

BRASH LIMITED
16 JESSIE STREET
PETONE

Site Development
25 Wainuiomata Road
Wainuiomata

DRAWINGS

<u>Page No</u>	<u>Description</u>	<u>Scale</u>
Page 1	Proposed Site Plan	1:200
Page 2	Site Services Plan	1:200
Page 3	Houses 1 & 2 Floor & Dimension Plans	1:100
Page 4	Houses 1 & 2 Electrical, Services & Floor Coverings Plans	1:100
Page 5	Houses 1 & 2 Concrete Slab, Wall Bracing & Roofing Plans	1:100
Page 6	Houses 1 & 2 Cross Section A-A	1:40
Page 7	Houses 1 & 2 Cross Section B-B	1:25
Page 8	House 3 Floor & Dimension Plans	1:100
Page 9	House 3 Foundation Plan & Wall Bracing Plan	1:100
Page 10	House 3 Electrical & Services Plans	1:100
Page 11	House 3 Wall Bracing & Roofing Plans	1:100
Page 12	House 3 Cross Section C-C	1:40
Page 13	House 3 Cross Section D-D	1:40
Page 14	Typical Cross Section Details	as shown
Page 15	Typical Window Flashing Details	1:5
Page 16	Exterior Sliding Door Flashing Details	1:5
Page 17	Houses 1 & 2 Exterior Elevations	1:100
Page 18	House 3 Exterior Elevations	1:100
Page 19	Window Schedule	1:50
Page 20	Door Schedule	1:5
Page 21	Hot Water Cylinder Restraint Information	N.T.S.
Page 22	Lintel Fixing Information	N.T.S.



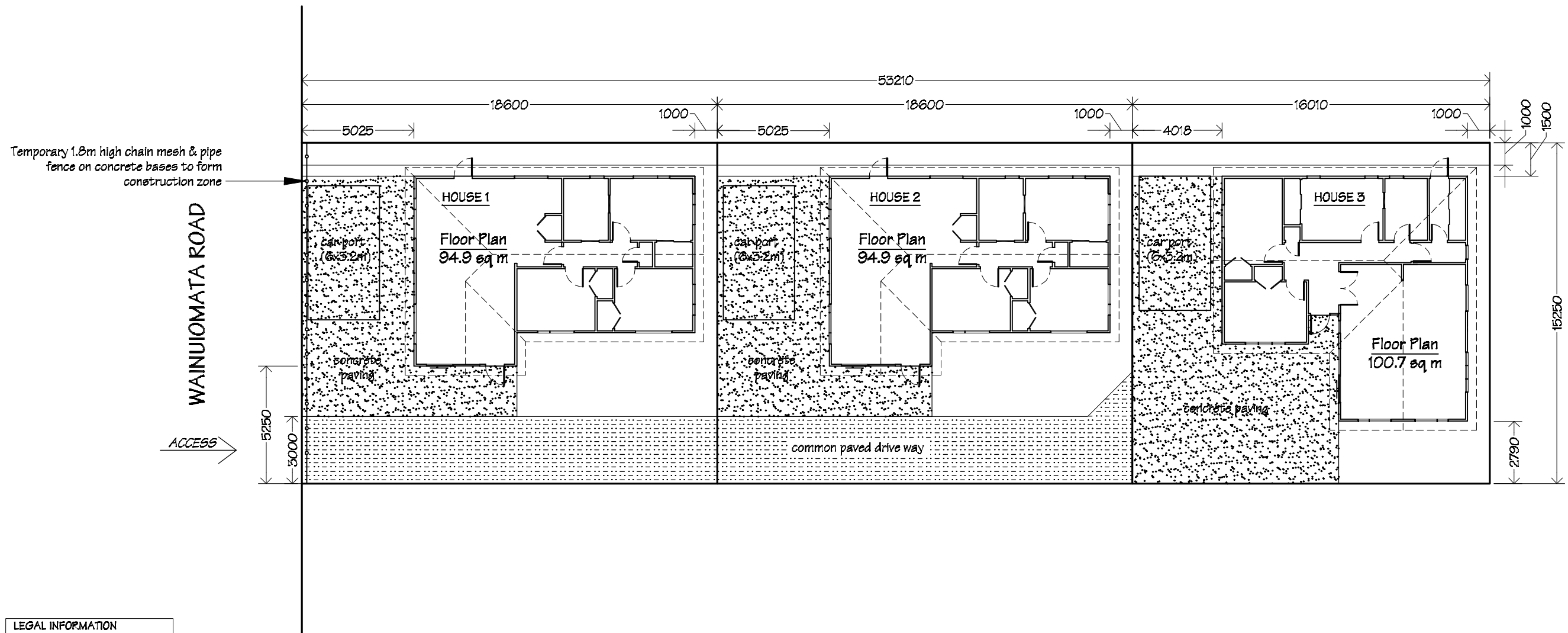
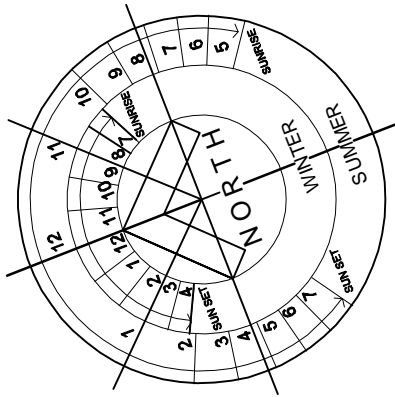
IR Group Ltd

Design • Project Management • Planning

Phone- Office 04 526-7711
Mobile- Ian 021-427.347
Mobile- Stephen 027-3355889
Email- ian@irgroup.co.nz
steve@irgroup.co.nz
Web- www.irgroup.co.nz


Issue Date
20-02-2017

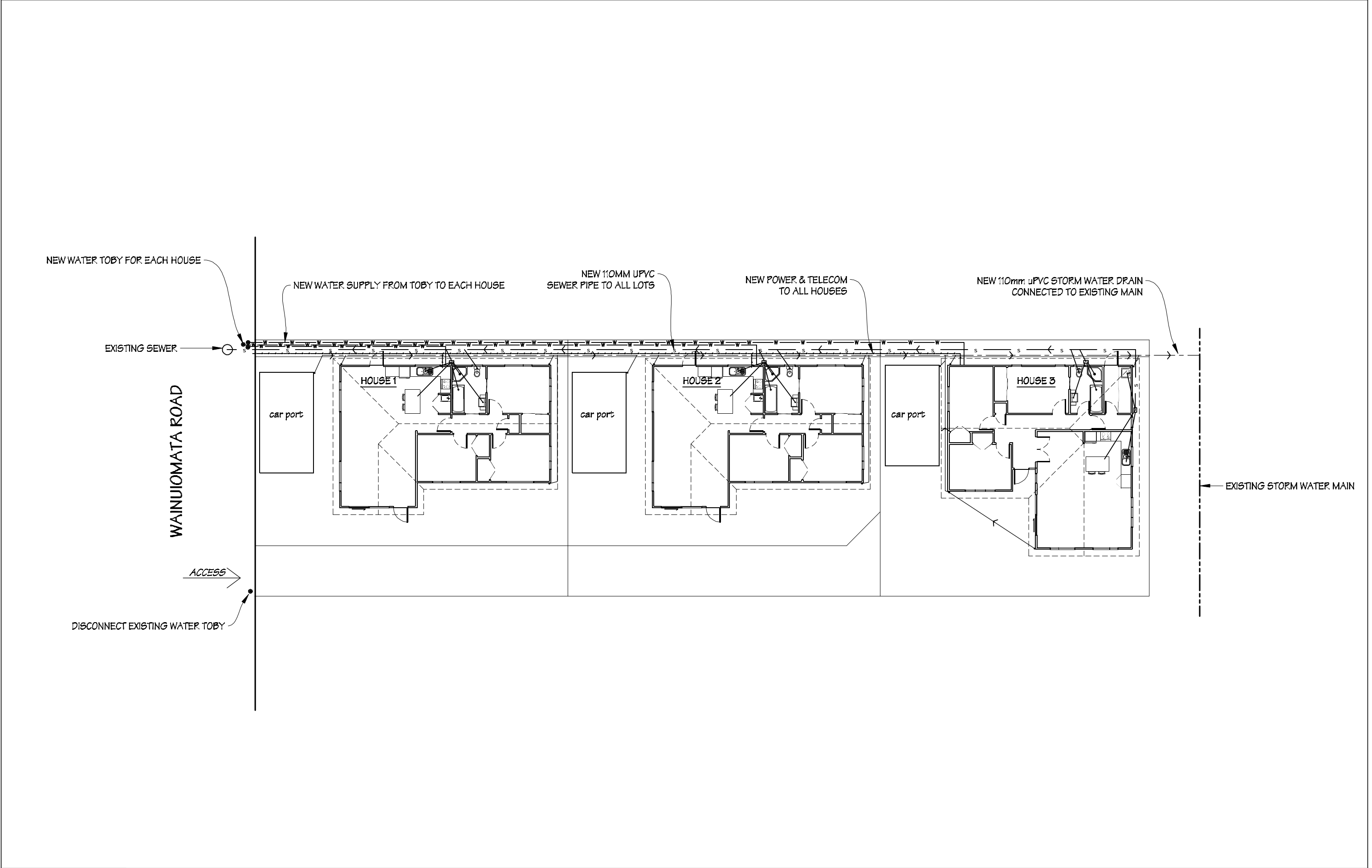
Pricing/Building
Consent
Drawings




NOTE:
Allow for localised site levelling
to suit dwelling layouts.

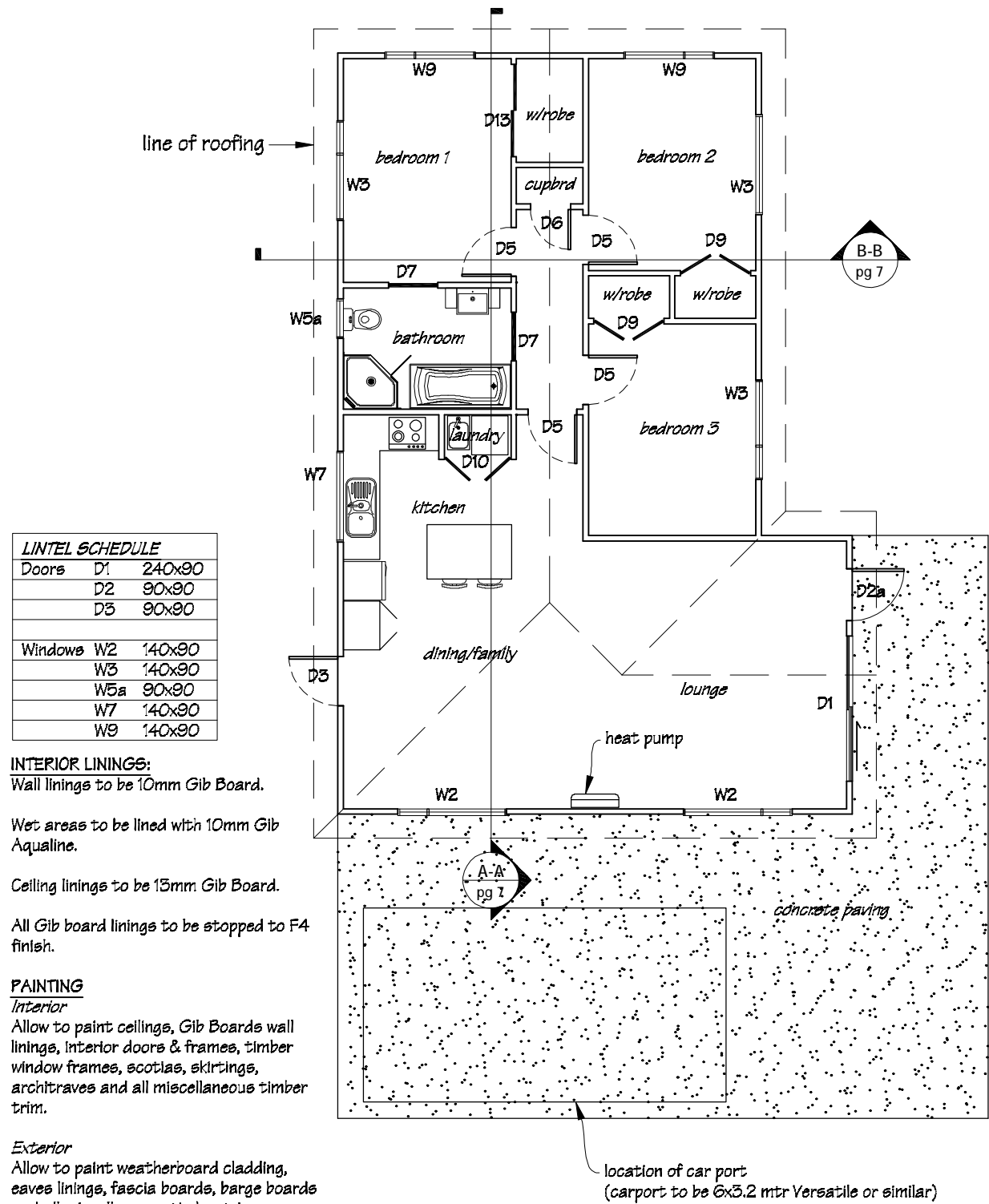
LEGAL INFORMATION
Lot 45
DP 16818
ADDRESS
25 Wainuiomata Road
Wainuiomata
Wellington
SITE INFORMATION
Exposure Zone C.
Earthquake Zone 3.
Wind Zone - Medium

 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Proposed Site Plan	REVISIONS	Scale 1:200	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<i>No Date Description</i>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S. T.	
	steve@irgroup.co.nz					Sheet No 1 of 22	
Web- www.irgroup.co.nz					Dwg Ref 1	<i>Do not scale from drawings.</i> <i>Check all dimensions on site.</i>	

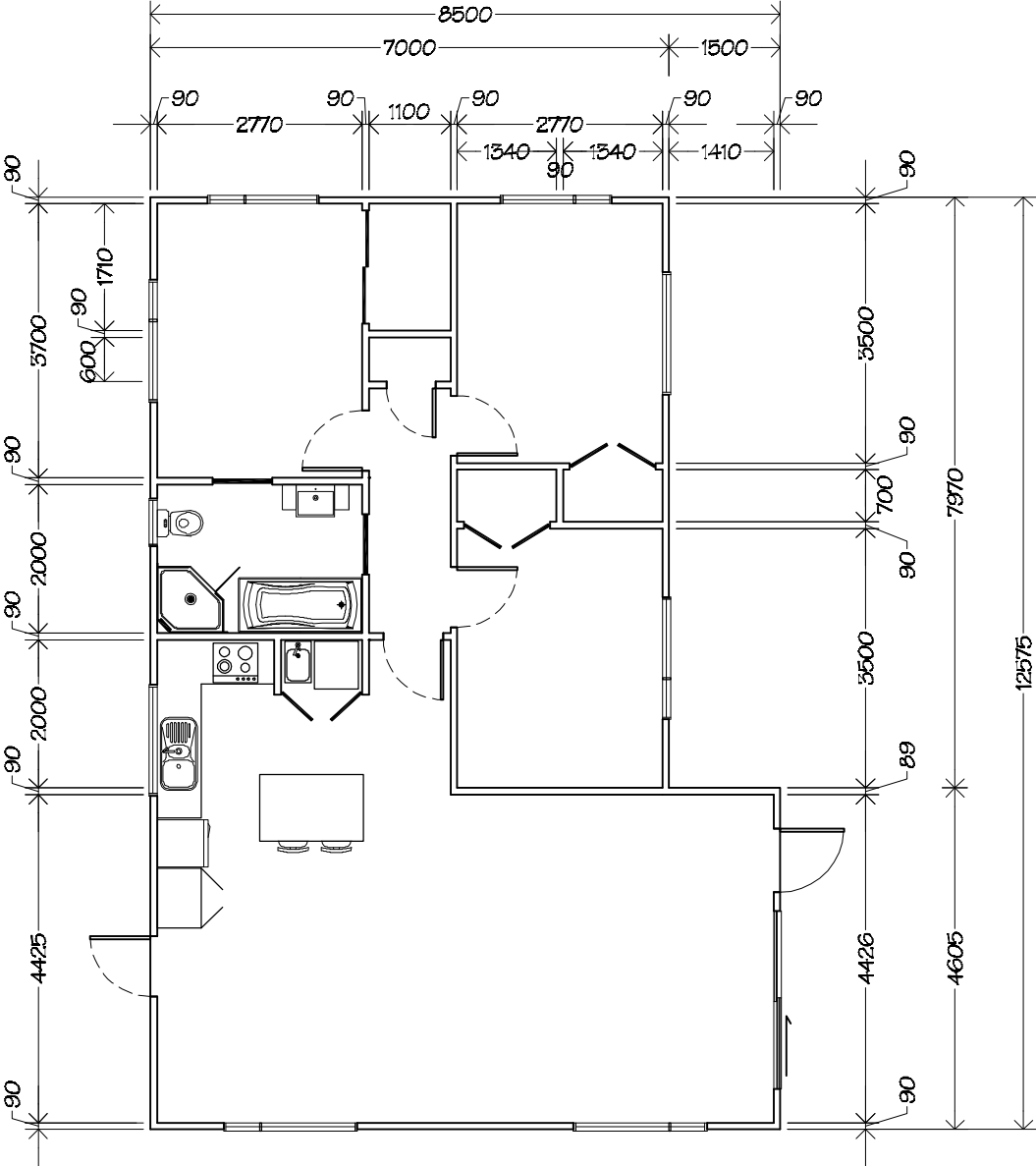


 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Site Services Plan	REVISIONS	Scale 1:200	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<i>No Date Description</i>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 2 of 22	
	www.irgroup.co.nz					Dwg Ref 2	
	Web-						

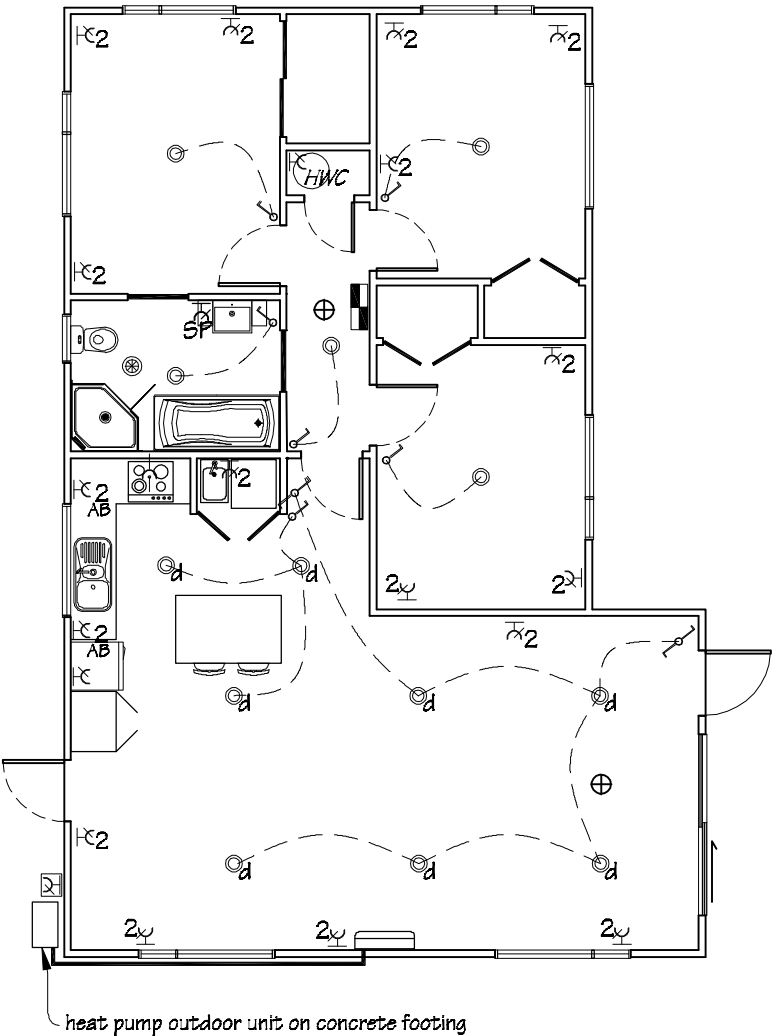
Houses 1 & 2
Floor Plan



Houses 1 & 2
Dimension Plan



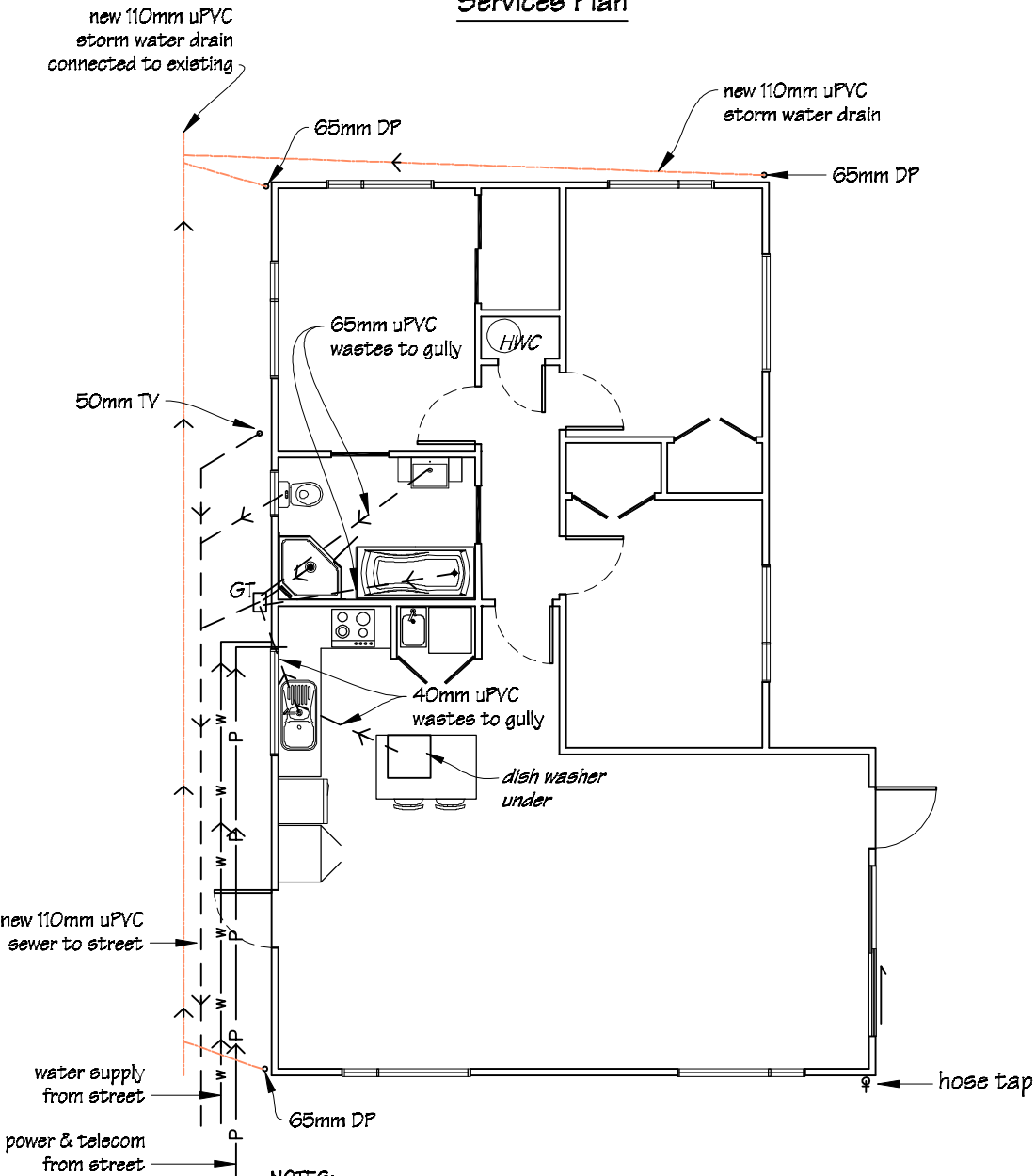
Houses 1 & 2
Electrical Plan



LEGEND

- Electrical distribution board
- Switched socket outlet 10A double AB flush mounted, located above bench.
- Switched socket outlet 10A double flush mounted
- Switched socket outlet 10A single flush mounted
- Switched shaver socket outlet flush mounted.
- Exterior switched socket for heat pump outdoor unit
- One way switch 10A flush mounted
- Two way switch 10A flush mounted
- Range outlet
- Incandescent batten holder
- Down light
- 150mm Manrose through roof extraction fan (fan to be connected with light switch).
- Electric hot water cylinder. HWC to be a 177 litre Rheem VE312318013.
- Photo-electric battery operated smoke alarm. Heat pump to be a Fujitsu ASTG18KUCA 6.0KW heating capacity.

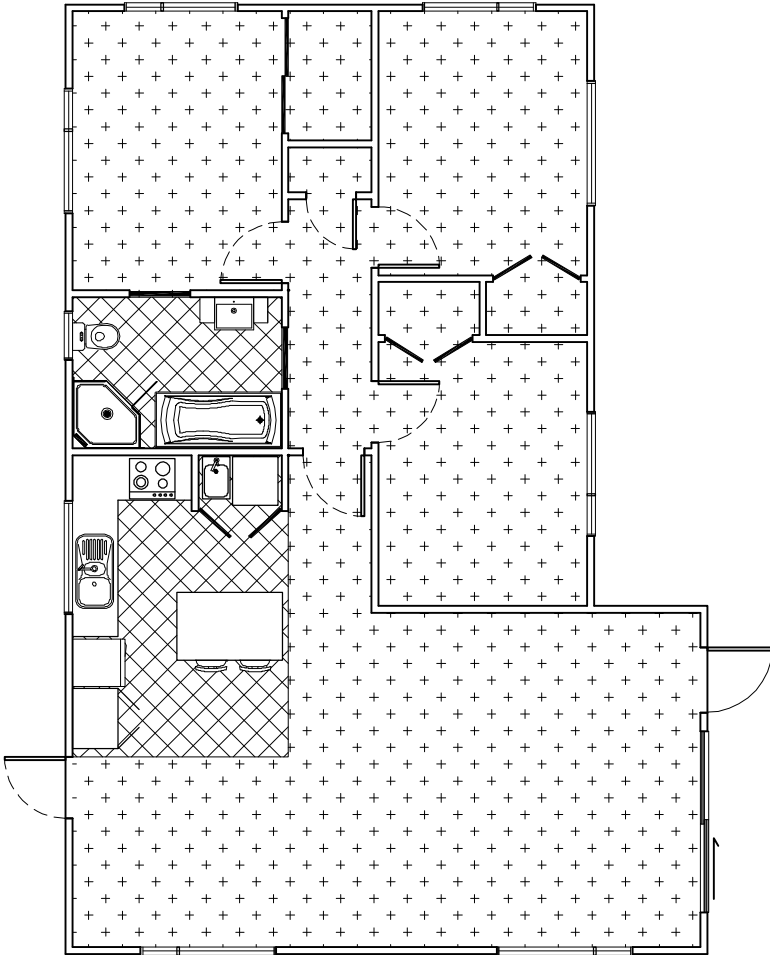
Houses 1 & 2
Services Plan



NOTES:
Run cold water to HWC, toilet cistern, shower, bath, vanity, kitchen & laundry sinks & dish washer & hose tap.

Run hot water from HWC to shower, bath, vanity, kitchen & laundry sinks.

Houses 1 & 2
Floor Coverings Plan



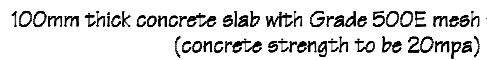
NOTE:
New carpet and vinyl floor coverings to be selected by owner.

Floor Covering Key

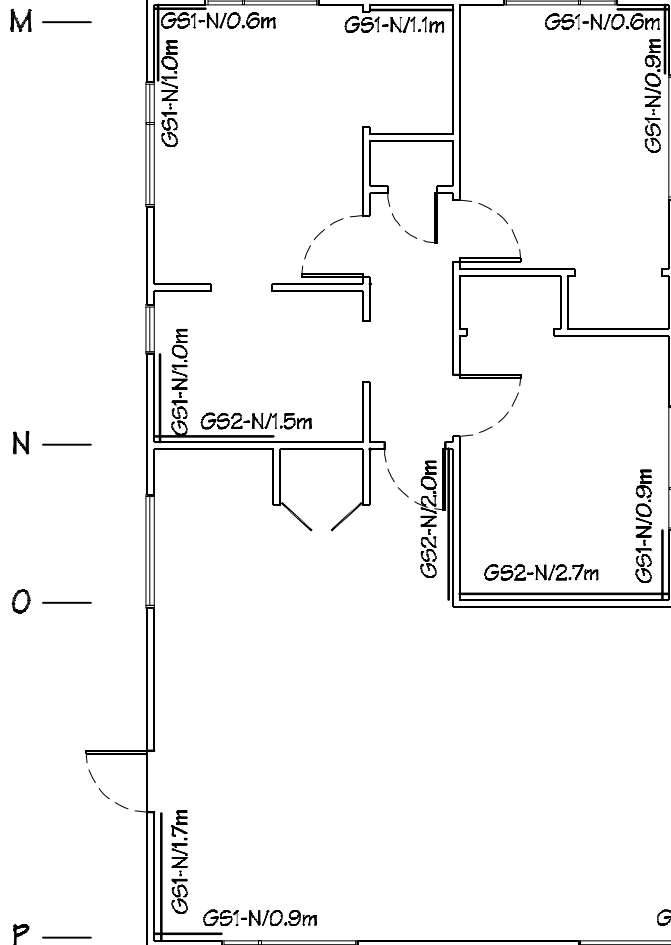
- Selected carpet.
- Selected vinyl.

	Phone- Office 04 526-7711 Mobile- Ian 021-427.347 Mobile- Stephen 027-3355889 Email- ian@irgroup.co.nz steve@irgroup.co.nz Web- www.irgroup.co.nz	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Houses 1 & 2 Electrical, Services & Floor Coverings Plans	REVISIONS No Date Description	Scale	1:100	Pricing/Building Consent Drawings Do not scale from drawings. Check all dimensions on site.
						Date	15/02/17	
						Original sheet size	A3	
						Drawn	S. T.	
						Sheet No	4 of 22	
						Dwg Ref	4	

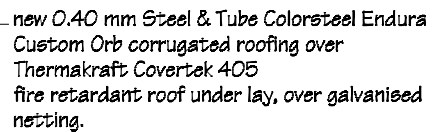
Houses 1 & 2
Two way switch 10A flush mounted



Houses 1 & 2
Wall Bracing Plan



Houses 1 & 2
Roofing Plan



BRASH Ltd
16 Jessie Street
Petone

PROJECT
Site Development
25 Wainuiomata Road
Wainuiomata

DRAWING TITLE
Houses 1 & 2
Concrete Slab, Wall
Bracing & Roofing Plans

REVISIONS		
No	Date	Description

Scale	1:100
Date	15/02/17
Original sheet size	A3
Drawn	S. T.
Sheet No	5 of 22
Dwg Ref	5

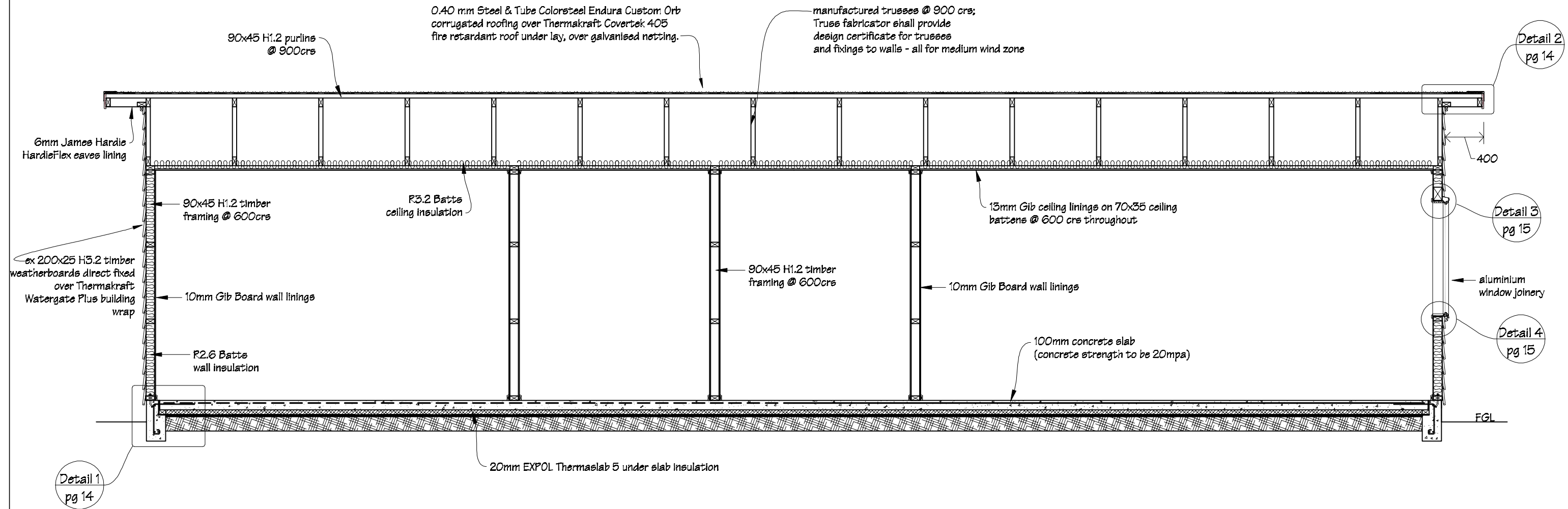
Pricing/Building Consent Drawings


*Do not scale from drawings.
Check all dimensions on site.*

PURLIN FIXINGS:
1/4g self drilling type 17 screw, 100mm long.

TOP PLATE TO STUD FIXINGS:
Type A 0.7kN (2/90 x 3.15 end nalle), and Type
B 4.7kN (2/90 x 3.15 end nalle + 2 wire doge)

All timber sections to be SGB timber grade.

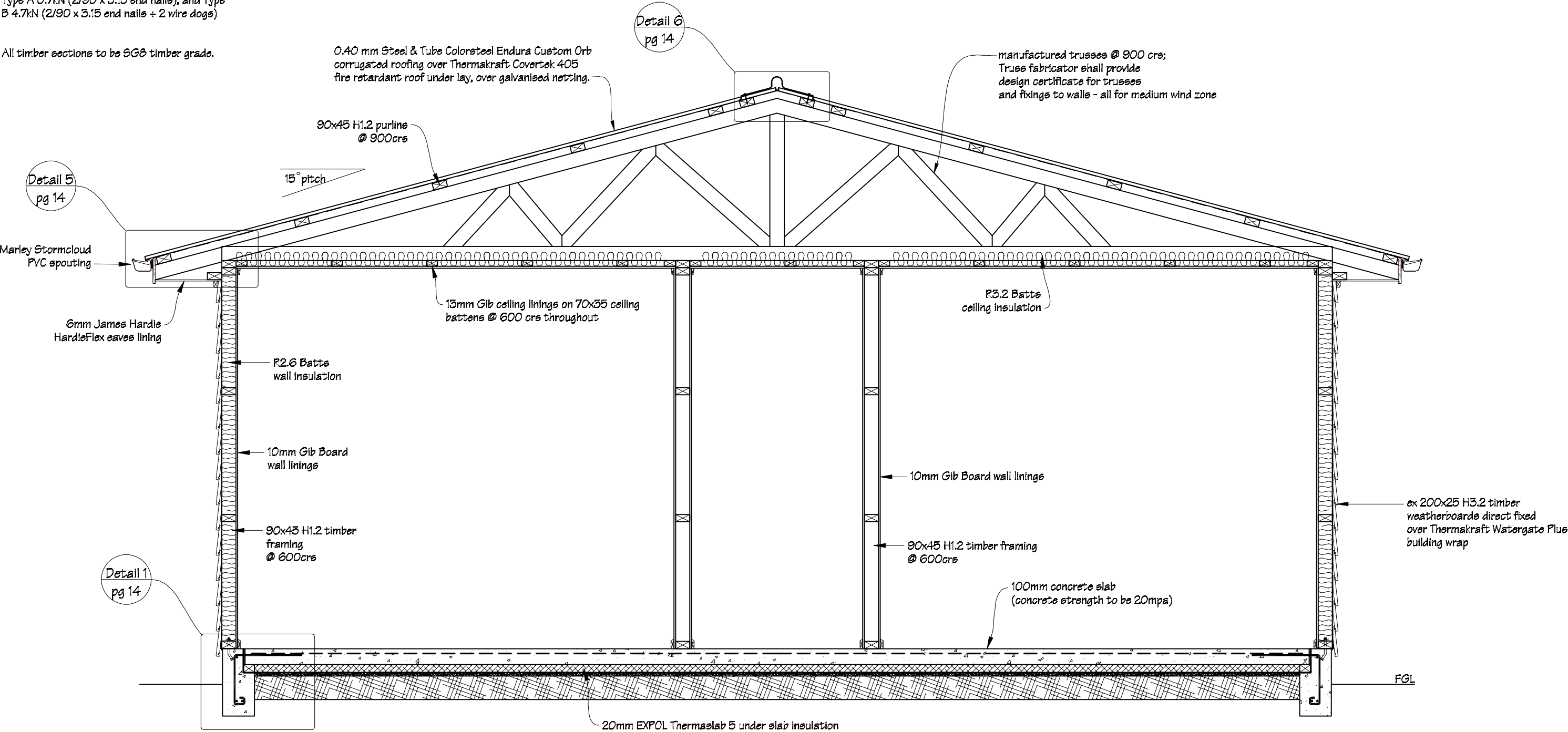



 IR Group Ltd Design - Project Management - Planning	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Houses 1 & 2 Cross Section A-A	REVISIONS <i>No Date Description</i>	Scale 1:40	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347					Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 6 of 22	
	Web- www.irgroup.co.nz					Dwg Ref 6	

PURLIN FIXINGS:
1/4g self drilling type 17 screw, 100mm long.

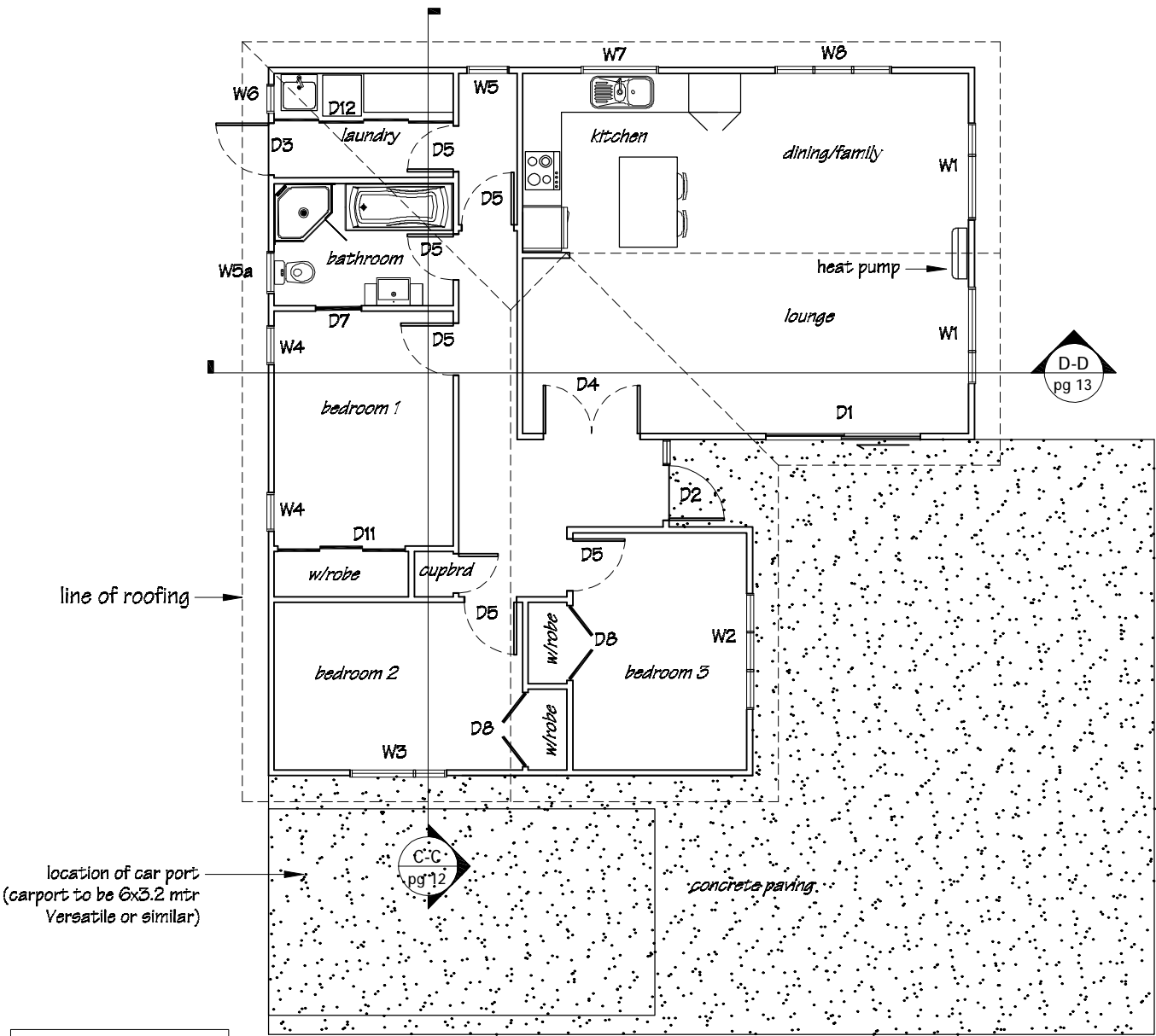
TOP PLATE TO STUD FIXINGS:
Type A 0.7kN (2/90 x 3.15 end nails), and Type
B 4.7kN (2/90 x 3.15 end nails + 2 wire dogs)

All timber sections to be SGB timber grade.



 IR Group Ltd Design - Project Management - Planning	Phone- Office 04 526-7711 Mobile- Ian 021-427.347 Mobile- Stephen 027-3355889 Email- ian@irgroup.co.nz steve@irgroup.co.nz Web- www.irgroup.co.nz	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Houses 1 & 2 Cross Section B-B	REVISIONS No Date Description	Scale	1:25	Pricing/Building Consent Drawings Do not scale from drawings. Check all dimensions on site.
						Date	15/02/17	
						Original sheet size	A3	
						Drawn	S. T.	
						Sheet No	7 of 22	
						Dwg Ref	7	

House 3
Floor Plan



LINTEL SCHEDULE

Doors	D1	190x90
	D2	140x90
	D3	140x90
Windows	W1	140x90
	W2	140x90
	W3	140x90
	W4	90x90
	W5	90x90
	W6	90x90
	W7	140x90
	W8	140x90

INTERIOR LININGS:

Wall linings to be 10mm Gib Board.

Wet areas to be lined with 10mm Gib Aqualine.

Ceiling linings to be 13mm Gib Board.

All Gib board linings to be stopped to F4 finish.

PAINTING

Interior

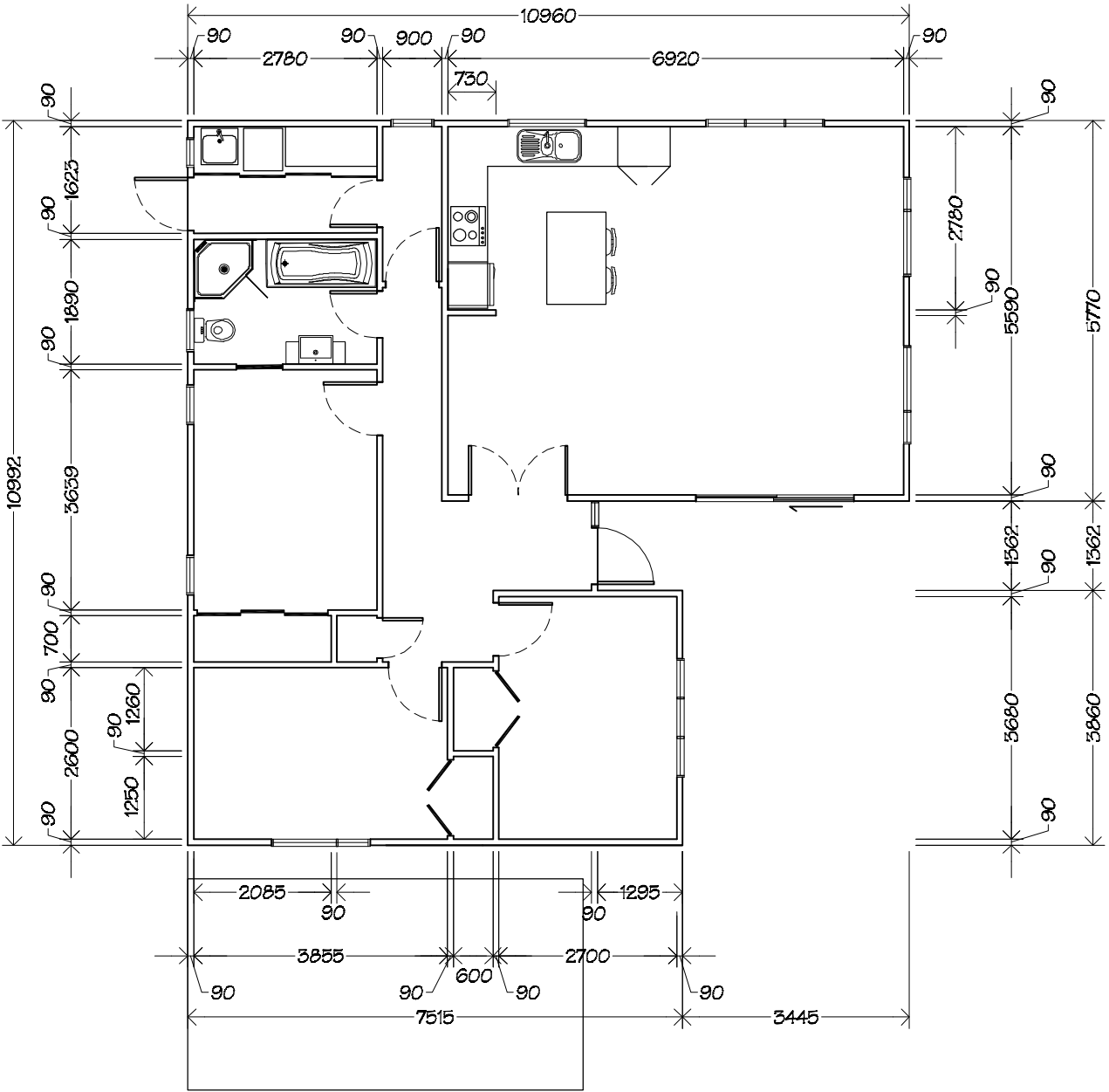
Allow to paint ceilings, Gib Boards wall linings, interior doors & frames, timber window frames, scotias, skirtings, architraves and all miscellaneous timber trim.

Exterior

Allow to paint weatherboard cladding, eaves linings, faecia boards, barge boards and all miscellaneous timber trim.

Paint colours to be advised by owner.

House 3
Dimension Plan



Phone- Office 04 526-7711
Mobile- Ian 021-427.347
Mobile- Stephen 027-3355889
Email- ian@irgroup.co.nz
steve@irgroup.co.nz
Web- www.irgroup.co.nz

BRASH Ltd
16 Jessie Street
Petone

PROJECT
Site Development
25 Wainuiomata Road
Wainuiomata

DRAWING TITLE
House 3
Floor & Dimension Plans

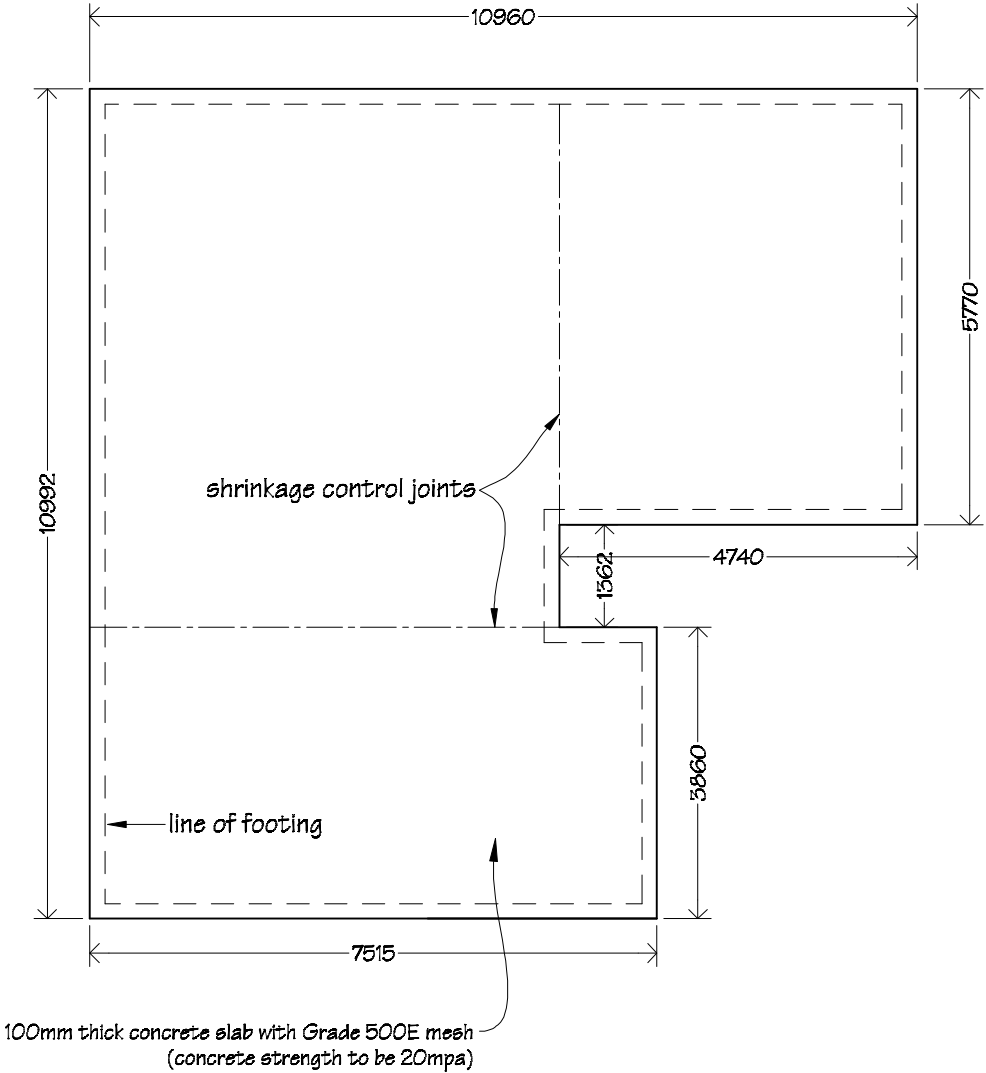
REVISIONS

No	Date	Description
1	15/02/17	Original sheet size
2	S.T.	Drawn
3	B of 22	Sheet No
4	B	Dwg Ref

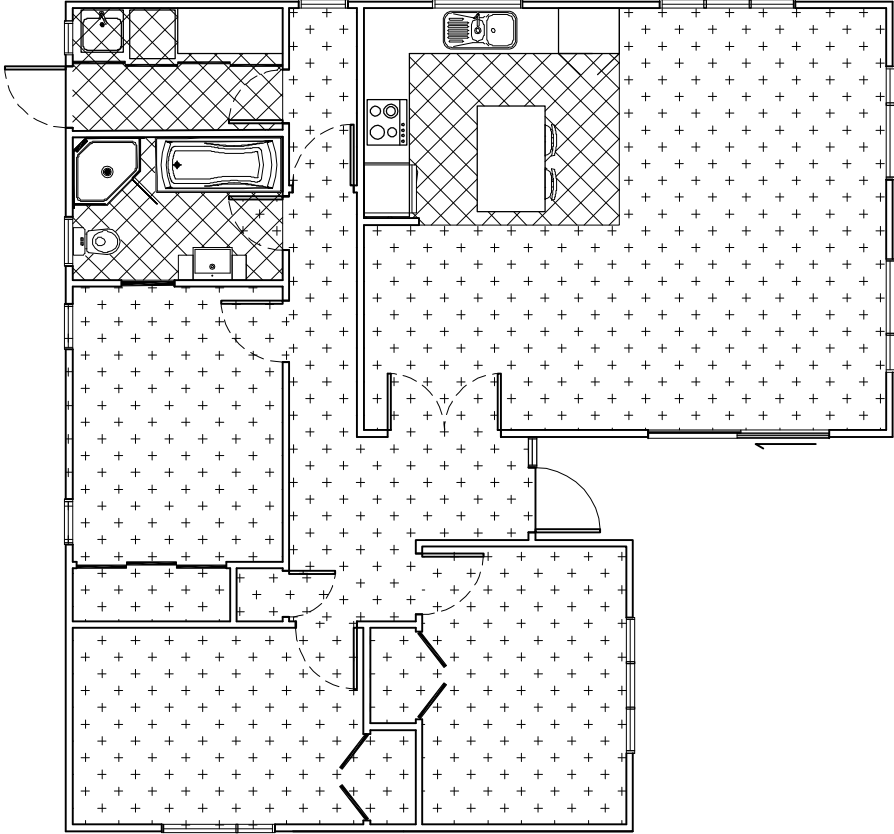
Scale	1:100
Date	15/02/17
Original sheet size	A3
Drawn	S.T.
Sheet No	B of 22
Dwg Ref	B

Pricing/Building Consent Drawings
Do not scale from drawings. Check all dimensions on site.

House 3
Foundation Plan

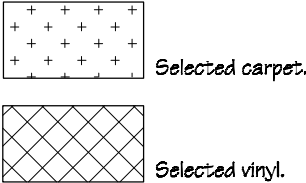


House 3
Floor Coverings Plan

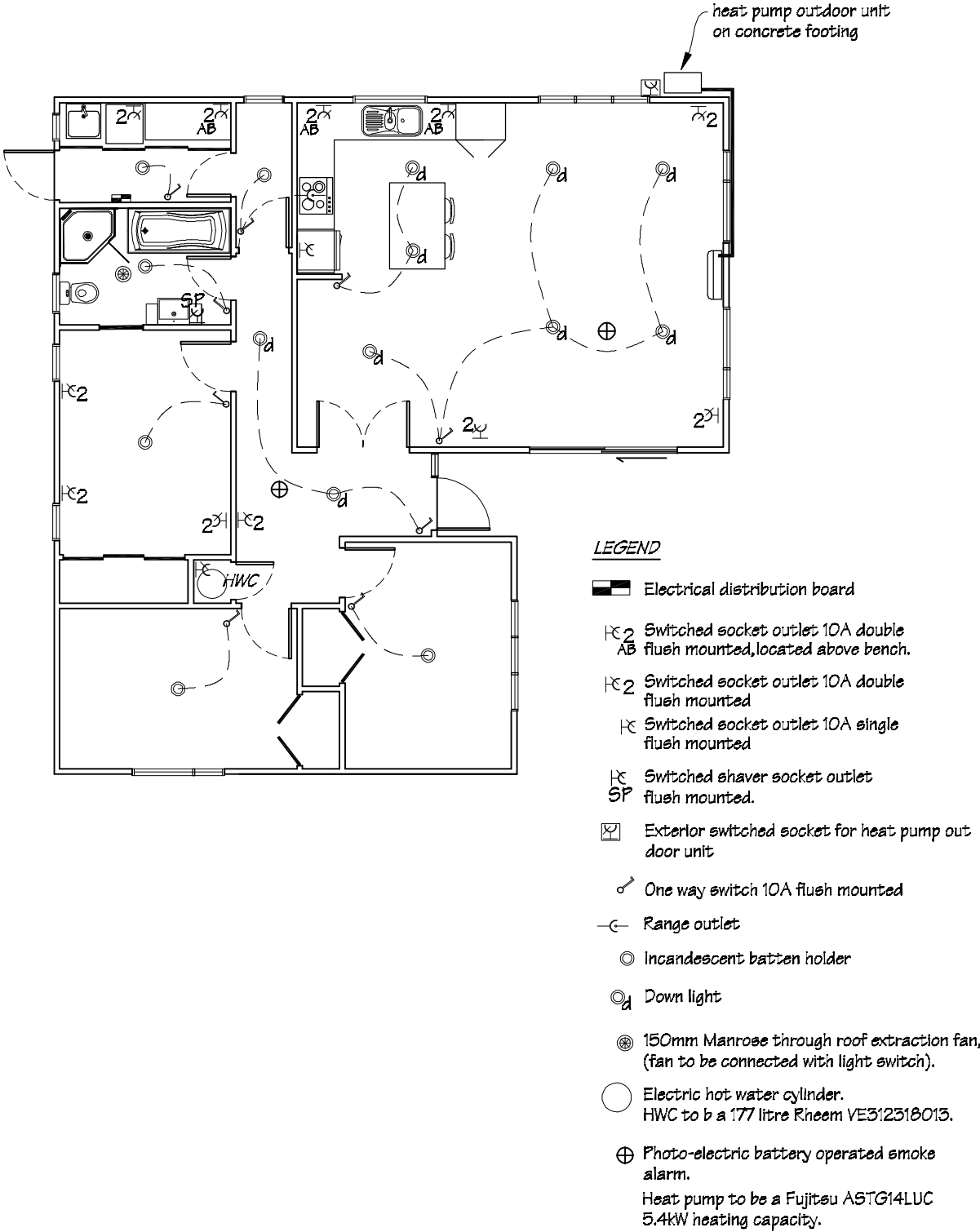


NOTE:
New carpet and vinyl floor coverings to be selected by owner.

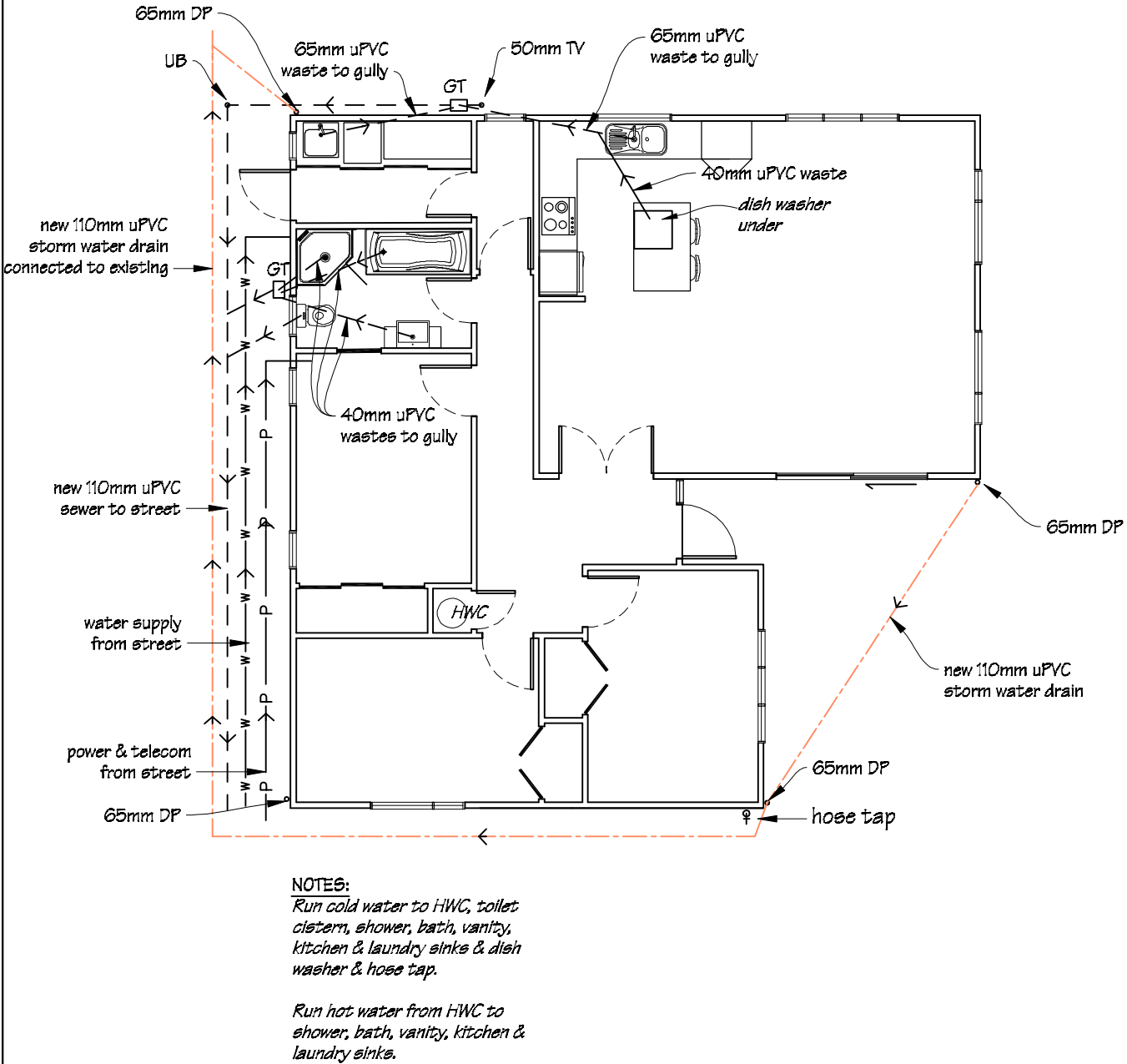
Floor Covering Key




House 3
Electrical Plan

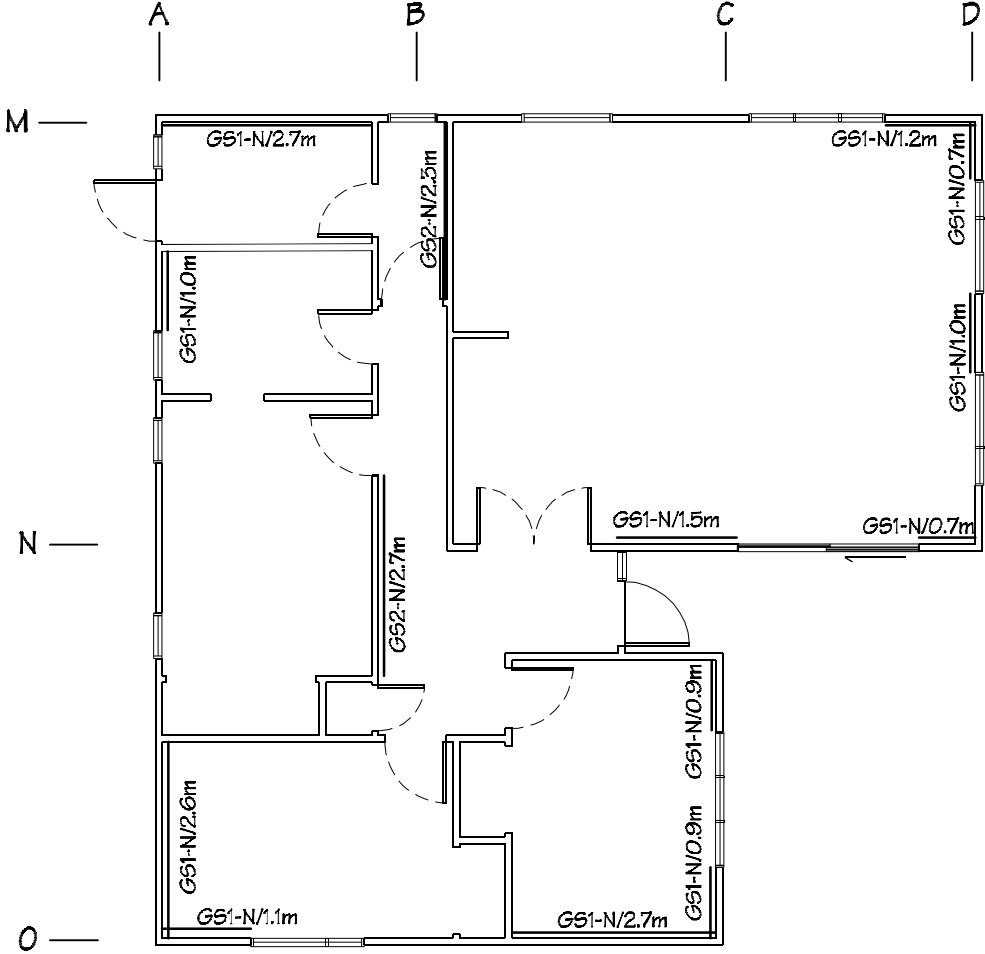


House 3
Services Plan

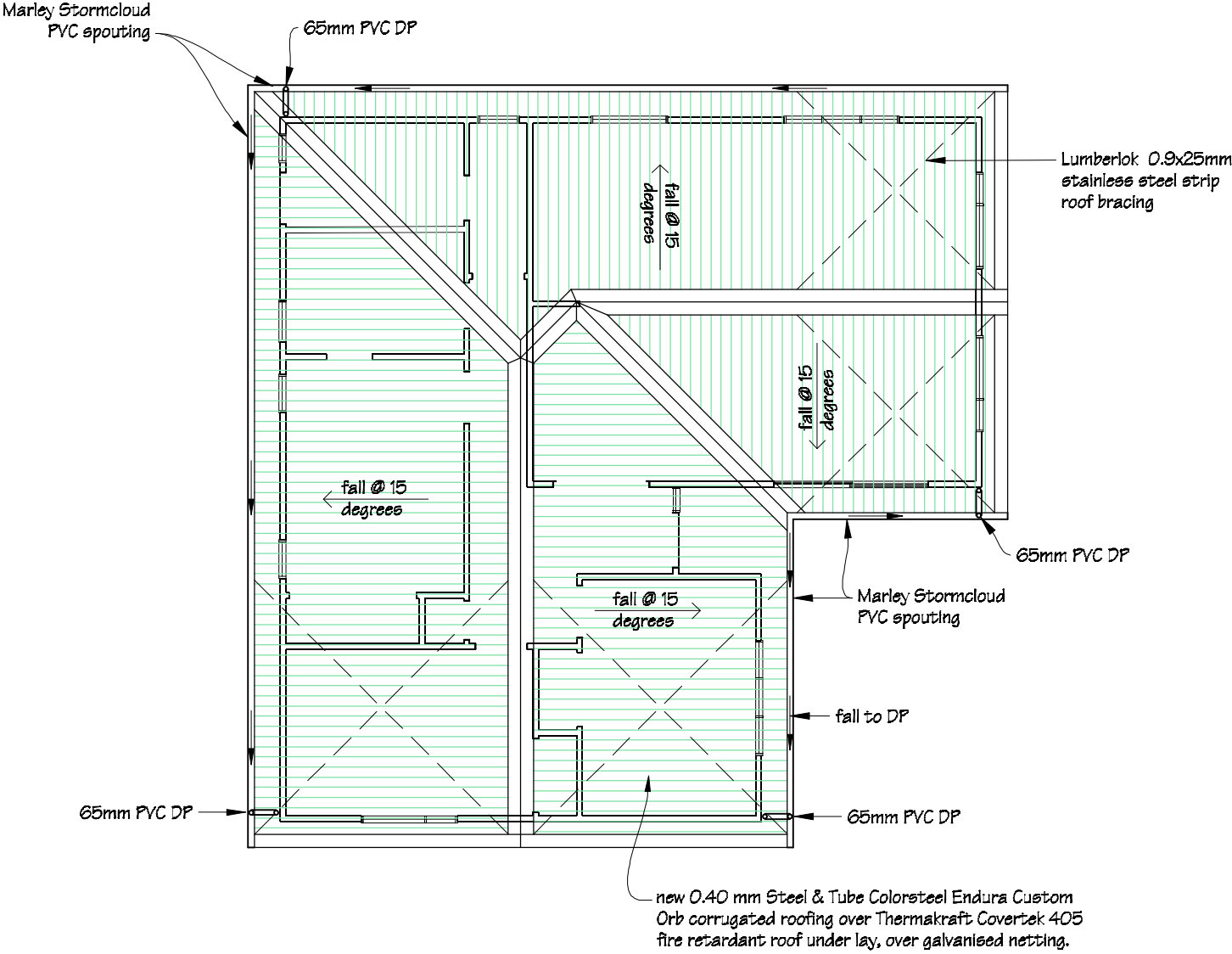



 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE House 3 Electrical & Services Plans	REVISIONS	Scale 1:100	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<u>No</u> <u>Date</u> <u>Description</u>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	Web- www.irgroup.co.nz					Sheet No 10 of 22	
						Dwg Ref 10	<i>Do not scale from drawings. Check all dimensions on site.</i>

House 3
Bracing Plan



House 3
Roofing Plan

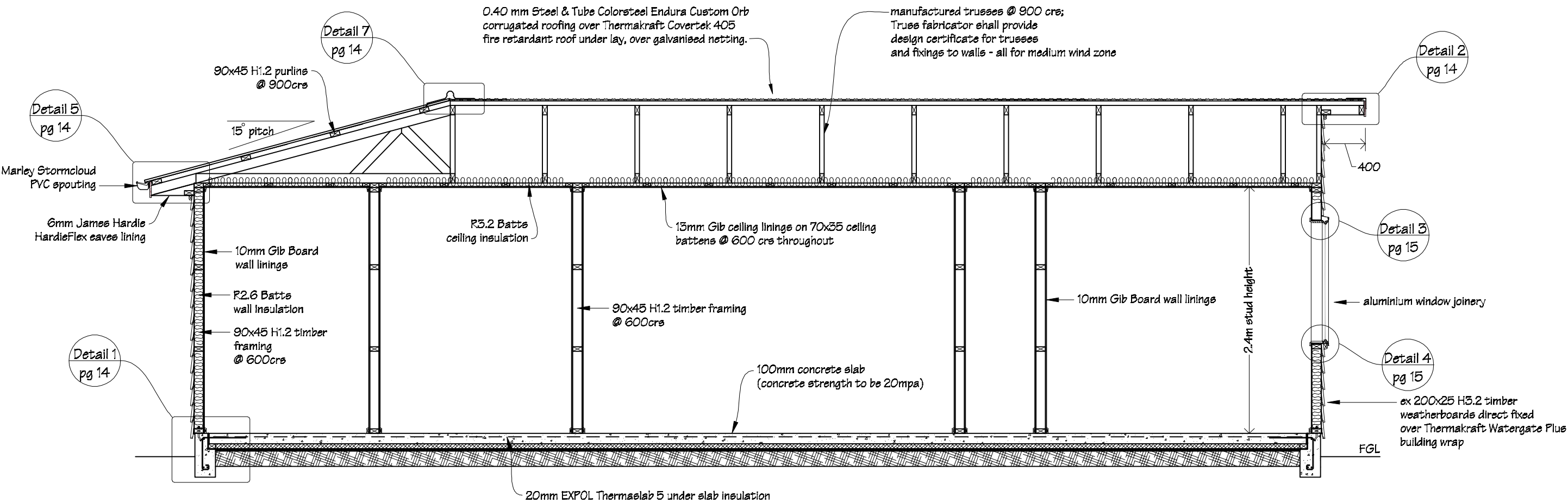



 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE House 3 Wall Bracing & Roofing Plans	REVISIONS	Scale 1:100	Pricing/Building Consent Drawings
	Mobile- Ian 021-427-347				<u>No</u> <u>Date</u> <u>Description</u>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 11 of 22	
	Web- www.irgroup.co.nz					Dwg Ref 11	
Do not scale from drawings. Check all dimensions on site.							

PURLIN FIXINGS:
1/14g self drilling type 17 screw, 100mm long.

TOP PLATE TO STUD FIXINGS:
Type A 0.7kN (2/90 x 3.15 end nails), and Type
B 4.7kN (2/90 x 3.15 end nails + 2 wire dogs)

All timber sections to be SGB timber grade.

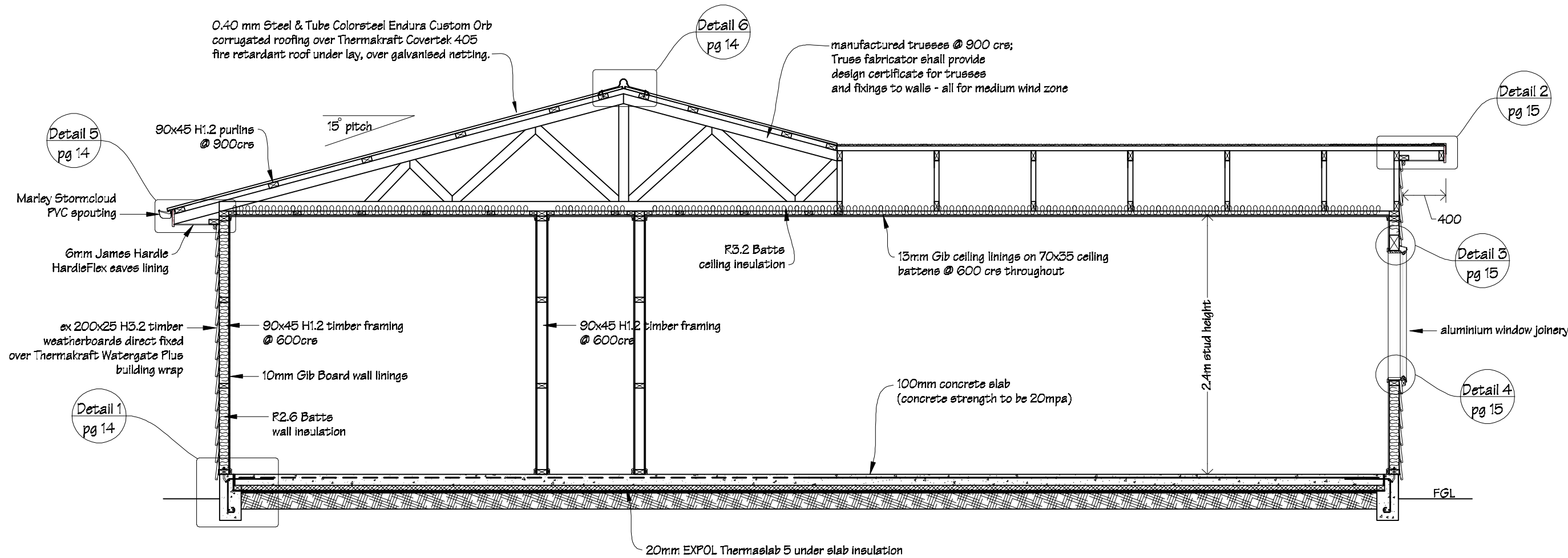



 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE House 3 Cross Section C-C	REVISIONS	Scale 1:40	Pricing/Building Consent Drawings
	Mobile- Ian 021-427-347				<u>No</u> <u>Date</u> <u>Description</u>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S. T.	
	steve@irgroup.co.nz					Sheet No 12 of 22	
	Web- www.irgroup.co.nz					Dwg Ref 12	

PURLIN FIXINGS:
1/4g self drilling type 17 screw, 100mm long.

TOP PLATE TO STUD FIXINGS:
Type A 0.7kN (2/90 x 3.15 end nails), and Type
B 4.7kN (2/90 x 3.15 end nails + 2 wire dogs)

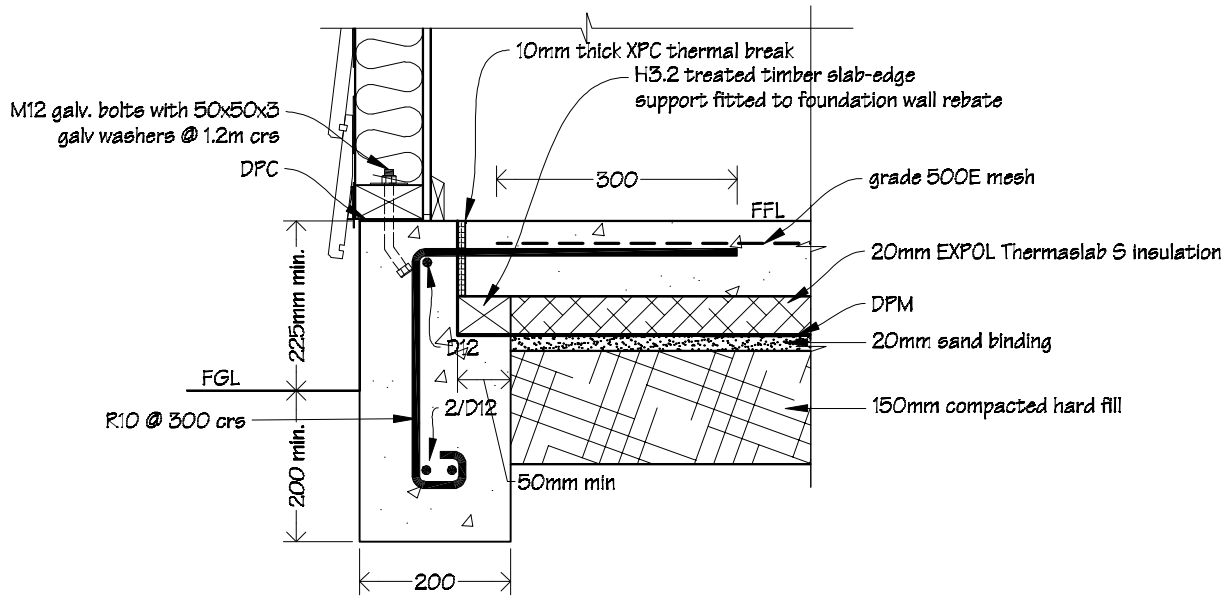
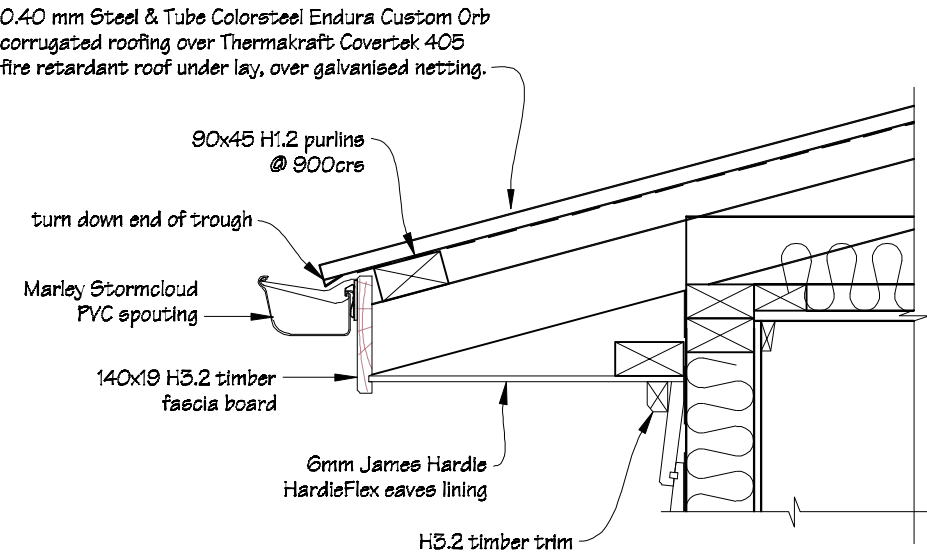
All timber sections to be SGB timber grade.



 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE House 3 Cross Section D-D	REVISIONS	Scale 1:40	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<u>No</u> <u>Date</u> <u>Description</u>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 13 of 22	
	www.irgroup.co.nz					Dwg Ref 13	
	Web-						

Cross Section Details

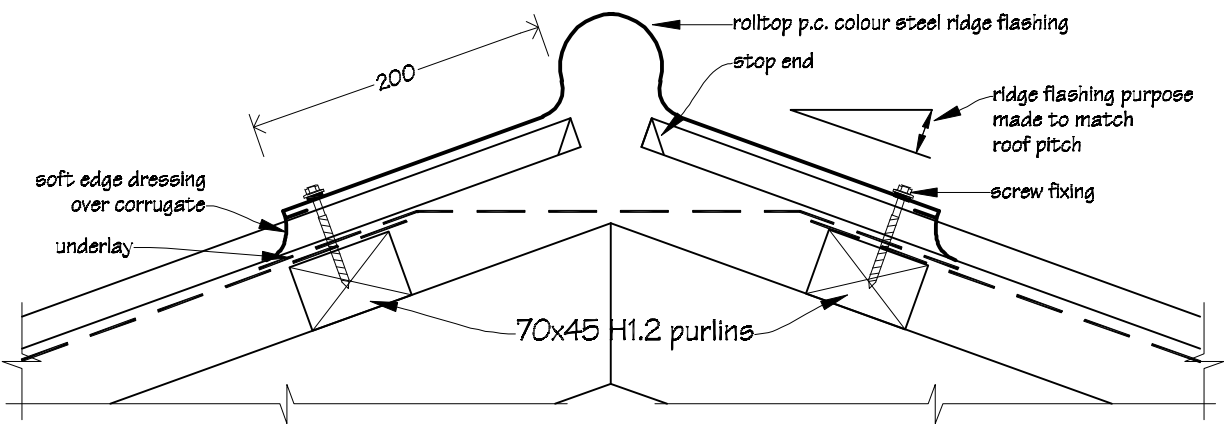
Detail 5
scale 1:10



Detail 1
scale 1:10

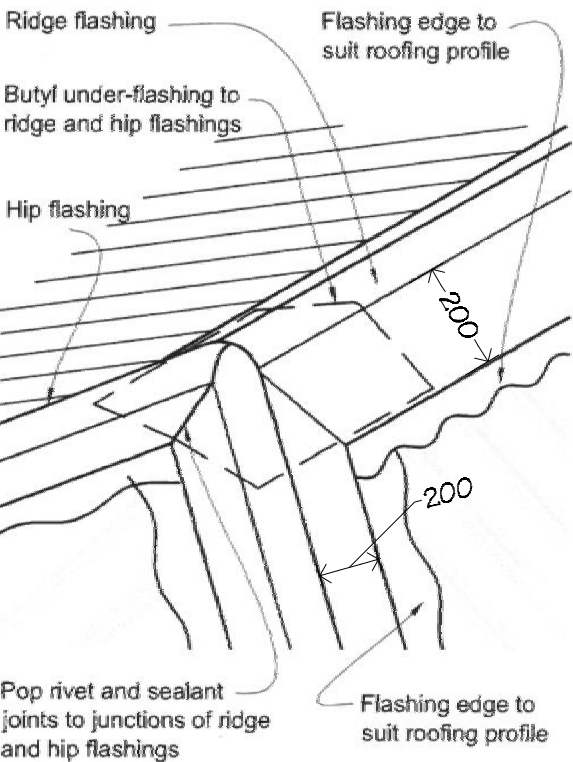
Detail 6

Typical Ridge Flashing Detail
scale 1:5

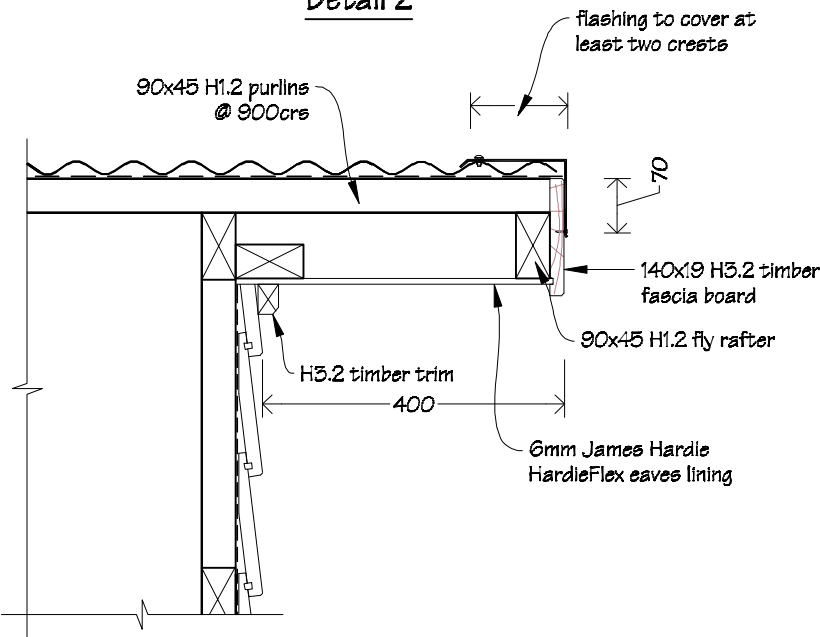



Detail 7

Ridge to Hip Flashing Detail
N.T.S.



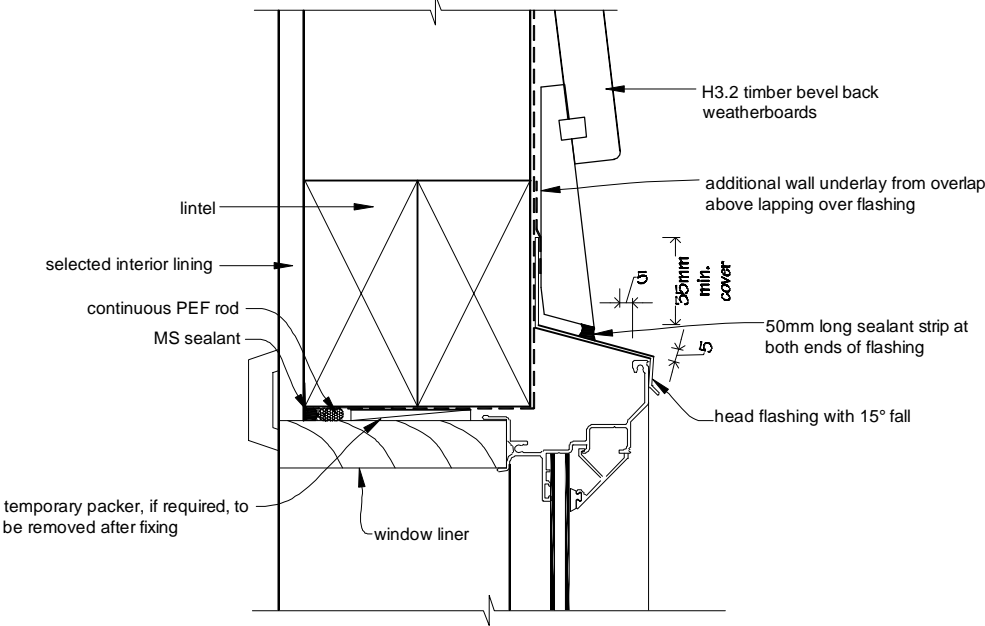
Detail 2



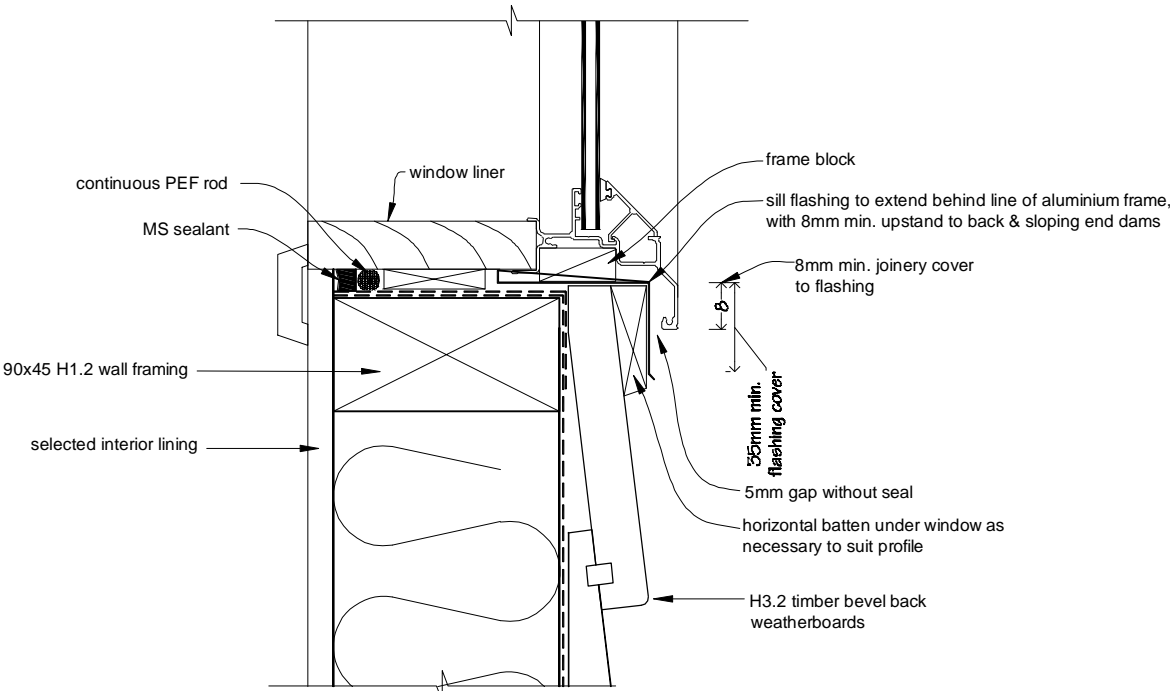
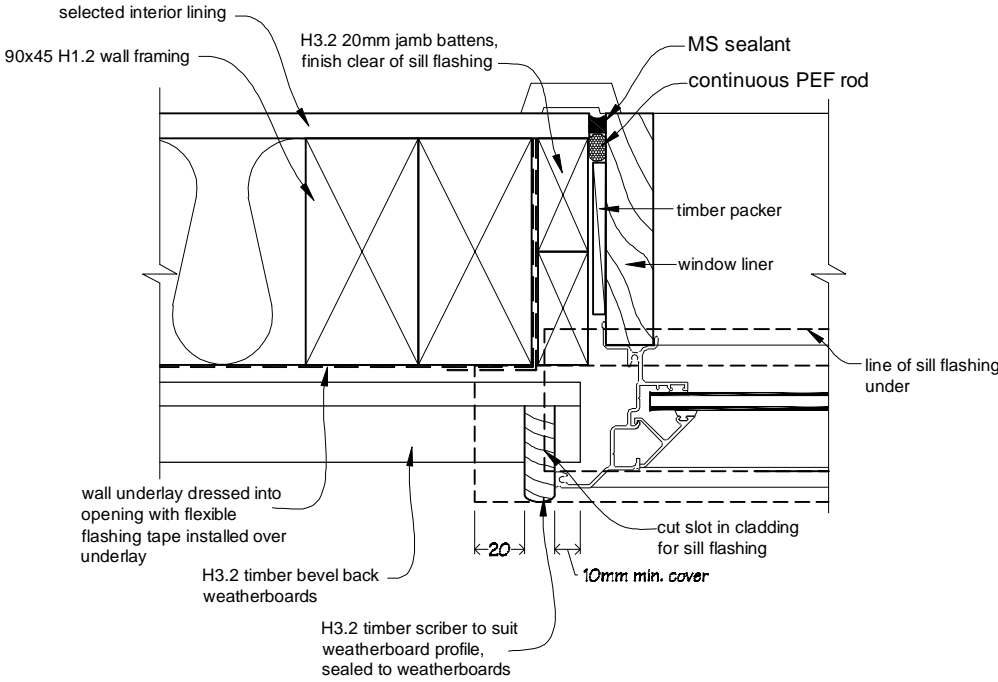
 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Typical Cross Section Details	REVISIONS		Scale	as shown	Pricing/Building Consent Drawings	
	Mobile- Ian 021-427.347				No	Date	Description	Date		15/02/17
	Mobile- Stephen 027-3355889							Original sheet size		A3
	Email- ian@irgroup.co.nz							Drawn		S. T.
	steve@irgroup.co.nz							Sheet No		14 of 22
	www.irgroup.co.nz							Dwg Ref		14
	Web-									

Typical Window & Boxes Corner
Flashing Details

Detail 3
Head Flashing
scale 1:5

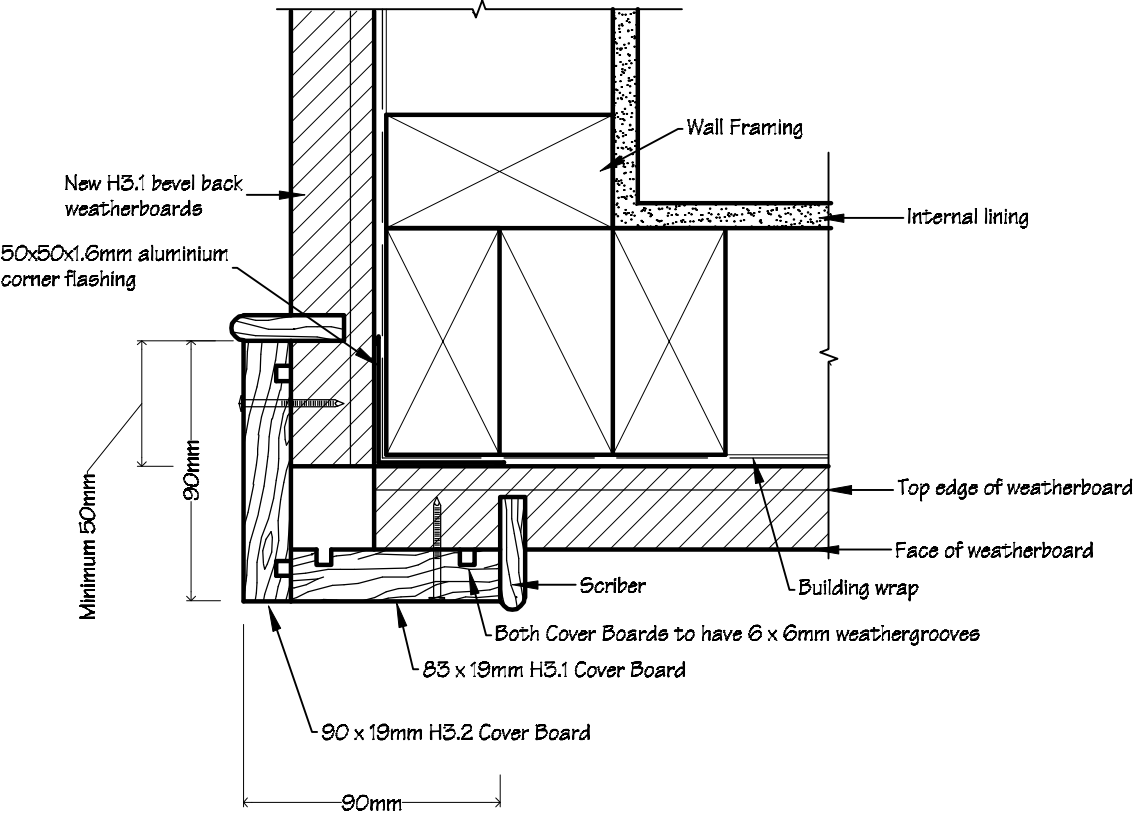



Jamb Flashing Detail
scale 1:5



Detail 4
Sill Flashing
scale 1:5

Boxed Corner Detail
scale 1:5

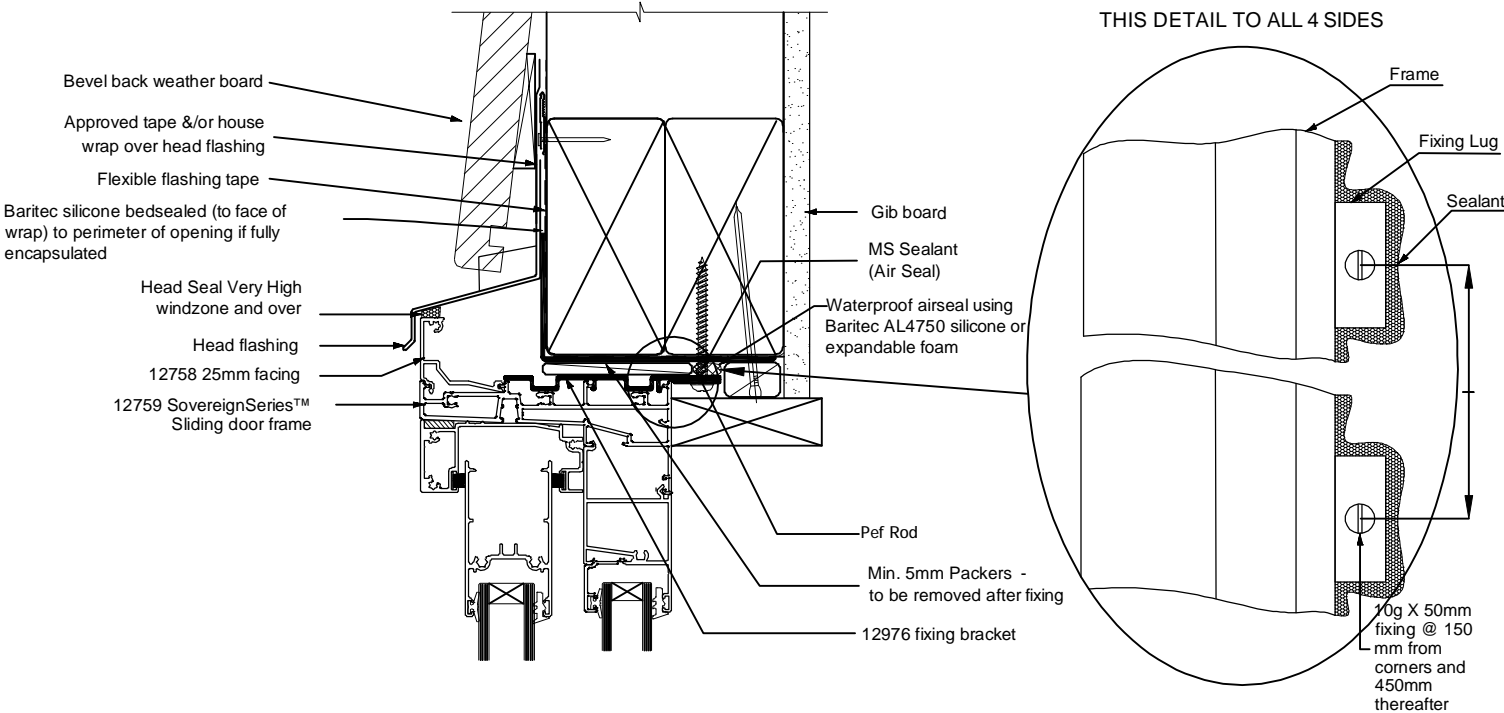


 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Typical Window & Boxed Corner Flashing Details	REVISIONS	Scale 1:5	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<i>No Date Description</i>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 15 of 22	
Web- www.irgroup.co.nz					Dwg Ref 15	<i>Do not scale from drawings. Check all dimensions on site.</i>	

Nulook Sovereign Series Exterior
Sliding Door Flashing Details

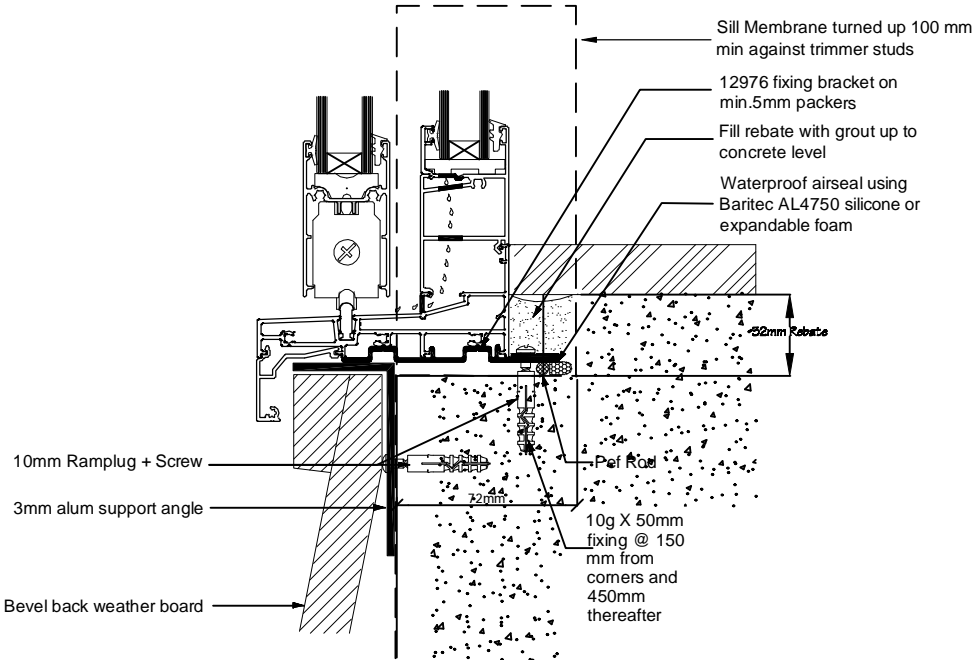
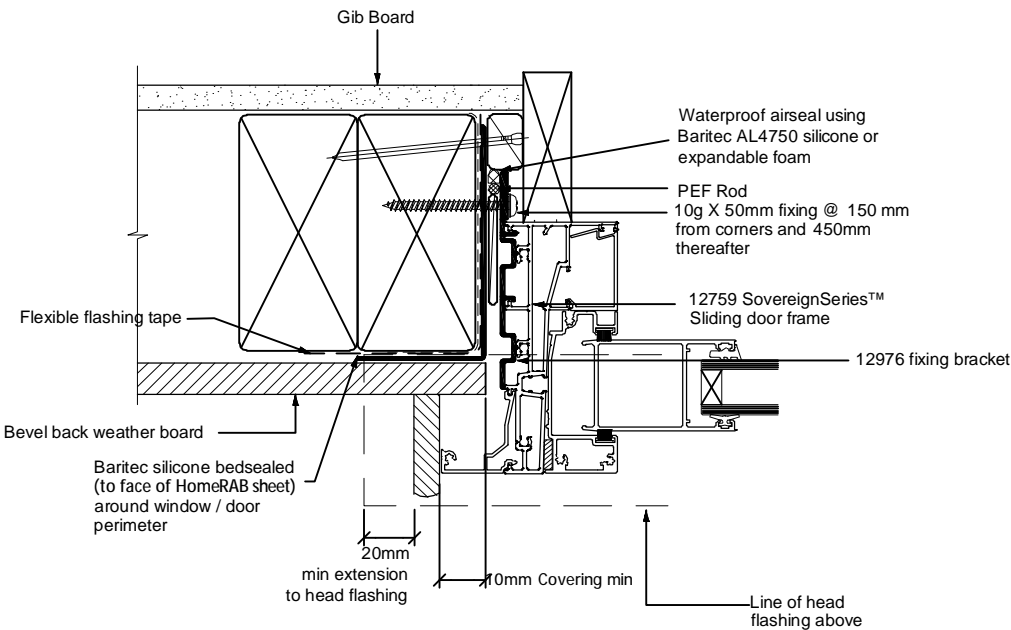
Door Head Detail

scale 1:3



Detail 1
Door Jamb


scale 1:3

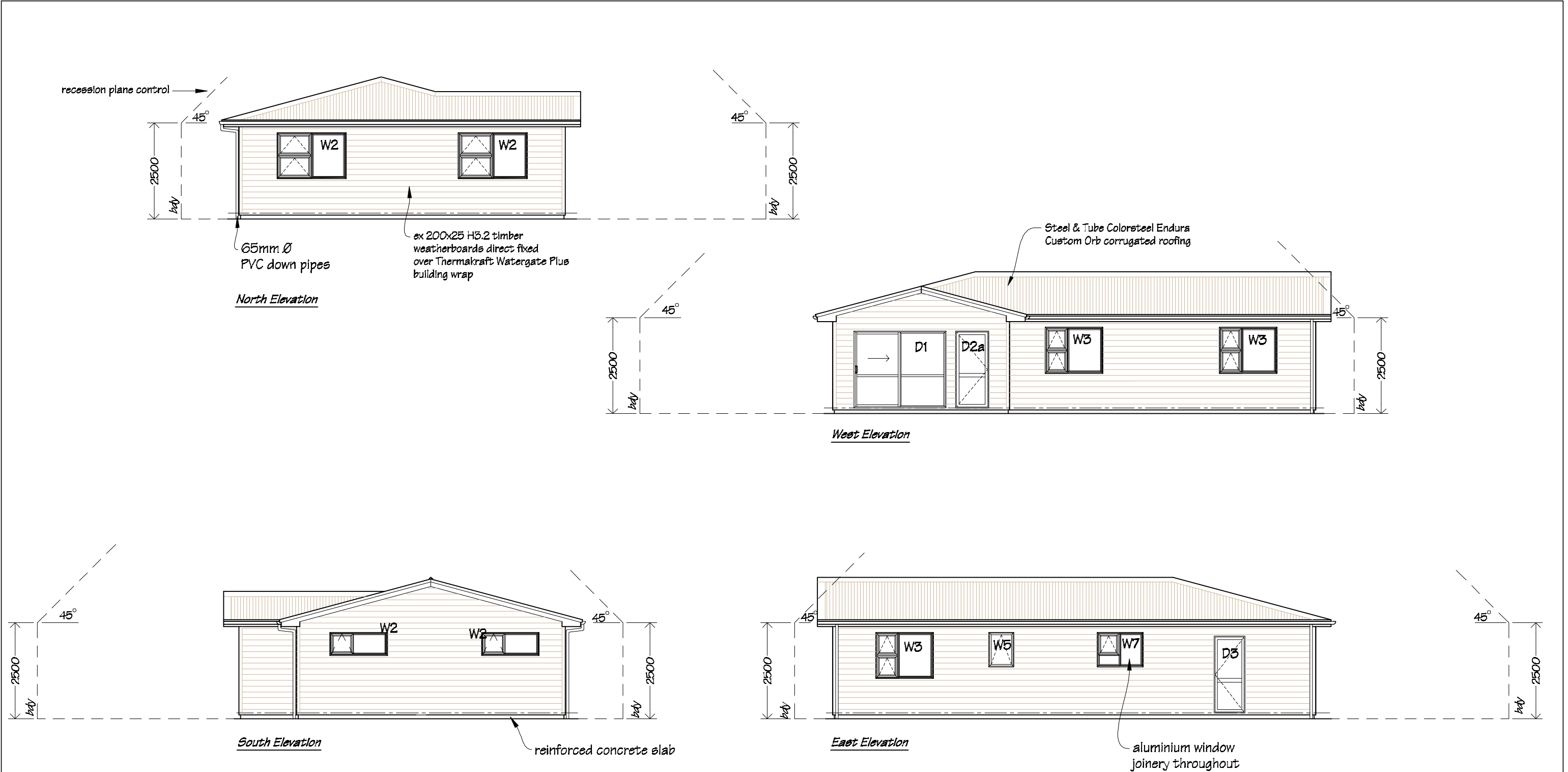


NOTE : Heavier doors may require additional support to outside of frame or a different frame design. Please contact NALCO Technical Team for options


Door Sill Detail

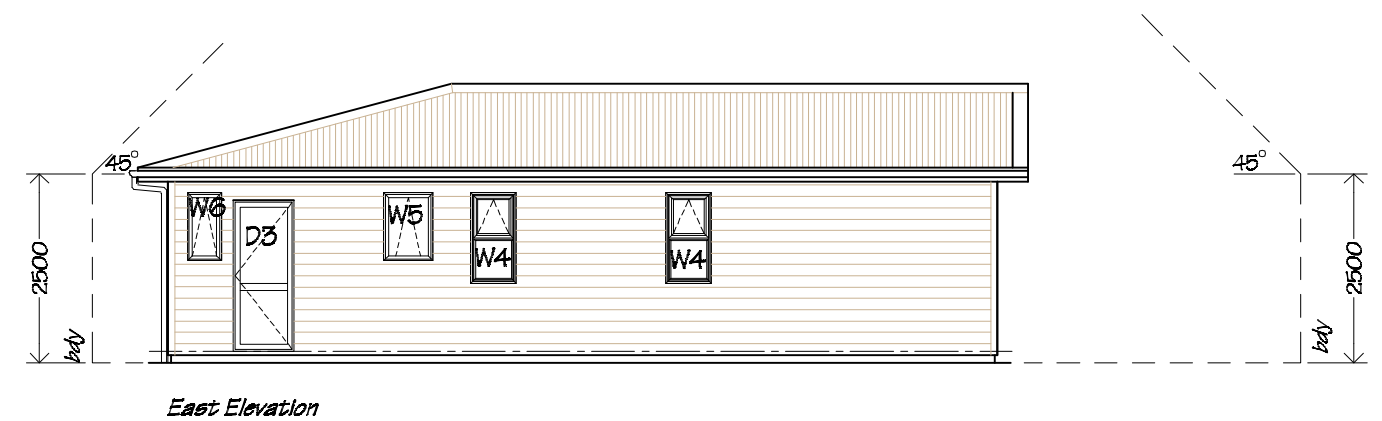
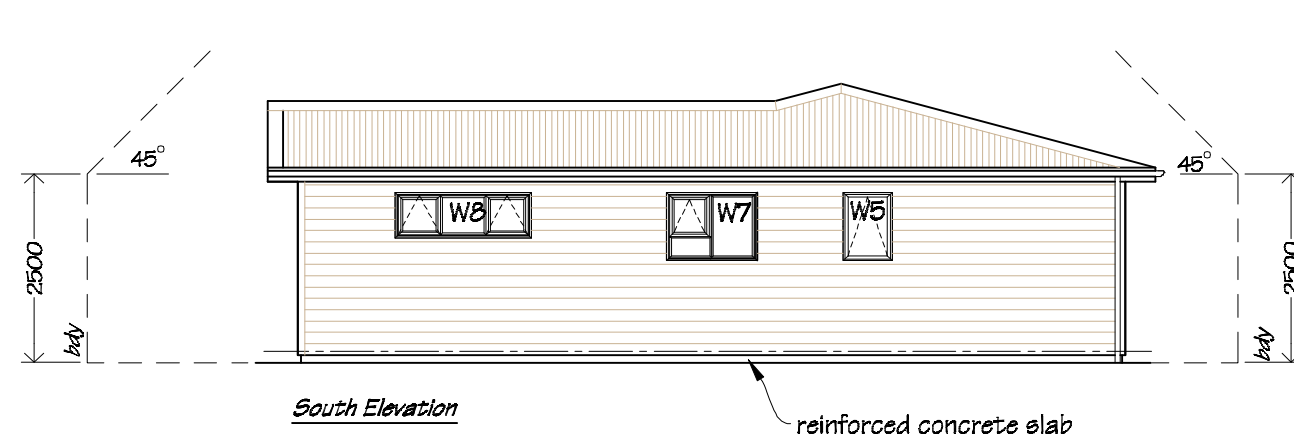
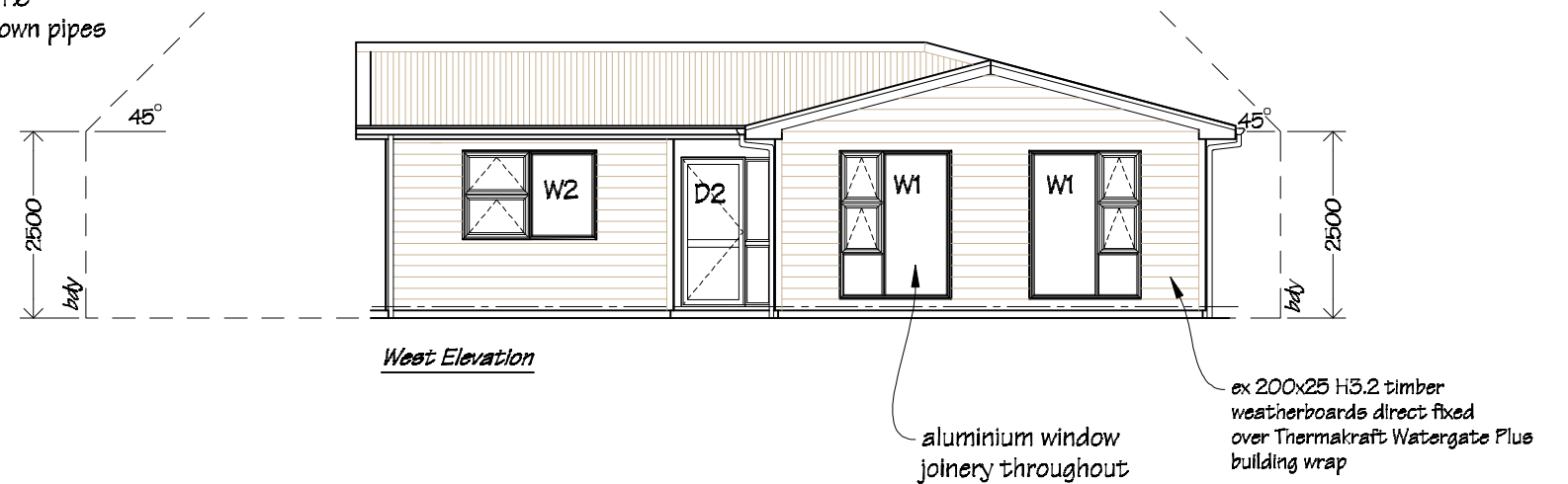
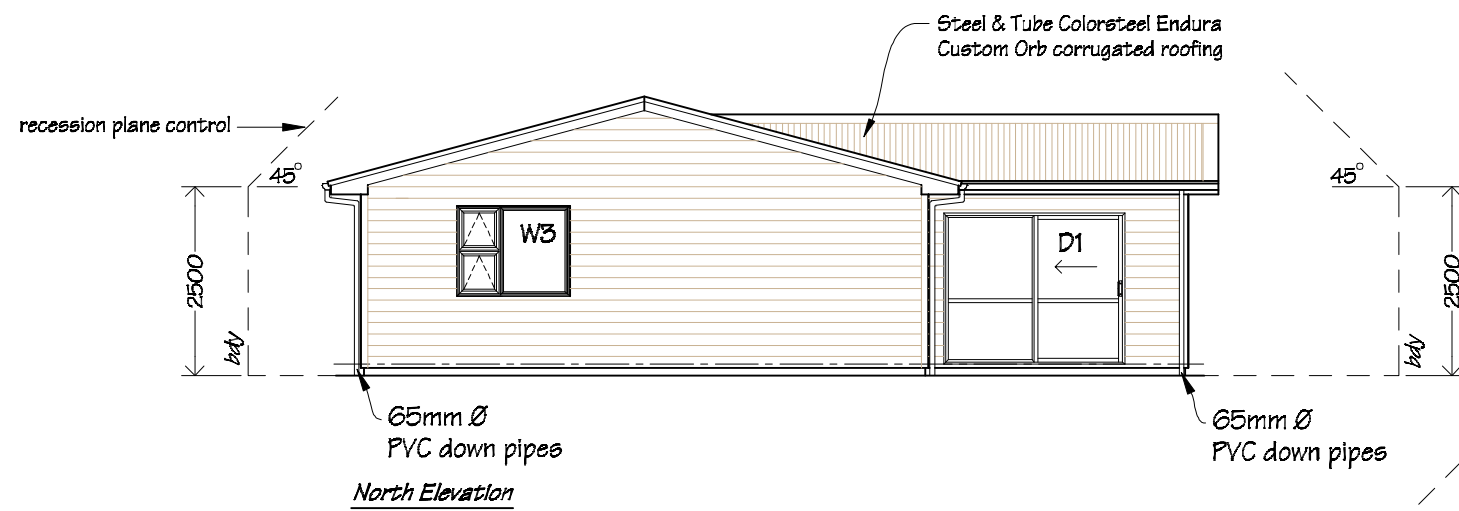
scale 1:3

 IR Group Ltd Design - Project Management - Planning	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Exterior Sliding Door Flashing Details	REVISIONS	Scale	1:3	Pricing/Building Consent Drawings	
	Mobile- Ian 021-427.347				No Date Description	Date	15/02/17		
	Mobile- Stephen 027-3355889					Original sheet size	A3		
	Email- ian@irgroup.co.nz					Drawn	S. T.		
	steve@irgroup.co.nz					Sheet No	16 of 22		Do not scale from drawings. Check all dimensions on site.
	Web- www.irgroup.co.nz					Dwg Ref	16		




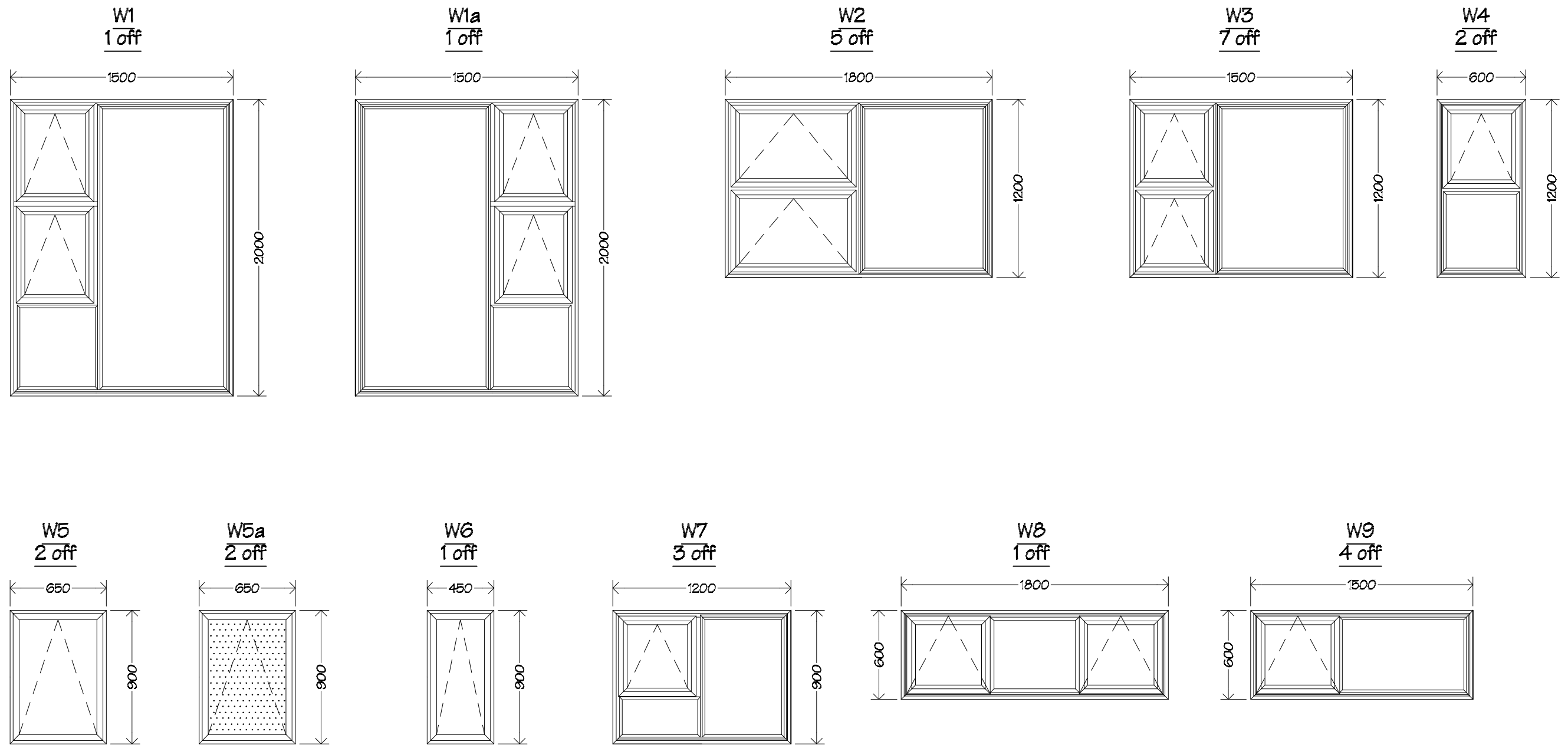
PAINTING
Allow to paint weatherboard cladding, eaves linings, fascia boards, barge boards and all miscellaneous timber trim.
Paint colours to be advised by owner.

 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Houses 1 & 2 Exterior Elevations	REVISIONS	Scale 1:100	Pricing/Building Consent Drawings
	Mobile- Ian 021-427.347				<u>No</u> <u>Date</u> <u>Description</u>	Date 15/02/17	
	Mobile- Stephen 027-3355889					Original sheet size A3	
	Email- ian@irgroup.co.nz					Drawn S.T.	
	steve@irgroup.co.nz					Sheet No 17 of 22	
	Web- www.irgroup.co.nz					Dwg Ref 17	



PAINTING
 Allow to paint weatherboard cladding, eaves linings, fascia boards, barge boards and all miscellaneous timber trim.
 Paint colours to be advised by owner.

 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE House 3 Exterior Elevations	<table><tr><th colspan="3">REVISIONS</th></tr><tr><th>No</th><th>Date</th><th>Description</th></tr><tr><td> </td><td> </td><td> </td></tr></table>	REVISIONS			No	Date	Description				Scale 1:100	Pricing/Building Consent Drawings
	REVISIONS															
	No					Date	Description									
	Mobile- Ian 021-427.347					Date 15/02/17										
	Mobile- Stephen 027-3355889					Original sheet size A3										
Email- ian@irgroup.co.nz	Drawn S. T.															
steve@irgroup.co.nz	Sheet No 18 of 22															
Web- www.irgroup.co.nz	Dwg Ref 18															
<i>Do not scale from drawings. Check all dimensions on site.</i>																




NOTE:
Window 5a to have
obscure glass.

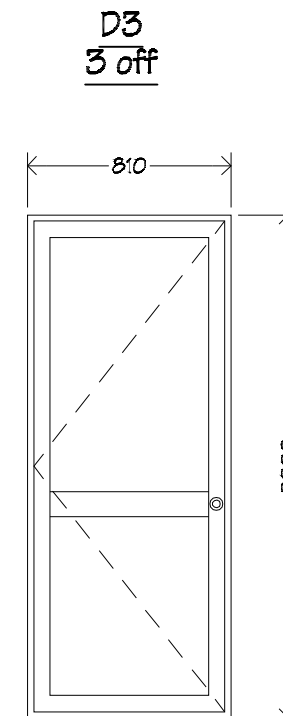
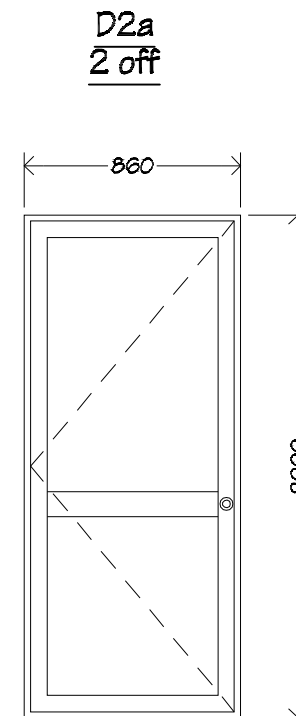
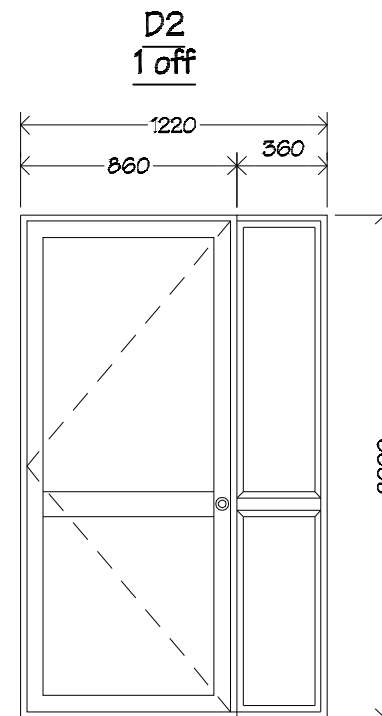
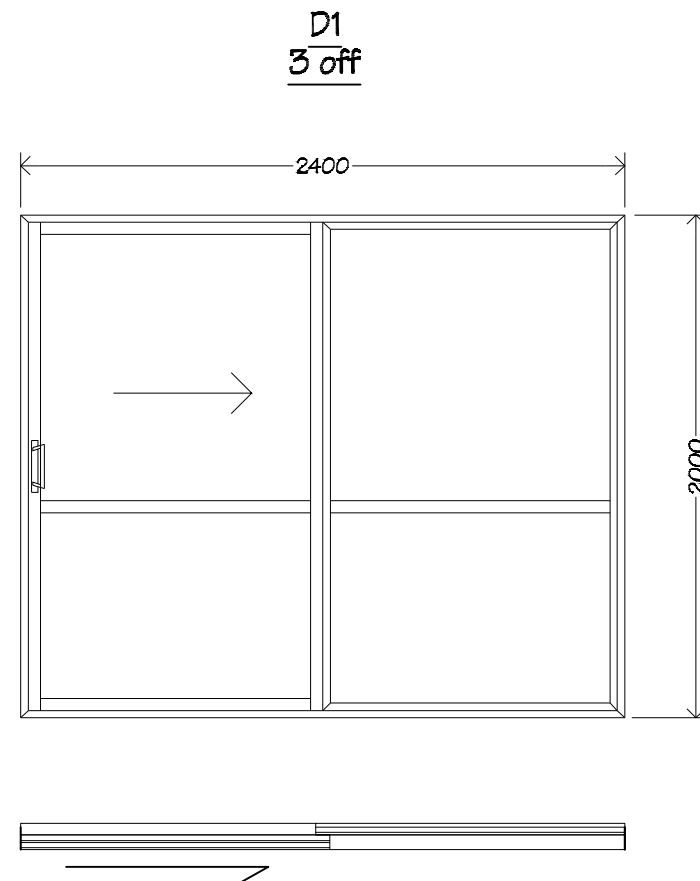
All windows to be powder coated residential suit aluminium double glazed windows.

All glazing to be clear double glazed safety glass.

All aluminium joinery to comply with NZS4211.

All glazing to comply with NZS 4223.

 IR Group Ltd Design - Project Management - Planning	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Window Schedule	REVISIONS	Scale 1:30	Pricing/Building Consent Drawings	
	Mobile- Ian 021-427.347				No Date Description	Date 15/02/17		
	Mobile- Stephen 027-3355889					Original sheet size A3		
	Email- ian@irgroup.co.nz					Drawn S. T.		Do not scale from drawings. Check all dimensions on site.
	steve@irgroup.co.nz					Sheet No 19 of 22		
	www.irgroup.co.nz					Dwg Ref 19		



Doors D1 to be double glazed exterior Nulook Sovereign Series, (or similar), exterior sliding aluminium doors.

Doors D2, D2a & D3 to be double glazed exterior Nulook Sovereign Series, (or similar), hinged aluminium exterior doors. (Door D2 to matching side light).

Door and frame to be powder coated aluminium.

Glazing to be double glazed Grade A safety glass.

Refer to floor plans for handing and overall size. Check dimensions on site.

Doors D4 to be glazed, paint quality solid timber interior double doors, selected by owner.


Doors D5 to be paint quality, hollow core timber 810mm interior doors, selected by owner.

Doors D6 to be paint quality, hollow core timber 810mm interior doors, selected by owner.

Doors D7 to be C5 Cavity Slider, (or similar), hollow core timber 810mm interior cavity sliding doors, selected by owner.

Doors D8, D9 & D10 to be proprietary interior wardrobe doors, selected by owner.

Doors D11, D12 & D13 to be proprietary interior sliding wardrobe doors, selected by owner.

 IR Group Ltd <small>Design - Project Management - Planning</small>	Phone- Office 04 526-7711	BRASH Ltd 16 Jessie Street Petone	PROJECT Site Development 25 Wainuiomata Road Wainuiomata	DRAWING TITLE Door Schedule	REVISIONS <table><tr><th>No</th><th>Date</th><th>Description</th></tr></table>	No	Date	Description	Scale	1:50	Pricing/Building Consent Drawings
	No					Date	Description				
	Mobile- Ian 021-427.347					Date	15/02/17				
	Mobile- Stephen 027-3355889					Original sheet size	A3	Do not scale from drawings. Check all dimensions on site.			
	Email- ian@irgroup.co.nz					Drawn	S. T.				
	steve@irgroup.co.nz					Sheet No	20 of 22				
Web- www.irgroup.co.nz	Dwg Ref	20									



HOT WATER CYLINDER RESTRAINTS

The recent earthquakes in Canterbury have highlighted the need to secure items that may be critical to occupants' survival after an earthquake. One such item is the hot water cylinder.

By Graeme Beattie, BRANZ Principal Engineer

Hot water cylinders are a very valuable source of freshwater when the town supply is cut off, as happened after the earthquake in some parts of Christchurch for several weeks.

The hot water cylinder represents a large inertial mass – a 135 litre cylinder weighs approximately 170 kg when full. Without restraint, these can be flung around by the force of the earthquake and damage other items, or the pipe connections can be fractured (see Figure 1).

Block base and restrain top

Timber blocking may be installed to prevent sliding of the base of the cylinder on its supporting structure (see Figure 2). A minimum of three blocks should be used, spaced as evenly as possible around the perimeter. Each block needs to be fixed down with two Type 17 screws 75 mm long and not less than 12 g or two 100 mm long nails. However, this is only half of the answer.

The hot water cylinder is also liable to topple if it is not restrained at or near the top. Very often, there is only a single wall to which the restraint can be attached. The simplest solution is to install a metal strap commonly available from a builders' merchant (see Figures 2 and 3).



Figure 1: Damage to wall linings from unrestrained hot water cylinder.

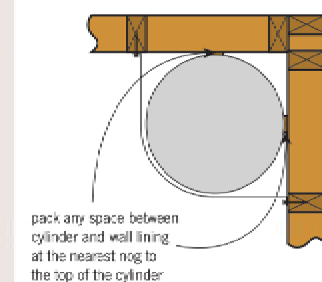
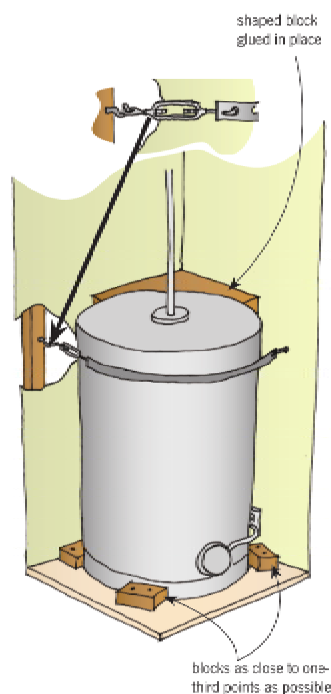


Figure 2: Recommended restraints for hot water cylinder in corner.

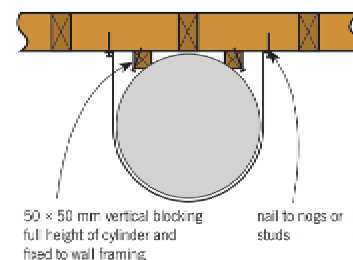
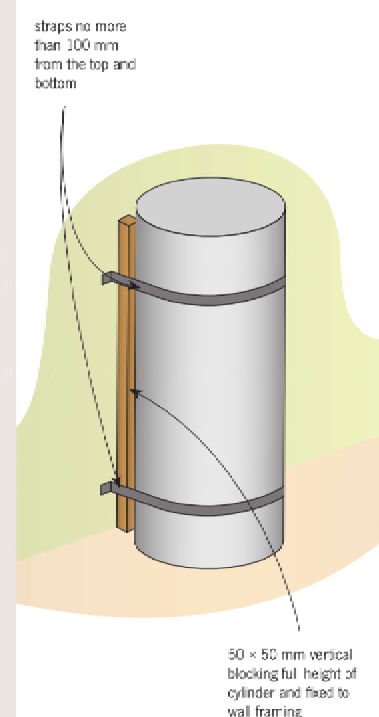


Figure 3: Hot water cylinder restraints on a flat wall (alternative to base blocks and strap at top).

It is important to have a solid substrate to which the restraint strap is attached, and studs or nogs should be located before fixing the strap.

Blocking needed at top as well

Wrapping the strap around the cylinder and fixing it to the wall on each side is not an adequate solution because the cylinder can still rock parallel to the wall during an earthquake.

It is important to fit timber blocking in conjunction with the metal strap (see Figures 2 and 3). This will allow the cylinder to be snugly restrained. As with the base restraint, adequate fixing strength is important to ensure satisfactory performance in an earthquake. Type 17 screws at least 50 mm long are recommended with a 30 x 2 mm square washer to sandwich the strap. Alternatively, a heavy duty hook may be fitted to the stud or nog and a

turnbuckle included in the strap for tensioning. A similar system may be installed near the base of the cylinder if there is no opportunity to fit the timber blocks on the supporting structure beneath.

Similar system for cylinders in corners

Where the cylinder can be restrained in a corner between two walls, a similar restraint system may be used. Again, it is important to pack the space between the cylinder and the walls to ensure that it is firmly sandwiched between the strap and the walls.

Retrofit possible

The restraint systems described can be installed on existing hot water cylinders, but it is simpler to have the restraint fitted during installation.

This allows good access to the back of the hot water cylinder to fit packing.

Curved timber packing blocks ensure an even bearing on the cylinder outer casing for restraint.

Heat pump water heaters

Heat pump water heaters are now becoming more common. These usually stand outside the house against the wall with rigid plumbing to the house.

Appropriate packing and blocking can be fitted in place before heat pumps are installed. This will ensure a satisfactory seismic restraint from the outset.

The method is essentially the same as for hot water cylinders, with the aim of preventing movement away from the wall or along the wall, so that the plumbing connections remain sound during an earthquake. ◀



Phone- Office 04 526-7711
Mobile- Ian 021-427,347
Mobile- Stephen 027-3355889
Email- ian@irgroup.co.nz
steve@irgroup.co.nz
Web- www.irgroup.co.nz

BRASH Ltd
16 Jessie Street
Petone

PROJECT
Site Development
25 Wainuiomata Road
Wainuiomata

DRAWING TITLE
Hot Water Cylinder
Restraint Information

REVISIONS
No Date Description

Scale N.T.S.
Date 15/02/17
Original sheet size A3
Drawn S.T.
Sheet No 21 of 22
Dwg Ref 21

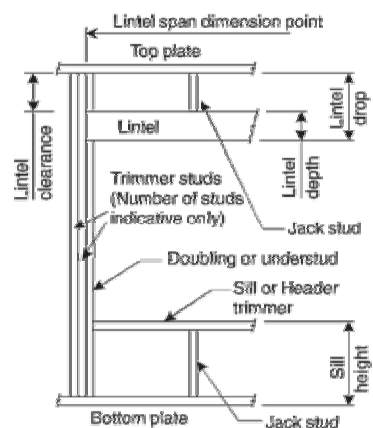
Pricing/Building Consent
Drawings
Do not scale from drawings.
Check all dimensions on site.

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	G	G	G	H	G
11.6 m²	G	H	H	G	G	H	H	G
12.1 m²	G	H	H	G	G	H	H	G
15.3 m²	H	H	-	G	H	H	-	G
19.1 m²	H	-	-	G	H	-	-	G
20.9 m²	H	-	-	H	H	-	-	H
21.8 m²	H	-	-	H	H	-	-	H
34.3 m²	-	-	-	H	-	-	-	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

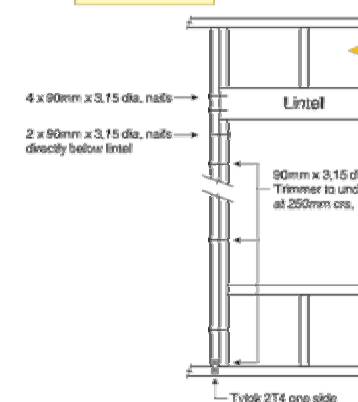
Lintel Span	Loaded Dimension (See Fig. 7.2 NZS 3604:2011)	Light Roof				Heavy Roof			
		Wind Zone				Wind Zone			
		L	M	H	VH	L	M	H	VH
0.7	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	E	F	E	E	E	F
	4.0	E	E	F	F	E	E	F	F
	5.0	E	F	F	G	E	F	F	F
	6.0	E	F	F	G	E	F	F	G
0.9	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	E	F	F	E	E	F	F
	5.0	E	F	F	G	E	F	F	F
	6.0	E	F	F	G	E	F	F	G
1.0	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	F	F	G	E	F	F	F
	5.0	E	F	F	G	E	F	F	G
	6.0	E	F	F	G	E	F	F	G
1.2	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	F	F	G	E	F	F	F
	5.0	E	F	F	G	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
1.5	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	F	F	G	E	F	F	F
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
2.0	2.0	E	E	E	F	E	E	E	F
	3.0	E	E	F	F	E	E	F	F
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
2.4	2.0	E	E	E	F	E	E	E	F
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
3.0	2.0	E	E	E	F	E	E	E	F
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
3.6	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.2	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.5	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.8	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G



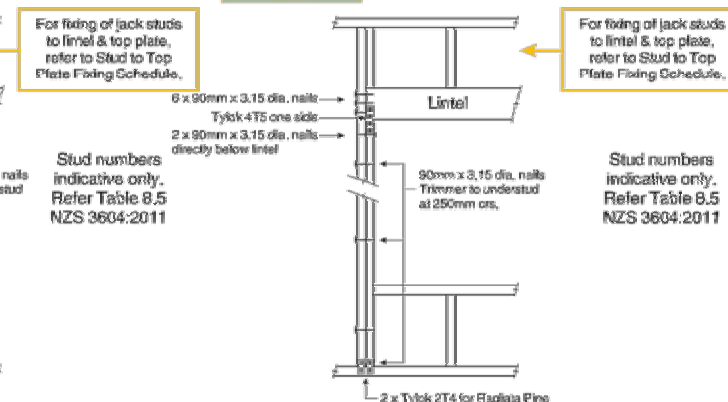
© Copyright 2011 MiTek Holdings, Inc. All rights reserved.

LINTEL FIXING OPTIONS

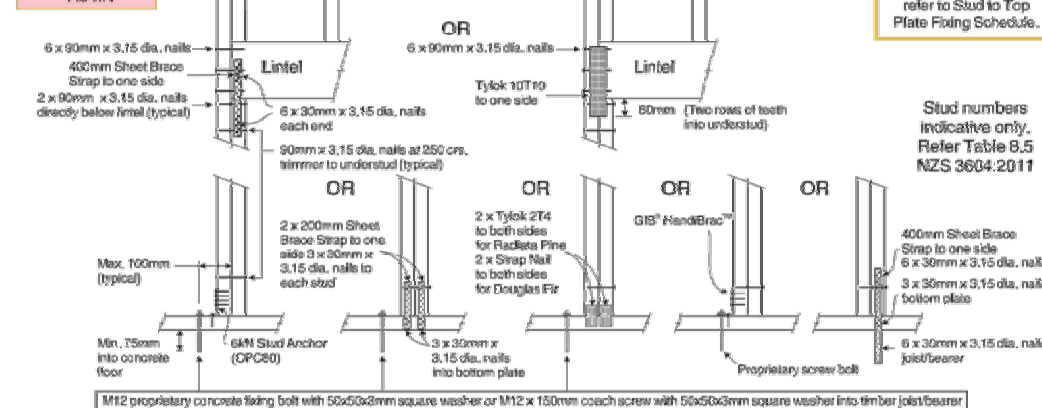
TYPE E 1.4 kN



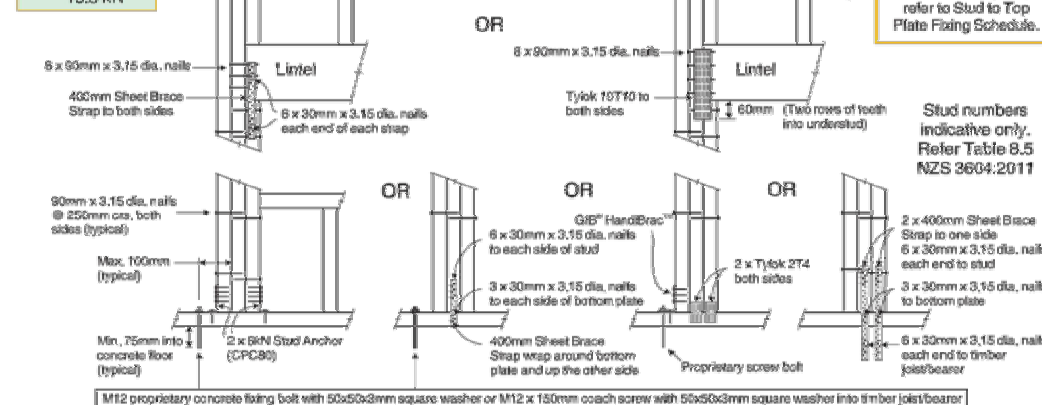
TYPE F 4.0 kN



TYPE G 7.5 kN



TYPE H 13.5 kN



MiTek New Zealand Limited

AUCKLAND
PO Box 8887, Balmby 2163
Phone: 09-274 7109
Fax: 09-274 7130

CHRISTCHURCH
PO Box 8887, Riccarton 8440
Phone: 03-348 8881
Fax: 03-348 0314

© Copyright 2011 MiTek Holdings, Inc. All rights reserved.



Phone- Office 04 526-7711
Mobile- Ian 021-427,347
Mobile- Stephen 027-3355889
Email- ian@irgroup.co.nz
steve@irgroup.co.nz
Web- www.irgroup.co.nz

BRASH Ltd
16 Jessie Street
Petone

PROJECT
Site Development
25 Wainuiomata Road
Wainuiomata

DRAWING TITLE
Lintel Fixing Information

REVISIONS
No Date Description

Scale N.T.S.
Date 15/02/17
Original sheet size A5
Drawn 6. T.
Sheet No 22 of 22
Dwg Ref 22

Pricing/Building Consent
Drawings
Do not scale from drawings.
Check all dimensions on site.