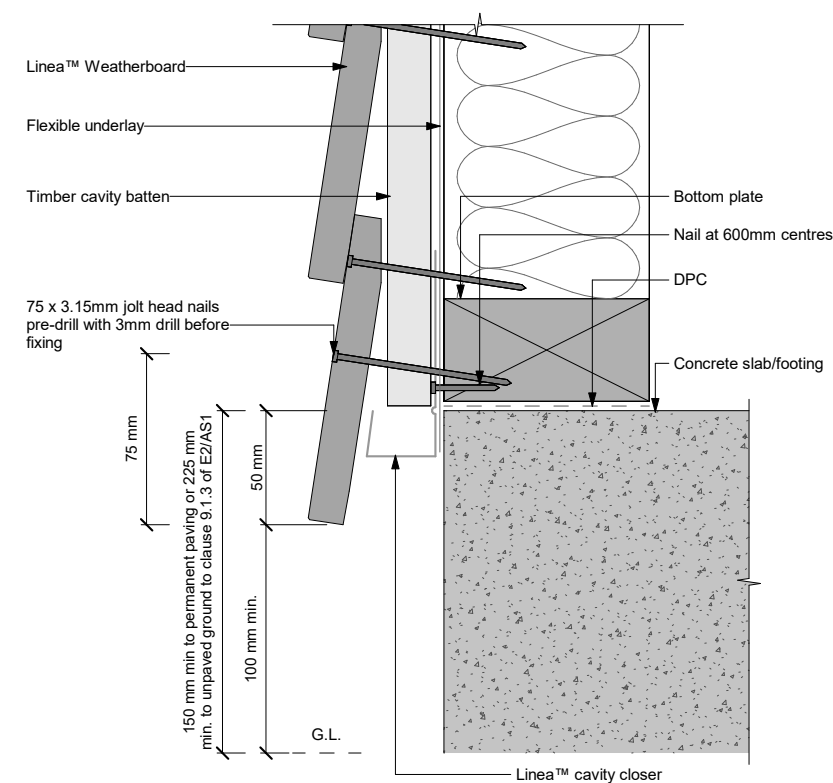
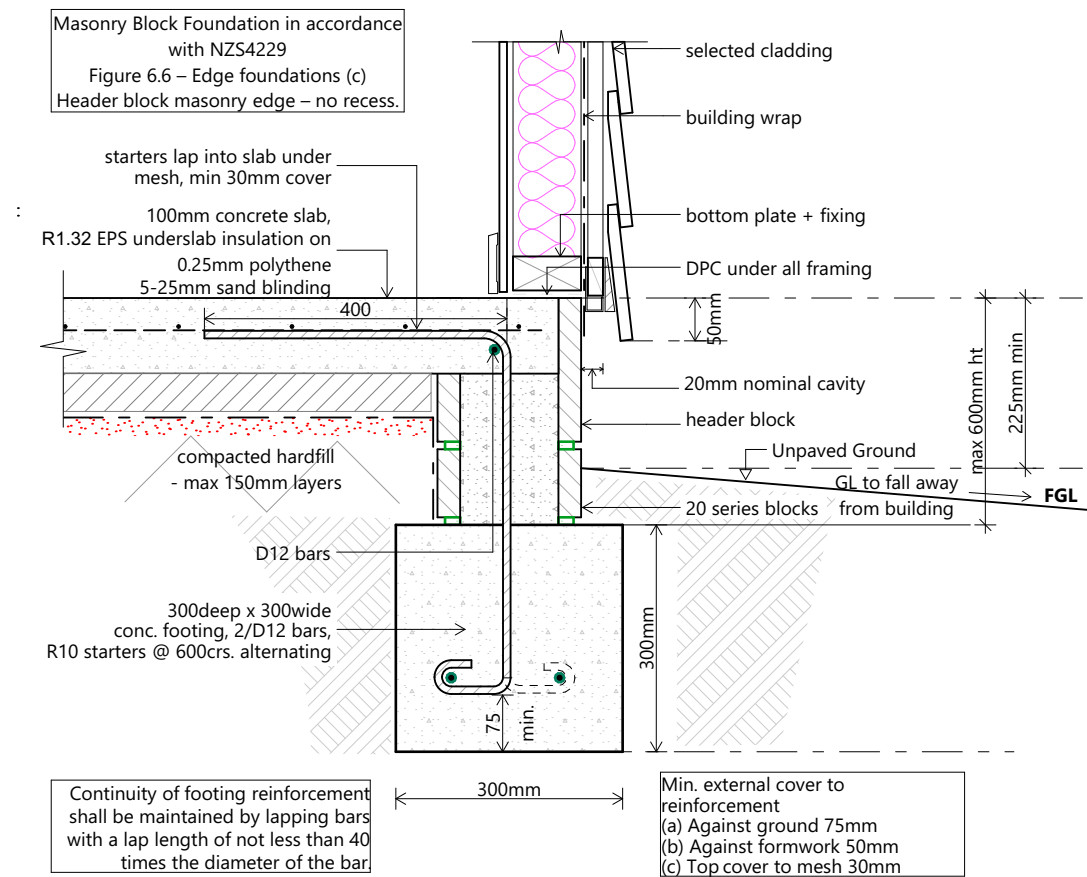
Mechanical Ventilation Calc:
Ensuite: 4.17 x 2.42 = 10.1m³
Recommended air changes for a Bathroom: 15
15 x 10.1 = 151.5m³/hr
add 20% = 181.8 / 3.6 = 50.5l/s

Lighting & Electrical
NZBC: Clause G8 Artificial Light
Requirement applies to: All access routes
Spaces within buildings used by people, shall be provided with adequate artificial lighting which, when activated in the absence of sufficient natural light
•Illuminance at floor level shall be no less than 20 lux. will allow safe movement

PIPE PENETRATION



Note: Site cut edges to be primed



D1 TYPICAL FOUNDATION EDGE

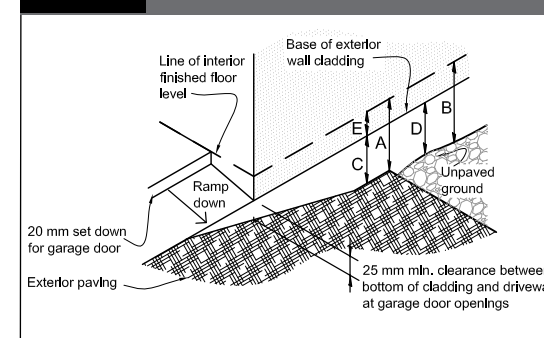
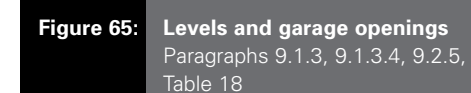
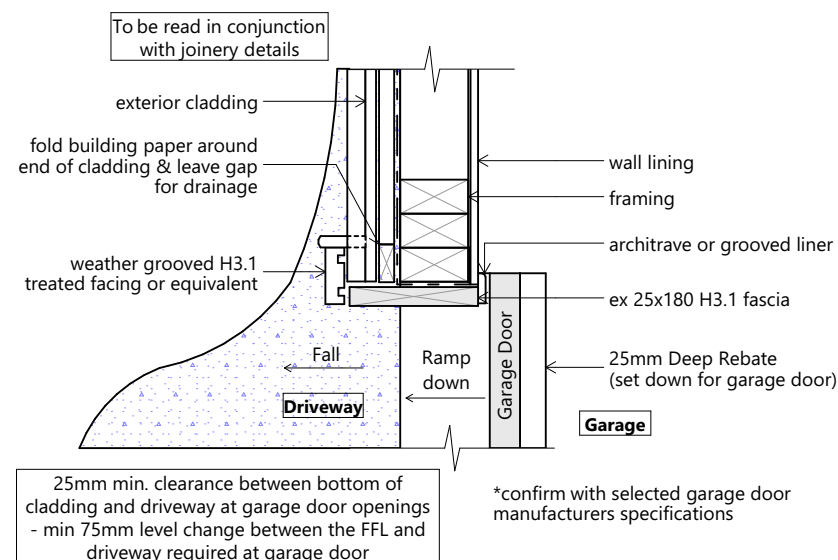


Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2,
9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor	Refer Note 1)				100	175	50

NOTE: 1) Refer to NZS 3604 for requirements.

2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.

GARAGE DOOR REBATE



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FOUNDATION DETAILS

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Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa	Climate: 5

Scale:

Rev:

Date: 24/06/2024

Sheet no:

23

Client Details:

Burgess & Allen

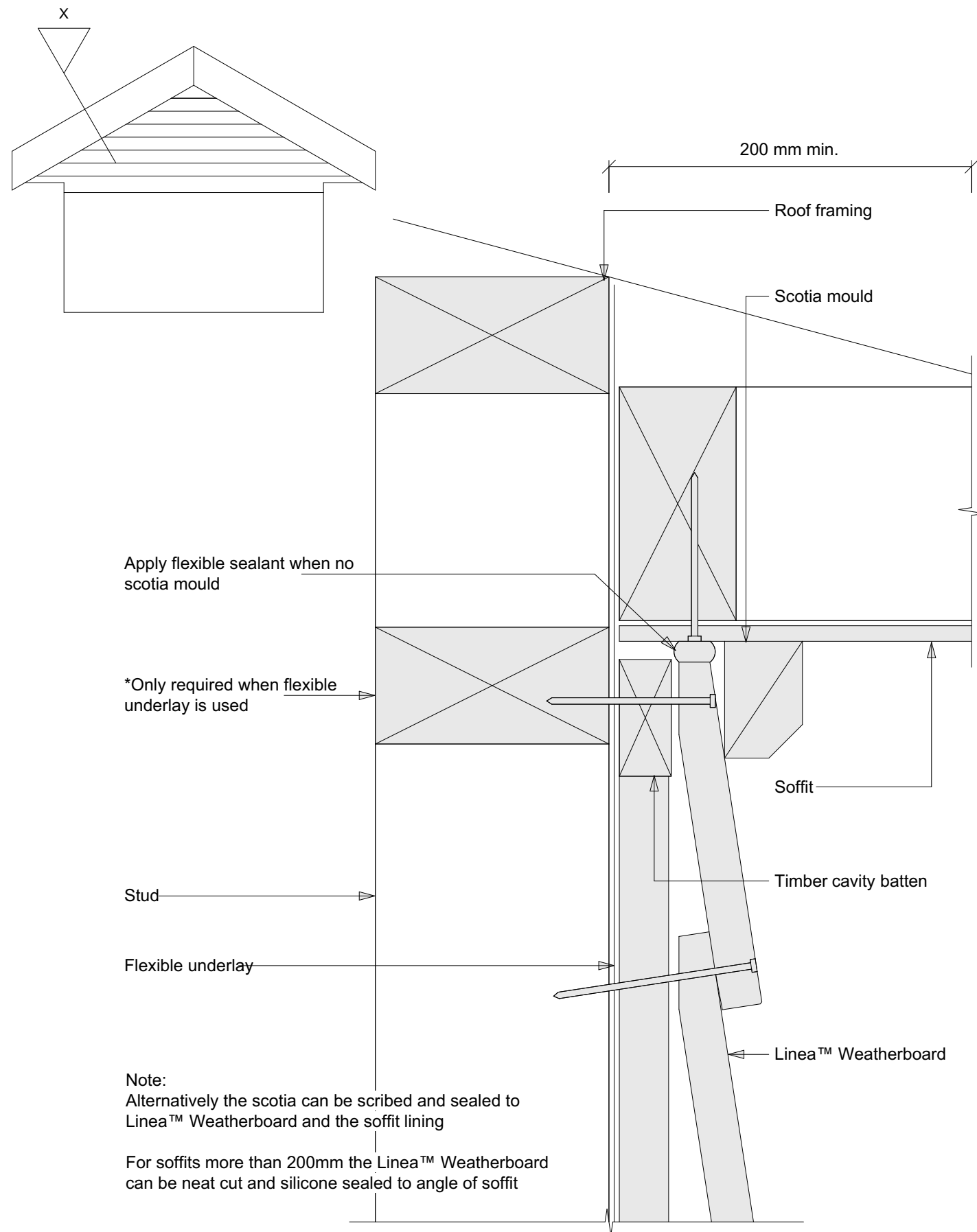
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7 Whitehaven Street
Oamaru

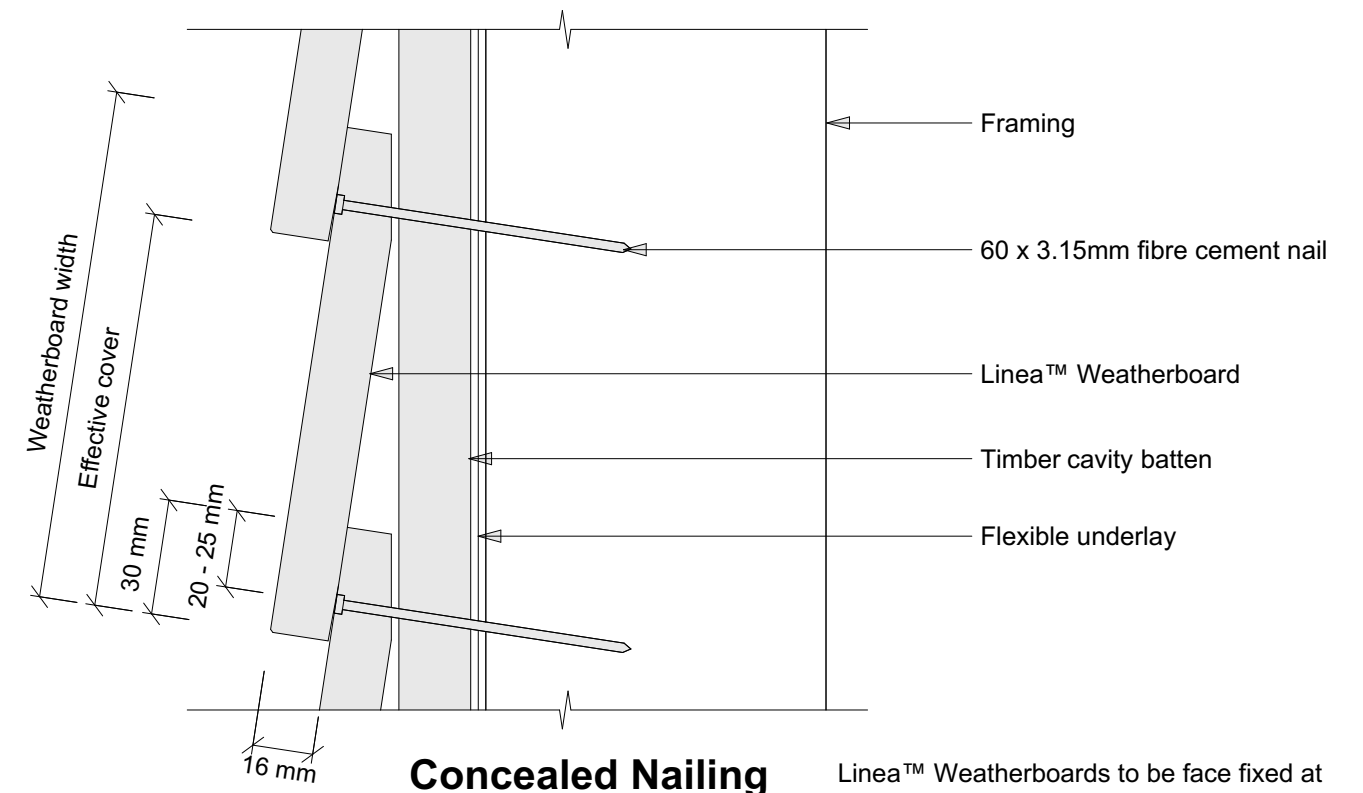
Job no: **OS1150**

Alt. KH187

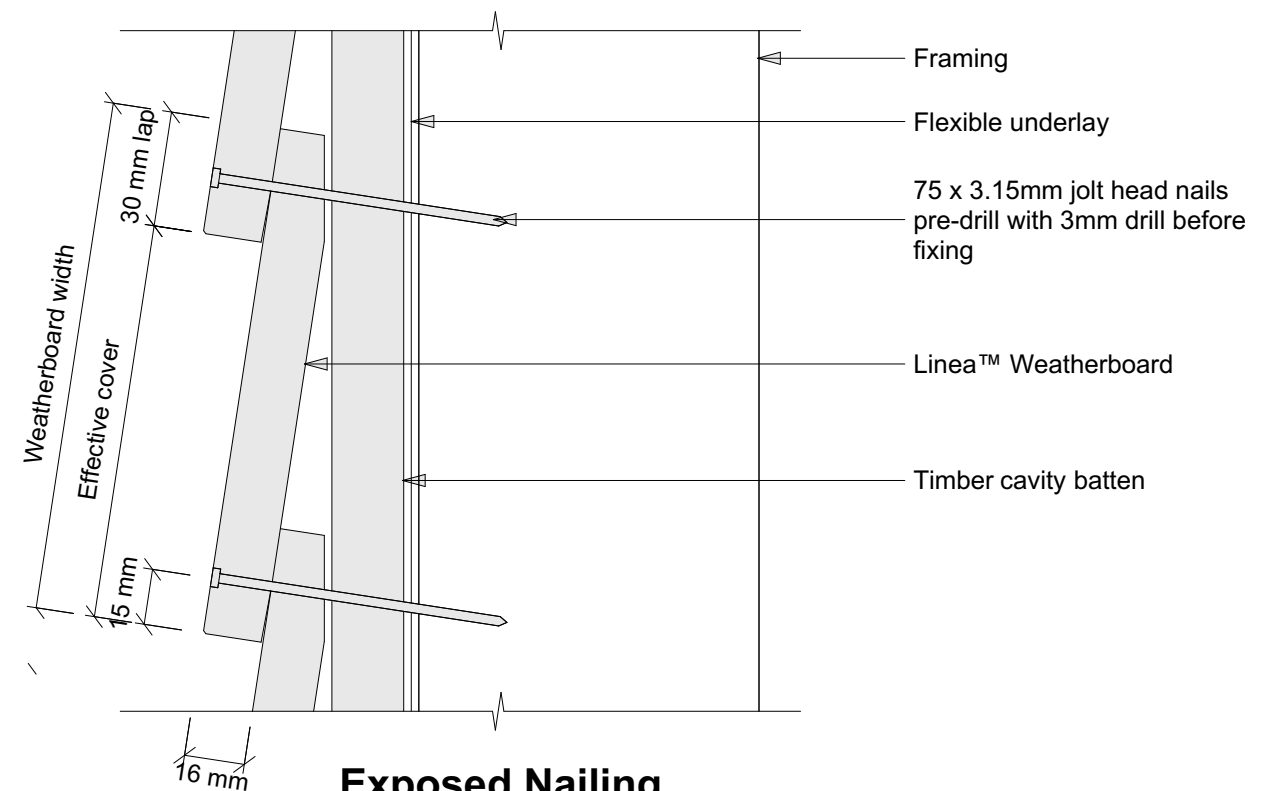




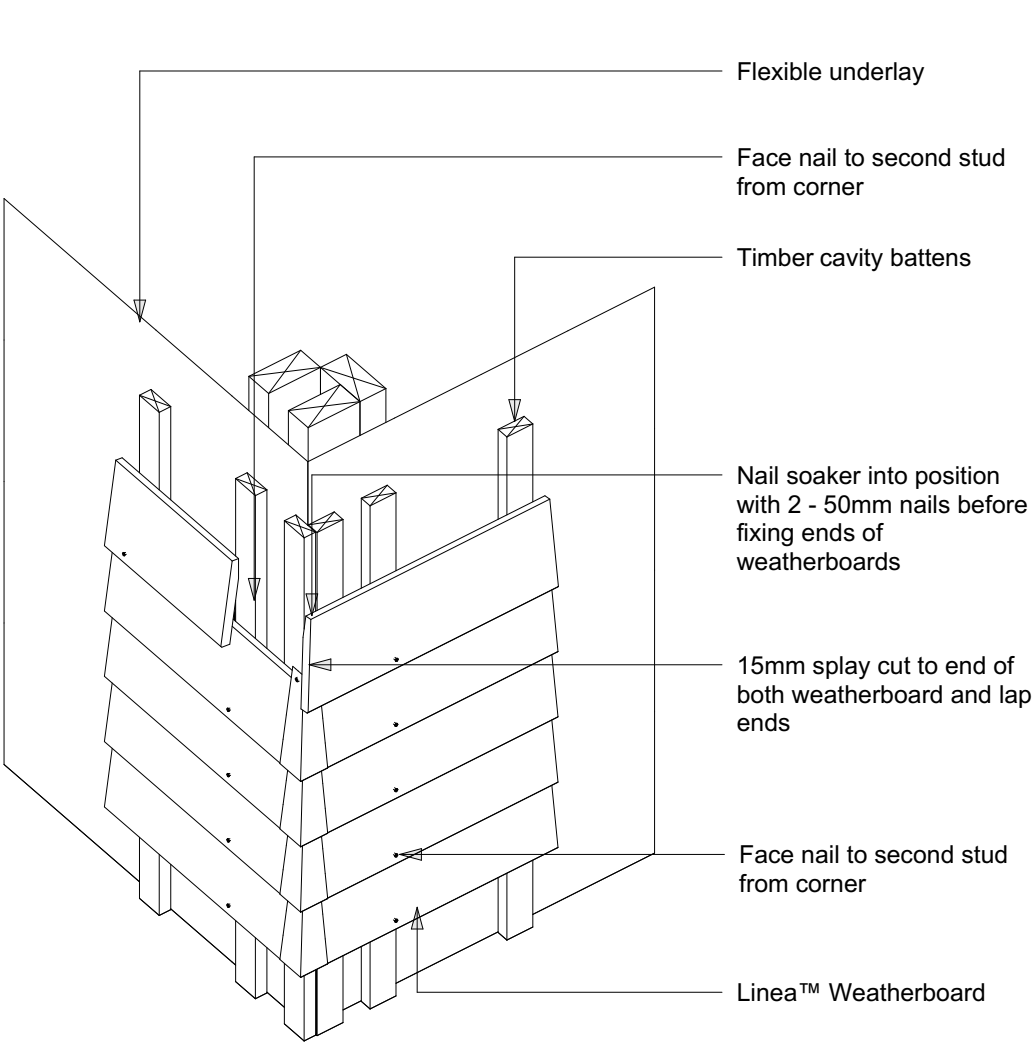
LINEA SOFFIT DETAIL



Linea™ Weatherboards to be face fixed at corners and down window and door openings using jolt head nails at 90° to face, punch 2mm below surface and fill. Refer to fixing table 4

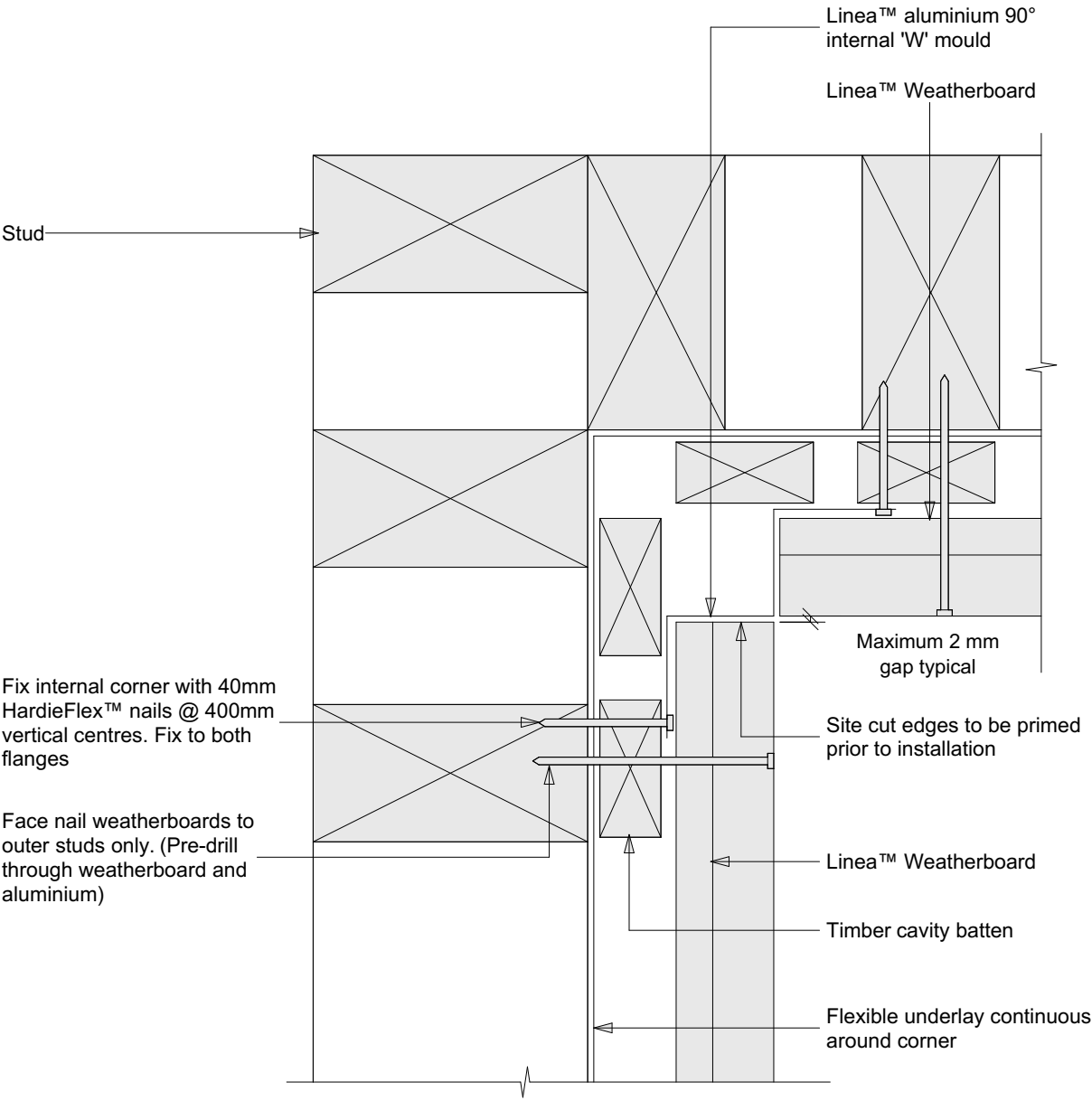


LINEA FIXING DETAIL

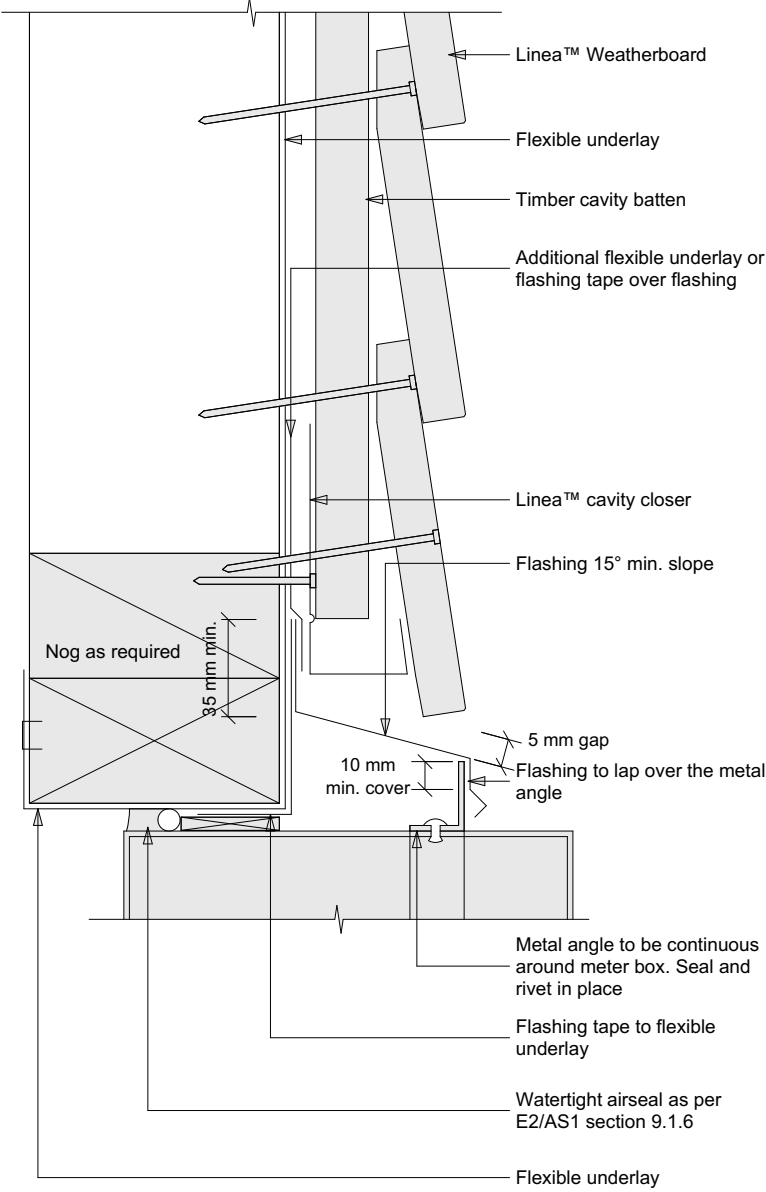


Soaker material	Nail material
Copper	Copper or phosphor bronze
Aluminium	Hot dip galvanised
Stainless steel	Stainless steel

LINEA EXTERNAL CORNER SOAKER DETAIL

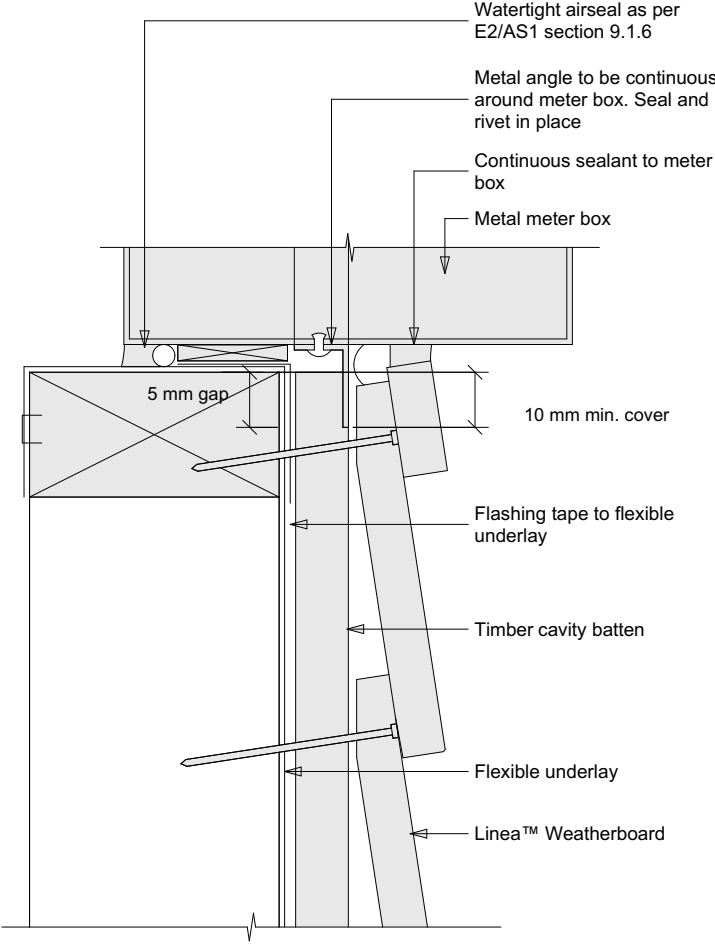


LINEA INTERNAL CORNER DETAIL



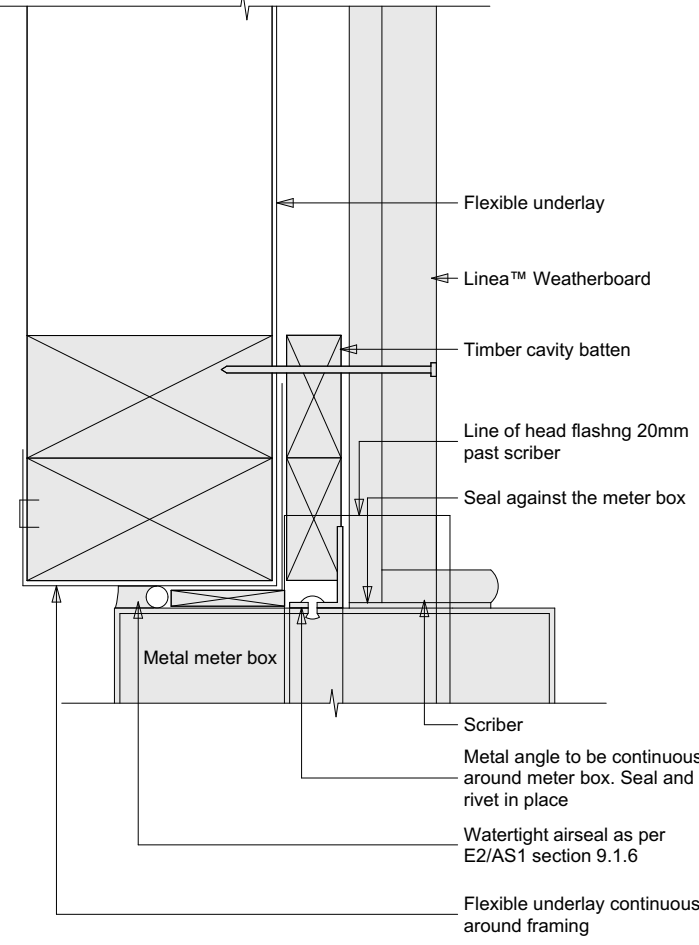
Note:
When James Hardie rigid air barrier is used
flashing tape to be applied to the entire opening

METER BOX HEAD



Note: Site cut edges to be primed

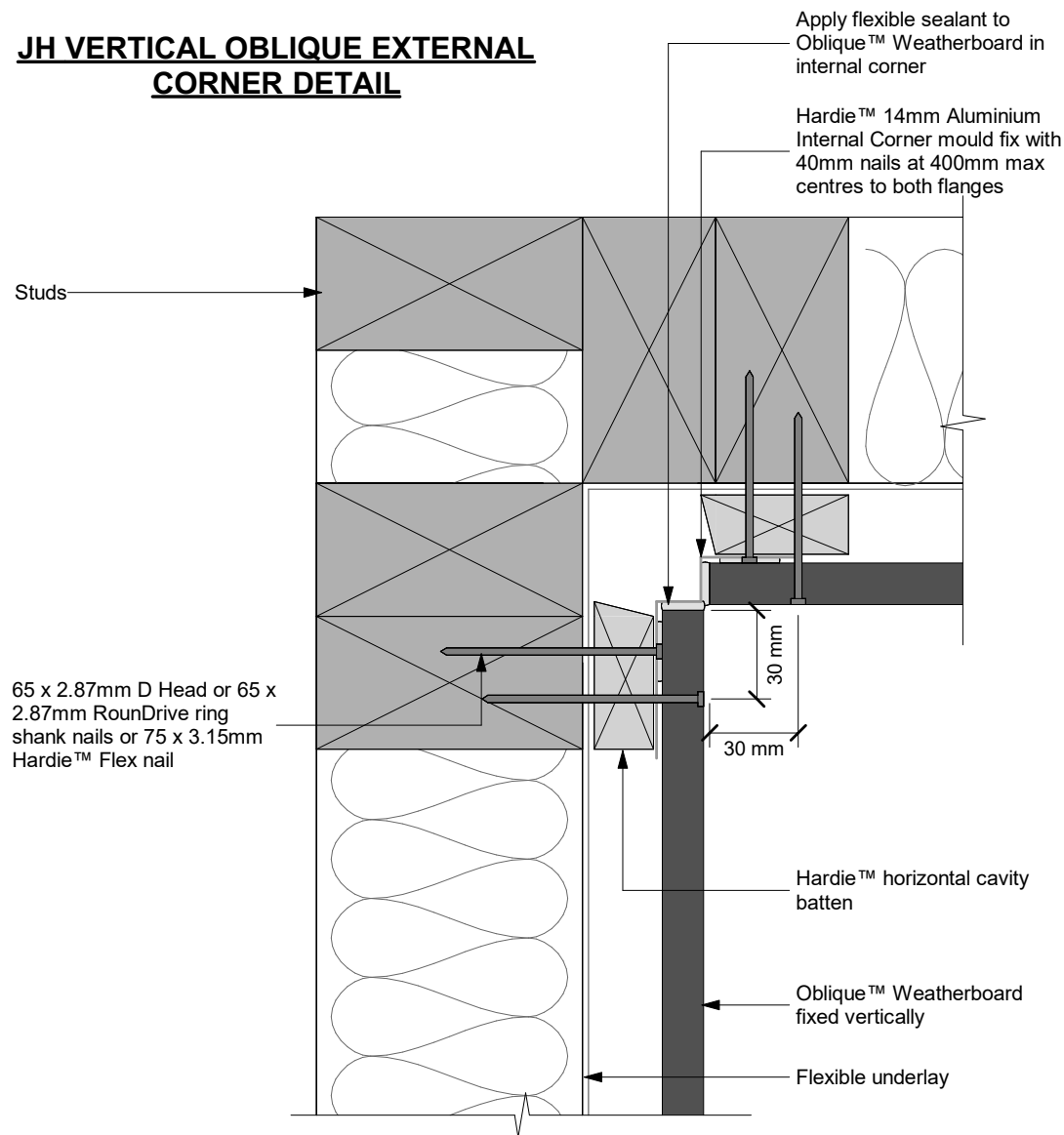
METER BOX SILL



Note:
Site cut edges to be primed

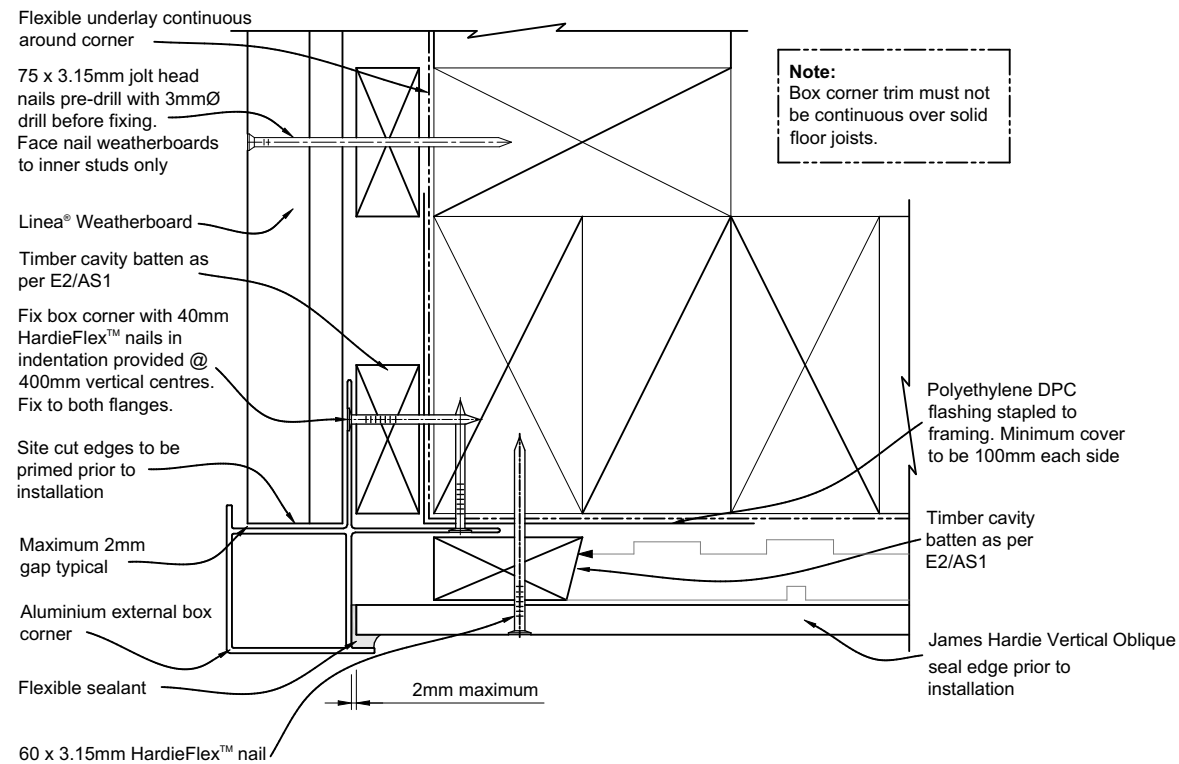
METER BOX JAMB

JH VERTICAL OBLIQUE EXTERNAL CORNER DETAIL

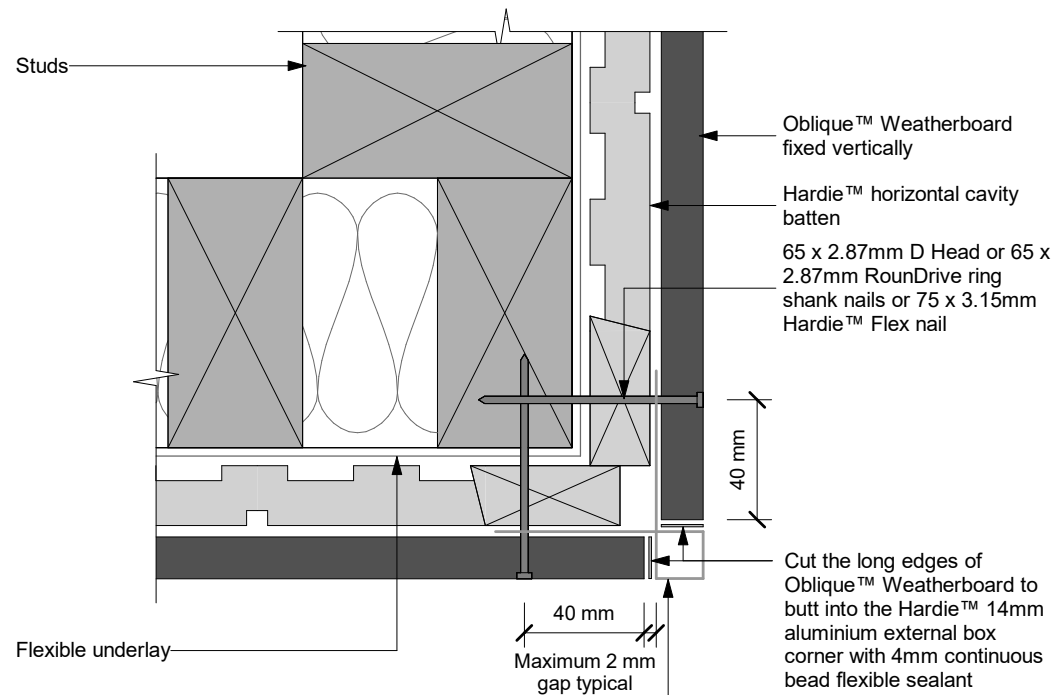


Note: Site cut edges to be primed

JH VERTICAL OBLIQUE & JH LINEA W/BD EXTERNAL CORNER DETAIL



JH VERTICAL OBLIQUE INTERNAL CORNER DETAIL



Note: Site cut edges to be primed

Hardie™ 14mm Aluminium External Box Corner fix with 40mm nails at 400mm max centres to both flanges



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CLADDING DETAILS

Design: A1	Drawn: AK	Check: UP	LBP: UP
Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa
		Climate: 5	

Scale:

Rev:

Date: 24/06/2024

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Sheet no:

27

Client Details:

Burgess & Allen

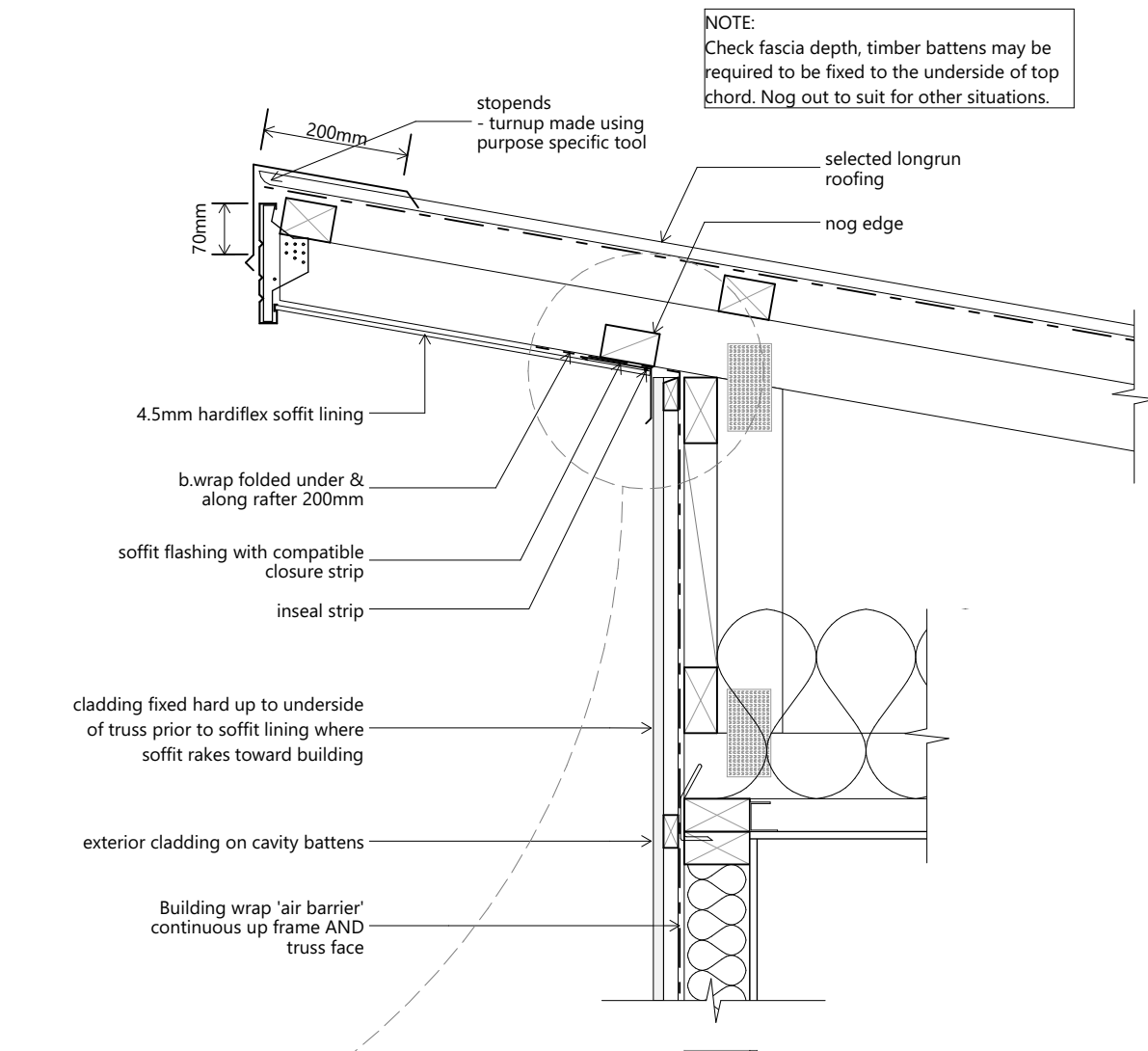
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7 Whitehaven Street
Oamaru

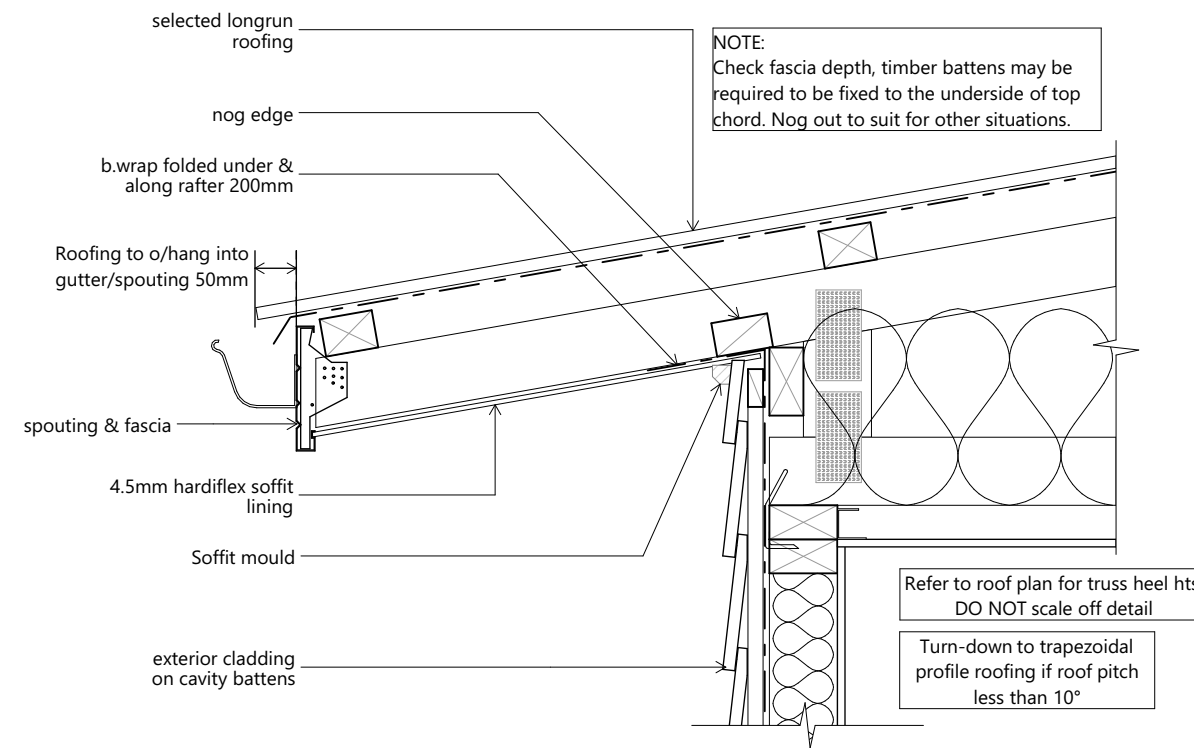
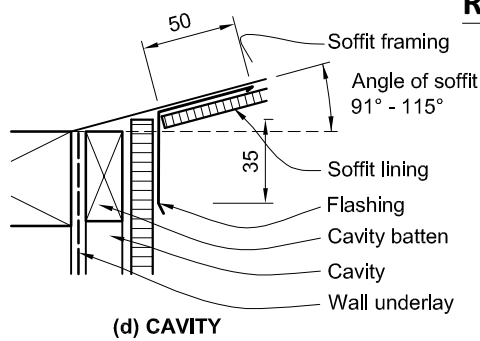
Job no: OS1150

Alt. KH187

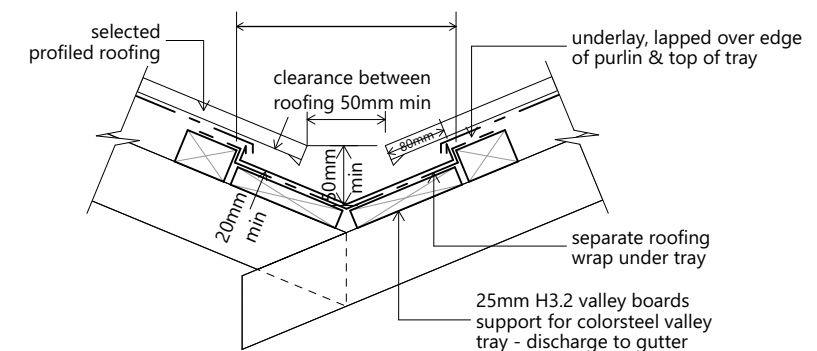




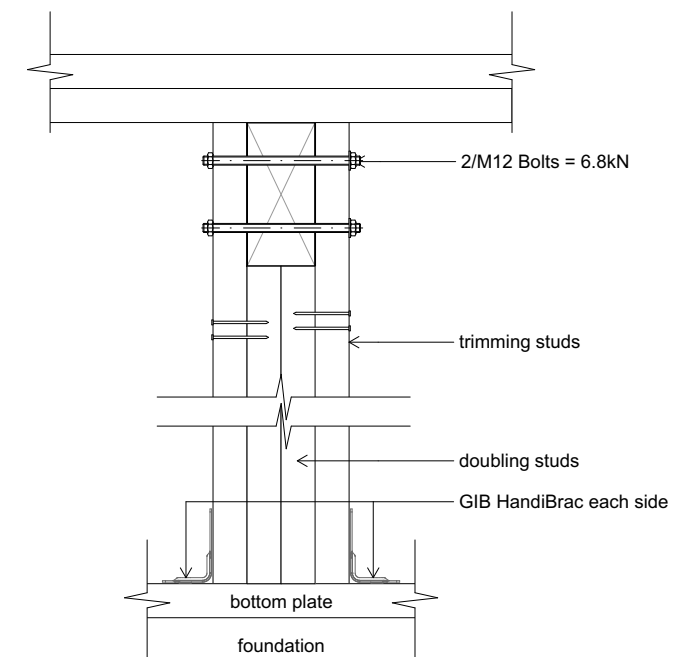
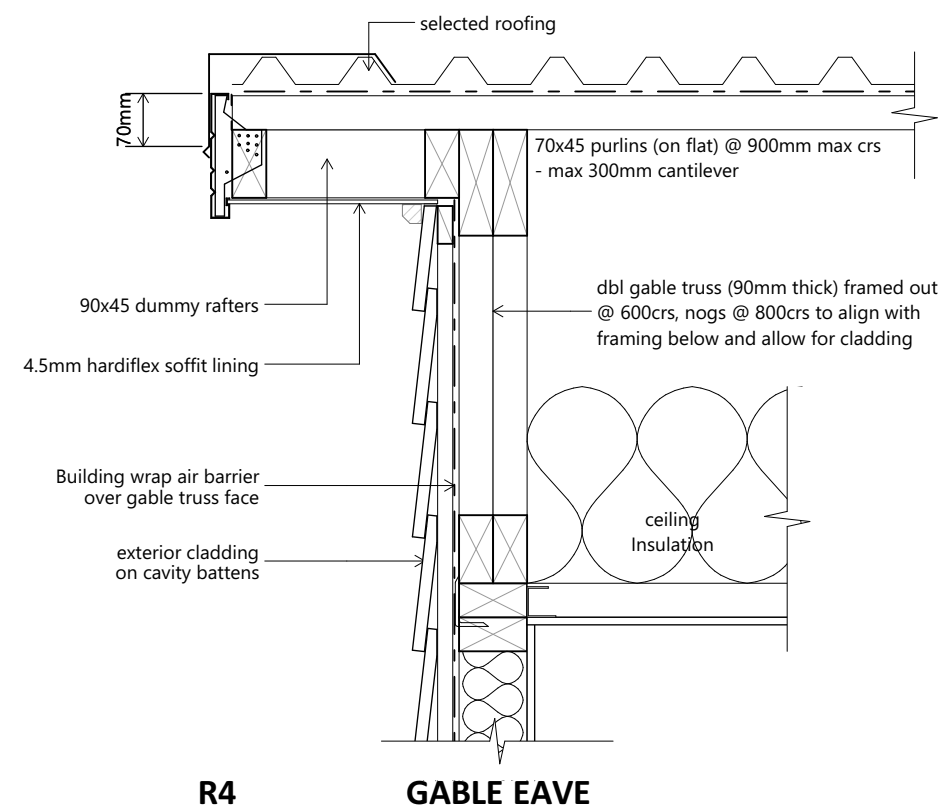
R1 UPPER RAKING EAVE



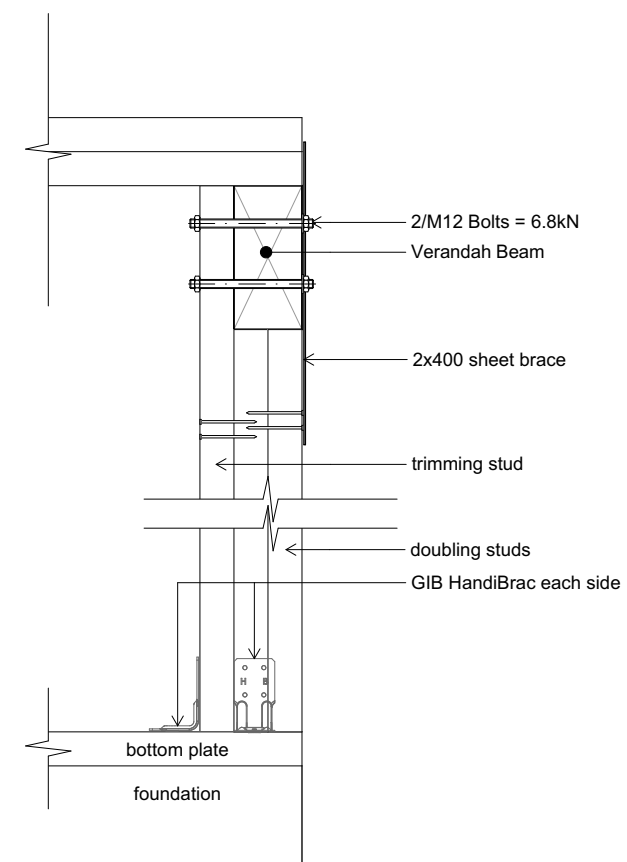
R2 LOWER RAKING EAVE



R3 VALLEY DETAIL

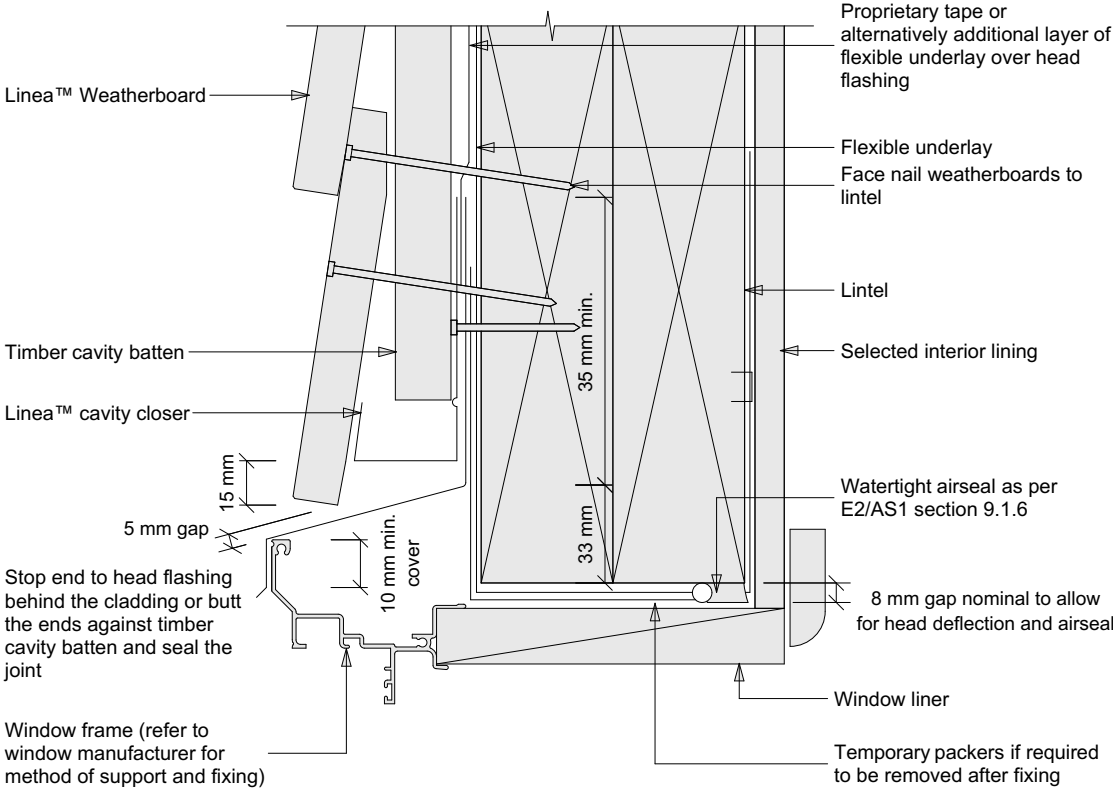


BEAM POCKET DETAIL

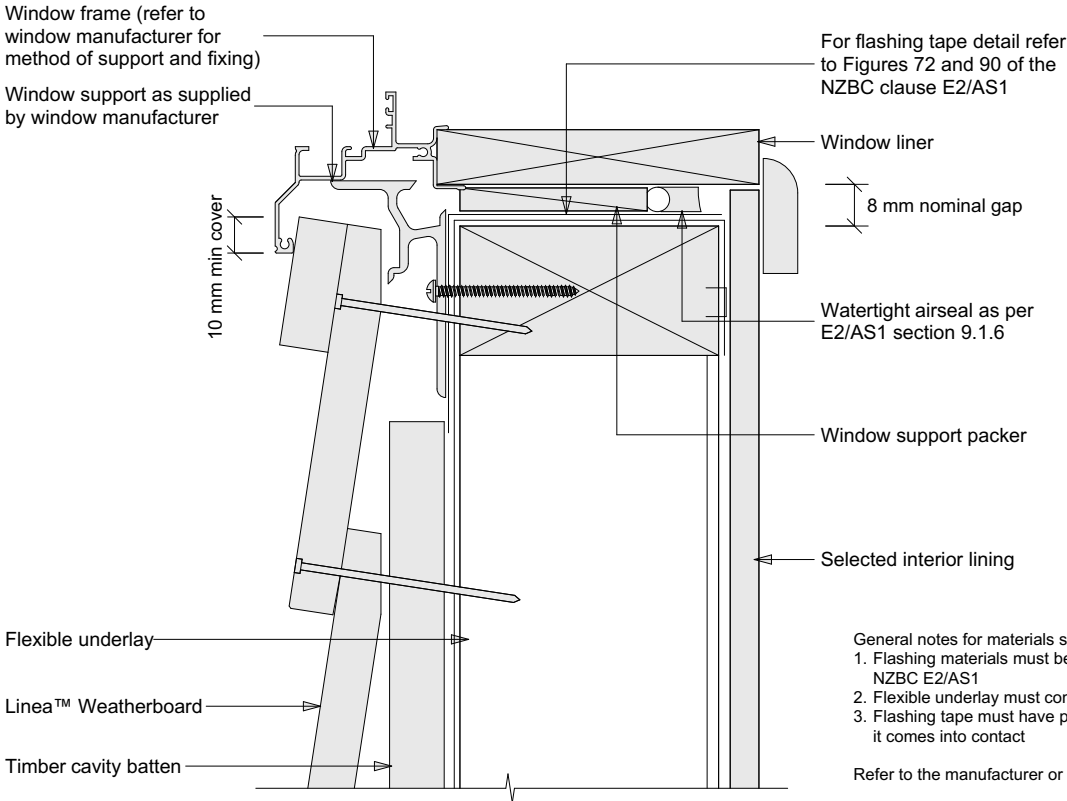


BEAM CORNER DETAIL

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	Design: A1	Drawn: AK	Check: UP	LBP: UP	Date: 24/06/2024	Rev:			
	Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa	Climate: 5	www.A1homes.co.nz			



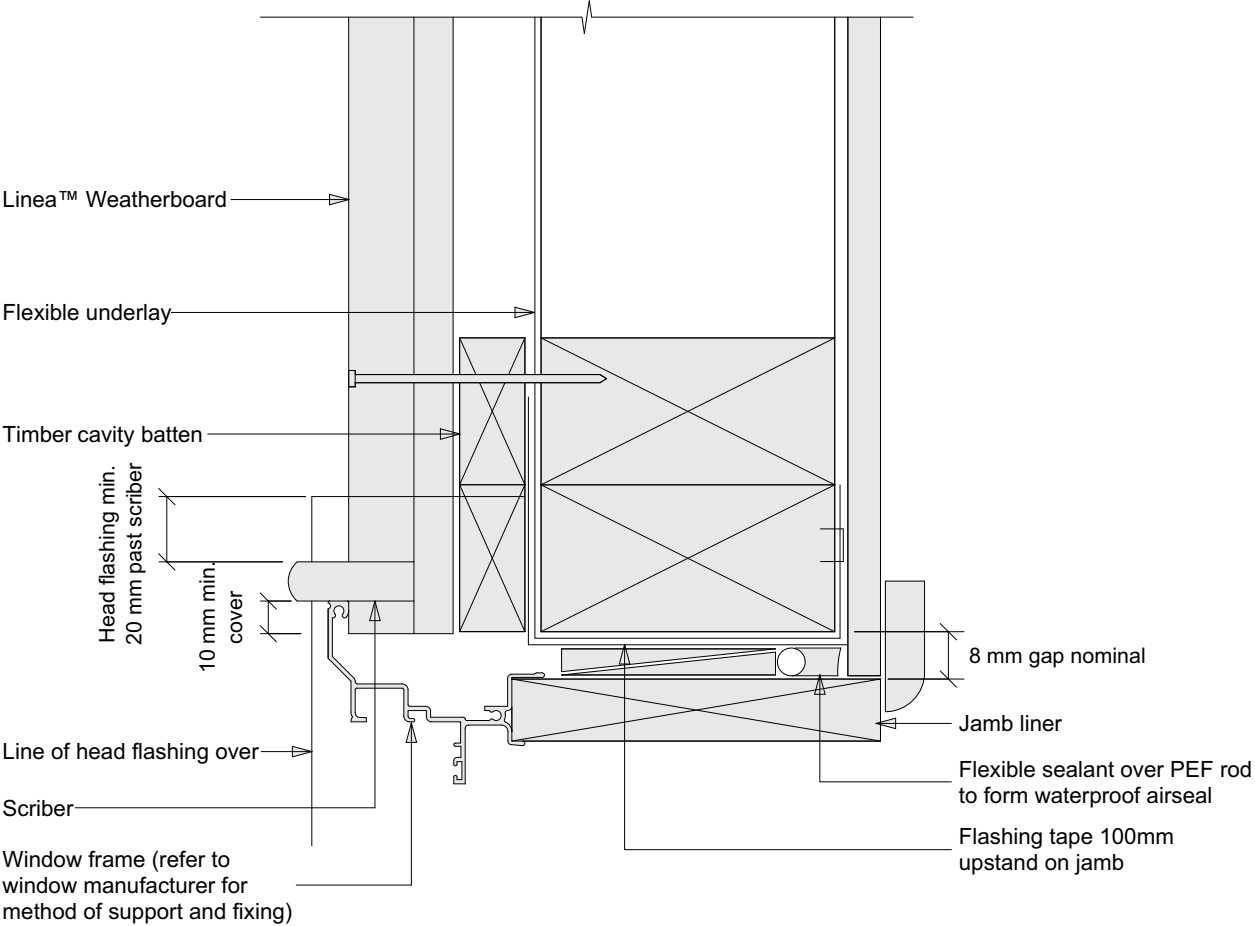
LINEA JOINERY HEAD DETAIL



LINEA JOINERY SILL DETAIL

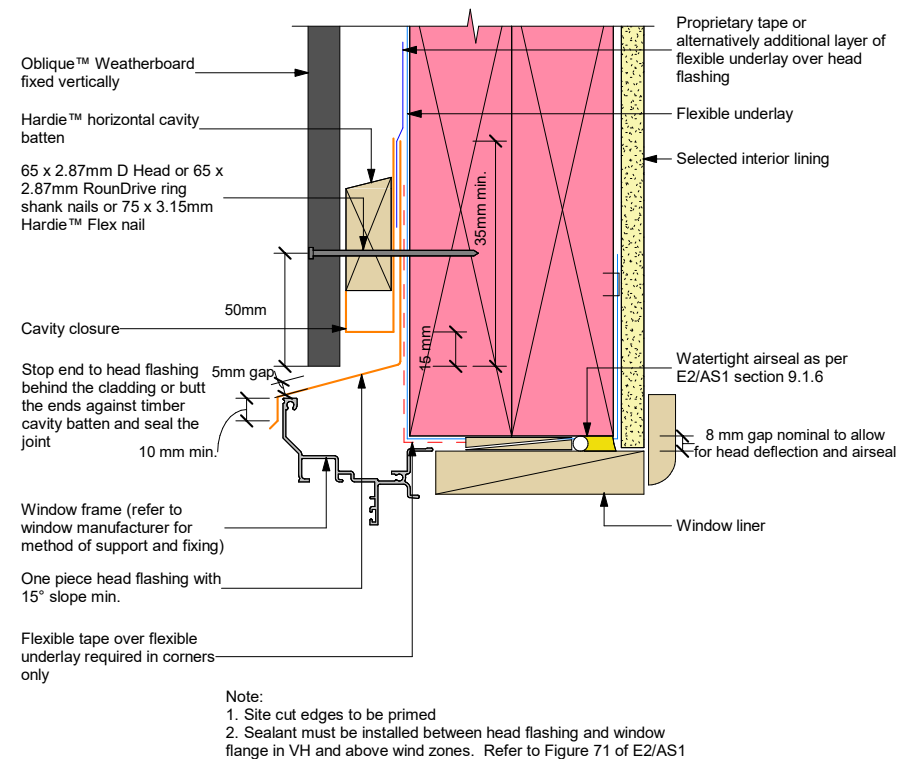
Note:

- Sealant must be installed between head flashing and window flange in VH and EH wind zones and SED pressures
- Alternatively, the head flashings can be formed with stop ends as per E2/AS1
- Refer to Figure 22 for sealing end battens to head flashing
- Site cut edges to be primed

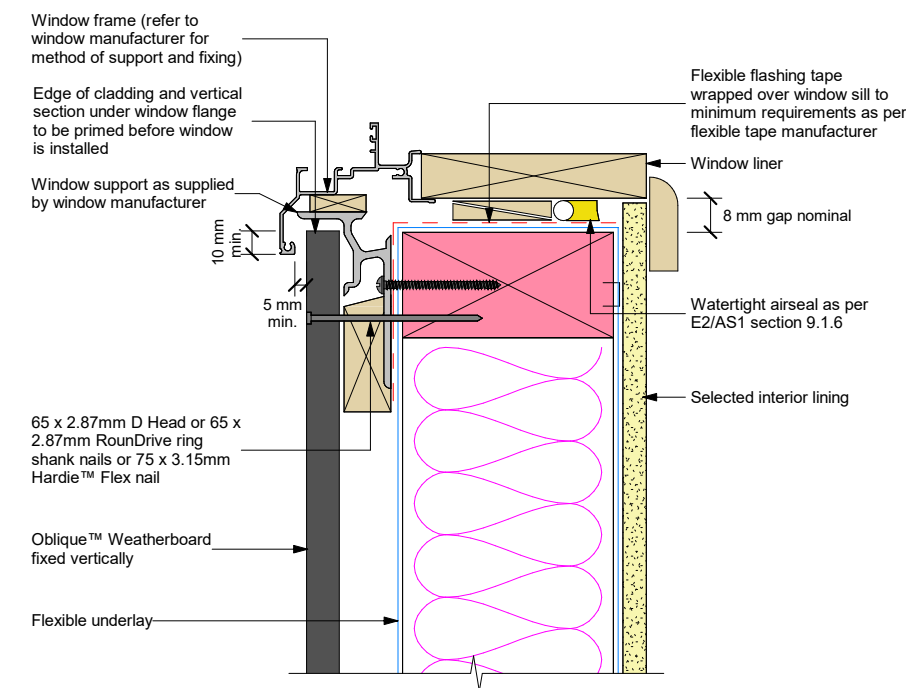


LINEA JOINERY JAMB DETAIL

JH VERTICAL OBL. JOINERY HEAD DETAIL



JH VERTICAL OBL. JOINERY SILL DETAIL



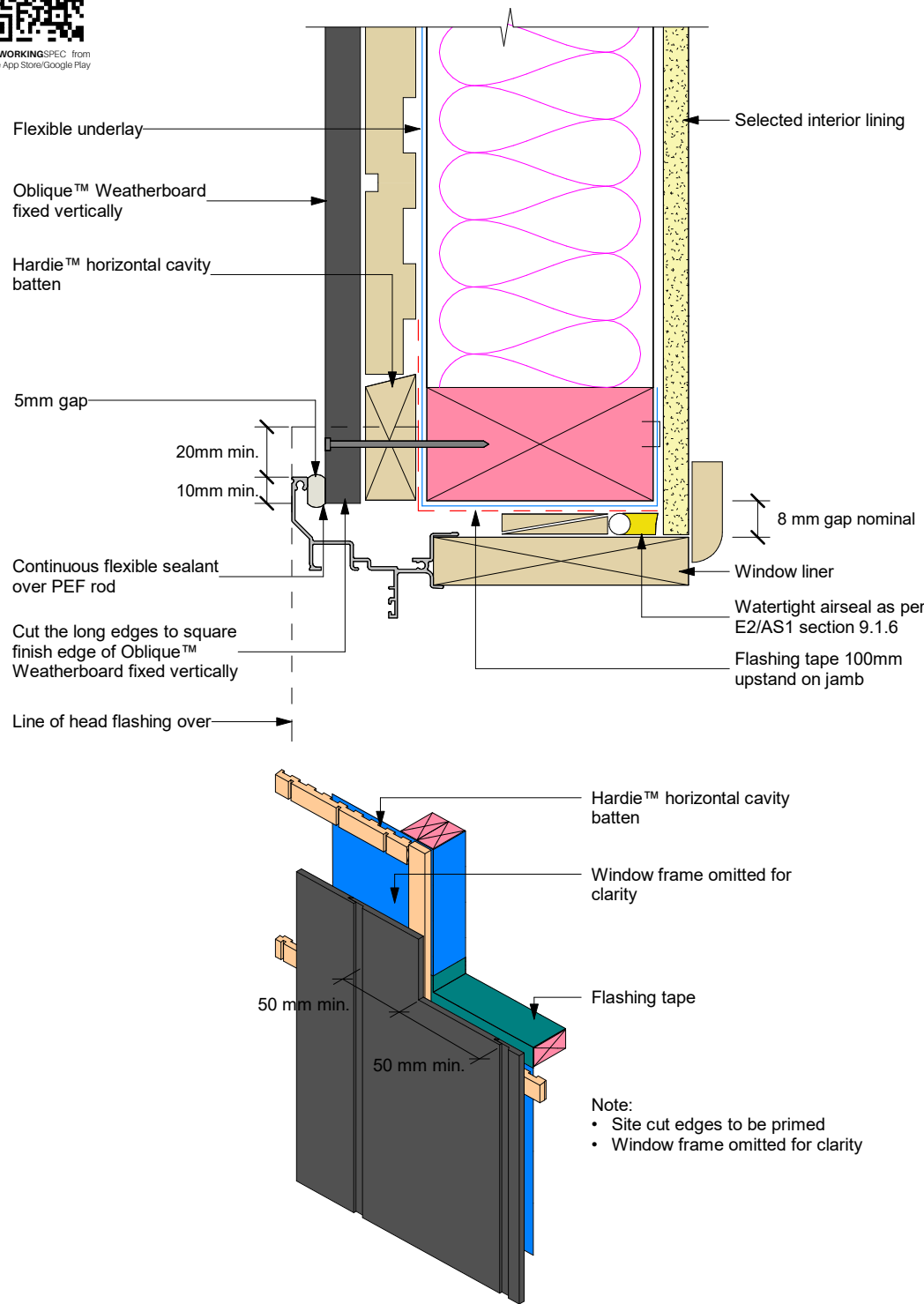
General notes for materials selection

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of the NZBC E2/AS1
2. Flexible underlay must comply with acceptable solution E2/AS1
3. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
4. When HomeRAB™ Pre-Cladding/RAB™ Board is used flashing tape to be applied to the entire window opening

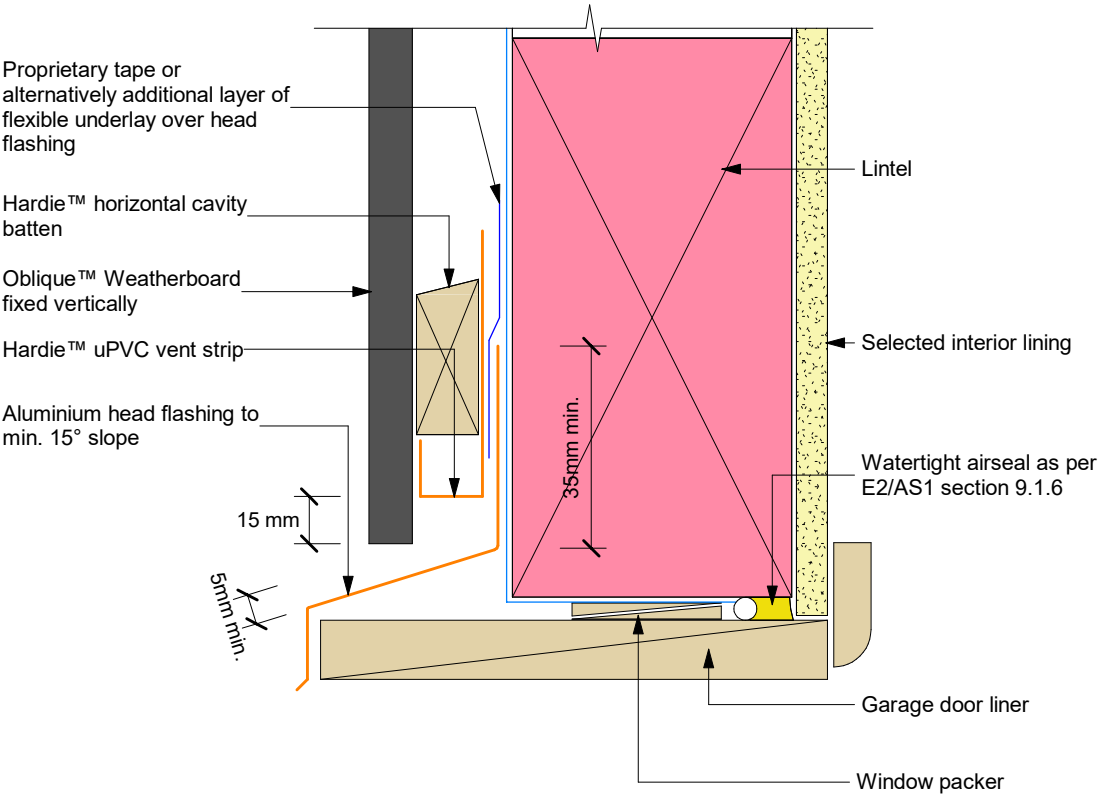
Refer to the manufacturer or supplier for technical information for these materials



JH VERTICAL OBL. JOINERY JAMB DETAIL

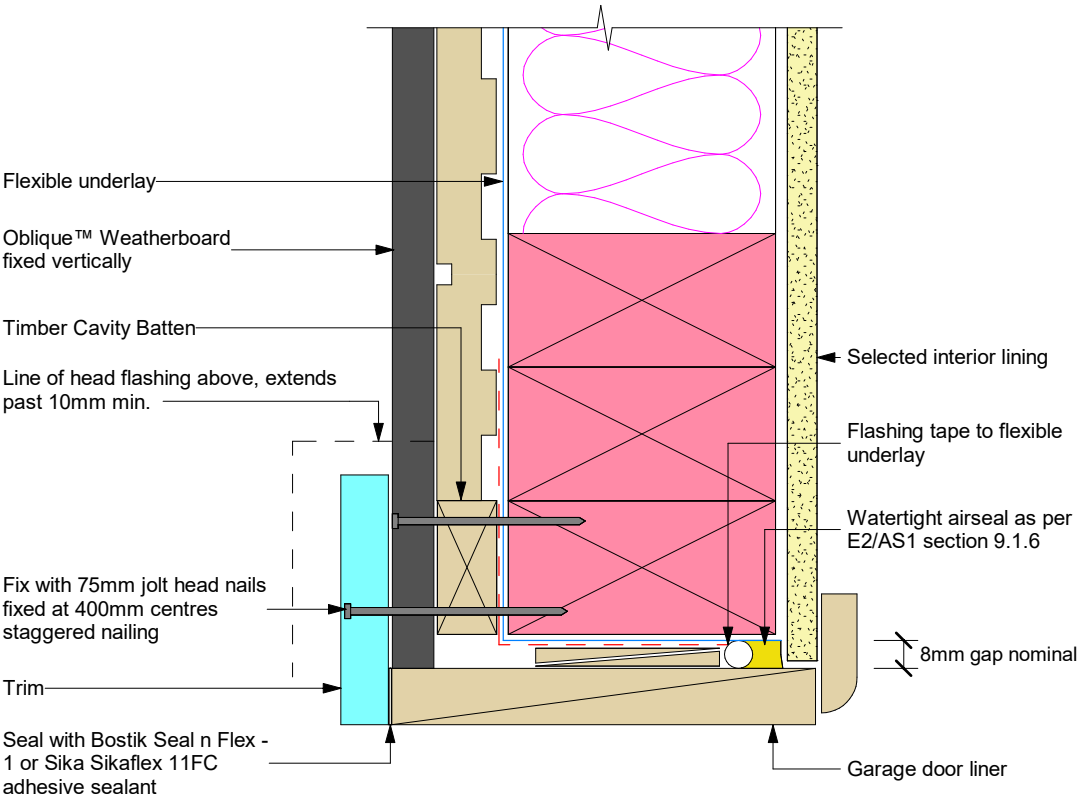


GARAGE HEAD DETAIL



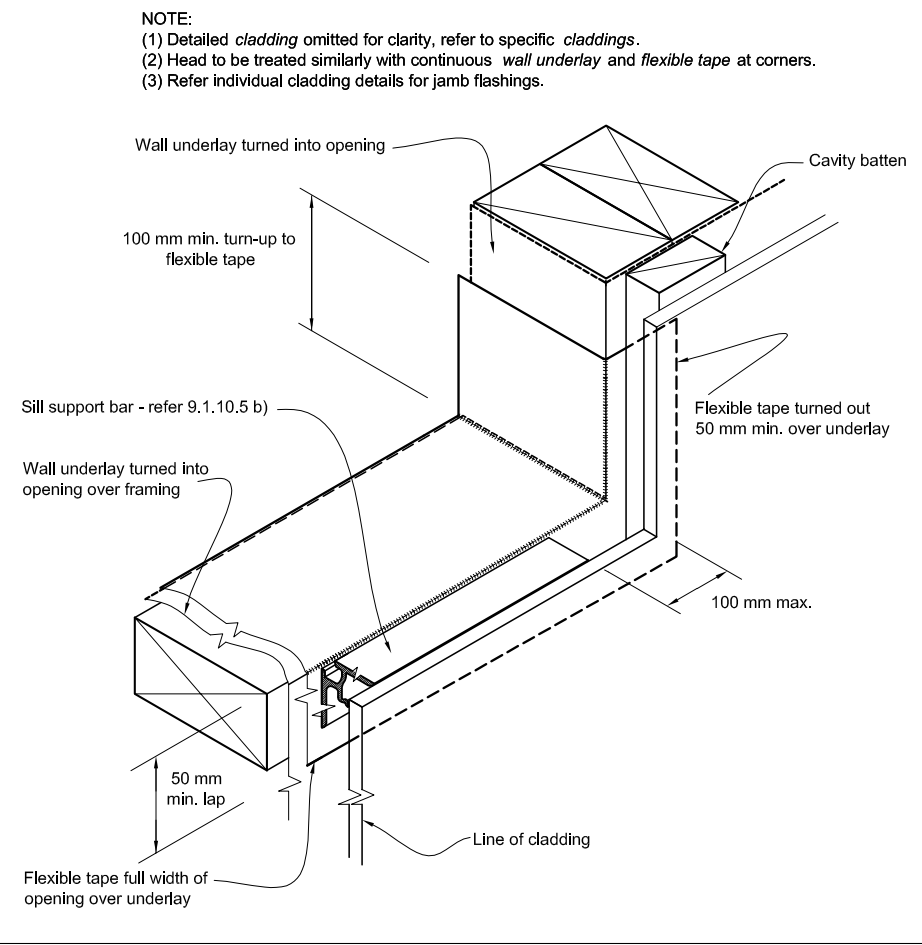
- Note:
- Sealant must be applied between head flashing and liner in VH and EH wind zones and SED wind pressures
 - Site cut edges to be primed

GARAGE JAMB DETAIL



Note: Site cut edges to be primed

Figure 72B: General window and door opening with drainage cavity
Paragraphs 9.1.5, 9.1.9.3, 9.1.10.2, Figures 73C, 76, 85, 86, 91, 99, 116 and 128

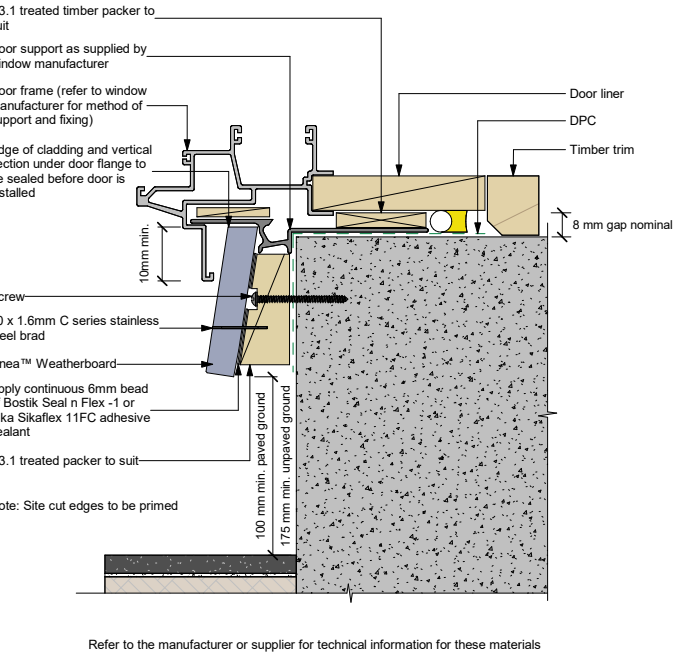


Flexible air seals:
The air seal shall be installed over a closed cell polyethylene foam (PEF) backing rod, or similar and made of self-expanding polyurethane foam

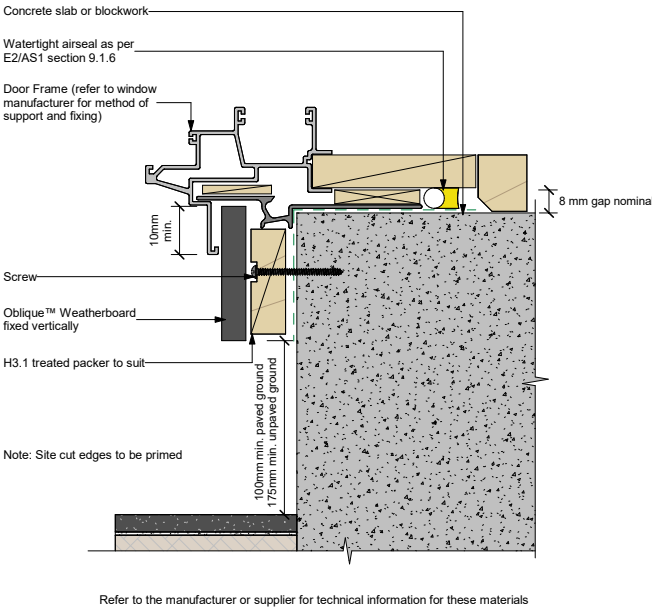
Backing rods are used for self-expanding polyurethane foam as there is a danger foam will expand to the outside of the wall and form a moisture bridge to the interior.

9.1.10.8 Attachments for windows and doors
Install windows and doors using pairs of minimum 75 x 3.15 galvanised jolt head nails or 8 gauge x 65 mm stainless steel screws, through reveals into surrounding framing at:
a) Maximum 450 mm centres along sills, jambs and heads, and
b) Maximum 150 mm from reveal ends.
Install packers between reveals and framing at all fixing points, except between head reveals and lintels.

Flashing tape must be proven compatibility with selected building underlay and other building materials with which it comes into contact as per table 21 of 'E2/AS1'



General notes for materials selection
1. Flexible underlay must comply with acceptable solution E2/AS1
2. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact
3. Linea™ Weatherboard to have sealed butt joint over batten at each corner of opening

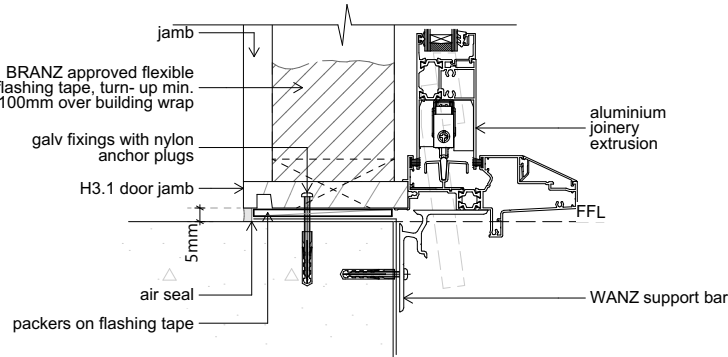
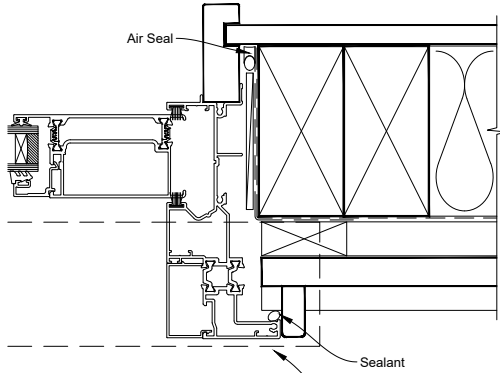
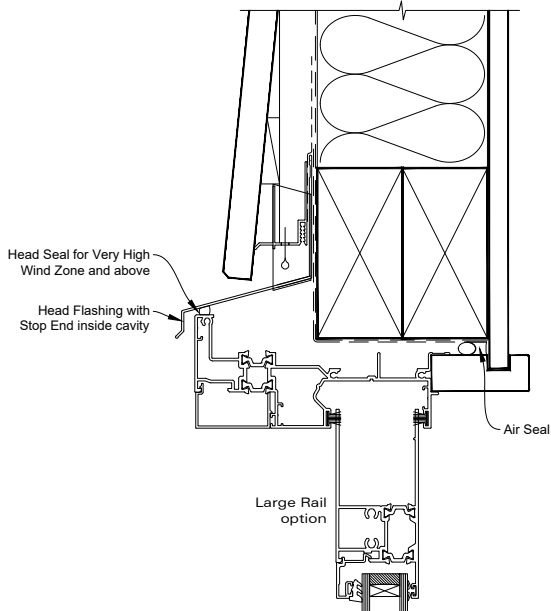


General notes for materials selection
1. Flexible underlay must comply with acceptable solution E2/AS1
2. Flashing tape must have proven compatibility with the selected flexible underlay and other materials with which it comes into contact



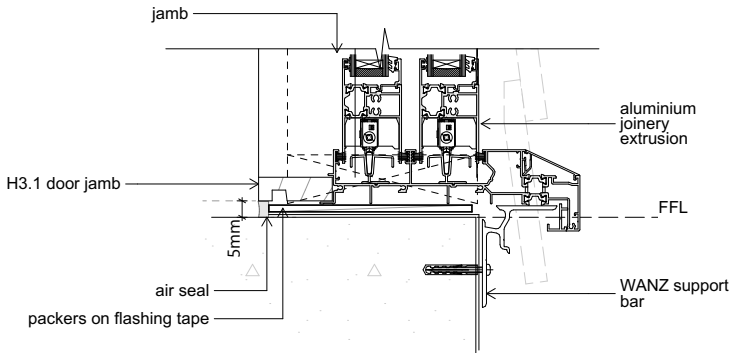
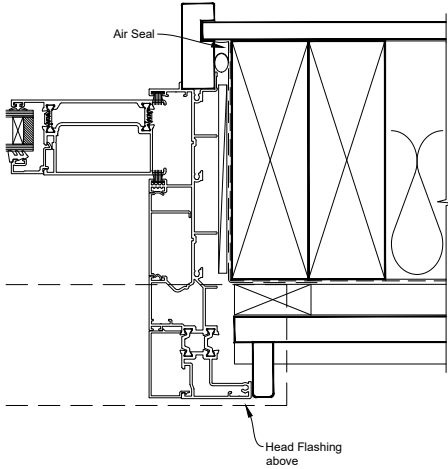
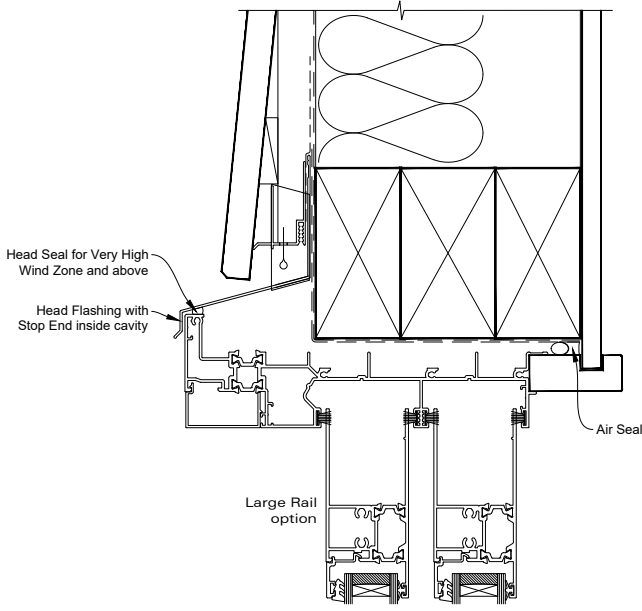
**INSTALLATION DETAIL - RESIDENTIAL THERMAL HEART
SLIDING DOOR ON BEVEL BACK WEATHERBOARD
CAVITY CONSTRUCTION**

Date: 01.04.22 Scale: 1:2 CAD Ref.: TRSDBW-CH



**INSTALLATION DETAIL - RESIDENTIAL THERMAL HEART
SLIDING DOOR ON BEVEL BACK WEATHERBOARD
CAVITY CONSTRUCTION**

Date: 01.04.22 Scale: 1:2 CAD Ref.: TRMDBW-CH



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JOINERY DETAILS

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Wind: High	Earthq: 1	Exposure: B	Snow: N5 1kPa
		Climate: 5	

Scale:	Sheet no:
Rev:	33
Date: 24/06/2024	
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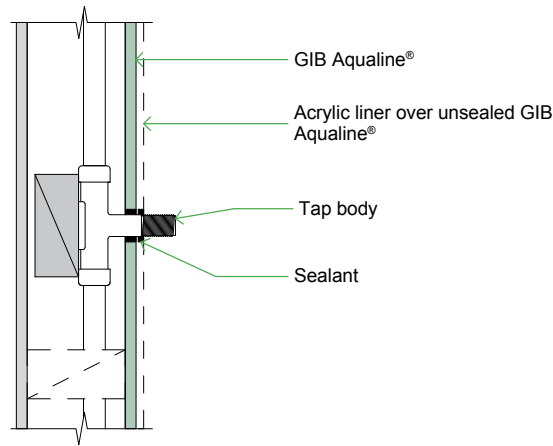
Client Details:
Burgess & Allen
Address:
7 Whitehaven Street
Oamaru

Job no: OS1150

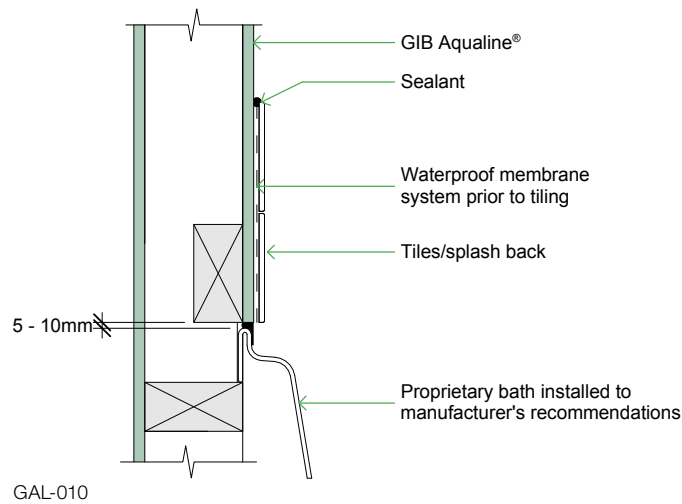
Alt. KH187



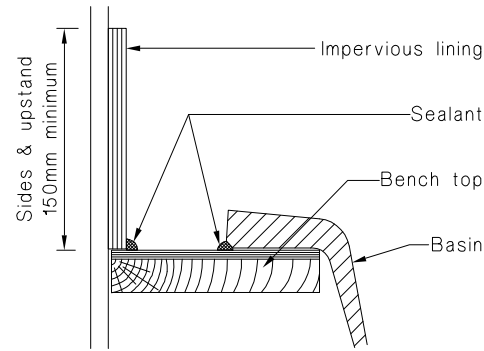
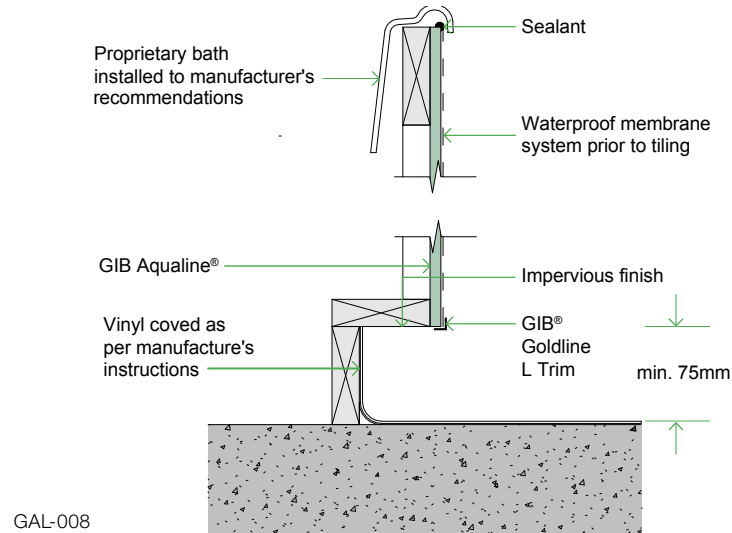
E: SEALING SEMI WET AREA PENETRATION



D: BATH LINING JUNCTION

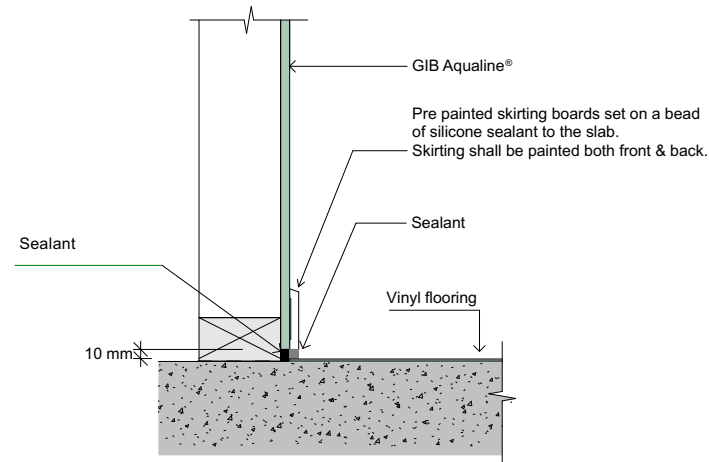


E: CRADLE VINYL LINING JUNCTION

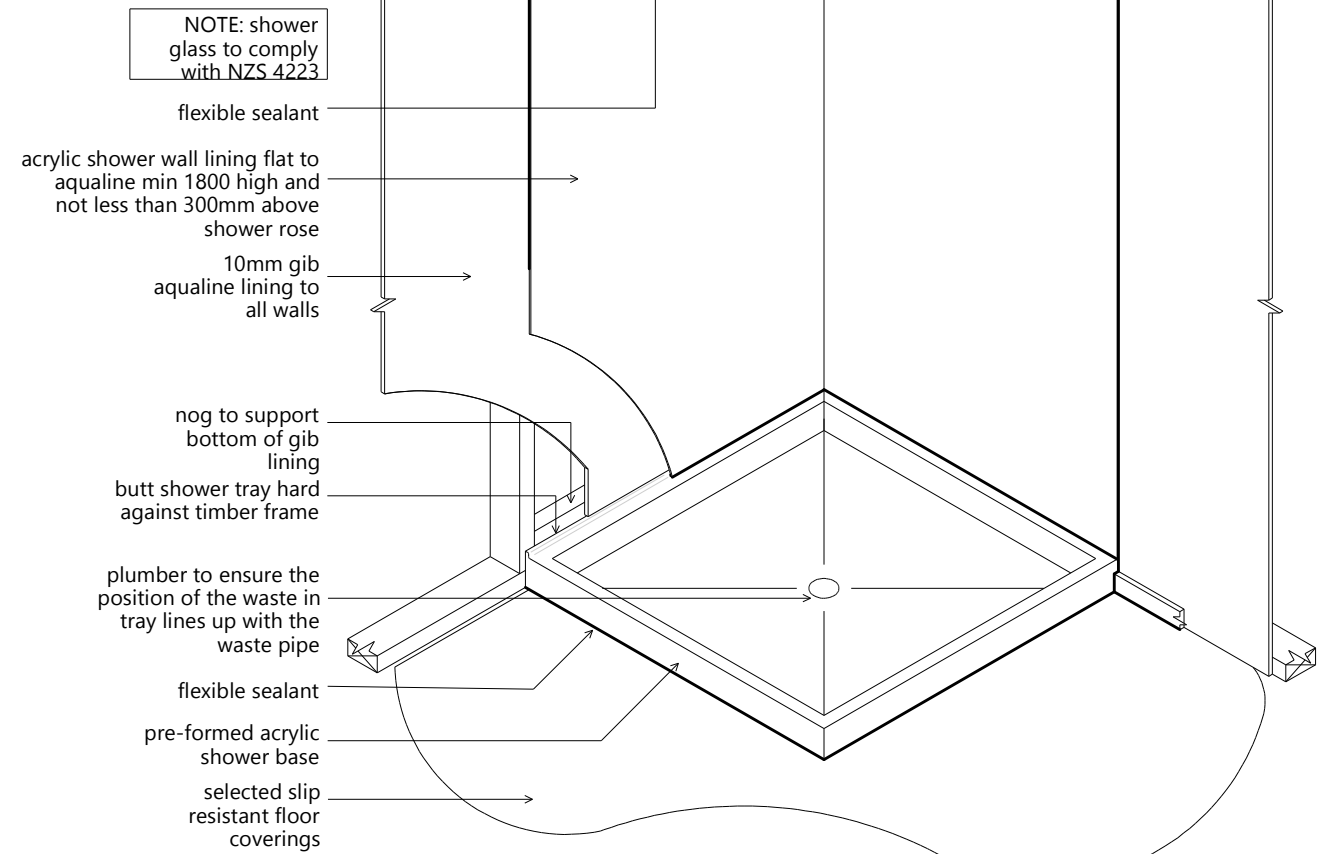


(b) Tub, sink and basin

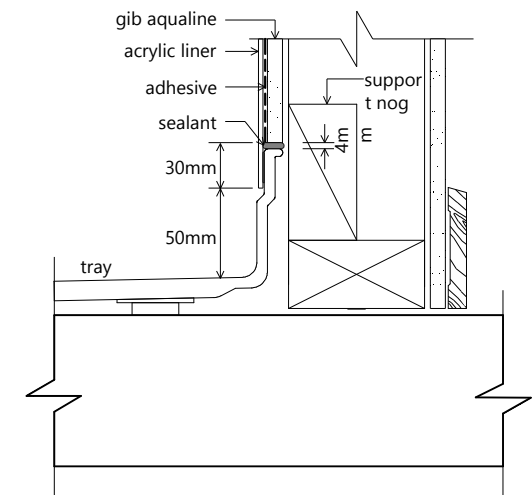
FLOOR LINING JUNCTION



Sealant:
Vinyl compatible, continuous bead of Branz appraised wet area clear silicone sealant. Sealant & application to comply with E3/AS1 Section 2.1.1 & Section 3.0 (includes vertical joints of skirting at corner)



Acrylic Shower Tray + Wall Linings



Shower Tray

Table 4:

Tempering Valve or Thermostatic Mixing Valve and Nominal Pipe Diameters

Paragraphs 5.4.1 and 6.12.1

	Low pressure (i.e. header tank supply or low pressure)	Low pressure unvented (valve vented) and open vented	Mains pressure
Pressure of water at Tempering Valve or Thermostatic Mixing Valve (kPa)	20 – 30	30 – 120	over 300
Metres head (m)	2 – 3	>3 – 12	over 30
Minimum Tempering Valve or Thermostatic Mixing Valve size	25 mm	20 mm	15 mm
Pipes to Tempering Valve or Thermostatic Mixing Valve	25 mm (see Note 3)	20 mm	20 mm (15 mm optional)
			(see Note 1)
Pipes to shower	20 mm	20 mm (see Note 4)	20 mm (see Note 5) (15 mm optional) (see Note 1)
Pipes to sink/laundry (see Note 2)	20 mm	20 mm	15 mm
Pipes to bath (see Note 2)	20 mm	20 mm	15 mm
Pipes to basins (see Note 2)	15 mm	15 mm	10 mm

Notes:

1. If supplied by separate pipe from *storage water heater* to a single outlet.

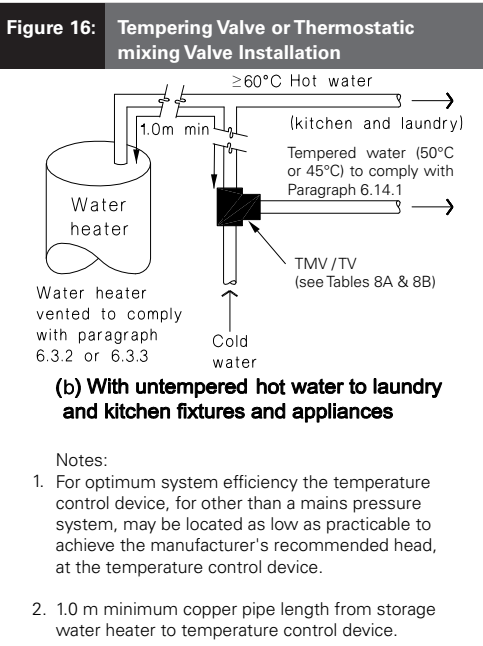
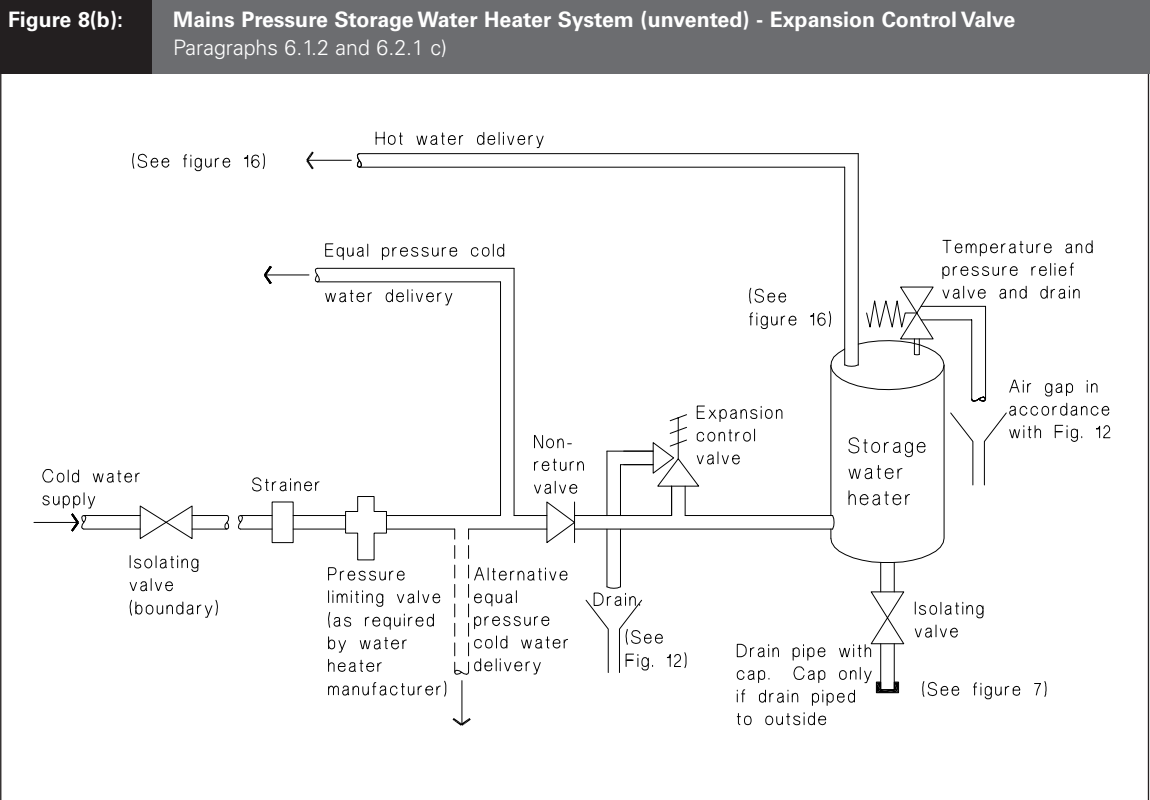
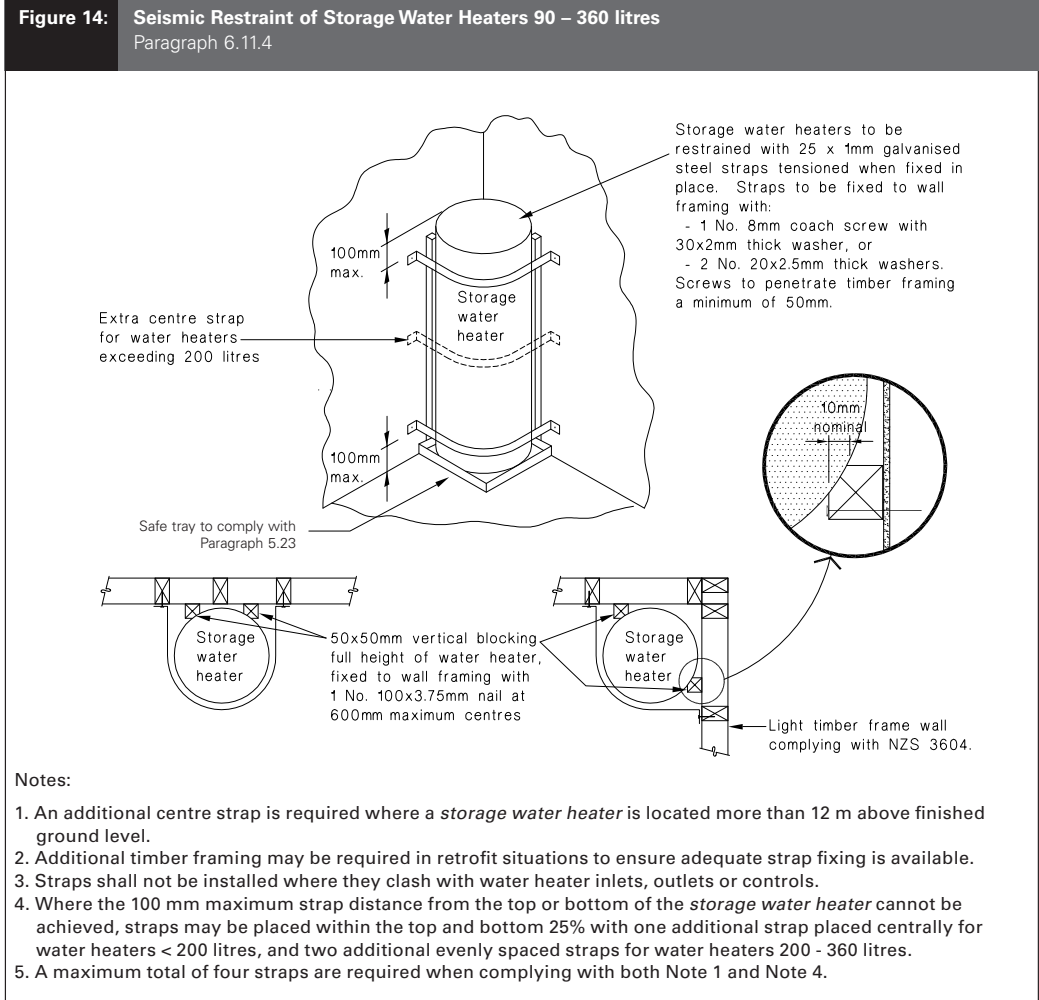
2. This table is based on maximum pipe lengths of 20 metres.

3. 2 m maximum length from *water heater* outlet to tempering valve or thermostatic mixing valve

4. 15 mm if dedicated line to shower.

5. 10 mm if dedicated line to shower.

6. Pipe sizes in this table have been calculated to deliver water simultaneously to the kitchen sink and one other *fixture*.



6.14.2 Hot water delivered from storage water heaters

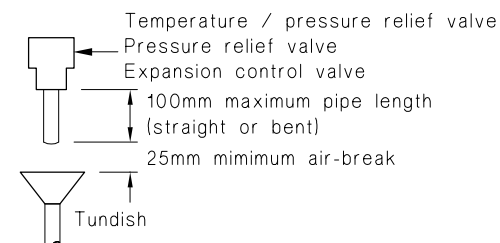
a) An acceptable method of limiting hot water temperature delivered from storage water heaters is to install a mixing device between the outlet of the water heater and the sanitary fixture (see Figure 16).

b) Tempering valves shall comply with NZS 4617 or AS 1357.2.

Irrespective of whether a mixing device is installed, the storage water heater control thermostat shall be set at a temperature of not less than 60°C to prevent the growth of Legionella bacteria.

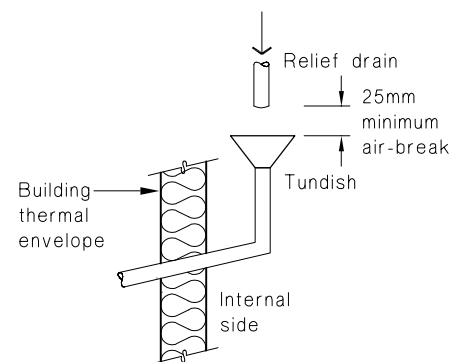
Safe trays for hot water cylinders shall be installed in accordance with the manufacturer's installation instructions

Figure 12: Relief Valve Drains – Freezing Protection
Paragraphs 6.7.1, 6.7.4 and 6.7.5



(a) Storage water heater located where freezing likely

e.g. External to building thermal envelope
in cold climates



(b) Relief drain located where freezing likely

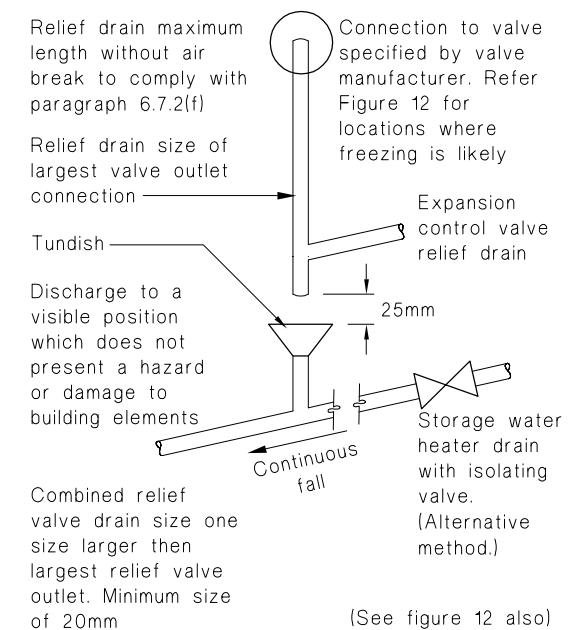
e.g. Internal storage water heater with
drain discharging externally
(See figure 13 also)

Note: Tundishes and tundish drains shall be sized and installed to prevent overflow when the relief valve discharges.

6.7.5 Relief drains located where freezing is likely
Additional requirements for relief drains located where freezing is likely (see Figure 12) are that:

- a) Relief valve drain pipes shall discharge over a tundish with a 25 mm air break before the drain pipe enters a zone where freezing is likely, and
- b) Relief valve drains from a tundish shall be one size larger than the outlet diameter of the relief valve.

Figure 13: Relief Valve Drains – Combined
Paragraphs 6.7.1, 6.7.2 f) and 6.7.3



Note: Tundishes and tundish drains shall be sized and installed to prevent overflow when the relief valve discharges.