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Proposed New Dwelling
for
23 Lotus place

Christchurch
City Council

BCN/2021/6021

Approved Building Consent
Document

07/10/2021

Maheer, Kevin

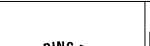
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ARTIST IMPRESSION ONLY



ARTIST IMPRESSION ONLY

 Blackbell Homes	23 Lotus place	Rev	Date	Description	Cover Sheet		Designer:	IT	Date Issued :	13/07/2021	SHEET: A0.01
		- R1	-06/04/2021	-Client Changes			Technician :	IT	Job Number:	21006	
		- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels			Approved :		Scale:		
		-	-	-			Status:	Detailed Design	Revision:	R2	
		-	-	-							

General Notes

LOT No:	10
D.P:	556537
Site Area	407m² net (635m² Gross+ Access = 683m²)
Floor Area (Over Framing)	162.57 m²
Floor Area (Over Foundation)	162.57 m²
Site Coverage	Site Coverage 40%- (40% Allowable)
Maximum Building Height	8m
Territorial Authority	Christchurch City Council
Planning Zone	RS -Residential Suburban Zone
Flood Management Area	N/A
Wind Zone	High Wind Zone (Confirm Wind zone with council)
Earthquake Zone	2
Technical Category	TC2
Snow Zone	Zone N4- 0.9kPa - Check ASL (Above Sea Level)
Sea Spray Zone	Zone C (Christchurch)
Coastal Hazard	N/A

General:
Concept subject to TA rules and regulations.
All dimensions to be confirmed on site
Concept may be subject to subdivision developer's approval

Foundation Type:
TC2 RIB RAFT (TBC)(To be confirmed with Geotechnical Report)

Site Information:
Position of road crossing, services locations, street trees, lamp posts, parking bays, pedestrian islands etc is unknown - to be confirmed when information becomes available.

Boundary Information:
To be confirmed with release of Certificate of Title

Site Levels:
Levels and other relevant site information for this site to be obtained and concept updated as required prior to a contract being signed

Finished floor level to be 150mm minimum above crown of road as per NZBC E1/AS1 Figure 1 or the lowest point of the boundary as per Figure 2 ,E1/AS1.

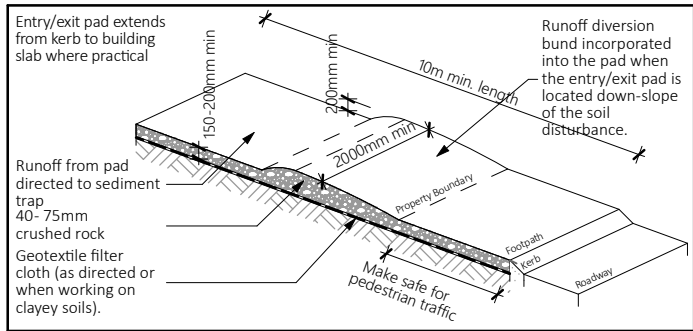
Landscaping:
This plan is indicative only. Landscaping to be confirmed by the client. All Fencing to comply with the relevant Covenants.

Non Compliances Requiring RC:

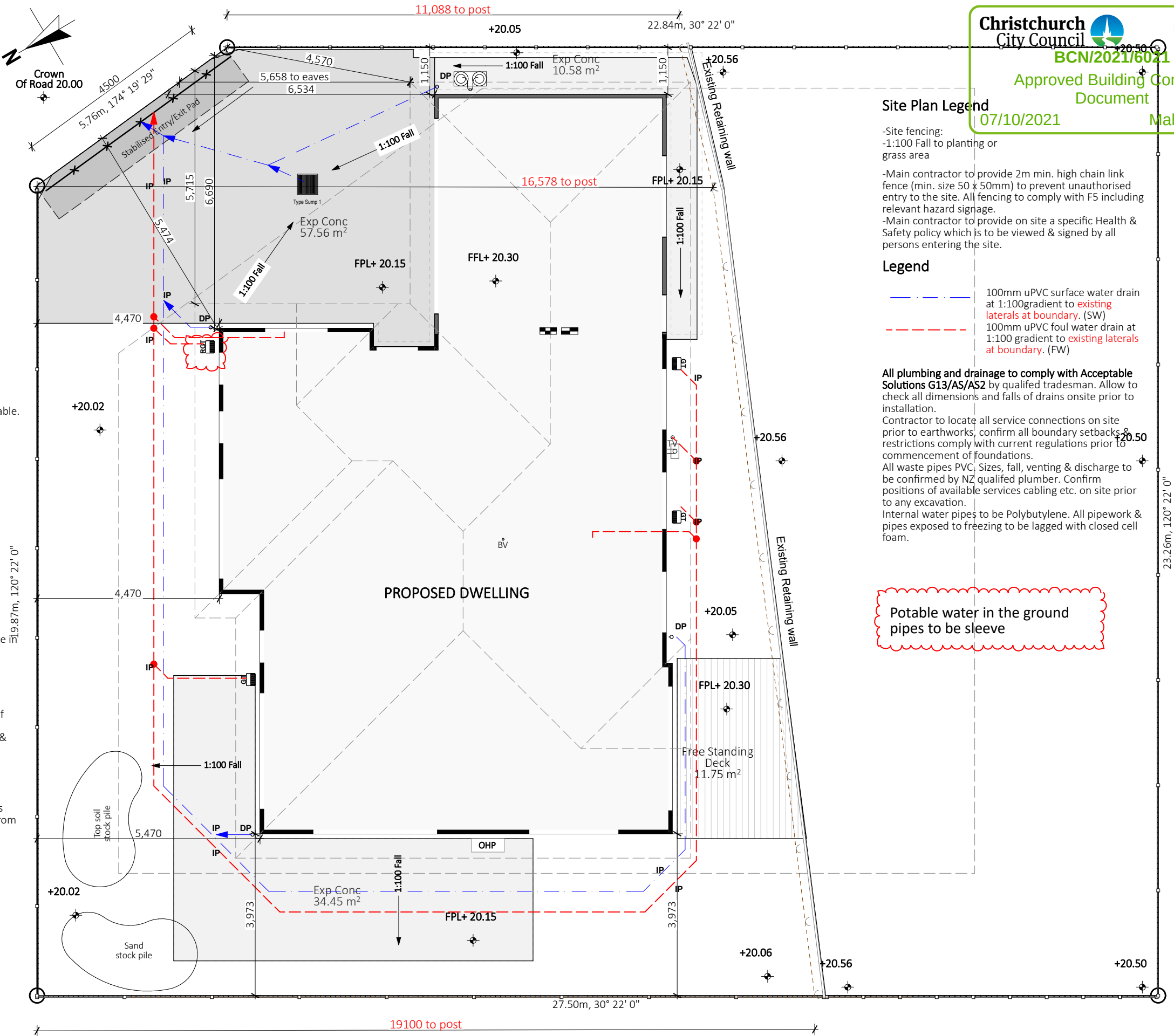
Steps & Paths:
A Step/s or appropriate landscaping is to be provided if drop from external doors is greater than 190mm from FFL to FGL. All access routes must provide a non-slip surface accordance to NZBC D1/AS Table 2. Convey surface water from sealed drive to an appropriate approved outfall.

Sediment Control

- Rumble pad to be created at point of entry & exit on site (Removed on completion of formed driveway)
 - Rumble pad to be created in accordance to guidelines provided by the local Council & maintained in good condition throughout it's period of use.
 - All ground cover/vegetation outside of immediate build area to be maintained throughout period of house build. This includes grass verges on the street frontage.
 - Any stockpiles of soil or excavated material are to be kept to the rear of the site & covered with impervious sheets.
 - Roof downpipes are to be connected to the installed stormwater drainage as soon as practical once roof cladding has been installed. Until this point ensure water run-off from downpipes is directed away from build area but not on to neighbouring properties.
- No building work will be started on this project until the construction of an approved stormwater outfall has been completed for this proposed lot.



Stablised Entry/Exit Pad



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Site Plan Legend

- Site fencing:
-1:100 Fall to planting or grass area
- Main contractor to provide 2m min. high chain link fence (min. size 50 x 50mm) to prevent unauthorised entry to the site. All fencing to comply with F5 including relevant hazard signage.
- Main contractor to provide on site a specific Health & Safety policy which is to be viewed & signed by all persons entering the site.

Legend

- 100mm uPVC surface water drain at 1:100gradient to existing laterals at boundary. (SW)
- 100mm uPVC foul water drain at 1:100 gradient to existing laterals at boundary. (FW)

All plumbing and drainage to comply with Acceptable Solutions G13/AS/AS2 by qualified tradesman. Allow to check all dimensions and falls of drains onsite prior to installation.
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.
Internal water pipes to be Polybutylene. All pipework & pipes exposed to freezing to be lagged with closed cell foam.

Potable water in the ground pipes to be sleeve

 Blackbell Homes	23 Lotus place	<table><tr><th>Rev</th><th>Date</th><th>Description</th></tr><tr><td>- R1</td><td>-06/04/2021</td><td>-Client Changes</td></tr><tr><td>- R2</td><td>-18/06/2021</td><td>-Client Changes,</td></tr><tr><td>-</td><td>-</td><td>amending cladding</td></tr><tr><td>-</td><td>-</td><td>to 50mm AAC panels</td></tr><tr><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td></tr></table>	Rev	Date	Description	- R1	-06/04/2021	-Client Changes	- R2	-18/06/2021	-Client Changes,	-	-	amending cladding	-	-	to 50mm AAC panels	-	-	-	-	-	-	-	-	-	-	-	-	 Site Plan & Sediment	Designer: IT	Date Issued : 7/10/2021	SHEET: A1.01
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Approved :	Scale: 1:100																																
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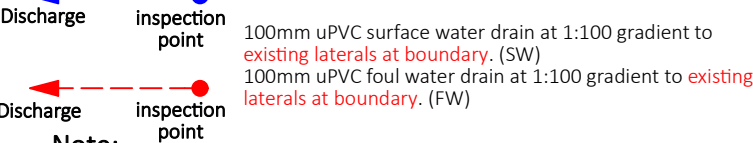
Foundation Notes:

- TC2 RIB RAFT (TBC)
- Slab & footings to be 20MPa @ 28 days of standard curing.
- 1/4 deep saw cut into concrete slab @ 6m crs. max. @ ratio of 1:2 max. - Shrinkage control joints may be cut at an angle as long as the included angle is not less than 60°. In accordance with NZBC 3604:2011 clause 7.5.8.6.1
- Avoid construction joints & shrinkage controls under tiled areas. No shrinkage control cuts to be placed under framing that is to be used as a bracing element.
- Supplementary reinforcing (2/D12 1200mm long) to internal corners where shrinkage controls do not meet the internal corner.
- For floors with more than one finished level, ensure step in foundation is constructed with 20MPa concrete in accordance with NZBC D1/AS1. Minimum tread depth 280mm, maximum riser height 190mm

- WC riser locations have a typical offset of 140mm from internal line of framing to center of waste. (Manufacturers technical specifications should be consulted to confirm offset)
- Vanity & Tub riser locations have a typical offset of 45mm to centre line of wall framing to centre of waste.
- Mesh in floor slab must be earthed. Earth with 16mm REO rod brought up into garage wall below meterbox & wired to the mesh. At prewire, connect a clamp & piece of wire to rod & earth it to the meterbox.
- Minimum heights of concrete slab on ground above surrounding ground levels to be:
Brick- 125mm to sealed surface & 200mm to unsealed ground as per NZBC E2.
2/Coats of bituminous liquid to brick rebate
All other cladding - 150mm to sealed surface & 225mm to unsealed ground as per NZBC E2
Finished floor level to be 150mm minimum above crown of road as per NZBC E1/AS1 Figure 1 or the lowest point of the boundary as per Figure 2, E1/AS1.
- Confirm layout of fittings of kitchen & bathroom etc. before foundation commences.

Legend

Ref	Fixture	Waste Size	Gradient
WC	Water Closet	100mm	1:60
B	Bath	40mm	1:20
SHW	Shower	40mm	1:20
S+DW	Kitchen Sink + DW	50mm	1:40
Van.U	Vanity Unit	40mm	1:20
WHB	Wash Hand Basin	40mm	1:20
TUB+WM	Laundry Tub + WM	50mm	1:40
HWC	Hot Water Cylinder	20mm	1:40
WM	Washing Machine	Discharge to TUB	
GT	Gully Trap		
RGT	Relief Gully Trap		
TV	Terminal Vent	80mm	
BV	Branch Vent	40mm	
DP	Downpipe	80mm Dia Colorsteel Downpipes	
IP	Inspection Point		
AAV	Air Admittance Valve	Discharge pipe more than 3.5m to GT	
HT	Hose Tap		
HP	Heat Pump		



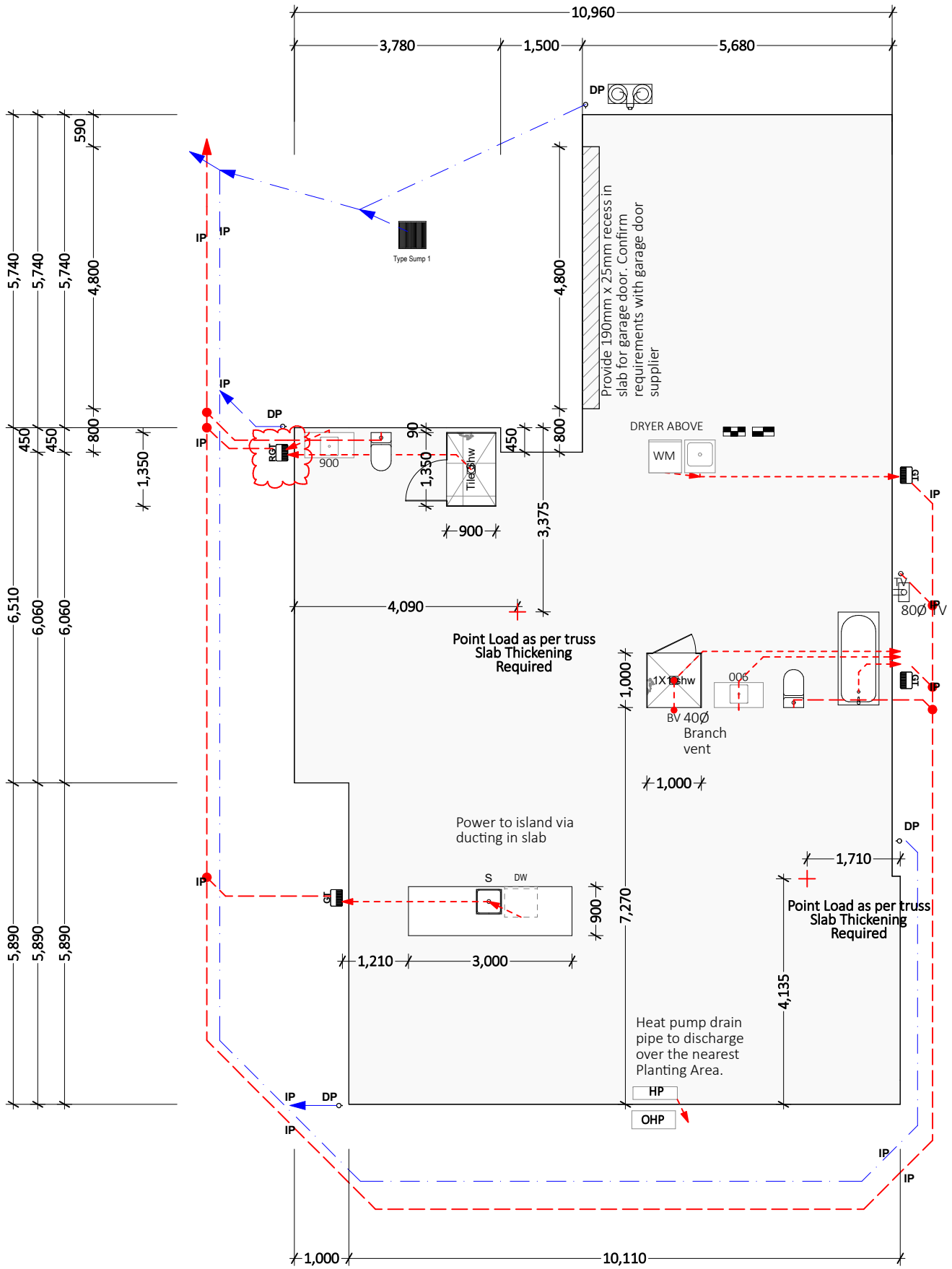
Note:

- Relief Gully Trap is to be positioned so that the top of the gully dish is no less than 150mm below the overflow level of the lowest sanitary fixture served by the drainage system.
- Position of drain connections at street laterals to be confirmed on site.
- Allow to thermally insulate all exterior pipework & valves exposed to external weather conditions.
- Heat pump drain pipe to discharge over the nearest Planting Area.

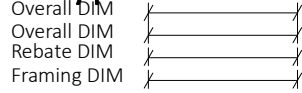
Drain pipes discharging to GT:

- 25mm min air gap between all pipes & GT.

All plumbing and drainage to comply with Acceptable Solutions G13/AS/AS2 by qualified tradesman. Allow to check all dimensions and falls of drains onsite prior to installation. 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. Internal water pipes to be Polybutylene. All pipework & pipes exposed to freezing to be lagged with closed cell foam.



Contractor to Confirm Overall Slab Dimensions with Framing plan Prior to set out, Confirm Drain location with fixture type.



Potable water in the ground pipes to be sleeve

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General Notes

Floor Area (Over Framing)	162.57 m ²
Floor Area (Over Foundation)	162.57 m ²

Wall Cladding Materials

-Resene Integra 50mm ACC Panel over 20mm cavity system installed as per manufacturer's specifications
-James Hardie Vertical Linea Oblique over 20mm cavity system installed as per manufacturer's specifications.

Roofing Materials

-0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay

Roof Pitch	25°
Eaves Width	600mm
Gable Width	450mm
Height To Underside Of Truss	2455mm
Lintel Height	2135mm
Internal Door Leaf Height	1980mm
Internal Door Leaf Width	810mm,760mm to wet areas

Plasterboard Materials

-10mm GIB plasterboard installed over timber framing as per manufacturer's specifications. GIB Aqualine to be used in wet areas.
-13mm GIB plasterboard ceiling lining fix to 70x35 Timber Battens @ 600c/s ,installed as per manufacturer's specifications.

Heating:

Heat pump to be fixed in position shown on the drawings.

Ventilations/Extraction System:

(25 L/s)Bathroom & Ensuite to vent directly to exterior
Dryer to vent directly to exterior
(50L/s)Range Hood to exit through soffit lining.
Bathroom & Ensuite extraction systems to be automated and placed to adequately deal with steam.

General Notes:

- All glazing to comply with NZS4223
- All hard floor finishes to comply with NZBC D1/AS Table 2. Floor tiles to be non-slip & have a slip coefficient value of 0.35- 0.65 for grit finished ceramic tiles.
- Hot water pipes to be sized according to NZBC G12 & NZS4305:1996. Mains pressure: 15mm dia. allows 12mm max. pipe length. Pipe length beyond this must be lagged.
-All food preparation areas & fixtures to comply with G3/AS1.
All kitchen fixtures to comply with G3/AS1 section 1.0. all splashbacks (linings adjacent to appliances & facilities) shall comply with G3/AS1 paragraph 1.6.

Wet Area Note:

- Satin enamel wall finish to bathroom, ensuite & those walls adjacent to sinks etc. in kitchen & laundry. One row of tiles to be used above basins, vanities & benches. Bottom edge to be filled with fungus/mold resistant sealant.

Water Proofing Membrane Note:

-Superflex Ardex WPM 002 waterproofing membrane required to tiled bathrooms with tiled rebated/level access showers.

Tiled Shower Screen:

-Selected toughened safety glass screen to be 10mm thick.

Smoke Alarms:

Required within 3m of all sleeping areas, change in level & entry/exits ,
Hush type facility in accordance to F7/AS1

Engineering

Foundation

Dimensions to be confirmed on site

Acoustic Requirements

habitable Section of the house to comply with acoustic, requirements 30 dB Dtr,2m,nT,w+Ctr

Living/Kitchen/Dining & Bedrooms:

External wall:

-Minimum 50mm AAC Panels cladding over min 20mm cavity,on timber framing,
-internally lined with one layer of minimum 10mm thick standard plasterboard.

-Minimum 75mm thick fibrous thermal insulation in wall cavity. (Propose insulation - 90mm R2.6 Insulation)

Roof/ceiling system:

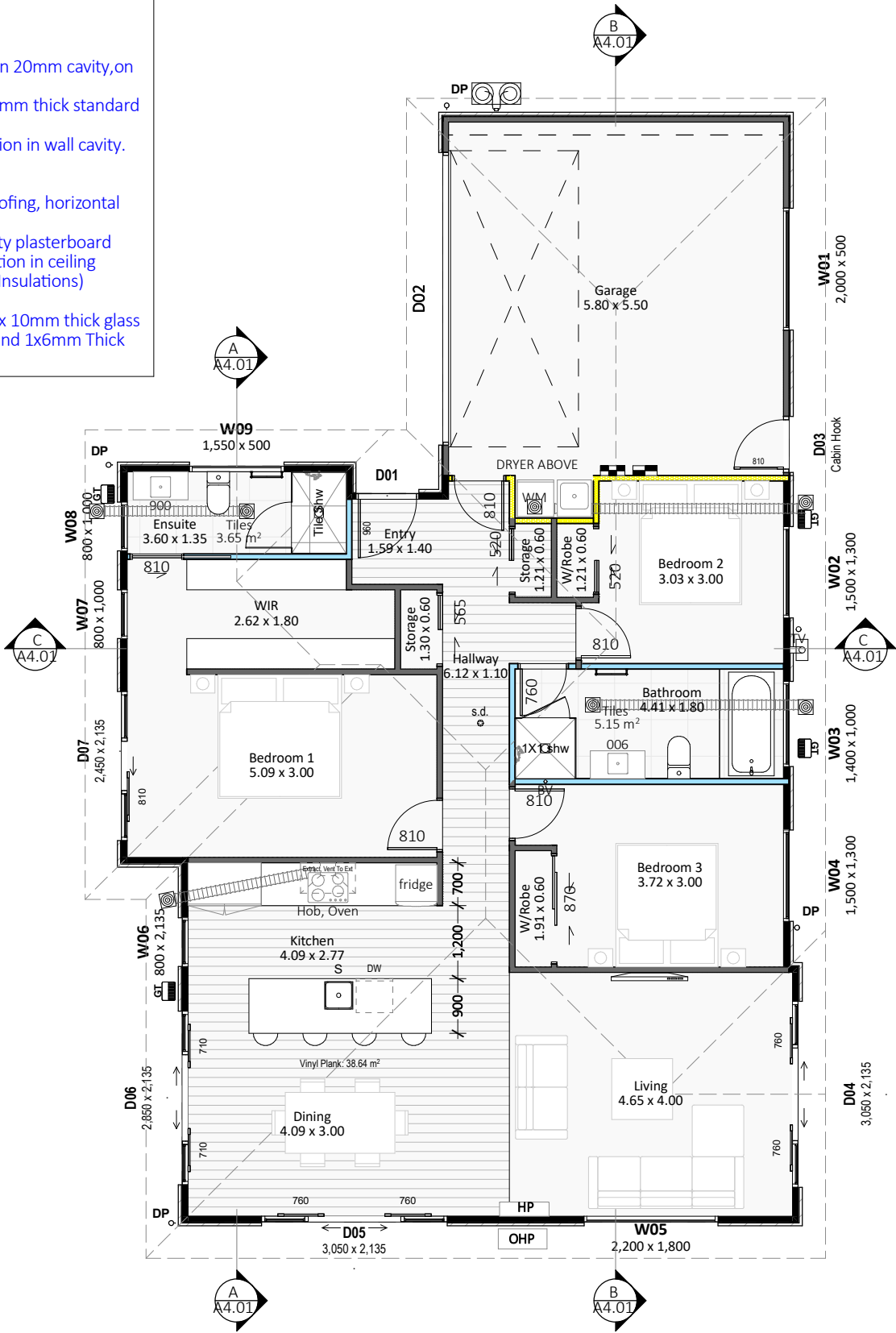
-Minimum 0.55mm thick longrun colorsteel roofing, horizontal ceiling lined with

-one layer of minimum 13mm thick high density plasterboard

Minimum 100mm thick fibrous thermal insulation in ceiling cavity.(Propose insulation -R3.6 180mm Thick Insulations)

External glazing:

Double glazed aluminium joinery comprising 1x 10mm thick glass pane separated by a minimum 12mm air gap and 1x6mm Thick Glass Pane e.g.10/12/6 double glazing.



LEGEND

	Smart Meterboard
	Comms panel
	Smoke Detector
	Heated Towel Rail
	Outlet Grille
	Mechanical Vent / Ducting
	Gas Califont
	2x45kg Gas Bottles
	Indoor Heat Pump Unit
	Outdoor Heat Pump Unit on Conc Plinth
	Gully Trap

Christchurch City Council



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Electrical Notes

- Allow for single switched powerpoint for standard appliances: Fridge, Dishwasher, Waste Disposal, Rangehood, Hob, Oven. Refer to kitchen design for layout and positions of kitchen area sockets etc. All power points are indicative only and must be positioned and confirmed on site by architect and/or owner.
- All electrical installations to be in accordance with NZECP 51:2004
- Where downlights are to be installed, only CA 80, CA 135, IC or IC-F downlights are permitted in private or rental dwellings. (Note that IC downlights can only be used with insulation that passes the needle flame test of AS/NZS 60598 2.2 clause 11.5). Recessed downlights that are not labelled as above are not permitted to be installed into residential buildings.
- Total of 20 lux of illuminance for the total wattance required per m2 of floor area as shown in NZBC G8 / AS1 Table 1.
- Lighting and electrical by others, all positions and types to be selected and confirmed by client with contractor unless noted otherwise.
- Mechanical ventilation in housing removing moisture shall be vented outside (includes wet areas & cooker hoods). Refer to NZBC G4/AS1 1.3.C.iiio, Mechanical Ventilation to be 150 dia 230 Cu M/H inline fan ducted to soffit. Auto extractor fans shall terminate through wall/soffit/roof with an extraction rate as set out in NZBC G4.
- Downlights shall be CA80 check the insulation manufacturers instructions to ensure their product is safe when installed along side proposed downlights

General Placement Notes

- Powerpoints typically 300mm from nearest corner & 300mm from FFL unless otherwise noted
- Powerpoints in wet areas to be 1,200mm high from FFL and vertically fixed unless otherwise noted
- Powerpoint for heater to be located 300mm below finished ceiling level
- Powerpoints in kitchen to be 1000mm high from FFL
- Light switches typically 150mm from nearest corner or door frame & 1,200mm from FFL unless otherwise noted
- Laundry Power Point 1000mm above FFL



Blackbell Homes

23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

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-	-	-
-	-	-
-	-	-
-	-	-

Ground Floor Plan



Designer:	IT
Technician :	IT
Approved :	
Status:	Detailed Design

Date Issued :	13/07/2021
Job Number:	21006
Scale:	1:100
Revision:	R2

SHEET:

A2.01

Wall Framing:

Wind Zone	High Wind Zone
Height To Underside Of Truss	2455mm
Lintel Height	2135mm

-H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 800mm crs. max. (Check Cladding Requirements) (Refer to NZS3604 table 8.2)
-H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 600mm crs. max (Linea Oblique).

Typical Fixing Schedule:

Exterior Bottom plate to concrete floor (Non-braced):

Pryda Bottom Plate Anchors with 75x4mm dia. concrete nails adjacent to anchor 70mm min from edge of slab. as per manufacturers specifications. @ 900mm crs. max as per NZS3604:2011. Refer to bracing plan for additional hold down fixings.

Interior bottom plate to concrete floor:

75 x 8mm shot fired fastenings with 16mm washers @ 600mm crs within 150mm each end of plate. Refer to bracing plan for additional hold down fixings.

Joint:

Stud to Bottom or Top plate:

Dwang to stud:

Fish plate to Straightened stud:

Half Joint in top Plate:

Lintel to trimming Stud:

Standard soffit stringer to stud:

Sill trimmer to trimming stud for:

- Trimmer not exceeding 2400mm

- Trimmer not exceeding 3000mm

- Trimmer not exceeding 3600mm

Double top plate to top plate:

Trimming studs together at openings.

Studs & blocking at wall intersections:

Trimming Stud to Doubling Stud immediately under lintels:

Trusses to Top Plate:

-Prefabricated roof trusses @ 900mm crs max fix to top plate with 2/100 x 3.75mm skewed nails & 2/wiredogs each side in accordance to Manufacturer documents & producer statement.

Timber Ceiling batten to bottom chord:

Metal Ceiling batten to bottom chord:

Outrigger to Gable Top Plate:

Outrigger to Truss:

Flying Rafter to Outrigger:

Outrigger Blocking to Top Plate:

Purlins to Truss:

-70x45 H1.2 SG8 Purlins fixed to trusses/Rafter with 1/10g x 80mm self-drilling screw or 2/100 x 3.75mm skewed nails & 1/wiredog (Alt 2.4KN Fixing). Top & bottom purlins shall be @ 450mm crs & 450crs to body.

Schedule of Framing Timbers - Grading & Treatment

Wall framing

Exterior walls & lintels

Interior walls (loadbearing)

Interior walls (non-loadbearing)

Wet Area Bottom plates & Framing

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

Cavity battens:

-Dry Cavity

-Wet Cavity

-Structural batten

Merchantable, H3.1, Pinus radiata

Merchantable, H3.1, Pinus radiata

Merchantable, H3.2, Pinus radiata

Roof framing

Roof trusses - typical

Gable end truss

Coved or attic trusses

Purlins/Battens

Valley boards, barge boards

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

LVL8, H1.2, Pinus radiata

Merchantable, H1.2, Pinus radiata

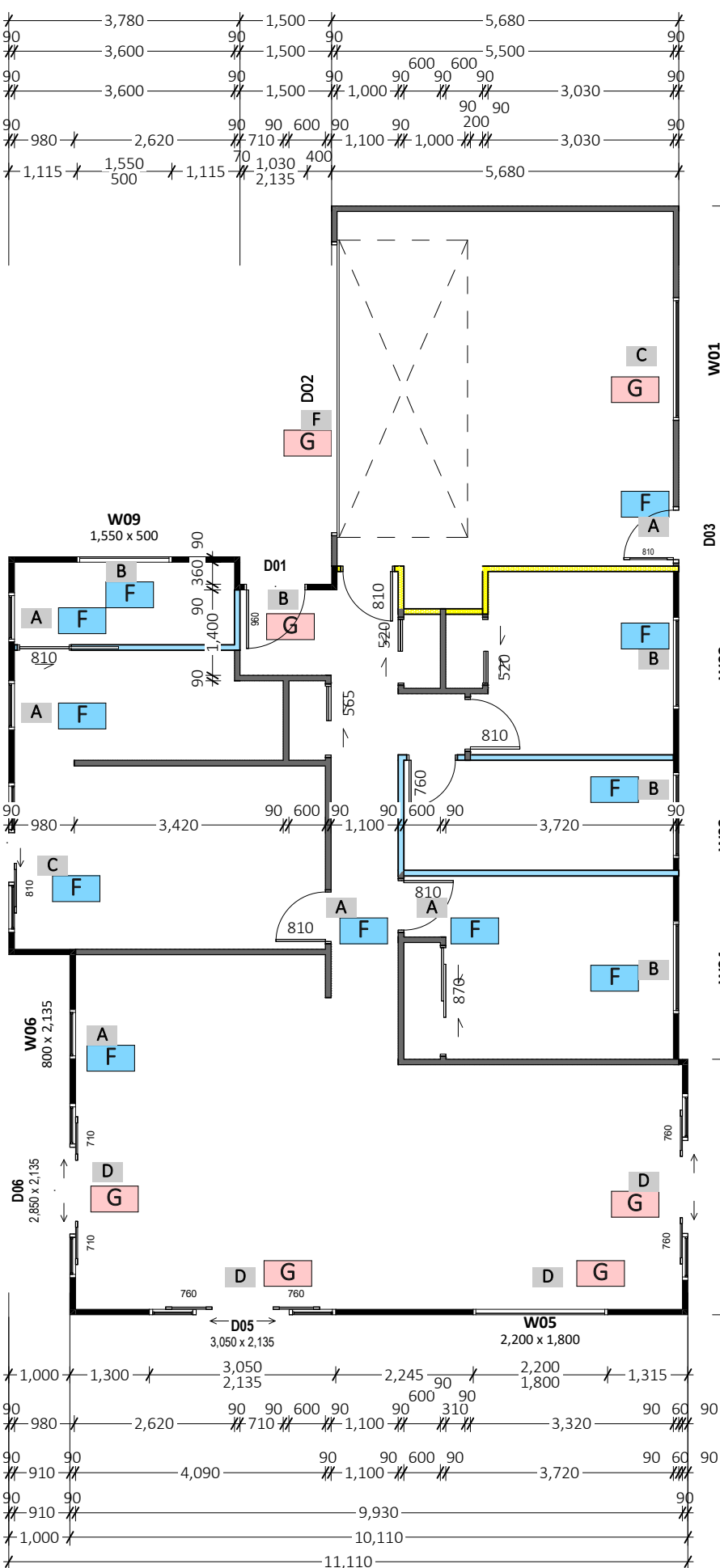
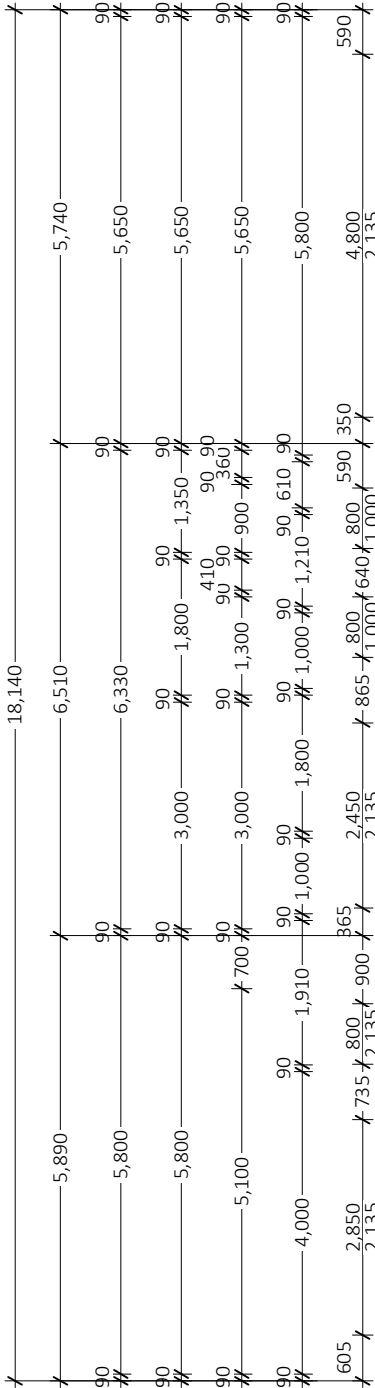
Windows

Framing and reveals

Dressed, H3.1, Pinus radiata

All tiled areas to have dwangs @ 600mm crs. max. (Excludes skirting/upstands)

Plumbing fixtures shown to indicate wet areas. GIB Aqualine to all wet areas as standard.



KEY

- Indicates insulated wall
- Indicates non-insulated wall
- Indicates insulated wall
- Indicates Aqualine lined wall

L.B.W = Load Bearing Wall

- Overall DIM
- Framing DIM
- Opening DIM

LINTELS & LINTEL FIXING TYPES

Lintels as per Truss Design & Fixings as per Lumberlok Lintel Fixing Schedule. Refer Lumberlok Schedule attached.

LINTEL SIZES	FIXING TYPES
A 90x90 SG8	E = 1.4 kN
B 140x90 SG8	F = 4.0 kN
C 190x90 SG8	G = 7.5 kN
D 240x90 SG8	H = 13.5 kN
E 290x90 SG8	
F 315x90 PL12	

Lintel Sizes as per truss design - Truss Design to take precedence over these drawings.

KEY	Lintel - #	Lintel Type
	Fixing - #	Lintel Fixing Type

Lintels Can be substitute with:

- 2/90x45- 90x90
- 2/140x45- 140x90
- 2/190x45- 190x90
- 2/240x45- 240x90
- 2/290x45- 290x90

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Roof Notes:

Roof Cladding
-0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay
Roof Pitch 1 25°

Eaves Width 600mm
Gable Width 1 450mm
Gable Width 2 600mm

Spouting & Fascia
Selected colorsteel Quad spouting (5550mm²) cross sectional area fix to 185 Colorsteel fascia

Down Pipe (DP)
80mm Dia Colorsteel Downpipes

Fixing Notes:

Purlins
-70x45 H1.2 SG8 Purlins fixed to trusses/Rafter with 1/10g x 80mm self-drilling screw or 2/100 x 3.75mm skewed nails & 1/wiredog (Alt 2.4kN Fixing). Top & bottom purlins shall be @ 450mm crs & 450crs to body.

TRUSSES
-Prefabricated roof trusses @ 900mm crs max fix to top plate with 2/100 x 3.75mm skewed nails & 2/wiredogs each side in accordance to Manufacturer documents & producer statement.

90x45mm H1.2 treated SG8 outriggers @900crs max to gable verge to allow for overhang/eave width. Outriggers to span back to next truss. Outriggers to be fixed as per NZS3604:2011 Table 10.18:
- 1/10g x 80mm self-drilling screw to wall framing.
- 3/90 x 3.15mm nails to rafters.
- 4/90 x 3.15mm skewed nails to blocking.

Roof bracing to be 8.0kN diagonally opposed intersecting steel straps fixed to top chord & top plate as per NZS3604:2011, Section 10.3, 10.4 or refer to truss manufacturer's design for positions.

All roof penetrations shall be flashed as per NZBC E2/AS1 external moisture section 8.4 profiled metal roof cladding (8.4.17 Roof Penetrations) as shown in figure 53 & 54

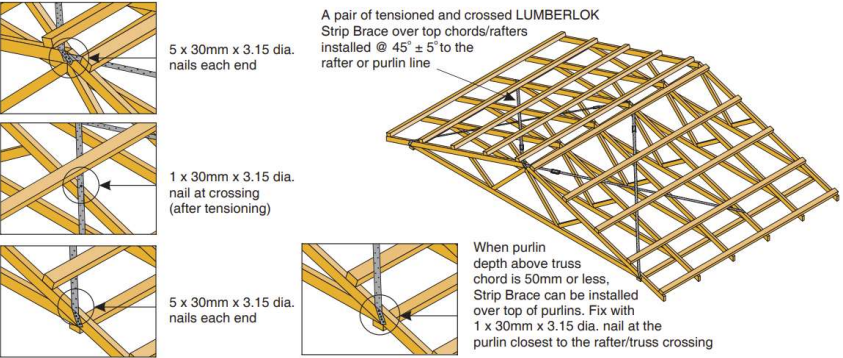
All Flashings to be 0.55 BMT colorsteel fixed in accordance with NZS3604:2011 and meeting the durability requirements of NZBC E2/AS1 Table 20,21,22

Add Snow Straps as per NZMRCOP and E2/AS1 .

Roof Bracing Options
i) ROOF PLANE BRACE



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



23 Lotus place
For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Roof Plan



Designer:	IT	Date Issued :	13/07/2021	SHEET: A2.03
Technician :	IT	Job Number:	21006	
Approved :		Scale:	1:10, 1:100	
Status:	Detailed Design	Revision:	R2	

Subject to council approval, All measurements to be confirmed on site by the contractor prior to the commencement of work. No part of this work may be reproduced or copied in any form or by any means without the written permission of Blackbell Homes

GENERAL KEY:

LUMBERLOK Strip roof bracing as per truss design:



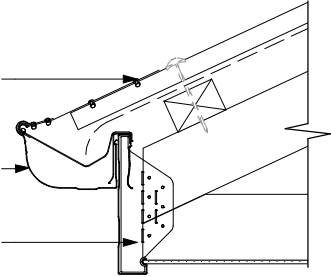
Gutter Fall:

TV	Terminal Vent	80mm
BV	Branch Vent	40mm
DP	Downpipe	80mm Dia Colorsteel Downpipes

Snow strap support fixed to spouting

Selected Spouting

Selected Fascia



Snow Strap support to gutter

Scale 1:10

Terminal vent shall terminate through roof flash using Dektite flashing - Refer to details for further information.

Branch vent shall terminate through roof flash using Dektite flashing - Refer to details for further information.

Christchurch City Council

BCN/2021/6021

Approved Building Consent Document

07/10/2021

Mahe, Kevin

Page 6 of 19

DP Roof Area
59.53 m²

DP Roof Area
64.52 m²

Dp
50.21 m²

Single Level Along Resistance Sheet

Job Name: Proposed New Dwelling

									Wind	EQ
									Demand	
									614	716
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1012 165%	970 135%
a	1	0.50	0	2.4	GS1-N	GIB®	28	29		
	2	0.80	0	2.4	GS1-N	GIB®	49	47		
	3	0.90	0	2.4	GS1-N	GIB®	57	53		
	4	0.70	0	2.4	GS1-N	GIB®	41	41		
	5	0.50	0	2.4	GS1-N	GIB®	28	29		
External Length = 12.4									202 OK	200 OK
b	1	0.45	0	2.4	BLP-H	GIB®	56	62		
	2	0.45	0	2.4	BLP-H	GIB®	56	62		
	3	2.10	0	2.4	GS1-N	GIB®	145	126		
	4	1.90	0	2.4	GS1-N	GIB®	131	114		
External Length = 6.19									388 OK	363 OK
c	1	1.40	0	2.4	GS1-N	GIB®	97	84		
	2	1.30	0	2.4	GS1-N	GIB®	90	78		
	3	0.70	0	2.4	GS1-N	GIB®	41	41		
	4	0.70	0	2.4	GS1-N	GIB®	41	41		
	5	0.70	0	2.4	GS1-N	GIB®	41	41		
	6	0.70	0	2.4	GS1-N	GIB®	41	41		
	7	0.40	0	2.4	BL1-H	GIB®	36	40		
	8	0.40	0	2.4	BL1-H	GIB®	36	40		
External Length = 18.14									423 OK	407 OK

Bracing Notes:

Where the distance between bracing lines at right angles to the plate is between 5.0m & 6.0m, the 90 x 45mm top plate shall be strengthened by the addition of a 140 x 35mm plate of at least the same grade as the top plate. Refer to NZS 3604:2011, 8.7.4.2.

Note:

Where exterior ply bracing elements are used & not continued the entire length of the wall, allow to pack out the rest of the cavity battens to achieve an even straight-through cavity for the selected cladding. Refer to supporting documents for Ecoply fixing requirements. Treatment to be a minimum of H3.2.

Openings in Bracing Elements:

(as per GIB EzyBrace System)

Openings are allowed within the middle third of a wall bracing element's length & height. Neither opening dimension shall be more than one third of the element height. Wall linings are fixed to opening trimmers at 150mm crs. Small openings (e.g. power outlets) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the braced element.

Reading the Bracing Plan:

GS1- 0.4m min. length. Any 10mm or 13mm GIB Standard Plasterboard fixed to one side only.

GS2- 0.4m min. length. Any 10mm or 13mm GIB Standard Plasterboard fixed to both sides

EP1- 0.4m min. length. 7mm minimum Ecoply fixed to exterior side of the wall framing. GIB Handibracs to be installed each end of bracing element as per manufacturer's specifications - Refer to Supporting Documents for further information.

GIB EzyBrace® Bracing Software



Demand Calculation Sheet

Job Details

Name: Proposed New Dwelling
Street and Number: 23 Lotus Place
Lot and DP Number: Lot 10 DP 556537
City/Town/District: Christchurch, Haslwell
Designer: Ilaisa
Company: Ilaisa Design
Date: Friday, 18 June 2021

Building Specification

Number of Storeys: 1
Floor Loading: 2 kPa
Foundation Type: Slab

Cladding Weight: Single
Roof Weight: Medium
Room in Roof Space: No
Roof Pitch (degrees): 25
Roof Height above Eaves (m): 2.85
Building Height to Apex (m): 5.2
Ground to Lower Floor (m): 0.25

Average Stud Height (m): 2.4
Building Length (m): 18.14
Building Width (m): 11.11
Building Plan Area (m²): 162.57

Building Location

Wind Zone = High

Earthquake Zone 2

Soil Type: D & E (Deep to Very Soft)
Annual Prob. of Exceedance: 1 in 500 (Default)

Bracing Units required for Wind

	Along	Across
Single Level	614	1083

Bracing Units required for Earthquake

	Along & Across
Single Level	716

GIB EzyBrace® Version 12/18a

GIB EzyBrace® Bracing Software



Single Level Across Resistance Sheet

Job Name: Proposed New Dwelling

									Wind	EQ
									Demand	
									1083	716
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1368 126%	1195 167%
m	1	1.20	0	2.4	GS1-N	GIB®	83	72		
	2	1.20	0	2.4	GS1-N	GIB®	83	72		
External Length = 5.68									166 OK	144 OK
n	1	0.60	0	2.4	GS1-N	GIB®	34	35		
	2	3.03	0	2.4	GS1-N	GIB®	209	182		
External Length = 5.28									243 OK	217 OK
o	1	1.20	0	2.4	GS1-N	GIB®	83	72		
	2	4.40	0	2.4	GS1-N	GIB®	304	264		
External Length = 1									386 OK	336 OK
p	1	3.70	0	2.4	GS1-N	GIB®	255	222		
									255 OK	222 OK
q	1	1.20	0	2.4	GS1-N	GIB®	83	72		
	2	2.20	0	2.4	GS1-N	GIB®	152	132		
	3	1.20	0	2.4	GS1-N	GIB®	83	72		
External Length = 10.11									317 OK	276 OK



Blackbell Homes

23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Bracing Plan

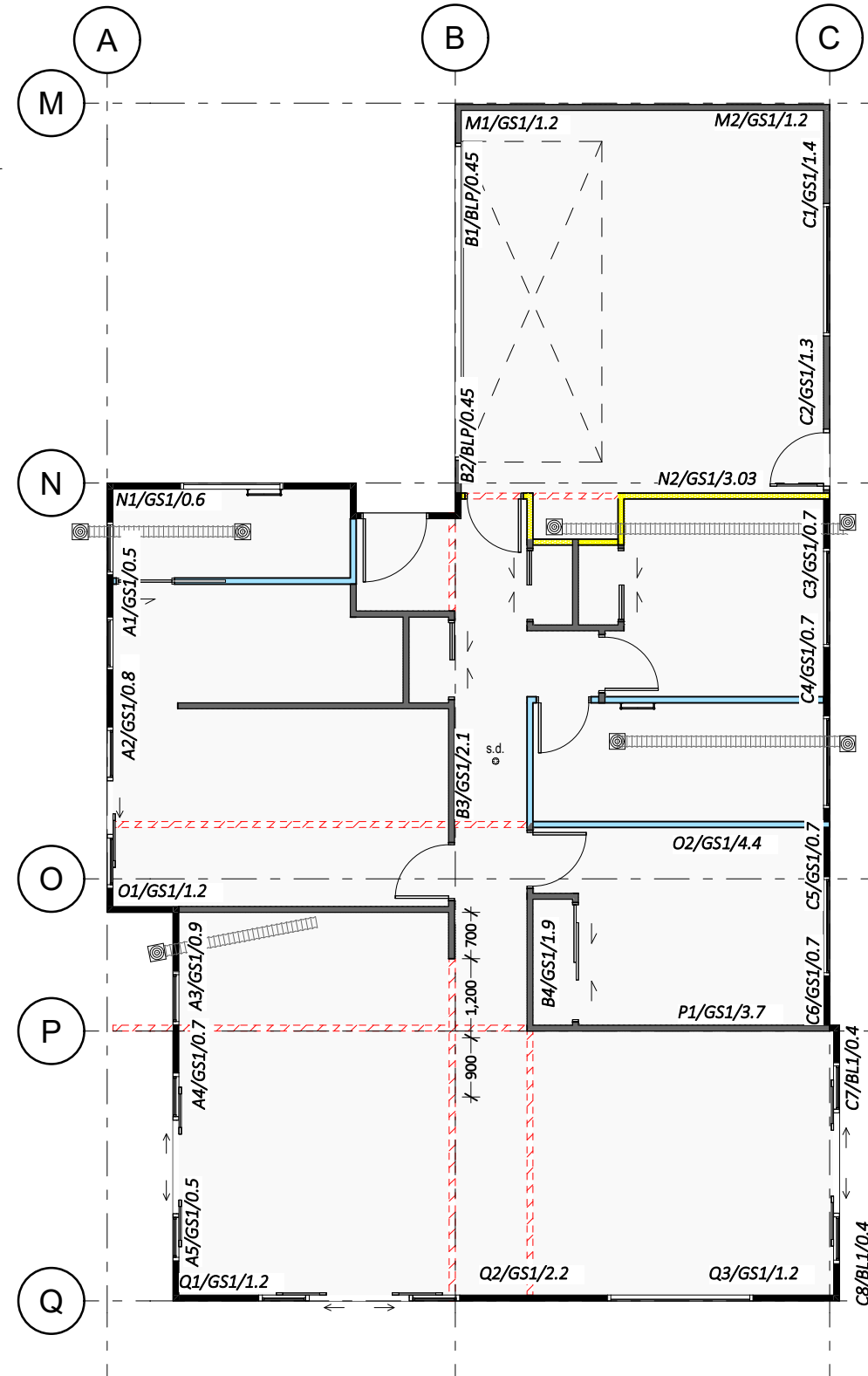


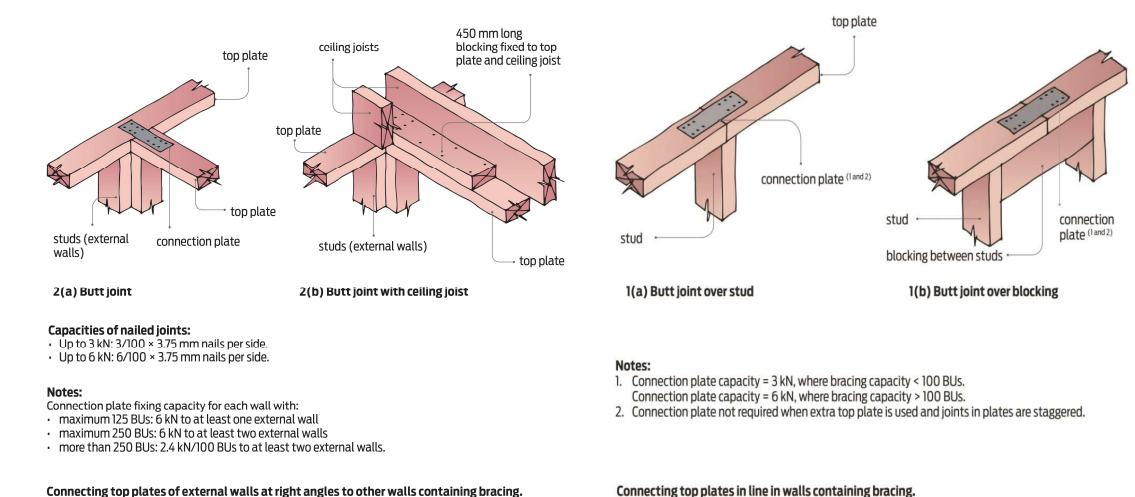
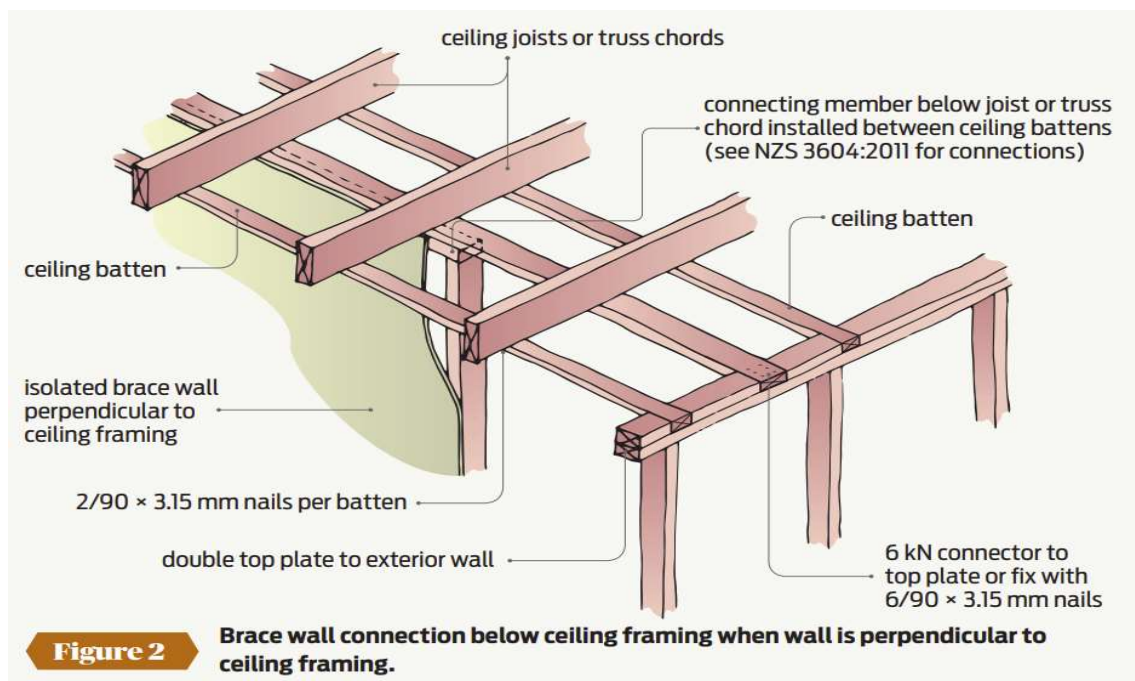
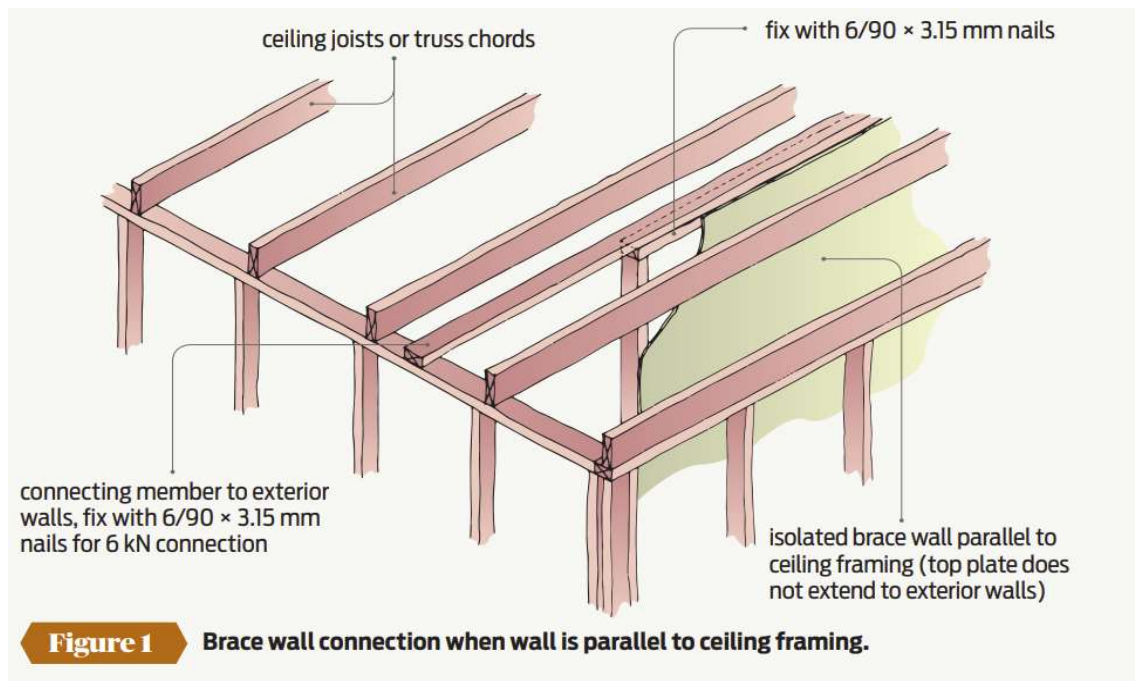
Designer: IT
Technician: IT
Approved:
Status: Detailed Design

Date Issued: 13/07/2021
Job Number: 21006
Scale: 1:100
Revision: R2

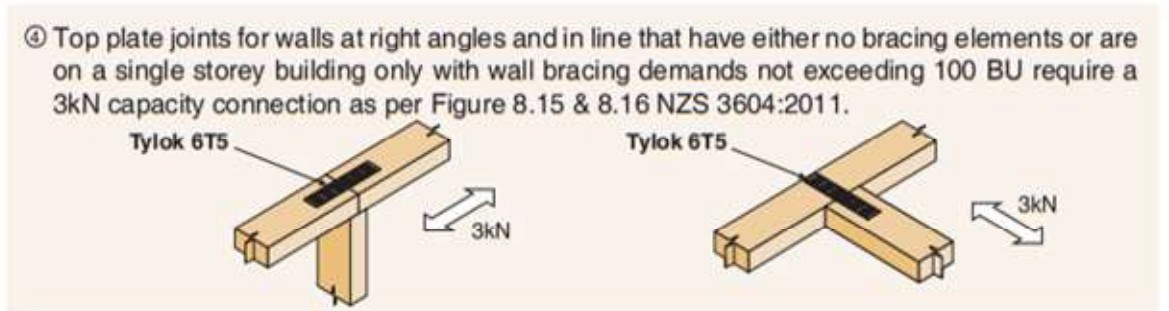
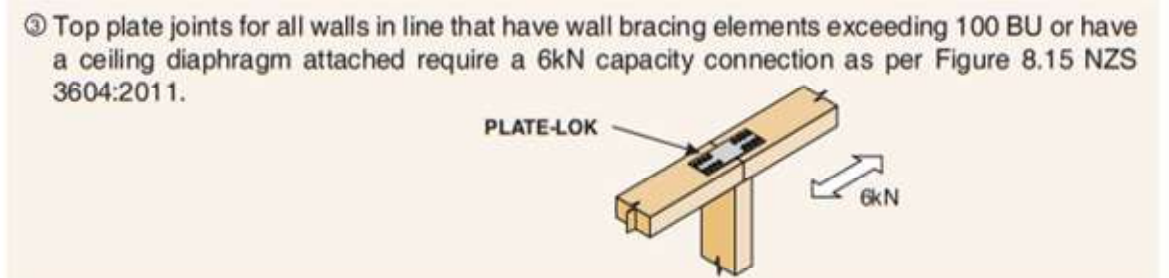
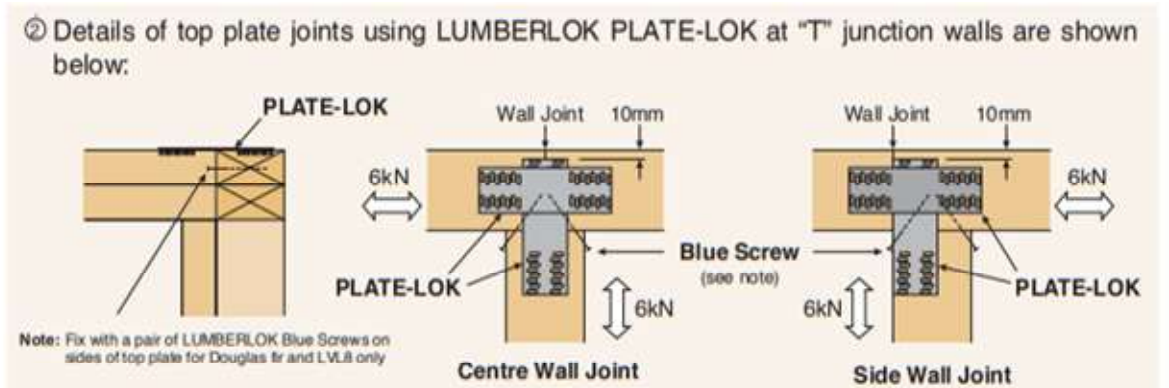
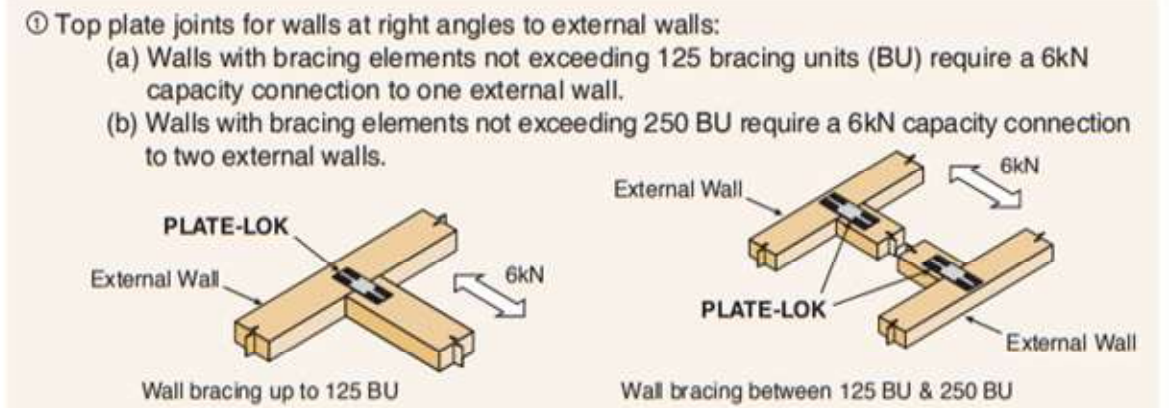
SHEET:

A2.04





TOP PLATE CONNECTIONS AS REQUIRED BY CLAUSE 8.7.3 NZS 3604:2011



23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
R1	-06/04/2021	-Client Changes
R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Bracing Top Plate Details



Designer:	IT	Date Issued :	13/07/2021	SHEET: A2.05
Technician :	IT	Job Number:	21006	
Approved :		Scale:		
Status:	Detailed Design	Revision:	R2	

Roof Cladding
0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay

Roof Pitch
25°

Exterior Cladding
Resene Integra 50mm ACC Panel over 20mm cavity system installed as per manufacturer's specifications
-James Hardie Vertical Linea Oblique over 20mm cavity system installed as per manufacturer's specifications.

Soffit Lining
4.5mm James Hardie Soffit Lining

Windows
Selected colour powder-coated aluminium joinery with all glazing to comply with NZS 4223.

Glazing and glazed openings to comply with NZS 4223.3:2016
Glazing in buildings - Part 3: Human impact safety requirements,
NZS 4211:2008: Specification for performance of windows and New Zealand Building Code Clauses: F2 Hazardous Building Materials & F4: Safety from Falling.

BUILDING ENVELOPE RISK MATRIX		
All Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		4



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BCN/2021/6021

Approved Building Consent
Document

07/10/2021

Maheer, Kevin



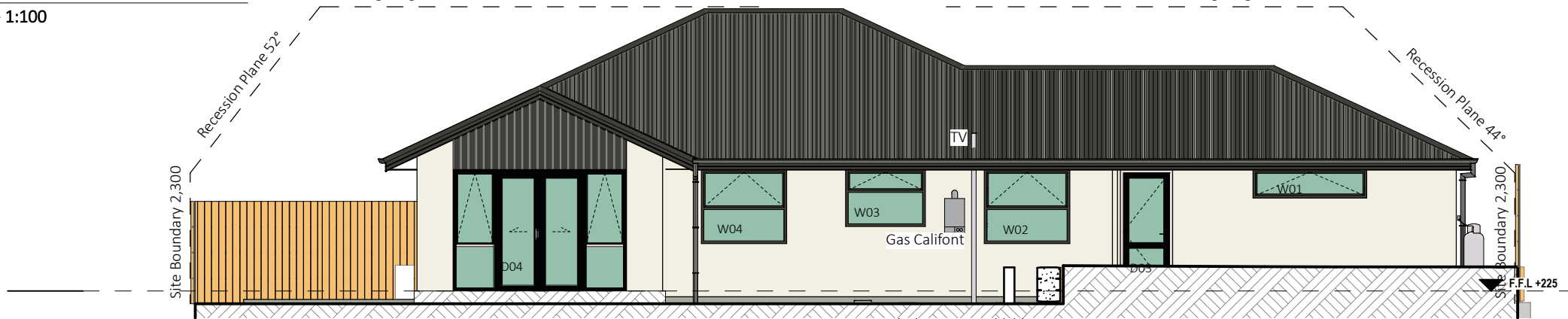
East Elevation

Scale 1:100



West Elevation

Scale 1:100



South Elevation

Scale 1:100



North Elevation

Scale 1:100



Blackbell Homes

23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-

Elevations



Designer: IT
Technician : IT
Approved :
Status: Detailed Design

Date Issued : 13/07/2021
Job Number: 21006
Scale: 1:100
Revision: R2

SHEET:

A3.01

NZBC H1 Calculations

Insulated Floor Plan Area:		129	m² over frame (including interior wall of garage)	
Total Floor Area		169.2		
Foundation Perimeter Ratio		60.83		
Calculated Areas			Wall Length X	Stud Height
North	Wall area:	29.8	12.4	2.4
	Window/Door area:	14.62		
	Wall Open Percentage	49%		
East	Wall area:	26.3	10.95	2.4
	Window/ Door area:	3.55		
	Wall Open Percentage	14%		
South	Wall area:	29.8	12.4	2.4
	Window/Door area:	11.81	0.0	0.0
	Wall Open Percentage	40%	0	0
West	Wall area:	26.3	10.95	2.4
	Window/Door area:	10.47	0	0.0
	Wall Open Percentage	40%		

Total	ESW Wall Area	82.3	
	Entire Building Wall area:	112.1	
	Entire Buiding Window/Door area:	40.45	
	ESW Window/Door Area:	25.83	
	Percent window area:	36.1%	
	ESW Percent window area	31.4%	
Is the window area of the walls less than 30%?		Yes	
		No	

Natural Light:	Window Area/Room Area		
Rooms	Window Area (Glazed)	Room Area	Total
Living	8.73	18.6	47%
Kitchen & Dining	9.81	31	32%
Bedroom 1	3.67	15.27	24%
WIR	0.57	4.716	12%
Ensuite	1.17	4.86	24%
Entry	0	2.226	0%
Bedroom 2	1.54	9	17%
Bedroom 3	1.54	11.16	14%
bathroom	1.05	7.938	13%

Ventilation:	Vented Area/Room Area		
Rooms	Window Area (Vented)	Room Area	Total
Living	5.64	18.6	30%
Kitchen & Dining	10.16	31	33%
Bedroom 1	3.47	15.27	23%
WIR	0.22	4.716	5%
Ensuite	0.22	4.86	5%
Entry	2.2	2.226	99%
Bedroom 2	0.87	9	10%
Bedroom 3	0.87	11.16	8%
bathroom	0.41	7.938	5%

Proposed Design

Component	Description	Area	R-value	Heat Loss	Heat Loss = Area / R-value
Roof 1	Truss frame 900 /longrun/ roofing/R3.6	129	3.3	39.1	
Roof 2					
Roof 3					
Wall 1	studs 600/dwangs/800 R2.6 Batts	112.1	2.4	46.7	
Wall 2					
Wall 3					
Floor 1	100mm Conc slab	129	1.3	99.2	Total Loss
Floor 2					
Floor 3					
Glazing 1	Double Glazing	40.45	0.26	155.6	
Glazing 2					
Skylight 1					
Skylight 2					340.6

Zone 3
Non-Solid Reference Building.

Component	Description	Area	R-value	Heat Loss	Heat Loss = Area/R-value
Roof	Longrun Roofing On Trusses	129	3.3	39.1	Total Loss
Wall	Weatherbaord on 90mm framing	112.1	2.0	56.0	
Floor	Concrete Slab on DPM	129	1.3	99.2	
Glazing (30%)	Double Glazing	40.45	0.26	155.6	
Glazing (>30%)					
					350.0

Note:

- Confirm all opening sizes onsite prior to installation
- Sizes shown are rough opening sizes and & leaf sizes
- Client to confirm window & door style & finishes
- All doors & sliders are taken from External Elevation
- All windows are taken from External Elevation
- Refer to ground floor plan for accurate opening location

Joinery:

All exterior window and door joinery to be **Selected colour powder-coated aluminium joinery with all glazing to comply with NZS 4223**.and dressed timber reveals unless noted otherwise. Refer to specification for full details.

- Internal Door Leaf Height: -1980mm
- Internal Door Leaf Width: -810mm,760mm to wet areas(unless noted on plan).
- Garage Door: -Coloursteel sectional.
- Lintels: -Refer to the **Floor Plan/Truss Design** for lintel sizes.
- Safety Glazing (SG): -To all windows less than 800mm above FFL, unless a transom is less than 1.0m from FL.
- To all windows in wet areas less than 2.0m above FFL.
- To all doors (bottom pane only where a transom is used.)
- To Bathroom, WC and Ensuite

- Obscure Glazing (OB):

Glazing and glazed openings to comply with NZS 4223.3:2016 Glazing in buildings - Part 3: Human impact safety requirements, NZS 4211:2008: Specification for preformance of windows and New Zealand Building Code Clauses: F2 Hazardous Building Materials & F4: Safety from Falling

Standard glazing units used:

All Double Glazed Units

Comply with Table G2, NZS 4218:2004 & meet 0.26 (msqo C/W)

Standard Unit

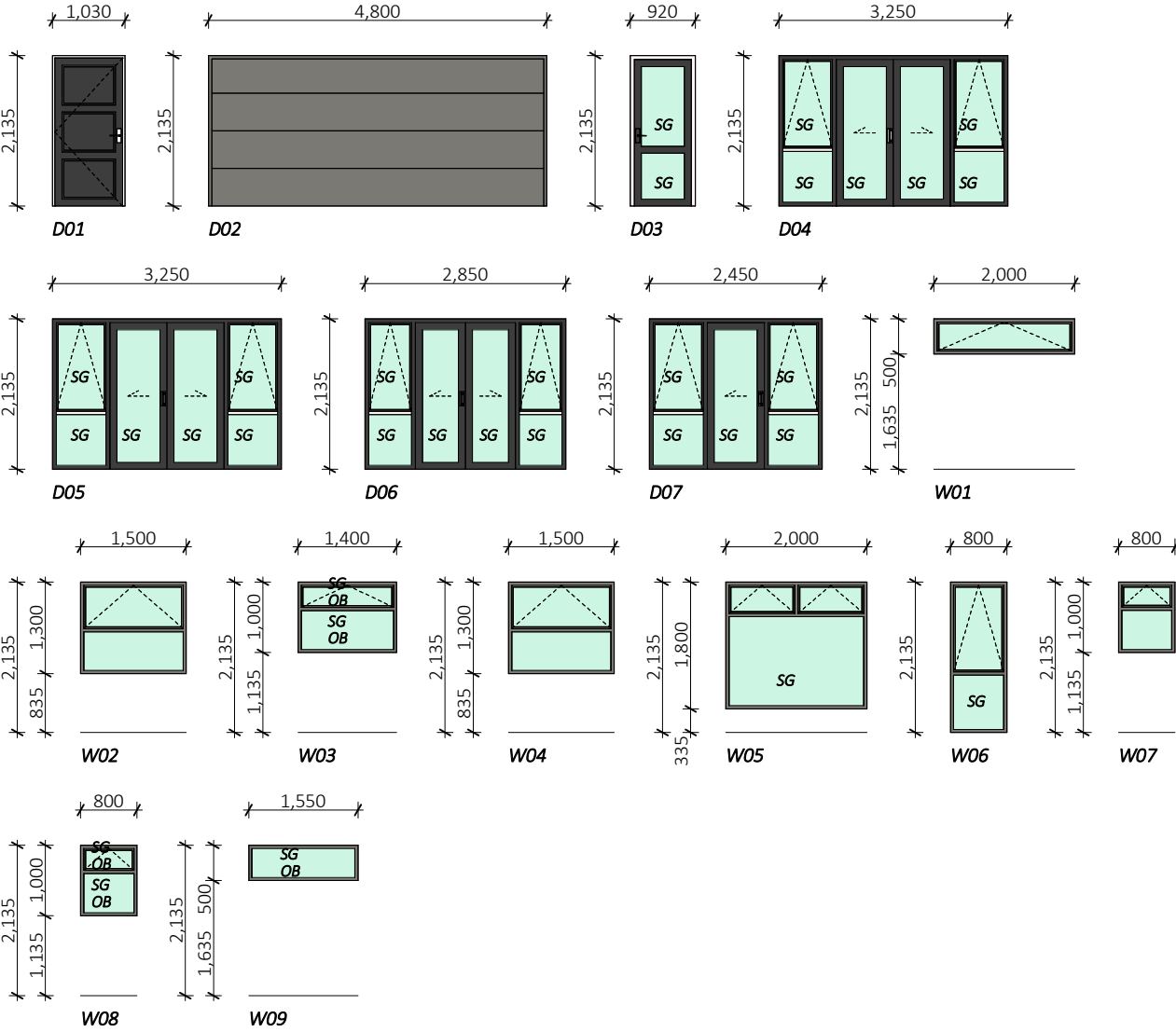
4mm Glass / 12mm Air Gap / 4mm Glass

Slider Unit

5mm Glass / 8mm Air Gap / 5mm Glass

Safety Panel

4mm Toughened / 8mm Air Gap / 6.38mm Laminate



23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Door & Window Schedule



Designer:	IT	Date Issued :	13/07/2021	SHEET: A3.02
Technician :	IT	Job Number:	21006	
Approved :		Scale:	1:100	
Status:	Detailed Design	Revision:	R2	

Foundations
- TC2 RIB RAFT (TBC)

Timber framing
- H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 800mm crs. max. (Check Cladding Requirements) (Refer to NZS3604 table 8.2)
- H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 600mm crs. max (Linea Oblique).

Bottom Plate Fixing
- Pryda Bottom Plate Anchors with 75x4mm dia. concrete nails adjacent to anchor 70mm min from edge of slab. as per manufacturers specifications. @ 900mm crs. max as per NZS3604:2011. Refer to bracing plan for additional hold down fixings.
- 75 x 8mm shot fired fastenings with 16mm washers @ 600mm crs within 150mm each end of plate. Refer to bracing plan for additional hold down fixings.

Roof Cladding/Construction
- 0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay
- Prefabricated roof trusses @ 900mm crs max fix to top plate with 2/100 x 3.75mm skewed nails & 2/wiredogs each side in accordance to Manufacturer documents & producer statement.
- 70x45 H1.2 SG8 Purlins fixed to trusses/Rafter with 1/10g x 80mm self-drilling screw or 2/100 x 3.75mm skewed nails & 1/wiredog (Alt 2.4KN Fixing). Top & bottom purlins shall be @ 450mm crs & 450crs to body.

Spouting & Gutter/Soffit Lining
- Selected colorsteel Quad spouting (5550mm²) cross sectional area fix to 185 Colorsteel fascia
- 4.5mm James Hardie Soffit Lining

Building Wrap/Exterior Cladding
- Selected Building Wrap to external framing.
- Resene Integra 50mm ACC Panel over 20mm cavity system installed as per manufacturer's specifications
- James Hardie Vertical Linea Oblique over 20mm cavity system installed as per manufacturer's specifications.

Wall & Ceiling Linings
- 10mm GIB plasterboard installed over timber framing as per manufacturer's specifications. GIB Aqualine to be used in wet areas.
- 13mm GIB plasterboard ceiling lining fix to 70x35 Timber Battens @ 600crs, installed as per manufacturer's specifications.

Wall & Ceiling Insulation
- R2.6 Wall Insulation
- R3.6 Ceiling Insulation

Proposed Building: Construction R Values-Climate Zone 3
(Climate Zone as Figure B1 in NZS 4218:2004 Energy efficiency)

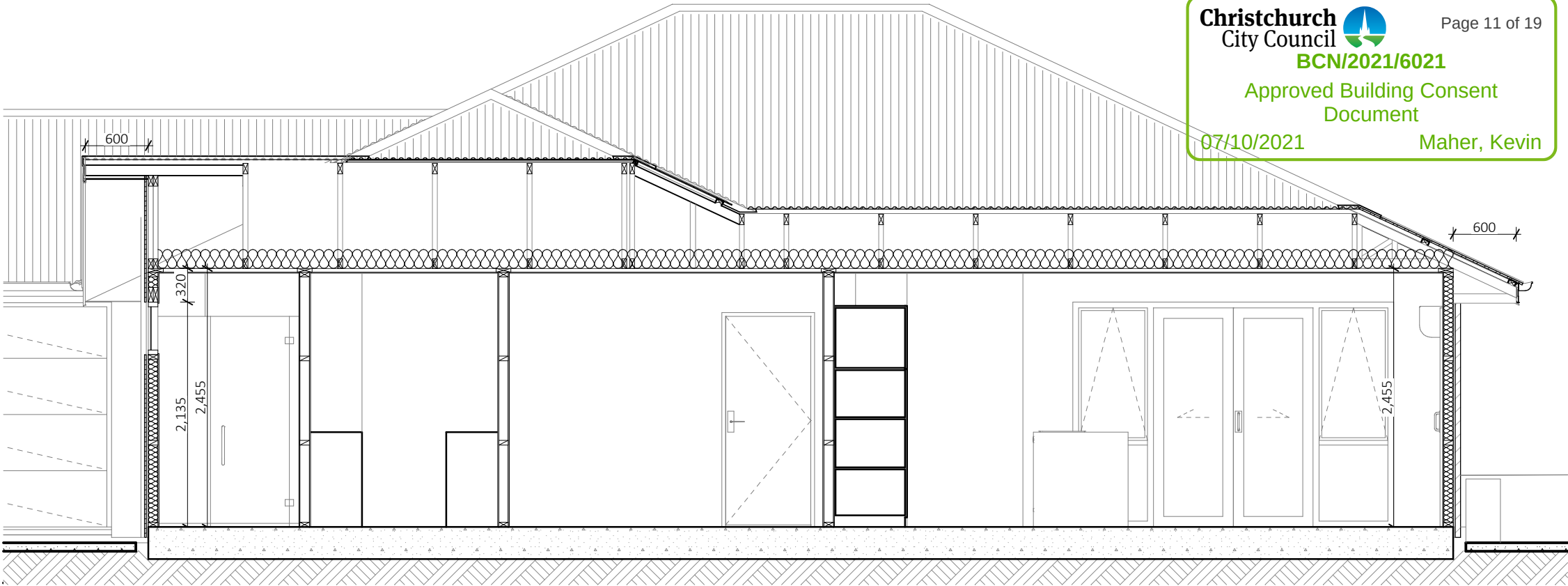
Roof Type- Construction R Value 3.3
0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay , -Prefabricated roof trusses @ 900mm crs max fix to top plate with 2/100 x 3.75mm skewed nails & 2/wiredogs each side in accordance to Manufacturer documents & producer statement.**R3.6 Ceiling Insulation**

Wall Type 1- Wall Construction R Values 2.4
Resene Integra 50mm ACC Panel over 20mm cavity system installed as per manufacturer's specifications, H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 800mm crs. max. (Check Cladding Requirements) (Refer to NZS3604 table 8.2) Internally lined with 10mm standard plasterboard **R2.6 Wall Insulation**

Wall Type 2- Wall Construction R Values 2.4
James Hardie Vertical Linea Oblique over 20mm cavity system installed as per manufacturer's specifications., H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 600mm crs. max (Linea Oblique). Internally lined with 10mm standard plasterboard **R2.6 Wall Insulation**

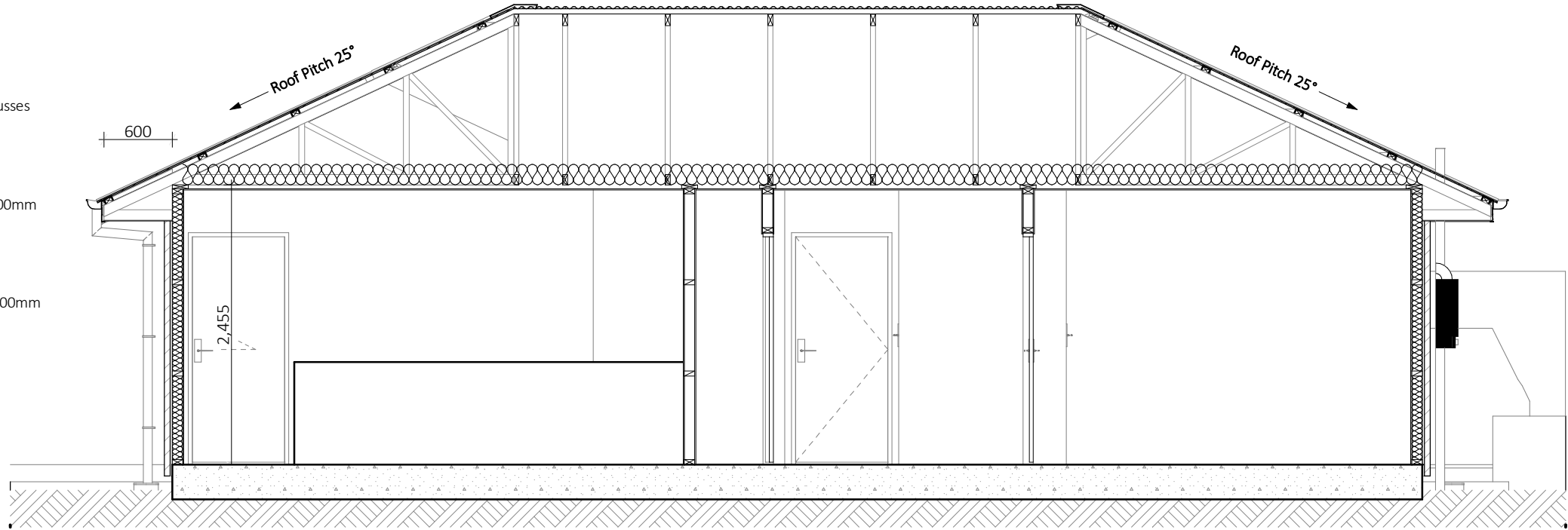
Total Glazing- 0.26
Selected colour powder-coated aluminium joinery with all glazing to comply with NZS 4223. (<30%) (Double Glazing)

(Total construction R-value taken from BRANZ Home Insulation Guide 5th ed.)



Section A

Scale 1:50



Section C

Scale 1:50

 Blackbell Homes	23 Lotus place	Rev	Date	Description	 Cross Section	Designer:	IT	Date Issued :	13/07/2021	SHEET: A4.01
		- R1	-06/04/2021	-Client Changes		Technician :	IT	Job Number:	21006	
		- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels		Approved :		Scale:		
		-	-	-		Status:	Detailed Design	Revision:	R2	
		-	-	-						

Foundations
- TC2 RIB RAFT (TBC)

Timber framing
- H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 800mm crs. max. (Check Cladding Requirements) (Refer to NZS3604 table 8.2)
- H1.2 treated SG8 90x45mm timber framing studs @ 600mm crs. max, Dwangs @ 600mm crs. max (Linea Oblique).

Bottom Plate Fixing
- Pryda Bottom Plate Anchors with 75x4mm dia. concrete nails adjacent to anchor 70mm min from edge of slab. as per manufacturers specifications. @ 900mm crs. max as per NZS3604:2011. Refer to bracing plan for additional hold down fixings.
- 75 x 8mm shot fired fastenings with 16mm washers @ 600mm crs within 150mm each end of plate.Refer to bracing plan for additional hold down fixings.

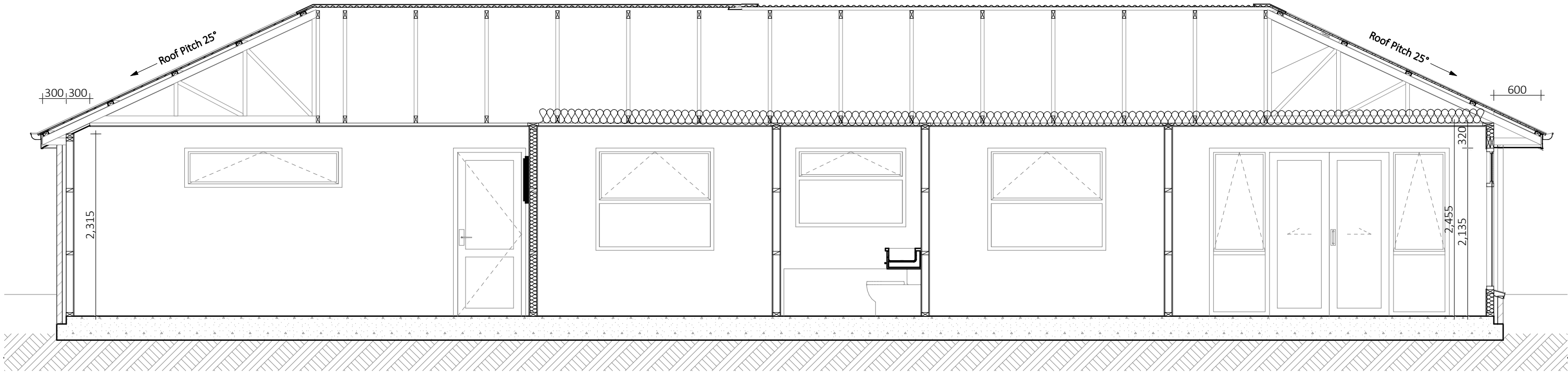
Roof Cladding/Construction
- 0.55 BMT Colorsteel Longrun Trimline on Self-supporting building underlay
- Prefabricated roof trusses @ 900mm crs max fix to top plate with 2/100 x 3.75mm skewed nails & 2/wiredogs each side in accordance to Manufacturer documents & producer statement.
- 70x45 H1.2 SG8 Purlins fixed to trusses/Rafter with 1/10g x 80mm self-drilling screw or 2/100 x 3.75mm skewed nails & 1/wiredog (Alt 2.4KN Fixing). Top & bottom purlins shall be @ 450mm crs & 450crs to body.

Spouting & Gutter/Soffit Lining
- Selected colorsteel Quad spouting (5550mm²) cross sectional area fix to 185 Colorsteel fascia
- 4.5mm James Hardie Soffit Lining

Building Wrap/Exterior Cladding
- Selected Building Wrap to external framing.
- Resene Integra 50mm ACC Panel over 20mm cavity system installed as per manufacturer's specifications
- James Hardie Vertical Linea Oblique over 20mm cavity system installed as per manufacturer's specifications.

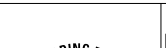
Wall & Ceiling Linings
- 10mm GIB plasterboard installed over timber framing as per manufacturer's specifications. GIB Aqualine to be used in wet areas.
- 13mm GIB plasterboard ceiling lining fix to 70x35 Timber Battens @ 600crs ,installed as per manufacturer's specifications.

Wall & Ceiling Insulation
- R2.6 Wall Insulation
- R3.6 Ceiling Insulation

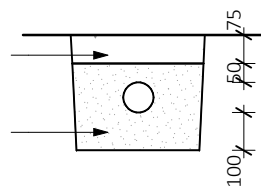


Section B

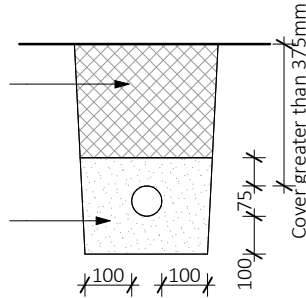
Scale 1:50

 Blackbell Homes	23 Lotus place	Rev	Date	Description	 Cross Section	Designer:	IT	Date Issued :	13/07/2021	SHEET: A4.02
		- R1	-06/04/2021	-Client Changes		Technician :	IT	Job Number:	21006	
		- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels		Approved :		Scale:	1:50	
		-	-	-		Status:	Detailed Design	Revision:	R2	
		-	-	-						

75mm 17.5 MPa thick concrete cover to pipe
Compacted granular bedding and surround, bedding compacted prior to laying pipes



Fill shall be:
Ordinary fill where drains are located below gardens and open country
Compacted selected fill where drains are located below residential driveways and similar areas subject to light traffic.
Compacted granular bedding and surround, bedding compacted prior to laying pipes

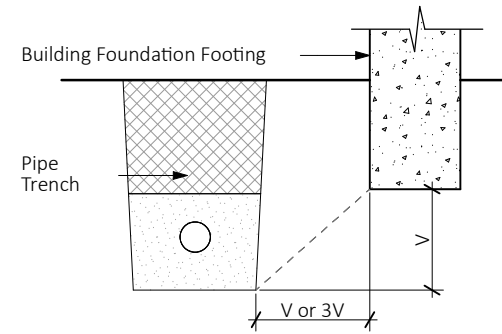
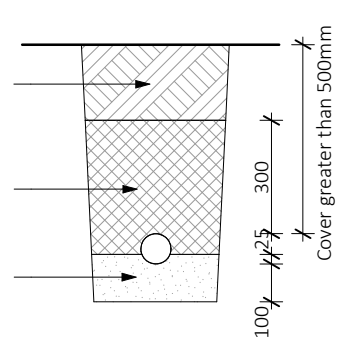


Bedding & Back Filling 125mm - 375mm cover

Bedding & Back Filling 375mm - 500mm cover

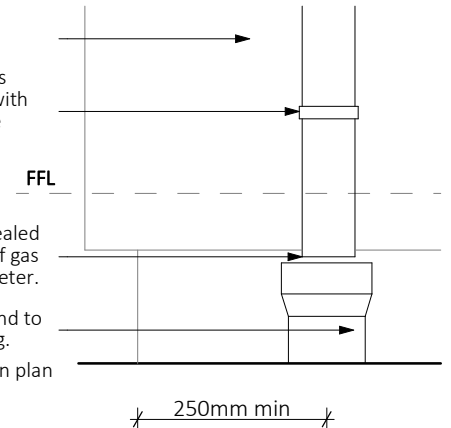
Bedding & Back Filling 500mm or more cover

Fill shall be:
Ordinary fill where drains are located below gardens and open country
Compacted selected fill where drains are located below residential driveways and similar areas subject to light traffic.
Compacted granular bedding and surround, bedding compacted prior to laying pipes



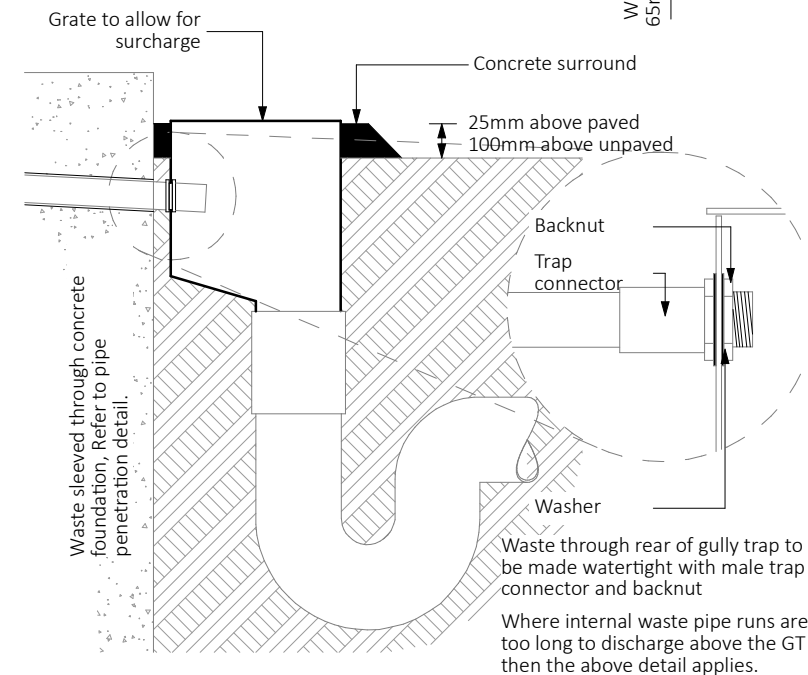
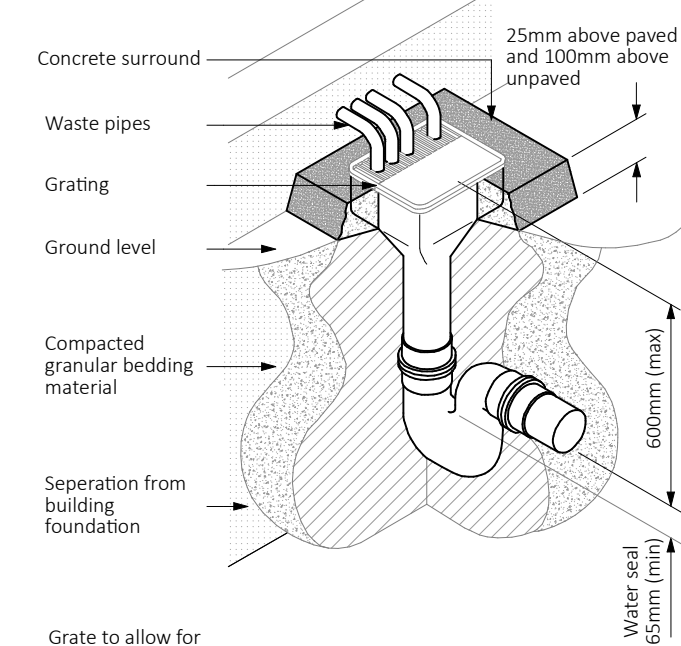
Minimum horizontal separation V.
(3V if trench is open longer than 48hrs).
Relationship of pipe trench to building foundation

Selected Cladding
Downpipe brackets fixed to Cladding with appropriate toggle fasteners.
Downpipe to be sealed if within 500mm of gas water heater or meter.
100Ø riser to extend to bottom of cladding.
Refer to foundation plan for location of downpipes.



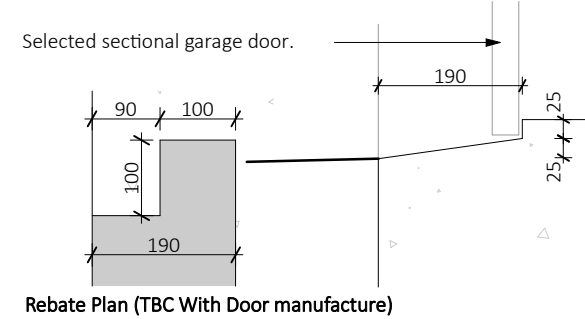
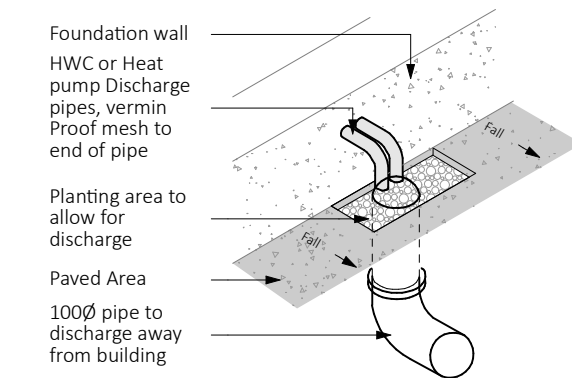
Bedding & Back Fill

Scale 1:20



Typical Gully Trap

Scale 1:50



190mm Garage Door Rebate

Scale 1:10

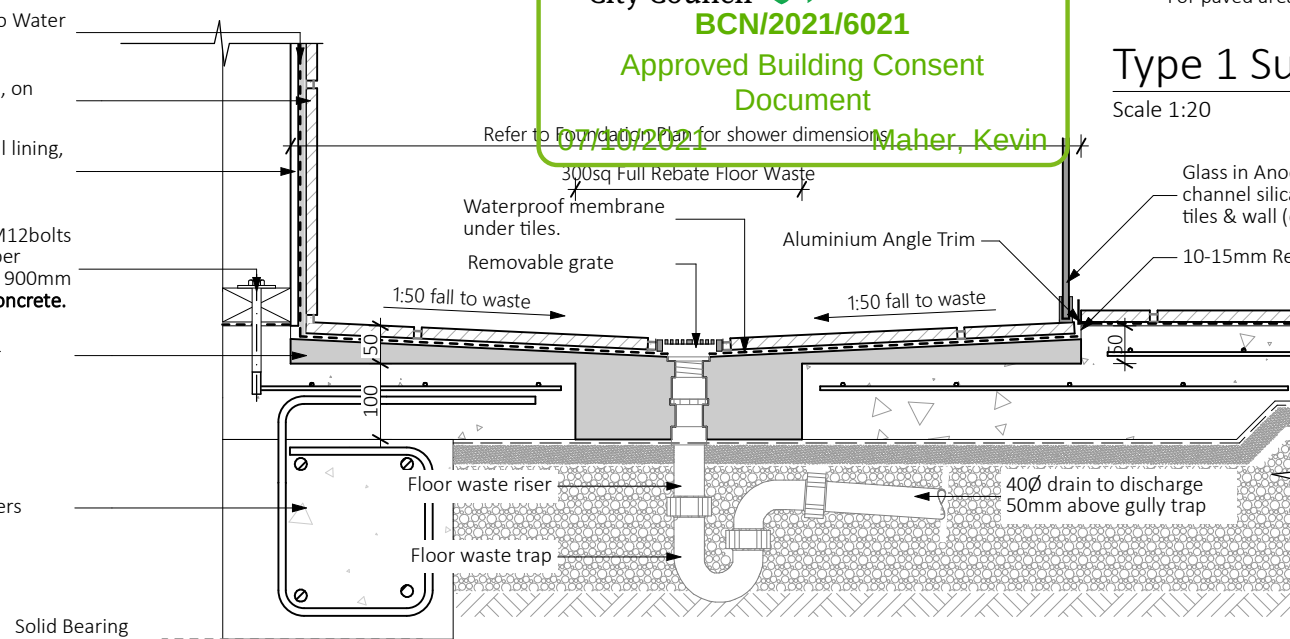
HWC Discharge Pipe to paved area

Scale 1:50

Ardex Water proof membrane to Water resistant wall lining
Ceramic tiles with grouted joints, on adhesive.
Tiles fixed to Water resistant wall lining, Studs @ 600crs max.
- Dwangs @ 600mm crs. max.
Bottom plate hold downs shall M12bolts on 50x50x3 Square Washer. as per manufacturers specifications. @ 900mm crs ,DPC between all timber & concrete.

10-15mm Rebate for tile shower

Foundation according to engineers

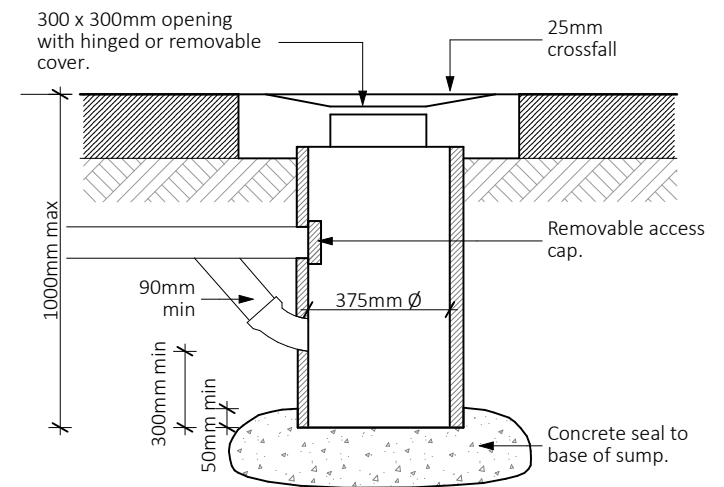


Tiled Shower Base Detail

Scale 1:10

Down Pipe Offset

Scale 1:10



For paved areas >80m² & <110m²

Type 1 Sump Detail

Scale 1:20



23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Plumbing & Drainage Details.



Designer:	IT	Date Issued :	13/07/2021	SHEET: A5.01
Technician :	IT	Job Number:	21006	
Approved :		Scale:	1:20, 1:50, 1:10	
Status:	Detailed Design	Revision:	R2	

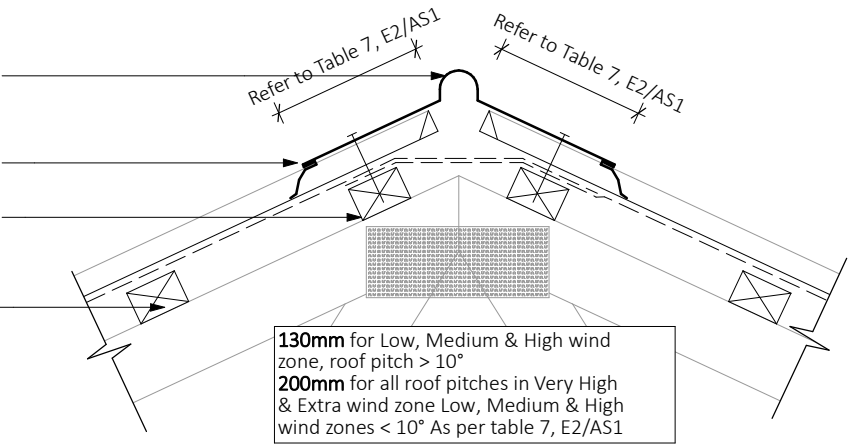
Subject to council approval. All measurements to be confirmed on site by the contractor prior to the commencement of work. No part of this work may be reproduced or copied in any form or by any means without the written permission of Blackbell Homes

Roofing manufacturers 0.55mm BMT rolled colour coated steel ridge flashing c/w malleable edge folded over profiles.

Selected Longrun coloursteel roofing

Building wrap overlapped at ridge.

70x45mm H1.2 treated SG8 purlins at 900mm crs max fixed to trusses with 1/10g x 80mm self-drilling screw.



Ridge Capping

Scale 1:10

Note:
For other ridge to hip flashings, refer to New Zealand Metal Roof and Wall Cladding code of practice.

Ridge flashing

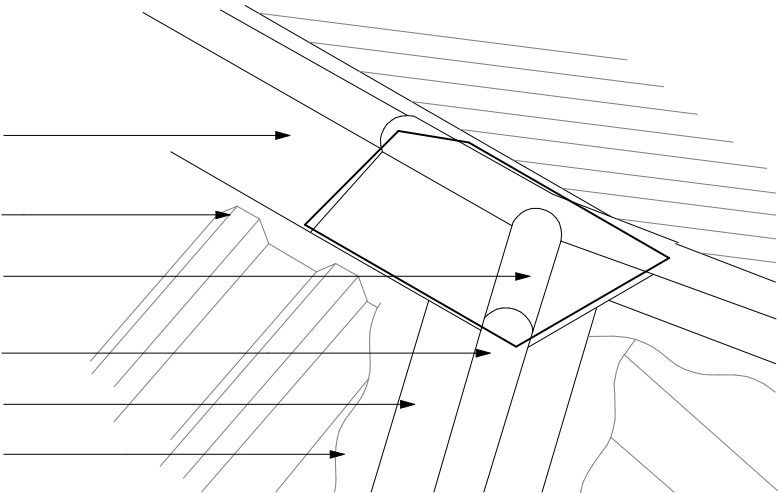
Soft edge dressed over corrugate

Butyl under-flashing to ridge and hip flashings.

Preformed 3-way roll cap or site made flashing

Hip flashing

Soft edge dressed over corrugate



Hip Junction

Scale 1:10

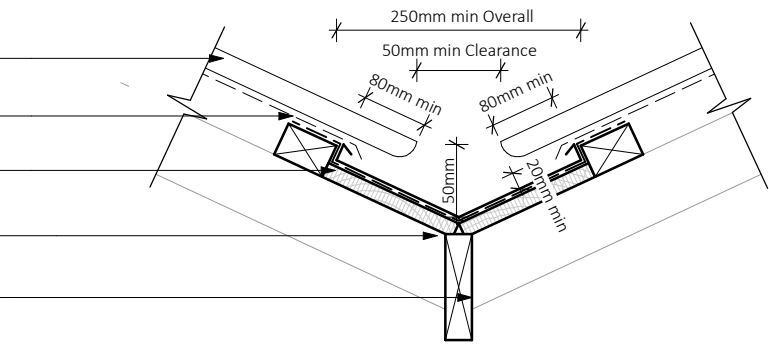
Selected Longrun coloursteel roofing

Self-supporting roof underlay

H1.2 Solid timber support for valley gutter

Roof wrap continuous under gutter if copper based treatments are used

Valley rafter



Note:
(1) Refer to AS ES/AS1 Table 8 for maximum roof catchment areas for valley gutters.
(2) Minimum width of valley gutter may reduce to 160mm, providing roof catchment area is in accordance with AS ES/AS1 Table 8. In case, cover of roof cladding over gutter shall be reduced to 60mm to provide a clearance gap of 40mm.

Valley Gutter

Scale 1:10

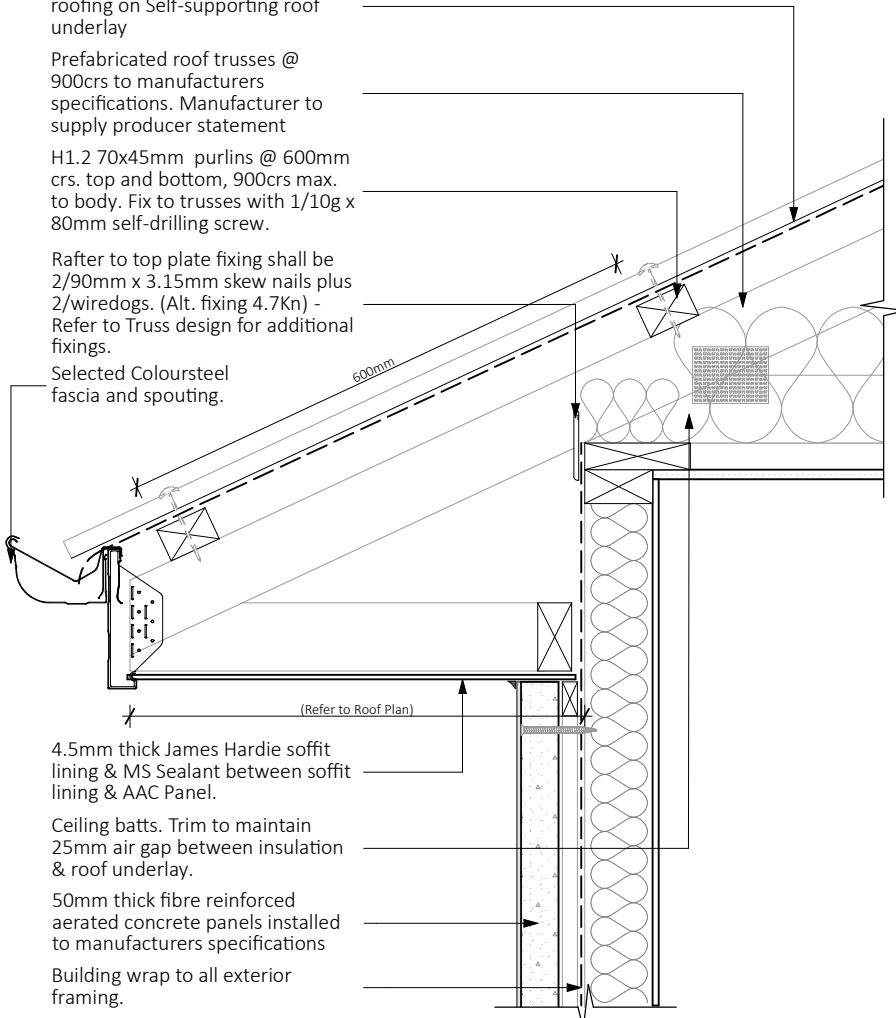
Selected longrun coloursteel roofing on Self-supporting roof underlay

Prefabricated roof trusses @ 900crs to manufacturers specifications. Manufacturer to supply producer statement

H1.2 70x45mm purlins @ 600mm crs. top and bottom, 900crs max. to body. Fix to trusses with 1/10g x 80mm self-drilling screw.

Rafter to top plate fixing shall be 2/90mm x 3.15mm skew nails plus 2/wiredogs. (Alt. fixing 4.7Kn) - Refer to Truss design for additional fixings.

Selected Coloursteel fascia and spouting.



4.5mm thick James Hardie soffit lining & MS Sealant between soffit lining & AAC Panel.

Ceiling batts. Trim to maintain 25mm air gap between insulation & roof underlay.

50mm thick fibre reinforced aerated concrete panels installed to manufacturers specifications

Building wrap to all exterior framing.

Typical Eaves Detail

Scale 1:10

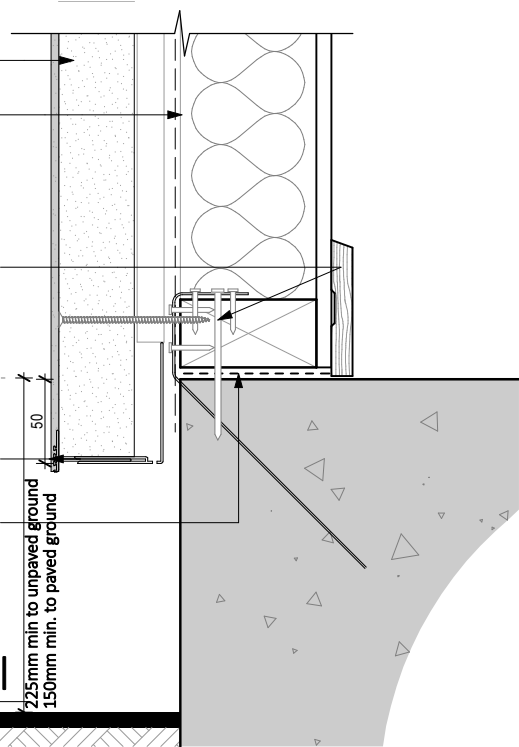
50mm thick fibre reinforced aerated concrete panels installed to manufacturers specifications.

Building wrap to external framing

Bottom plate hold downs shall be Pryda Bottom Plate Anchors with 75 x 4mm dia. concrete nails adjacent to anchor 70mm min from edge of slab. as per manufacturers specifications. @ 900mm crs. max as per NZS3604:2011. Refer to supporting documents for further hold down requirements relating to each individual bracing element.

uPVC Rockcote ventilated starter track

DPC between all timber & concrete.



Typical Base Detail

Scale 1:5

NOTE:

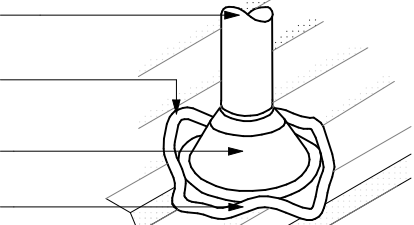
(1) Max. roof pitch for flashing 45°, minimum pitch 10° if base of flange covers one or more complete troughs.
(2) For pipes up to 85mm dia.

Pipe

Malleable flange screw or rivet fixed, and sealed to roofing profile. Fit neoprene washers to all screw fixings.

EPDM flexible cone sleeve

Flashing fixed diagonally to roofing profile to minimise holding of discharge water.



Roof Penetration Detail

Scale 1:10

Selected longrun coloursteel roofing over self-supporting roof underlay

H1.2 70x45mm purlins @ 600mm crs. top and bottom, 900crs max. to body. Fix to trusses with 1/10g x 80mm self-drilling screw.

Selected coloursteel barge flashing with kick out

Selected coloursteel barge

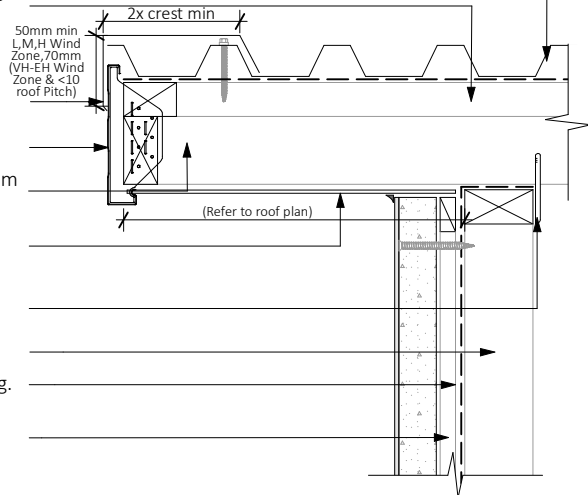
H1.2 90x45mm outriggers @ 900mm crs max
4.5mm thick James Hardie soffit lining MS Sealant between soffit lining & AAC Panel.

Wire-dog fixing outrigger to top chord of gable end framing

Gable end framing

Building wrap to all exterior framing.

50mm thick AAC panel on 20mm cavity, installed to manufacturers specifications.



Typical Barge

Scale 1:10

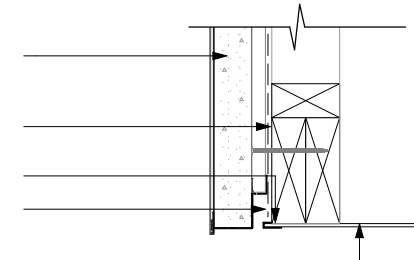
50mm thick fibre reinforced aerated concrete panels installed to manufacturers specifications

Building wrap to all exterior framing.

Upvc J Mould

Cavity Closure

4.5mm thick James Hardie soffit lining.



Covered Area Detail

Scale 1:10



23 Lotus place

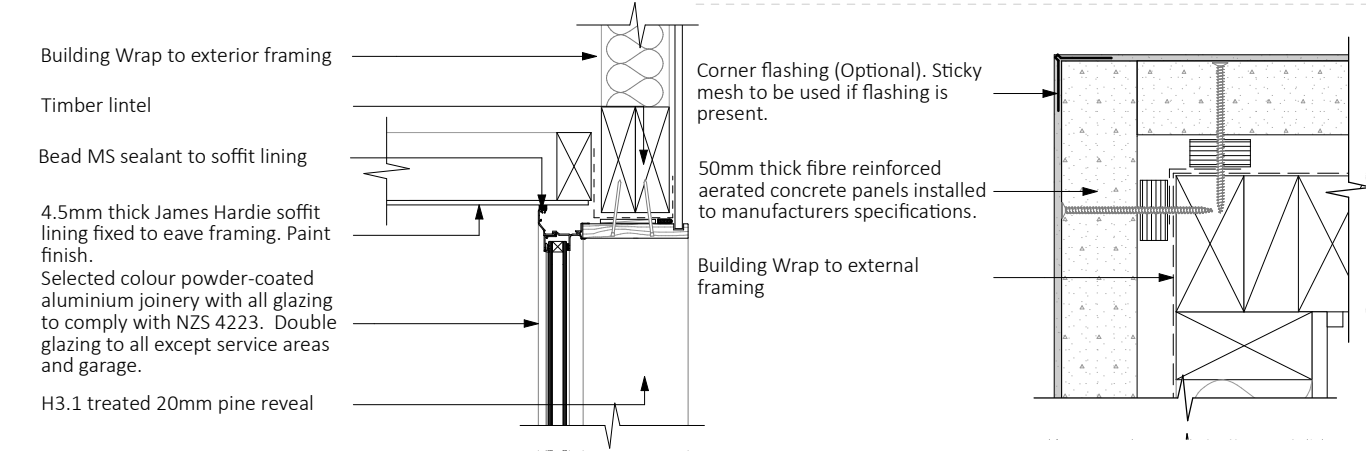
For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Typical Roof Details

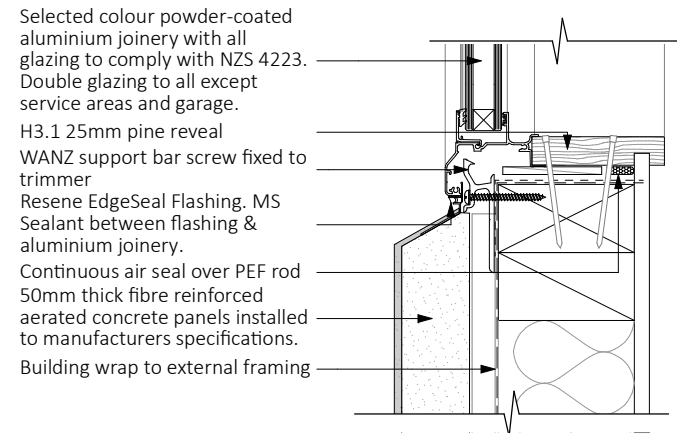


Designer:	IT	Date Issued :	13/07/2021	SHEET: A5.02
Technician :	IT	Job Number:	21006	
Approved :		Scale:	1:10, 1:5	
Status:	Detailed Design	Revision:	R2	



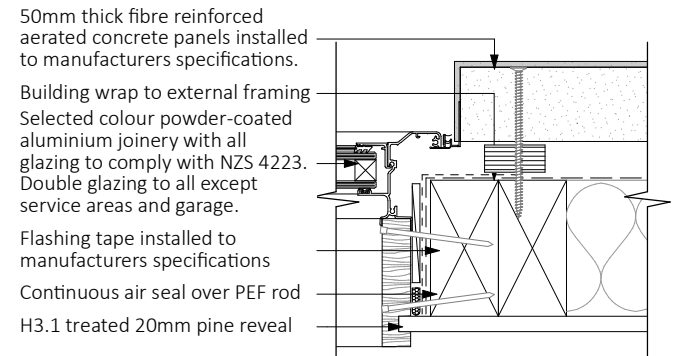
Typical joinery To Soffit

Scale 1:10



Window Jamb

Scale 1:5

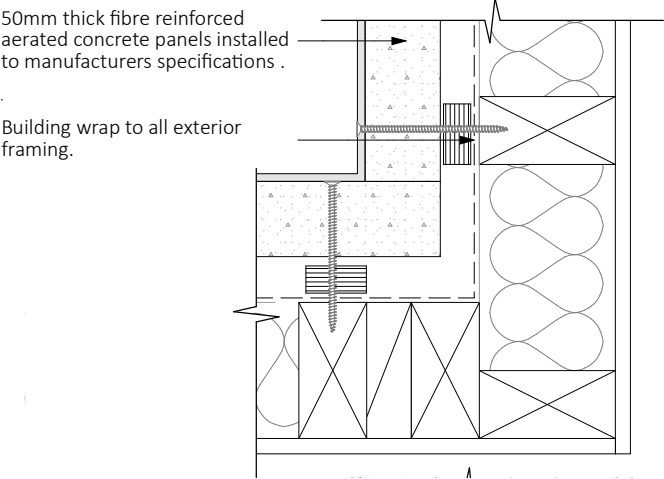


Window Sill

Scale 1:5

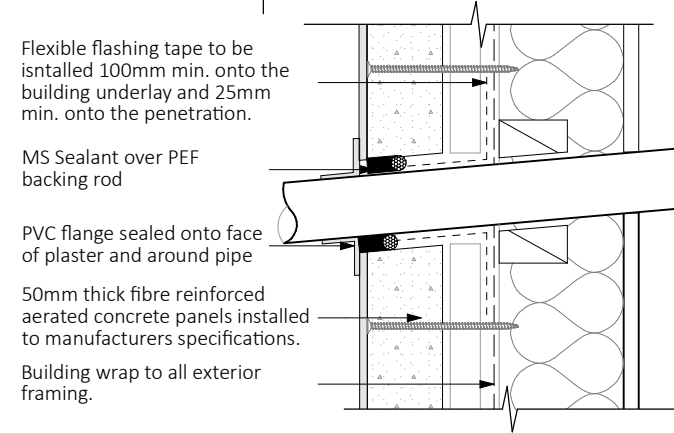
External Corner Details

Scale 1:5



Internal Corner Details

Scale 1:5

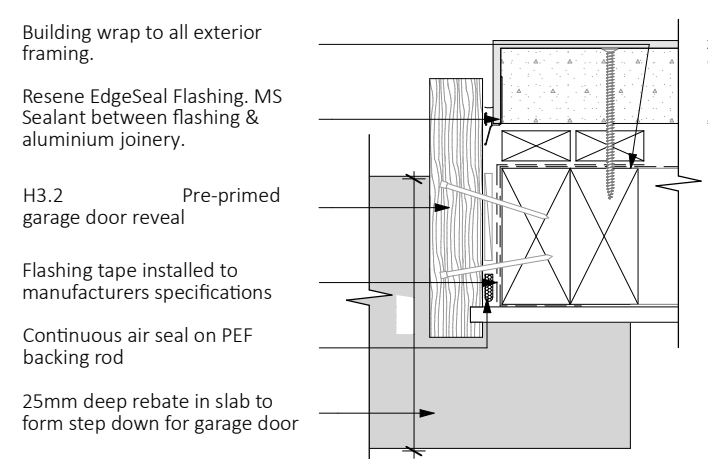


Pipe Penetration Details

Scale 1:5

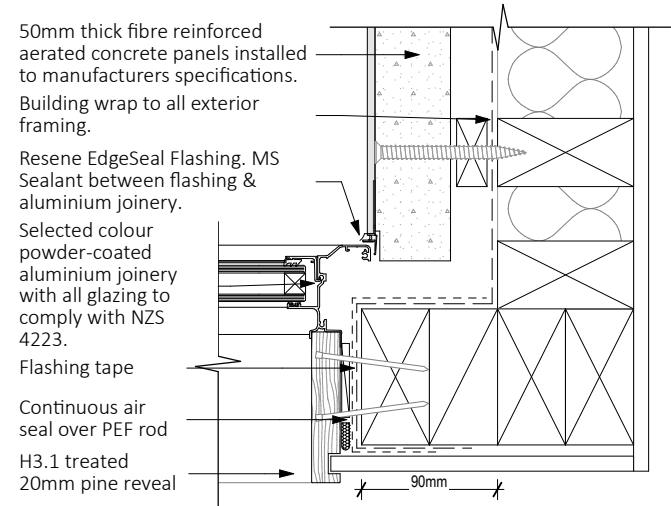
Garage door Head to soffit Detail

Scale 1:10



Garage Door Jamb

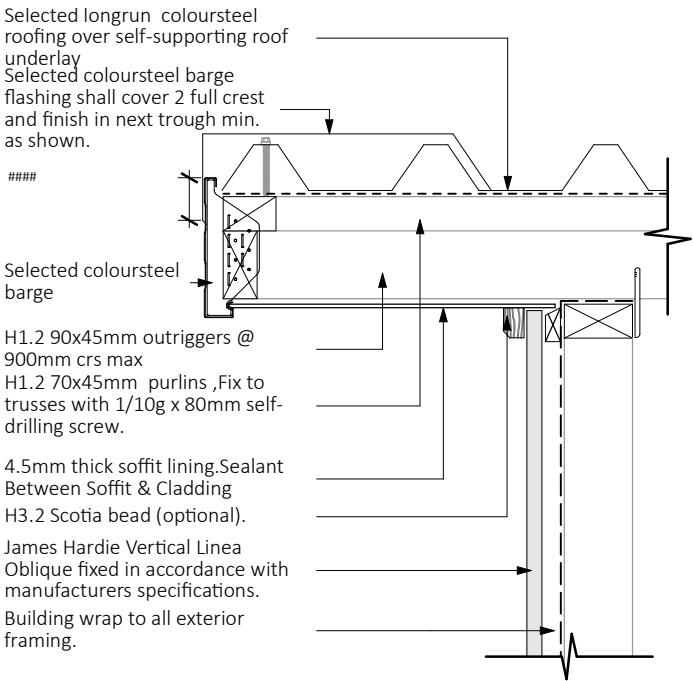
Scale 1:5



Window joinery

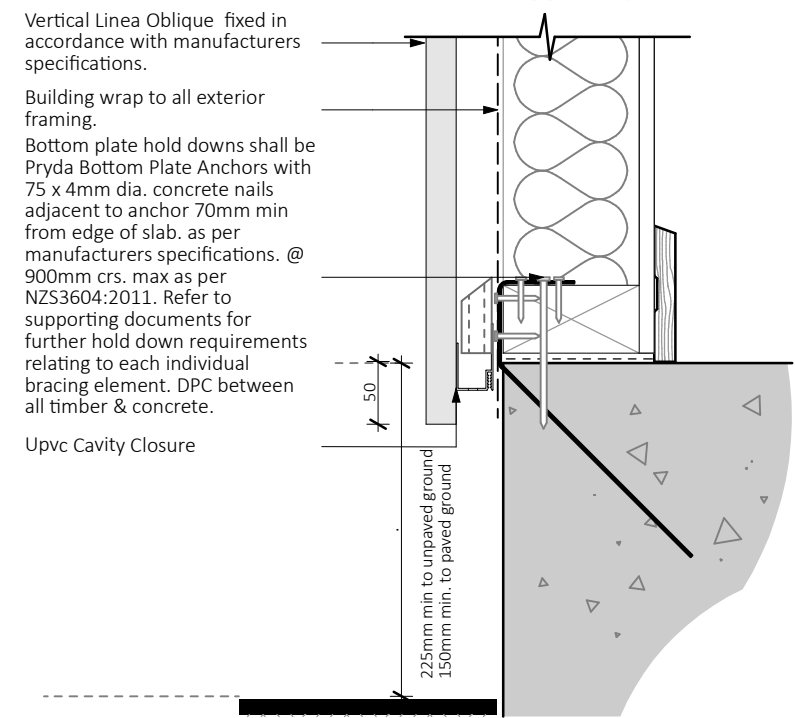
Scale 1:5

 Blackbell Homes	23 Lotus place	Rev	Date	Description		Designer:	IT	Date Issued :	13/07/2021	SHEET: A5.03
		- R1	-06/04/2021	-Client Changes		Technician :	IT	Job Number:	21006	
		- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels		Approved :		Scale:	1:10, 1:5	
		-	-	-		Status:	Detailed Design	Revision:	R2	
		-	-	-						
	For TBC (Black Bell Homes) 23 Lotus Place, Wigram, Christchurch									



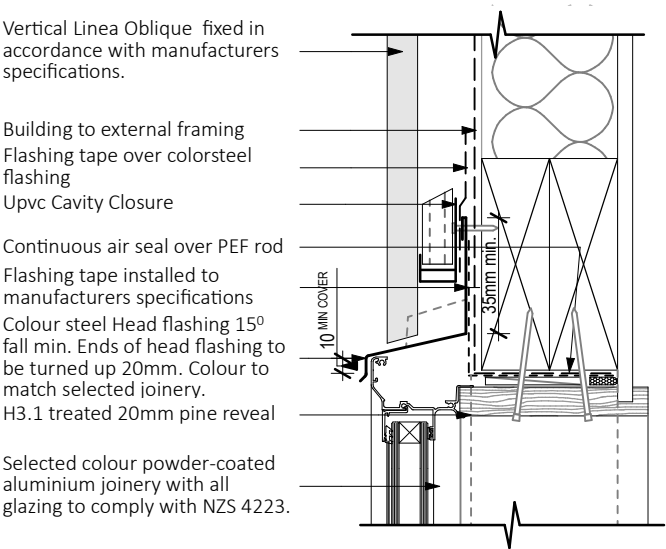
Typical Barge Details

Scale 1:10



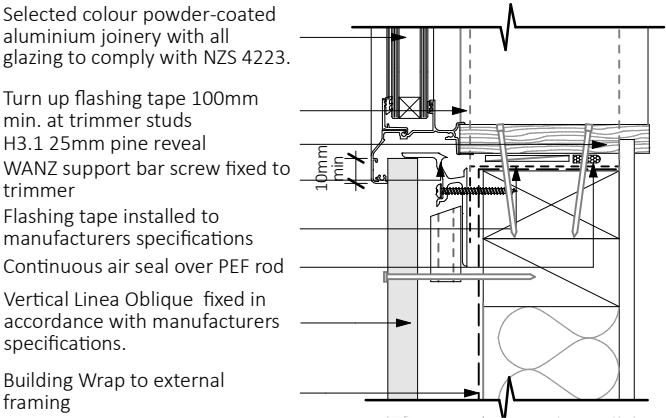
Cladding Base Detail

Scale 1:5



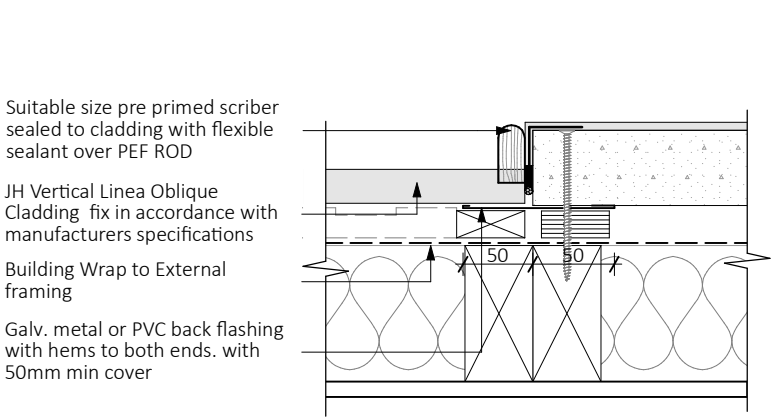
Window Head

Scale 1:5



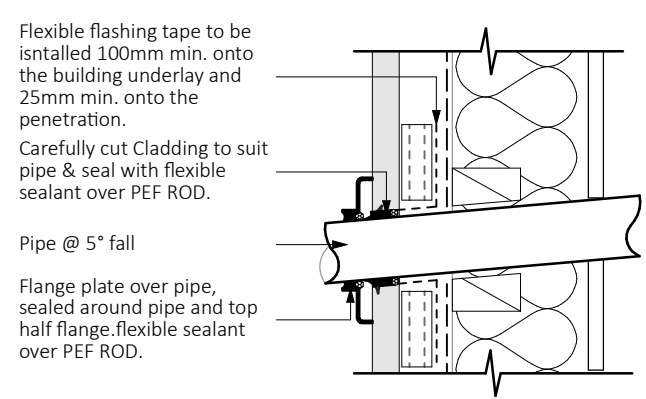
Window Sill

Scale 1:5



Cladding Junction

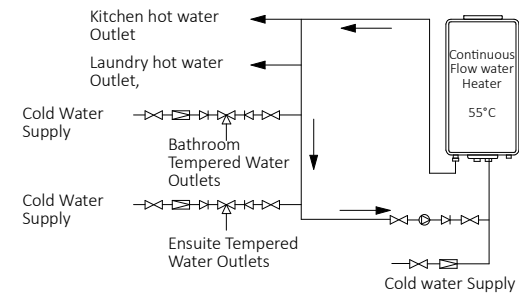
Scale 1:5



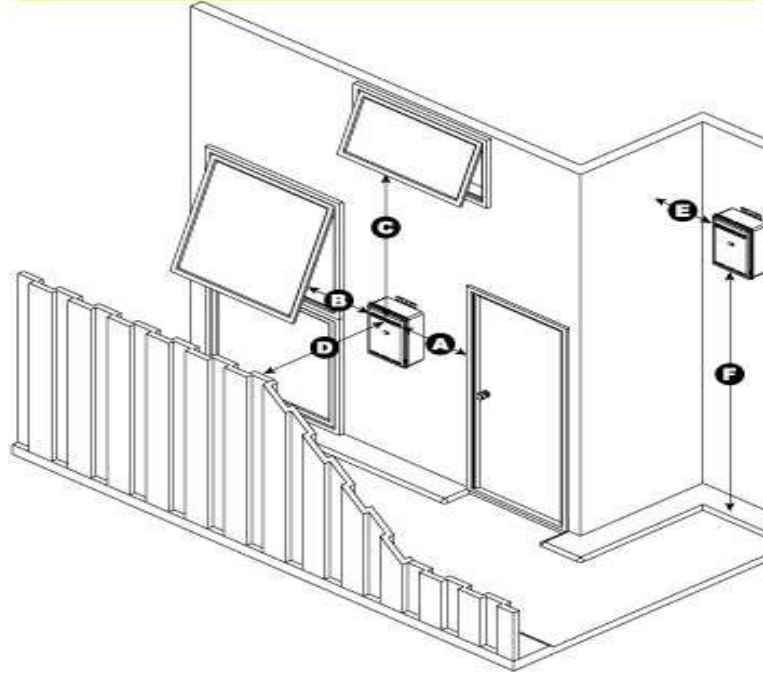
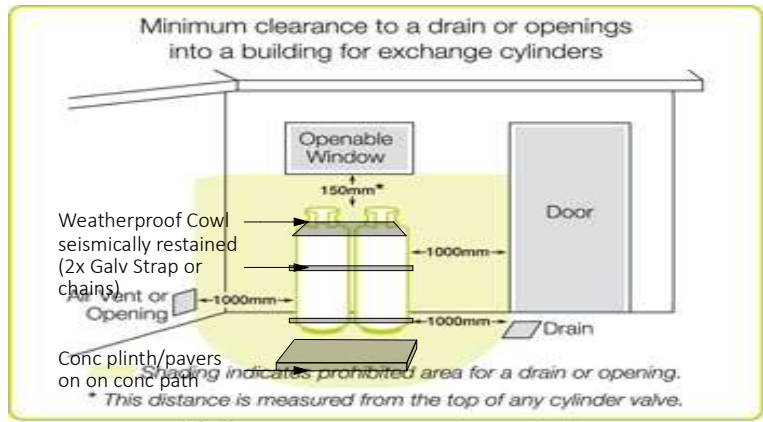
Pipe Penetration Details

Scale 1:5

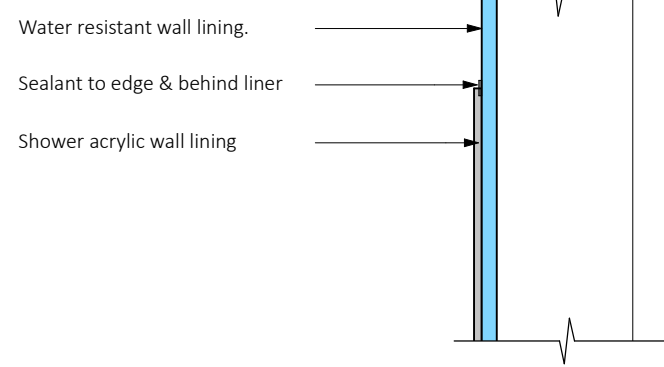
Blackbell Homes	23 Lotus place	RevDateDescription - R1-06/04/2021-Client Changes - R2-18/06/2021-Client Changes, amending cladding to 50mm AAC panels - - - - - - - - - - - -	Cladding Details	LICENSED BUILDING PRACTITIONER BUILDING CONFIDENCE	Designer: IT	Date Issued : 13/07/2021	SHEET:
					Technician : IT	Job Number: 21006	
					Approved :	Scale: 1:5, 1:10	
					Status: Detailed Design	Revision: R2	
							A5.04



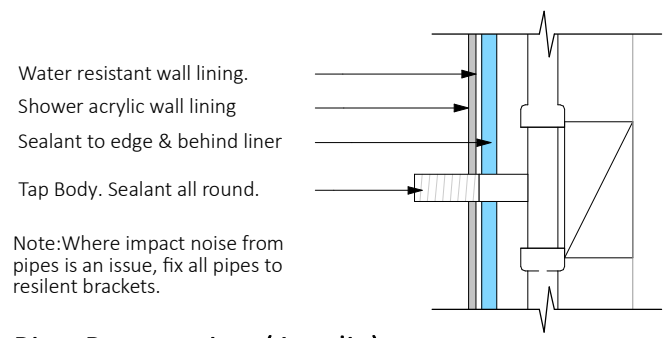
Gas Water Schematic Diagram



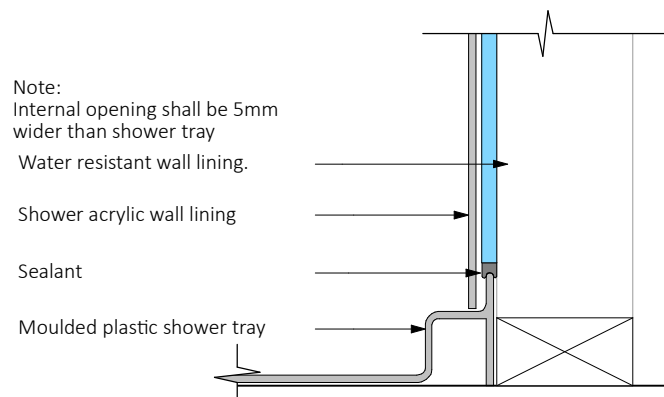
Dimension	Infinity VT models Infinity HD200 models Infinity EF models	Infinity HD250 mod
A	Min. 300 mm	Min. 500 mm
B	Min. 300 mm	Min. 500 mm
C	Min. 1.5 m	Min. 1.5 m
D	Min. 500 mm	Min. 500 mm
E	Min. 300 mm	Min. 300 mm
F	Min. 300 mm	Min. 300 mm
G	Min. 300 mm	Min. 300 mm



Acrylic Shower lining Junction

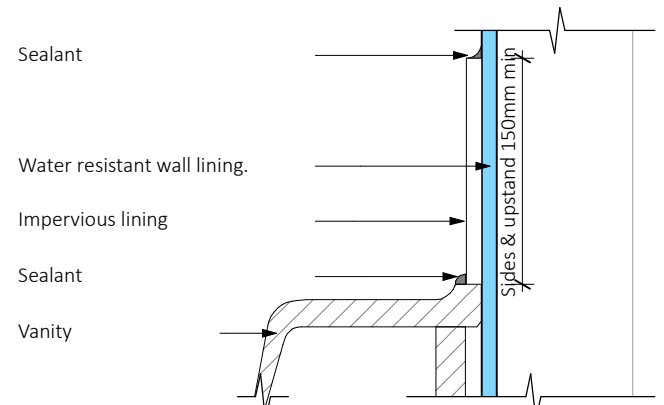


Pipe Penetration (Acrylic)



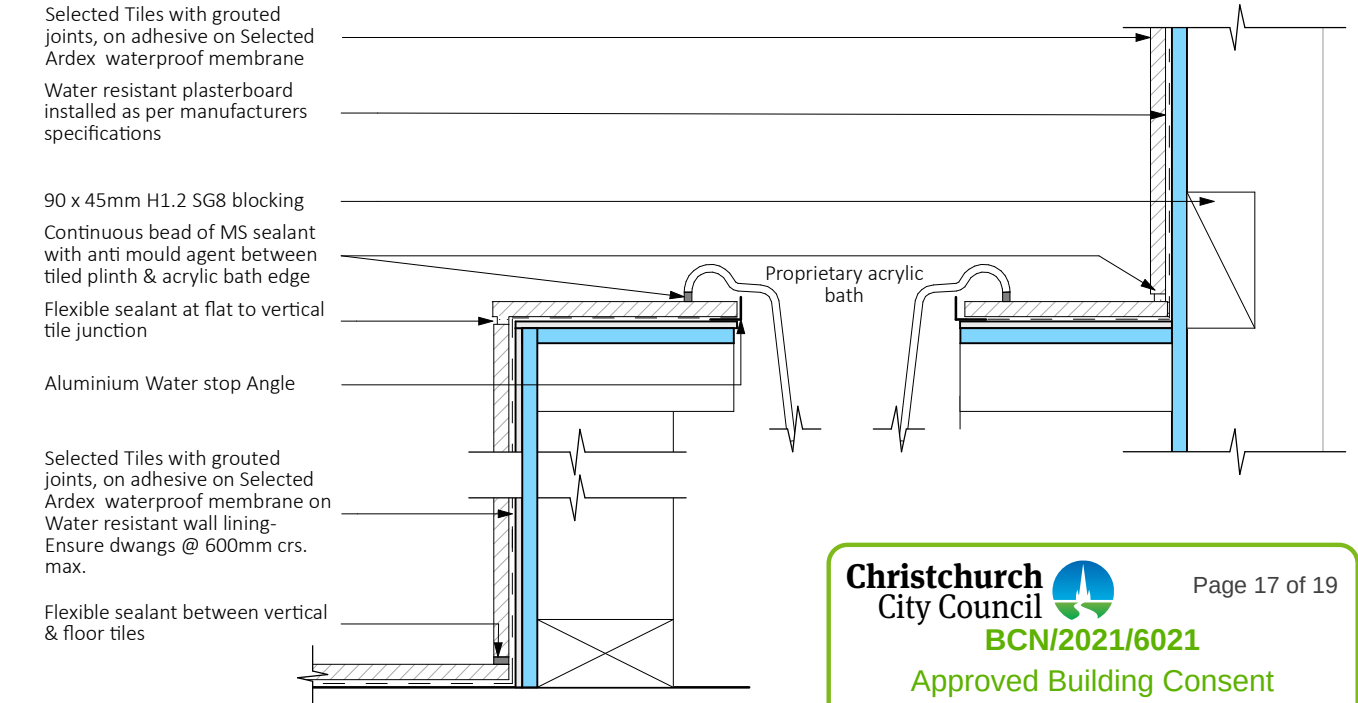
Acrylic Shower Details

Scale 1:5



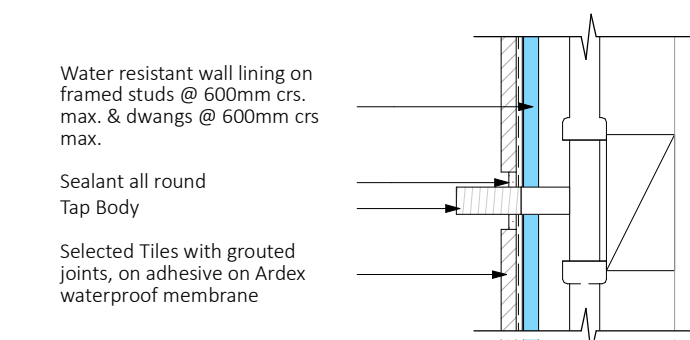
Vanity to wall Details

Scale 1:5



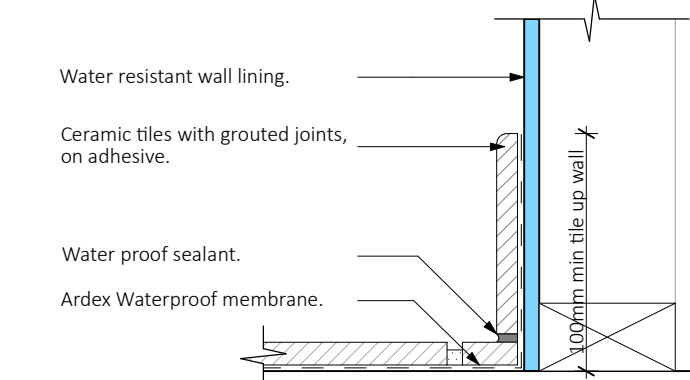
Acrylic Bath Detail

Scale 1:5



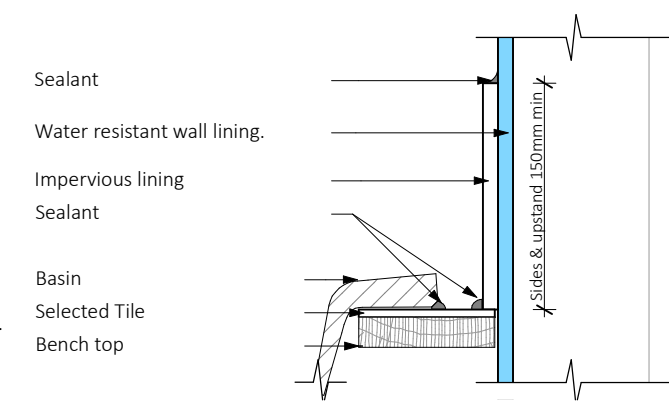
Tiled Shower Pipe Penetration

Scale 1:5



Tiled Floor to wall

Scale 1:5



Basin to wall Details

Scale 1:5

Christchurch City Council

BCN/2021/6021

Approved Building Consent Document

07/10/2021

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Maher, Kevin

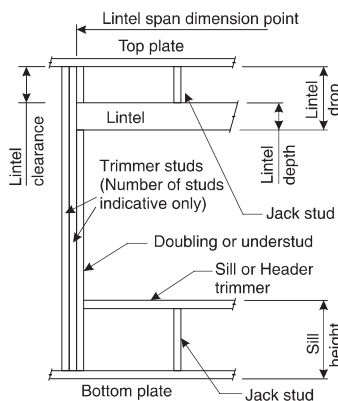
Subject to council approval. All measurements to be confirmed on site by the contractor prior to the commencement of work. No part of this work may be reproduced or copied in any form or by any means without the written permission of Blackbell Homes

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.

DEFINITIONS



Lintel Supporting Girder Trusses:

Roof Tributary Area	Light Roof				Heavy Roof			
	Wind Zone				Wind Zone			
	L	M	H	VH	L	M	H	VH
8.6 m²	G	G	H	H	G	G	H	H
11.6 m²	G	H	H	H	G	H	H	H
12.1 m²	G	H	H	H	G	H	H	H
15.3 m²	H	H	-	-	G	H	H	-
19.1 m²	H	-	-	-	G	H	-	-
20.9 m²	H	-	-	-	H	H	-	-
21.8 m²	H	-	-	-	H	-	-	-
34.3 m²	-	-	-	-	H	-	-	-

Notes:

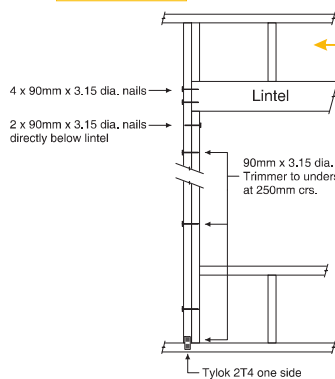
- 1) Roof Tributary Area = approx. 1/2 x (Total roof area on girder and rafter trusses supported by lintel)
- 2) Assumed girder truss is at mid-span or middle third span of lintel
- 3) Use similar fixings for both ends of lintel
- 4) All other cases require specific engineering design

SELECTION CHART FOR LINTEL FIXING

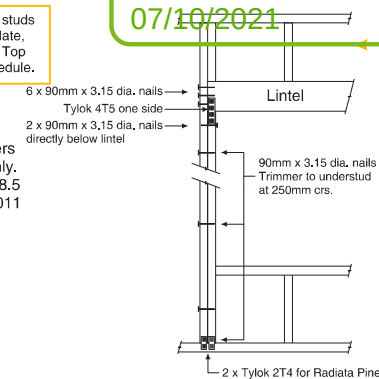
Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:2011)	Light Roof				Heavy Roof			
		Wind Zone				Wind Zone			
		L	M	H	VH	L	M	H	VH
0.7	2.0	E	E	E	E	F	E	E	E
	3.0	E	E	E	F	F	E	E	F
	4.0	E	E	F	F	F	E	E	F
	5.0	E	F	F	F	G	E	F	F
	6.0	E	F	F	G	G	E	F	G
0.9	2.0	E	E	E	F	F	E	E	F
	3.0	E	E	F	F	F	E	E	F
	4.0	E	E	F	F	F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

LINTEL FIXING OPTIONS

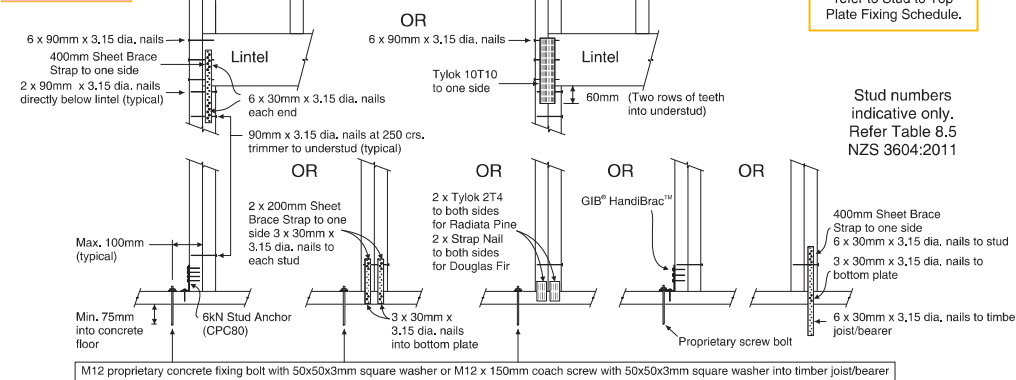
TYPE E 1.4 kN



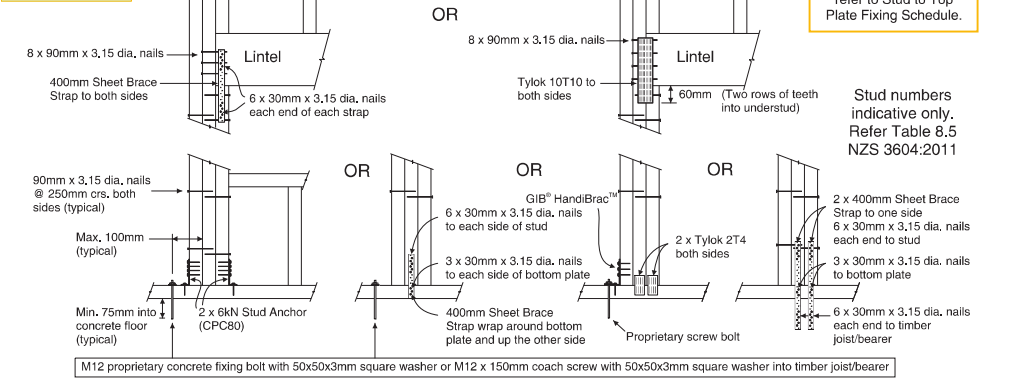
TYPE F 4.0 kN



TYPE G 7.5 kN



TYPE H 13.5 kN



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Prefabricated truss
Wire dogs either side of trusses connecting to top plate (**not Doubling Top Plate**) unless other fixing is specified on truss layout
Ceiling plate
Nail plate
Top plate
Timber lintel
25mm sheet strap with 6/30x2.5mm product nails into both lintel and stud
Fix studs together with 100 x 3.75mm nails at 600crs. with 2/100 x 3.75 mm immediately under the lintel

Doubling stud to be continuous between the bottom plate and the underside of the lintel

Dowel or bolt plate to slab within 150 of stud (**only required if no Bottom Plate Anchors down are with 150mm.**)

25 x 1 mm strap taken under plate and 150 up each side of stud, with 6/30mm x 2.5 mm dia. nails into each side of stud

Concrete slab

Typical Lintel Fixing - To Conc Slab

Scale 1:20



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23 Lotus place

For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch

Rev	Date	Description
- R1	-06/04/2021	-Client Changes
- R2	-18/06/2021	-Client Changes, amending cladding to 50mm AAC panels
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Lintel Fixing Details



Designer:	IT	Date Issued :	13/07/2021	SHEET: A5.06
Technician :	IT	Job Number:	21006	
Approved :		Scale:	1:20, 1:1.36	
Status:	Detailed Design	Revision:	R2	

Site Wind Zone: High Wind Zone
(Confirm flashing with Table below)

Amend 5 Aug 2011 1 August 2011 DEPARTMENT OF BUILDING AND HOUSING

Table 7: Metal flashings-- general dimensions
Paragraphs 4.6, 4.6.1.1, 4.6.1.2, 4.6.1.3, 4.6.1.4, 4.6.1.5, 4.6.1.6, 4.6.1.7, 5.1, 6.4, 6.5, 7.4.4, .9.1.3, 9.1.10.2, 9.1.10.4 and 9.4.5.3

Type	Description	All (1)	Situation 1 (2) minimum mm	Situation 2 (3) minimum mm	Situation 3 (3a) minimum mm	Figure reference (as example)
Aprons: general	Transverse flashing over roofing		130 (4)	200 (4)	200 mm	Figure 7 and Figure 44 (X values)
	Parallel flashing over roofing		Two crests finish in next trough-- refer 4.6.1.1b)			Figures 47, 48 (Y values)
Ridges/ hips	Transverse flashing over roofing		Refer Aprons: general			Figures 43, 45b, 46
Changes in roof pitches	Upper lap under roofing	250 mm min.			Not permitted under E2/AS1	Figure 44
	Transverse flashing over roofing		Refer Aprons: general			
Barges	Overlap to barge board		50 (8)	70 (8)	90 mm	Figure 47 (Z values)
Cappings	Overlaps to cladding		50 (8)	70 (8)	90 mm	Figure 10 (Z values)
	Slope to top: parapet and balustrade -- metal capping	5° min.				Figures 10, 11, 12, 130
	Slope to balustrade -- flush-finished EIFS and fibre cement(5)	10° min.				Figures 117, 129, 130
Roof or Deck to Wall	Overlaps to roofing		Refer Aprons: general			
-- See membranes below	Lap under cladding above	75 mm min.			90 mm	Figures 7, 26, 30, 35, 37, 44, 48, 50
	Clearance below cladding	35 mm min.				
	Total upstand	110 mm min.				

Amend 2 Jul 2005

Table 7: continued Metal flashings-- general dimensions
Paragraphs 4.6, 4.6.1.1, 4.6.1.2, 4.6.1.3, 4.6.1.4, 4.6.1.5, 4.6.1.6, 4.6.1.7, 5.1, 6.4, 6.5, 7.4.4, .9.1.3, 9.1.10.2, 9.1.10.4 and 9.4.5.3

Membrane roofs and decks	Lap under cladding above	115 min.				Figures 18, 62a, c, 64b
Type	Description	All (1)	Situation 1 (2) minimum mm	Situation 2 (3) minimum mm	Situation 3 (3a) minimum mm	Figure reference (as example)
Windows	Window flange clearance for direct fixed claddings and ply or fibre cement on cavities	5 mm				Eg. Figure 81
	Cover to window/ door jamb flange	10 mm(7) min.				Eg. Figure 81c
	Cover to window/ door sill flange	8 mm(7) min.				Eg. Figure 81c
Sills	Sill flashing slope (6)	Flat(6)				Eg. Figures 72a, 81b
Heads	Head flashings slope	15° min.				Eg. Figure 81a
	Lap under cladding above	35 mm min.			60 mm	Eg. Figure 81a
	Anti-capillary gap to cladding	5 mm				Eg. Figure 81a
	Total upstand	40 mm min.				
Corners	Corner flashings (1)	50 mm x 50 mm minimum			75 x 75 mm	Eg. Figure 79
Inter-storey junctions	Junction flashings: slope	15° min.				Figure 70
	Lap over cladding below (1)	35 mm min.(8)			60 mm	
	Lap under cladding above	35 mm min.			60 mm	
	Clearance under cladding	5 mm min.				
	Total upstand	40 mm min.				

- NOTES: (1) Unless otherwise dimensioned in details.
(2) Situation 1: Low, Medium, High wind zones , where roof pitch > 10° (X or Z values)
(3) Situation 2: All roof pitches in Very High wind zones , Low, Medium and High wind zones where roof pitch < 10°. (X or Z values)
(3a) Situation 3: For all roof pitches in Extra High wind zone .
(4) Excluding any soft edge or turn-down to roofing.
(5) For buildings other than housing, slope shall be as per F4/AS1.
(6) For direct fixed window/doors, unless shown. Sill flashing must extend past the condensation channel. Ensure sill flashings are not installed with backwards slope.
(7) Excluding drip edge .
(8) Excluding drip edge .

Blackbell Homes logo and name.
23 Lotus place
For TBC (Black Bell Homes)
23 Lotus Place, Wigram, Christchurch
Rev Date Description
-R1 -06/04/2021 -Client Changes
-R2 -18/06/2021 -Client Changes, amending cladding to 50mm AAC panels
Flashing Tape 7 E2/NZBC
Licensed Building Practitioner logo
Designer: IT
Technician : IT
Approved :
Status: Detailed Design
Date Issued : 13/07/2021
Job Number: 21006
Scale: 1:50
Revision: R2
SHEET: A5.07