

This Consent is affected by  
RESTRICTED BUILDING WORK  
as per Building Act 2004

STAGE: PERMIT

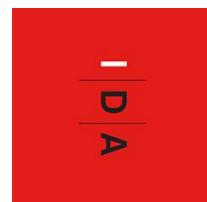
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DESIGN | ARCHITECTURE

The following design elements have been specified by other designers:

- Truss Design / Placemakers

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Proposed New Home for:

N & M Heath

Address:

45 Longreach Drive  
Cooks Beach

Job no: WGA025

Date: 21/11/2018

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**Foundation (NZS3604 Timber & Slab)**

100mm thick conc. slab, SE62 500E reinforcing mesh, min 225mm lap on 0.25 polythene.

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.

**Timber Subfloor Foundation (SG8)**

140x45 H1.2 floor joists @ 450max crs, min 300 long flitch block nailed to side of joist @ joints (min 150 lap each way), joists supported over bearer. Joist/Bearer connection - 2/100x3.75 skewed nails or 3/90x3.15 power driven skewed nails.

R1.4 EXPOL UnderFloor Insulation (EPS), 60mm thick.

FIXINGS: Non corrosive nylon fixings with a stainless steel nail are used to fix EXPOL panels in place (All fixing components are supplied by EXPOL)

1500 H5 driven piles @ 1650max crs. 2/140x45 H3.2 bearers stagger nailed together @ 270crs with 100mm galv nails. Ordinary pile to bearer fixing 2 wire dogs + 2/100mm skew nails (cantilevered piles use 6kN kit).

3.6mx1.2m 20mm KOPINE particleboard flooring, keep edge of sheet in from exterior frame 10mm. Nail sheet perimeter @ 150crs, nail centres @ 300crs.  
Wet Areas: 3x coats of polyurethane to Particleboard flooring  
- Where maintenance of an impervious coating cannot be assured in wet areas, 19mm H3.2 construction ply shall be used

6.0mm hardies lining, painted with upvc base vents -750mm from corner then @ 1800cts

**External Walls (SG8)**

90x45 H1.2 frame + 90x45 top plate, studs @ 600crs max.  
nogs @ 600crs max where exterior batters are being installed

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

All Shadowclad sheet edges must be fully supported by framing:

- Studs must not exceed 600 mm centres
- Nogs must be provided at a maximum of 600 mm centres where exterior batters are being installed

**Bottom plate fixing:**

Concrete- Refer to Ramset table (or equivalent fixing installed as per manufacturers specs) 150 mm off each end of the plate and be spaced at a max. of 900crs

Timber- (includes internal wall bracing elements) 2/100 x 3.75 hand driven nails @ 600crs or 3/90 x 3.15 power driven nails @ 600crs (150 off each end)

**Exterior Cladding**

Carter Holt Harvey® Woodproducts, Shadowclad® H3.1 Shadowclad Natural Texture (stain finish) on ex50x25 H3.1 cavity battens + ex70x20 H3.1 Exterior Battens (with 6x6 mm weather grooves), installed, flashed and finished in accordance with NZBC: E2/AS1 External Moisture. Merchant to include all flashings & fixings as required by cladding system.

Cavity Battens (ex50x25 H3.1 timber cavity battens fixed to studs):

- be nominal 20 mm thick (between limits of 18 mm and 25 mm in thickness)
  - at least the same width as the stud
  - minimum H3.1 IOSP treated in accordance with NZS 3640
- Battens must be fixed over the building underlay/rigid air barrier to all studs, as follows:  
stud @ 600crs>If studs are at 600 mm centres:
- Battens must be fixed at 300 mm centres vertically (i.e. a batten on studs and one in between the two studs fixed to top and bottom plates and nog)
  - Battens fixed between studs are to restrain the building underlay and insulation from bulging into the drained cavity
  - The Shadowclad must not be fixed to these cavity battens where there is no framing behind them
- stud @ 400crs>If studs are at 400 mm centres battens must be fixed on studs only. Horizontal battens should be used at the top of the wall to block the top of the cavity from venting into the roof space.
- Cavity spacers (i.e. short pieces of cavity batten) may be used to support the bottom sheet edge (or provide intermediate support where required eg above window openings) but must allow water drainage to the outside. The cavity spacers must be fixed at a 5° minimum slope with a 50 mm minimum air gap at either side.

**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.

Bottom plate fixing:

Concrete- 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 at 1800 crs. Fix 90x45 runners to top of bottom chords.

**Insulation**

R3.2C pink Batts insulation to all ceilings, except garage.

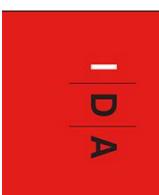
Maintain a 25mm gap clearance between the insulation and roof underlay  
R2.2W pink Batts insulation to all exterior wall cavities excluding garage, however including walls between house & garage. Friction fitted.

**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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**PLAN NOTES**

**PLAN NOTES**

Scale:

Rev:

Date: 21/11/2018

Design: A1 Drawn: TN Check: AG LBP: UP

Wind: HIGH Earthq: 1 Exposure: D (SS) Snow: NO Climate: 1

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Client Details:

Job no:

WGA025

Address:

N & M Heath

45 Longreach Drive

Cooks Beach

Job no: WGA025

Address:

N & M Heath

45 Longreach Drive

Cooks Beach

BH100



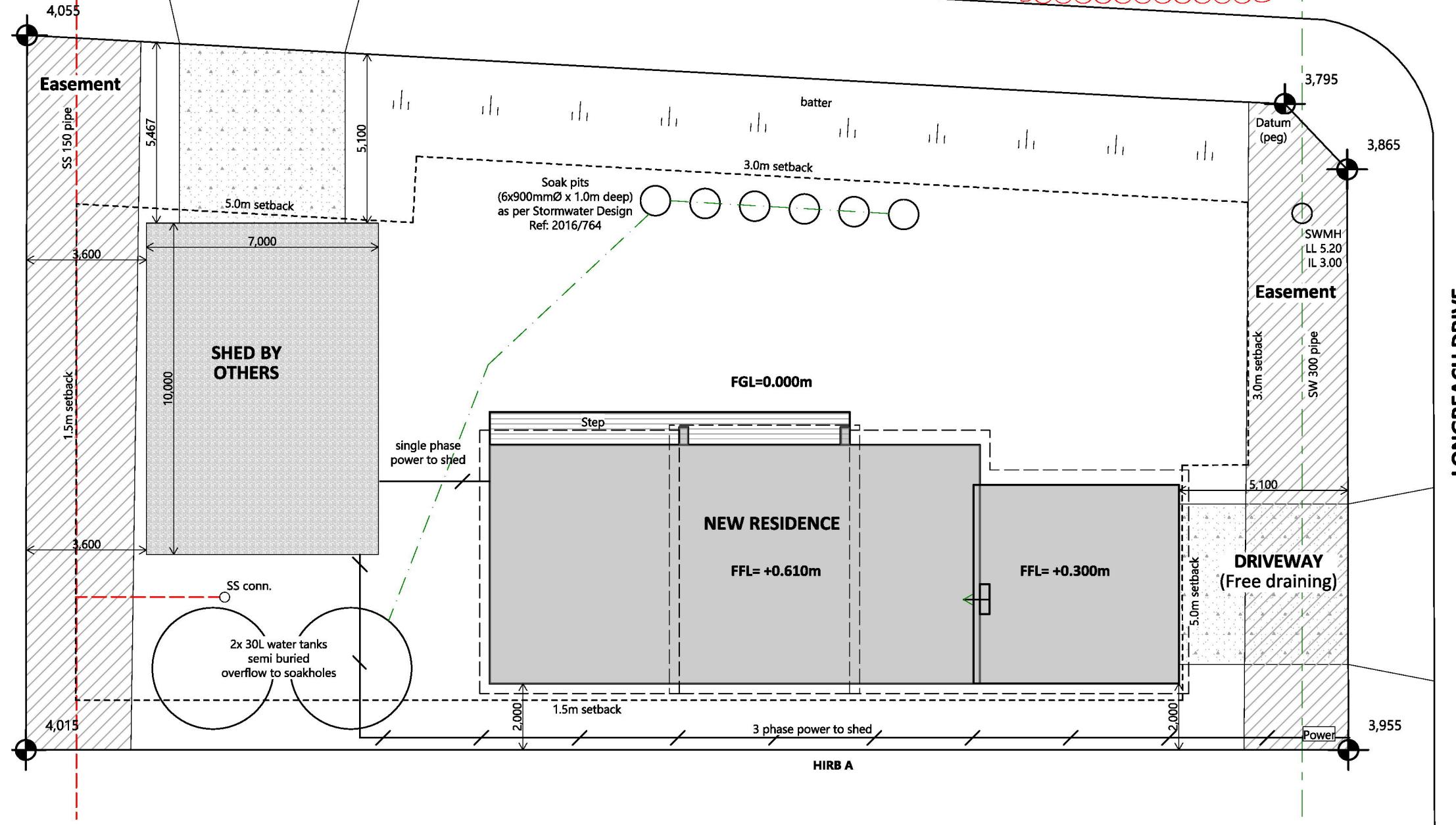
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**NZBC F5:  
Construction and Demolition Hazards  
Acceptable Solution F5/AS1**

**ABA2018/5661**  
**Cautionary Notes:**  
BUILDING CONTRACTOR TO ASSESS SITE  
TO ENSURE DAYLIGHTING & BUILDING  
**Thames-Coramdel  
Planning Council**

## **NAVIGATION DRIVE**

**Site Datum:**  
AVD 46"  
in CCS 30b 3.09  
Source: TCDC benchmark booklet  
looks Beach  
  
to be at least or exceed min. **FFL of**  
**3.24m (AVD46)** as identified on Consent  
Notice



**4.0 Work-Site Barriers**  
4.0.1 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 residential 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:

- . Pedestrian counts adjacent to the site.
  - . Car parking adjacent to the site.
  - . Location of neighbouring buildings.
  - . Presence of neighbouring work-sites or recreation areas.
  - . Proximity to schools or early childhood centres.

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.  
  
4.0.2 If a work-site is not completely enclosed, and unauthorised entry by children is likely, it is acceptable for specific hazards to be ignored only when workers are absent from the immediate vicinity.

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**1 Site fences and hoardings**

1.1 Fences and hoardings shall extend at least 2.0 m in height from ground level on the side accessible to the public.

.1.2 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:**

- ) 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
- ) For sites below the road, no less than 150 mm above the lowest point on the site boundary.

**Lot: 45**  
**DP: 493903**  
**Area: 800 m<sup>2</sup>**  
**Area: 142.78m<sup>2</sup> excl. eaves**  
**age: 17.84% (35% max.)**  
**g Ht: 8m**  
**irity: Thames-Coromandel District Council**  
**one: Residential Coastal Village**

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## SITE PLAN

## **SITE PLAN**

Page B

Sheet no

**Client Details:**

Job no: **WGA025**

10.000-15.000 €

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**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:** 23 units

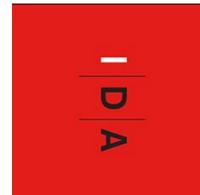
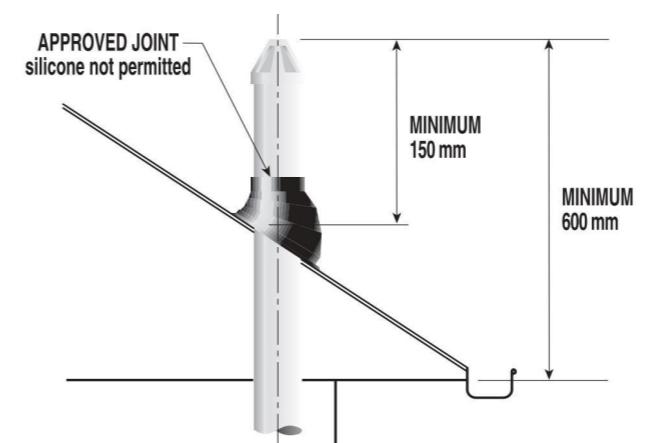
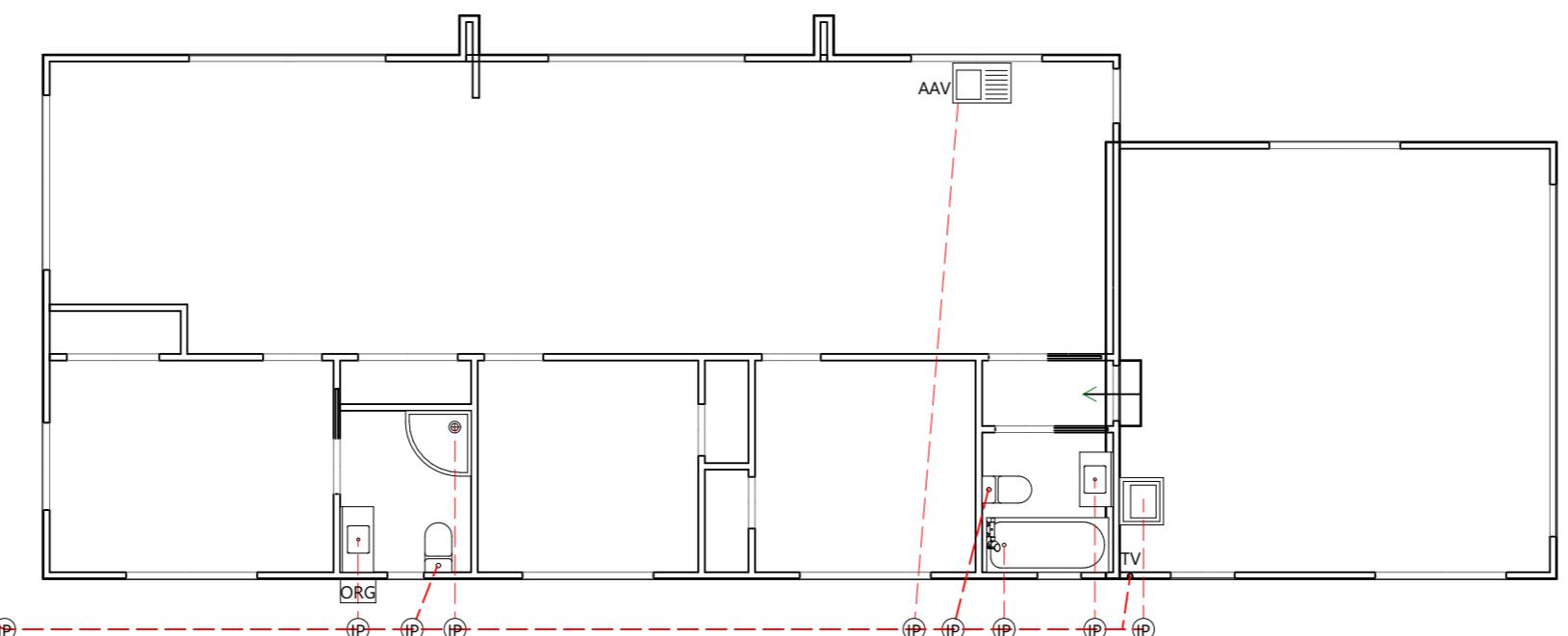
Bathroom group - 6 (2x)  
Laundry tub - 5 (1x)  
Kitchen sink - 3 (1x)  
Dishwasher - 3 (1x)

**TABLE 3.5**  
**SIZE AND RATING OF VENTS**

Size of vent pipe DN	Fixture units discharging to drain	Vent rating
40	>1	≤10
50	>10	≤30
65	>30	≤175
80	>175	≤400
100	>400	—

TV min 50mm Ø NZS3500

Plumbing Legend as per AS/NZS 3500			
Symbol	Item	Symbol	Item
(IP)	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			



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**DRAINAGE PLAN**

Scale: 1:100	Sheet no: 3			
Rev:				
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1
Call 0800 A1homes 214663 <a href="http://www.A1homes.co.nz">www.A1homes.co.nz</a>				

**Client Details:**  
N & M Heath  
**Address:**  
45 Longreach Drive  
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Job no: WGA025

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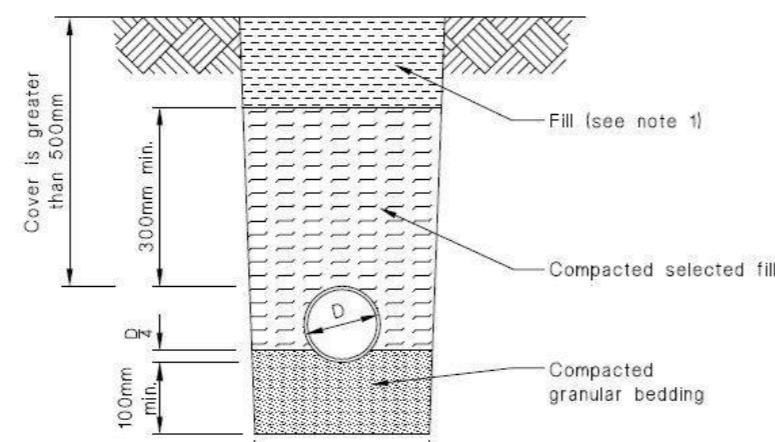
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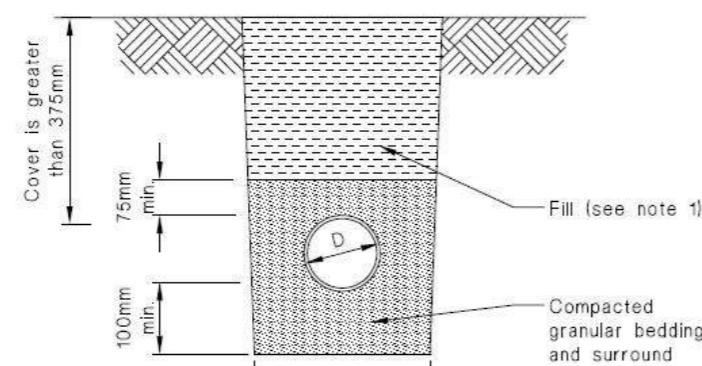
Figure 13: Bedding and Backfilling

Paragraphs 3.9.2, 3.9.4 and 3.9.5



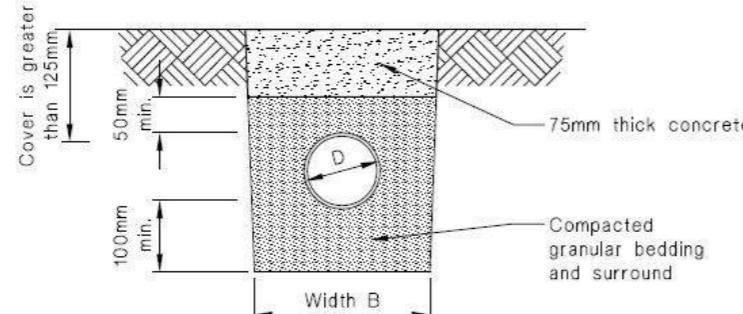
(a) Cover greater than 500 mm

Bedding type 'B' of NZS 4452



(b) Cover greater than 375 mm

Bedding type 'D' of NZS 4452



(c) Cover greater than 125 mm

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 subjected to light traffic.

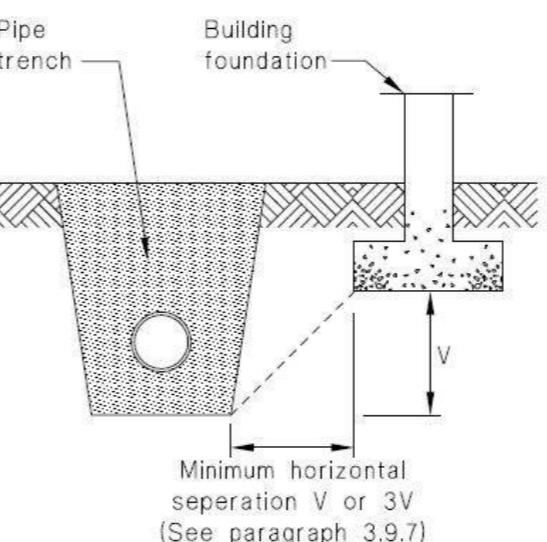
### Proximity of trench to building:

#### 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 14: Relationship of Pipe Trench to Building Foundation

Paragraph 3.9.7



### 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) 7.5m centres for trench slopes between 1 in 8 and 1 in 5, or
  - ii) 5.0m 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  $75 \pm 25$  mm by  $75 \pm 25$  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.

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### BEDDING AND BACKFILLING

Scale:

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Sheet no:

Design: A1 Drawn: TN Check: AG LBP: UP Date: 21/11/2018

Wind: HIGH Earthq: 1 Exposure: D (SS) Snow: NO Climate: 1

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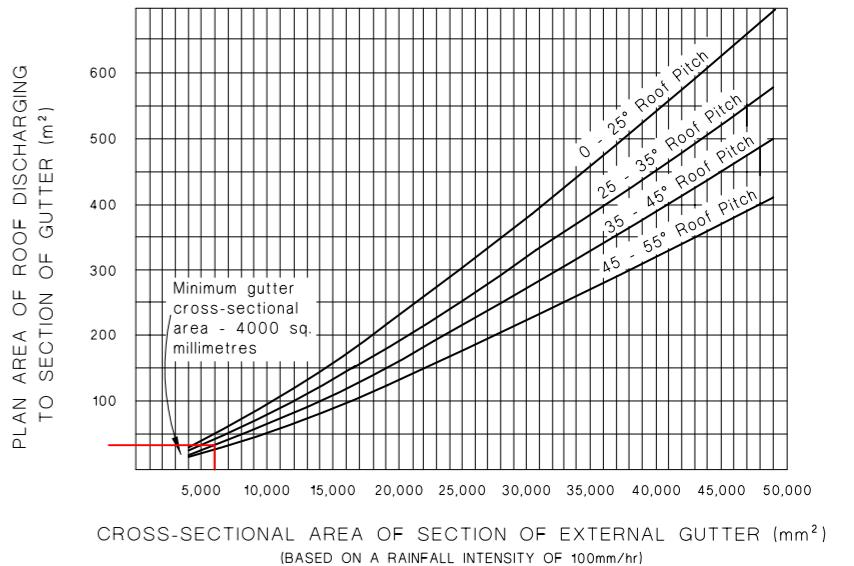
<b>Roof gutter profile calculations:</b>	
Quarter Round Gutter	
Cross sectional area of gutter (CSAG) = 4880mm <sup>2</sup> .	40m <sup>2</sup> of plan roof area (based on 100mm/hr.)
Rainfall intensity = 110mm/hr.	
Plan Roof area 1 = 47.86m <sup>2</sup>	
Modified Plan Roof Area = 47.86 x 110 / 100 = 52.64 m <sup>2</sup>	
Number of downpipes required to accomodate Modified Roof Area: 52.64 / 40 = 1.31 (2 DP)	
Plan Roof area 2 = 46.49m <sup>2</sup>	
Modified Plan Roof Area = 46.49 x 110 / 100 = 51.14 m <sup>2</sup>	
Number of downpipes required to accomodate Modified Roof Area: 51.14 / 40 = 1.28 (2 DP)	
Plan Roof area 3 = 74.13m <sup>2</sup>	
Modified Plan Roof Area = 74.13 x 110 / 100 = 81.54 m <sup>2</sup>	
Number of downpipes required to accomodate Modified Roof Area: 81.54 / 40 = 2.04 (3 DP)	
Therefore minimum number of downpipes required = 2	
Number of DP's provided = 2	

<b>Downpipe calculations: NZBC:E1</b>	
Plan area of roof per single downpipe for roof pitch 0-25° = 85m <sup>2</sup> of roof area for DN74 downpipe. (based on 100mm/hr.)	
Plan Roof area 1 = 47.86m <sup>2</sup>	
<b>Calc. - Plan Roof area/area served by DP = DP's required</b>	
47.86 / 85 = 0.56 = 1 DP	
Plan Roof area 2 = 46.49m <sup>2</sup>	
<b>Calc. - Plan Roof area/area served by DP = DP's required</b>	
46.49 / 85 = 0.55 = 1 DP	
Plan Roof area 3 = 74.13m <sup>2</sup>	
<b>Calc. - Plan Roof area/area served by DP = DP's required</b>	
74.13 / 85 = 0.87 = 1 DP	
Therefore minimum number of downpipes required = 2	
Number of DP's provided = 2	

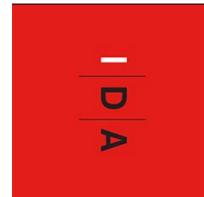
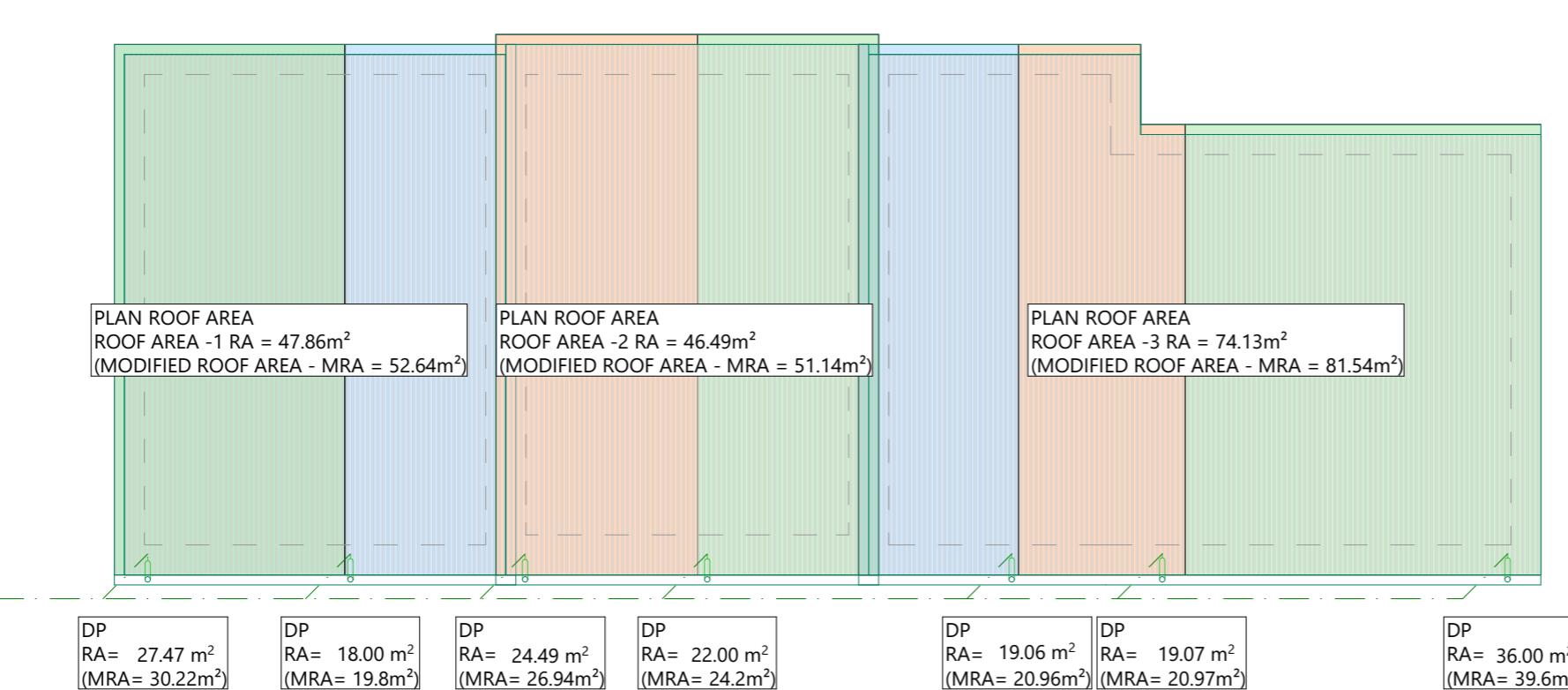
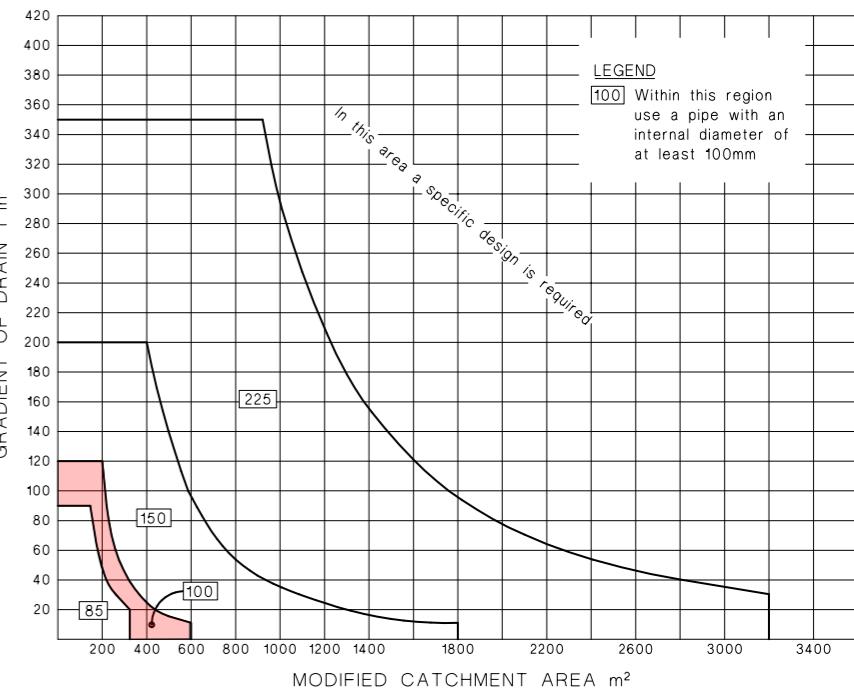
**Table 5: Downpipe Sizes for Given Roof Pitch and Area**  
Paragraph 4.2.1

Downpipe size (mm) (minimum internal sizes)	Roof pitch			
	0-25°	25-35°	35-45°	45-55°
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

**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



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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### ROOF DRAINAGE PLAN

Scale: 1:125  
Sheet no: 5  
Rev: 5

Date: 21/11/2018

Design: A1 Drawn: TN Check: AG LBP: UP

Wind: HIGH Earthq: 1 Exposure: D (SS) Snow: NO Climate: 1

Call 0800 A1homes  
214663  
[www.A1homes.co.nz](http://www.A1homes.co.nz)

**Client Details:**  
N & M Heath

**Address:**  
45 Longreach Drive  
Cooks Beach

Job no: WGA025  
BH100

**A1homes**

This Consent is affected by  
**RESTRICTED BUILDING WORK**  
as per Building Act 2004



**Concrete Slab**  
NZS 3604 Concrete foundation  
Removal of 300mm of soil required

**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 work.

**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.

- Not more than 5 % shall pass through a 2.2 mm sieve with the exception of the conditions in 7.5.3.3;
  - 100 % shall pass either:
    - A 19 mm sieve for any fill thickness; or
    - 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

Shrinkage control joints - 3mm wide x 25mm deep saw cuts to form bays  
NZS3604:2011 - Section 7: floors 7.5.8.6.4

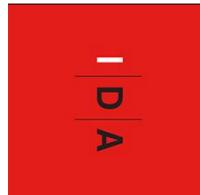
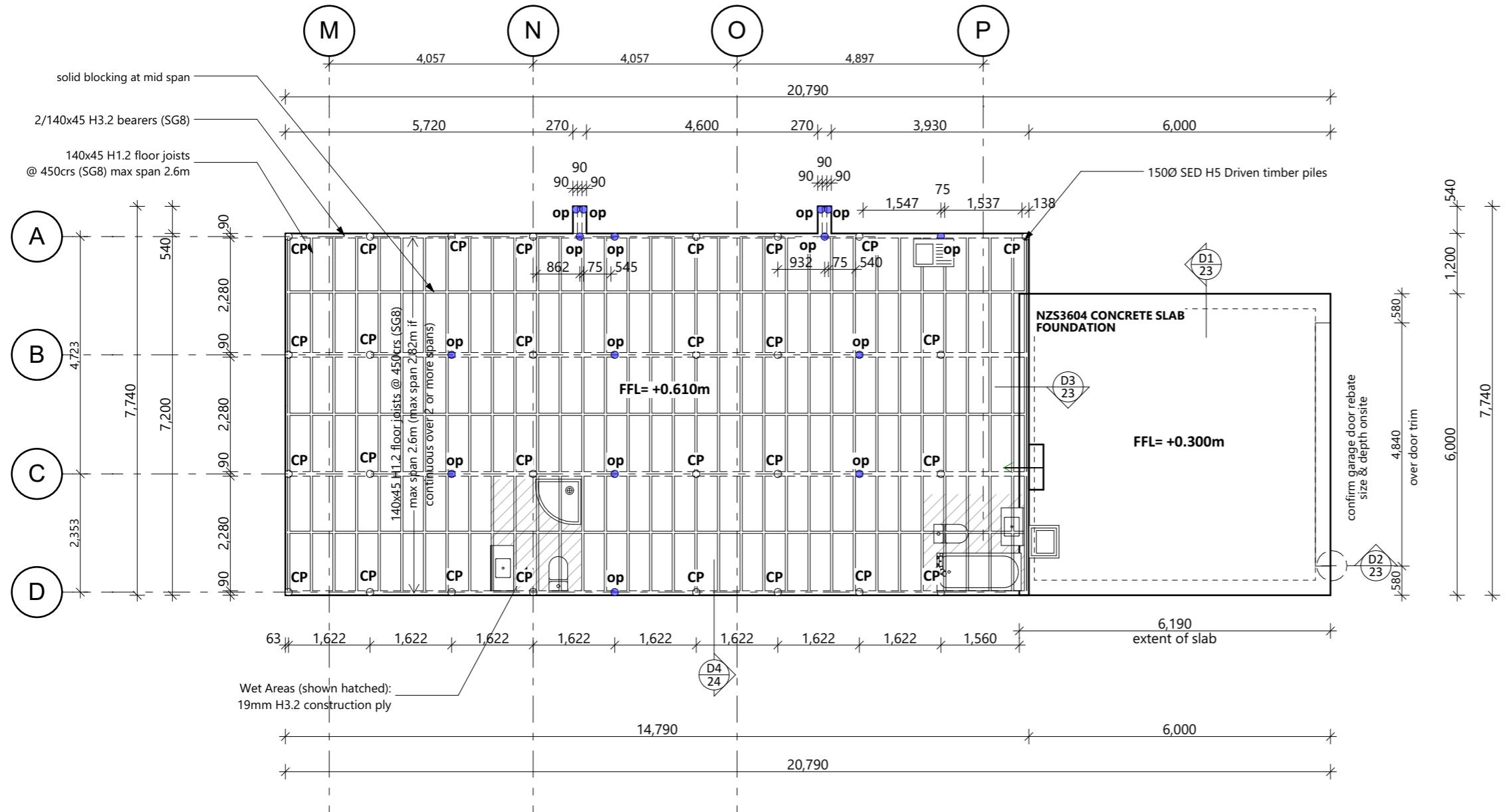
The bay dimensions formed by either construction or shrinkage control joints shall be limited to a maximum length:width ratio of 2:1. Maximum bay dimensions in exposed concrete, vinyl or tiled areas to be 6m x 6m.

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

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

**Read in accordance with Field Report - Geotech  
Ref: 2016/764, Designwater Consulting Ltd.**



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**FOUNDATION PLAN**

Scale: 1:100

Sheet no:

6

Rev:

Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018
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Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1
Call 0800 A1homes 214663				
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Job no: WGA025

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**Construction Notes:**

Lateral support of floor joists

7.1.2.1

• Lines of lateral support to floor joists as specified in 7.1.2.2 shall be provided within 300 mm of the following locations:

(a) Ground floor joists: Along all subfloor lines of horizontal support (i.e. over bearer lines);

7.1.2.2

A line of lateral support to floor joists shall consist of:

(a) At the ends of joists: A continuous boundary joist 25 mm thick and the same depth as the floor joists; or

(b) In any location including at joist ends: Full depth blocking or strutting complying with

7.1.2.4 between adjacent floor joists at not more than 1.8 m maximum centres provided that:

(i) There shall be solid blocking between the 2 edge pairs of joists;

and

(ii) Additional solid blocking shall be provided where required by 7.1.2.4. 7.1.2.3

In addition to any lateral support required by 7.1.2.1, floor joists having a span of over 2.5 m and a depth of 4 or more times their thickness shall be laterally supported by continuous blocking or strutting complying with 7.1.2.4 at mid-span.

7.1.2.4

Full depth blocking or strutting required by 7.1.2.2(b) or 7.1.2.3 shall be either:

(a) Timber blocking 35 mm thick, the same depth as the joists, neatly cut between adjacent joists; or

(b) Herringbone strutting consisting of 2 pieces of 35 mm x 35 mm timber set diagonally in opposite joints in bearers shall be made only over supports but shall not occur where the bearer is fixed directly to an anchor pile or a braced pile.

A joint in a bearer shall be made over a support with a connection having a capacity of:

(a) Not less than 12 kN in tension or compression along the line of the bearer, or 6 kN each on both sides, if the bearer is one piece of timber; or

(b) 6 kN on one side of the joint when one laminate is continued over the support.

See figure 6.19.

Note: Builder to ensure that positioning of joists will not conflict with shower and wc waste pipes. NZS 3602:2003 Protection of interior flooring 110.3.1 Floor coverings in "wet areas" such as laundries, bathrooms, kitchens and toilets shall be as set out in E3/AS1. Where maintenance of an impervious coating cannot be assured in wet areas plywood or timber flooring that has been treated to a minimum of H3.1 shall be used.

- Considerable undetected water damage to particleboard and surrounding wall floor framing can occur under baths used as a shower and under certain types of shower trays. It is recommended that H3 treated plywood be used under such fittings where maintenance cannot be assured.

Adjoining timber framing and timber supporting these fittings should be treated.

Areas in question have been highlighted with angle hatch, exact locations to be confirmed on site

**Floor joists under walls**

- Where a loadbearing wall runs parallel to the line of floor joists beneath, it shall be supported by a pair of joists. Such a pair of joists may be separated by solid packing not exceeding 50 mm thick or half the thickness of the wall above, whichever is the lesser, at not more than 600 mm centres.

- Where a loadbearing wall runs at right angles to the line of joists, such a loadbearing wall shall be located at not more than 200 mm centre-to-centre from a bearer or subfloor loadbearing wall

- Where a non-loadbearing wall:

  - Which contains wall bracing elements runs parallel to the line of floor joists beneath, it shall either:

  - (i) Be over a joist; or

  - (ii) Be supported by solid blocking between the joists on either side of the wall in accordance with 7.1.3.6;

or

  - Does not contain a wall bracing element it shall be within 150 mm of a joist measured between centre lines.

7.1.3.6

Solid blocking shall be 90 mm x 45 mm cut neatly between joists, with its top flush with the top of the joists, set at each end of the wall above, at each side of any door openings, and at not more than 1.2 m centres elsewhere.

- Materials for piles

Timber piles shall comply with NZS 3605 and be treated to H5 of NZS 3640. Where a timber pile has been cut after treatment, the well dried cut surface shall be brush-treated with a liberal application of either creosote, zinc naphthalene, TBTO (bis-(tri-n-butyltin) oxide) or TBTN (bis-(tri-nbutyltin) naphthalene).

The surface shall not be cut for fixings and other purposes closer than 150 mm to the finished ground level.

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

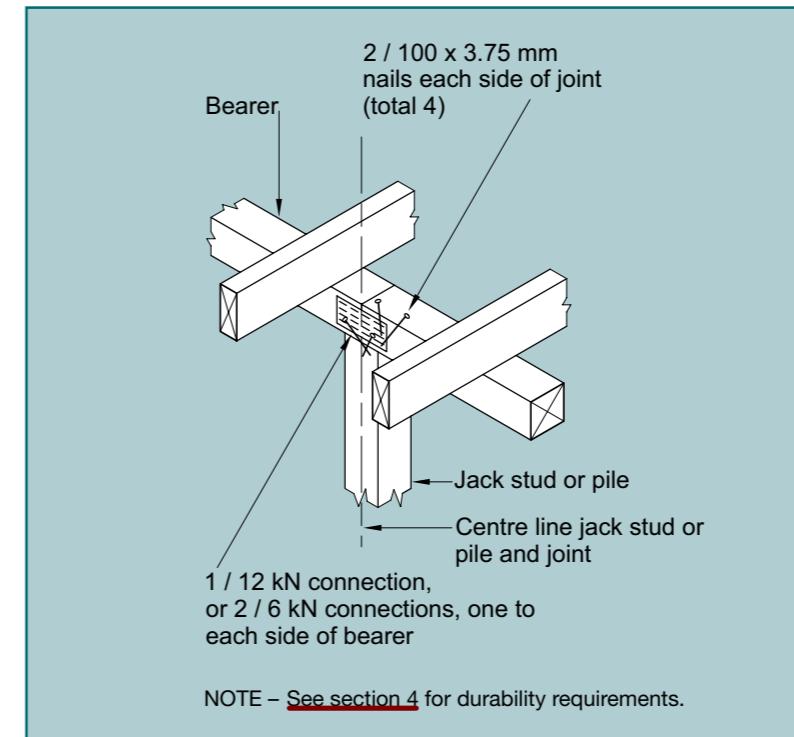


Figure 6.19 – Joints in bearers (see 6.12.7.1 and 6.12.7.2)

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**FOUNDATION NOTES**

Scale:

Rev:

7

Sheet no:

Design: A1 Drawn: TN Check: AG LBP: UP Date: 21/11/2018

Wind: HIGH Earthq: 1 Exposure: D (SS) Snow: NO Climate: 1

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Job no: **WGA025**

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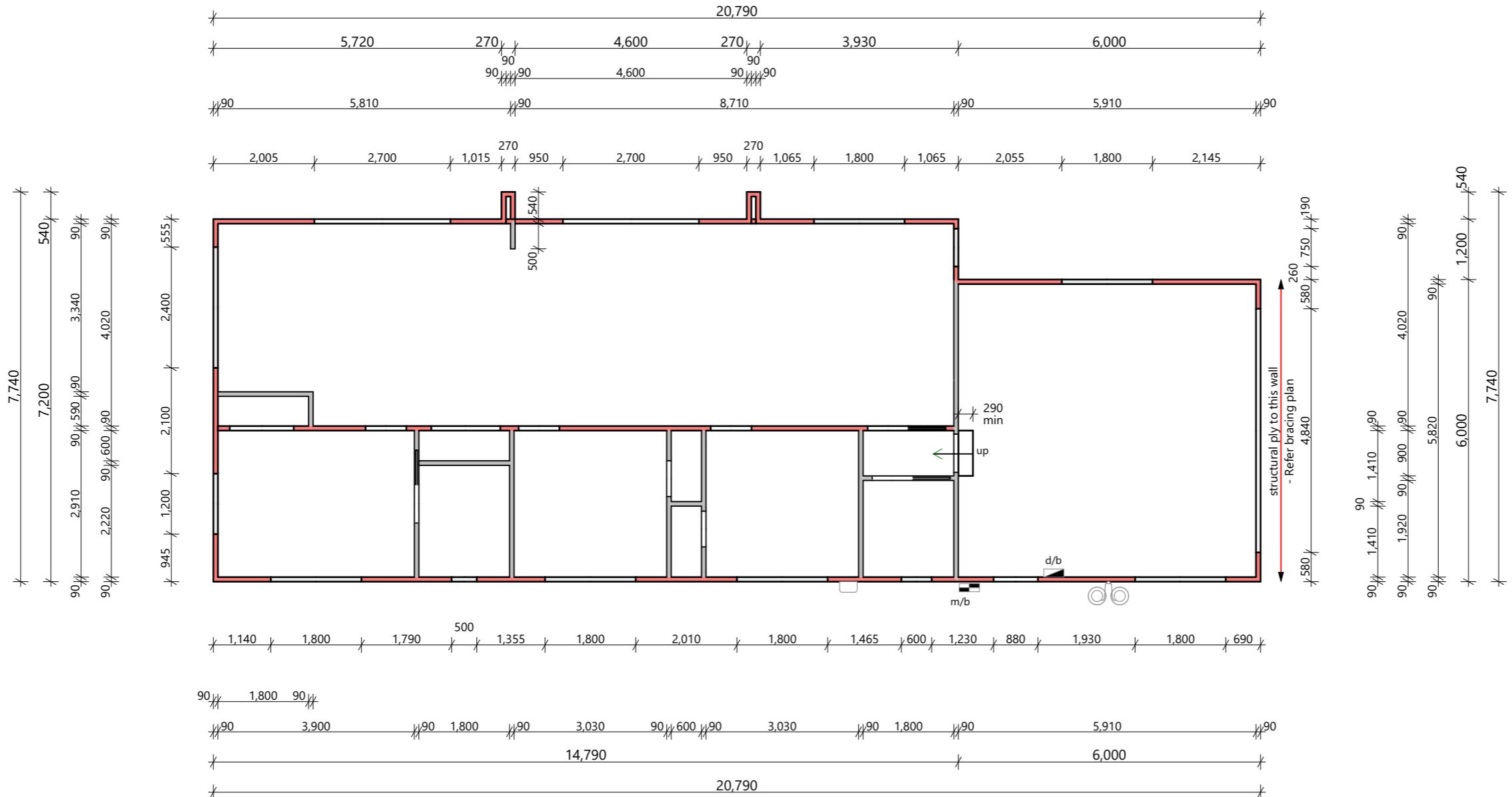
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Thames-Coromandel  
District Council

**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.  
In the case of ANY discrepancies, call designer for clarification (07) 578 7345

Note:  
2420 stud ht. throughout  
Shadowclad cladding

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### FRAMING PLAN

					Scale: 1:100	Sheet no:	8
					Rev:		
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018			
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663	www.A1homes.co.nz	BH100

### Client Details:

N & M Heath  
Address:  
45 Longreach Drive  
Cooks Beach

Job no: WGA025

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Site measure and confirm all joinery sizes, reporting to designer any changes, PRIOR to ordering joinery. No liability shall be held by designer or incorrect supply of joinery.

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

**Construction Notes:**  
Electric hobs with vented r/hood.  
Gas hotwater.  
Ensure gas appliance installation complies to NZS 5261: 2003.  
Polybutylene water supply pipes.  
Hot water supply pipes shall be thermally insulated to comply with H1/AS1 5.0.  
The delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C

Gas bottles: 2/1250high x 375ø bottles to be mounted on conc. base & secured with seismic restraints (chains or fixed brackets) 1000mm from door, drain or air vent, 1500mm from any point of ignition, min 150mm below an opening window.  
(gas fitter to confirm)

Gas water heater: 300mm from any opening door or window, 75mm from down pipes, 500mm fuse or electric box, 1500mm from gas bottles, 300mm from wall or corner, 1500mm from ground.  
(gas fitter to confirm)

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

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.

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

#### FLOOR FINISHES:

Sealed Particle Board  
Hall Dining  
Master Bed Living  
Bedroom 2 Kitchen  
Bedroom 3 Entry

Vinyl  
Bathroom  
Ensuite

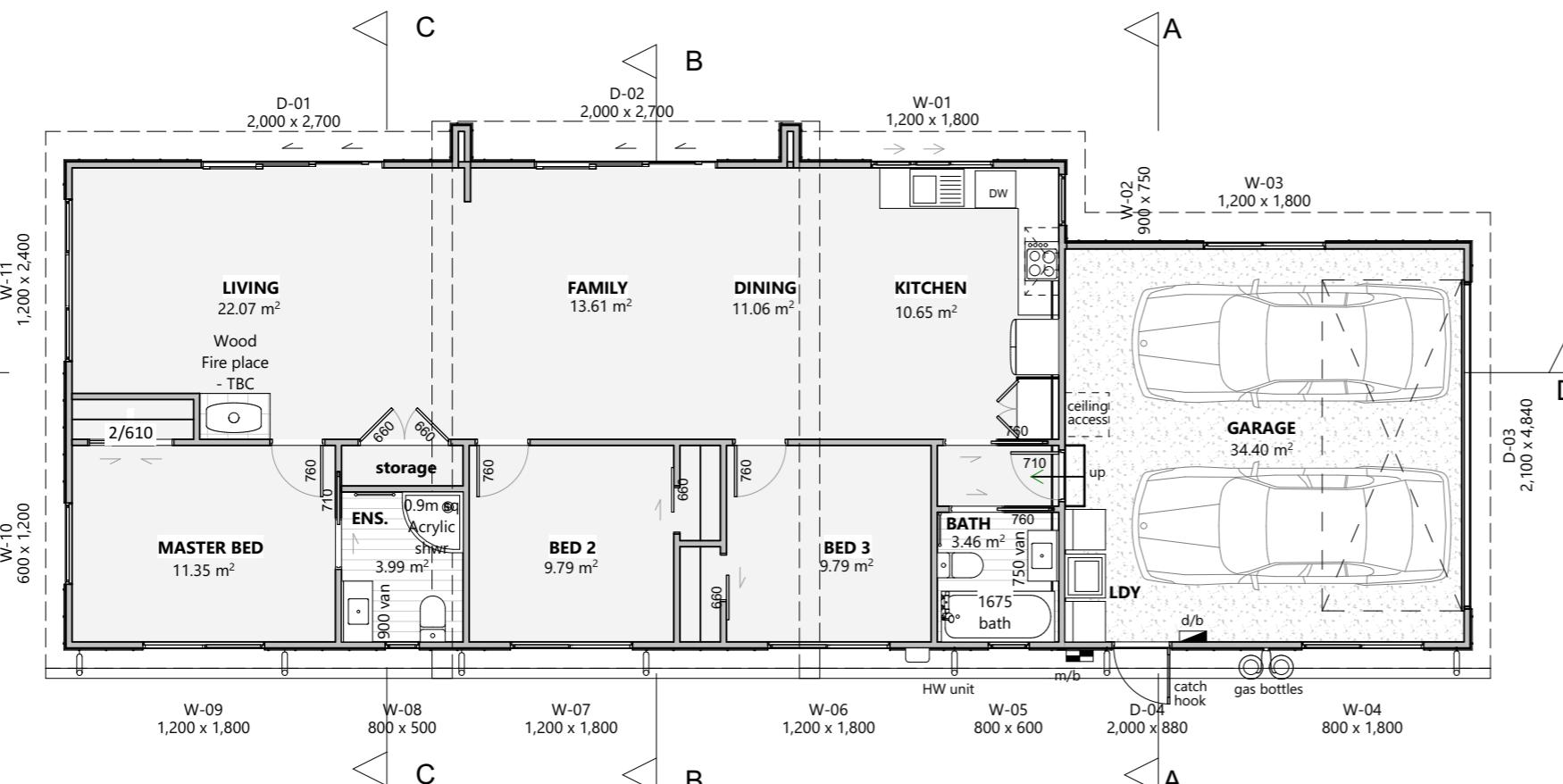
Concrete  
Garage

#### CLADDING KEY:

Shadowclad cladding

**Note:**  
**2420 stud ht. throughout**

**Ground Floor Area = 142.78 m<sup>2</sup>**



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#### FLOOR PLAN

					Scale: 1:100	Sheet no:	9	Client Details: N & M Heath Address: 45 Longreach Drive Cooks Beach	Job no: WGA025
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018	Rev:				
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663				
					www.A1homes.co.nz				

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Safety restrictor stays:

**ss = safety stays**

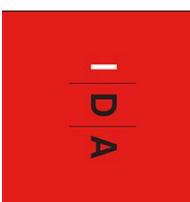
- a restrictor fitted to limit the maximum opening so that a 100mmØ sphere cannot pass through

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**



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### JOINERY SCHEDULE

JOINERY SCHEDULE					Scale: 1:50	Sheet no:	Client Details: N & M Heath  Address: 45 Longreach Drive Cooks Beach
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018	Rev:	10	
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663		
					www.A1homes.co.nz		

Job no: **WGA025**

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District Council

**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 plus amendments  
All glazing low-e clear float except for obscure glass to bathrooms  
Double glazing to all window and door joinery excluding garage

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) 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.

**Foundation:**  
House: Timber floor foundation - NZS 3604  
Garage: Concrete Foundation - NZS 3604

**Wall Cladding:**  
Shadowclad Cladding

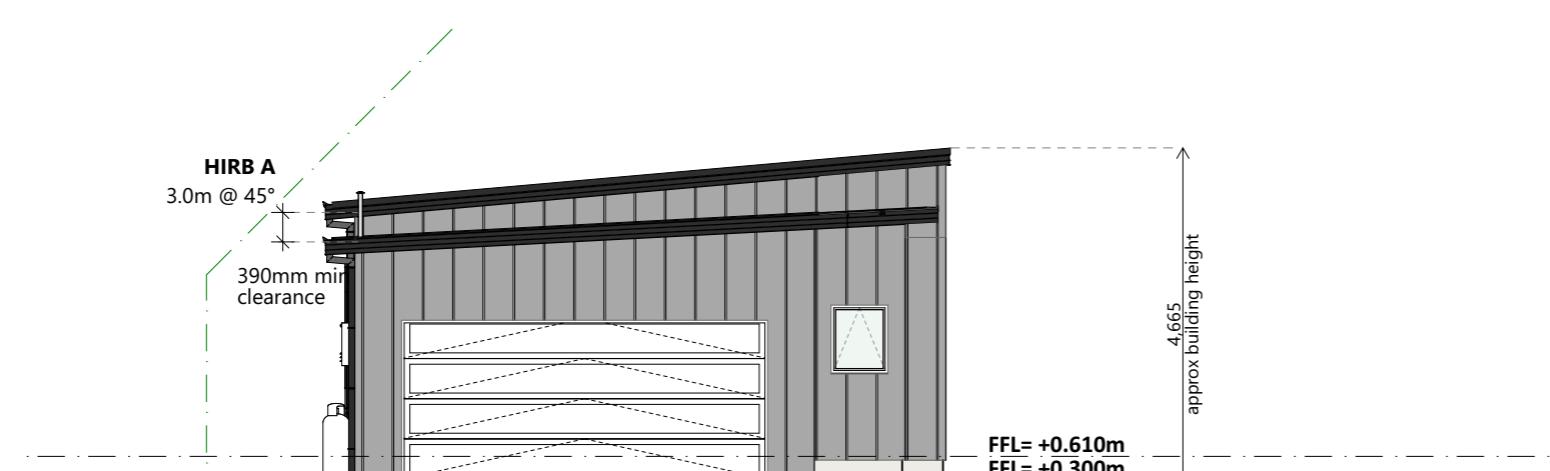
**Roof Cladding:**  
3 & 5 ° pitch. NZS Colosteel Maxx Trapezoidal profile

**Fascia and Spouting:**  
Metalcraft 185 Colorsteel  
Metalcraft 1/4 round spouting  
Marley PVC 80mmØ round downpipes

**Joinery:**  
APL Residential suite Aluminium joinery (Colour - Silver Pearl)



**NORTH ELEVATION**



**EAST ELEVATION**

BUILDING ENVELOPE RISK MATRIX ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Very high risk	5
Eaves width	High risk	2
Envelope complexity	Low risk	0
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>8</b>

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### ELEVATIONS

ELEVATIONS					Scale: 1:100	Sheet no:	11
					Rev:		
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018			
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663	www.A1homes.co.nz	BH100

**Client Details:**  
N & M Heath  
**Address:**  
45 Longreach Drive  
Cooks Beach

Job no: WGA025

**A1homes**

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

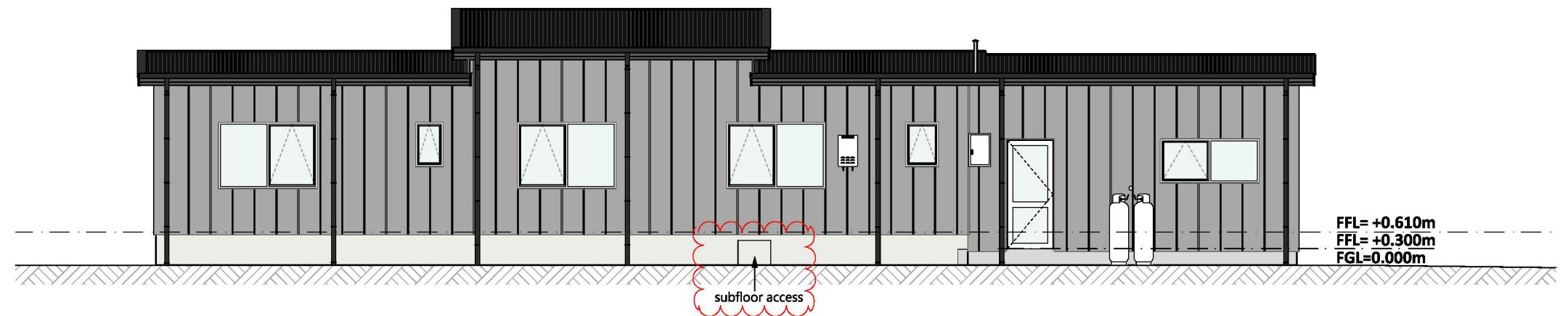
**Construction Notes:**  
Glazing in accordance with NZS 4223 & 2008 plus amendments  
All glazing low-e clear float except for obscure glass to bathrooms  
Double glazing to all window and door joinery excluding garage

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 email, phone or other.

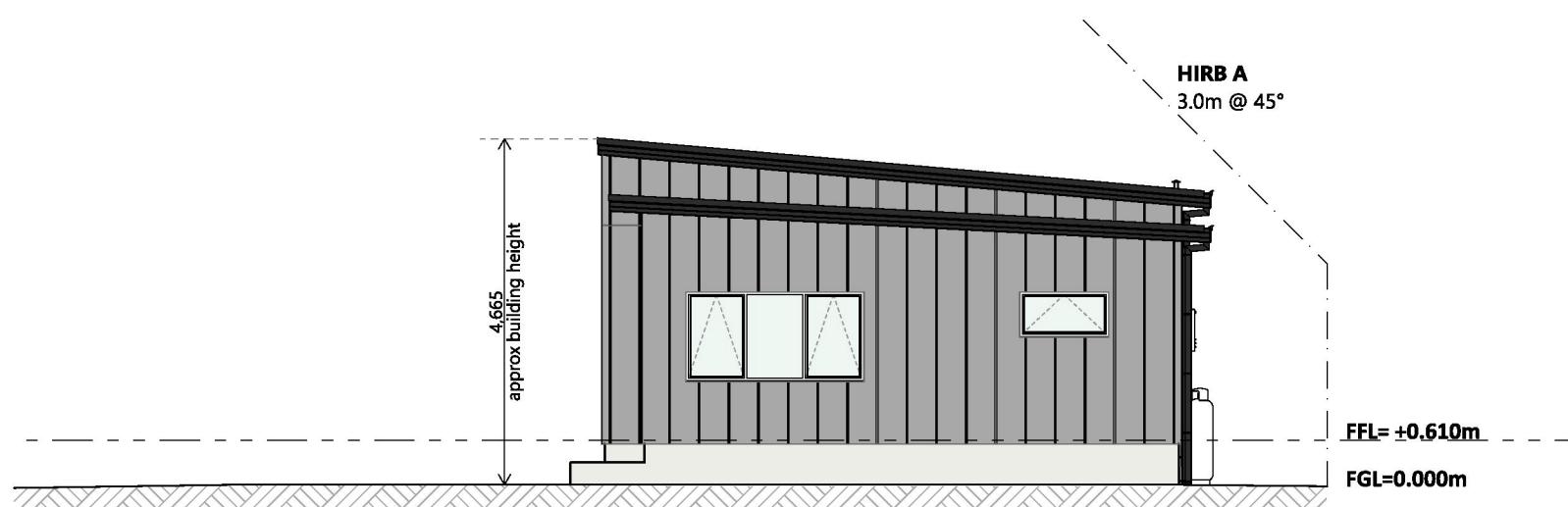
**HIRB = Height in Relation to Boundary**

**NZBC D1/AS1 Access Routes:**  
Concrete (min 150mm below FFL) 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.



**SOUTH ELEVATION**



**WEST ELEVATION**

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Very high risk	5
Eaves width	High risk	2
Envelope complexity	Low risk	0
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>8</b>

**Foundation:**  
House: Timber floor foundation - NZS 3604  
Garage: Concrete Foundation - NZS 3604

**Wall Cladding:**  
Shadowclad Cladding

**Roof Cladding:**  
3 & 5 ° pitch. NZS Colosteel Maxx Trapezoidal profile

**Fascia and Spouting:**  
Metalcraft 185 Colorsteel  
Metalcraft 1/4 round spouting  
Marley PVC 80mmØ round downpipes

**Joinery:**  
APL Residential suite Aluminium joinery (Colour - Silver Pearl)

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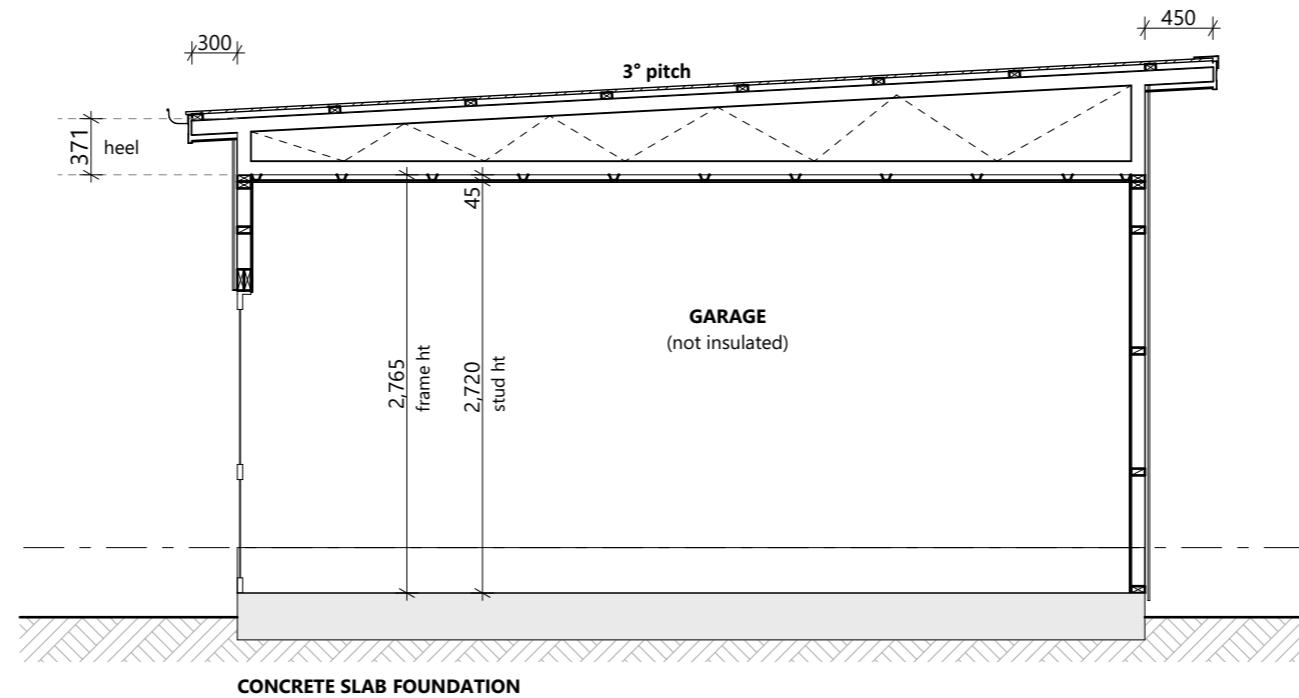
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### ELEVATIONS

ELEVATIONS					Scale: 1:100	Sheet no:	Client Details:	Job no: WGA025
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 11/01/2019	Rev: Rev A	12	Address:	BH100
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663			
					www.A1homes.co.nz			



**NOTE TO PRENAIL:**  
Minimum 390mm required  
between rafters or top chords to allow  
sufficient room to flash and clad



CROSS SECTION AA 1:50

Table 4 – Allowable moisture content (%)<sup>(1)</sup> 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 <sup>(2)</sup>	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, forestock	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

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Rev:

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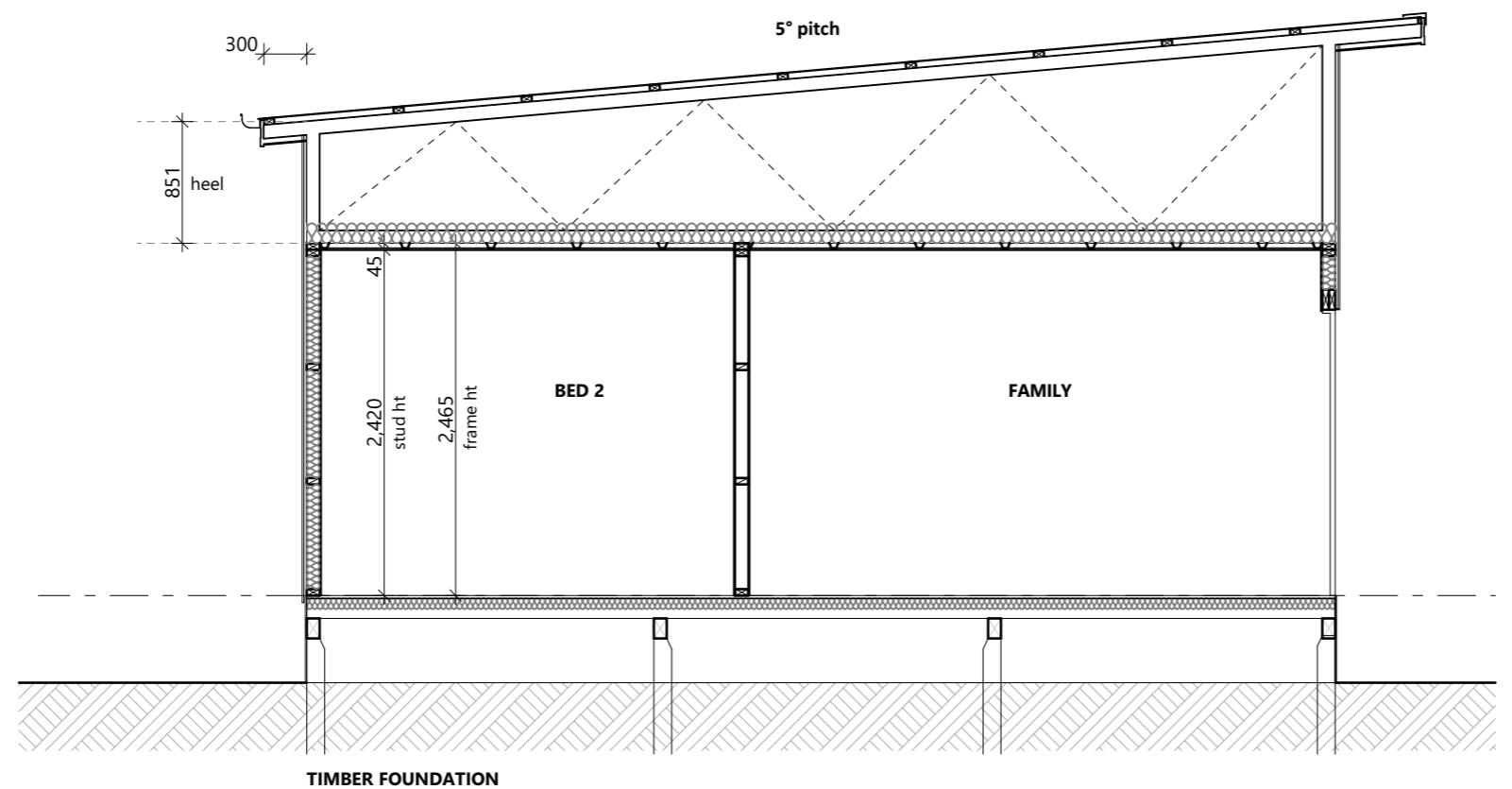
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**NOTE TO PRENAIL:**  
Minimum 390mm required  
between rafters or top chords to allow  
sufficient room to flash and clad



**Note: Exposure Zone D (Seaspray zone)**  
(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, nongalvanized)  
All structural fixings (including fabricated brackets)  
- In 'sheltered' & '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 'sheltered' areas = galv. steel (3)  
Framing in 'exposed' areas = type 304 stainless steel (1)

\*1. - Stainless steel nails shall be minimum type 304 stainless steel and have annular grooves  
\*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)

Minimum concrete strength after 28 days shall be: 25 MPa

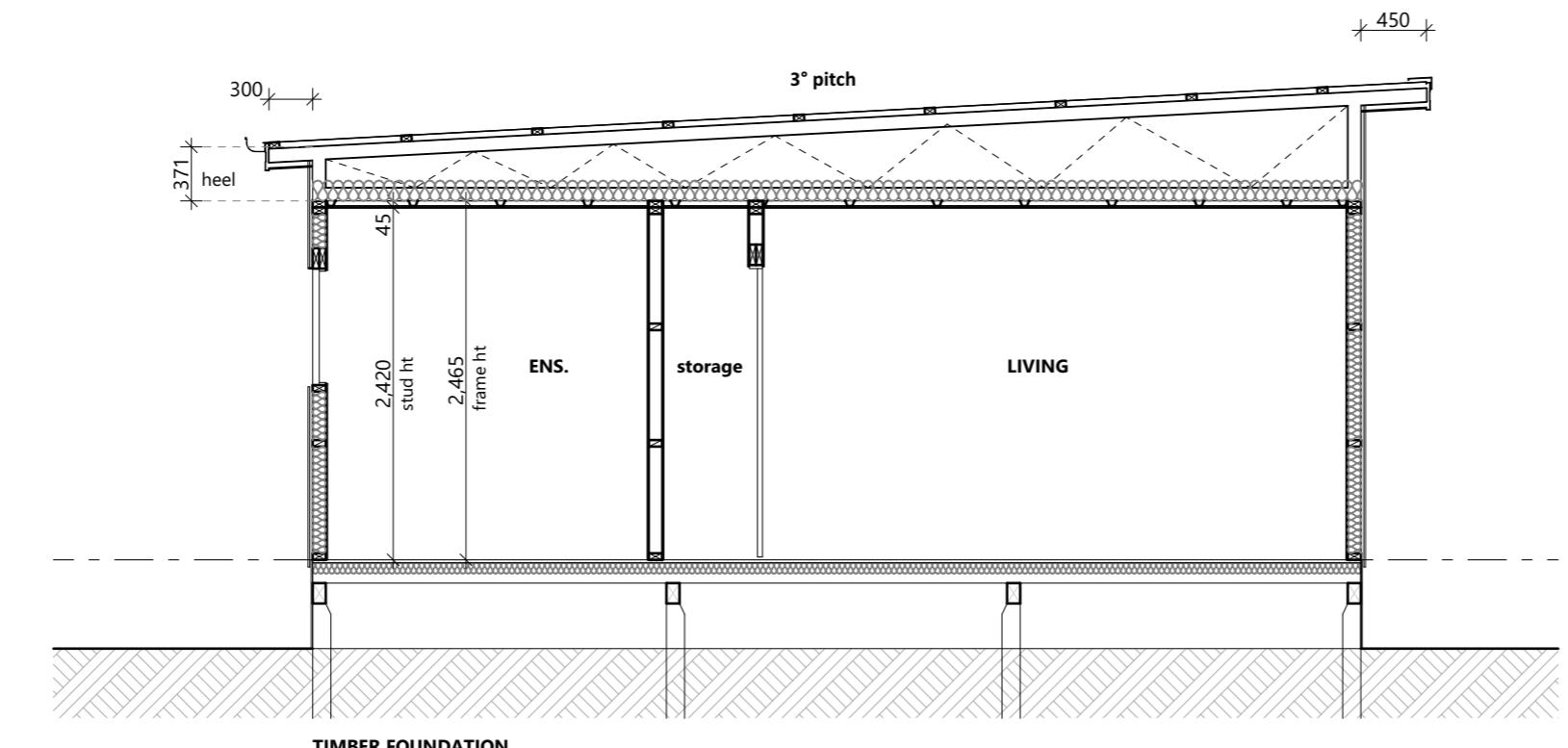
Fixing Materials: (as per Acceptable Solution E2/AS1) - for definitions refer to E2/AS1

Hidden:  
Aluminium , or Bronze, or type 304 stainless steel  
Nails - galv. steel  
Screws - galv. steel, Painted or unpainted to AS 3566: Part 2  
Exposed:  
Aluminium , or Bronze, or type 304 stainless steel  
Screws - galv. steel, Painted or unpainted to AS 3566: Part 2  
Sheltered:  
Aluminium , or Bronze, or type 304 stainless steel

Note:

\* Hidden steel coated elements in ventilated cavities in Zones D & E (exposure to salt air) must be considered as 'Sheltered'

\* 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



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Sheet no:  
**14**

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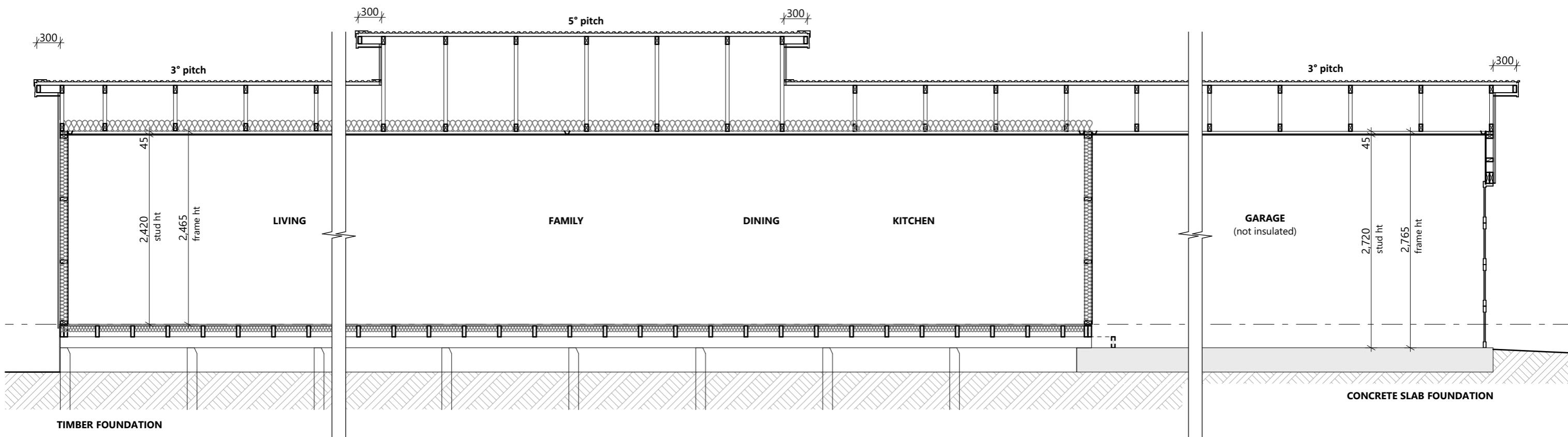
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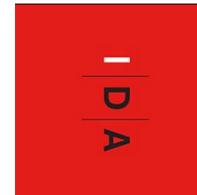
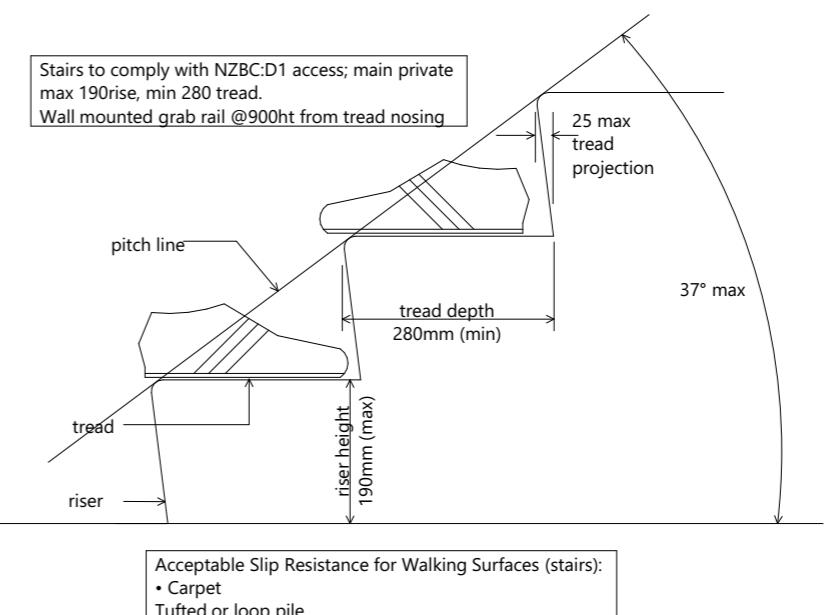
**NOTE TO PRENAIL:**  
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between rafters or top chords to allow  
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**CROSS SECTION DD 1:50**



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**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 on 07 578 7345

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

**Fixings:**  
- refer to Lumberlok manual

**Lintel Key:**  
190x90 - G ← Fixing  
Size

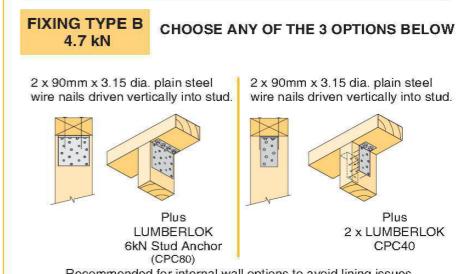
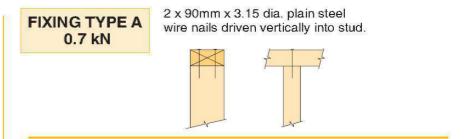
**Trimming Studs:**  
JS1 = Jamb studs  
- refer to CHH Design IT calcs  
Refer to following page for trimming stud requirements  
All Lintels GREATER than 1.8m span require an additional trimming stud

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

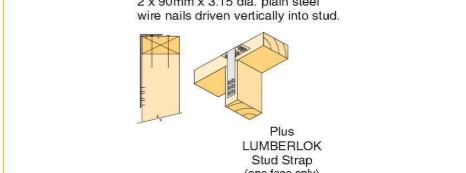
**Stud to Top Plate Fixings:**  
- refer to Lumberlok manual

**Stud to top plate:**  
Use Mitek type B fixing (excl. gable ends)  
Gable end - Use Mitek type A fixing

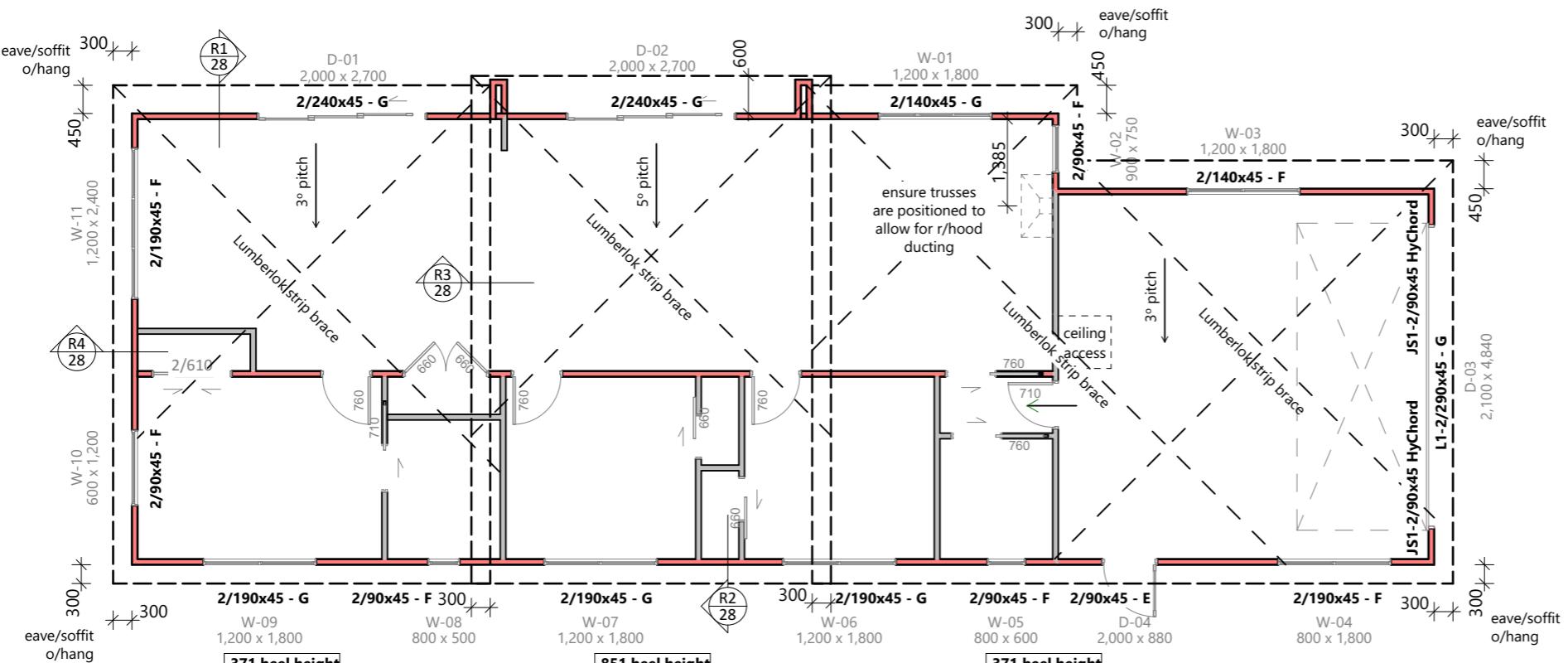
#### FIXING OPTIONS



Recommended for internal wall options to avoid lining issues



**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.



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#### ROOF PLAN

ROOF PLAN					Scale: 1:100	Sheet no:	16
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**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

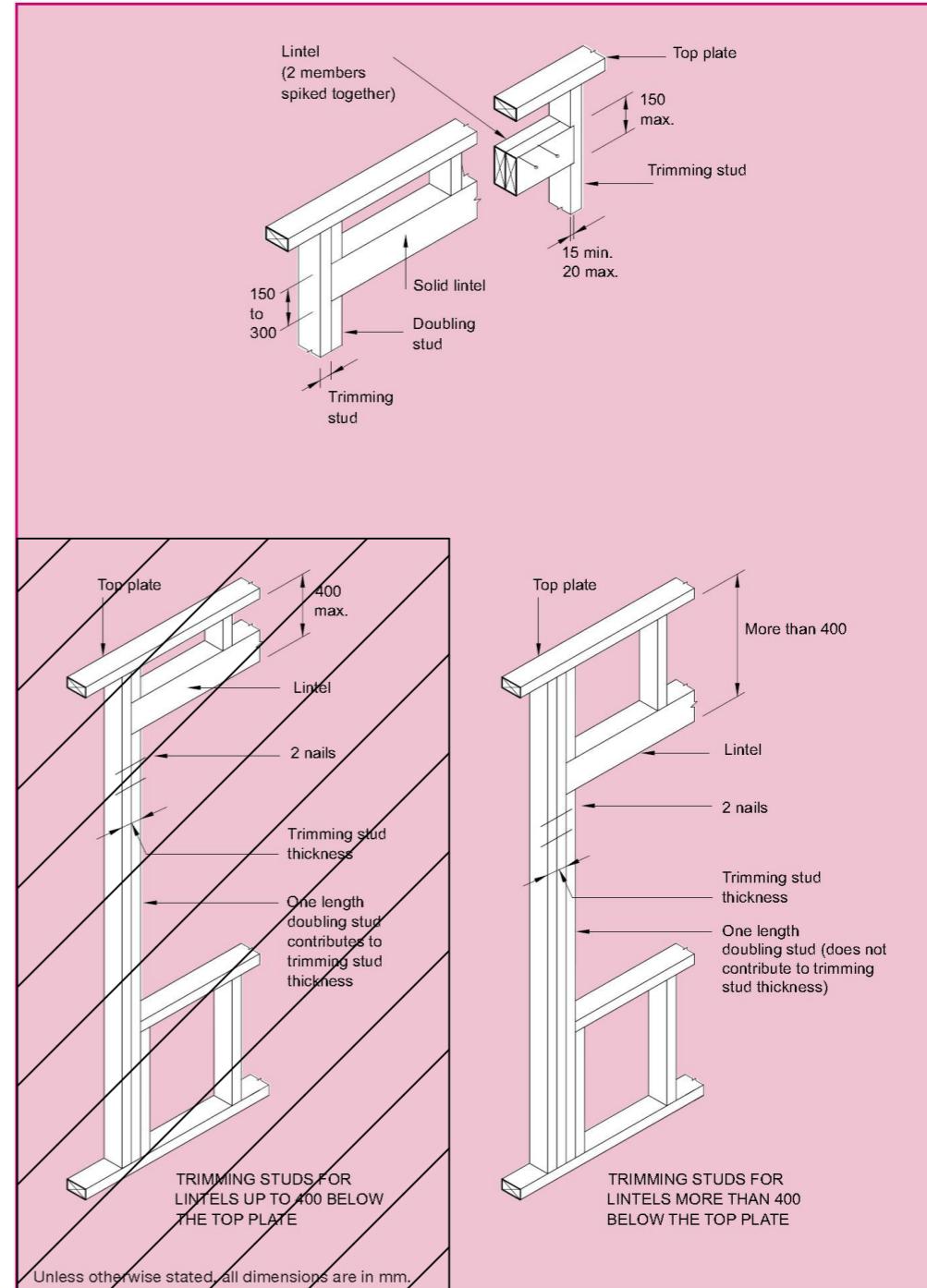
**Table 8.5 – Trimming studs (see 8.5.2.1)**

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

\* 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)**

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## TRIMMING STUDS

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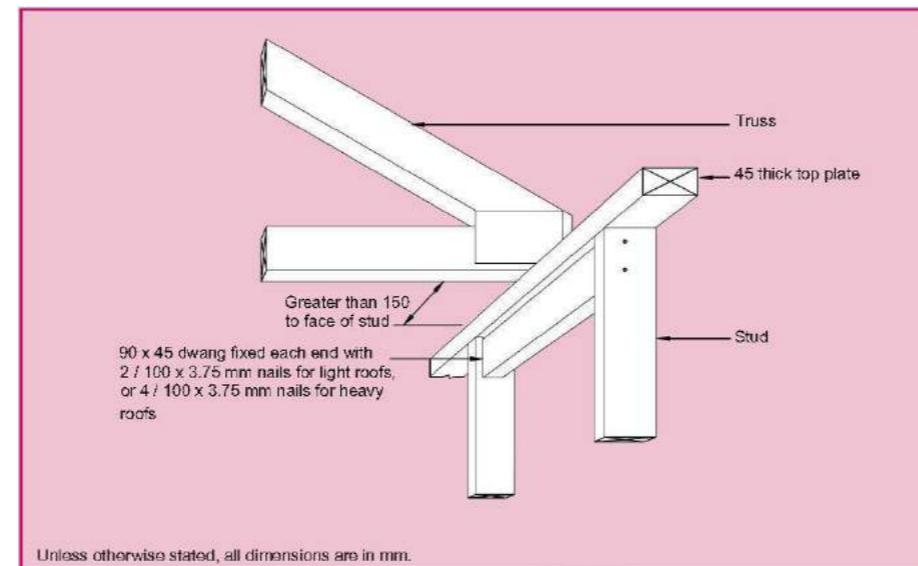


Figure 8.13 – Strengthening top plate (see 8.7.1.1 and table 8.16)

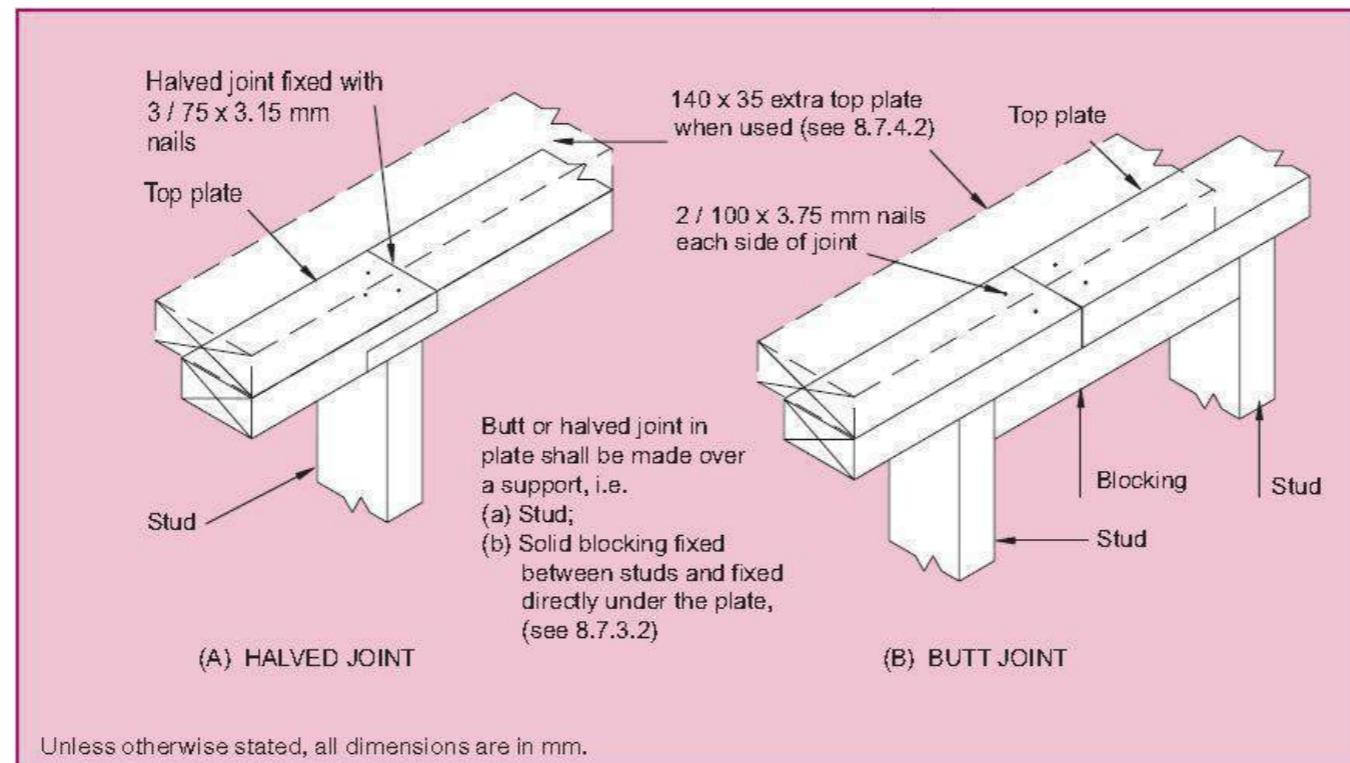


Figure 8.14 – Connecting top plates – Walls not containing bracing (see 8.7.3.2)

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### TOP PLATE JOINTING

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All bracing elements are GS1-N  
unless otherwise stated!

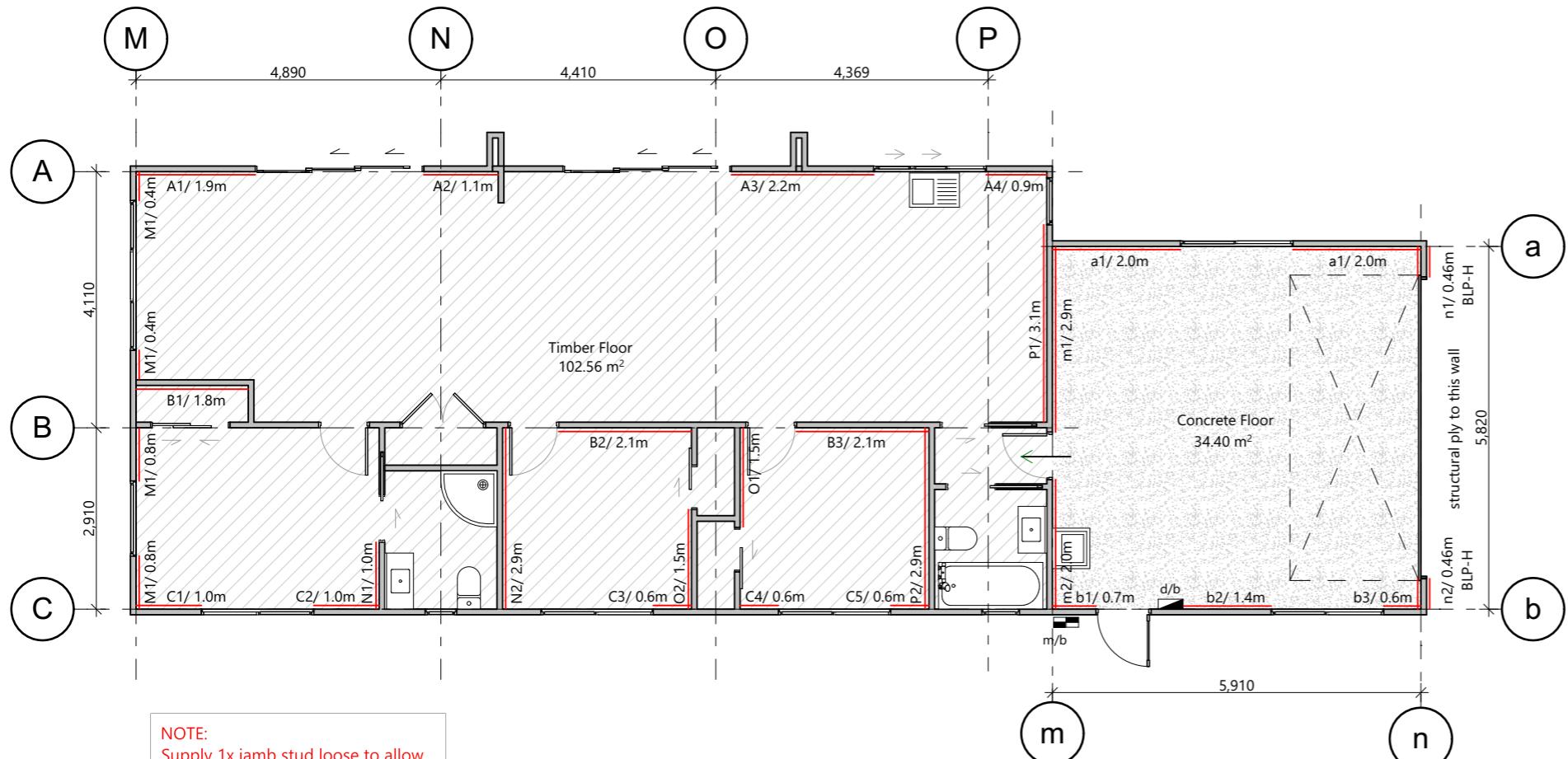
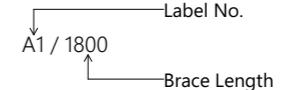
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**Cautionary Notes:**

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
BL1-H	10mm GIB BRACELINE on one side, min. length 0.4m + GIB Handibrac hold down ea. end
All braces are GS1-N, unless otherwise stated	



**NOTE:**  
Supply 1x jamb stud loose to allow handibrac to fix to outer jamb stud.  
Notch loose stud to allow positioning over handibrac.

'H' type elements with specific hold downs

**Openings in Bracing Elements**

(as per GIB Ezybrace System)

**SMALL OPENINGS**

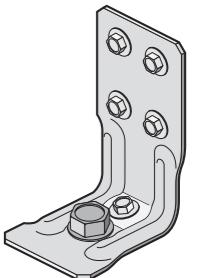
Small openings (e.g. power outlets) of 90 x 90mm or less maybe placed no closer than 90mm to the edge of the braced element. A block may need to be provided alongside the perimeter stud as shown below.

**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.

**GIB HandiBrac® installation**

Developed in conjunction with MiTek™, the GIB HandiBrac® has been designed and tested by Winstone Wallboards for use in GIB EzyBrace® elements that require hold-downs. The GIB HandiBrac® is a substitute for bottom plate hold-down straps.

- Quick and easy to fit.
- May be fitted at any stage before lining.
- Framing face is clear to allow flush lining.
- Easily inspected.

The GIB HandiBrac® with BOWMAC® blue head screw bolt is suitable for timber and concrete floors constructed in accordance with NZS 3604:2011.

Concrete floor	Timber floor		
External walls	Internal walls	External walls	Internal walls
GEB009	GEB010	GEB011	GEB012
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate.			
<b>Hold-down fastener requirements</b>			
A mechanical fastening with a minimum characteristic uplift capacity of 15kN or use supplied BT10/140 screwbolt in GIB HandiBrac® pack.		12 x 150mm galvanised coach screw or use supplied BT10/140 screwbolt in GIB HandiBrac® pack.	

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## 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:

- Bracing capacity not exceeding 100 bracing units: A 3 kN connection as shown in figure 8.15;
- Bracing capacity exceeding 100 bracing units: A 6 kN connection as shown in figure 8.15.
- 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:

- 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;
- 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;
- 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.

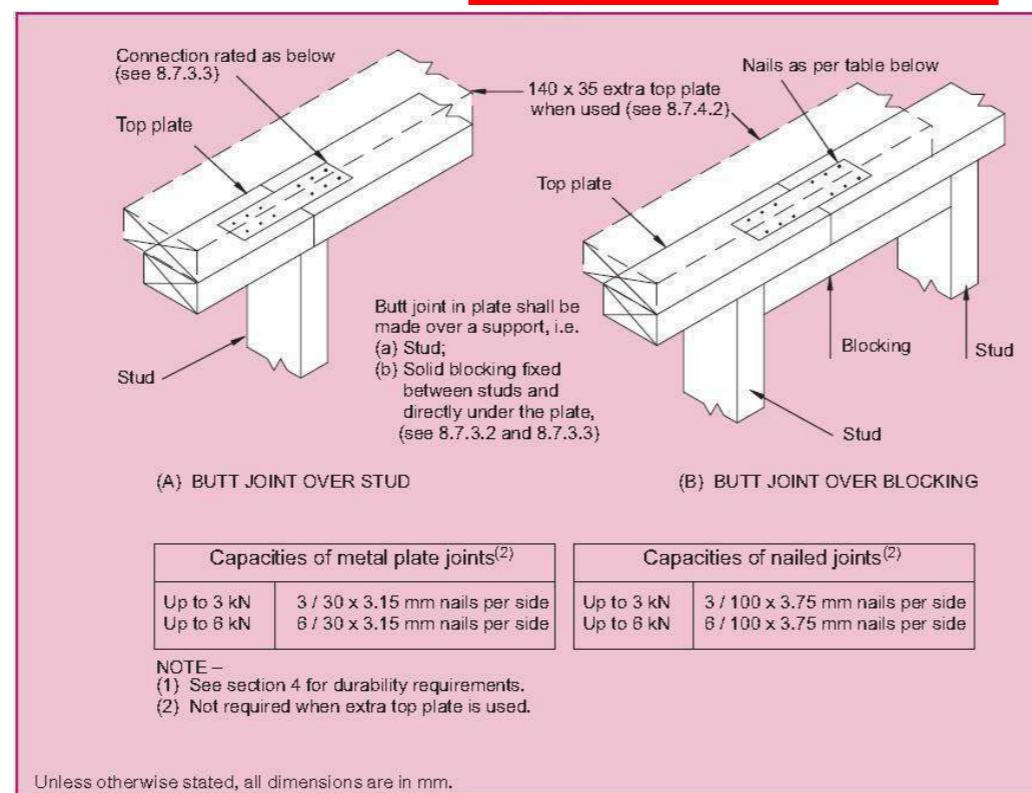


Figure 8.15 – Connecting top plates in line – Walls containing bracing (see 8.7.3.3)

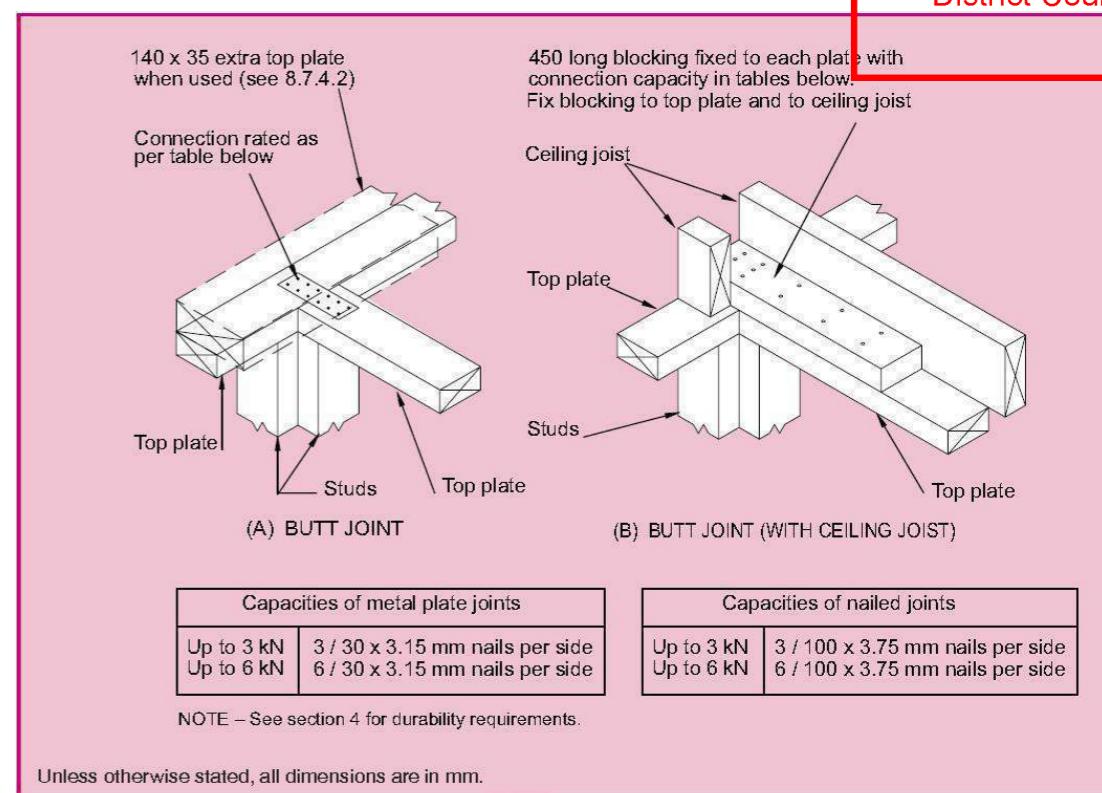


Figure 8.16 – Connecting top plates to external walls at right angles – Walls containing bracing (see 8.7.3.4)

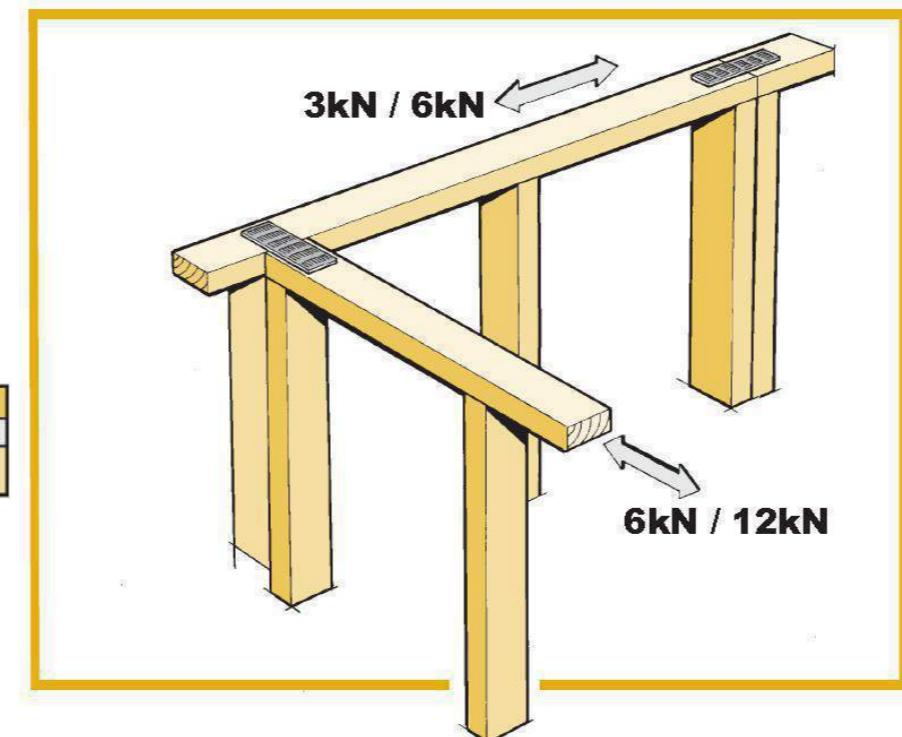
## LUMBERLOK® TOP PLATE JOINTING AS PER CLAUSE 8.7.3 NZS 3604:2011

### Top Plates at Right Angles

Connection capacity	LUMBERLOK Connector
6 kN	Tylok 6T10 OR 2 x Strap Nails
12 kN	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
3 kN	Tylok 6T5 OR Strap Nail
6 kN	Tylok 6T10 OR 2 x Strap Nails



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## TOP PLATE CONNECTIONS

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**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 & push button

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

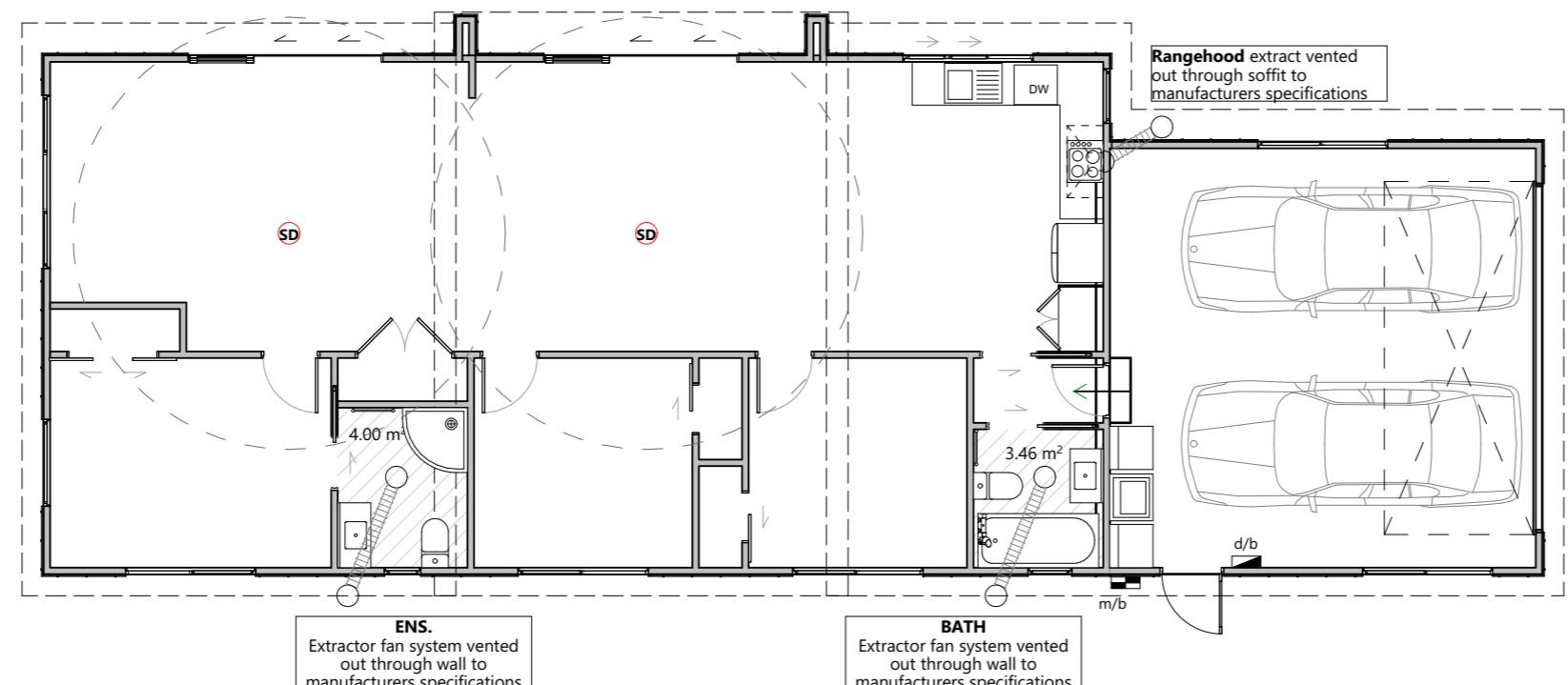
Down lights to be CA 80 or CA 135 Rated (max 1 per 5m<sup>2</sup>).

**Ventilation system to vent ducts & r/hood to WALL outlet**

**Ventilation of Sanitary rooms**

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

Room	Floor Area	Window Opening	Percentage
Bath	3.46 m <sup>2</sup>	800 x 600	0.48 m <sup>2</sup> 13.87%
Ens.	4 m <sup>2</sup>	800 x 500	0.4 m <sup>2</sup> 10.00%



**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



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**ELECTRICAL PLAN**

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					Rev:	22
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018		
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663	
					www.A1homes.co.nz	

**Client Details:**

N & M Heath

**Address:**

45 Longreach Drive  
Cooks Beach

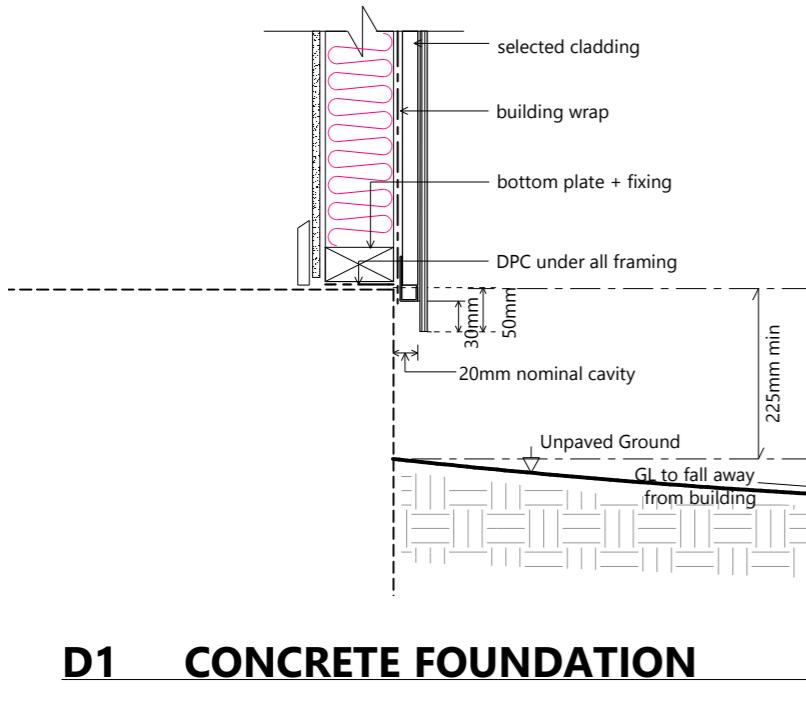
Job no: **WGA025**

BH100

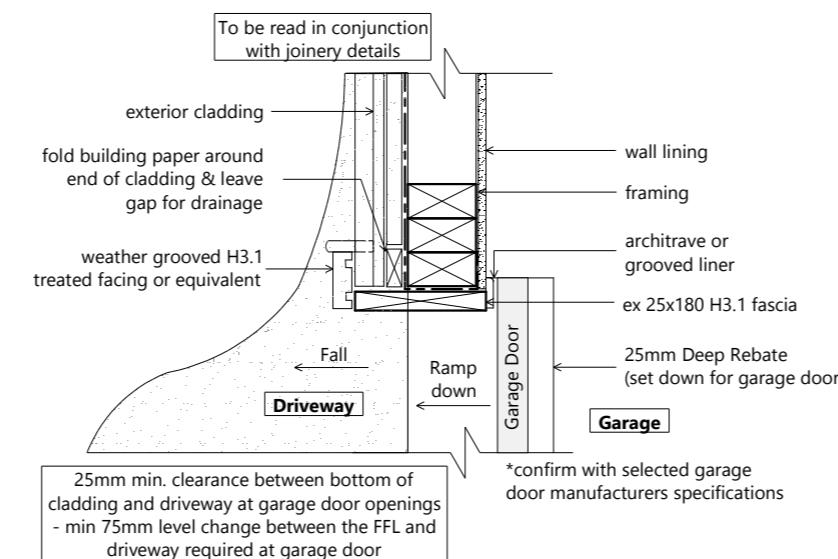
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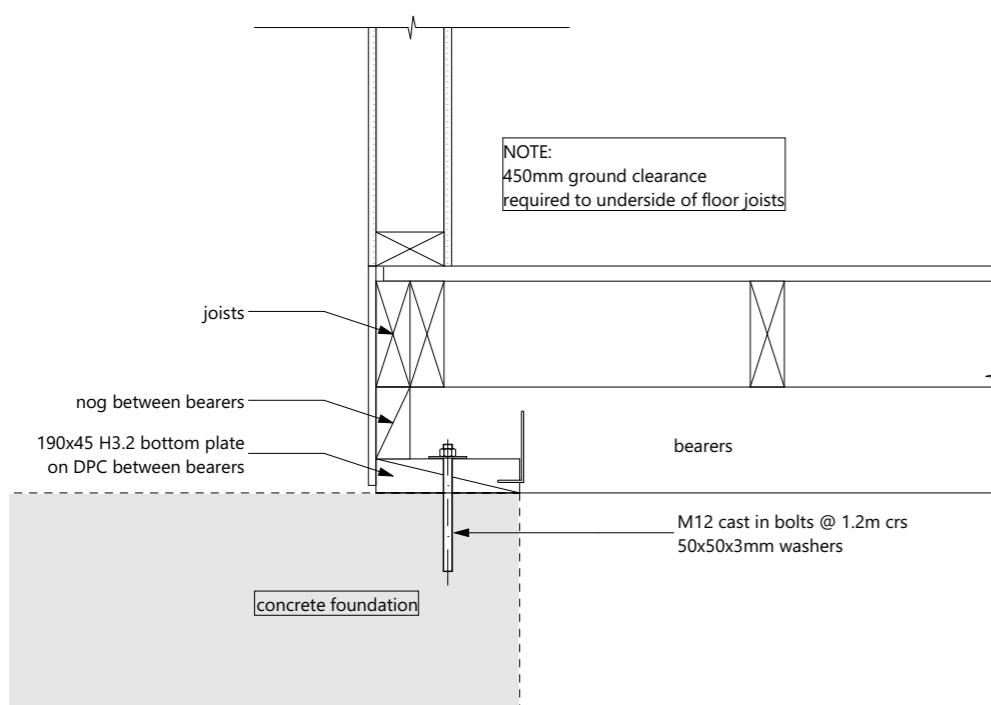
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## D1 CONCRETE FOUNDATION



## D2 GARAGE EDGE REBATE



## D3 CONCRETE/TIMBER FOUNDATION CONNECTION

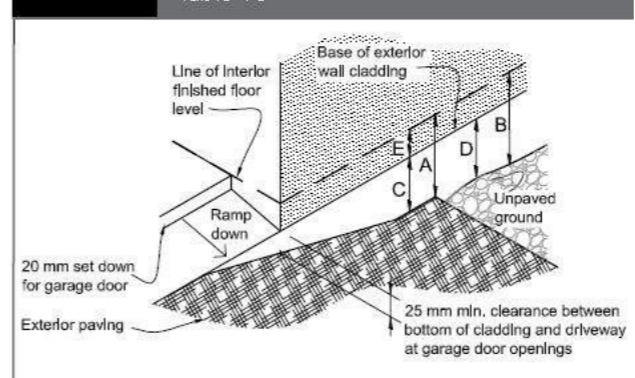
**Ramset™**  
**BOTTOM PLATE FIXING SOLUTIONS 2013**

| Meets NZS 3604:2011 Requirements | 90 x 45 Bottom Plate |

Bottom Plate Durability						
Bottom Plate Location	Fixing Requirements			Installation		
	Bottom Plate Fixing Requirement	Concrete Strength (min.)	Floor Edge Type	Max Spacing	Fastener	Min Edge Distance (from outer face)
External Wall	NZS3604:2011	17.5 MPa	Concrete	900 mm	12120BPAG <sup>1</sup> OR T12140GH <sup>1</sup>	55 mm
	Proprietary Bracing Systems (15 kN)	17.5 MPa	Masonry Block	600 mm		
			Concrete	900 mm		
			Masonry Block	600 mm	AS12150GH + RPBA	
Internal Wall	NZS3604:2011	17.5 MPa	N/A	900 mm	12120BPAG <sup>1</sup> OR T12140GH <sup>1</sup>	N/A
	Proprietary Bracing Systems (15 kN)	17.5 MPa	N/A	600 mm	8x75 Drive Pin & Washer	
			N/A	900 mm	12120BPAG <sup>1</sup> + RPBA OR T12140GH <sup>1</sup> + RPBA	

HD825 DRIVE PIN      AS12150GH ANCHOR      12120BPAG ANCHOR

**Figure 65:** Levels and garage openings  
Paragraphs 9.1.3, 9.1.3.4, 9.2.5,  
Table 18



**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	C	D	E	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50			
Timber floor	Refer Note 1)			100	175	502)				

NOTE: 1) Refer to NZS 3604 for requirements.

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

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Rev:

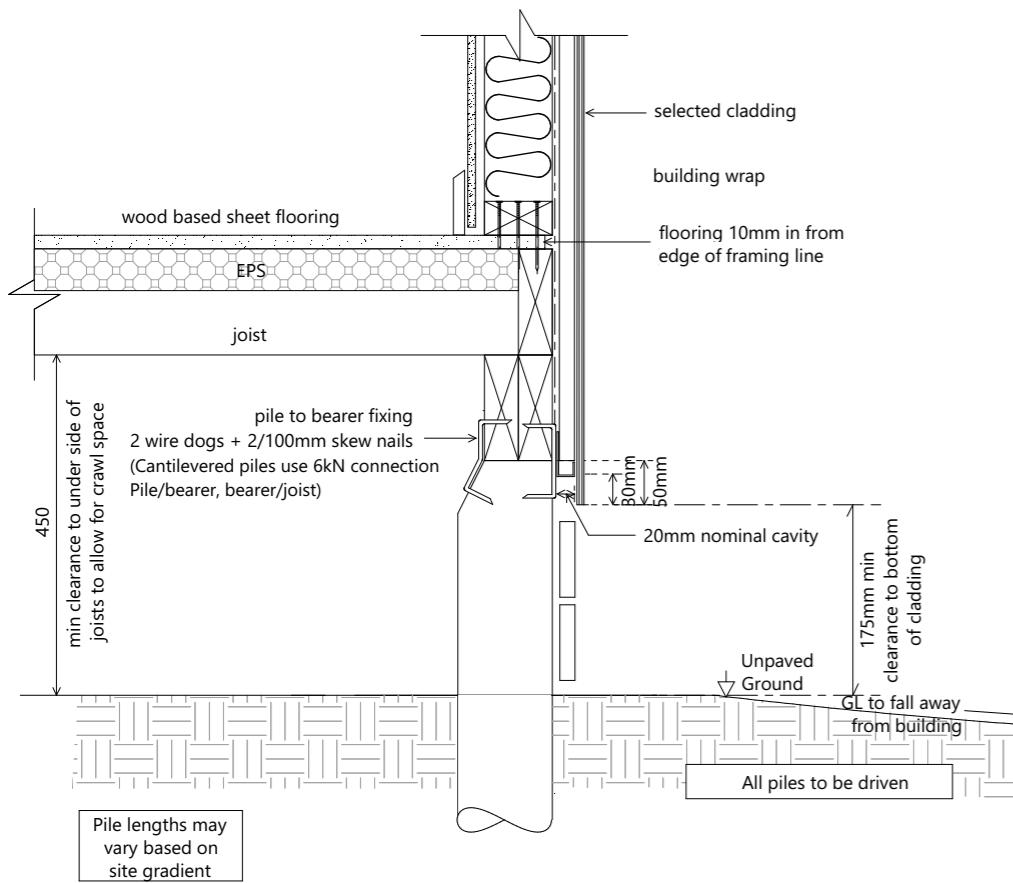
23

Client Details:  
N & M Heath  
Address:  
45 Longreach Drive  
Cooks Beach

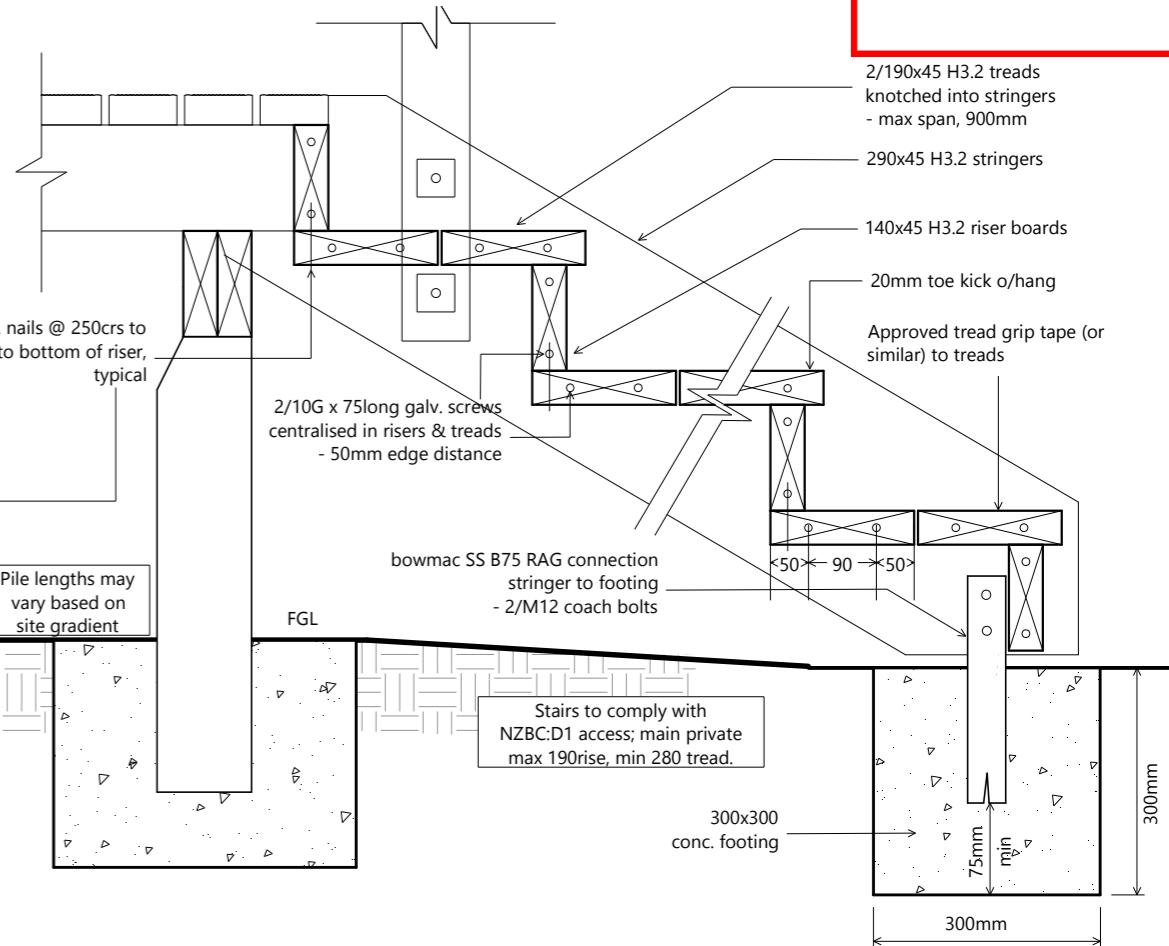
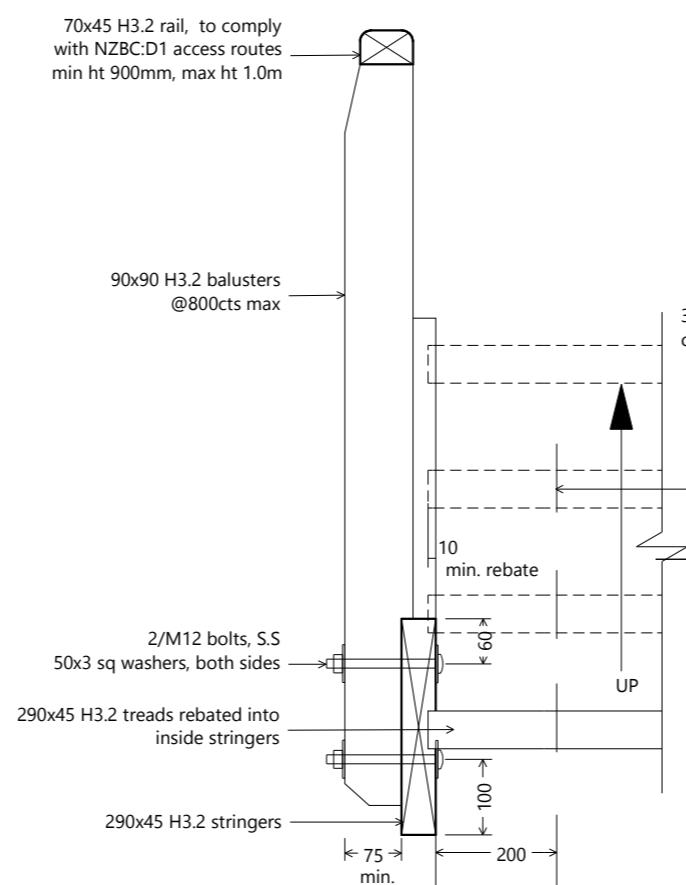
Job no: WGA025

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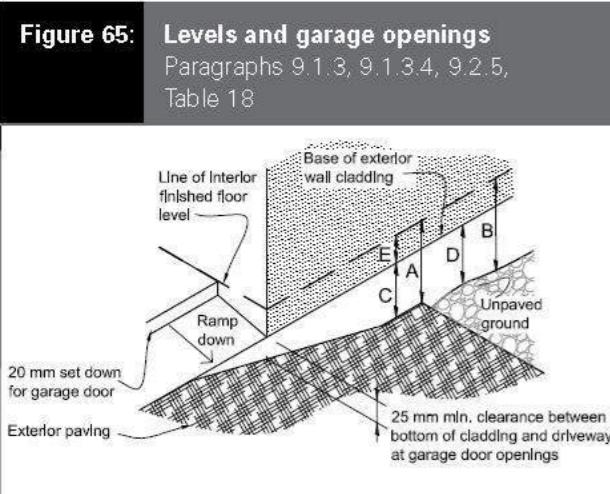
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## D4 TIMBER FOUNDATION



## EXTERNAL STAIR & HANDRAIL



**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
Concrete slab	100	150	150	225	100
Timber floor Refer Note 1			100	175	50 <sup>2</sup>

**NOTE:** 1) Refer to NZS 3604 for requirements.  
2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.

## PREVENTION OF DAMPNESS

### Ventilation opening area required:

To prevent subfloor dampness, provide subfloor ventilation openings over the whole subfloor area  
Ventilation openings shall be not less than 3500 mm<sup>2</sup> per m<sup>2</sup> of floor area and evenly distributed around the foundation perimeter.

- Ventilators spaced regularly, commencing 750 mm from the corner and at intervals not exceeding 1.8 m (see figure 6.11);
- Continuous 20 mm wide slots between baseboards

**Connections to treated timber piles = type 304 stainless steel**

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Cooks Beach

Job no: **WGA025**

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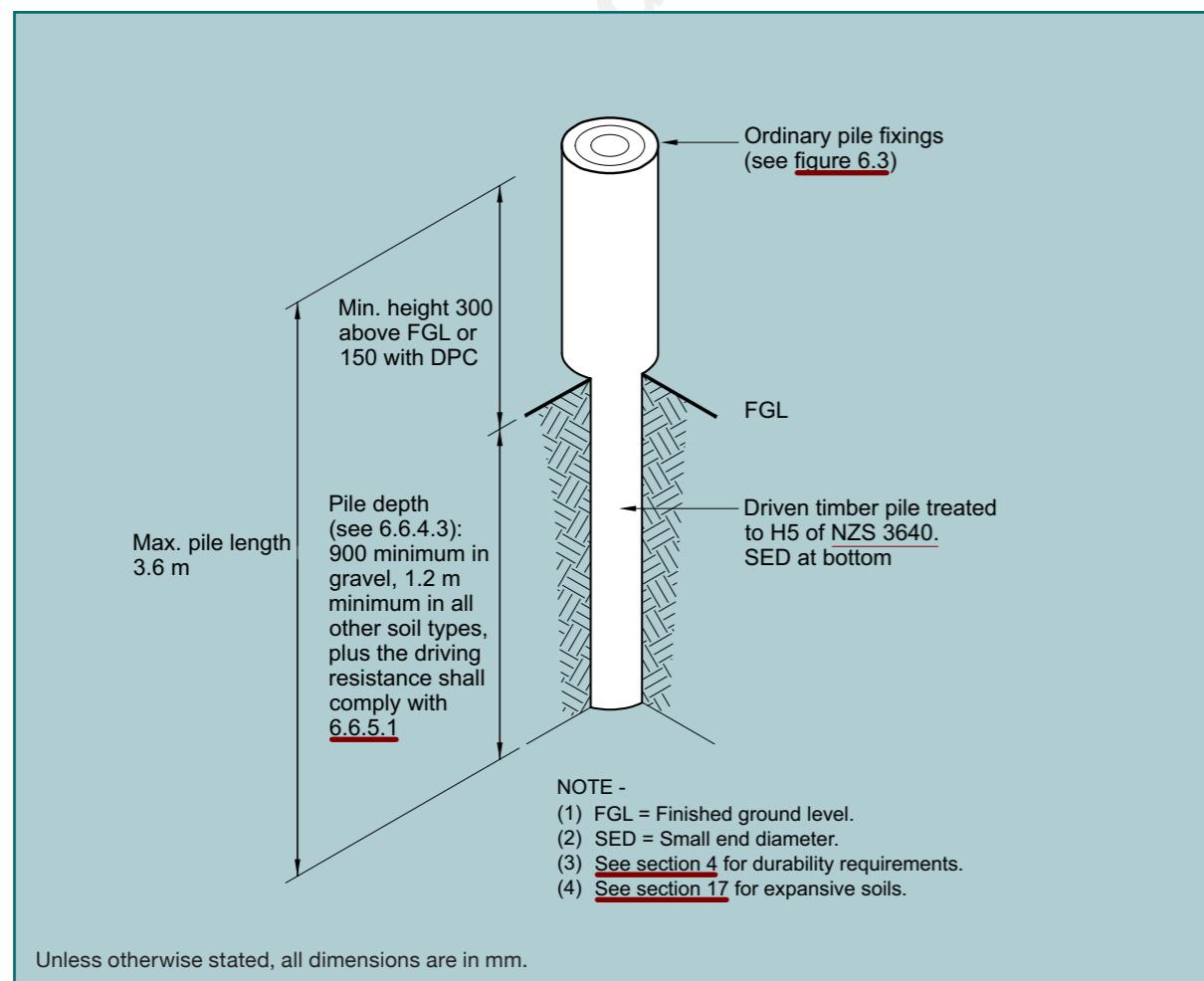


Figure 6.4 – Driven timber piles (see 6.6.4.3)

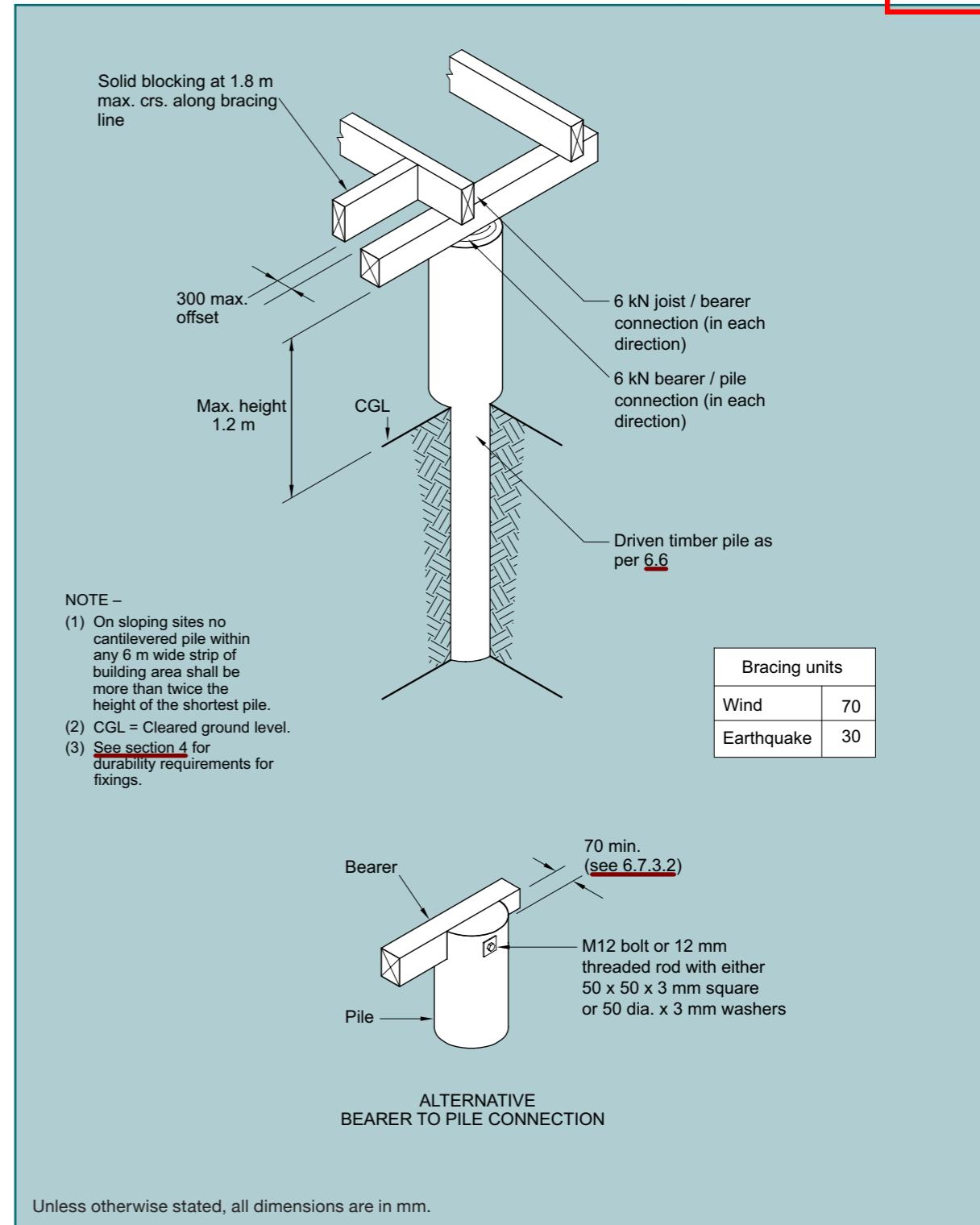


Figure 6.5 – Cantilever piles (see 6.7)



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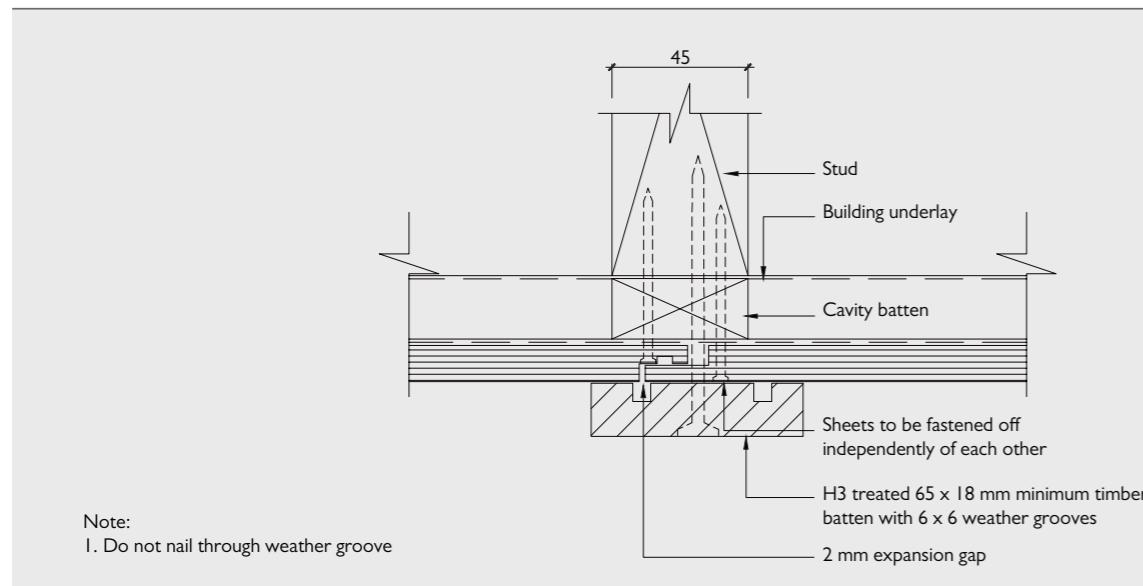
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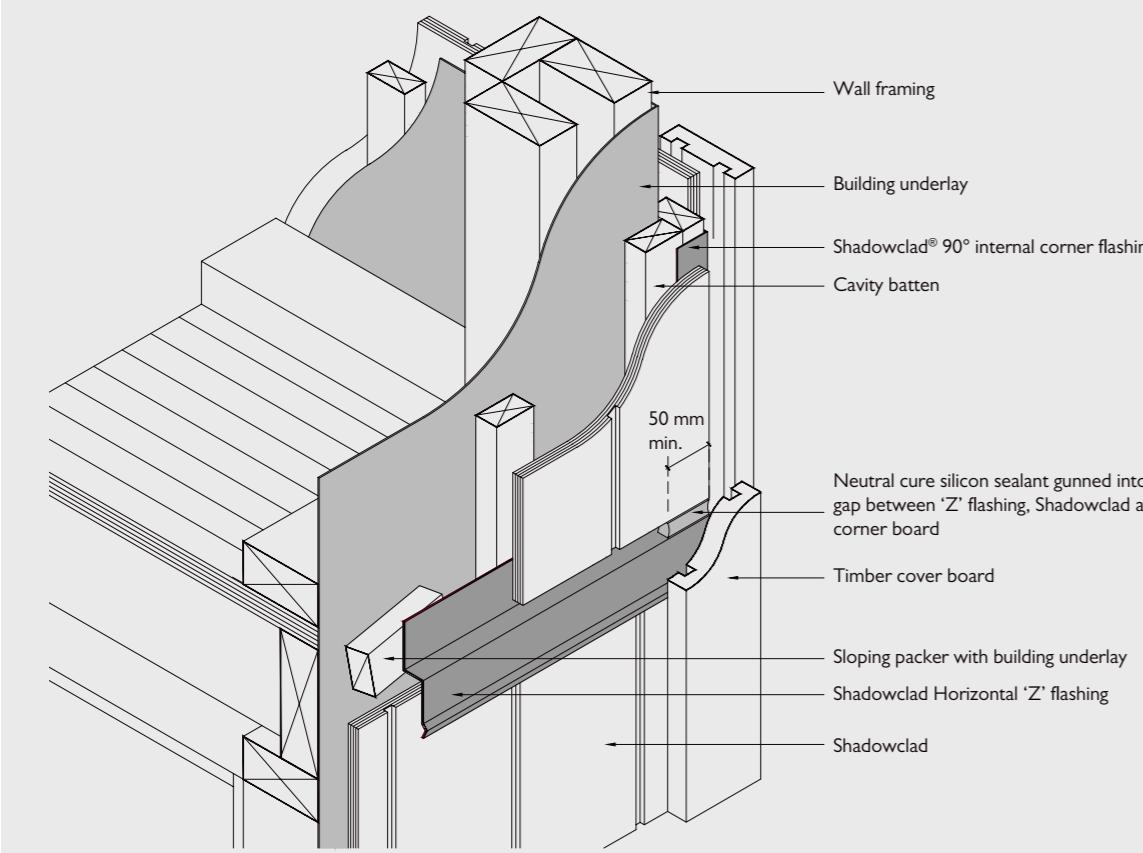
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SC022: Shadowclad® External Corner with Cover Boards (Cavity)

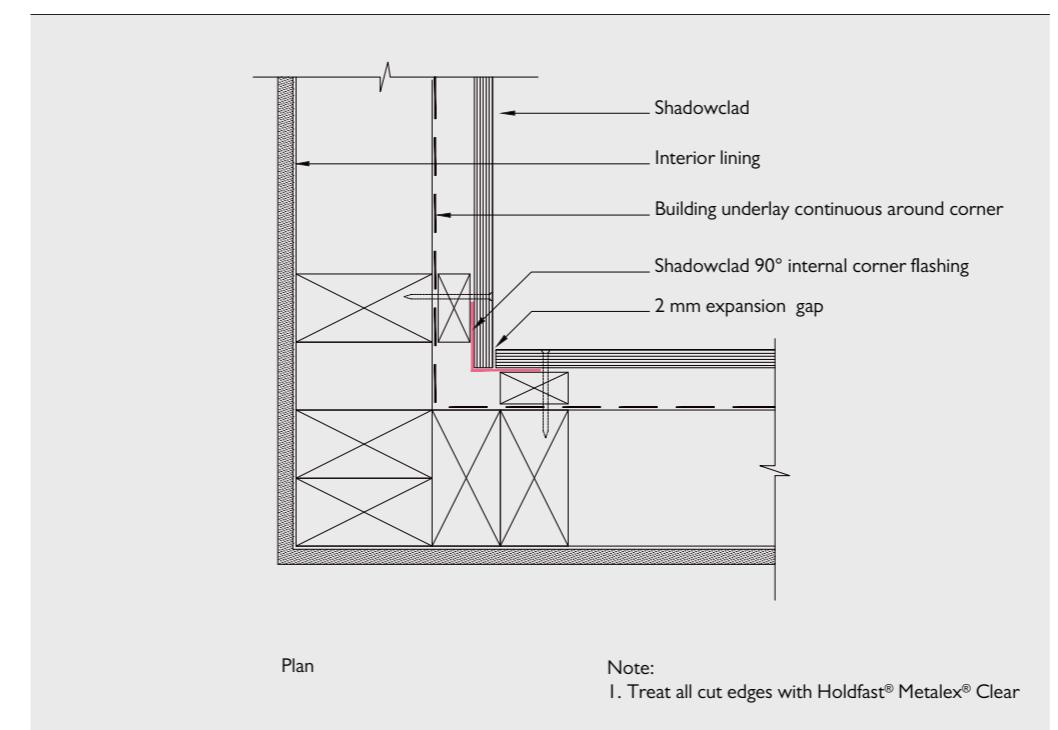
SC010: Shadowclad Vertical Joint with Optional Cover Batten (Cavity)



SC0100: Shadowclad® General Silicon Sealing of Horizontal 'Z' Flashings



SC024: Shadowclad Internal Corner with 90° Flashing (Cavity)



A1

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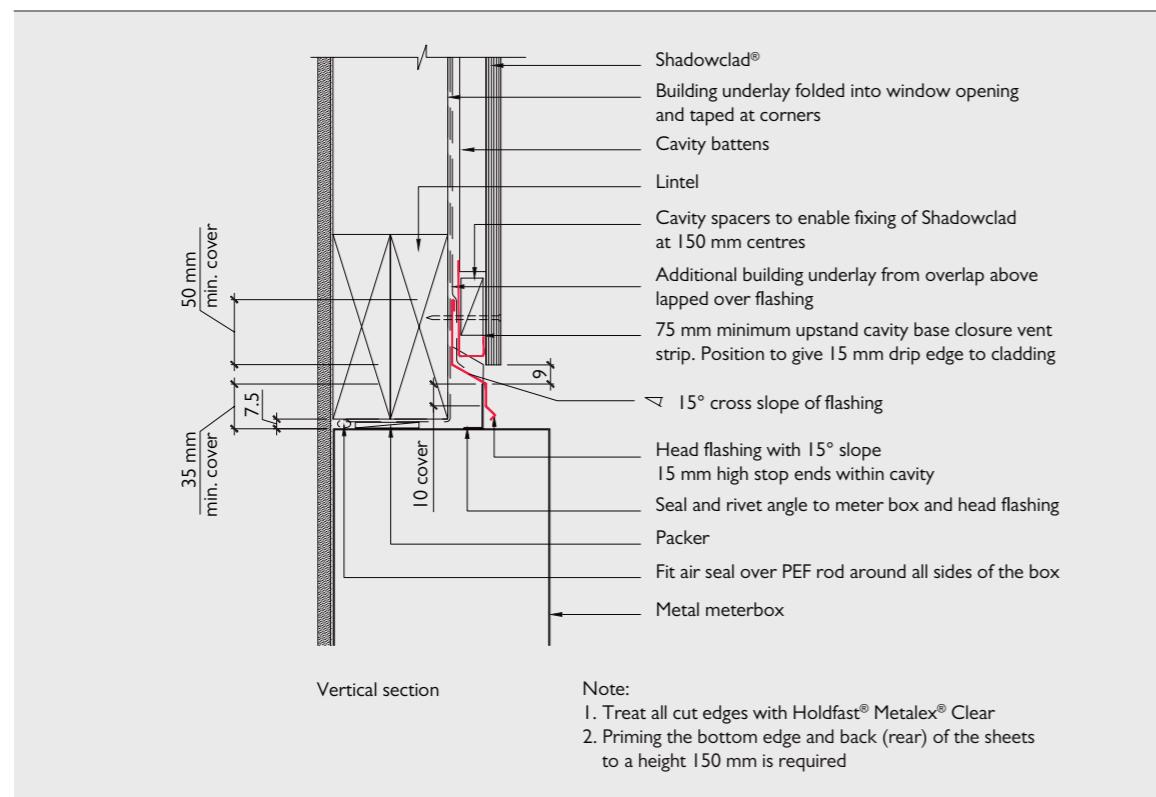
### CLADDING DETAILS

CLADDING DETAILS					Scale:	Sheet no:	Client Details:	Job no:
Design:	Drawn:	Check:	LBP:	UP	Rev:			
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018	Call 0800 A1homes 214663	26	N & M Heath	WGA025
Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	www.A1homes.co.nz		Address: 45 Longreach Drive Cooks Beach	BH100

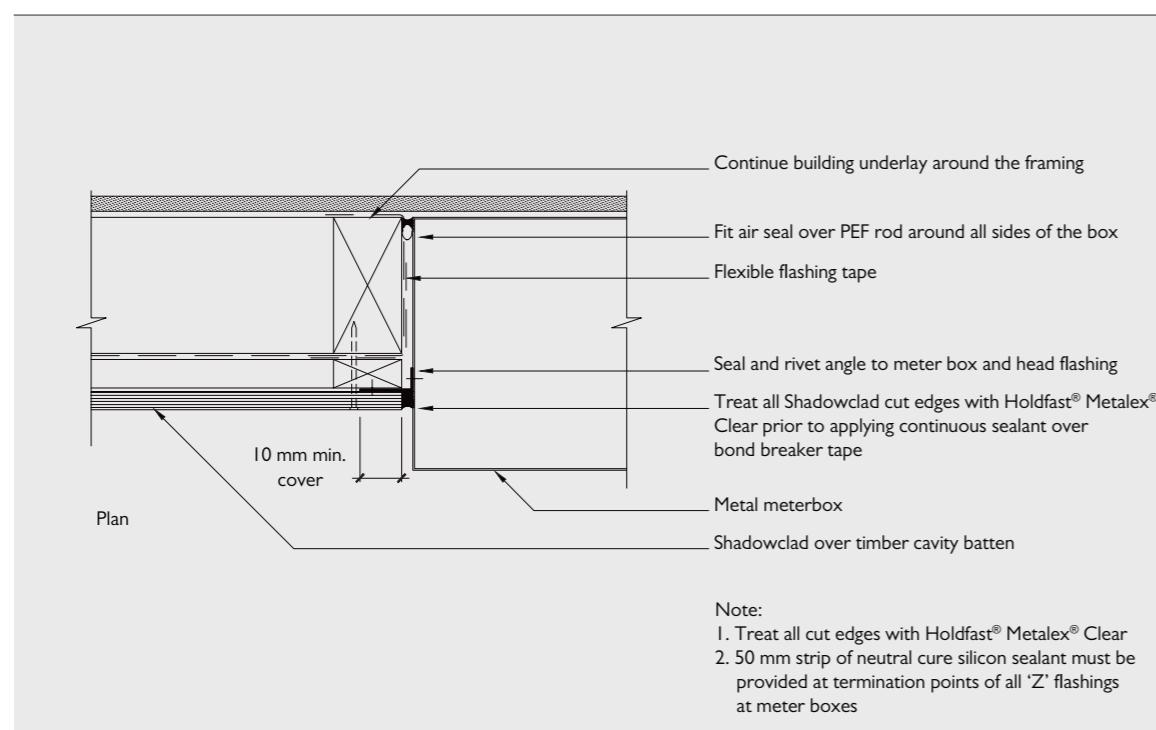
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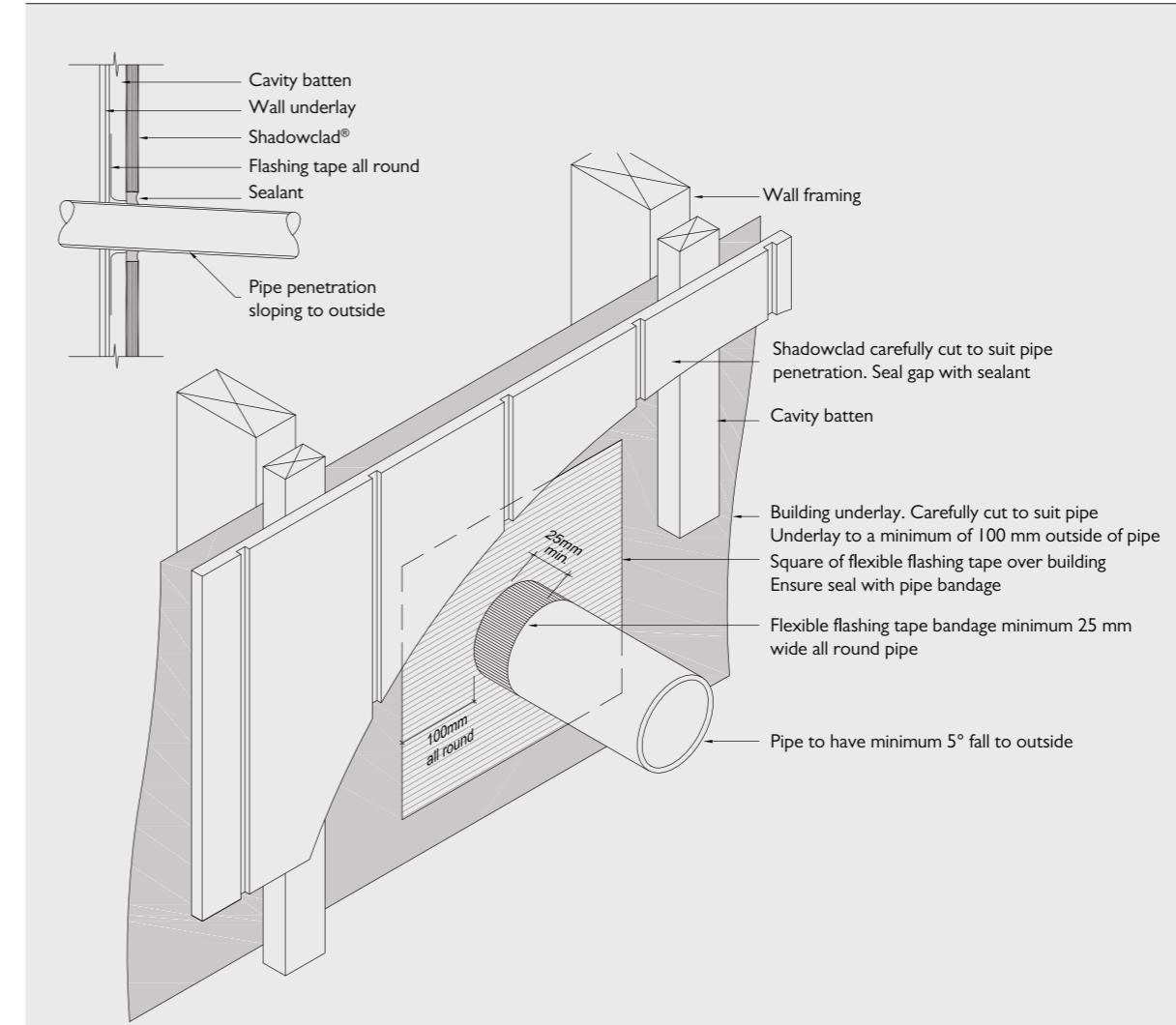
SC034A: Shadowclad® Meterbox Vertical Cross Section (Cavity)



SC034B: Shadowclad Meterbox Horizontal Cross Section (Cavity)



SC040: Shadowclad® Pipe Penetration (Cavity)



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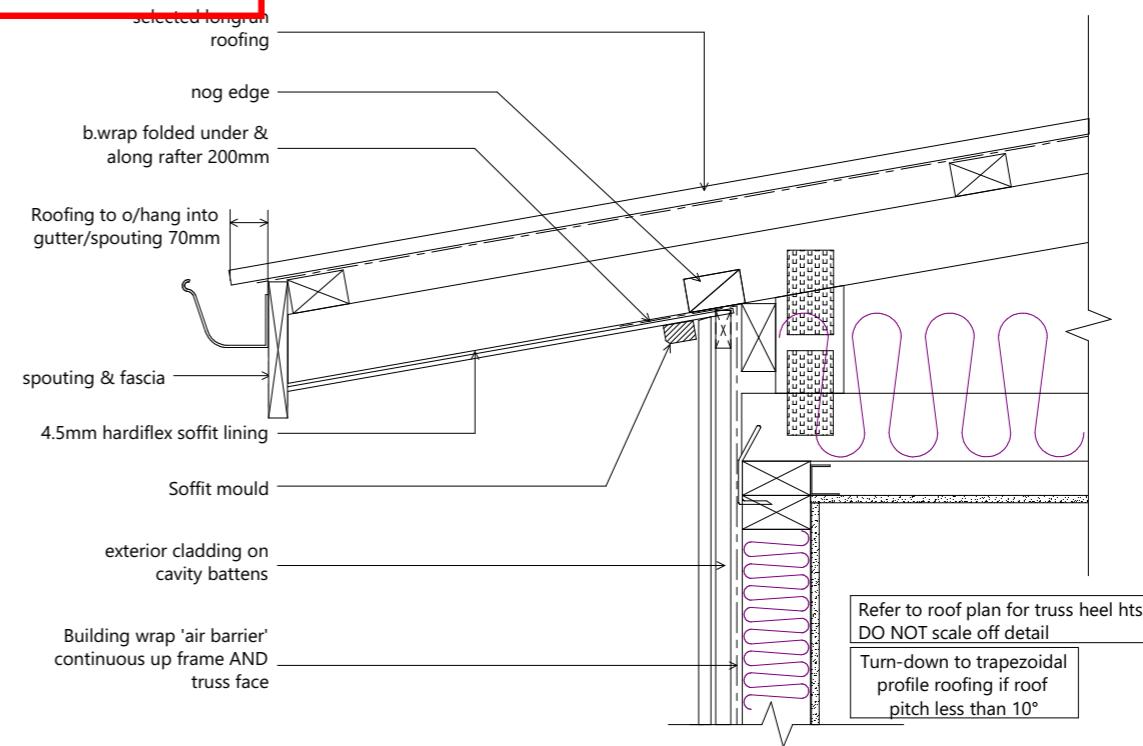
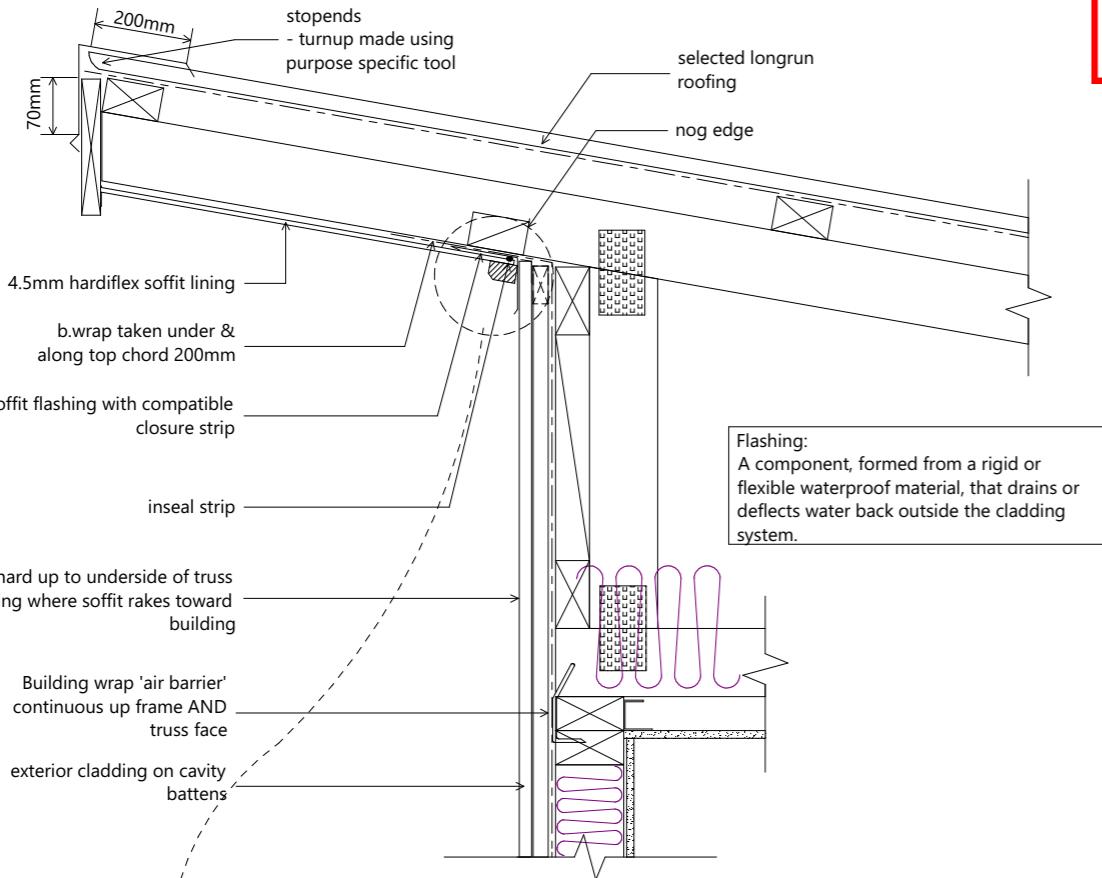
Job no: WGA025

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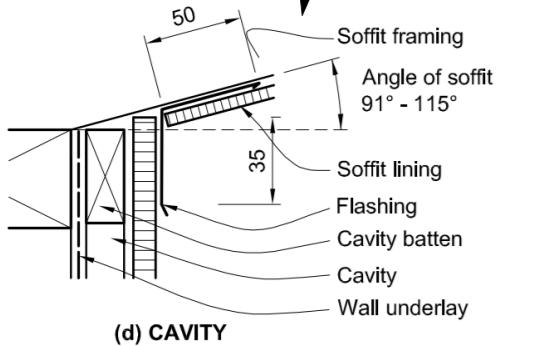
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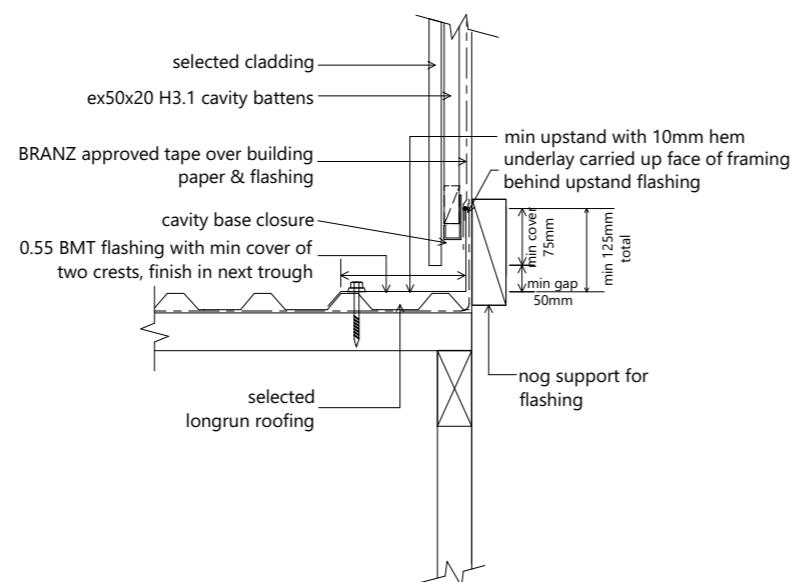
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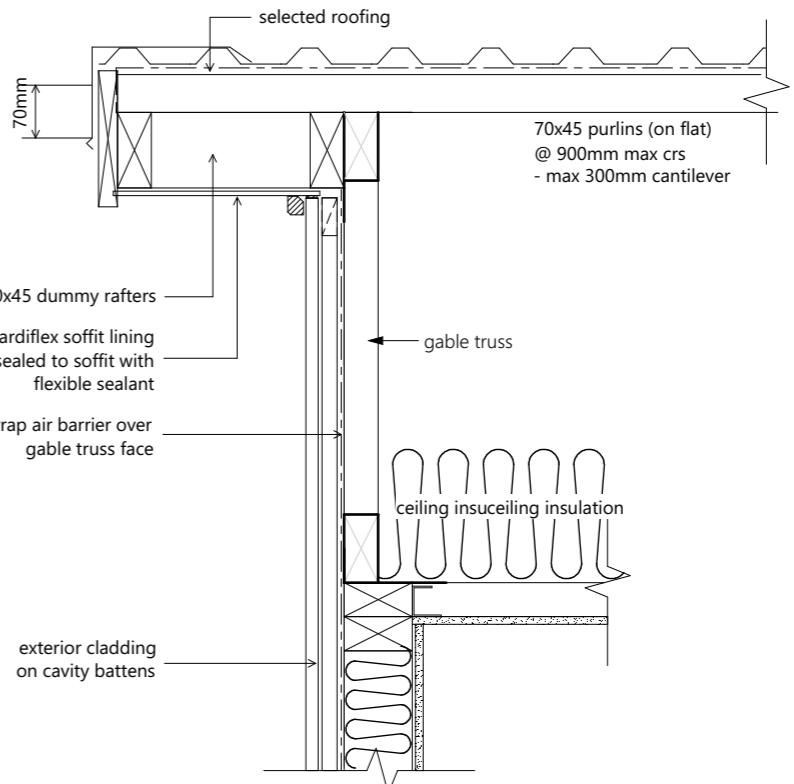
## R2 RAKING LOWER



## R1 RAKING UPPER



## R3 APRON FLASHING



## R4 GABLE EAVE

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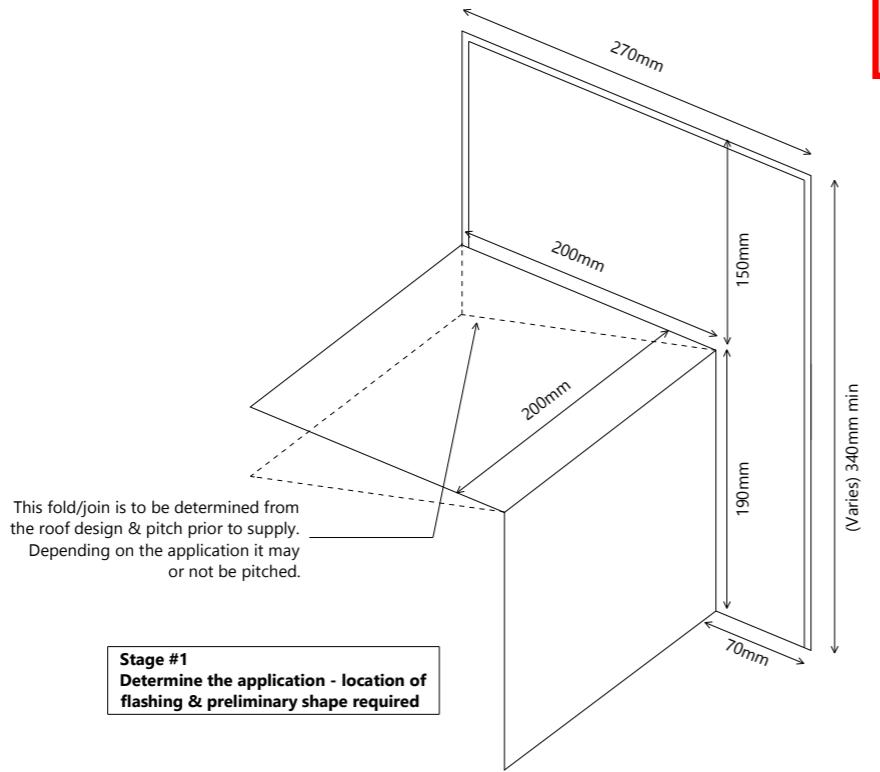
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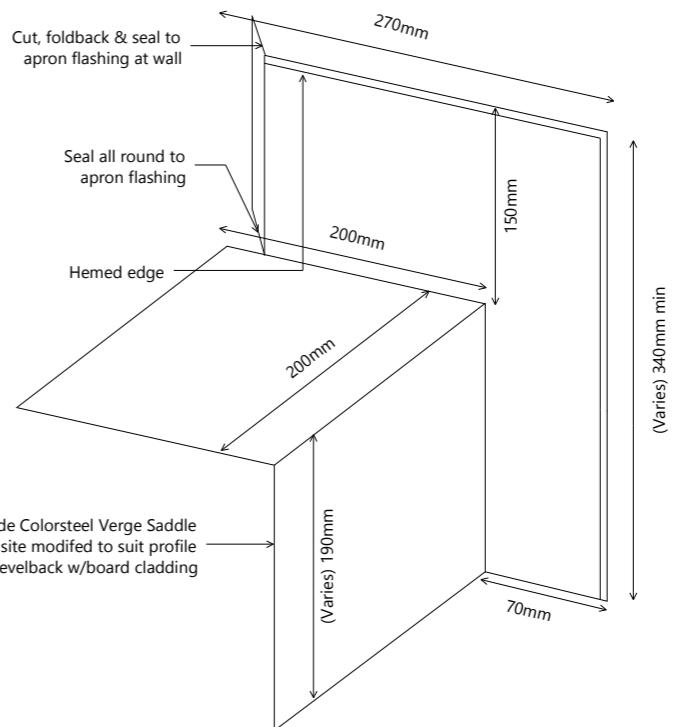
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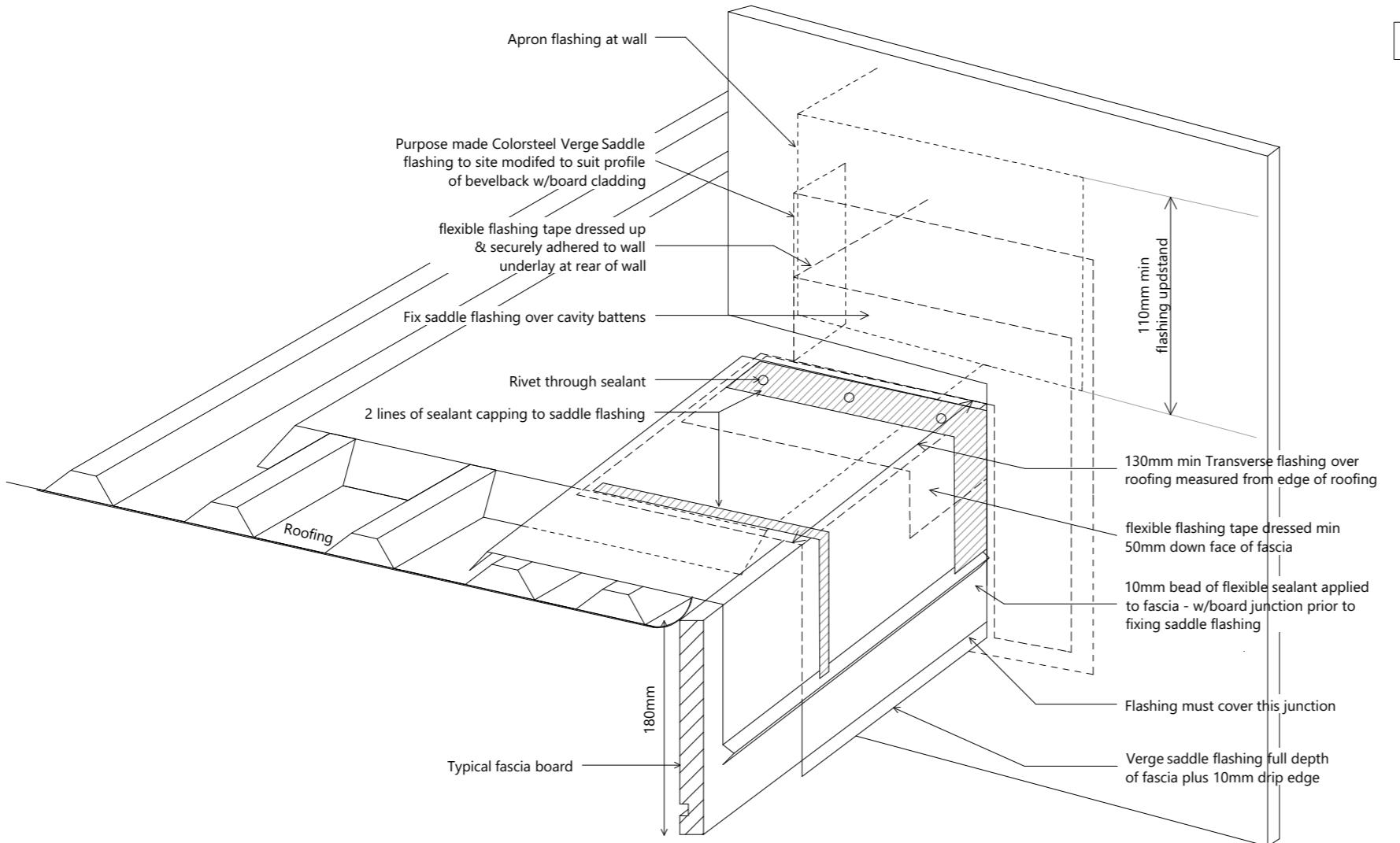


**Stage #1**  
Determine the application - location of  
flashing & preliminary shape required



Purpose made Colorsteel Verge Saddle  
flashing to site modified to suit profile  
of bevelback w/board cladding

**Stage #2**  
Determine and carry out the final shape



This detail has been designed with the intention of resisting the egress of moisture at the soffit/cladding junction. Further consideration and practical application of this design may be required by the designer and/or a licensed trades person. The designer is to be notified of any confusion or doubt exists, prior to commencement. No liability shall be held by the designer for any failure whatsoever due to miss-interpretation or non tradesman like practice. PS1 or PS4 shall be supplied by the qualified roofer and/or licensed tradesman prior to completion. Obtaining and shaping the flashing is the responsibility of the roofer.

All cut cladding edges and areas to be primed prior to fixing in place.  
Seal off edge of all flashing edges fixed to wall framing with PROTECTO sealing tape or approved equal product.

Saddle Verge Flashing is fixed over apron flashing and fascia.  
Birds beaked verge flashing is fixed over last and sealed at wall junction

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ROOF DETAILS					Scale:	Sheet no: 29	Client Details: N & M Heath Address: 45 Longreach Drive Cooks Beach	Job no: WGA025
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Wind: HIGH	Earthq: 1	Exposure: D (SS)	Snow: NO	Climate: 1	Call 0800 A1homes 214663			
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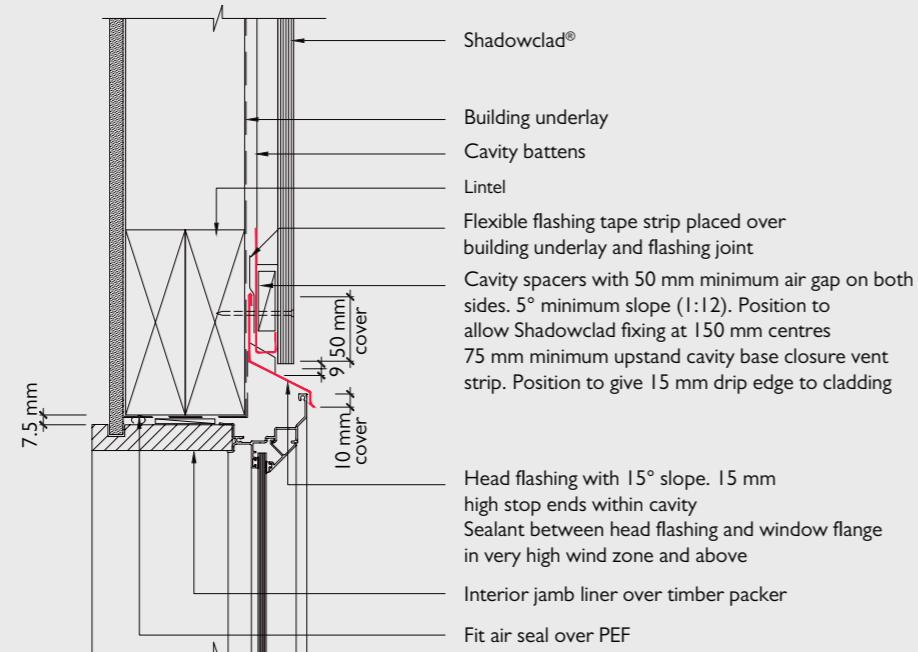
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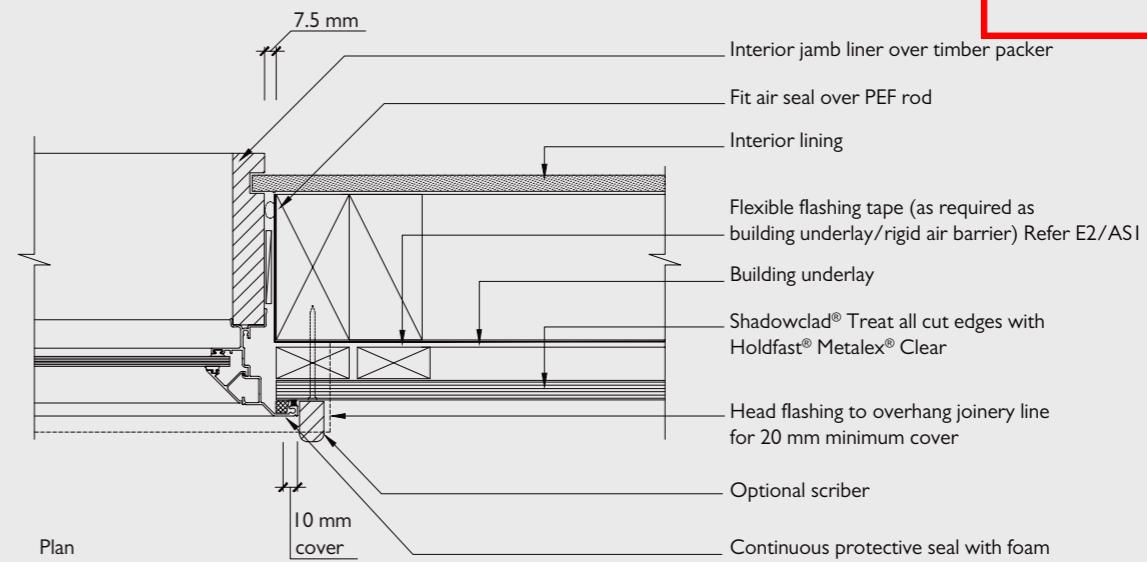
SC028: Shadowclad® Window Head Detail (Cavity)

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SC030: Shadowclad® Jamb Detail (Cavity)

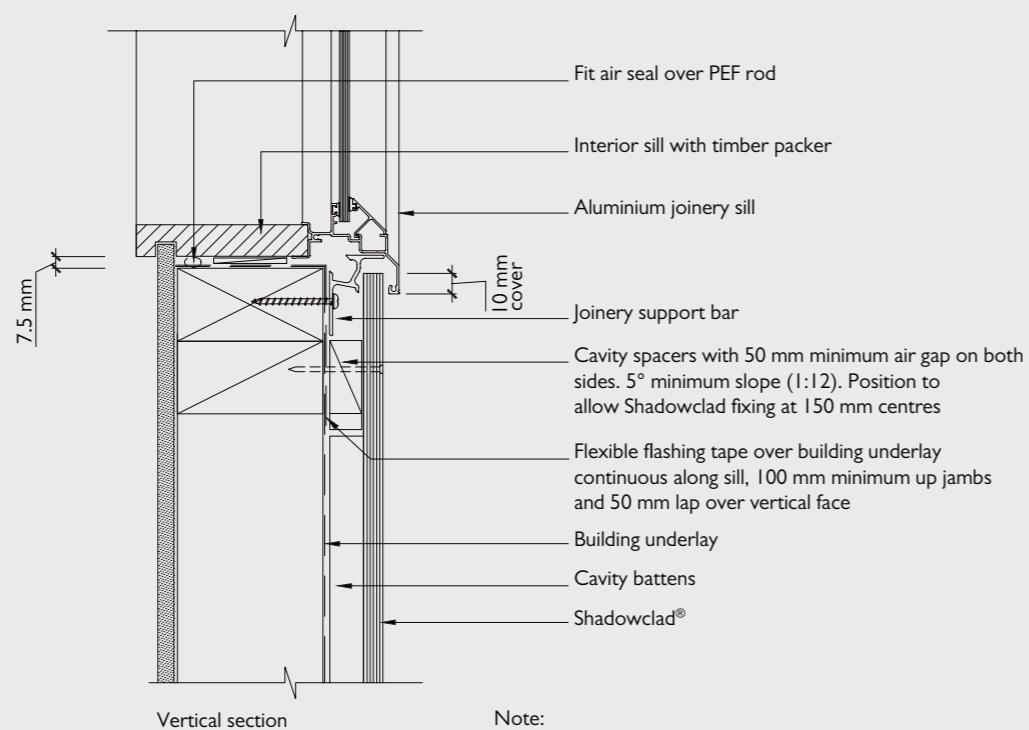


Note:  
1. Treat all cut edges with Holdfast® Metalex® Clear  
2. Stop ends to head flashing terminations



Note:  
1. Treat all Shadowclad cut edges with Holdfast® Metalex® Clear  
2. 50 mm strip of sealant must be provided at the termination point of all 'Z' flashings at windows, corner boxes, etc

SC032: Shadowclad® Window Sill Detail (Cavity)



Note:  
1. Treat all cut edges with Holdfast® Metalex® Clear

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Job no: WGA025

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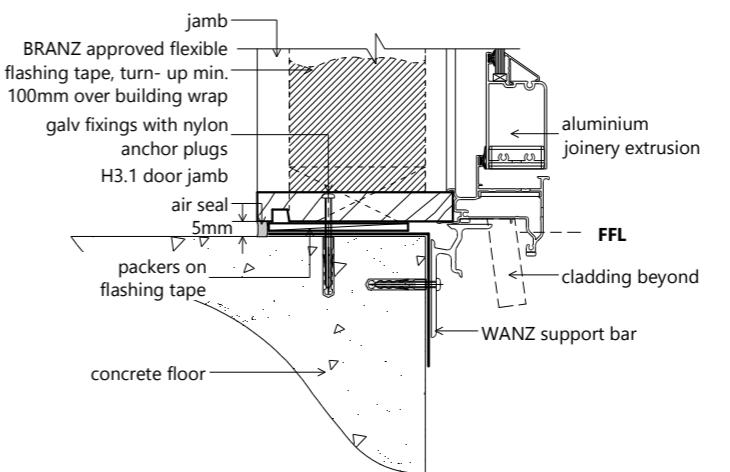
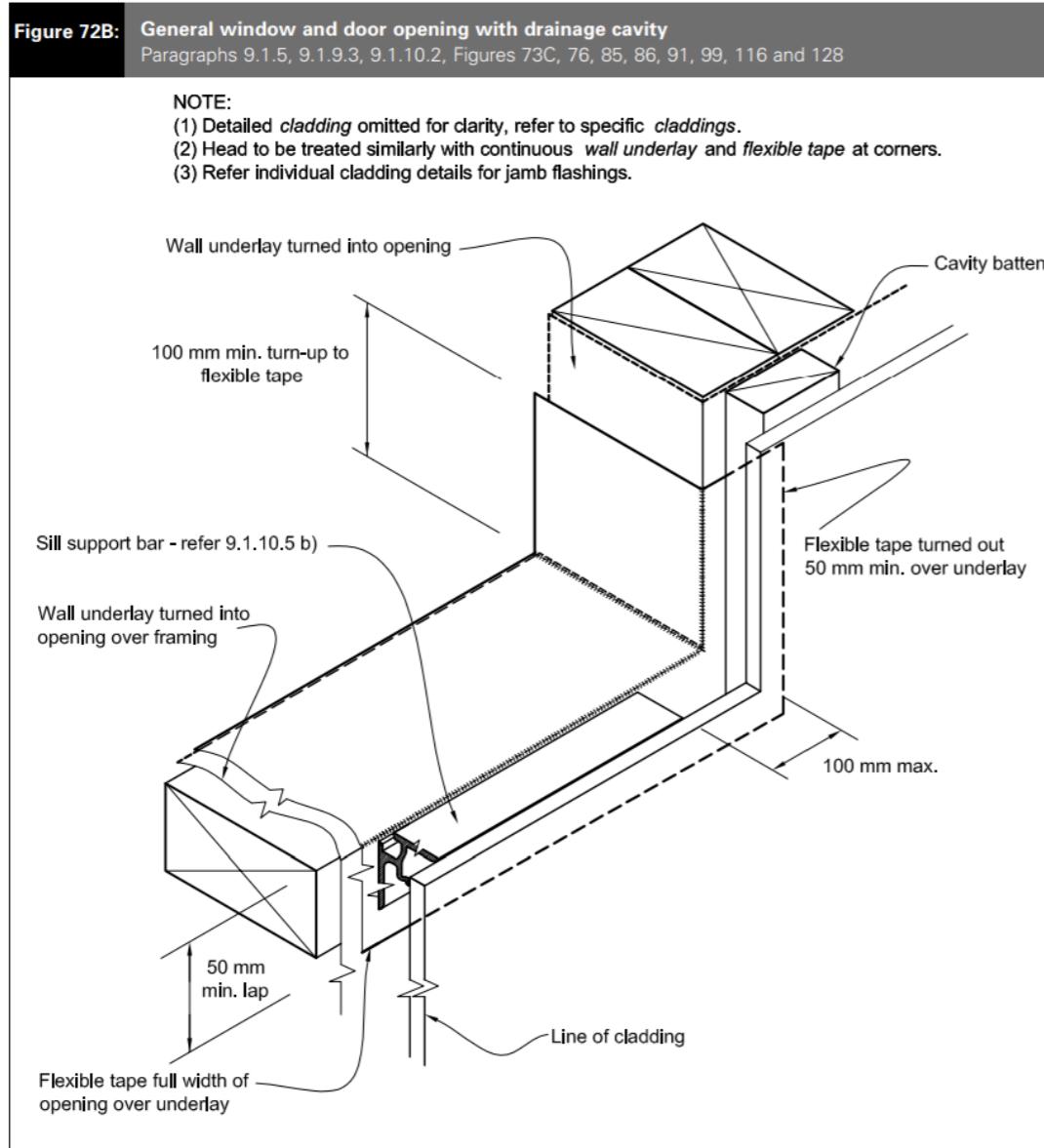
N & M Heath

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**Door Sill**

**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

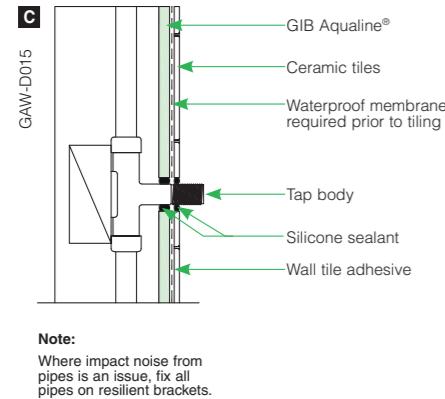
Backing rods are used for self-expanding polyurethane foam as there is a danger foam will expand to the outside of the wall and form a moisture bridge to the interior.

**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.

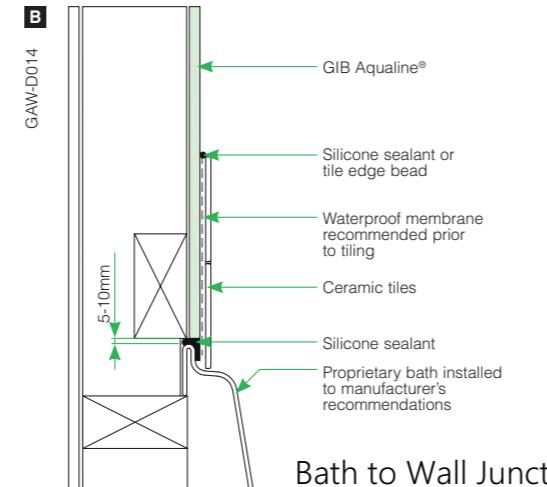
Flashing tape must be proven compatibility with selected building underlay and other building materials with which it comes into contact as per table 21 of 'E2/AS1'

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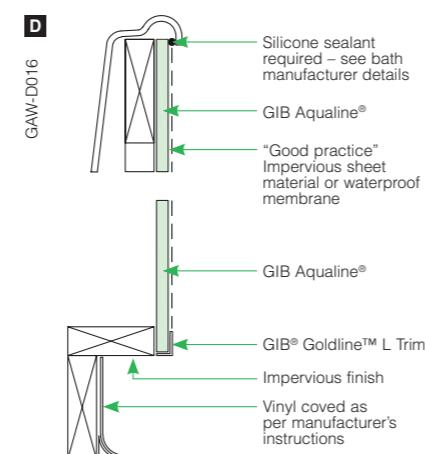
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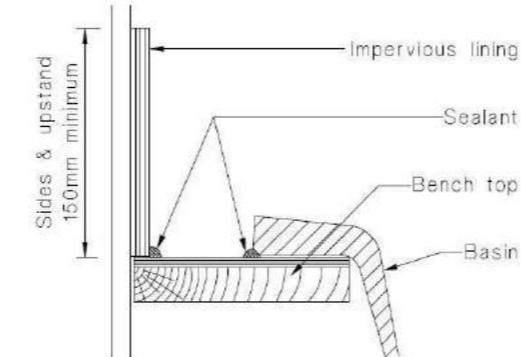
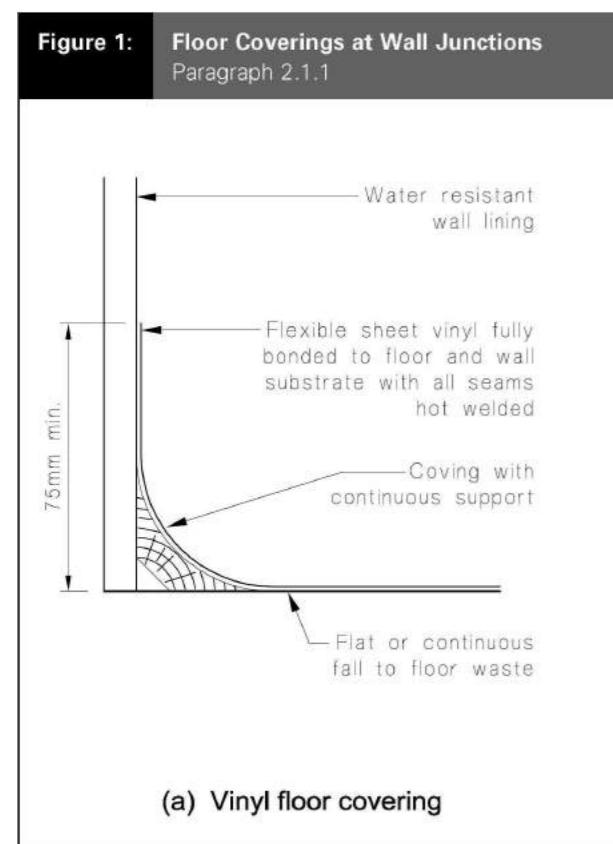
Typical Pipe Penetration



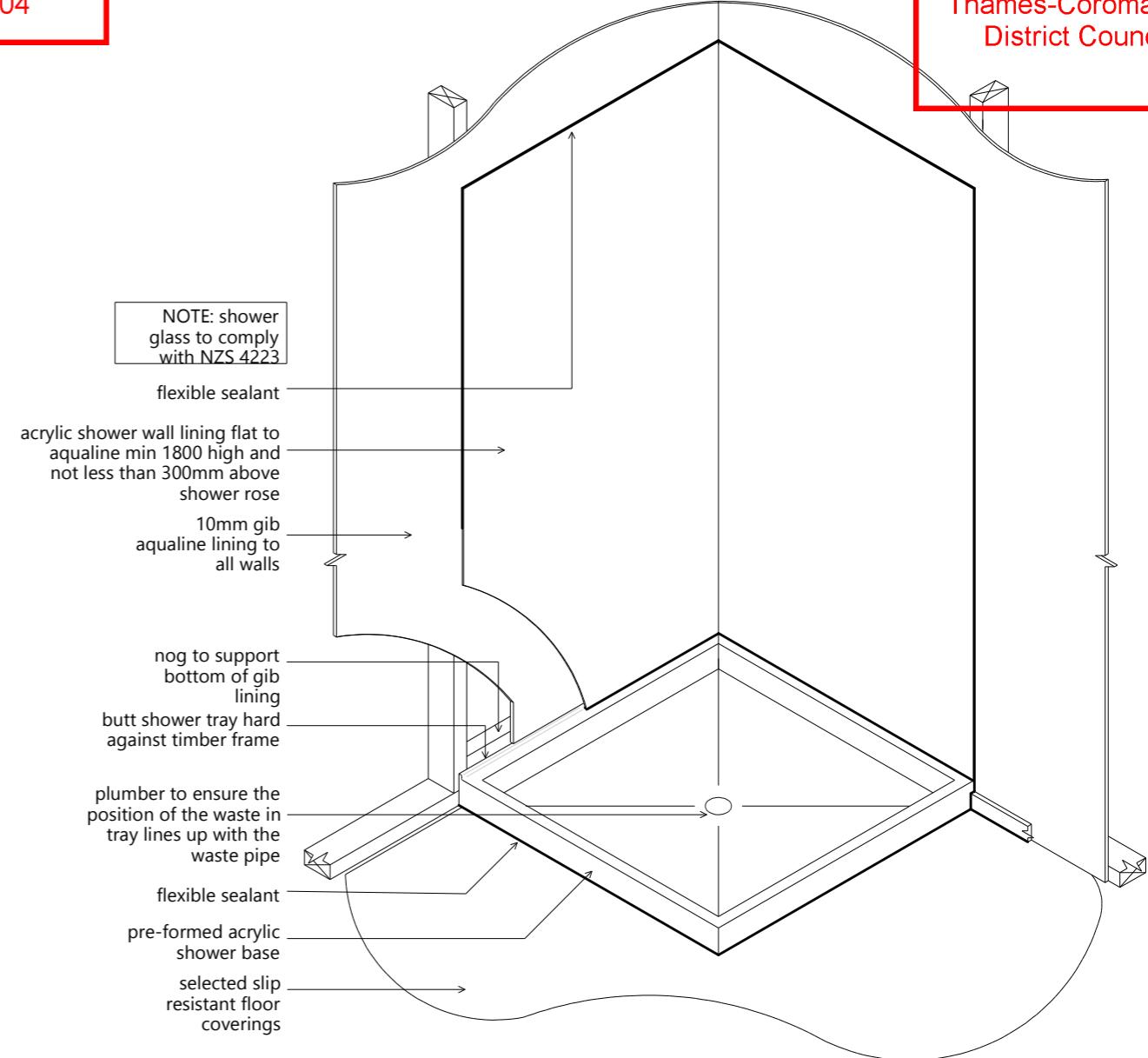
Bath to Wall Junction



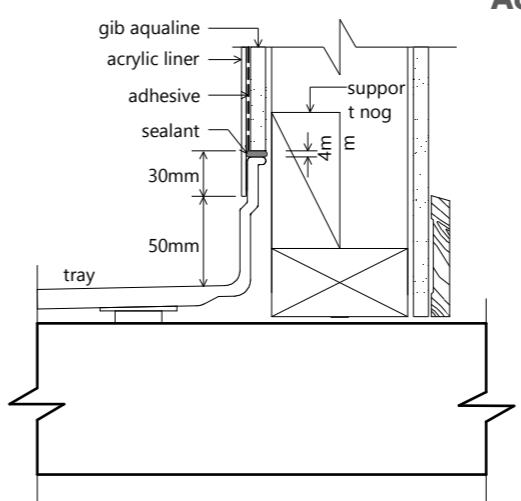
Bath to Floor Junction



Tub, Sink and Basin Junction



Acrylic Shower Tray + Wall Linings 1:20



Shower Tray 1:5

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Cooks Beach

Job no: WGA025

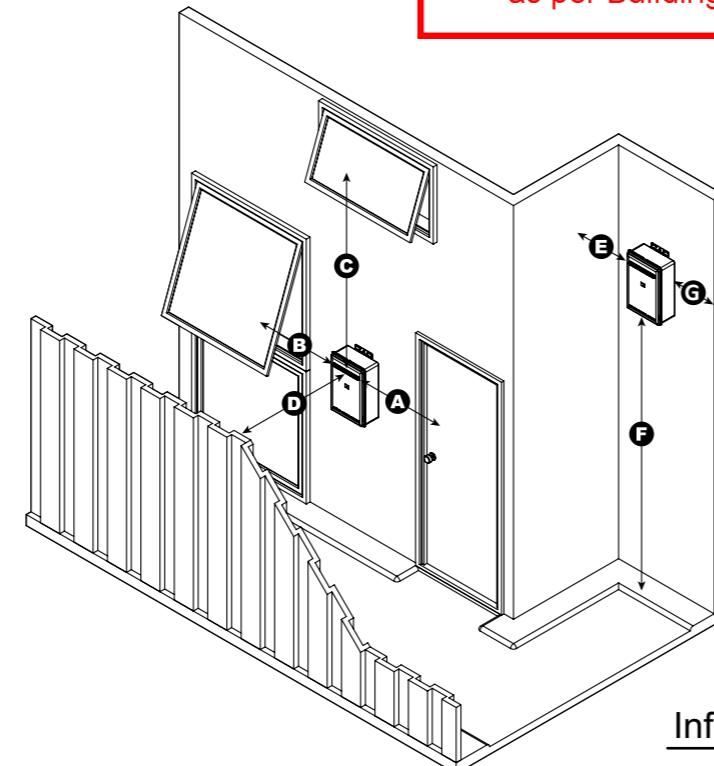
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This Consent is affected by  
**RESTRICTED BUILDING WORK**  
as per Building Act 2004

APPROVED  
ABA2018/5661  
Thames-Coromandel  
District Council

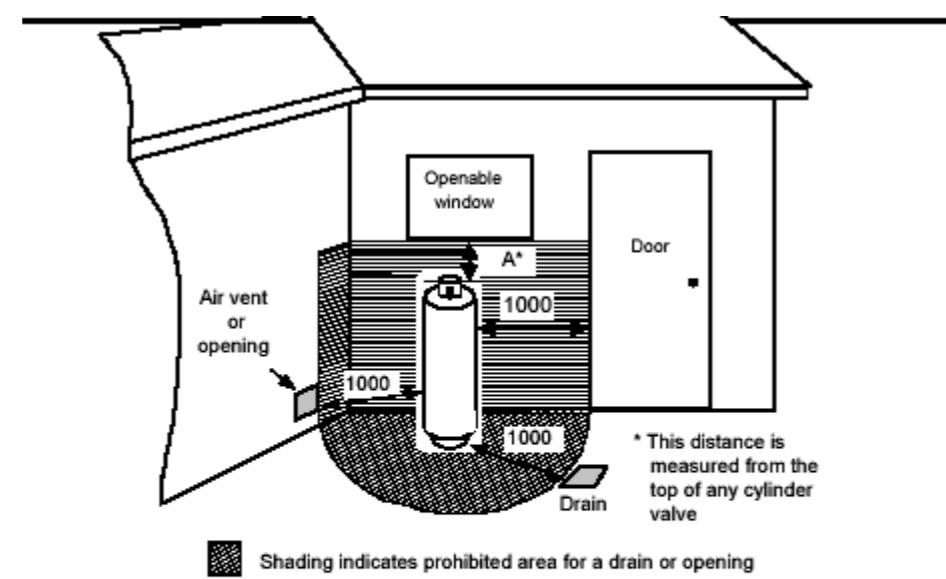


Dim.	Infinity VT HD200, EF models	Infinity HD250 models
A	Min. 300 mm	Min. 500 mm
B	Min. 300 mm	Min. 500 mm
C	Min. 1.5 m	Min. 1.5 m
D	Min. 500 mm	Min. 500 mm
E	Min. 300 mm	Min. 300 mm
F	Min. 300 mm*	Min. 300 mm*
G	Min. 300 mm	Min. 300 mm

Clearance below eaves, balconies, and other projections for all models is 300 mm.

\* Rinnai recommend 1.5 m to give enough clearance for the pipe work, and to safely expel flue gases.

### Infinity Flue Clearance



	Exchange cylinder	In Situ Fill Cylinder
A	150	500

### Gas Cylinder Placement

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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**HW**

Scale:					Sheet no: 33	Client Details: N & M Heath  Address: 45 Longreach Drive Cooks Beach	Job no: WGA025
Design: A1	Drawn: TN	Check: AG	LBP: UP	Date: 21/11/2018			
Wind: <b>HIGH</b>	Earthq: <b>1</b>	Exposure: <b>D (SS)</b>	Snow: <b>NO</b>	Climate: <b>1</b>	Call 0800 A1homes 214663		
					<a href="http://www.A1homes.co.nz">www.A1homes.co.nz</a>		BH100

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