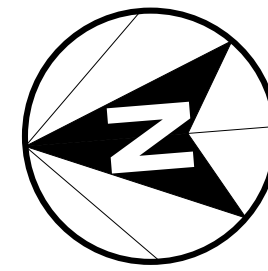


Contents:

Sheet 1 :	Line Renders
Sheet 2 :	Site Plan
Sheet 3 :	Floor Plan
Sheet 4 :	Elevations
Sheet 5 :	Elevations
Sheet 6 :	Cross Sections
Sheet 7 :	Cross Sections
Sheet 8 :	Roof Plan
Sheet 9 :	Drainage Plan
Sheet 10 :	Bracing Plan
Sheet 11 :	Lighting Plan
Sheet 12 :	Foundation Plan
Sheet 13 :	Construction Details
Sheet 14 :	Construction Details
Sheet 15 :	Construction Details
Sheet 16 :	Construction Details
Sheet 17 :	Construction Details
Sheet 18 :	Construction Details
Sheet 19 :	Construction Details
Sheet 20 :	Plumbing Details
Sheet 21 :	Wet Area Details
Sheet 22 :	Wet Area Details
Sheet 23 :	Framing Details
Sheet 24 :	Framing Details
Sheet 25 :	Truss Design
Sheet 26 :	Truss Design

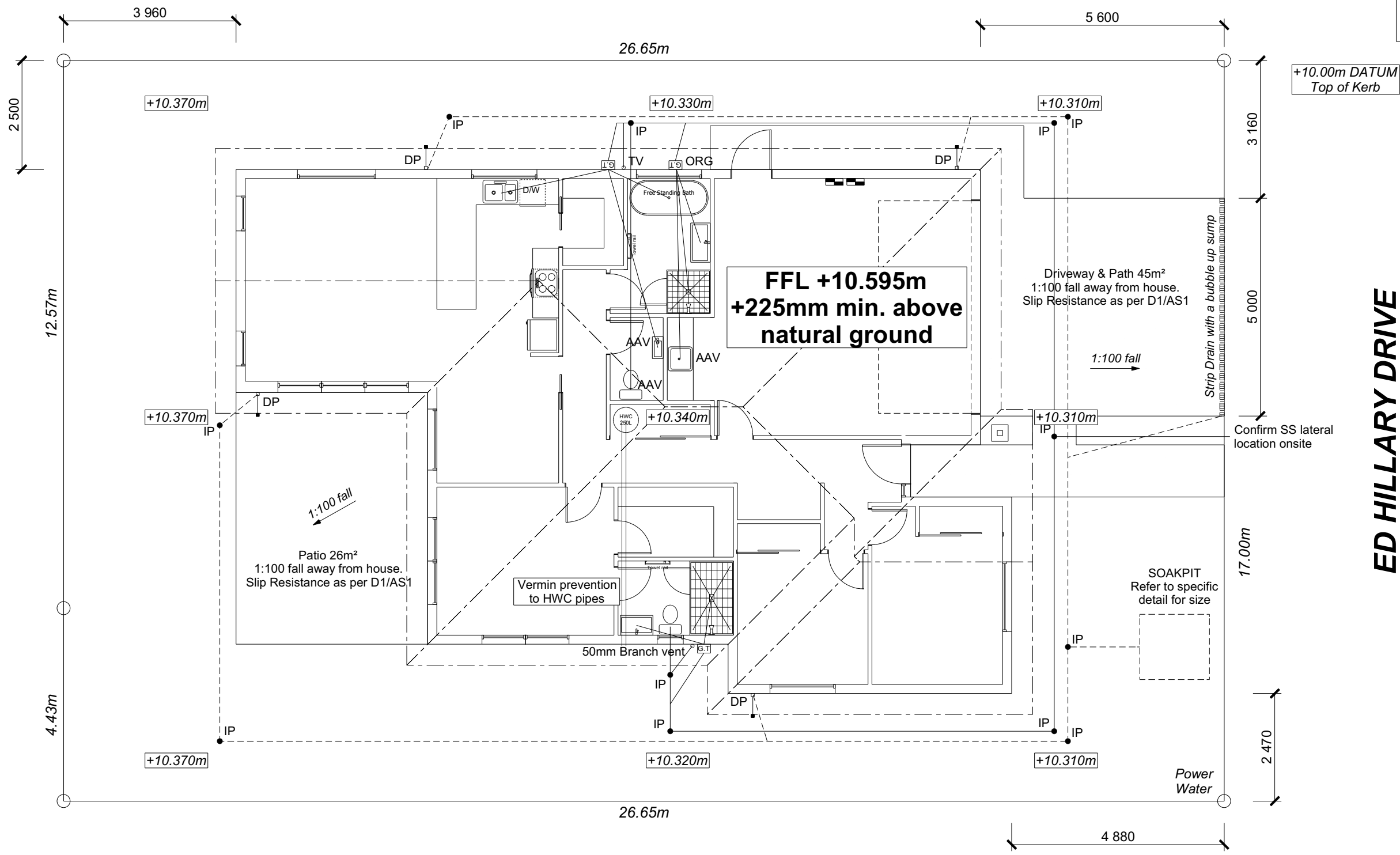


SITE INFORMATION
 Site Area : 453m²
 Floor Area : 168.72m² / 37.24%
 Roof Area : 201.30m² / 44.44%
 Wind : High
 Earthquake : 2
 Exposure : B
 Snow : N 4 (up to 1kPa)

Dimensions are shown from the boundaries to the exterior cladding.
 Refer to Foundation Plan for foundation setout dimensions

Refer to specifications for extent of sediment control measures.

Provide safety fencing to perimeter of site - permanent or temporary - to comply with NZBC F5/AS1



ED HILLARY DRIVE

New Residence for :
Lauren Hedges & Patrick Walker
 Lot 73, DP 596433
 Ed Hillary Drive, Rolleston

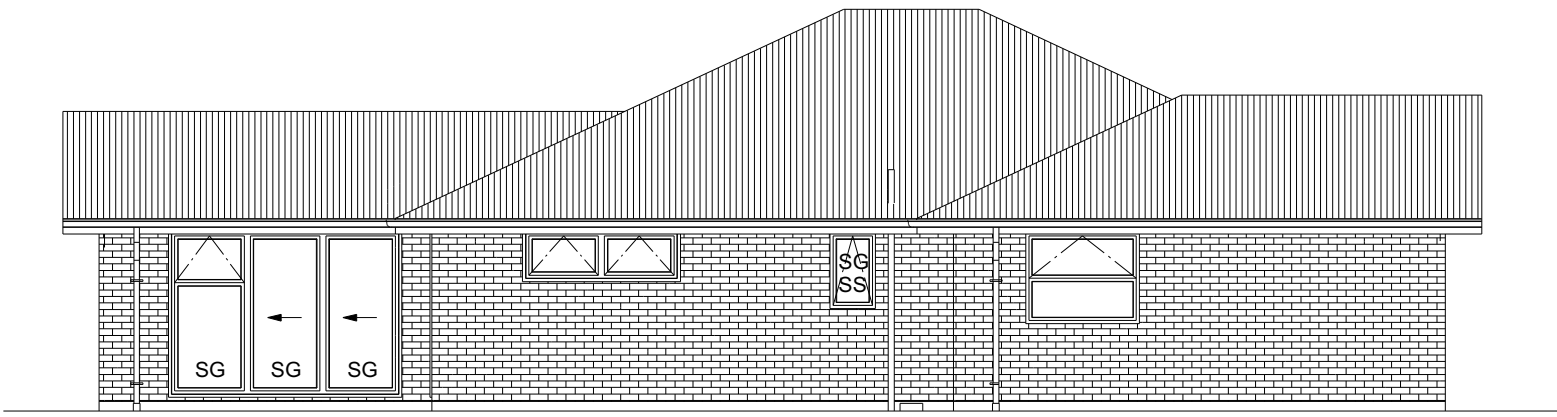
SITE PLAN

24/02/2024 1:100 (@ A3)

ROOF & WALL CLADDINGS
 Roof : 25° Corrugate Colorsteel
 Walls : 70 Series Brick Veneer with a 50mm cavity
 LMA Timber Vertical Weatherboards
 with a 20mm cavity

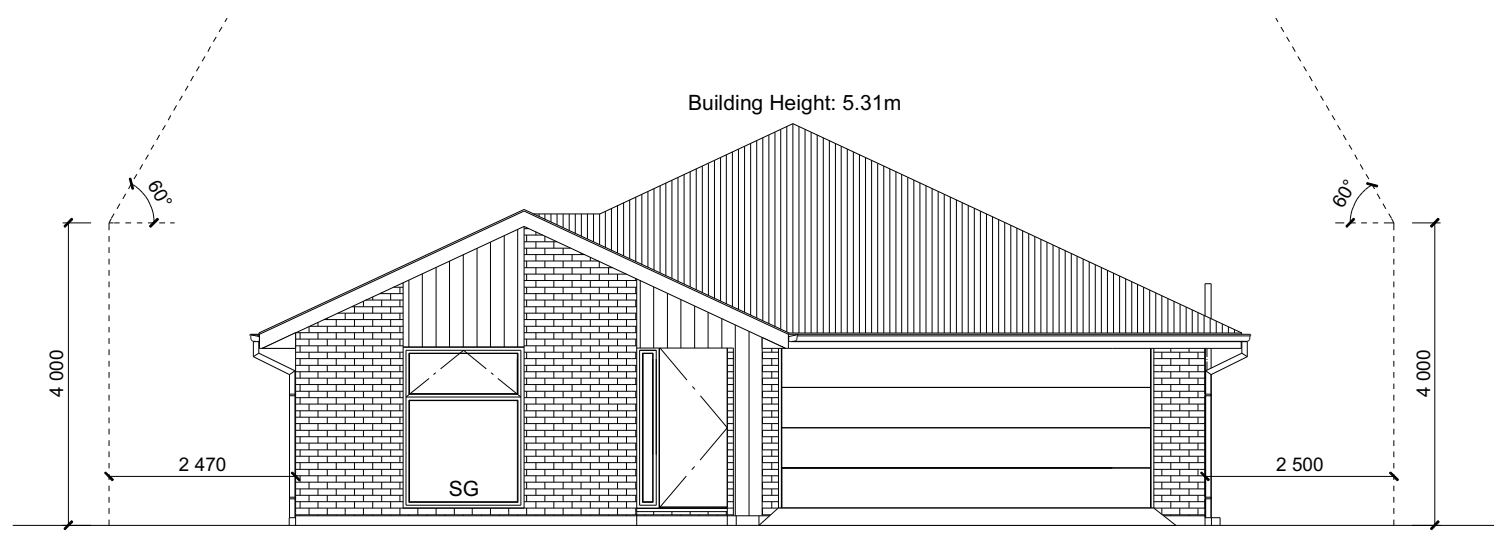
ELEVATION NOTES
 Gutter : Coloured Steel Gutter
 Fascia : Coloured Steel 185 Fascia
 Downpipes : Colorsteel Rectangular 75x55mm
 Soffits : Hardiflex 4.5mm
 Joinery : Thermally Broken
 SS: Safety Stays
 SG: Safety Glass

Access routes to have slip resistance surface
 in compliance with NZBC D1/AS1 Table 2
 and to have a 1:100 fall away from the building
 All egress points to have a maximum step
 down of 190mm.



ELEVATION A - WEST

BUILDING ENVELOPE RISK MATRIX		
RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Medium	1
Decks & Balconies	Low	0
Total		3



ELEVATION B - SOUTH

New Residence for :
 Lauren Hedges & Patrick Walker
 Lot 73, DP 596433
 Ed Hillary Drive, Rolleston

ELEVATIONS
 24/02/2024 1:100 (@ A3)

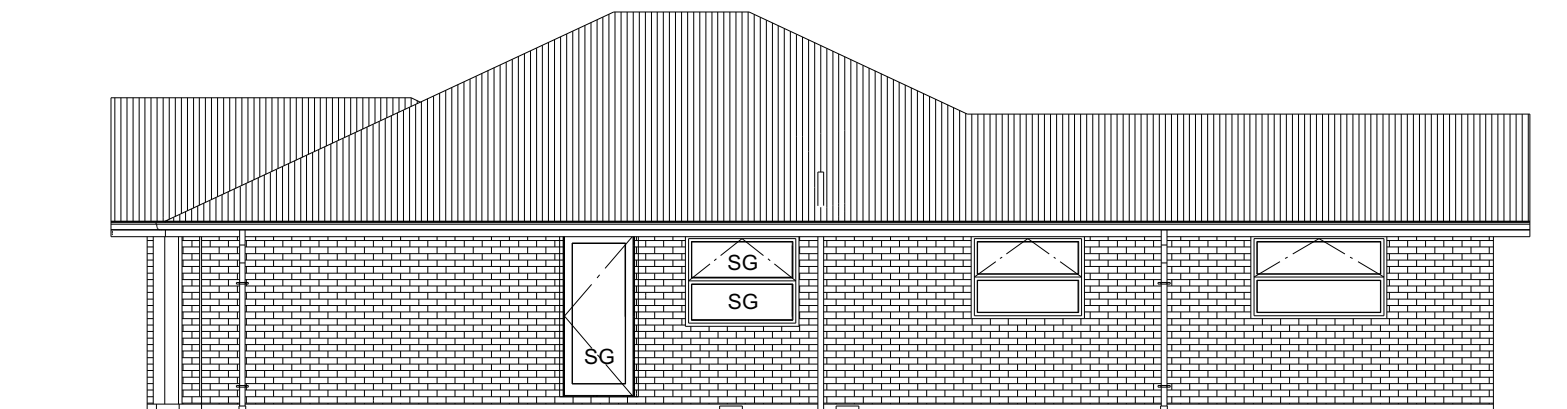
ROOF & WALL CLADDINGS

Roof : 25° Corrugate Colorsteel
Walls : 70 Series Brick Veneer with a 50mm cavity
LMA Timber Vertical Weatherboards
with a 20mm cavity

ELEVATION NOTES

Gutter : Coloured Steel Gutter
Fascia : Coloured Steel 185 Fascia
Downpipes : Colorsteel Rectangular 75x55mm
Soffits : Hardiflex 4.5mm
Joinery : Thermally Broken
SS: Safety Stays
SG: Safety Glass

Access routs to have slip resistance surface
in compliance with NZBC D1/AS1 Table 2
and to have a 1:100 fall away from the building
All egress points to have a maximum step
down of 190mm.



ELEVATION C - EAST

BUILDING ENVELOPE RISK MATRIX

RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Medium	1
Decks & Balconies	Low	0
Total		3



ELEVATION D - NORTH

ROOF & WALL CLADDINGS

Roof : 25° Corrugate Colorsteel
Walls : 70 Series Brick Veneer with a 50mm cavity
LMA Timber Vertical Weatherboards
with a 20mm cavity

CROSS SECTION NOTES

Building wrap is to comply with E2/AS1 & NZS 3604:2011.

Flashing materials must be selected based on environmental exposure. Refer to NZS 3604:2011 & table 20 of E2/AS1.

Flashing tape must have proven compatibility with the selected wrap & other materials with which it comes into contact as per table 21 of E2/AS1.

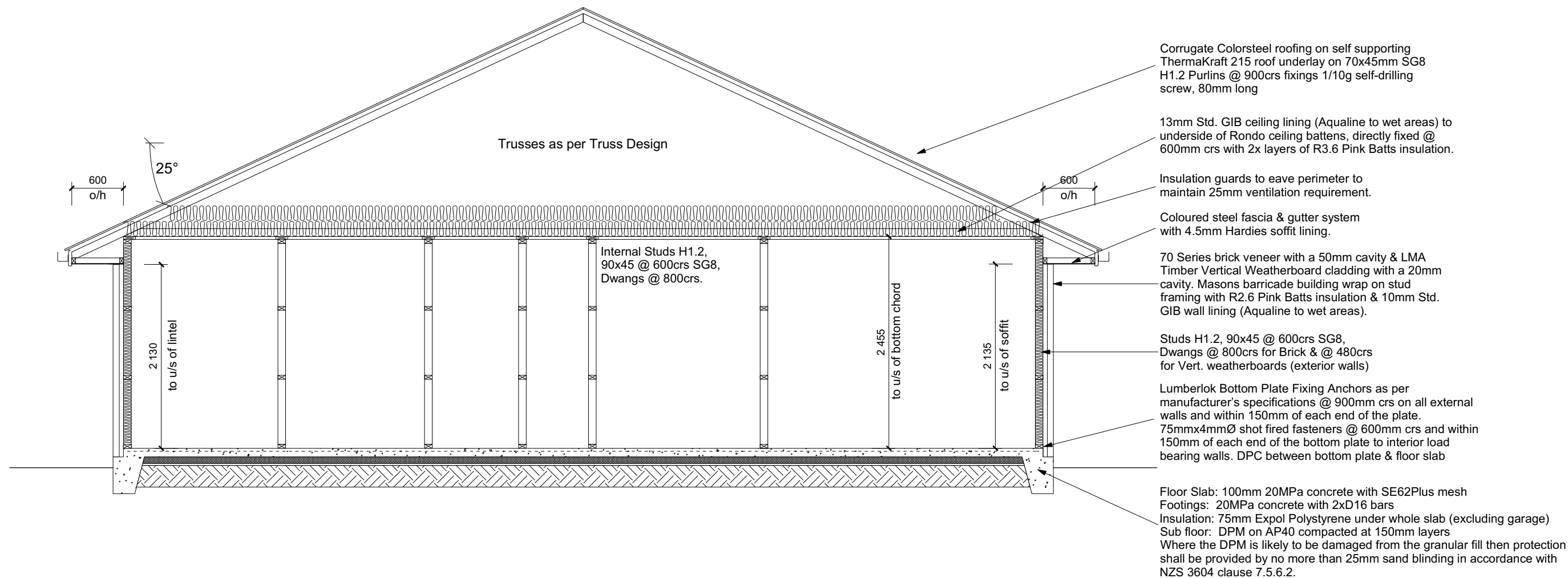
Fixings shall comply with NZS 3604:2011 Section 4 Durability Tables 4.1-4.3

Unless stated otherwise, timber members on drawings are to be a minimum of SG8 strength graded as per NZS3604:2011.

INSULATION

Ceiling: Pink Batts 2x layers of R3.6 Ceiling Batts
Wall: Pink Batts R 2.6 Wall Batts

Thermally Broken (R0.5) joinery throughout with Low/4 Glazing



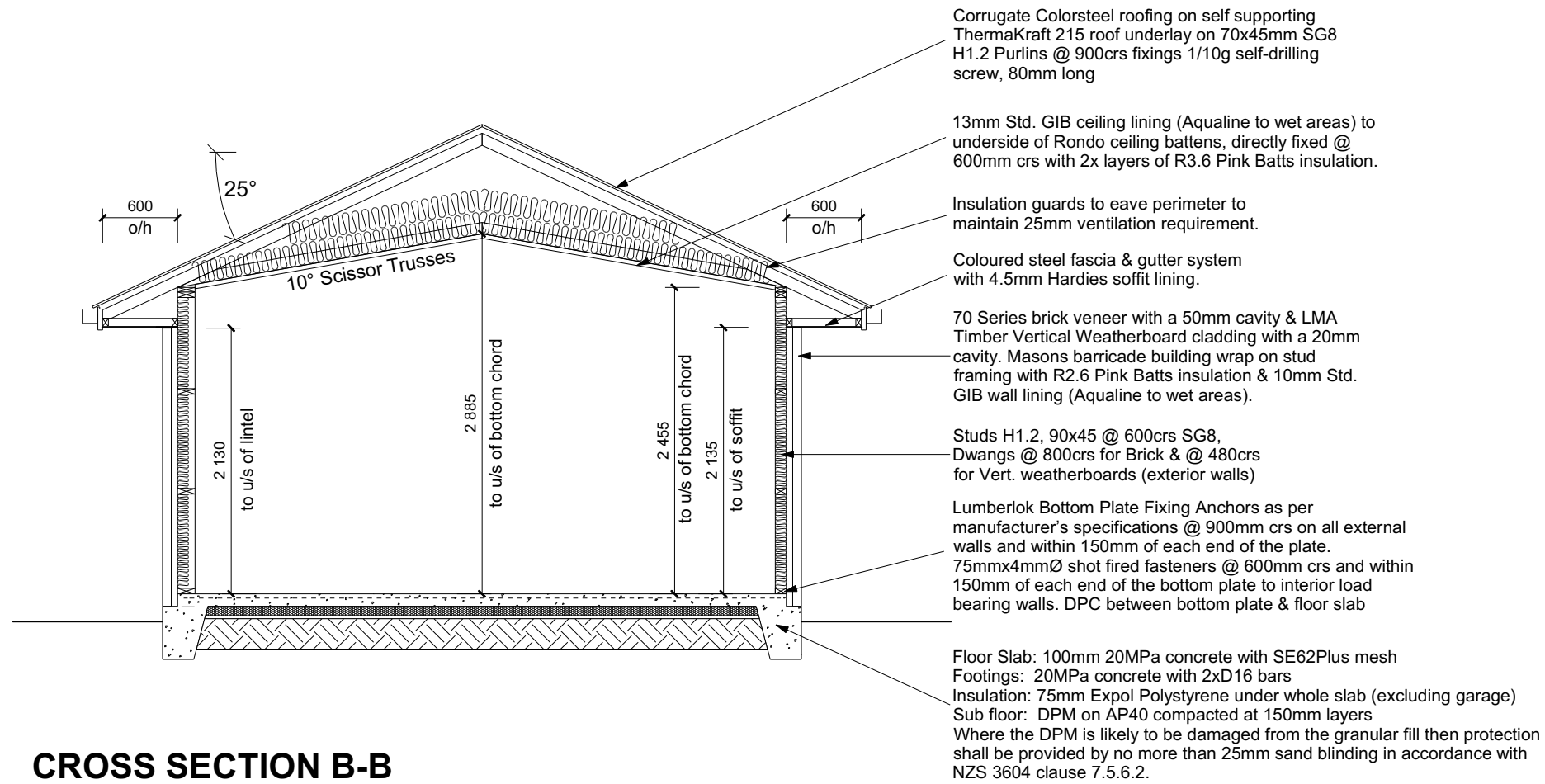
CROSS SECTION A-A

New Residence for :
Lauren Hedges & Patrick Walker
Lot 73, DP 596433
Ed Hillary Drive, Rolleston

CROSS SECTIONS

24/02/2024

1:50 (@ A3)



CROSS SECTION B-B

ROOF & WALL CLADDINGS

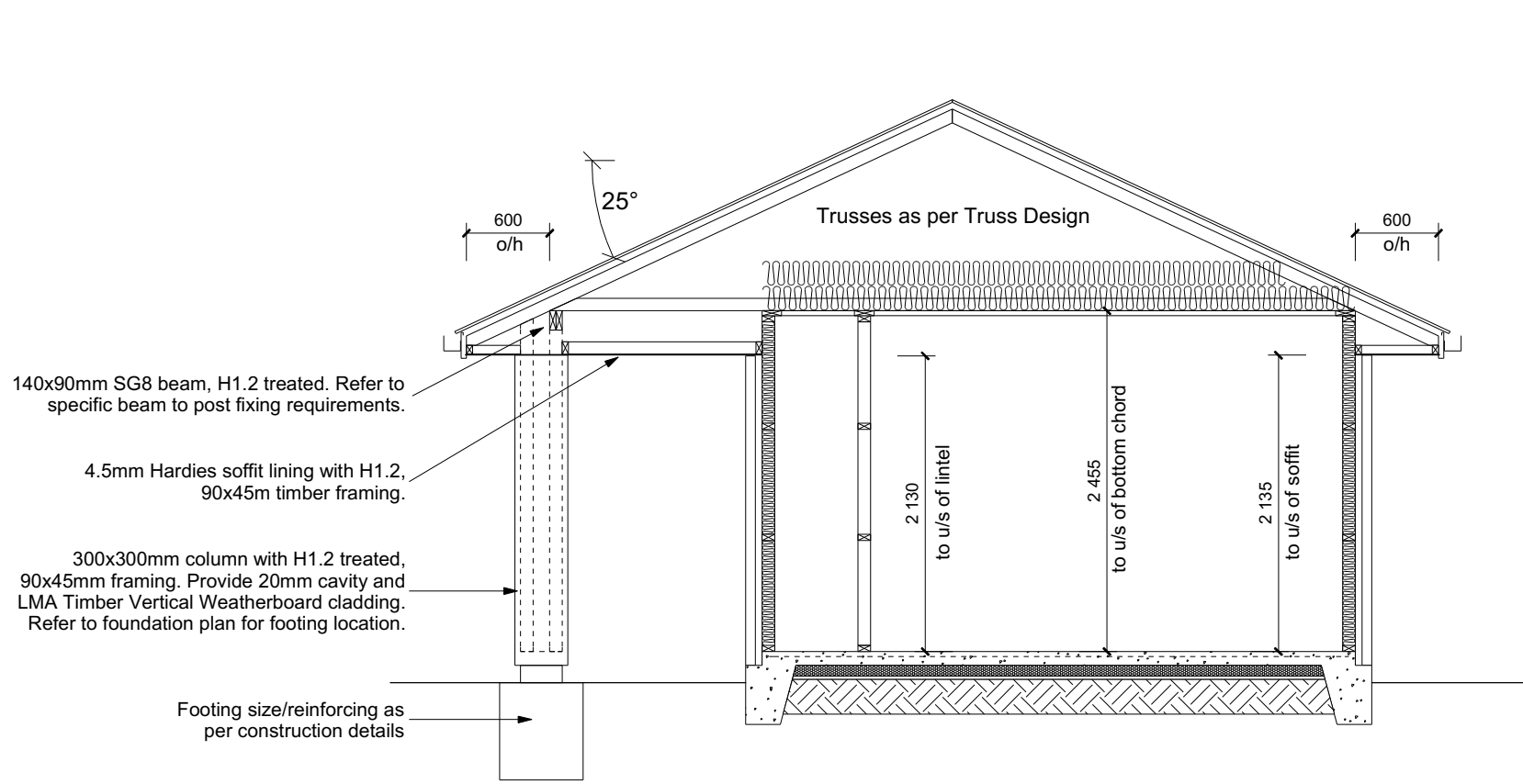
Roof : 25° Corrugate Colorsteel
Walls : 70 Series Brick Veneer with a 50mm cavity LMA Timber Vertical Weatherboards with a 20mm cavity

CROSS SECTION NOTES

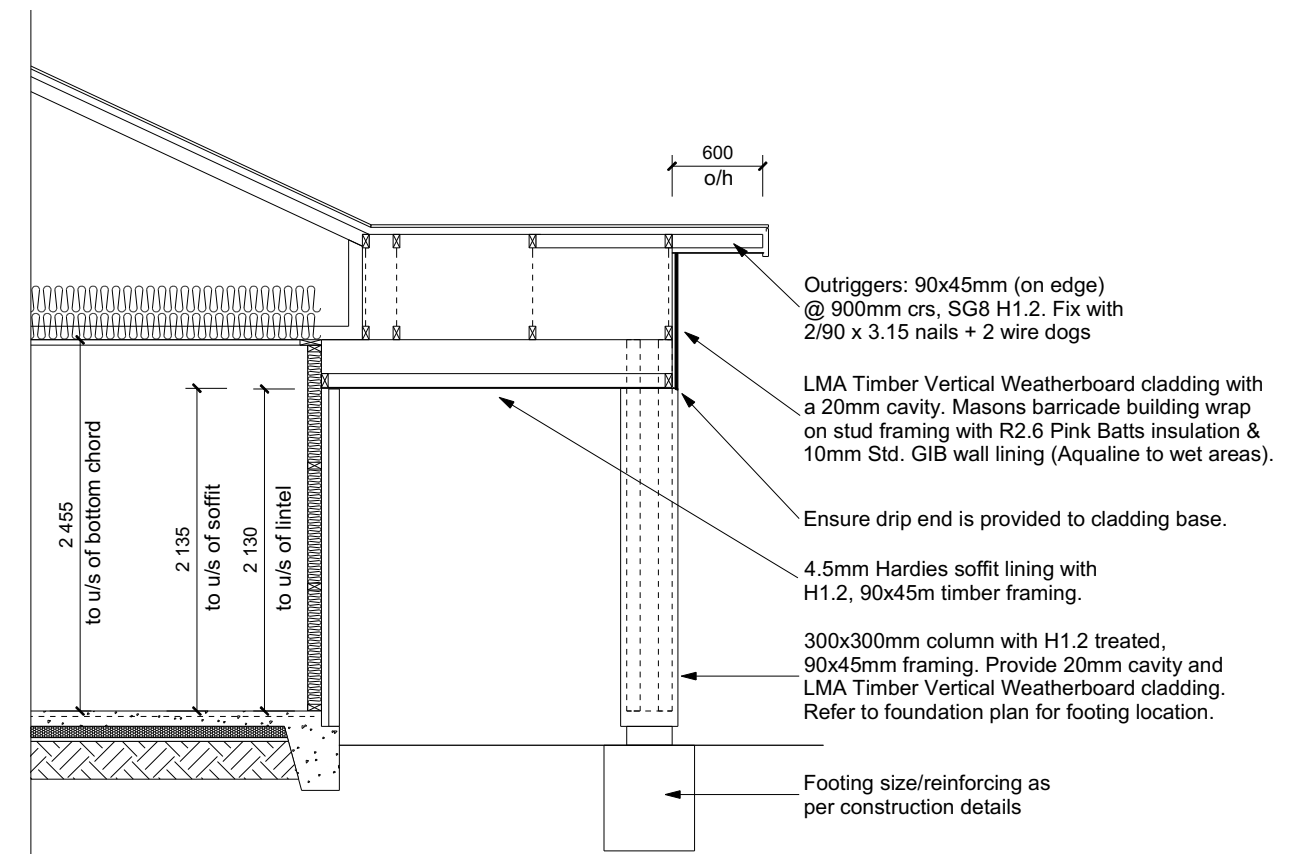
Building wrap is to comply with E2/AS1 & NZS 3604:2011.
Flashing materials must be selected based on environmental exposure. Refer to NZS 3604:2011 & table 20 of E2/AS1.
Flashing tape must have proven compatibility with the selected wrap & other materials with which it comes into contact as per table 21 of E2/AS1.
Fixings shall comply with NZS 3604:2011 Section 4 Durability Tables 4.1-4.3
Unless stated otherwise, timber members on drawings are to be a minimum of SG8 strength graded as per NZS3604:2011.

INSULATION
Ceiling: Pink Batts 2x layers of R3.6 Ceiling Batts
Wall: Pink Batts R 2.6 Wall Batts

Thermally Broken (R0.5) joinery throughout with Low/4 Glazing



CROSS SECTION C-C



CROSS SECTION D

New Residence for :
Lauren Hedges & Patrick Walker
Lot 73, DP 596433
Ed Hillary Drive, Rolleston

CROSS SECTIONS

24/02/2024 1:50 (@ A3)

Figure 43: Ridge to hip flashings
Paragraphs 8.4.11 and 8.4.12

NOTE: Flashing cover varies according to wind zone - refer Table 7.
For other ridge to hip flashings refer to New Zealand Metal Roofing and Wall Cladding Code of Practice.

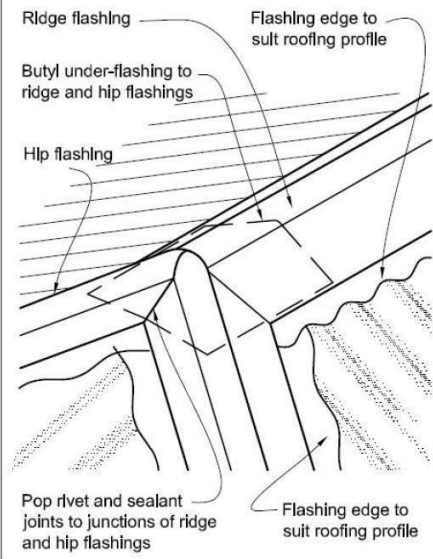
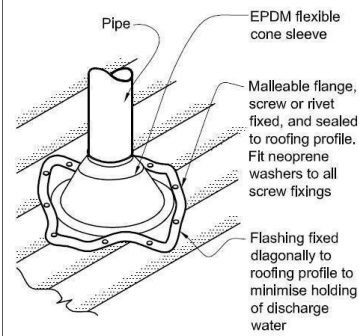
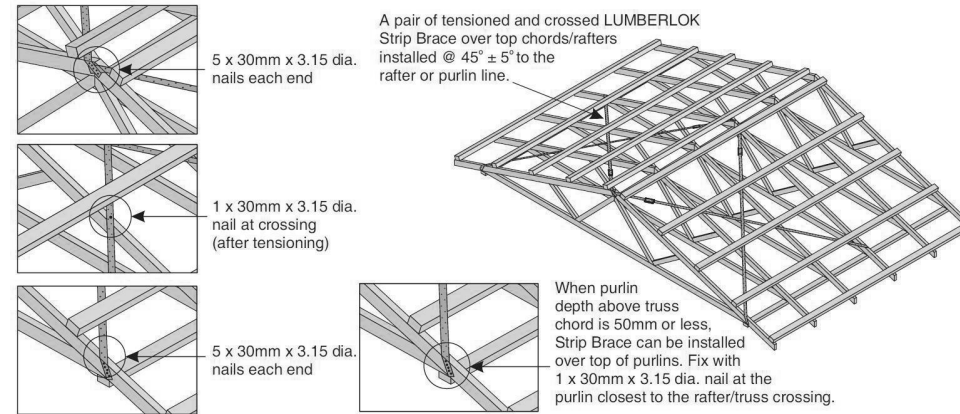


Figure 53: Flashing for small pipes
Paragraphs 8.3.10, 8.4.17, 9.6.8.5 and 9.6.9.6



NOTE:
(1) Max. roof pitch for this flashing 45°, minimum pitch 10° if base of flange covers one or more complete troughs.
(2) For pipes up to 85 mm diameter.

• A pair of tensioned and crossed LUMBERLOK Strip Brace running continuously from ridge to top plate installed as detailed below.



ROOF & WALL CLADDINGS

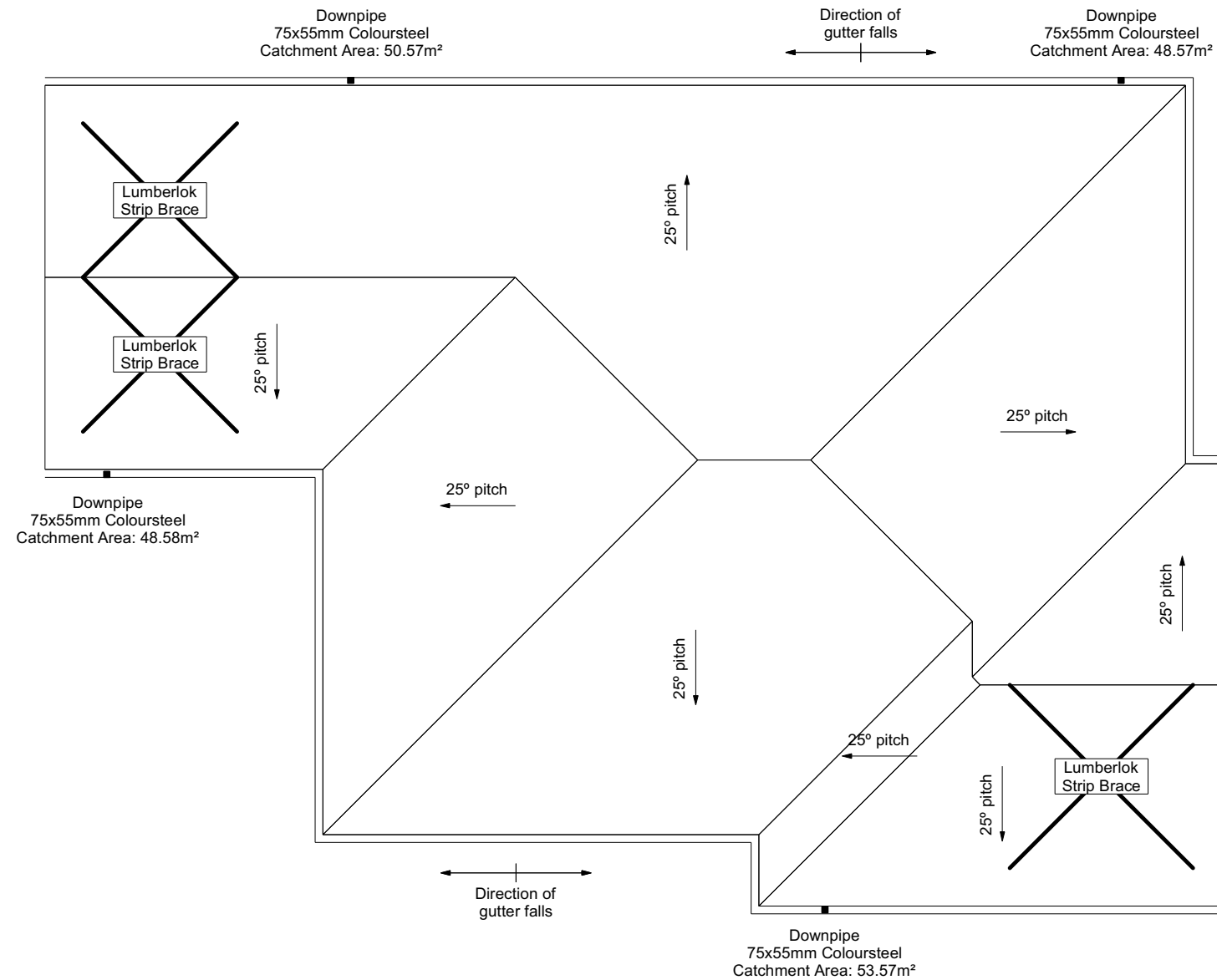
Roof : 25° Corrugate Colorsteel
Purlins : 70x45 SG8 H1.2 @ 900crs, fixings 1/10g self-drilling screw, 80mm long.
End span of purlins to be 600crs as per E2 Table 11.

ROOF PLAN NOTES

Gutter : Coloured Steel Quad Gutter
Fascia : Coloured Steel 185 Fascia
Downpipes : Colorsteel Rectangular 75x55mm
Soffits : 4.5mm Hardiflex

Underlay : Thermakraft 215 roof underlay

Roof Bracing : Diagonally opposed pair 25x1mm galv straps with 8Kn tension capacity.
After tensioning strap, fix to each rafter with 2/ 60x3.15mm nails.
Fold down strap and fix with 3/ 60x3.15mm nails each into the top chord and into the top plate.

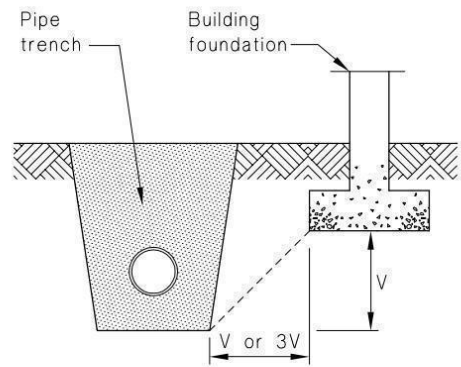


New Residence for :
Lauren Hedges & Patrick Walker
Lot 73, DP 596433
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ROOF PLAN

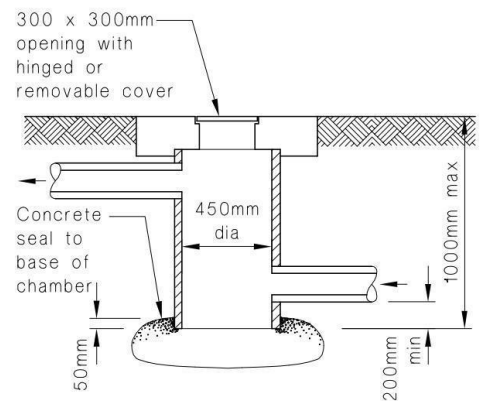
24/02/2024 1:100 (@ A3)

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



Minimum horizontal separation shall be V or 3V dependant on length of time trench open, see Paragraph 5.6.1

Figure 6: Bubble-up Chamber
Paragraph 3.4.2



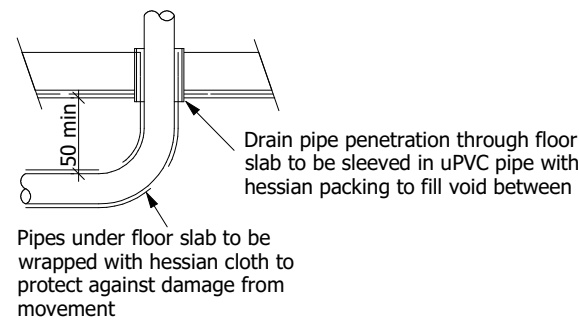
Plumbing Schedule NZBC G13

Kitchen Sink:	Ø50mm @1:40	(3 discharge units)
Bathrooms Vanity:	Ø40mm @1:40	(1 discharge units)
Shower:	Ø40mm @1:40	(2 discharge units)
Bath:	Ø40mm @1:40	(4 discharge units)
WC:	Ø100mm @1:40	(4 discharge units)
Laundry Sink:	Ø40mm @1:30	(5 discharge units)
Main Foulwater Vented Drain:	Ø100mm @1:60	
Stormwater Drain:	Ø100mm @1:60 (1:120max)	
Terminal Vent:	Ø80mm	
Heatpump:	Drain over DP	
ORG:	Overflow Relief Gully	

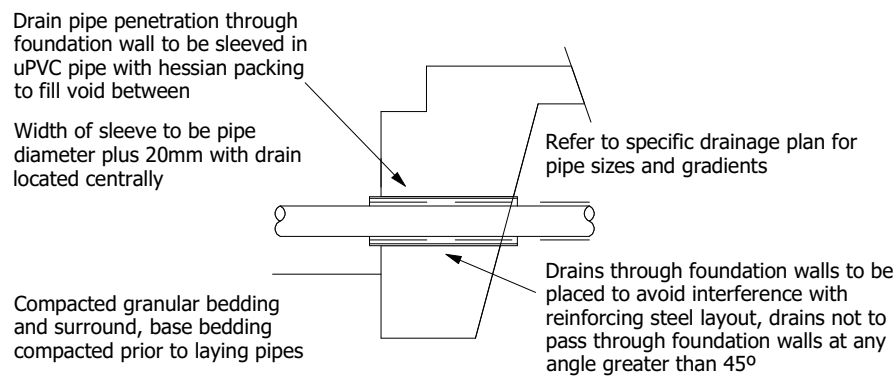
ORG to be positioned so the top of gully dish is no less than 150mm below overflow level of lowest fixture
All drains passing through concrete, provide sleeve or wrap in durable and flexible to allow for expansion and contraction. (as per G13/AS2 5.8.1)

DRAINAGE LEGEND

---	Stormwater DN100mm uPVC
---	Sewer Drain DN100mm uPVC
DP	Downpipe
GT	Gully Trap
ORG	Overflow Relief Gully
TV	Terminal Vent
AAV	Air Admittance Valve
IP	Inspection Point

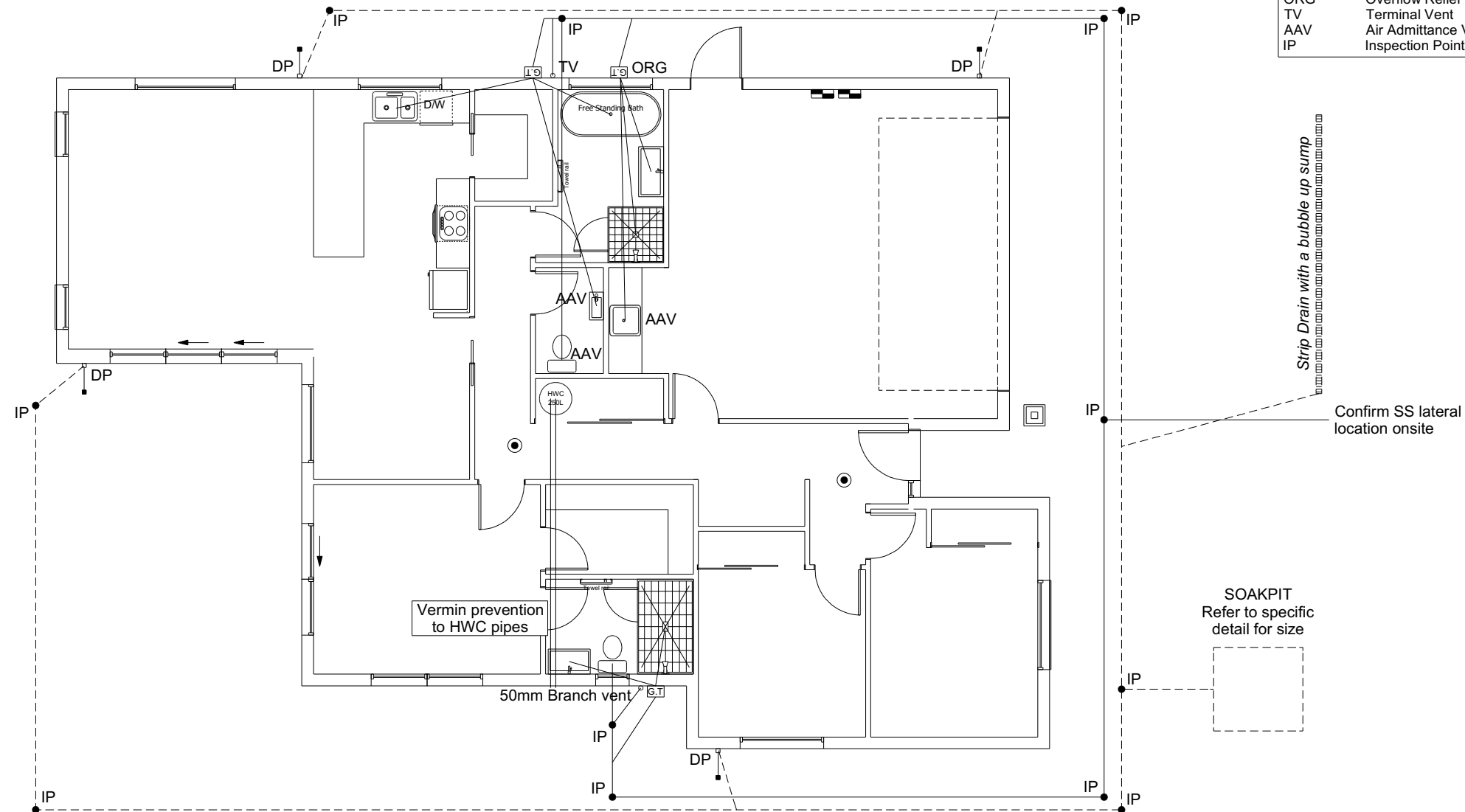


Pipe through Floor Slab
Scale 1:20



Pipe through Foundation
Scale 1:20

All drains under floor slabs to be:
-laid straight with even gradient along length of drain
-50mm min clearance from underside of floor slab
-25mm min clearance between pipe & concrete



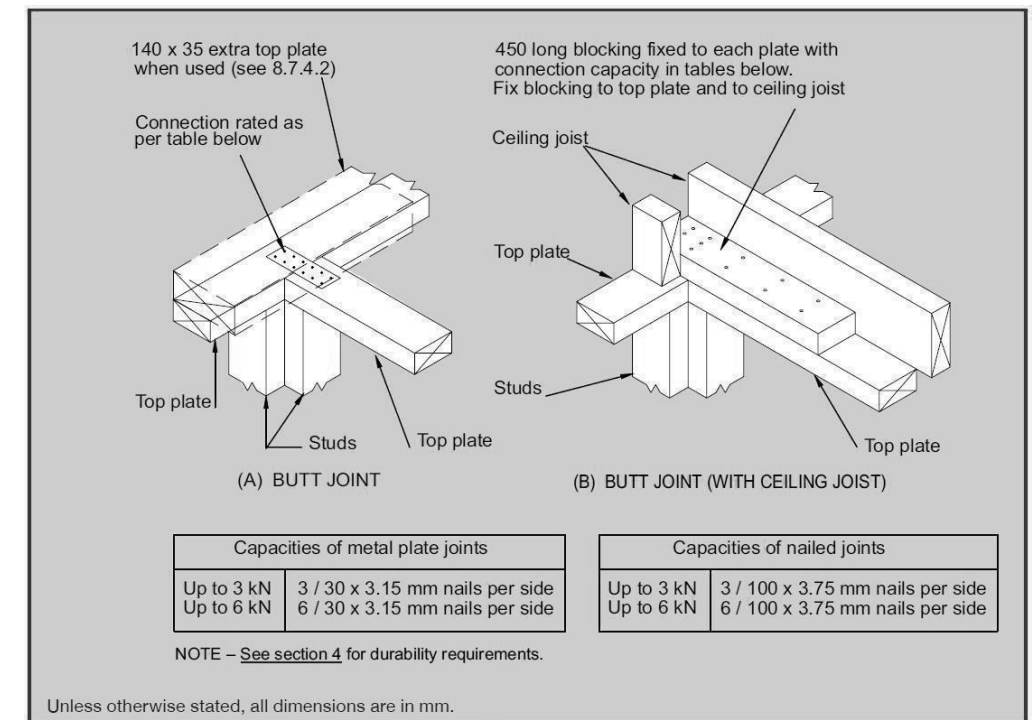
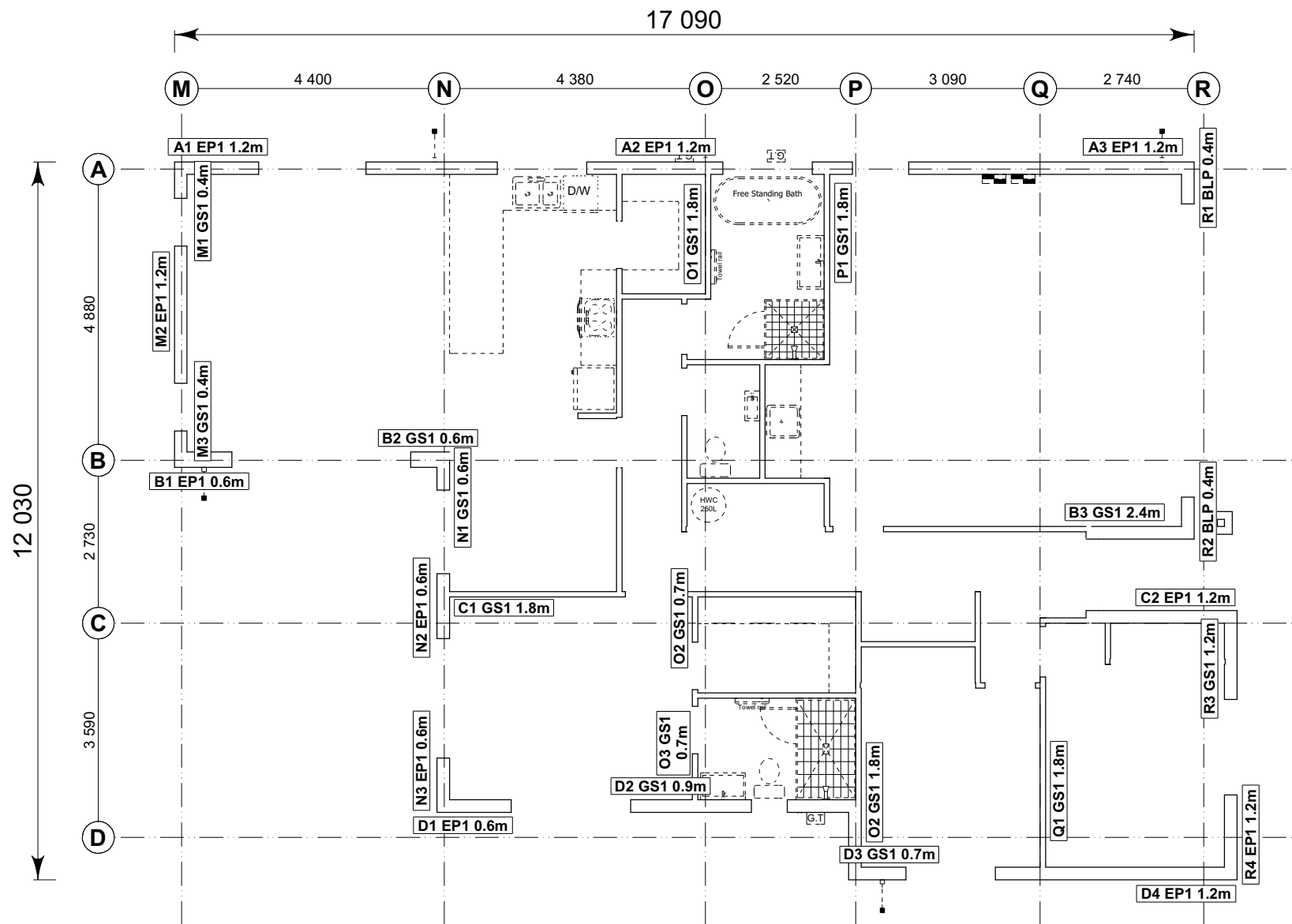


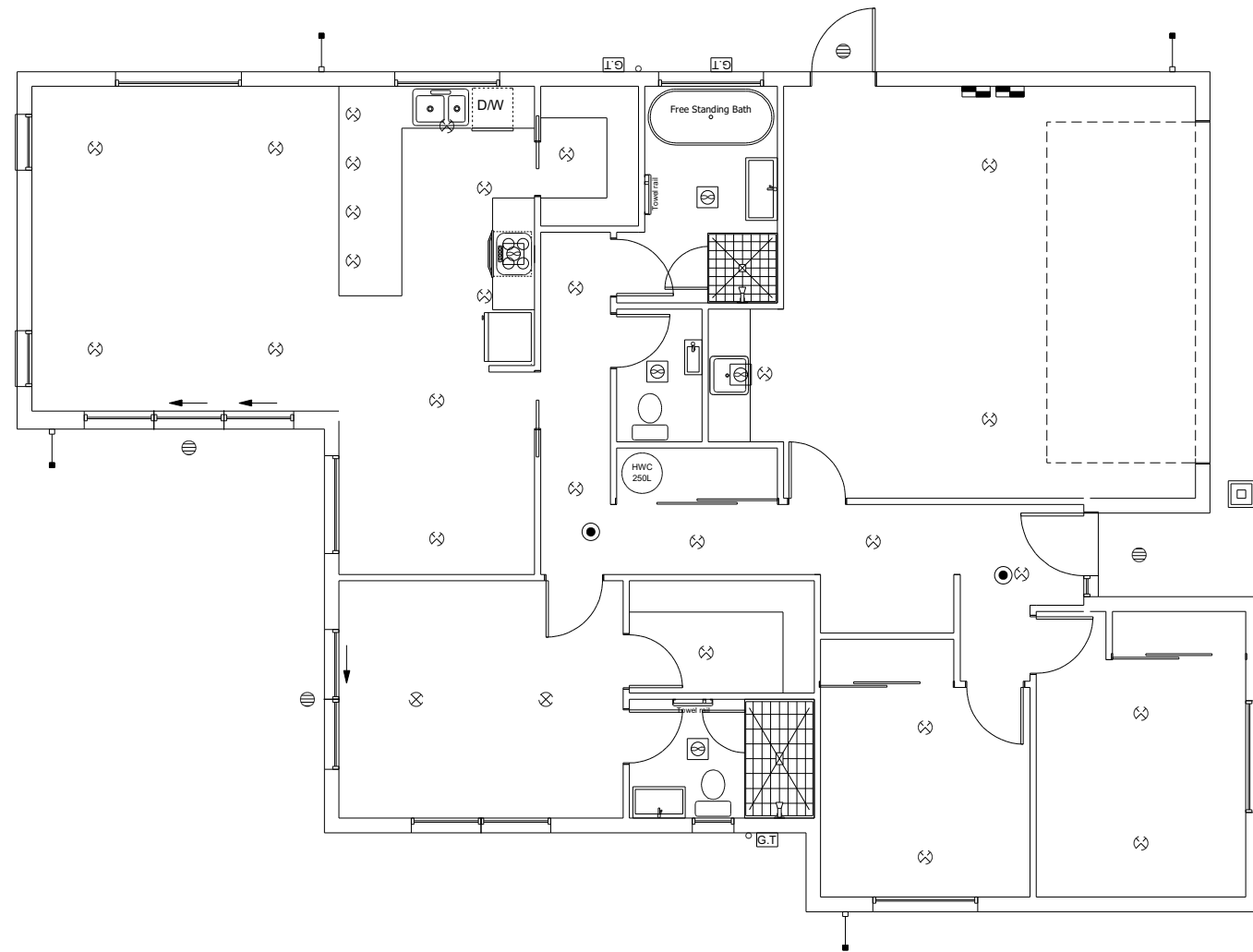
Figure 8.16 - Connecting top plates to external walls at right angles - Walls containing bracing (see 8.7.3.4)

8.7.3.4
 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.

Single Level Along Resistance Sheet										
Job Name: Hedges & Walker										
								Wind	EQ	
								Demand		
								686	1013	
								Achieved		
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1256	1318
A	1	1.20		2.40	EP1 1.2	Ecoply®	144	162	432 OK	486 OK
	2	1.20		2.40	EP1 1.2	Ecoply®	144	162		
	3	1.20		2.40	EP1 1.2	Ecoply®	144	162		
B	1	0.60		2.40	EP1 0.6	Ecoply®	57	63	257 OK	242 OK
	2	0.60		2.40	GS1-N	GIB®	34	35		
	3	2.40		2.40	GS1-N	GIB®	166	144		
C	1	1.80		2.40	GS1-N	GIB®	124	108	268 OK	270 OK
	2	1.20		2.40	EP1 1.2	Ecoply®	144	162		
D	1	0.60		2.40	EP1 0.6	Ecoply®	57	63	299 OK	319 OK
	2	0.90		2.40	GS1-N	GIB®	57	53		
	3	0.70		2.40	GS1-N	GIB®	41	41		
	4	1.20		2.40	EP1 1.2	Ecoply®	144	162		

Single Level Across Resistance Sheet										
Job Name: Hedges & Walker										
								Wind	EQ	
								Demand		
								1081	1013	
								Achieved		
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1217	1203
M	1	0.40		2.40	GS1-N	GIB®	21	23	166 OK	185 OK
	2	1.20		2.80	EP1 1.2	Ecoply®	123	139		
	3	0.40		2.40	GS1-N	GIB®	21	23		
N	1	0.60		2.40	GS1-N	GIB®	34	35	148 OK	161 OK
	2	0.60		2.40	EP1 0.6	Ecoply®	57	63		
	3	0.60		2.40	EP1 0.6	Ecoply®	57	63		
O	1	1.80		2.40	GS1-N	GIB®	124	108	207 OK	190 OK
	2	0.70		2.40	GS1-N	GIB®	41	41		
	3	0.70		2.40	GS1-N	GIB®	41	41		
P	1	1.80		2.40	GS1-N	GIB®	124	108	248 OK	216 OK
	2	1.80		2.40	GS1-N	GIB®	124	108		
R	1	0.40		2.40	BLP-H	GIB®	48	54	324 OK	342 OK
	2	0.40		2.40	BLP-H	GIB®	48	54		
	3	1.20		2.40	GS1-N	GIB®	83	72		
	4	1.20		2.40	EP1 1.2	Ecoply®	144	162		



LEGEND	
Refer to Electrical Section in Specification for further details	
⊗	CA80 / CA135 Approved Down Light
⊖	Exterior Bulkhead Light
⊗	Extractor
Electrical Plan is indicative only and is to be confirmed onsite with electrician and client	

	STUD HEIGHT	NO. OF STUD UNDER TRUSS	MIN. TIMBER SIZE
Bearing reaction up to & including 20kN	2400	2	90 x 35
	2700	2	90 x 45
	3000	3	90 x 45

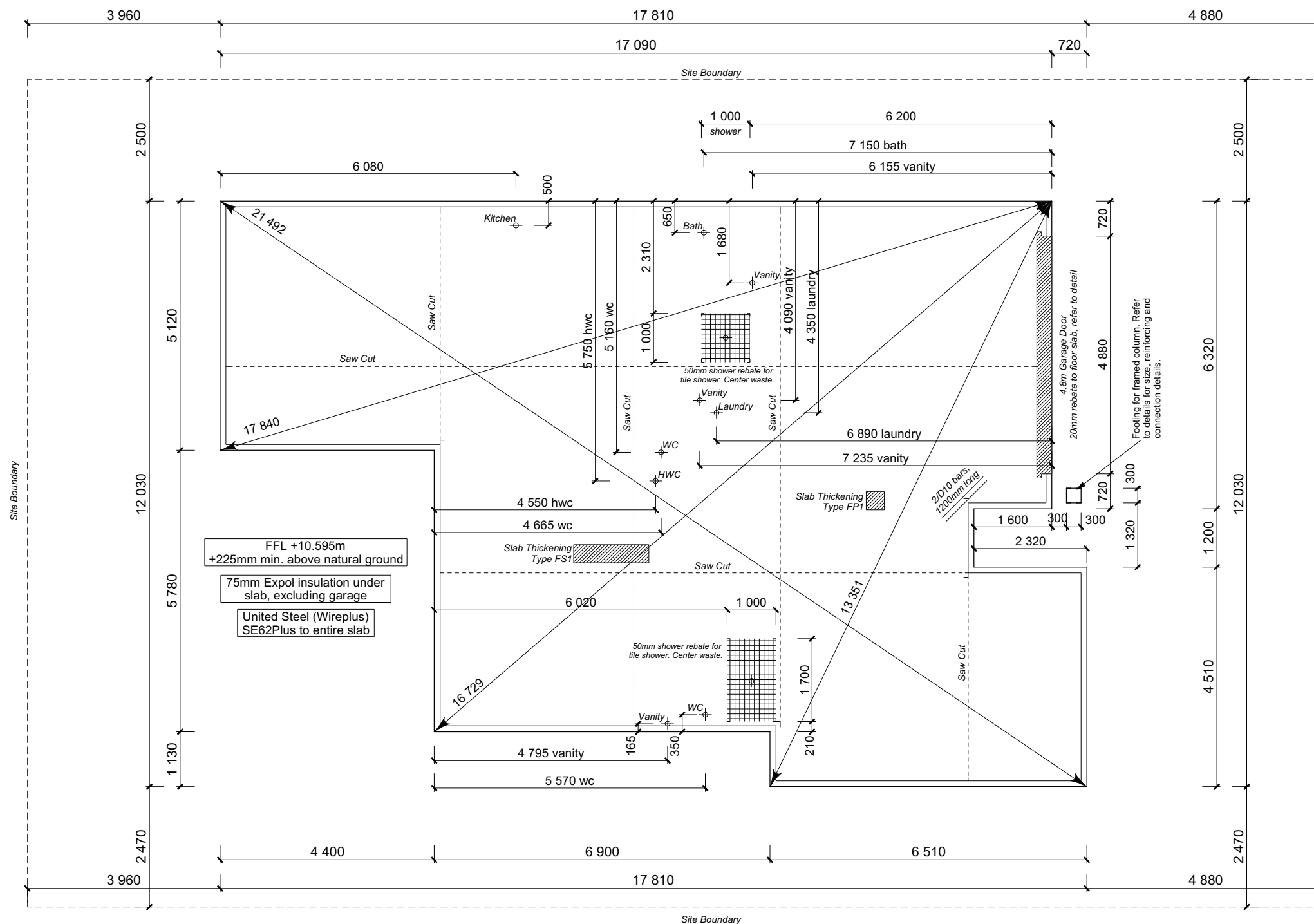
TYPE FP1	TYPE FS1
375 x 375 PAD	300 STRIP THICKENING

Refer to Truss design for exact location of slab thickenings

FOUNDATION PLAN NOTES

All dimensions over foundation face.
 Allow 120mm rebate for 70mm bricks & 50mm cavity.
 W/C location indicated on plan has assumed a 140mm offset from internal frame line, please consult manufacturer's documentation to confirm offset.
 Contractor to consult manufacturer's documentation to determine the correct location for all wastes positioned through floor slabs.
 Earth bar to be bonded to the reinforcing mesh
 Refer to Truss design for exact location of slab thickenings

All reinforcing is to be Ductility Class E, in accordance with NZS 4671.
 All concrete to comply with NZS3604:2011 Section 4 Durability Clause 4.5.2.



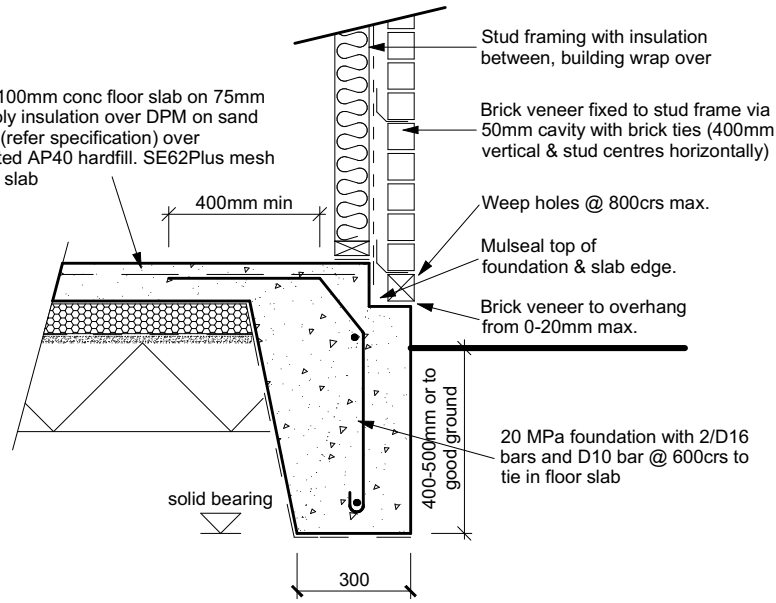
ED HILLARY DRIVE

New Residence for :
 Lauren Hedges & Patrick Walker
 Lot 73, DP 596433
 Ed Hillary Drive, Rolleston

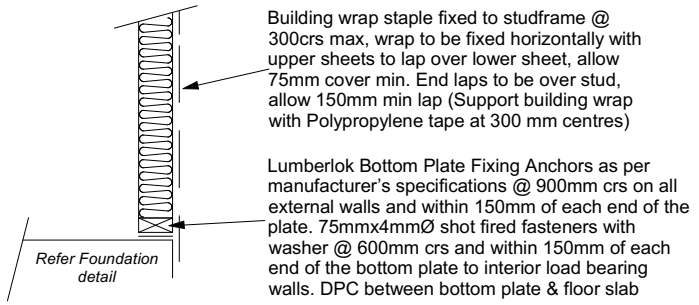
FOUNDATION PLAN

24/02/2024 1:100 (@ A3)

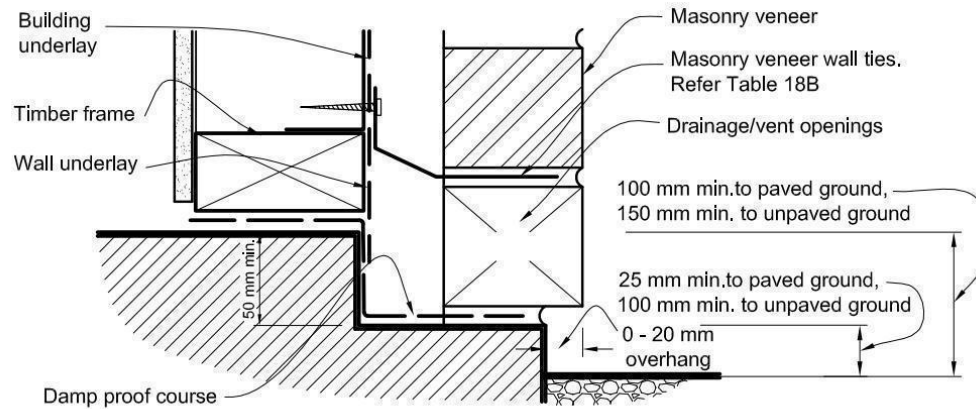
20MPa 100mm conc floor slab on 75mm Expol poly insulation over DPM on sand blinding (refer specification) over compacted AP40 hardfill. SE62Plus mesh to entire slab



Brick Veneer Foundation
Scale 1:20



Stud framing to slab
Scale 1:20



(i) MASONRY VENEER - FLOOR REBATE DETAIL

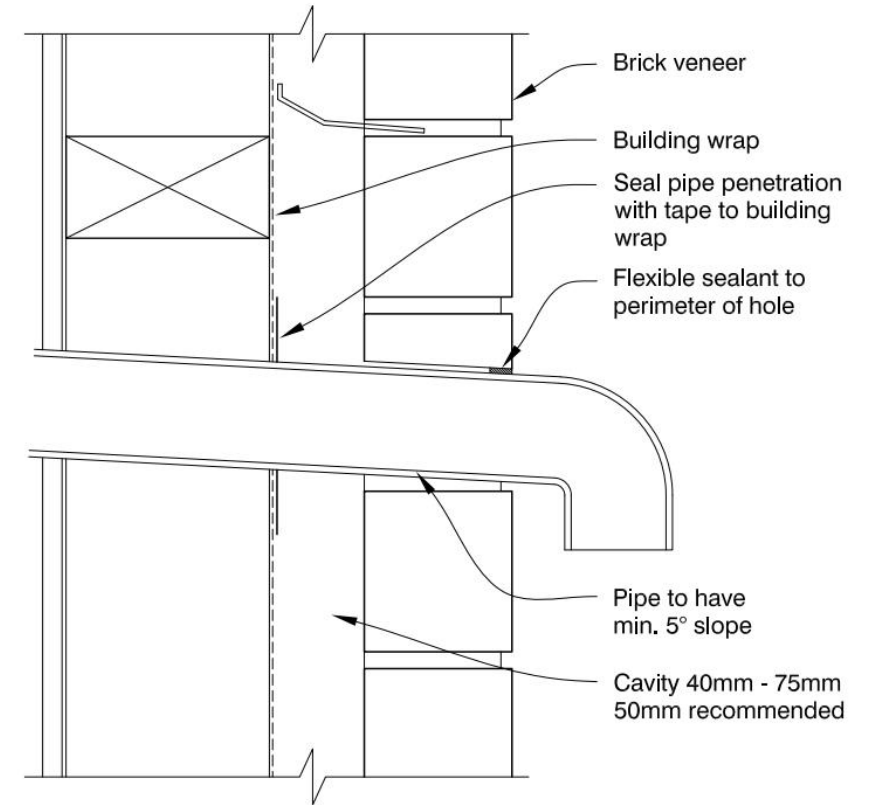


Figure 65: Levels and garage openings
Paragraphs 9.1.3, 9.1.3.4, 9.2.5, Table 18

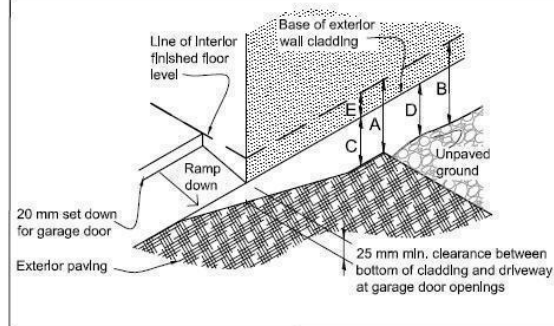
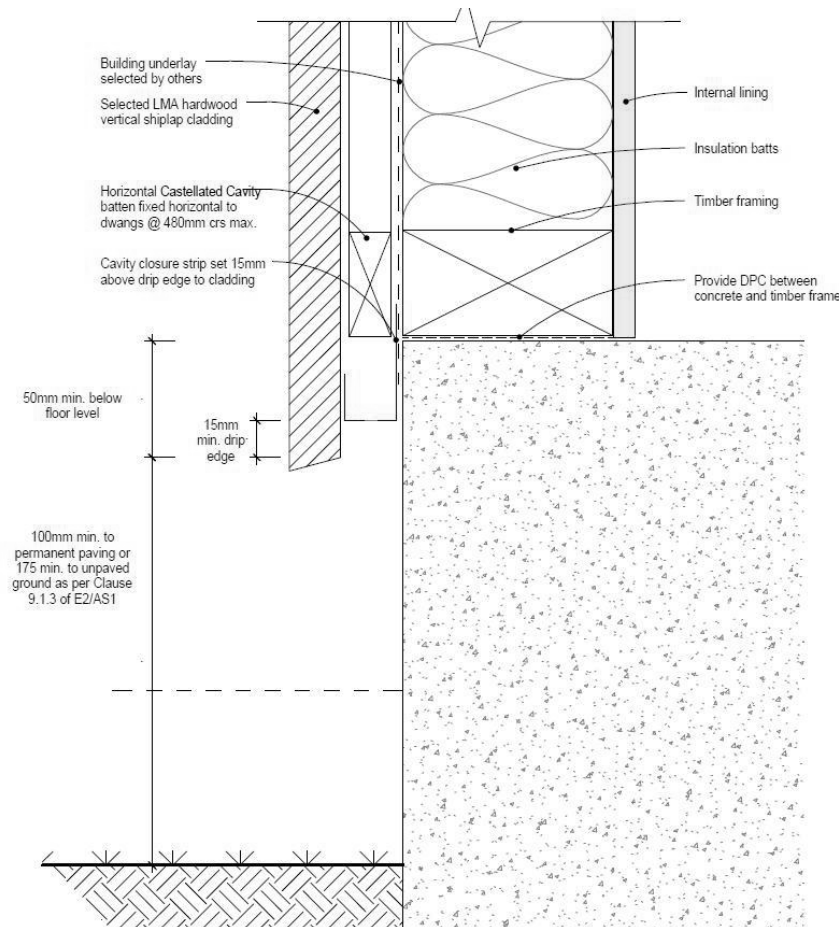
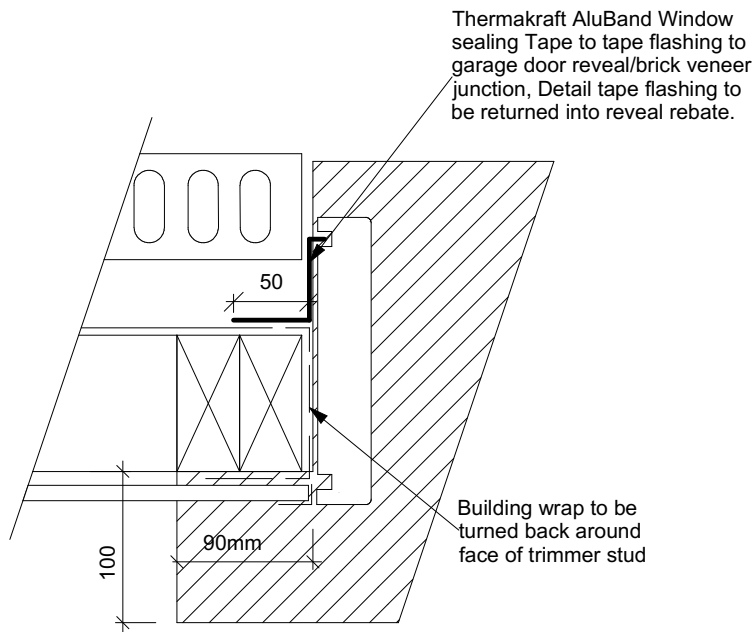


Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

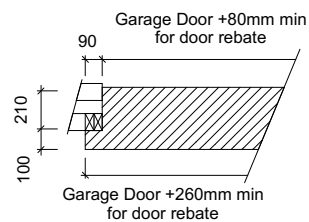
Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor	Refer Note 1)		100	175	50 ²⁾		

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

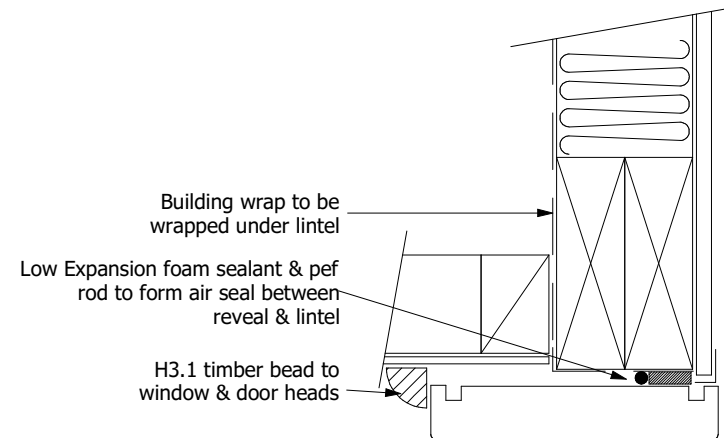
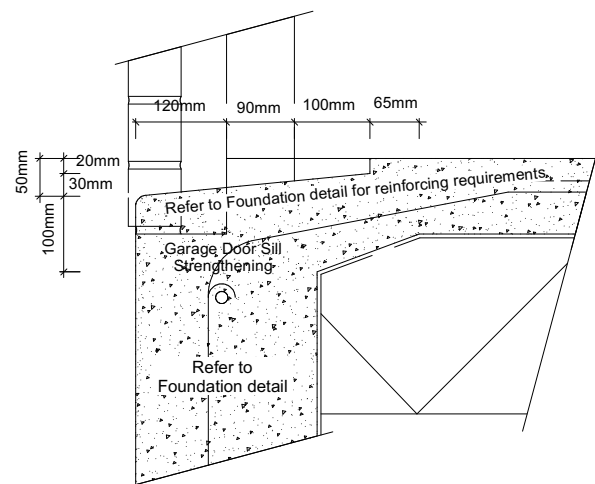




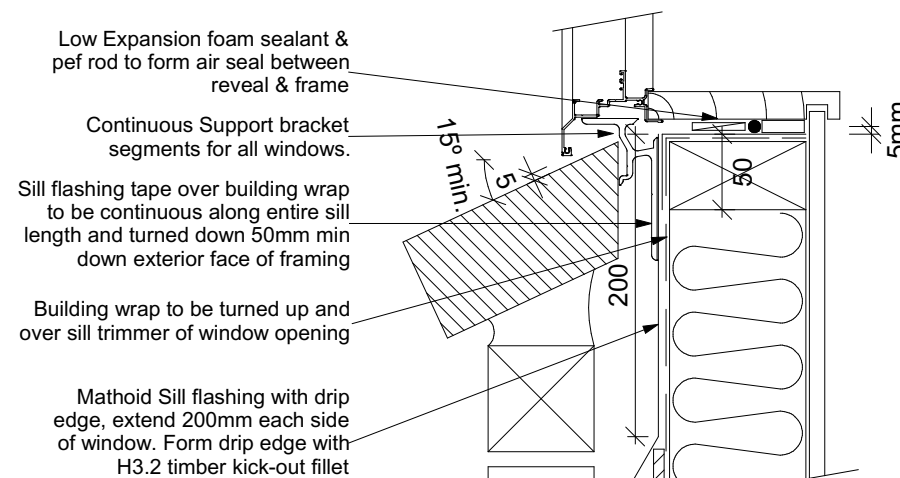
Garage Door Jamb Detail
Scale 1:5



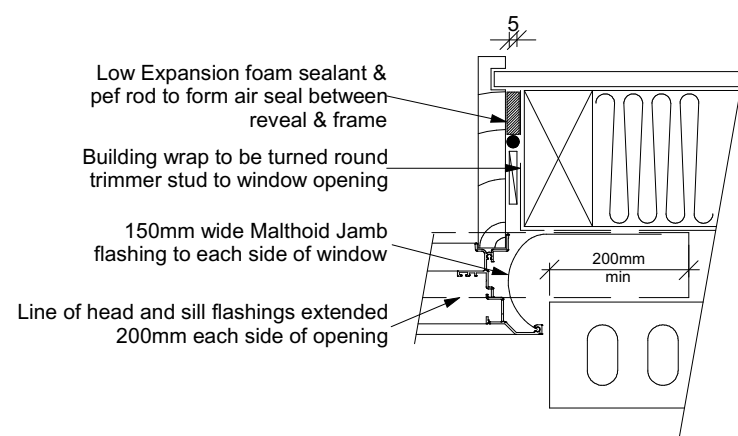
Garage Door Rebate Details
Scale 1:10



Garage Door Head to Soffit Detail
scale 1:5



Window Sill Detail
Scale 1:5



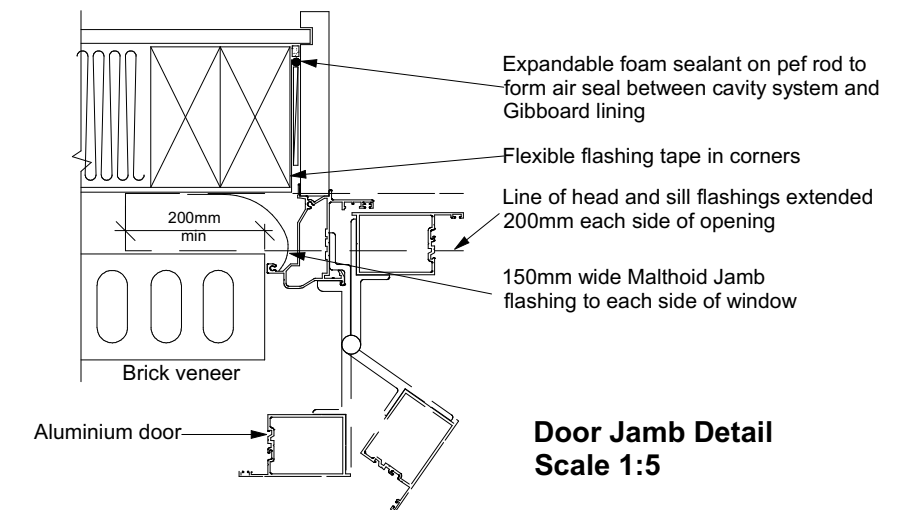
Window Jamb Detail
Scale 1:5

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:

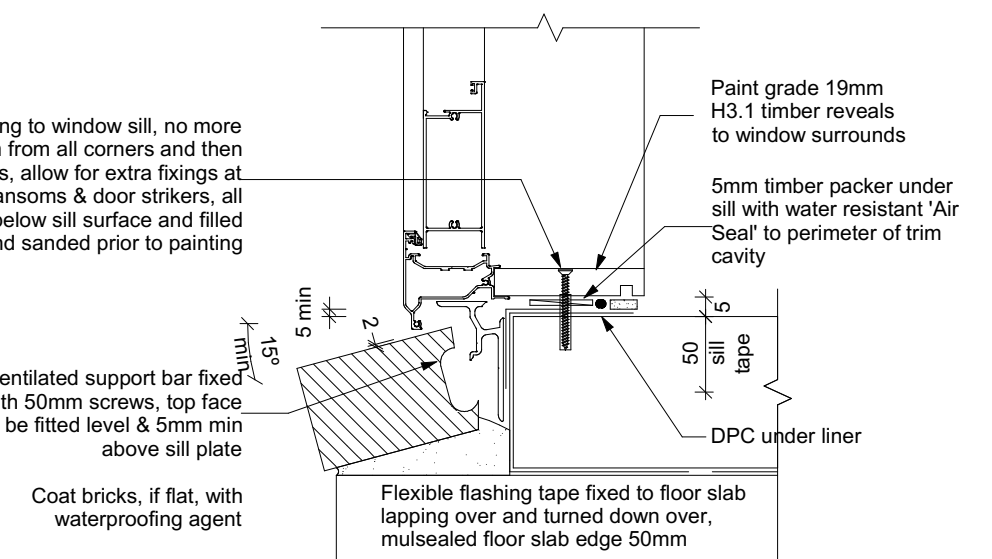
- a) Maximum 450 mm centres along sills, jambs and heads, and
- b) Maximum 150 mm from reveal ends.

Install packers between reveals and framing at all fixing points, except between head reveals and lintels.

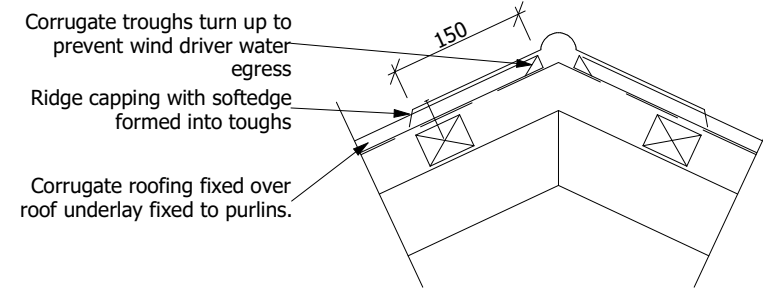
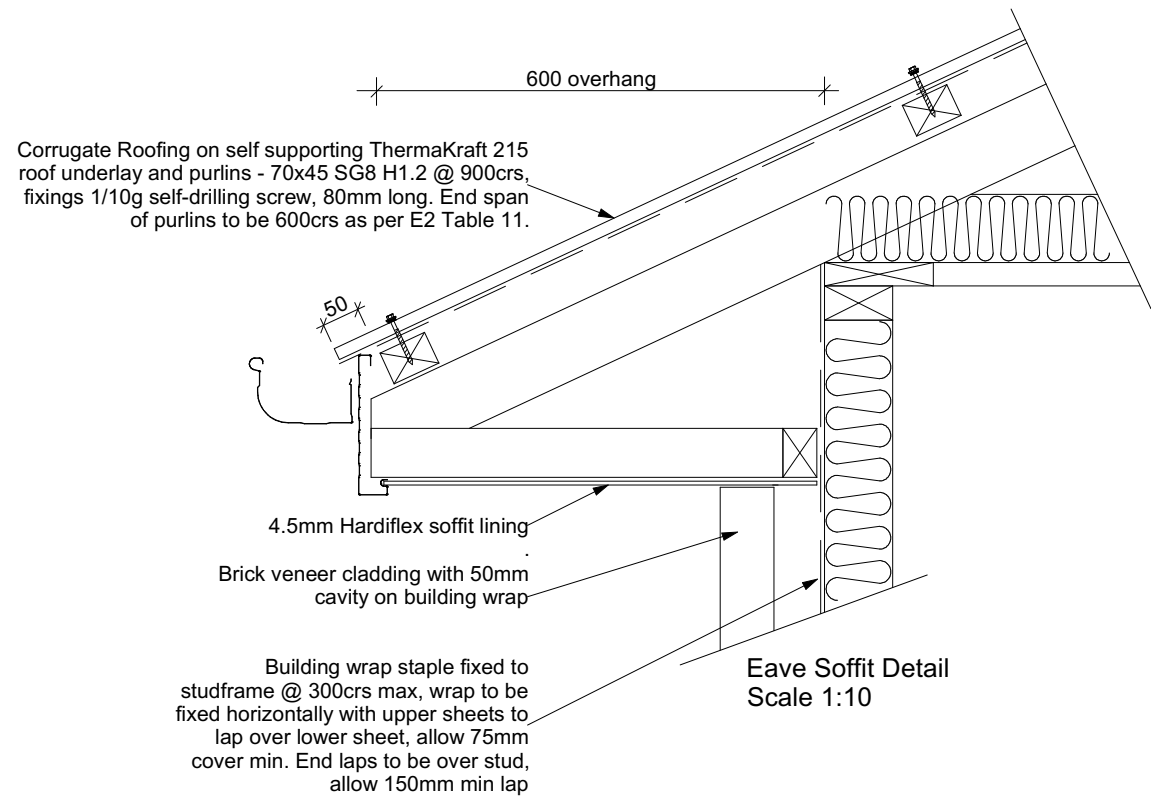


Door Jamb Detail
Scale 1:5

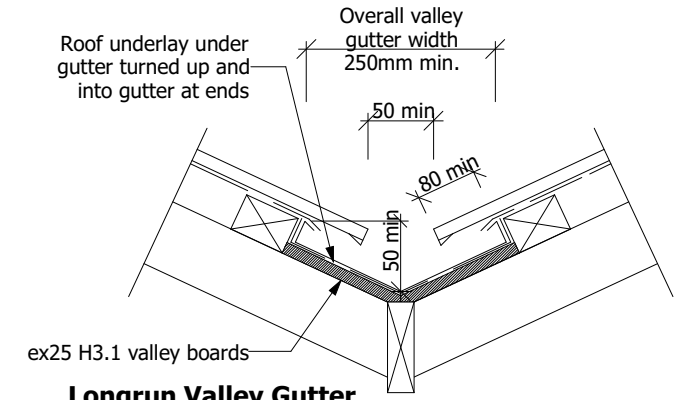
50mm screw fixing to window sill, no more than 150mm from all corners and then 450mm spacings, allow for extra fixings at mullions, transoms & door strikers, all screws driven below sill surface and filled and sanded prior to painting



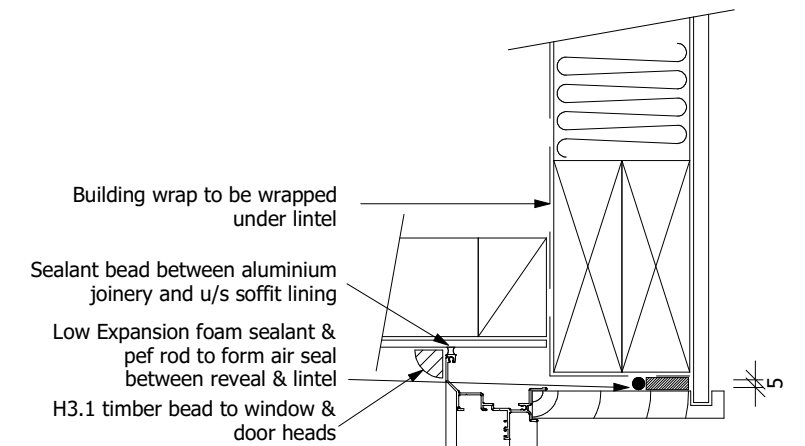
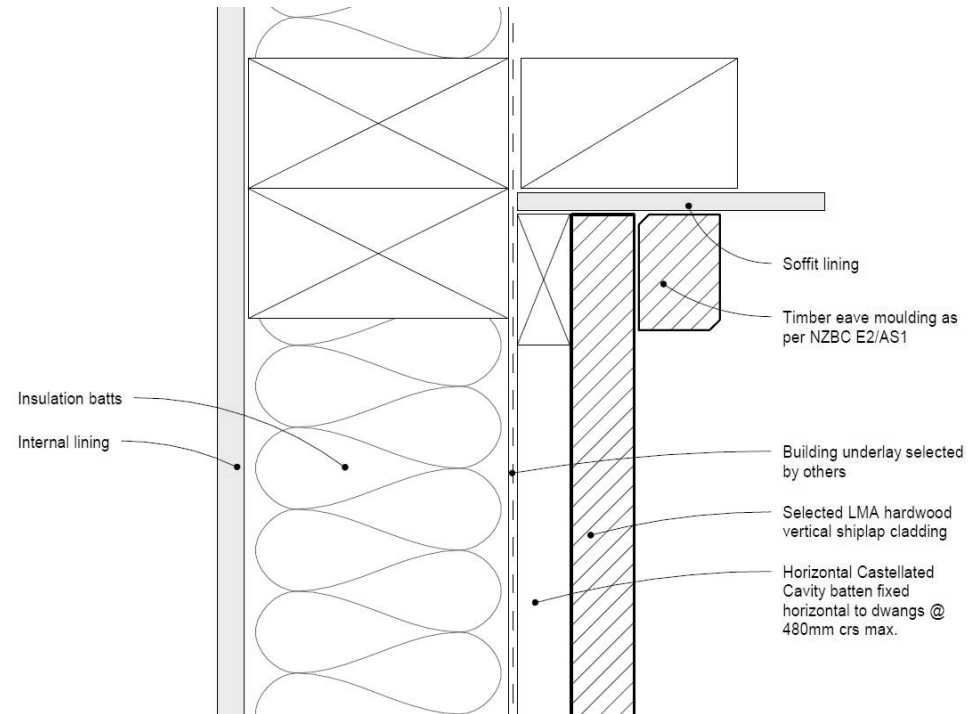
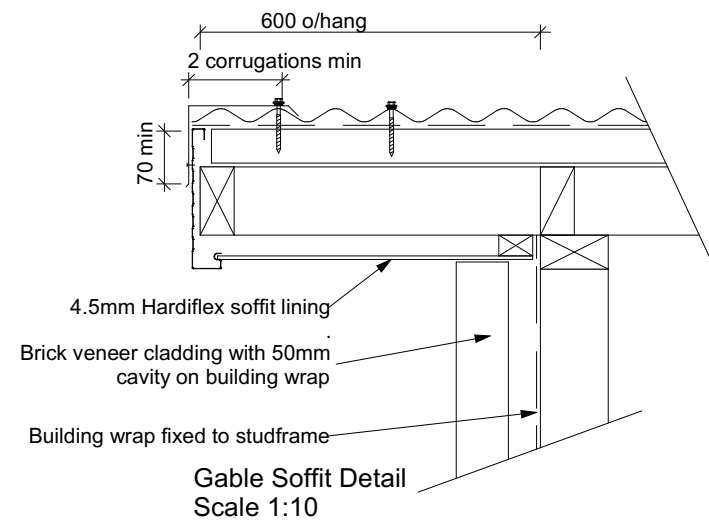
Door Sill to Slab Detail
Scale 1:20



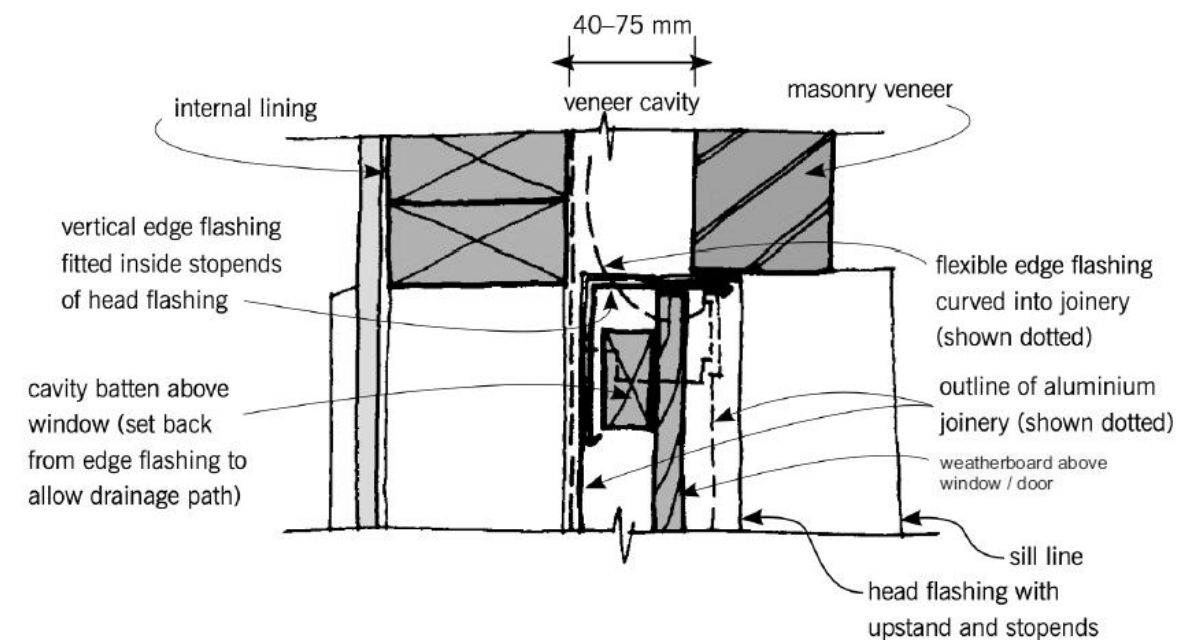
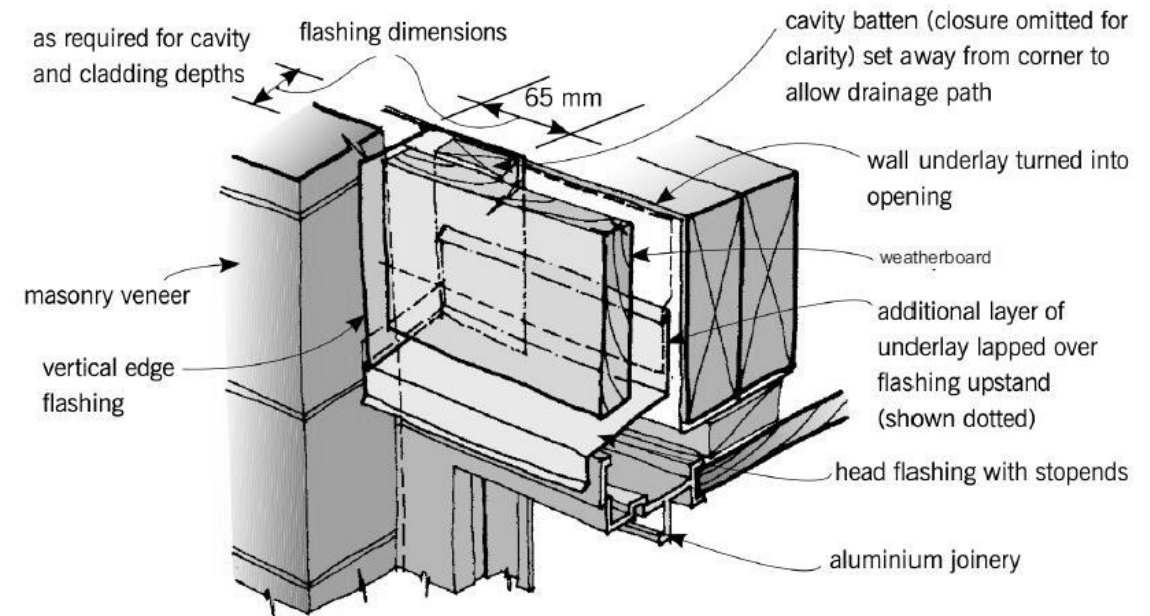
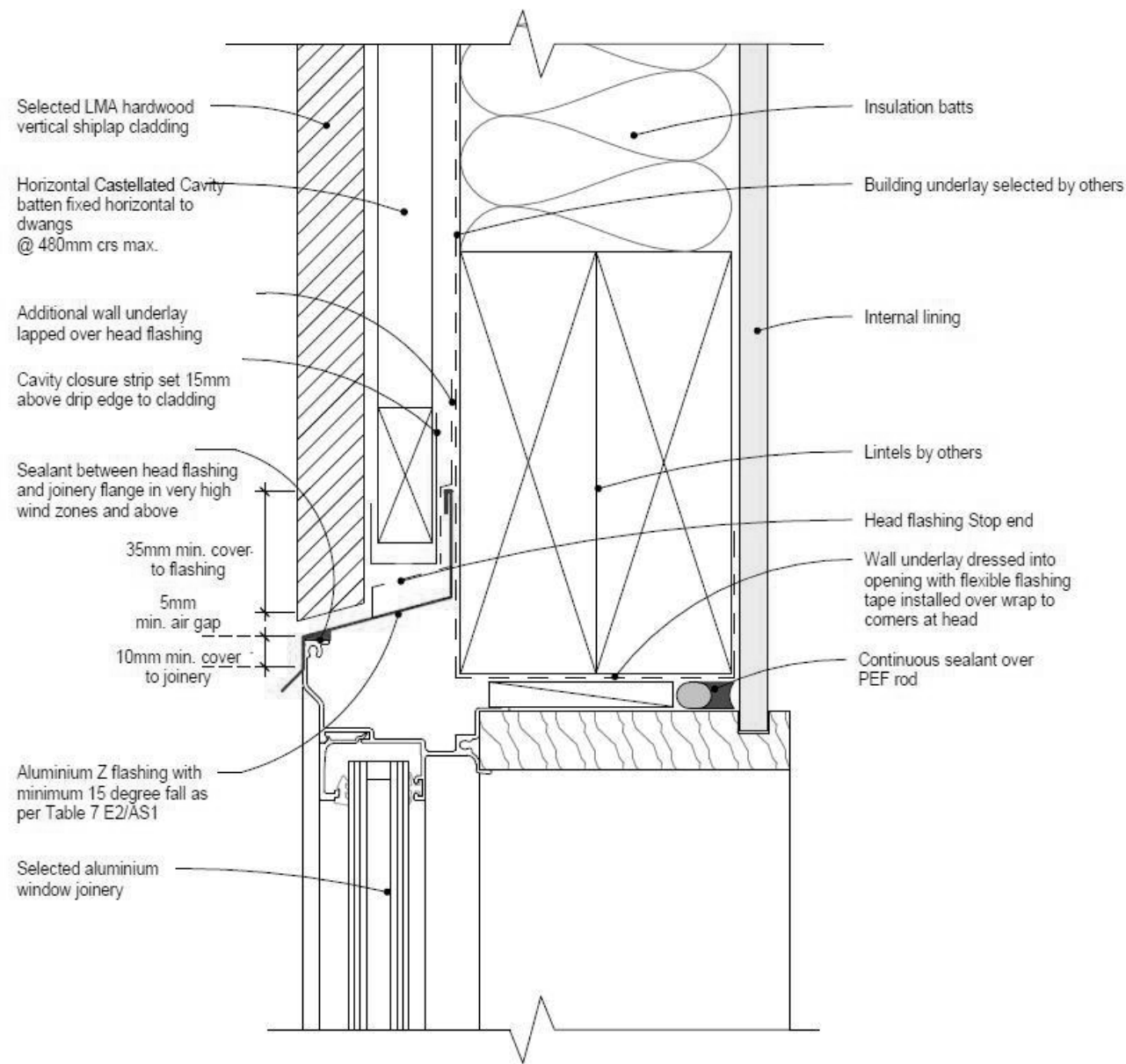
Metal Ridge Capping
Scale 1:10

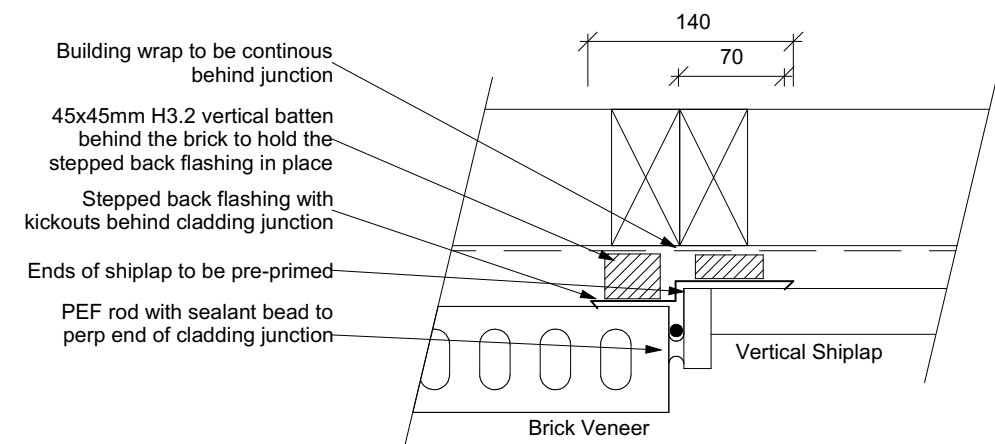
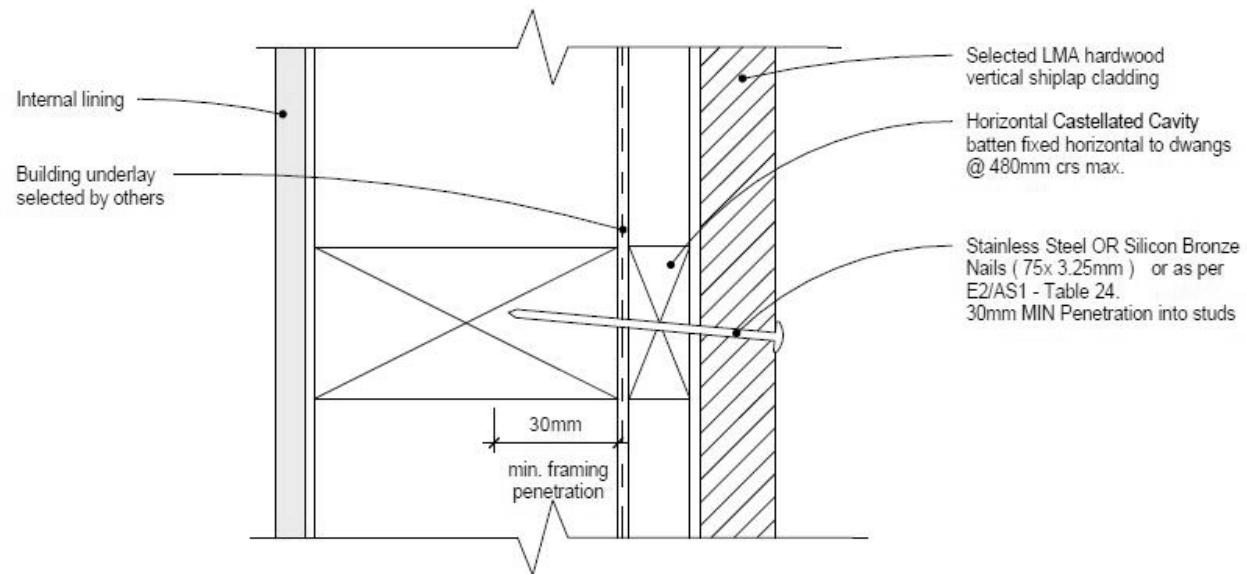
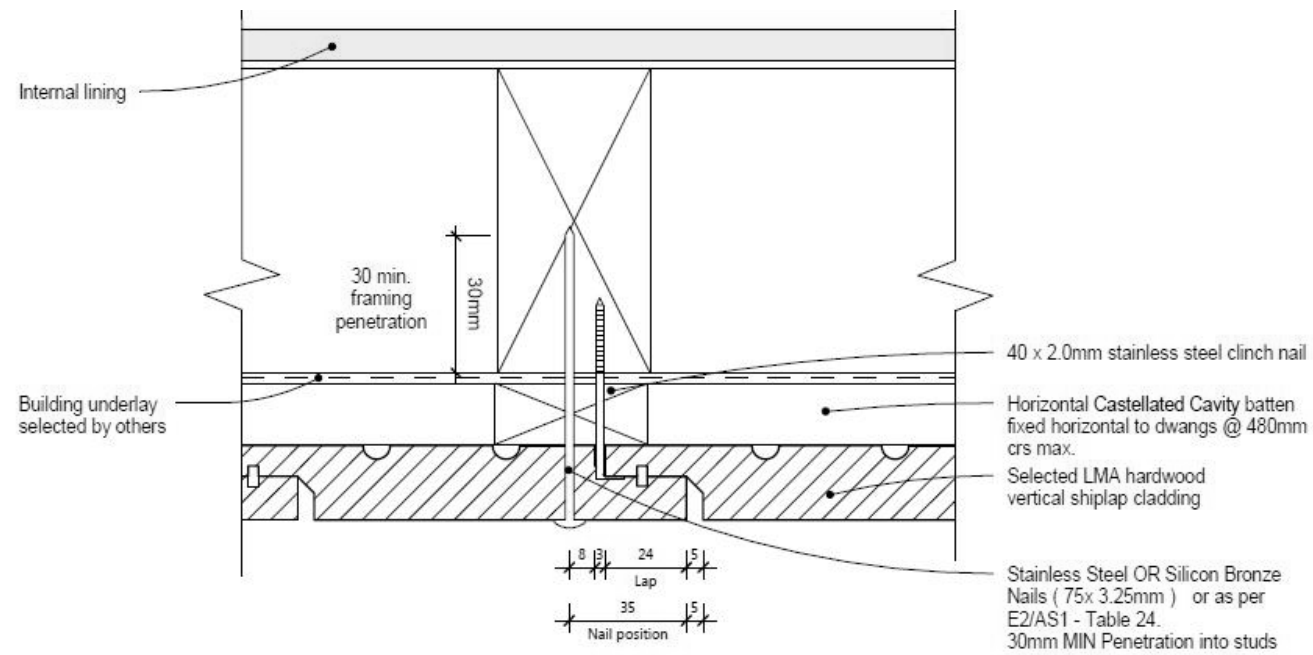


Longrun Valley Gutter
Scale 1:10

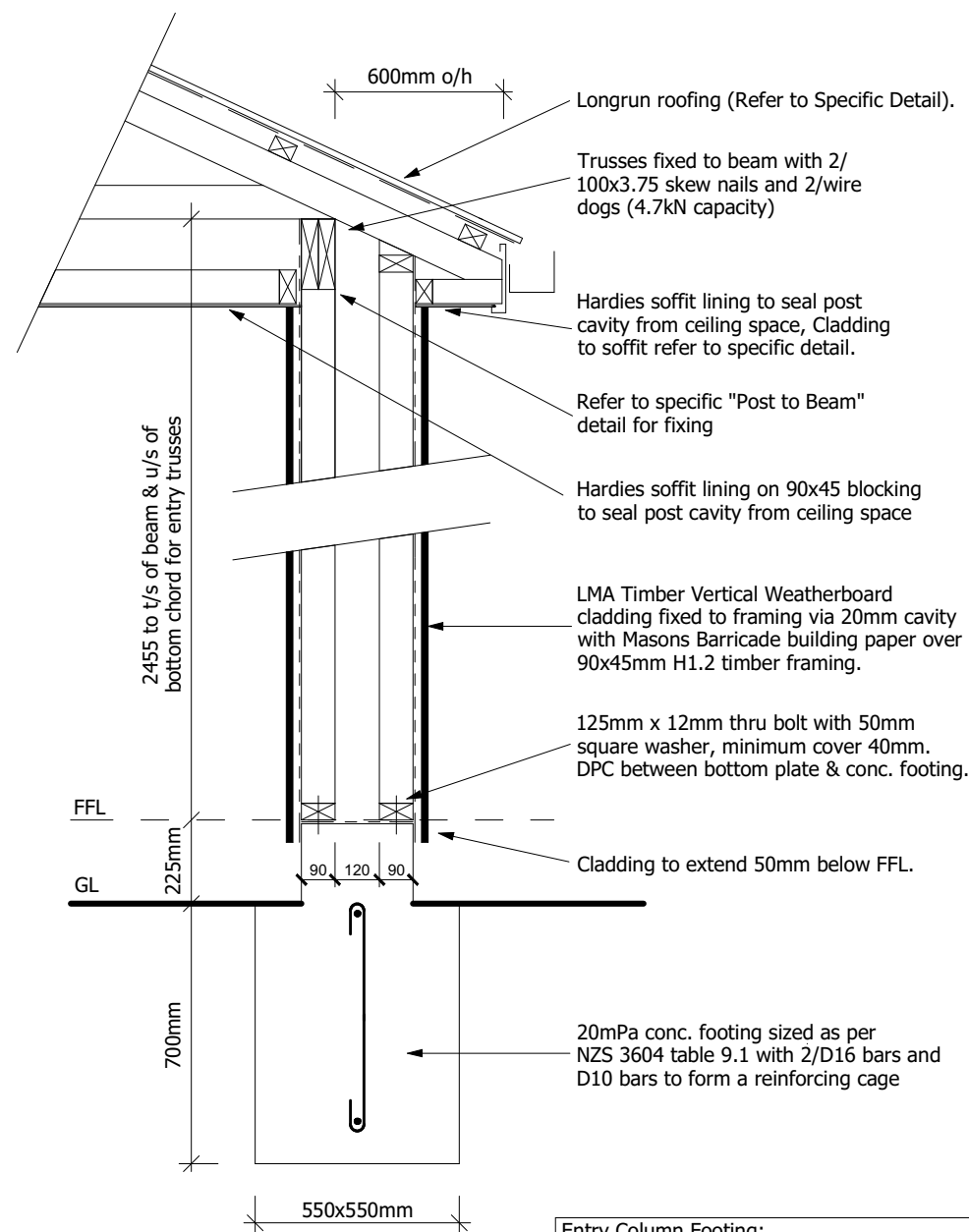


Window Head to Soffit Detail
scale 1:5



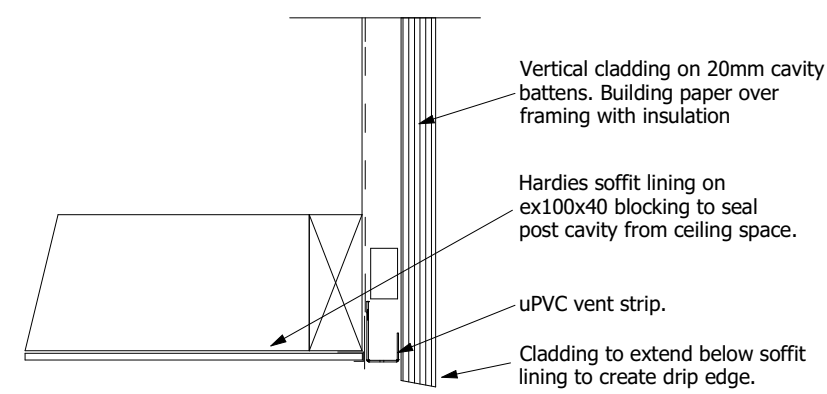


Brick / Shiplap Vertical Junction
Scale 1:5

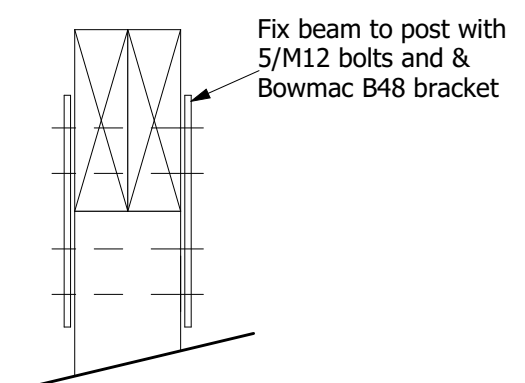


Entry Column Detail
Scale 1:20
 Note: This detail to be read in conjunction with foundation plan to determine location

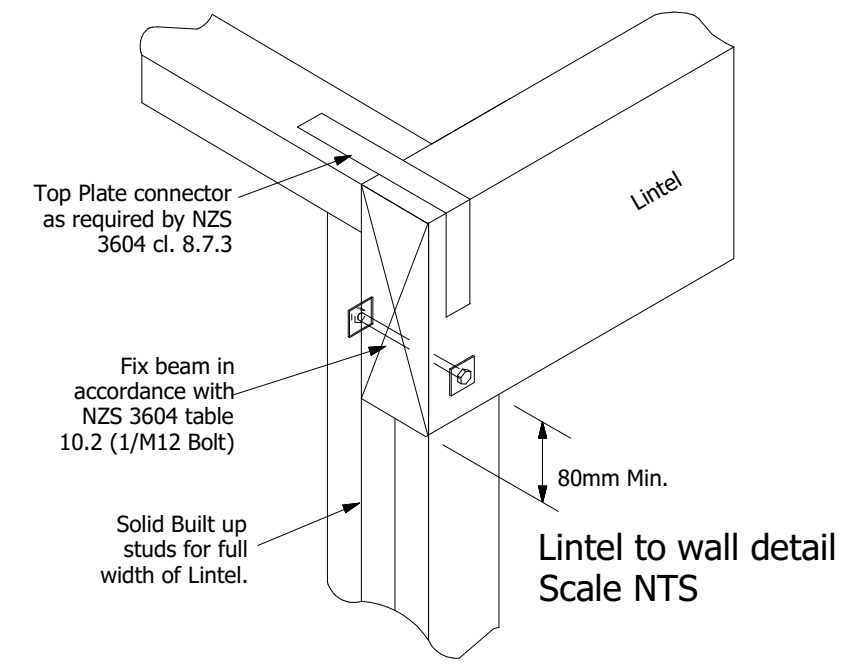
Entry Column Footing:
 Roof Area supported: 2.53m²
 Vol. of concrete required to resist uplift: 0.20m³
 Vol. of concrete achieved to resist uplift: 0.21175m³



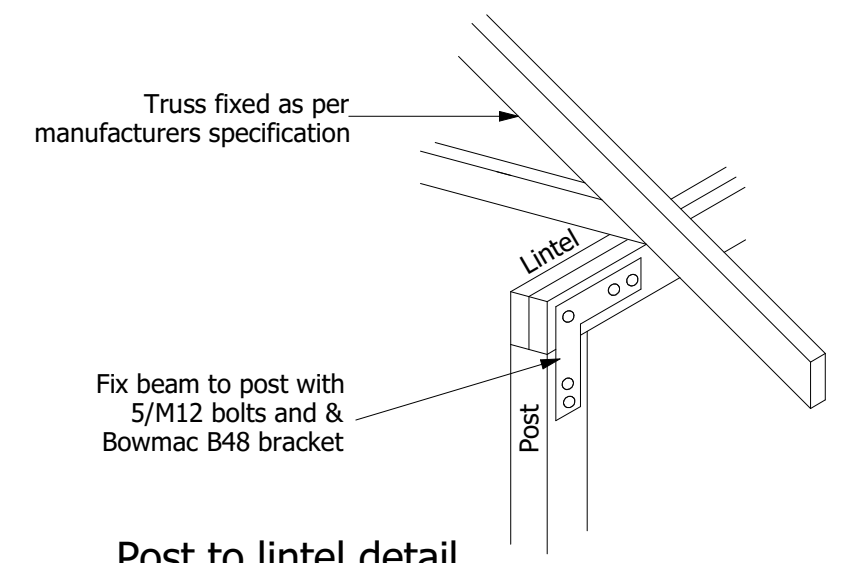
Gable Edge Soffit Detail
Scale 1:5



Post to Lintel
Fixing Detail
 scale 1:10



Lintel to wall detail
 Scale NTS



Post to lintel detail
 Scale NTS

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

- NOTE:**
- (1) Detailed *cladding* omitted for clarity, refer to specific *claddings*.
 - (2) Head to be treated similarly with continuous *wall underlay* and *flexible tape* at corners.
 - (3) Refer individual cladding details for jamb flashings.

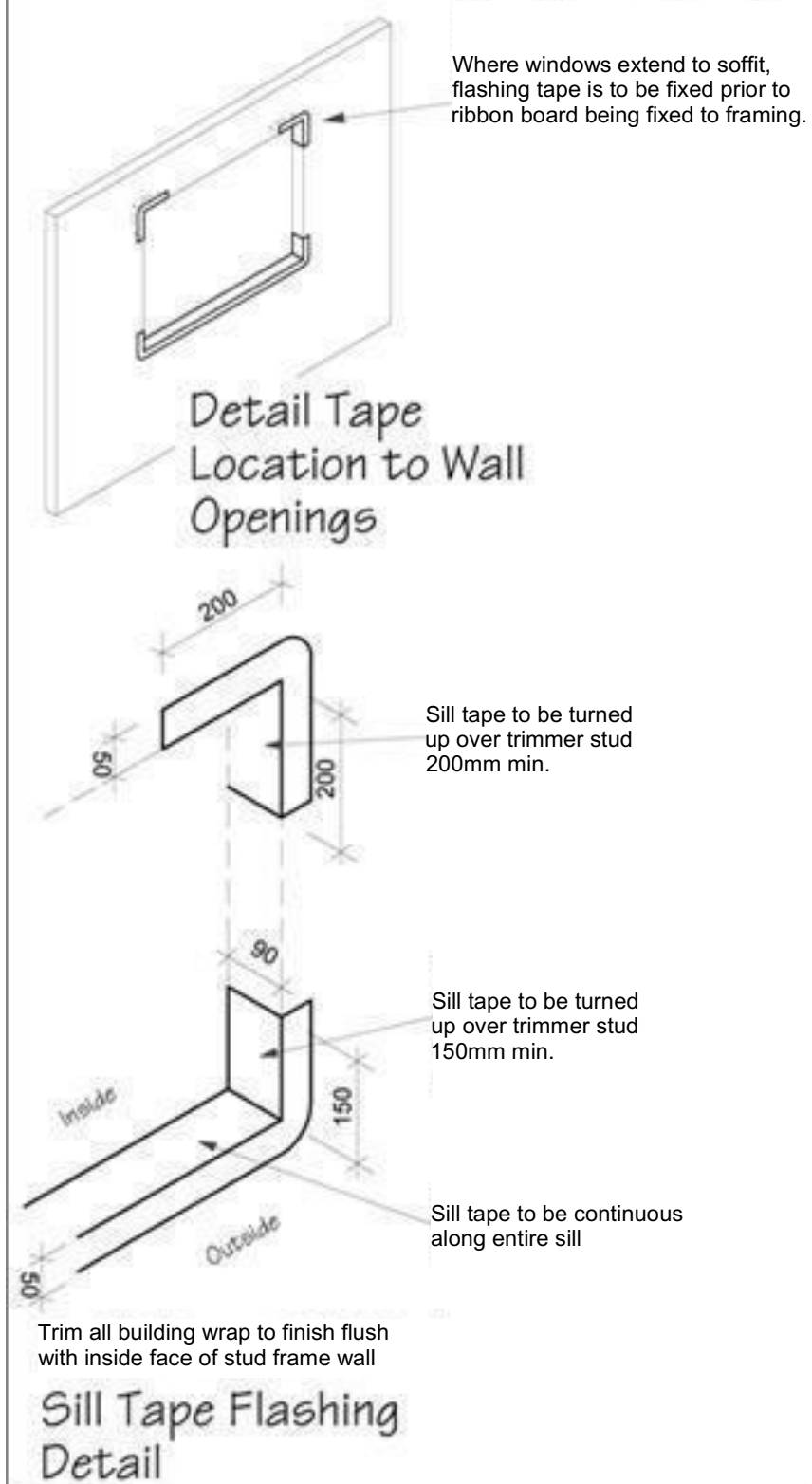
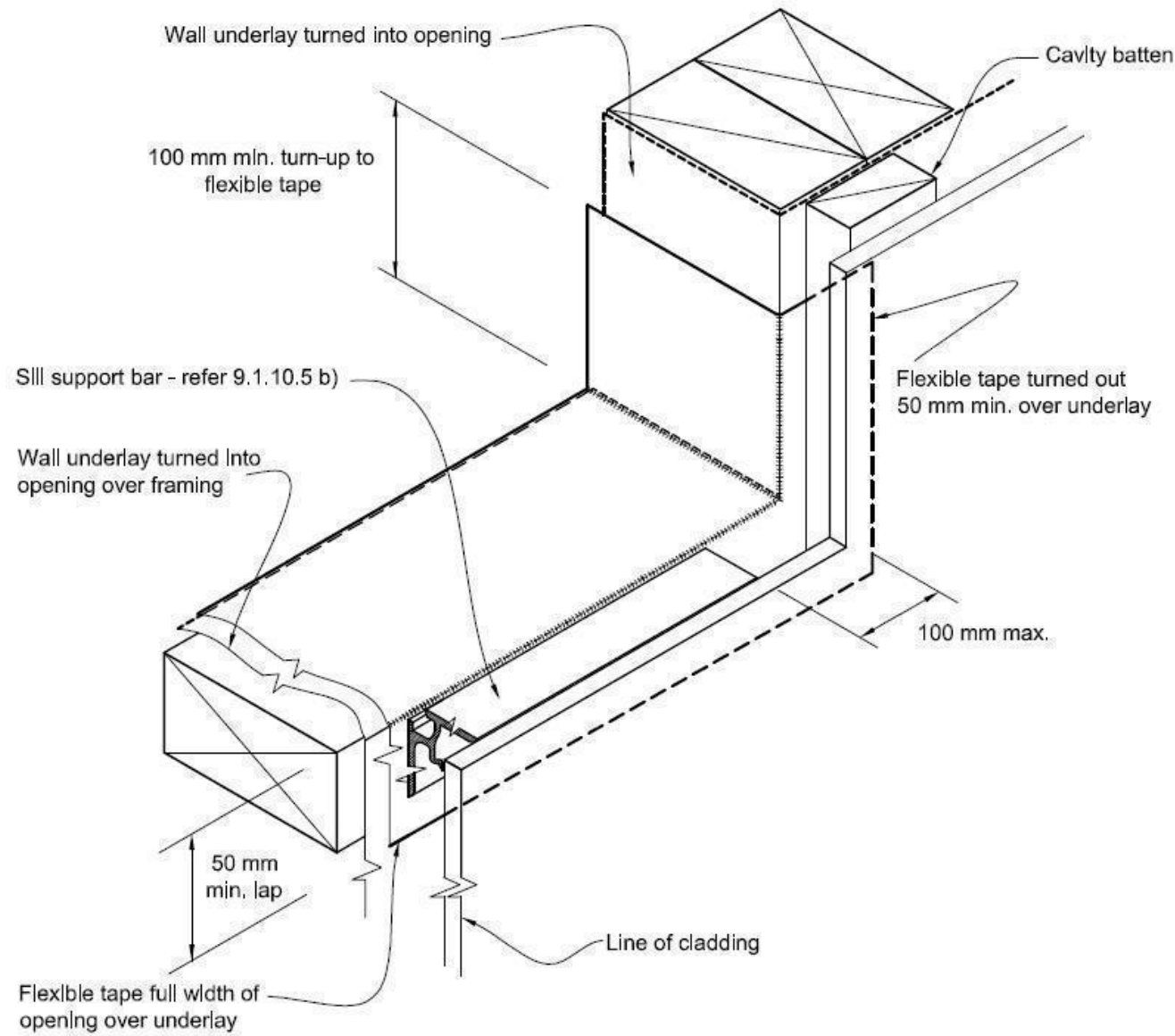
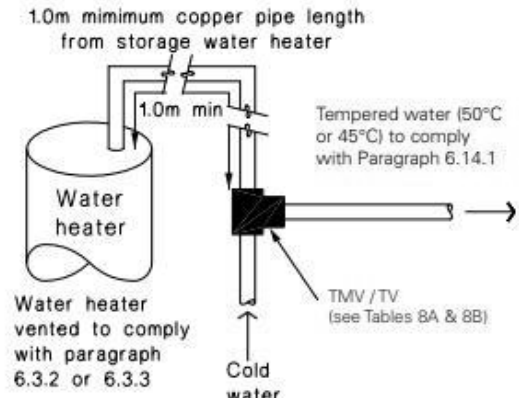
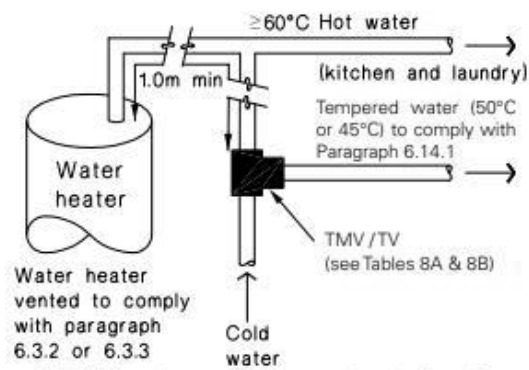


Figure 16: Tempering Valve or Thermostatic mixing Valve Installation
Tables 8A and 8B



(a) Where all hot water is tempered



(b) With unterpered hot water to laundry and kitchen fixtures and appliances

Notes:

1. For optimum system efficiency the temperature control device, for other than a mains pressure system, may be located as low as practicable to achieve the manufacturer's recommended head, at the temperature control device.
2. 1.0 m minimum copper pipe length from storage water heater to temperature control device.
3. Untempered hot water must not be provided to fixtures or appliances from a storage water heater that is connected to an uncontrolled heat source, such as a wet-back or solar water heater.

Figure 8(b): Mains Pressure Storage Water Heater System (unvented) - Expansion Control Valve
Paragraphs 6.1.2 and 6.2.1 c)

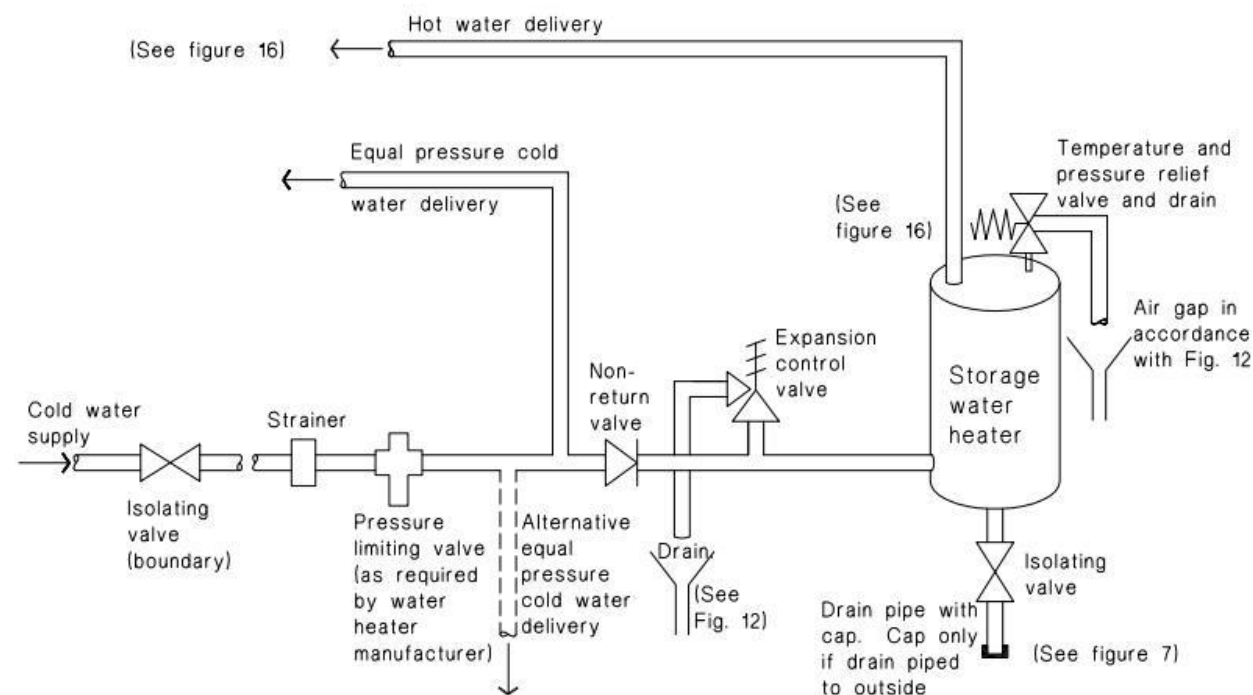
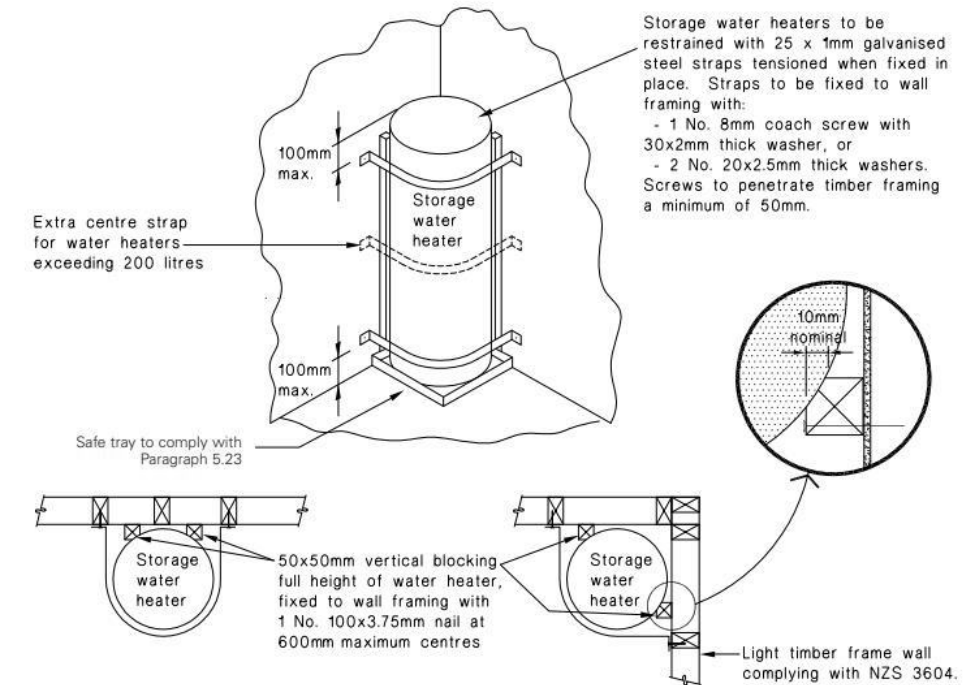


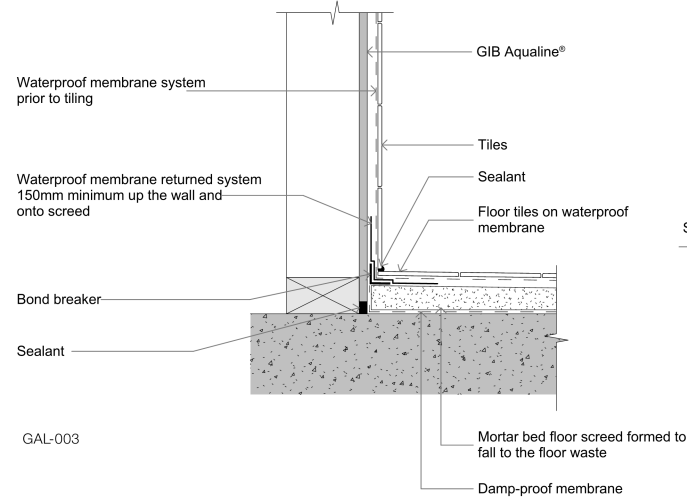
Figure 14: Seismic Restraint of Storage Water Heaters 90 – 360 litres
Paragraph 6.11.4



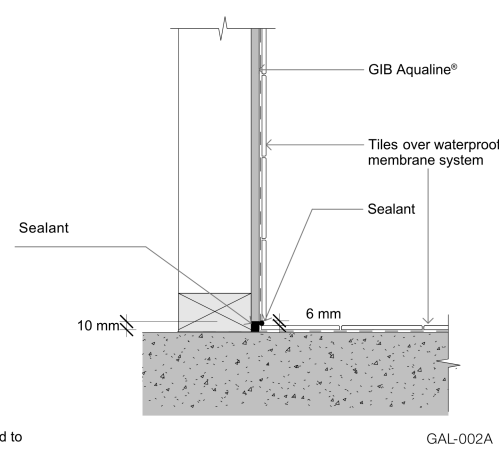
Notes:

1. An additional centre strap is required where a storage water heater is located more than 12 m above finished ground level.
2. Additional timber framing may be required in retrofit situations to ensure adequate strap fixing is available.
3. Straps shall not be installed where they clash with water heater inlets, outlets or controls.
4. Where the 100 mm maximum strap distance from the top or bottom of the storage water heater cannot be achieved, straps may be placed within the top and bottom 25% with one additional strap placed centrally for water heaters < 200 litres, and two additional evenly spaced straps for water heaters 200 - 360 litres.
5. A maximum total of four straps are required when complying with both Note 1 and Note 4.

A: MORTAR UNDER CERAMIC FLOOR LINING JUNCTION



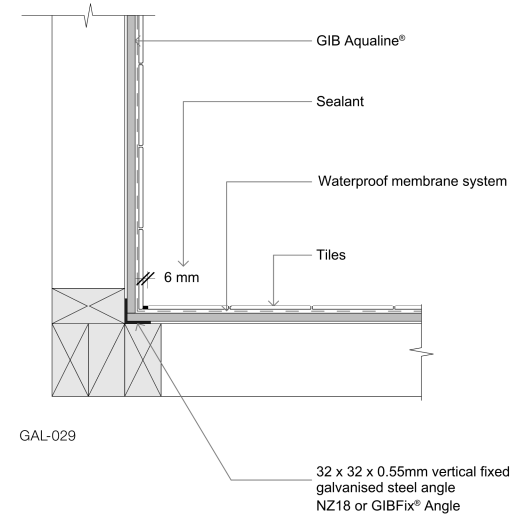
C: CERAMIC FLOOR LINING JUNCTION



PREFORMED SHOWER BASE JUNCTIONS

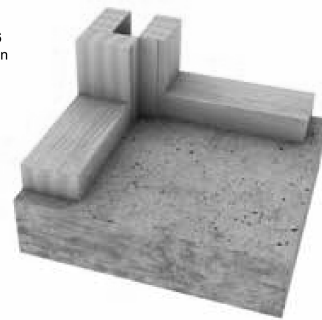
Refer to the shower base manufacturer for proprietary shower tray installation detailing including wet wall lining junction detailing.

B: TILED INTERNAL CORNER



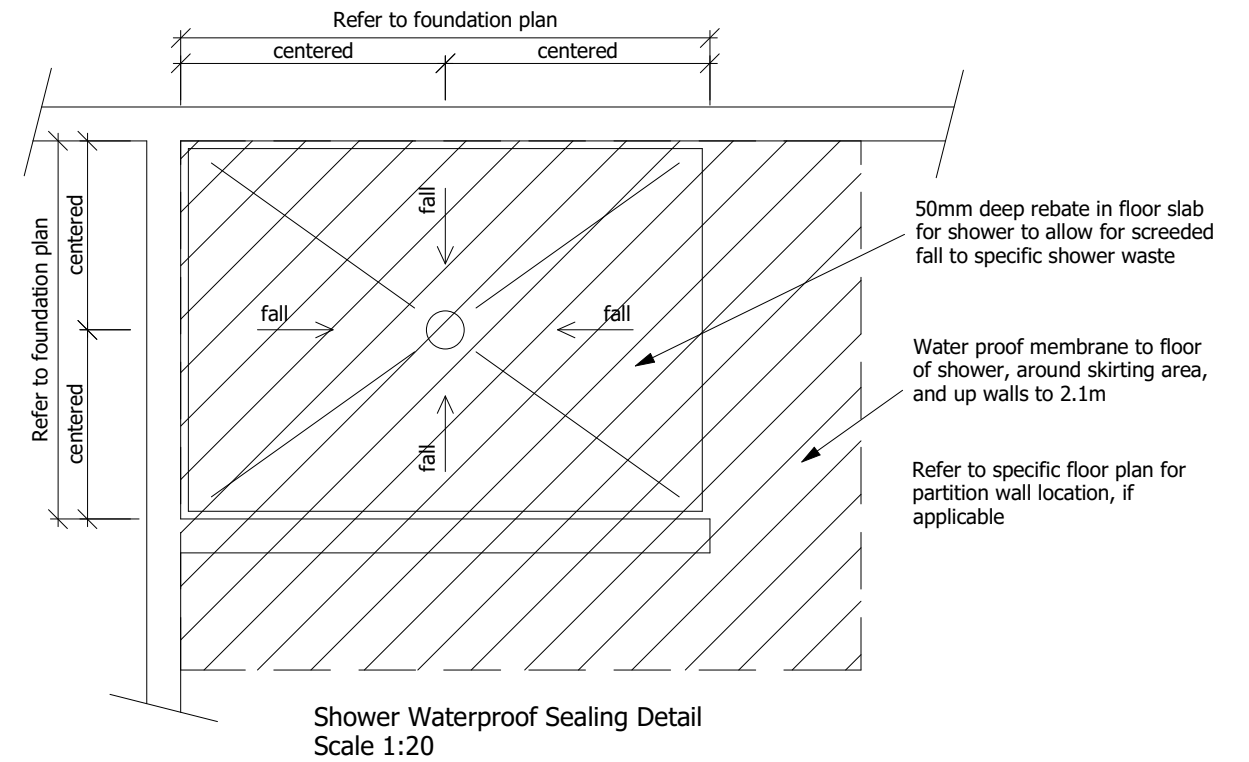
D: TILED INTERNAL CORNER METAL ANGLE POSITION

Refer to page 16 of this publication for specification and installation guidance.

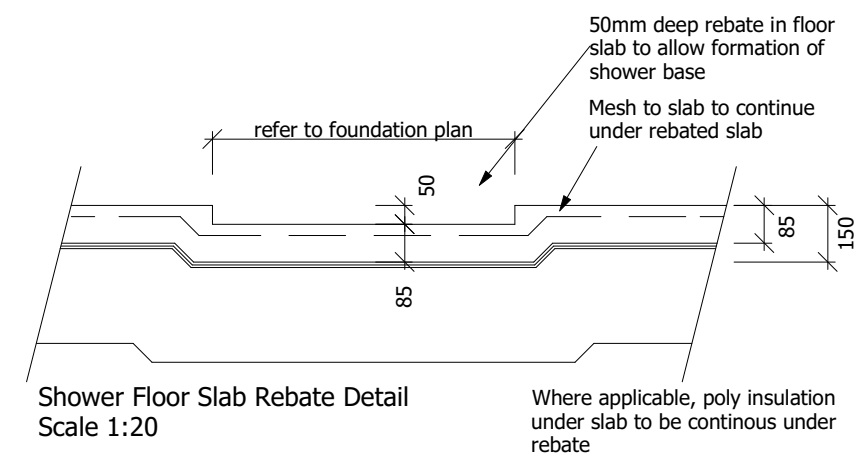


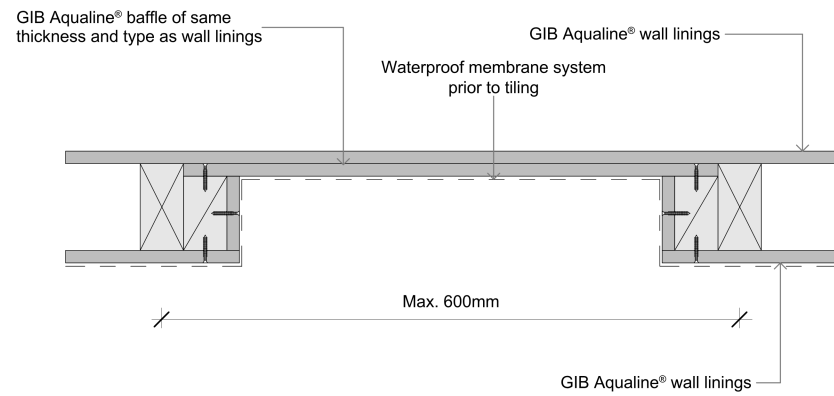
E: SHOWER MIXER PENETRATION IN WET WALL LININGS

Refer to the shower mixer manufacturer for shower mixer installation detailing including the use of proprietary products to prevent water or moisture ingress behind the wet wall lining.

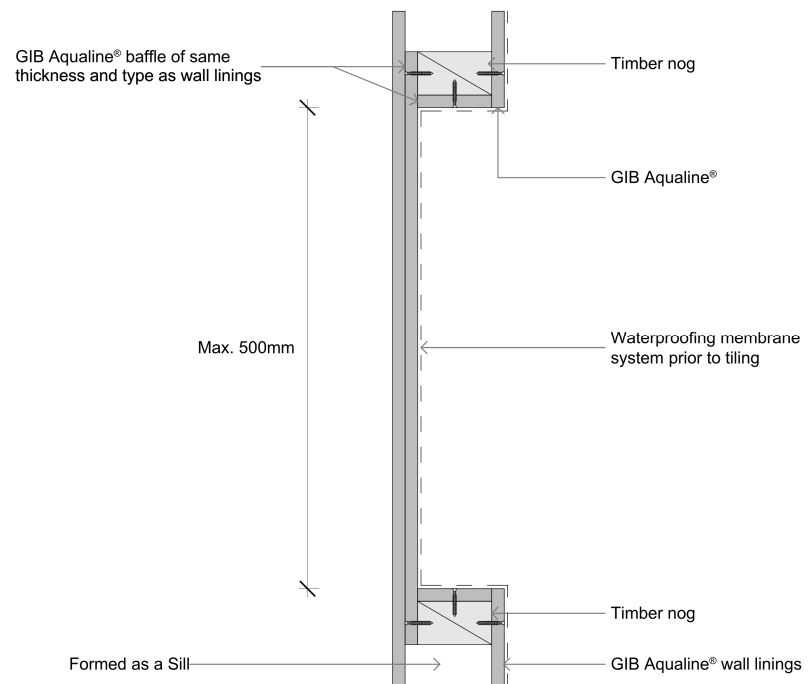


Refer to Specification for water proofing system to custom shower.
Waterproofing membrane to be installed to entire floor of WC, Bathroom & Ensuite where there are sanitary fixtures with tile flooring.

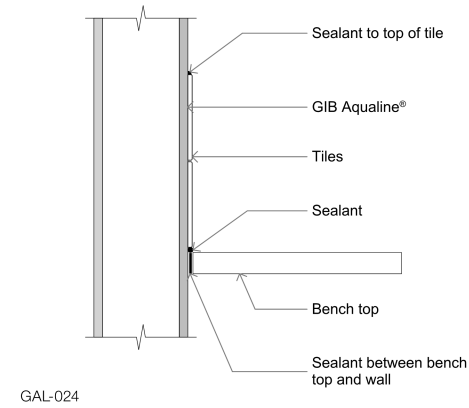




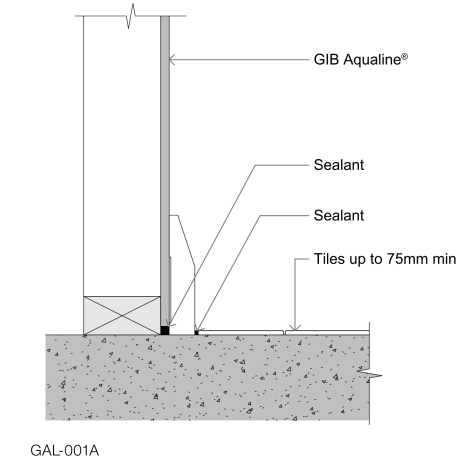
Larger recesses can be accommodated depending on specific framing layout provided 500mm is not exceeded in at least one direction.



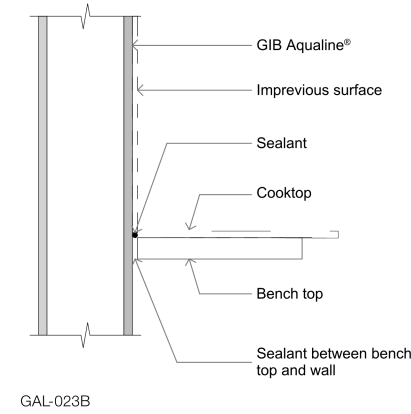
A: BENCH TOP LINING JUNCTION



CERAMIC FLOOR SKIRTING LINING JUNCTION



B: COOKTOP LINING JUNCTION



New Residence for :
 Lauren Hedges & Patrick Walker
 Lot 73, DP 596433
 Ed Hillary Drive, Rolleston

WET AREA DETAILS

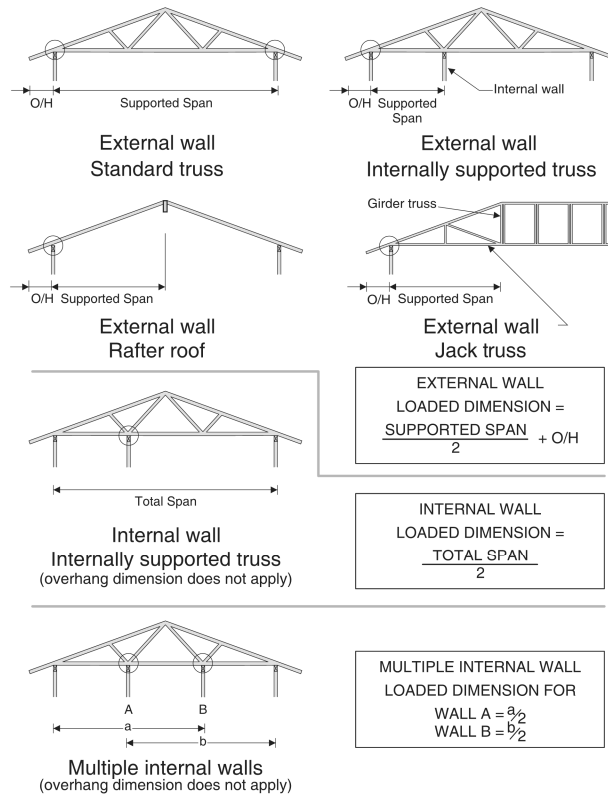
24/02/2024 NTS (@ A3)

STUD TO TOP PLATE FIXING SCHEDULE ALTERNATIVE TO TABLE 8.18 NZS 3604:2011

NOTE:

- ★ All fixings are designed to resist vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kF
- ★ Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist lateral loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ Gable end wall top plate/stud connections where the adjacent rafter/truss is located within 1200mm of gable end wall with a maximum verge overhang of 750mm, requires fixing type A as shown below.
- ★ All fixings assume top plate thickness of 45mm maximum.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:2011.

LOADED DIMENSION DEFINITION



FIXING SELECTION CHART

(Suitable for walls supporting roof members at 600, 900 or 1200mm crs.)

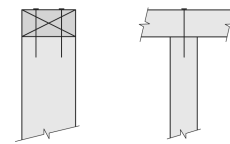
Wind Zones L, M, H, VH, EH, as per NZS 3604:2011

Loaded Dimension (m)			Light Roof Wind Zone					Heavy Roof Wind Zone				
Stud Centres			Wind Zone					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

FIXING OPTIONS

FIXING TYPE A 0.7 kN

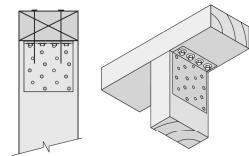
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



FIXING TYPE B 4.7 kN

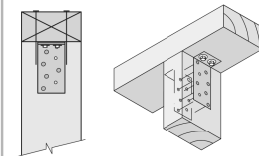
CHOOSE ANY OF THE 3 OPTIONS BELOW

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



Plus LUMBERLOK 6kN Stud Anchor (CPC80)

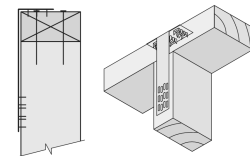
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



Plus 2 x LUMBERLOK CPC40

Recommended for internal wall options to avoid lining issues

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

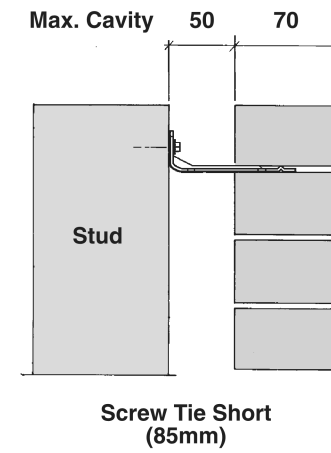


Plus LUMBERLOK Stud Strap (one face only)

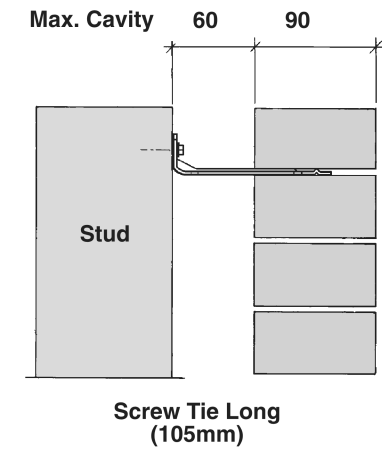
Note:

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.

70 SERIES BRICK



90 SERIES BRICK



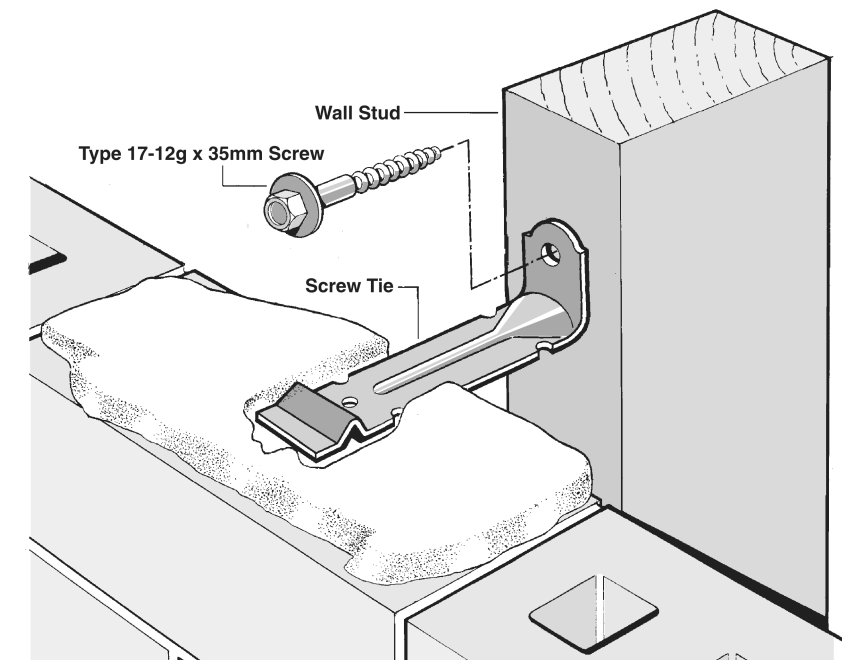
- ★ All brick work must be constructed in accordance with NZS 4210:2001 Masonry Construction: Materials and Workmanship. Screw Ties must be applied accordingly and are not to be hammered into timber framing.
- ★ Water shedding shoulder prevents transfer of the moisture from tie to building.
- ★ Nail hole for Oamaru Stone.
- ★ Angled neck encourages increased tie embedment in mortar.

Material: 1.2mm NZCC-SD Hot Dip Galvanised Steel
Screws: Type 17-12g x 35mm Hex Head Hot Dip Galvanised Screws
Packaging: 250 ties per box including screws

Also available in Stainless Steel Grade 316 for Zone D.

SCREW TIES FOR BRICK VENEER FIXING

- ★ Medium duty (EM) classification
- ★ Tested by BRANZ in accordance with AS/NZS 2699.1:2000
- ★ BRANZ test report No. ST0725 November 2007
- ★ Suitable for both 'dry bedding' and encapsulated mortar
- ★ Hot Dip Galvanised ties for Zones B & C, and Stainless Steel Grade 316 ties for Zone D meet NZS 3604:2011 Sect. 4 Durability
- ★ Available in 85mm and 105mm sizes



New Residence for :
Lauren Hedges & Patrick Walker
Lot 73, DP 596433
Ed Hillary Drive, Rolleston

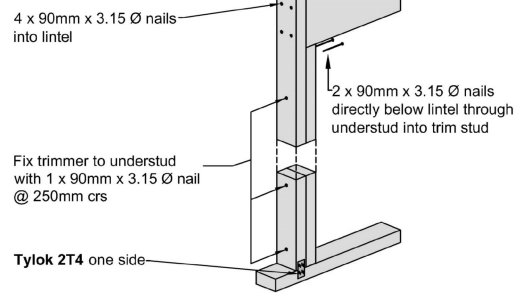
FRAMING DETAILS

24/02/2024

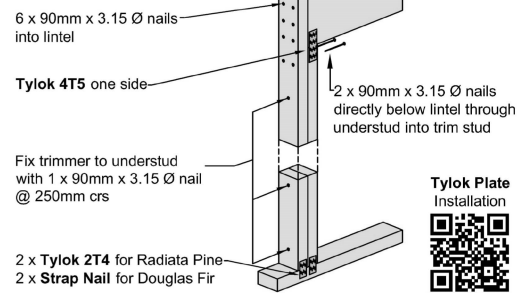
NTS (@ A3)

LUMBERLOK® LINTEL FIXING OPTIONS

TYPE E 1.4 kN



TYPE F 4.0 kN



NOTES:

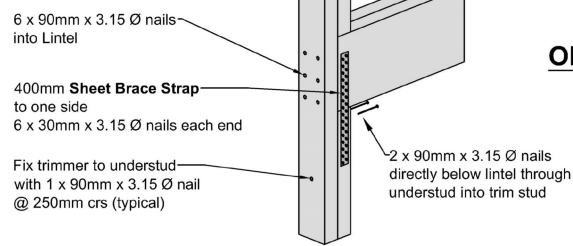
• For fixing of jack studs to lintel and top plate, refer to **Stud to Top Plate Fixing Schedule**

• **Stud numbers indicative only. Refer to Table 8.5 NZS 3604:2011**

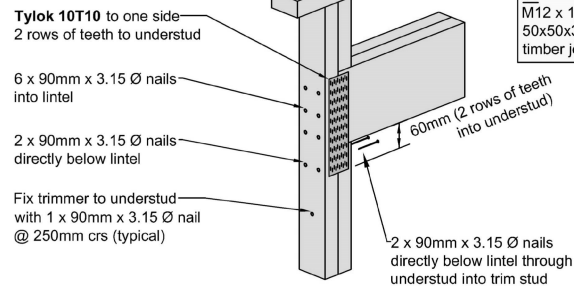
Refer to:
LUMBERLOK Lintel Fixing Schedule 10/2011,
MiTek Structural Fixings **On-Site Guide** for Building Code Compliance
(Alternative to Table 8.14 & Figure 8.12 NZS 3604:2011)



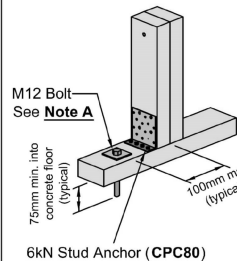
TYPE G 7.5 kN



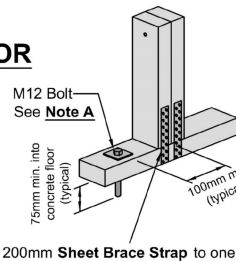
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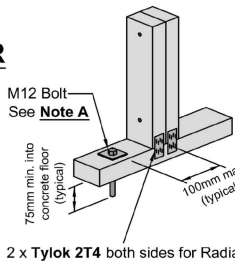
Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



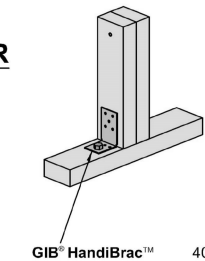
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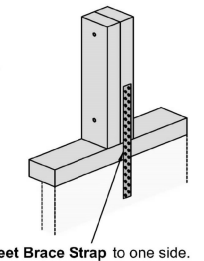
OR



OR



OR



6kN Stud Anchor (CPC80)

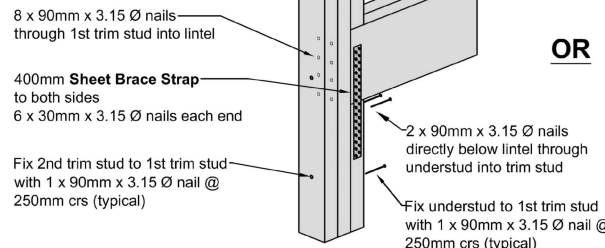
2 x 200mm Sheet Brace Strap to one side. Each Strap to have 3 x 30mm x 3.15 Ø nails into stud & 3 x 30mm x 3.15 Ø nails into bottom plate

2 x Tylok 2T4 both sides for Radiata Pine
2 x Strap Nail both sides for Douglas Fir

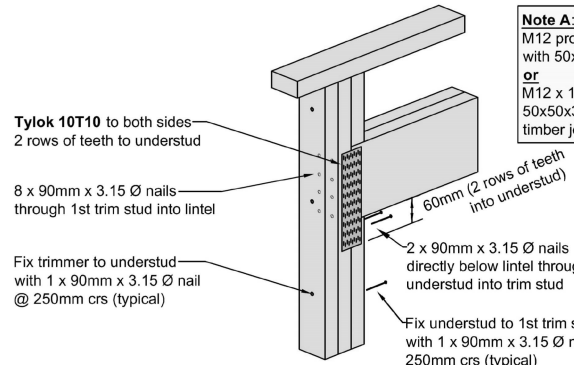
GIB® HandiBrac™

400mm Sheet Brace Strap to one side. 6 x 30mm x 3.15 Ø nails into stud. 3 x 30mm x 3.15 Ø nails into bottom plate. 6 x 30mm x 3.15 Ø nails into timber joist/bearer

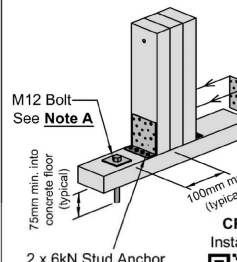
TYPE H 13.5 kN



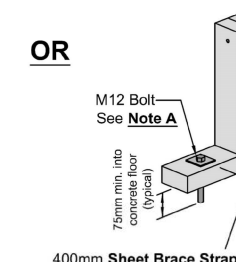
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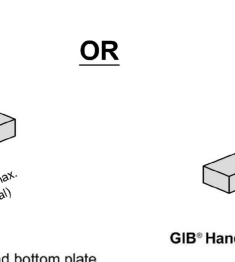
Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



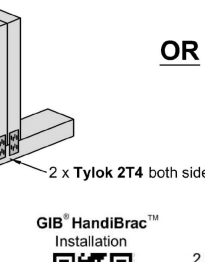
OR



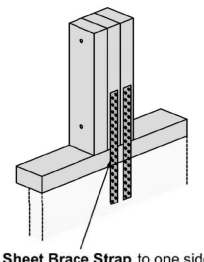
OR



OR



OR



2 x 6kN Stud Anchor (CPC80)



400mm Sheet Brace Strap wrap around bottom plate and up the other side. 6 x 30mm x 3.15 Ø nails into each side of stud. 3 x 30mm x 3.15 Ø nails into each side of bottom plate.

GIB® HandiBrac™

GIB® HandiBrac™

2 x 400mm Sheet Brace Strap to one side. 6 x 30mm x 3.15 Ø nails into stud. 3 x 30mm x 3.15 Ø nails into bottom plate. 6 x 30mm x 3.15 Ø nails into timber joist/bearer

LINTEL FIXING SCHEDULE ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12 NZS 3604:2011

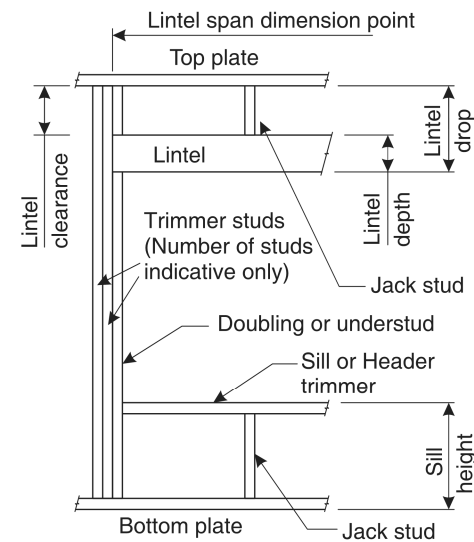
NOTE:

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ 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.

SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:2011)	Light Roof					Heavy Roof				
		Wind Zone					Wind Zone				
		L	M	H	VH	EH	L	M	H	VH	EH
0.7	2.0	E	E	E	E	F	E	E	E	E	F
	3.0	E	E	E	F	F	E	E	E	F	F
	4.0	E	E	F	F	F	E	E	F	F	F
	5.0	E	F	F	F	G	E	F	F	F	F
	6.0	E	F	F	G	G	E	F	F	F	G
0.9	2.0	E	E	E	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	E	F	F	F	E	E	F	F	F
	5.0	E	F	F	F	G	E	F	F	F	F
	6.0	E	F	F	G	G	E	F	F	F	G
1.0	2.0	E	E	F	F	F	E	E	F	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	F	G	E	F	F	F	G
	5.0	E	F	F	G	G	E	F	F	F	G
	6.0	E	F	F	G	G	E	F	F	F	G
1.2	2.0	E	E	F	F	F	E	E	F	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	F	G	E	F	F	F	G
	5.0	E	F	F	G	G	E	F	F	F	G
	6.0	F	F	G	G	H	E	F	F	F	G
1.5	2.0	E	E	F	F	F	E	E	F	F	F
	3.0	E	F	F	F	G	E	F	F	F	G
	4.0	E	F	F	G	G	E	F	F	F	G
	5.0	F	F	G	G	H	E	F	F	F	G
	6.0	F	F	G	H	H	E	F	F	F	G
2.0	2.0	E	F	F	F	G	E	F	F	F	G
	3.0	E	F	F	G	G	E	F	F	F	G
	4.0	F	F	G	G	H	E	F	F	F	G
	5.0	F	F	G	H	H	E	F	F	F	G
	6.0	F	G	G	H	H	E	F	F	F	G
2.4	2.0	E	F	F	G	G	E	F	F	F	G
	3.0	F	F	G	G	H	E	F	F	F	G
	4.0	F	F	G	H	H	E	F	F	F	G
	5.0	F	G	G	H	H	E	F	F	F	G
	6.0	F	G	H	H	-	E	F	F	F	G
3.0	2.0	E	F	F	G	G	E	F	F	F	G
	3.0	F	F	G	H	H	E	F	F	F	G
	4.0	F	G	G	H	H	E	F	F	F	G
	5.0	F	G	H	H	-	E	F	F	F	G
	6.0	F	G	H	-	-	E	F	F	F	G
3.6	2.0	F	F	G	G	H	E	F	F	F	G
	3.0	F	F	G	H	H	E	F	F	F	G
	4.0	F	G	H	H	-	E	F	F	F	G
	5.0	F	G	H	-	-	E	F	F	F	G
	6.0	G	H	H	-	-	E	F	F	F	G
4.2	2.0	F	F	G	G	H	E	F	F	F	G
	3.0	F	G	H	H	-	E	F	F	F	G
	4.0	F	G	H	-	-	E	F	F	F	G
	5.0	G	H	H	-	-	E	F	F	F	G
	6.0	G	H	-	-	-	E	F	F	F	G
4.5	2.0	F	F	G	H	H	E	F	F	F	G
	3.0	F	G	H	H	-	E	F	F	F	G
	3.4	F	G	H	H	-	E	F	F	F	G
	4.0	F	G	H	-	-	E	F	F	F	G
	5.0	G	H	-	-	-	E	F	F	F	G
6.0	G	H	-	-	-	E	F	F	F	G	
4.8	2.0	F	F	G	H	H	E	F	F	F	G
	3.0	F	G	H	H	-	E	F	F	F	G
	3.2	F	G	H	H	-	F	F	F	F	G
	4.0	F	G	H	-	-	E	F	F	F	G
	5.0	G	H	-	-	-	E	F	F	F	G
6.0	G	H	-	-	-	E	F	F	F	G	

DEFINITIONS



Lintel Supporting Girder Trusses:

Roof Tributary Area	Light Roof					Heavy Roof				
	Wind Zone					Wind Zone				
	L	M	H	VH	EH	L	M	H	VH	EH
8.6 m ²	G	G	H	G	G	H				
11.6 m ²	G	H	H	G	G	H				
12.1 m ²	G	H	H	G	H	H				
15.3 m ²	H	-	-	G	H	H				
19.1 m ²	H	-	-	G	H	-				
20.9 m ²	H	-	-	H	H	-				
21.8 m ²	H	-	-	H	-	-				
34.3 m ²	-	-	-	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

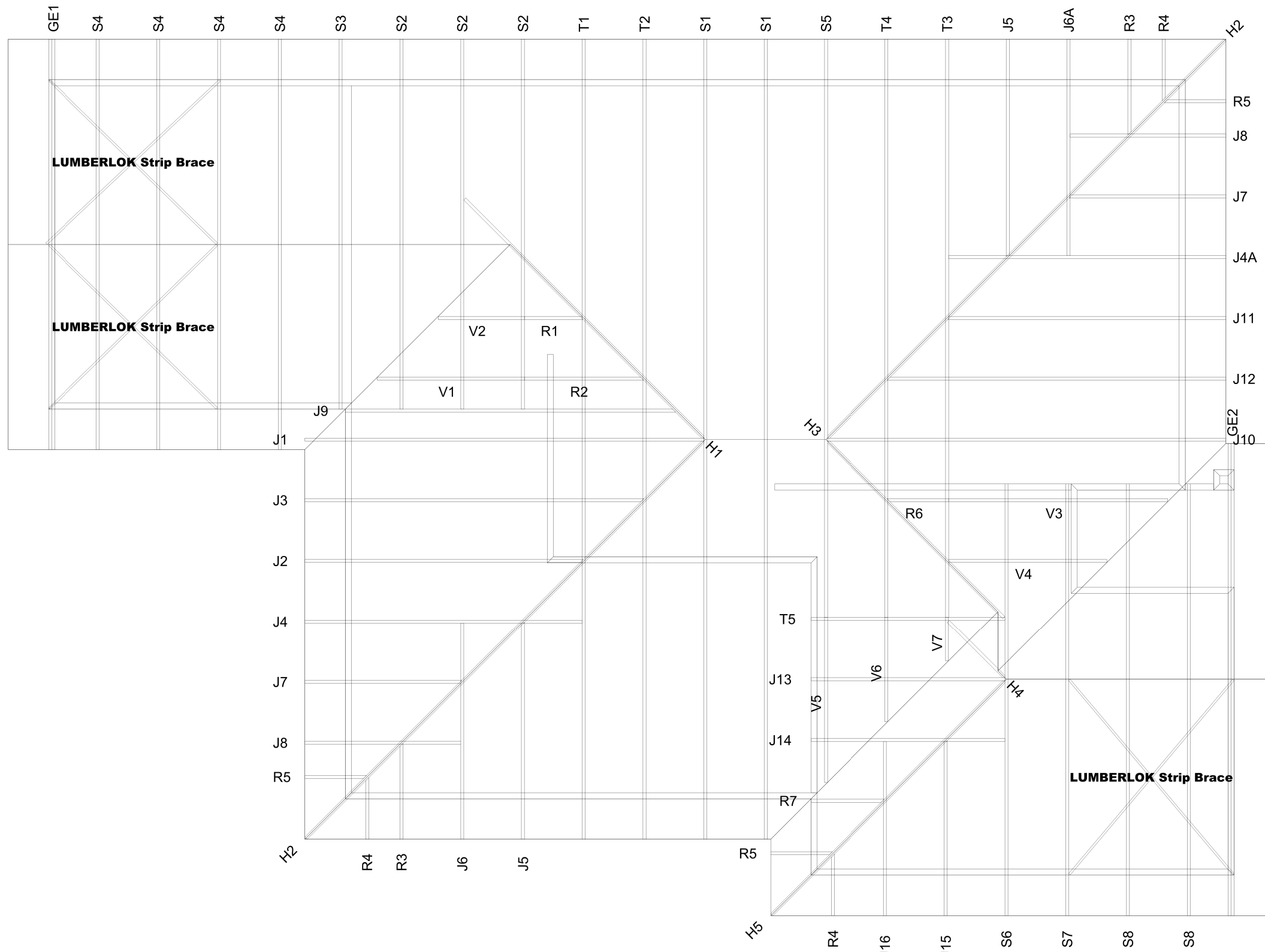
New Residence for :
Lauren Hedges & Patrick Walker
Lot 73, DP 596433
Ed Hillary Drive, Rolleston

FRAMING DETAILS

24/02/2024

NTS (@ A3)

Roof Bracing Layout



200 Maces Road
 PO Box 35-193 Christchurch
 Ph (03) 389 8200

JOB No 300092

Client: A2 Design
 Job Name: New House
 Address: Lot 73 Raptor Release
 Falcons Landing

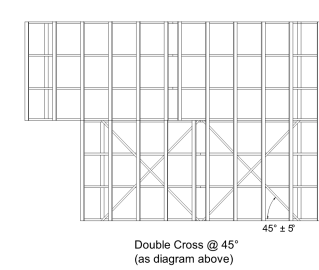
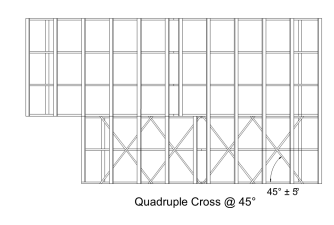
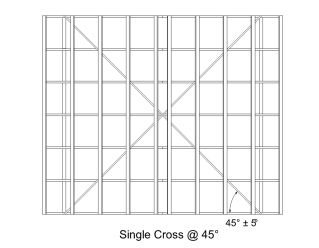
Pitch: 25.000
 Roof Material: Longrun
 Soffit Overhang: 600
 Wind Area: High
 Snow Load: 0.441

Trusses And Rafters At 900 Centres
 Unless Stated Otherwise

DRAWN BY Caleb

DATE 5 Feb,2024 PAGE 1 of

Roof Bracing Details



NOTES:
 Refer to:
 Lumberlok roof bracing brochure
 07/2006

New Residence for :
Lauren Hedges & Patrick Walker
 Lot 73, DP 596433
 Ed Hillary Drive, Rolleston

TRUSS DESIGN

24/02/2024 NTS (@ A3)

Lintel Sizes & Slab Thickening Layout



200 Maces Road
PO Box 35-193 Christchurch
Ph (03) 389 8200

JOB No **300092**

Client: A2 Design
Job Name: New House
Address: Lot 73 Raptor Release
Falcons Landing

Pitch: 25.000
Roof Material: Longrun
Soffit Overhang: 600
Wind Area: High
Snow Load: 0.441

Trusses And Rafters At 900 Centres
Unless Stated Otherwise

DRAWN BY Caleb

DATE 5 Feb,2024 PAGE 1 of

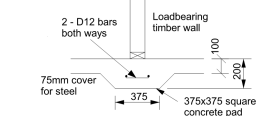
These lintels have been sized as per the GANGLAM and FLITCH BEAM selection manuals as provided by MiTek NZ Ltd.

HYPAN lintels have been sized as per the HYPAN selection charts.

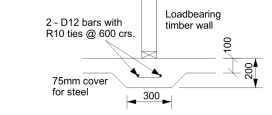
Unless otherwise stated all lintels are as per NZS3604 2011

LINTEL	SIZE	
A	2/90x45	MSG8
B	150x90	Hy90
C	200x90	Hy90
D	240x90	Hy90
E	300x90	Hy90
F		

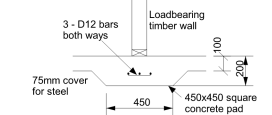
Slab Thickening Details



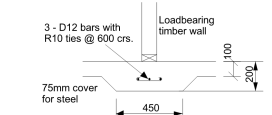
TYPE FP1 - 375x375mm Pad



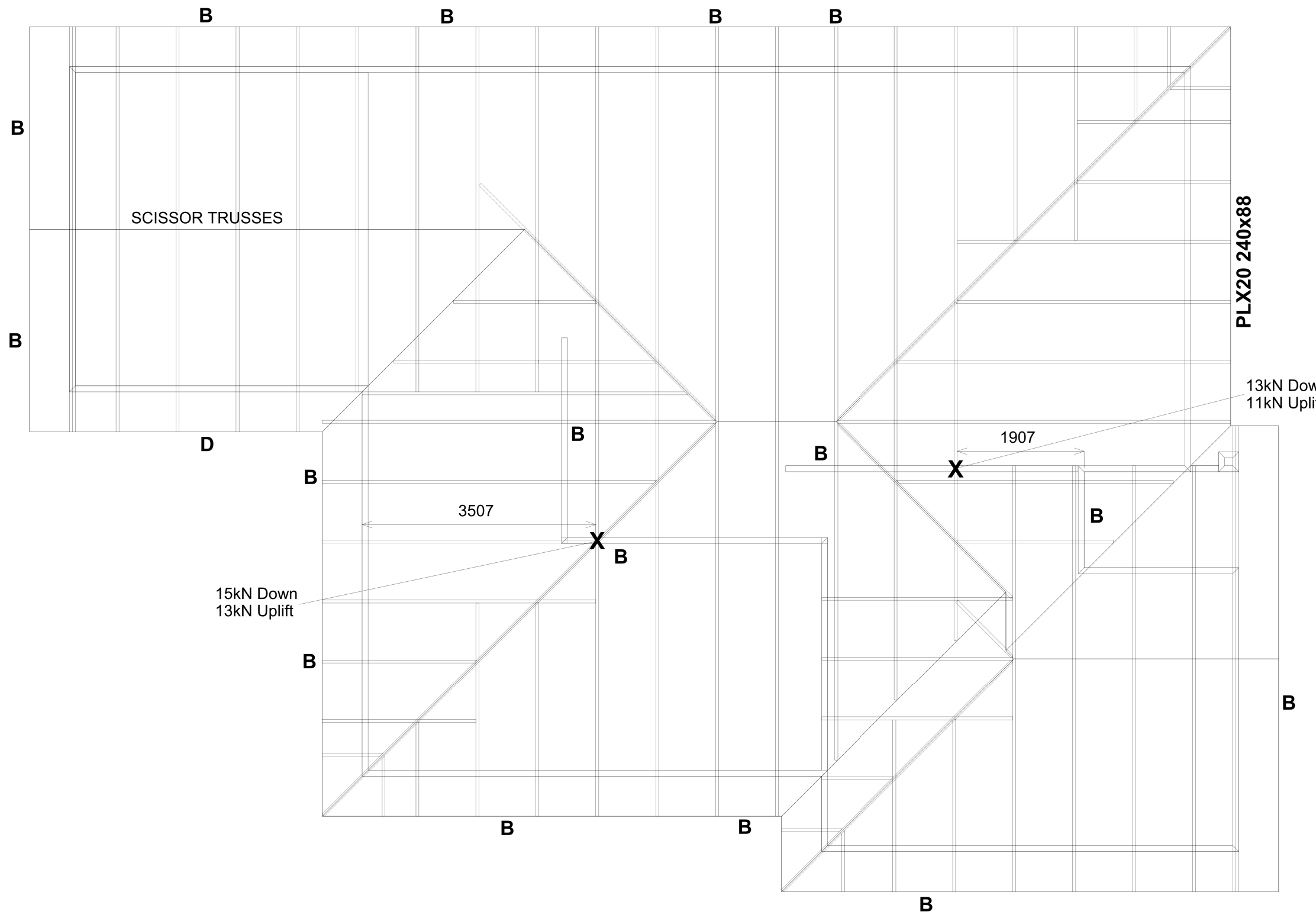
TYPE FS1 - 300mm Strip footing



TYPE FP2 - 450x450mm Pad



TYPE FS2 - 450mm Strip footing



13kN Down
11kN Uplift

15kN Down
13kN Uplift

All walls shown are considered load bearing /Architect / Engineer to confirm all top floor loads are transferred to foundation / slab below X = Point load over 8kN (Ultimate Limit State Load) WHERE THERE IS DESIGN CONFLICT LINTELS DESIGNED BY ENGINEERS SUPERSEED THE TRUSS DESIGN Lintels & beams not shown are to be designed by architect/engineer Fabricating Detailer MUST confirm both lintel sizing and truss & lintel Fixings based off consented plans before detailing for fabrication No allowance for heat pump / air conditioning units or ducting in roof space unless noted - Architect MUST advise if required If there are trusses that butt into Intertency / firewalls architect / engineer need to allow for this / Architect to ensure there is enough space / height for lintels allocated or advise otherwise

Red Highlights Internal load bearing wall (Individual point loads of trusses under 8kN) Blue Highlights Beam By others (Individual point loads of trusses under 8kN / unless noted otherwise)

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TRUSS DESIGN

24/02/2024 NTS (@ A3)