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PRIME DESIGNS

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These documents must be retained on site. Inspections may not be carried out if they are not.

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Project	D5-G Milford
Address	Lot 5, Stage 1, Manapouri Grove, Kelson, Lower Hutt
Client	Friday Homes
Job Number	19083
Drawing Set	Working Drawings
Drawn By	J. Bailie / B McLeod
Date Published	2/12/2020
Description Of Work	New timber framed 4 bedroom house with attached double garage. Linea weatherboards and Rockcote Integra wall cladding over cavity with corrugated roofing cladding. RibRaft slab foundation, trusses by truss manufacturer. Services to be connected include foul water, stormwater, water supply, power, phone

LICENSED BUILDING PRACTITIONER
BUILDING CONFIDENCE

ADNZ Architectural Designers New Zealand
Professional Member







Drawing Index BC201569

Sheet	Name
1 Plans	
101	Cover Page
102	Site Locality
103	Site Plan
104	Foundation Plan
105	Proposed Floor Plan
106	Roof Plan
107	Bracing Plan
108	Plumbing Plan
109	As-Laid Drainage Plan
110	Electrical Plan
2 Sections	
201	Section A
202	Section B
3 Elevations	
301	Elevations
4 Details	
401	Details - Foundation & Cladding
402	Details - Window & Door
403	Details - Roof
404	Details - Meter Box & Penetrations
405	Foundation Penetrations
406	Details - Internal Waterproofing
407	Details - Internal Waterproofing cont.
408	Details - Bracing
409	Details - Bracing Cont.
410	Details - Bracing Cont.2
411	Details - Bracing Cont.3
412	Ceiling Diaphragm
413	Details - Stud & Lintel Fixings
414	Hot Water Cylinder
5 Schedules	
501	Window & Door Schedule

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SPEEDYS STREAM

RECREATION RESERVE
Lot 2
DP 91313

Lot 8
DP 54673

STAGE 01

STAGE 02

STAGE 03

STAGE 04

STAGE 05
RESIDUAL LAND SUBJECT TO FUTURE RESOURCE CONSENT

STAGE 06
RESIDUAL LAND SUBJECT TO FUTURE RESOURCE CONSENT

HCC For Reference Only

KAITANGATA CRESCENT

MAJOR DRIVE

WAIPOUNAMU DRIVE

OTIRA GROVE

CHRISTCHURCH CRESCENT

ROAD-01
ROAD-02
ROAD-03
ROAD-04
ROAD-05
ROAD-06
ROAD-07
ROAD-08

Location of site

Lot 565 DP 45541
Lot 566 DP 45541
Lot 567 DP 45541
Lot 568 DP 45541
Lot 569 DP 45541
Lot 570 DP 45541
Lot 571 DP 45542
Lot 572 DP 45542
Lot 573 DP 45542
Lot 574 DP 45542
Lot 576 DP 44501
Lot 577 DP 44501
Lot 578 DP 44501
Lot 579 DP 44501
Lot 580 DP 44501
Lot 581 DP 44501
Lot 582 DP 44500
Lot 583 DP 44500
Lot 584 DP 44500
Lot 400 DP 44500
Lot 399 DP 44500
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Lot 386 DP 44499
Lot 274 DP 42106
Lot 275 DP 42106
Lot 326 DP 42407
Lot 327 DP 42407
Lot 328 DP 42407
Lot 329 DP 42407
Lot 330 DP 42407
Lot 331 DP 42407
Lot 332 DP 42407
Lot 333 DP 42406
Lot 334 DP 42406
Lot 335 DP 42406
Lot 336 DP 42405
Lot 337 DP 42405
Lot 381 DP 44409
Lot 382 DP 44409

REV.	REVISION DETAILS	DRAWN	APP.
1	FOR ENGINEERING APPROVAL		

macroVentures

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PROJECT DETAILS
GENESIS RESIDENTIAL LTD
DEVELOPMENT OF
STAGE 1 - 64 WAIPOUNAMU DRIVE,
KELSON, LOWER HUTT

TITLE
STAGE PLAN

0 20 40 60 80 100m

SCALE 1:2000 AT ORIGINAL SIZE

DATE CREATED	REF NO
14/09/2020	P0246

DRAWN	DESIGNED	APPROVED
JM	JM	TSN

SCALE	REVISION
AS SHOWN @ A3	1

DWG NUMBER	SERIES
004	000

DATE PLOTTED: Thursday, 17 September 2020 12:43:43 PM FILE PATH: D:\MACROVENTURES Dropbox\MACRO\200-PROJECT\P0246 Manapouri Grove\CAD\Drawing Sheets\STG 1\P0246 Manapouri Gr-000-Rev01.dwg

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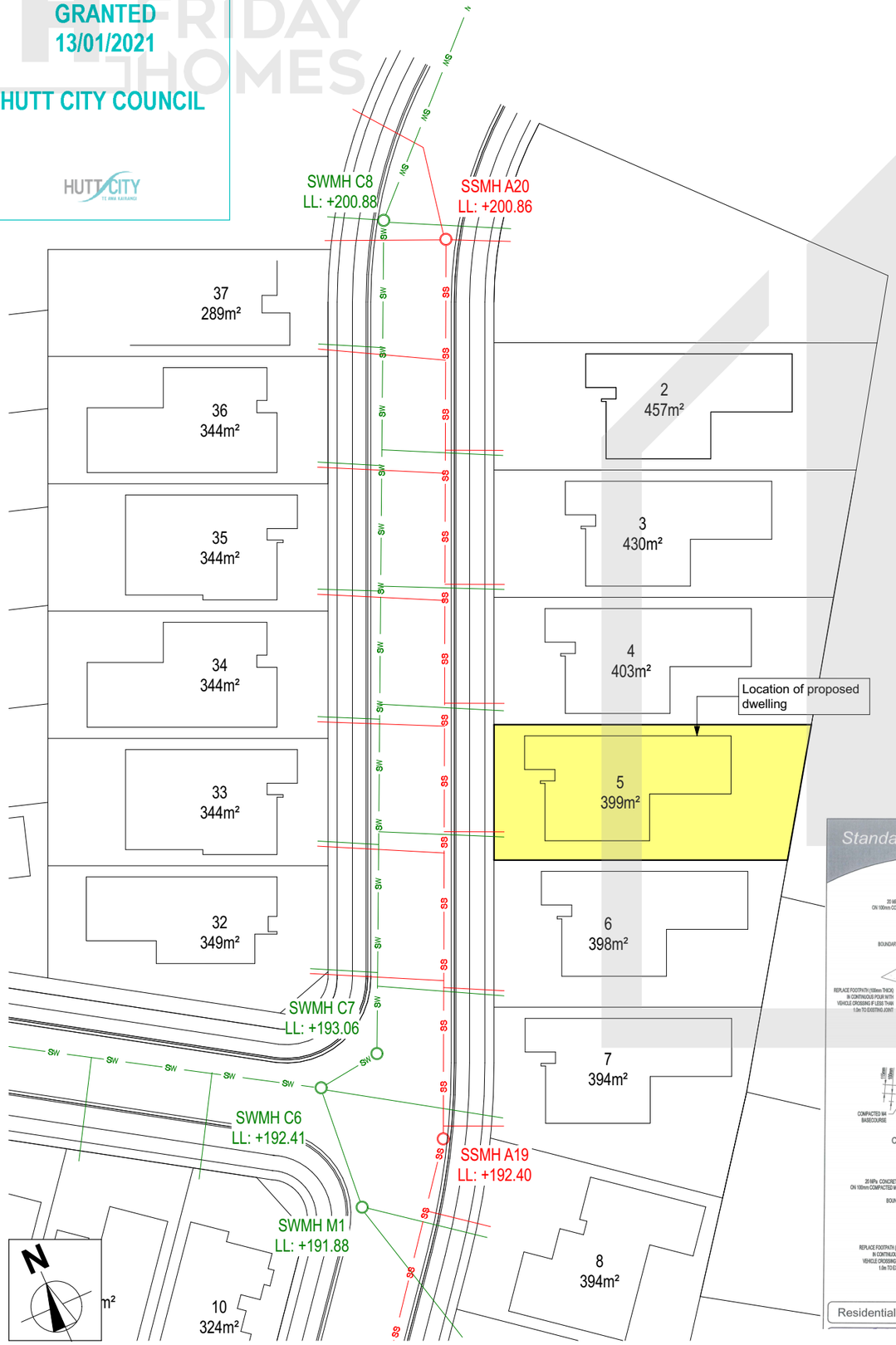
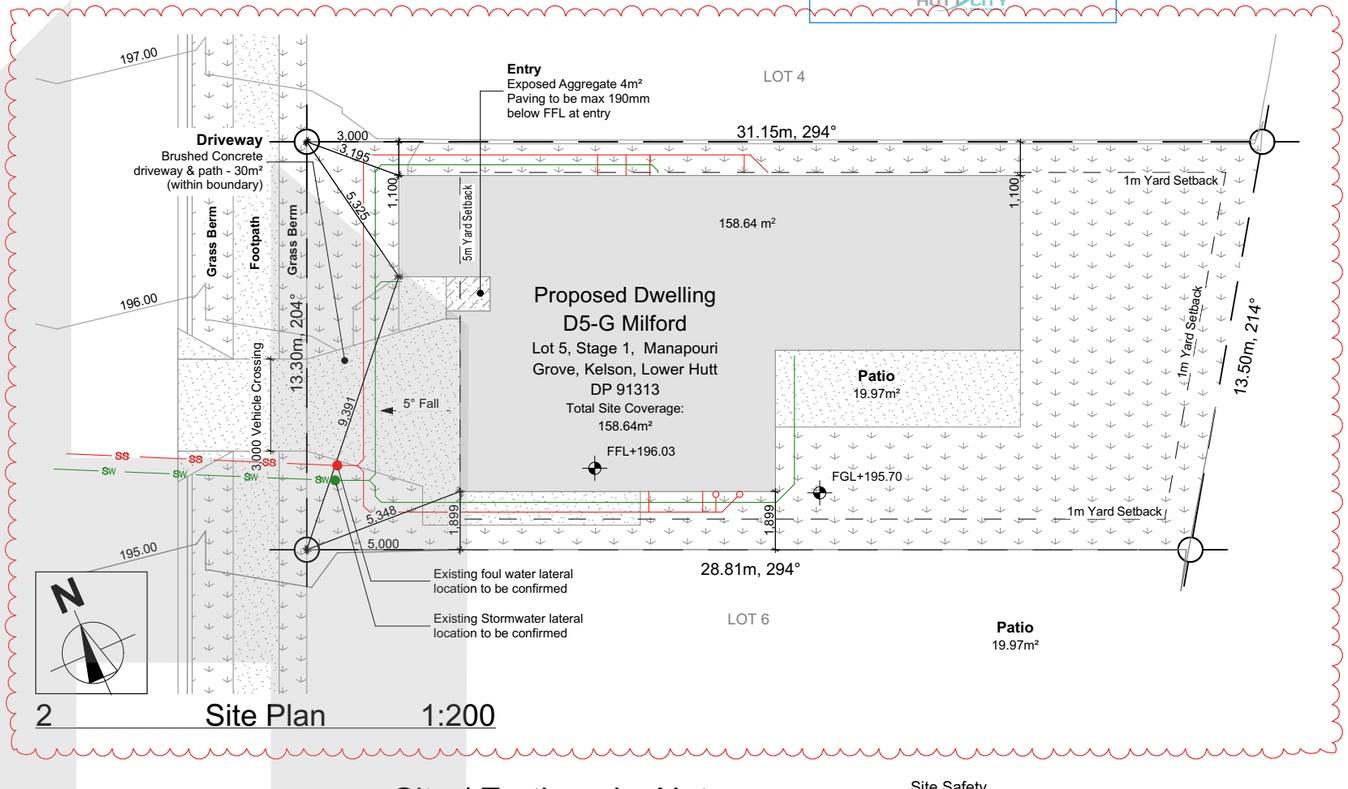
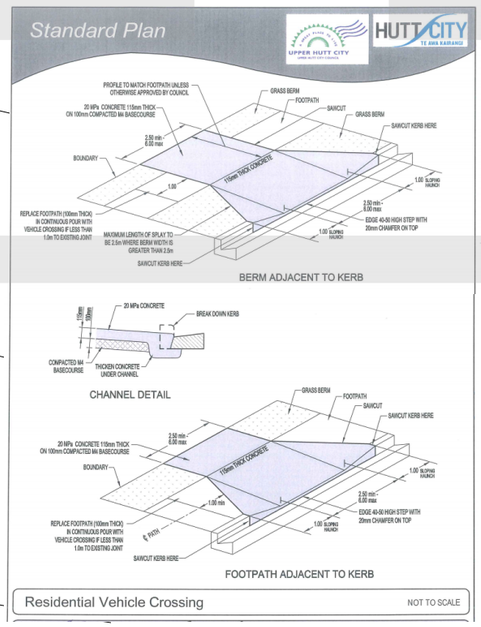


1 Site Location 1:500



2 Site Plan 1:200



Site / Earthworks Notes

Site information
Legal description:Proposed Lot 5, DP 91313
Address: Stage 1 Manapouri Grove, Kelson, Lower Hutt
Subdivision of: Lot 1 DP 91313, 64 Waipounamu Drive, Kelson
Site area: 399m²
Site Coverage: 158.64m²
Site Coverage %: 39.7%
Wind zone: H
Earthquake zone: 3
Exposure zone: C

Permanent paving
Permanent paving including driveway, entry paths & patios to be 100mm thick 20MPa concrete, ensure all concrete is laid to fall @ 1:25 away from house for a distance of at least 1 metre. Where site conditions do not readily allow such a 1m wide strip to be formed, then permanent paving shall be laid to the falls and dimensions shown in NZS3604:2011 figure 7.12
Minimum slip resistance co-efficient for level surface between 0.25 and 0.50 acceptable in accordance with NZBC: D1/AS1 Access.

Site levels
Site levels have been taken from the Stage 1 Scheme Plan provided by Macroventures. If there are any inaccuracies or inconsistencies please contact designer for clarification prior to commencing work

Datum has been taken from the Stage 1 Scheme Plan provided by Macroventures. If there are any inaccuracies or inconsistencies please contact designer for clarification prior to commencing work.

Boundary information
Boundary information has been taken from the Stage 1 Scheme Plan provided by Macroventures. If there are any inaccuracies or the building position in relation to district plan constraints is critical, please consult designer prior to commencing work.

Site Safety
All precautions are to be undertaken to prevent unauthorised accessto the site, including access outside working hours. Any Site Fencing shall comply with NZBC F5/AS1 Construction and demolition hazards.

Where a construction site contains any hazard which might be expected to attract the unauthorised entry of children, the hazard shall be enclosed to restrict access by children.

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D5-G Milford
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Site Plan

ISSUE DATE: 13/01/2021	REV. DATE:	SHEET NO.	
REF: 19083		103r1	
SCALES (A3): 1:200, 1:500	CODE:		

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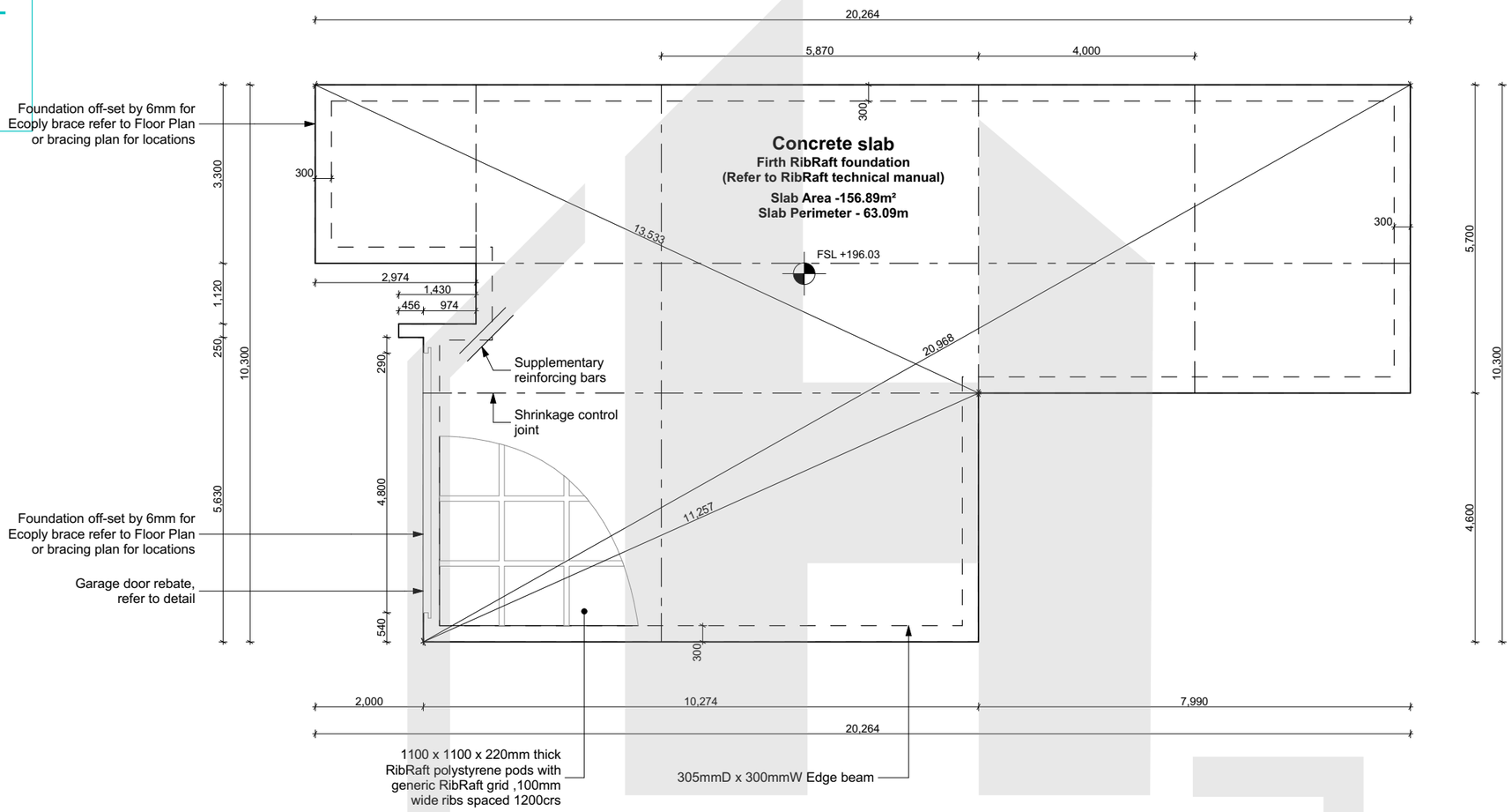


Foundation Notes

Firth RibRaft foundations - general
Refer to Firth RibRaft technical manual for construction details.

Excavate 335mm approximately from finished floor level.
Thermakraft Black damp-proof membrane (250 micron), over sand blinding and compacted granular fill

1100x1100x220thick polystyrene pods in a grid pattern at 1200mm centres.

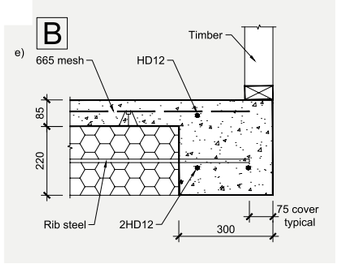
Firth 300mm spacers for edge beams. Firth 100mm spacers for standard internal ribs.
Reinforcing bars and 665 Mesh supported on 40mm mesh chairs sitting on the polystyrene pods positioned and installed to Firth RibRaft technical manual.

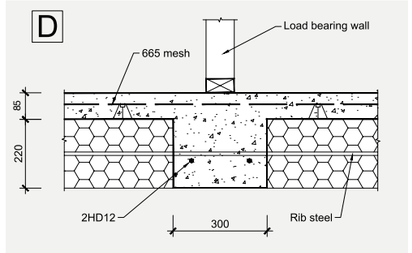
Typically, 85mm thick slab with 300mm wide slab edge beam around perimeter.
Foundation plan for dimensions only

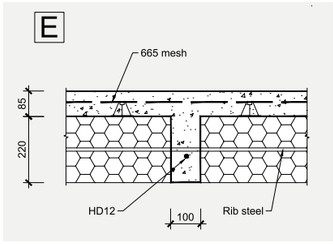
Supplementary reinforcing bars
Supplementary reinforcing bars 2-HD12 bars (Grade 500E) 1200mm long, 200mm apart, tied to the top of the mesh, with 50mm side cover and shall not be placed across any shrinkage control
joints. Refer to Firth RibRaft technical manual

Shrinkage control joint
25mm deep saw cut @ 6m intervals max, cuts to be under walls where possible.
Shrinkage control joints shall be placed over 100mm wide internal ribs wherever possible. Where a shrinkage control joint runs along the line of a 300mm wide load bearing rib then the joint shall be located directly above one edge of the 300mm rib.

6mm Offset
Set out dimensions of slab have been reduced by 6mm from external face of the framing from garage door edge to allow for ply. Refer to floor plan for external wall dimensions.







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Foundation Plan

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	104
REF: 19083			
SCALES (A3): 1:100	CODE:		

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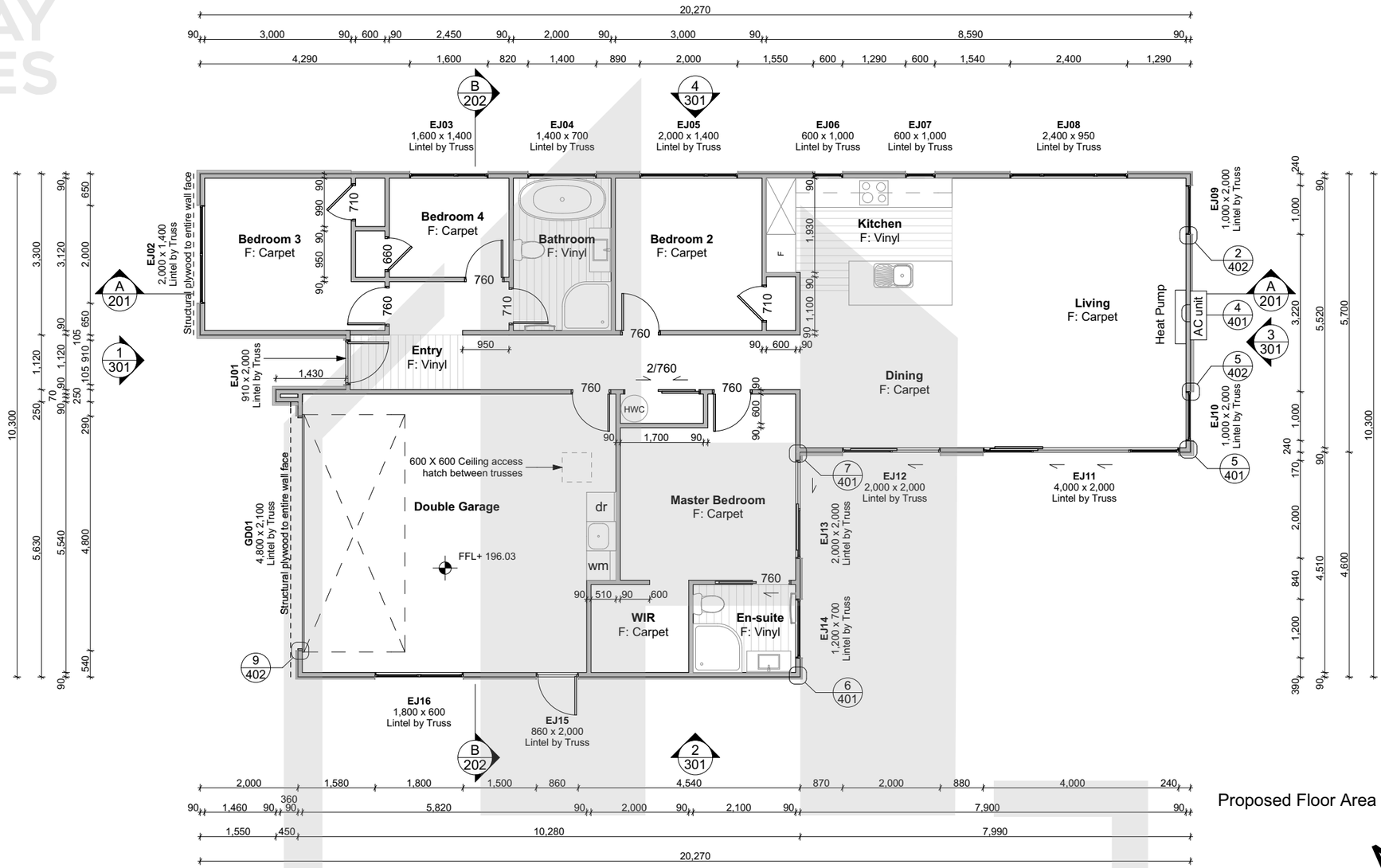

Proposed Floor Area = 156.93m²

Floor Plan Notes

Wall framing general
Double 90x45mm top plates to all walls. Nog for all fittings, fixtures, linings, bracing panels & trims
Wall framing height to be 2465mm finished

DPC between bottom plate and concrete slab, Ramset M12 AnkaScrew bottom plate anchors to be within 150mm of each end of the plate and be spaced @ 900mm crs max to comply with NZS3604:2011 clause 7.5.12.2.

Lintel sizes as noted on floor plans, all lintels to be H1.2 SG8 unless otherwise noted. Uplift fixings noted on floor plan as per attached Pryda Options:
L1 - 1.4 kN
L2 - 2.8 kN
L3 - 8.0 kN
L4 - 14kN

All trimming studs to comply with NZS3604:2011 clause 8.5.2.1 unless specified otherwise by pre-nailer

All window and door sizes shown on the plans refer to 'Box' size only and do not allow for Packers. Pre-nailer to increase opening width accordingly

Non-load bearing wall framing
90x45mm H1.2 SG8 framing, studs @ 600mm crs to & 90x45 dwangs spaced at 800mm crs. NZS3604:2011

Load bearing wall framing
90x45mm H1.2 SG8 framing, studs @ 600mm crs to & 90x45 dwangs spaced at 800mm crs. NZS3604:2011

Zone B & C fixings and fastenings
Structural fixings except fabricated brackets in a Sheltered environment to be - Hot-dipped galvanized steel
Structural fixings except fabricated brackets in an Exposed environment to be - Type 304 stainless steel
All fixings to be suitable for exposure zone C as outlined in NZS3604:2011 section 4.4 "steel fixings and fastenings"

Fixings and fastenings all Zones
Nail plates, wire dogs & bolts in roof spaces and closed environments to be Continuously coated galvanized steel or Hot-dipped galvanized steel

Thermakraft Wall underlay
Thermakraft Watergate Plus wall underlay installed to wall framing using 6-8mm staples or 20mm large head galvanized clouts at 300mm crs horizontally and vertically. 150mm min overlap at joins, all vertical laps must be made over studs. Installed to manufacturers specification. Additionally, install 25mm wide Thermastrap horizontally at 300mm crs

Wall insulation
90mm thick R2.2 Earthwool Glasswool wall insulation to all external walls and internal walls between garage and habitable space. No insulation to garage external walls.

Ceiling insulation
105mm thick R3.2 Earthwool Glasswool insulation, No insulation to garage ceilings. Minimum 25mm gap between ceiling insulation and roof underlay.

Rockcote Integra over 20mm cavity
Resene Construction Systems Integra LWC facade system, 50mm thick Rockcote Integra panel on 40x20mm H grade polystyrene battens, refer to specification for fixings and finishing systems

Linea weatherboards over cavity
180mm James Hardie Linea weatherboards over 45x18mm H3.1 timber cavity battens on wall underlay. Refer to manufacturer's information & details for fixing and waterproofing requirements

10mm GIB plasterboard wall lining
Generally, line with 10mm GIB Standard plasterboard (Aqualine to wet areas) stopped for level 4 paint finish (unless otherwise indicated). Refer also specific fitout dwgs & bracing schedule for specific wall linings & requirements.

13mm GIB board ceiling lining
Generally line with 13mm GIB board ceiling with GIB Rondo 310 battens attached to 311 clip fixed to trusses. GIB Aqualine to wet areas. Stopped for level 4 finish.

Wall linings adjacent to appliances
CL1.6 G3, Wall linings adjacent to appliances and facilities shall have surfaces that can be easily maintained in a hygienic condition and comply with. Stainless steel, decorative high-pressure laminate, tiles, wallboards with painted or applied impervious coatings or films, are all suitable materials for these surfaces.

Vinyl flooring
Client selected vinyl to be installed over vinyl adhesive in areas noted on floor plan.

Slip resistance
Minimum slip resistance co-efficient for level surface between 0.25 and 0.50 acceptable in accordance with NZBC:D1/AS1 Access.

Internal doors
All internal door leaf widths as noted on floor plan, all heights 1980mm unless otherwise noted

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Proposed Floor Plan

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	105
REF: 19083			
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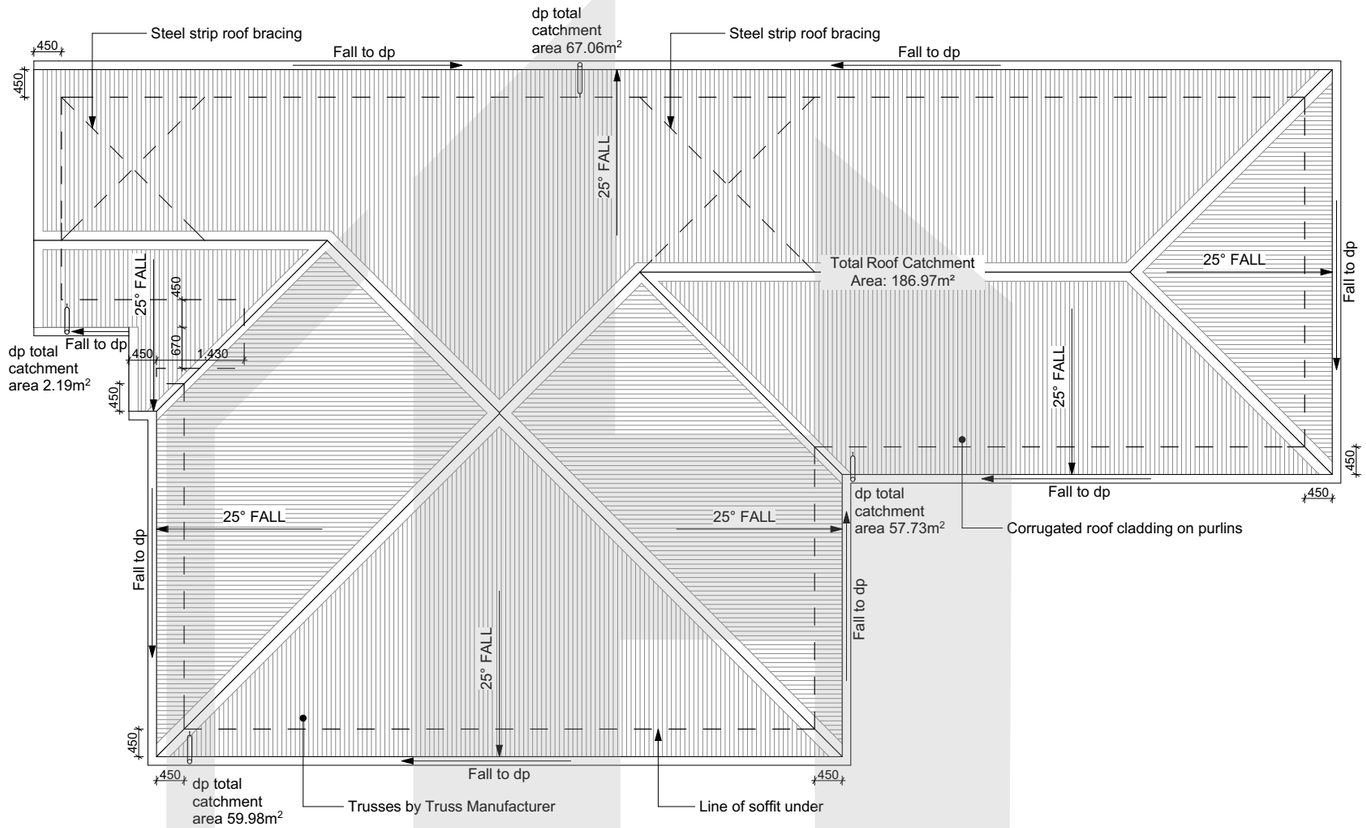

Roof Plan Notes

Roof framing general
All enclosed framing to be H1.2 SG8 unless otherwise noted. Framing to comply with NZS3604:2011

Selected metal facia

Roof bracing to comply with NZS3604:2011 section 10.4

Prefabricated roof trusses
Prefabricated roof trusses @ 900mm crs max to manufacturers specification. Manufacturer to supply producer statement.

Trusses to be treated to H1.2 unless otherwise noted
The fixing for a roof truss at its support shall be as given by the truss manufacturer but not less than that required in NZS3604:2011 tables 10.14 and 10.15 and figure 10.21

Zone B & C fixings and fastenings
Structural fixings except fabricated brackets in a Sheltered environment to be - Hot-dipped galvanized steel
Structural fixings except fabricated brackets in an Exposed environment to be - Type 304 stainless steel
All fixings be suitable for exposure zone B as outlined in NZS3604:2011 section 4.4 "steel fixings and fastenings"

Fixings and fastenings all Zones
Nail plates, wire dogs & bolts in roof spaces and closed environments to be continuously coated galvanized steel or Hot-dipped galvanized steel

Steel strip roof bracing
Diagonally opposing pair of continuous steel strips at a 45° each having a capacity of 4.0kN in tension, fixed to each top chord or rafter that is intersected and to the top plate

Roof Bracing - Hip roofs
Roofs with hip and valley rafters and framed roofs to have at least 3 hips or valleys connected to the ridge and top plates. All additional hip and valley rafters shall be counted as roof plan braces as per NZS 3604:2011 section 10.3.

Roof underlay
Thermakraft 215 bituminous self-supporting roof underlay run vertically over purlins. Fix using stainless steel 8-12mm staples or 20mm flat head clouts at 300mm crs. 150mm min cover over vertical and horizontal joins. Refer to manufacturer's information.

Corrugated roof cladding on purlins
0.4mm BMT corrugated Colorsteel Endura roof cladding over roof underlay on 70x45mm H1.2 SG8 purlins @ 900mm crs, fix purlins to trusses with 1/10g 80mm long self-drilling screw

4.5mm HardieFlex soffit lining
4.5mm James Hardie HardieFlex soffit lining fixed to 90x45mm H1.2 soffit framing using 40 x 2.8mm HardieFlex nails at 200mm crs. Soffits jointed with proprietary uPVC jointers.

Continuous spouting rainwater system
Continuous spouting rainwater system, prefinished Colorsteel spouting and downpipes, DN80 downpipes unless otherwise noted.

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Roof Plan

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	106
REF: 19083			
SCALES (A3): 1:100	CODE:		

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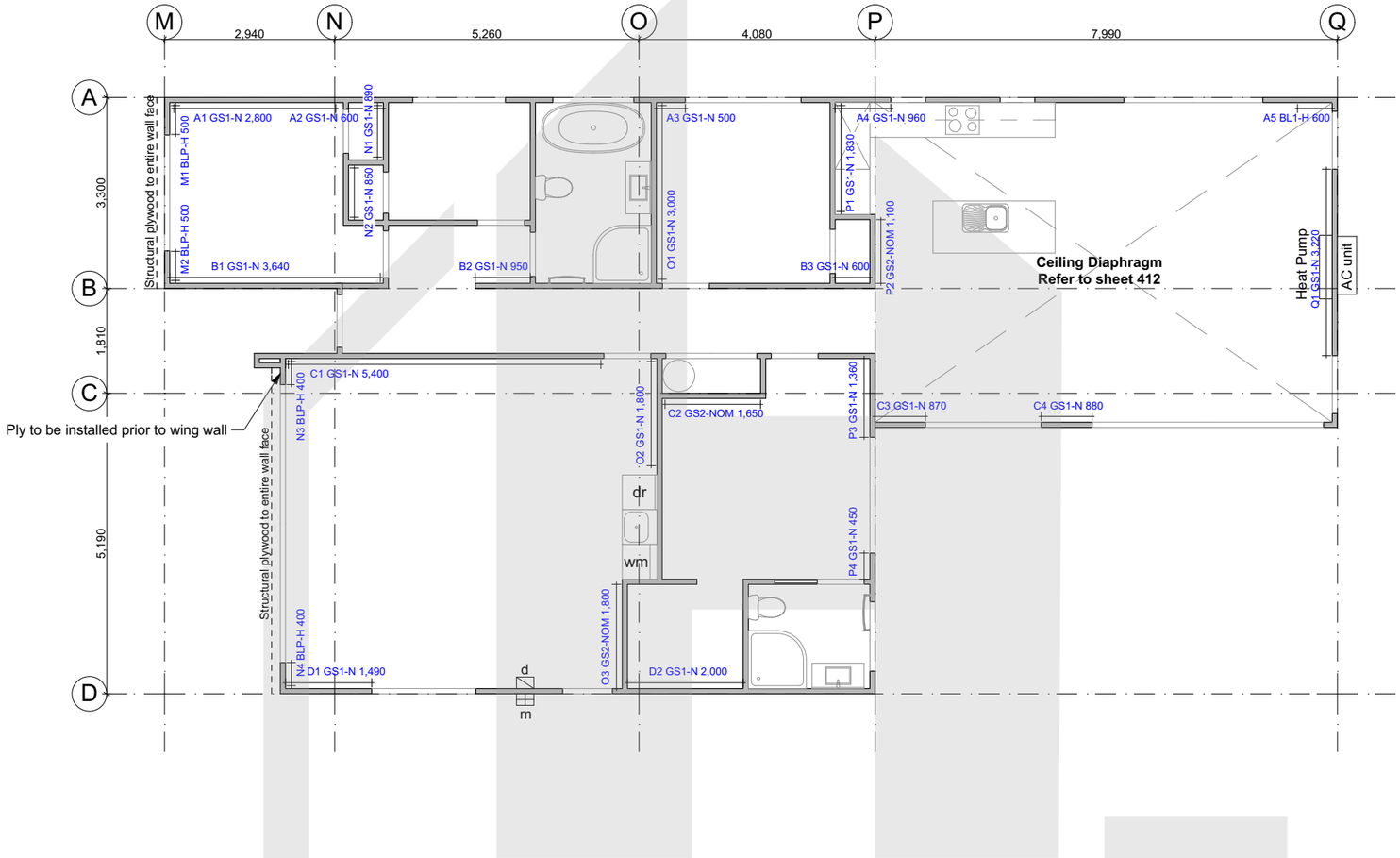

Bracing Notes

Ecoply Rigid Air Barrier
Ecoply Barrier system, 7mm thick H3.2 structural plywood with factory applied proprietary coating to sheet surface and edges. Fasteners shall be hot-dipped galvanised for zone B & C excluding zone D where stainless steel fasteners are required & annular grooved nails must be used. Fix to studs with 50x2.8mm flat head hand driven nails @ 150mm crs at sheet edges and 300mm crs within sheet body up to and including Very High wind zone or 150mm crs within sheet body in Extra High wind zone. Sheets must overhang the bottoms plate by 25mm min & 40mm max. Refer to manufacturer's information and details for bracing fixing patterns, flashing and tape requirements.

General bracing notes
Bracing has been designed with GIB Ezybrace calculator, refer to attached calculation sheets for more info. If there are any conflicts, please contact the designer.

All bracing elements to comply with NZS3604:2011, NZBC B1/AS1 & GIB Ezybrace Systems 2016. Install all bracing elements in accordance with GIB product specification.

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Bracing Plan

ISSUE DATE: 2/12/2020	REV. DATE:		SHEET NO. 107
REF: 19083			
SCALES (A3): 1:100		CODE:	

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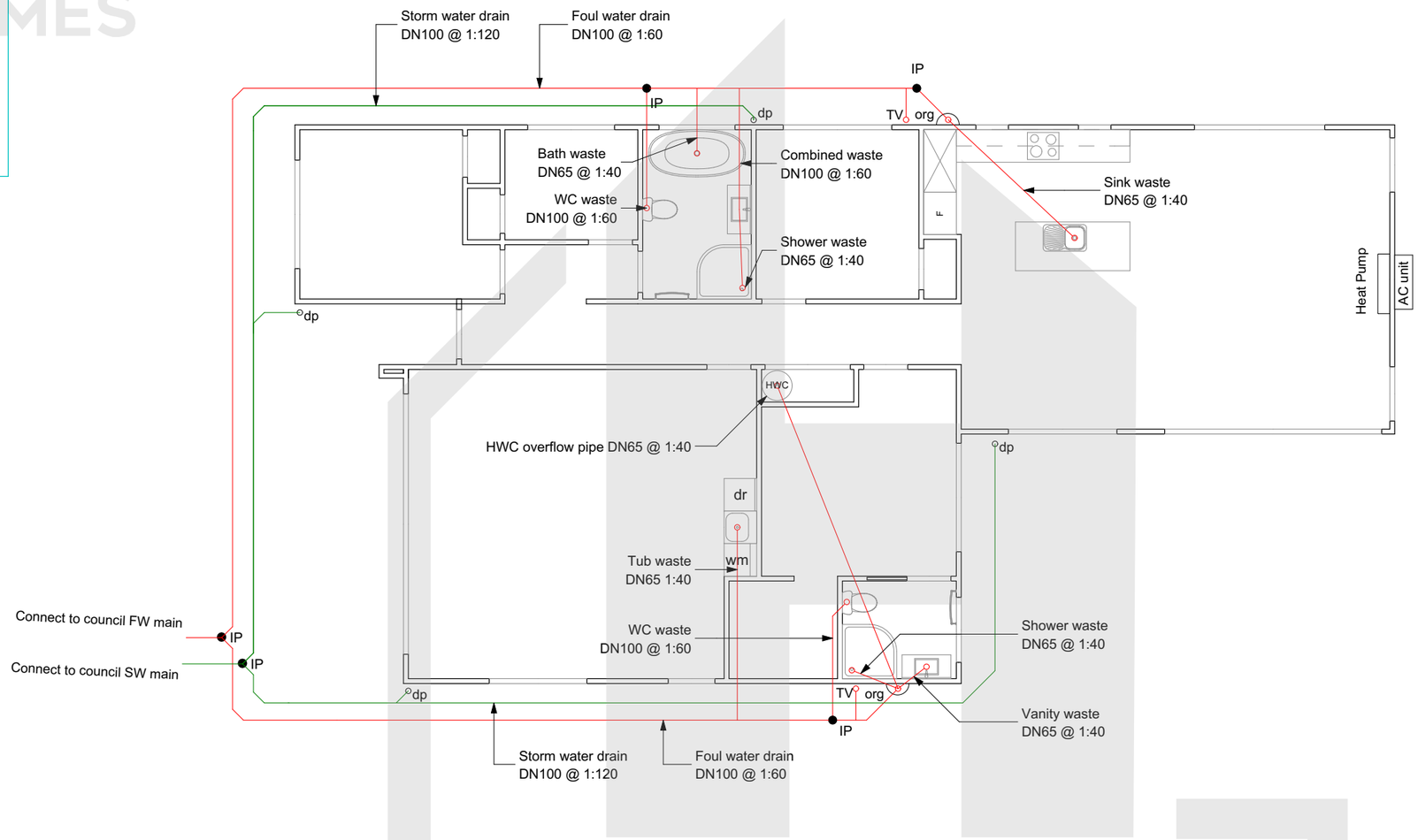


Plumbing & Drainage Notes

General plumbing notes
Contractor to ensure all work complies with the NZ Building Code and relevant standards, along with local territorial authorities' bylaws prior to work commencing.
All Foul Water plumbing work to comply with AS/NZS3500.2
All Storm Water plumbing work to comply with E1/AS1 & AS/NZS3500.3
All bends and junctions under slab must not be less than 45° (in plan).
Contractor/Plumber to submit as laid drainage plan to council upon completion of all plumbing/drainage works

Water supply
Water supply pipe materials to comply with G12/AS1 table 1:
Hot & Cold: copper, galvanised steel or polybutylene
Cold only: uPVC or polyethylene
All hot and cold water pipework through slab shall be in DN65 uPVC conduit.
All hot water piping shall be thermally insulated to comply with H1/AS1 clause 5.0 hot water systems

All water supply pipe sizes installed to comply with G12/AS1 table 4
Sink, laundry, bath, basin 15mmØ
Shower 20mmØ
Pipes based on a maximum pipe length of 20 metres

Ensure hot water temperature at any sanitary fixture used for personal hygiene does not exceed 55°

Fixture trap and waste sizes
Fixture traps for hand basins to be DN40 trap, DN65 drain pipe
Fixture traps from sinks, bath, showers and tubs to be DN65 trap, DN65 drain.
Fixture traps from WC to be DN100 trap and DN100 drain.

Continuous spouting rainwater system
Continuous spouting rainwater system, prefinished Colorcote spouting and downpipes, DN80 downpipes unless otherwise noted.

Hot water cylinder
Seismically restrained Mains Pressure HJ Cooper® 180L electric hot water cylinder. Installed to manufacturers specification. HWC to be installed over safe tray connected to main foul water drain.

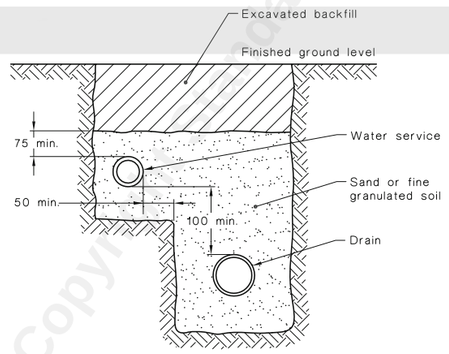
Relief valve drains to be of copper pipe, have no restrictions or valves, have a continuous fall from the relief valve to the outlet, discharged in a visible position which does not present a hazard or damage to other building elements.

Proprietary acrylic shower
Proprietary acrylic showers to be installed in accordance with E3 internal moisture. Acrylic wall linings shall extend to ceiling. Junctions used between the tray and wall linings shall be constructed in accordance with E3 Figure 4 (a) or (b) Refer details. All glazing within a wet area to be grade A safety glass.

Overflow Relief Gully
Overflow relief gully to be installed so that the top of the overflow gully riser is at a height of min. 150mm below the lowest fixture, and min. 75mm above the finished ground level and the overflow level of the gully dish will be no less than 25mm above paved surfaces and will have a grating that will allow surcharge. Waste pipes that discharge to the gully trap are arranged to permit easy cleaning of the gully trap.

3.6.6 Separation from other underground services

The separation between any underground drain and any other service other than consumer gas piping, electrical communication service or water service shall be at least 100 mm or 300 mm from a stormwater drain exceeding DN 100 (see Figure 3.3).



DIMENSIONS IN MILLIMETRES

FIGURE 3.3 TYPICAL SHARED TRENCH

Plumbing Legend

dp	DN80 downpipe
org	Overflow relief gully
TV	DN50 terminal vent
IP	Inspection point
aav	Air admittance valve
HWC	180L Hot water cylinder

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Plumbing Plan

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO. 108
REF: 19083		
SCALES (A3): 1:100	CODE:	

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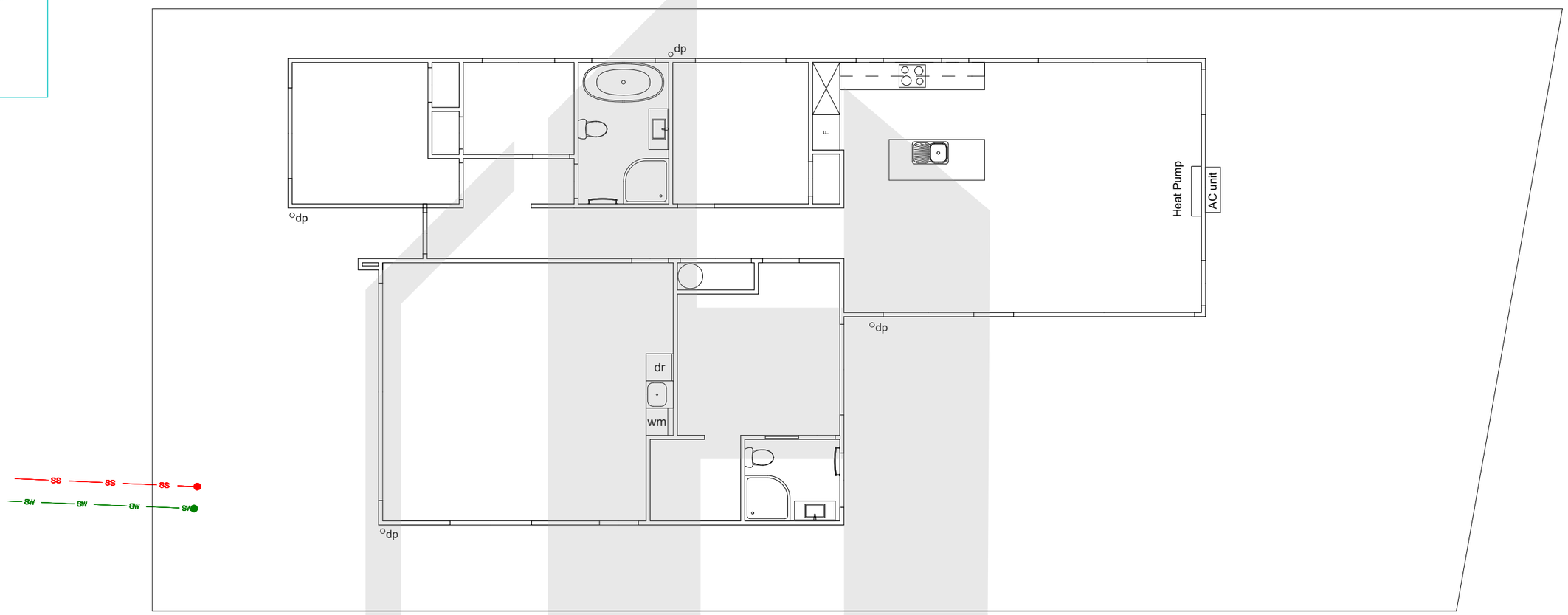

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As-Laid Drainage Plan

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	109
REF: 19083			
SCALES (A3): 1:100	CODE:		

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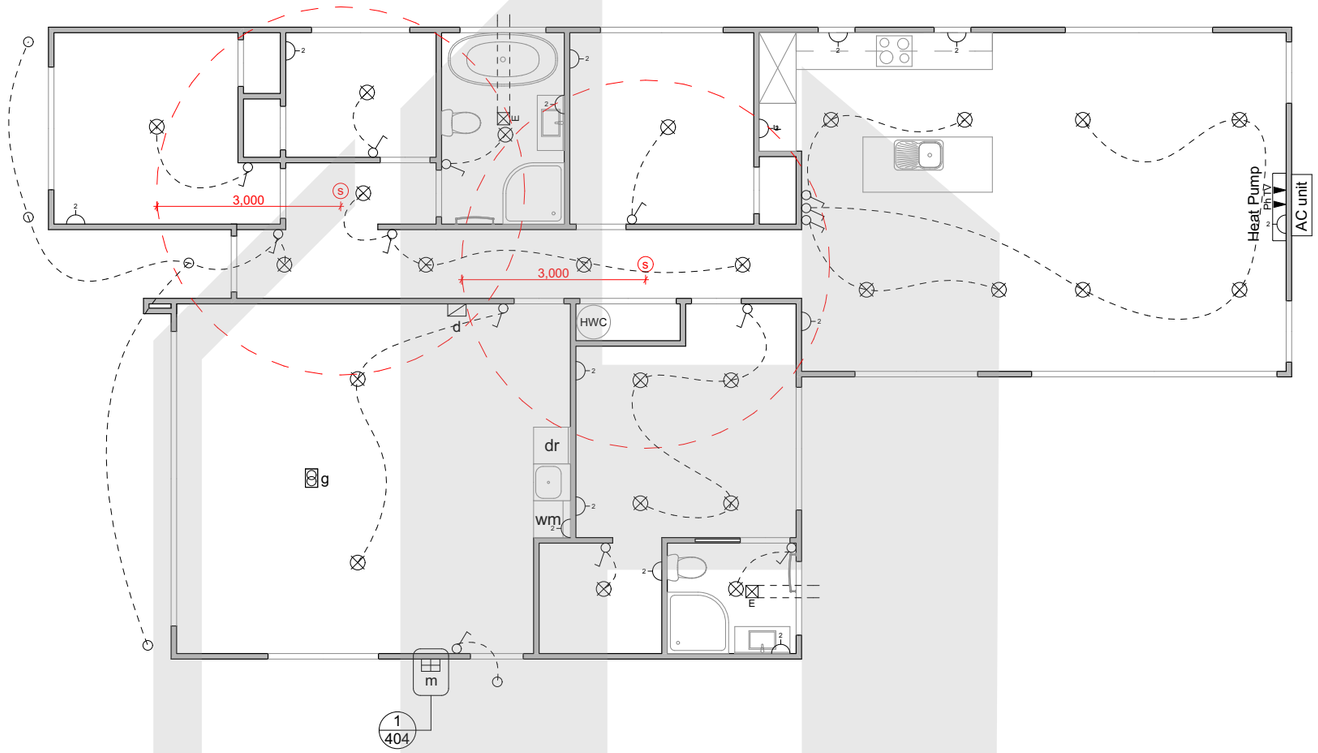

Electrical Notes

General electrical notes
Ensure all habitable rooms are fitted with a minimum of one light fixture. All habitable internal spaces and entry are to have a minimum illuminance of 20 lux or a minimal total wattage required per m2 of floor area as shown in G8/AS1, Table 1.

All electrical works to be installed to comply with NZBC F7/AS1, AS/NZS 3000:2007, AS/NZS 3008.1.2:2010, AS/NZS 5000.2:2006

Recessed downlights
Downlights to be CA135, CA180, IC, or IC-F to comply with AS/NZS 60598.2.2 Amendment A

Smoke detectors
Smoke detectors to be installed to comply with NZBC F7 and be located within 3m of each bedroom. Smoke detectors to meet at least one of the following standards: AS 3786, ISO 12239 or BS EN 14604

Mechanical ventilation
Extractor fans to be Manrose XF150 or similar, vent through wall or duct through soffit as per manufacturer's installation instructions
Rangehood to be ducted and vent through soffit

Electrical Legend

	Light switch
	Security lighting
	Recessed downlight
Heat Pump	Heat pump
2	Power point
g	Garage door motor
S	Smoke detector
Ph	Data outlet
TV	Television outlet
d	Distribution board
E	Extractor fan
m	Meter box
d	Distribution board
HWC	180L Hot water cylinder

N

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D5-G Milford
Lot 5, Stage 1,
Manapouri Grove, Kelson, Lower Hutt

Electrical Plan

ISSUE DATE: 2/12/2020	REV. DATE:		SHEET NO. 110
REF: 19083			
SCALES (A3): 1:100		CODE:	

BUILDING CONSENT

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13/01/2021

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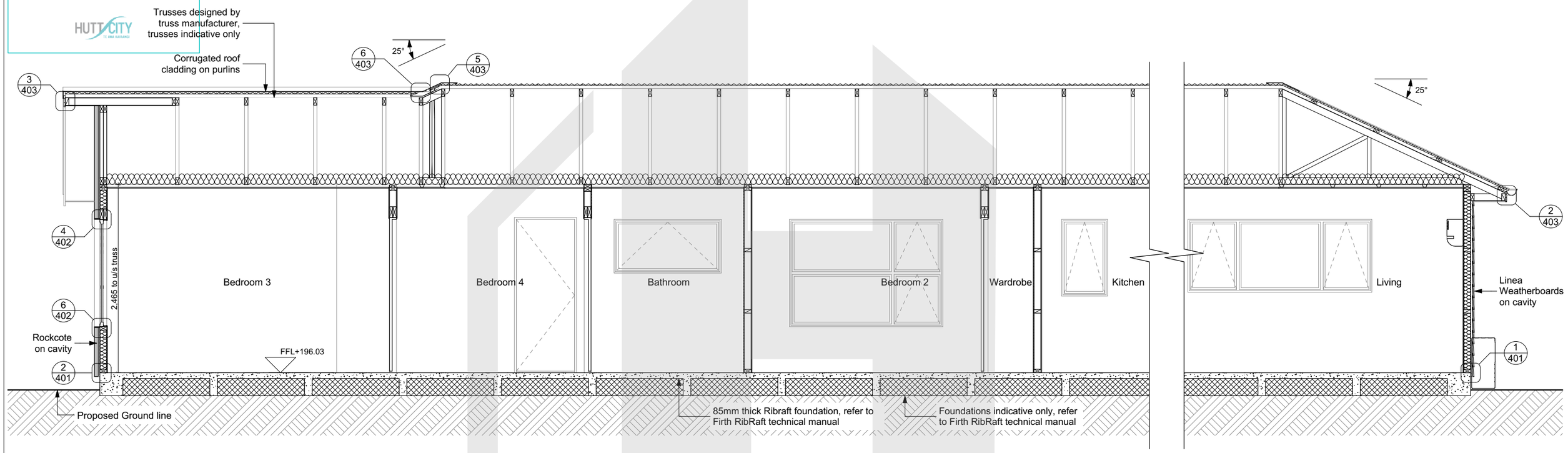

Construction Notes

Wall framing general
Double 90x45mm top plates to all walls. Nog for all fittings, fixtures, linings, bracing panels & trims
Wall framing height to be 2465mm finished

DPC between bottom plate and concrete slab, Ramset M12 AnkaScrew bottom plate anchors to be within 150mm of each end of the plate and be spaced @ 900mm crs max to comply with NZS3604:2011 clause 7.5.12.2.

Lintel sizes as noted on floor plans, all lintels to be H1.2 SG8 unless otherwise noted. Uplift fixings noted on floor plan as per attached Pryda Options:
L1 - 1.4 kN
L2 - 2.8 kN
L3 - 8.0 kN
L4 - 14kN

All trimming studs to comply with NZS3604:2011 clause 8.5.2.1 unless specified otherwise by pre-nailer

All window and door sizes shown on the plans refer to 'Box' size only and do not allow for Packers. Pre-nailer to increase opening width accordingly

Non-load bearing wall framing
90x45mm H1.2 SG8 framing, studs @ 600mm crs to & 90x45 dwangs spaced at 800mm crs. NZS3604:2011

Load bearing wall framing
90x45mm H1.2 SG8 framing, studs @ 600mm crs to & 90x45 dwangs spaced at 800mm crs. NZS3604:2011

Zone B & C fixings and fastenings
Structural fixings except fabricated brackets in a Sheltered environment to be - Hot-dipped galvanized steel
Structural fixings except fabricated brackets in an Exposed environment to be - Type 304 stainless steel
All fixings to be suitable for exposure zone C as outlined in NZS3604:2011 section 4.4 "steel fixings and fastenings"

Fixings and fastenings all Zones
Nail plates, wire dogs & bolts in roof spaces and closed environments to be Continuously coated galvanized steel or Hot-dipped galvanized steel

Thermakraft Wall underlay
Thermakraft Watergate Plus wall underlay installed to wall framing using 6-8mm staples or 20mm large head galvanized clouts at 300mm crs horizontally and vertically. 150mm min overlap at joins, all vertical laps must be made over studs. Installed to manufacturers specification. Additionally, install 25mm wide Thermastrap horizontally at 300mm crs

Wall insulation
90mm thick R2.2 Earthwool Glasswool wall insulation to all external walls and internal walls between garage and habitable space. No insulation to garage external walls.

Ceiling insulation
105mm thick R3.2 Earthwool Glasswool insulation, No insulation to garage ceilings. Minimum 25mm gap between ceiling insulation and roof underlay.

Rockcote Integra over 20mm cavity
Resene Construction Systems Integra LWC facade system, 50mm thick Rockcote Integra panel on 40x20mm H grade polystyrene battens, refer to specification for fixings and finishing systems

Linea weatherboards over cavity
180mm James Hardie Linea weatherboards over 45x18mm H3.1 timber cavity battens on wall underlay. Refer to manufacturer's information & details for fixing and waterproofing requirements

10mm GIB plasterboard wall lining
Generally, line with 10mm GIB Standard plasterboard (Aqualine to wet areas) stopped for level 4 paint finish (unless otherwise indicated). Refer also specific fitout dwgs & bracing schedule for specific wall linings & requirements.

13mm GIB board ceiling lining
Generally line with 13mm GIB board ceiling with GIB Rondo 310 battens attached to 311 clip fixed to trusses. GIB Aqualine to wet areas. Stopped for level 4 finish.

Wall linings adjacent to appliances
CL1.6 G3, Wall linings adjacent to appliances and facilities shall have surfaces that can be easily maintained in a hygienic condition and comply with. Stainless steel, decorative high-pressure laminate, tiles, wallboards with painted or applied impervious coatings or films, are all suitable materials for these surfaces.

Vinyl flooring
Client selected vinyl to be installed over vinyl adhesive in areas noted on floor plan.

Slip resistance
Minimum slip resistance co-efficient for level surface between 0.25 and 0.50 acceptable in accordance with NZBC:D1/AS1 Access.

Internal doors
All internal door leaf widths as noted on floor plan, all heights 1980mm unless otherwise noted

Corrugated roof cladding on purlins
0.4mm BMT corrugated Colorsteel Endura roof cladding over roof underlay on 70x45mm H1.2 SG8 purlins @ 900mm crs, fix purlins to trusses with 1/10g 80mm long self-drilling screw

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Section A

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	201
REF: 19083			
SCALES (A3): 1:50	CODE:		

BUILDING CONSENT

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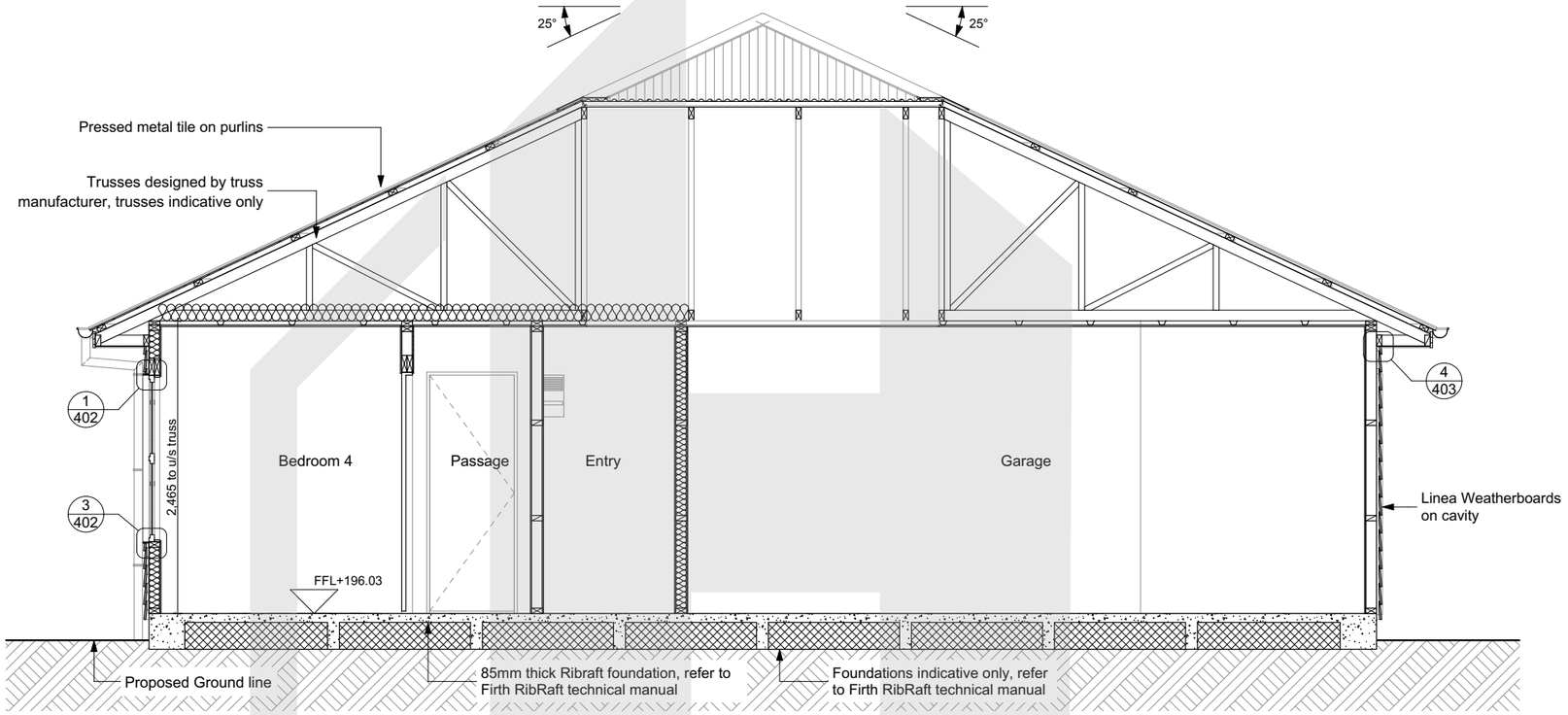

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Section B

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	202
REF: 19083			
SCALES (A3): 1:50	CODE:		

BUILDING CONSENT

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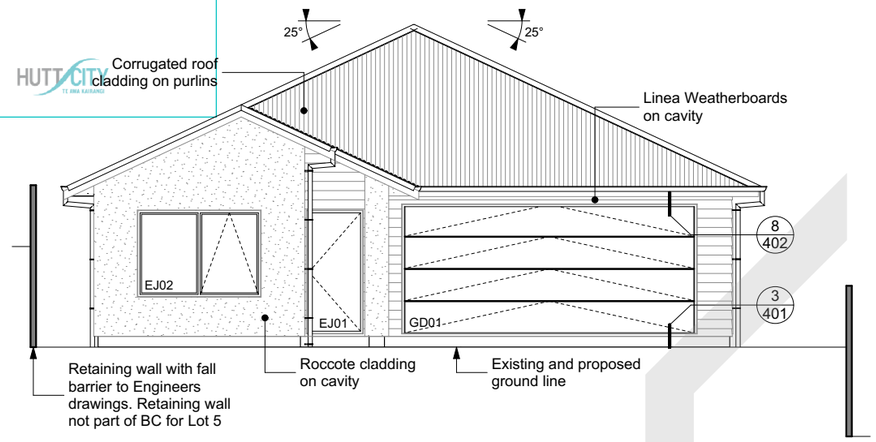
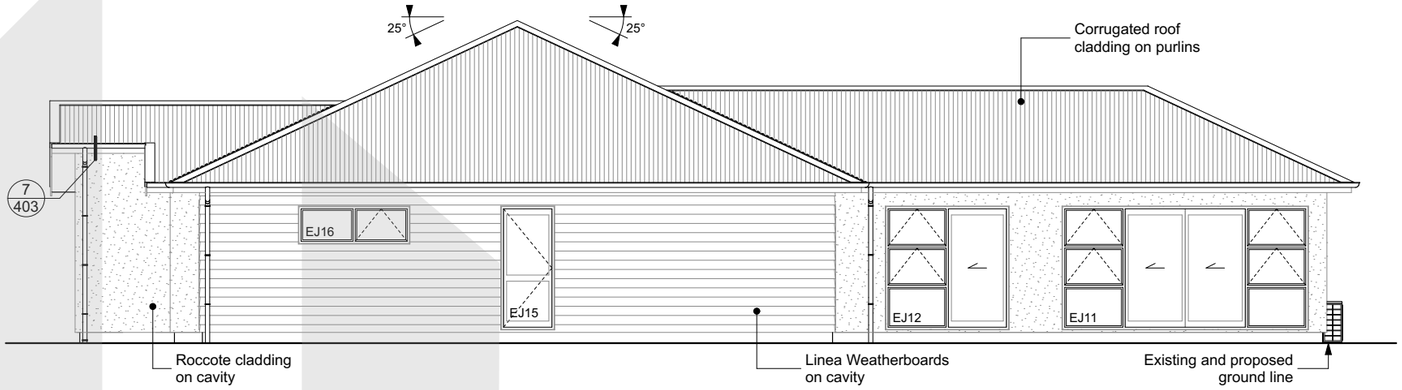
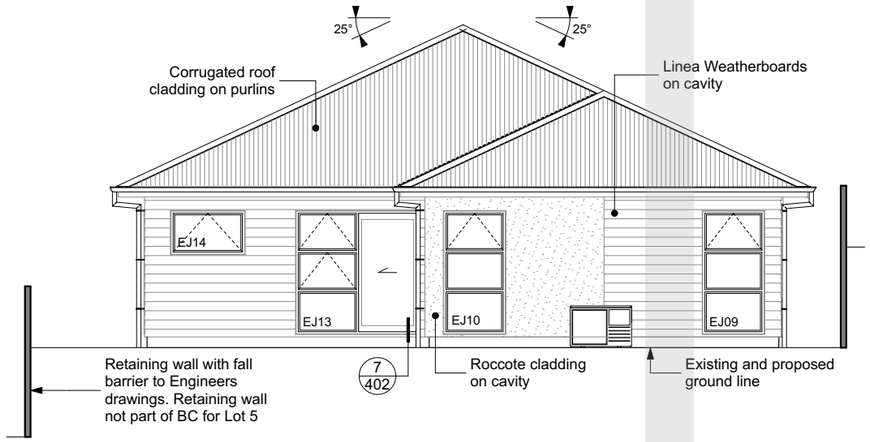


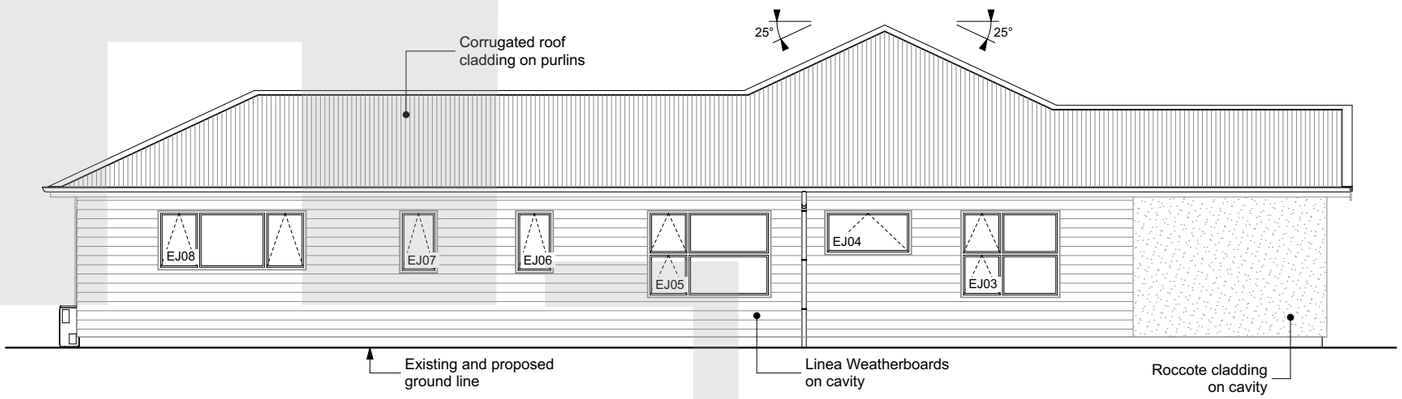
1 West Elevation 1:100



2 South Elevation 1:100



3 East Elevation 1:100



4 North Elevation 1:100

BUILDING ENVELOPE RISK MATRIX		
Calculation is suitable for all elevations		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	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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Elevations

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	
REF: 19083		301	
SCALES (A3): 1:100	CODE:		

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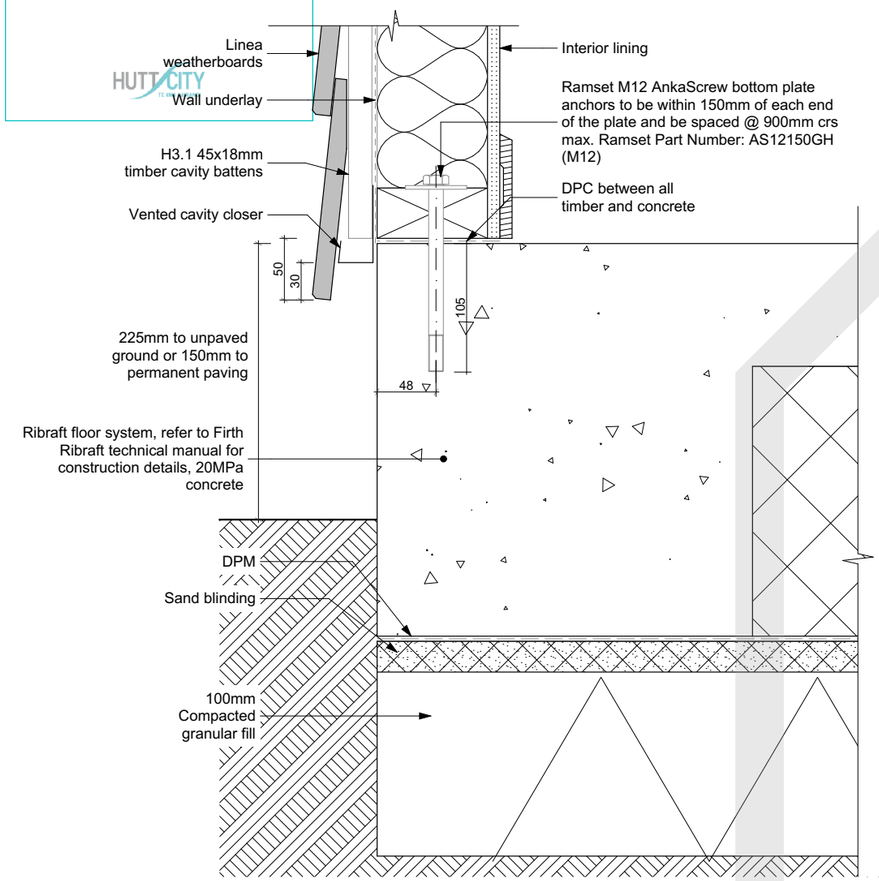
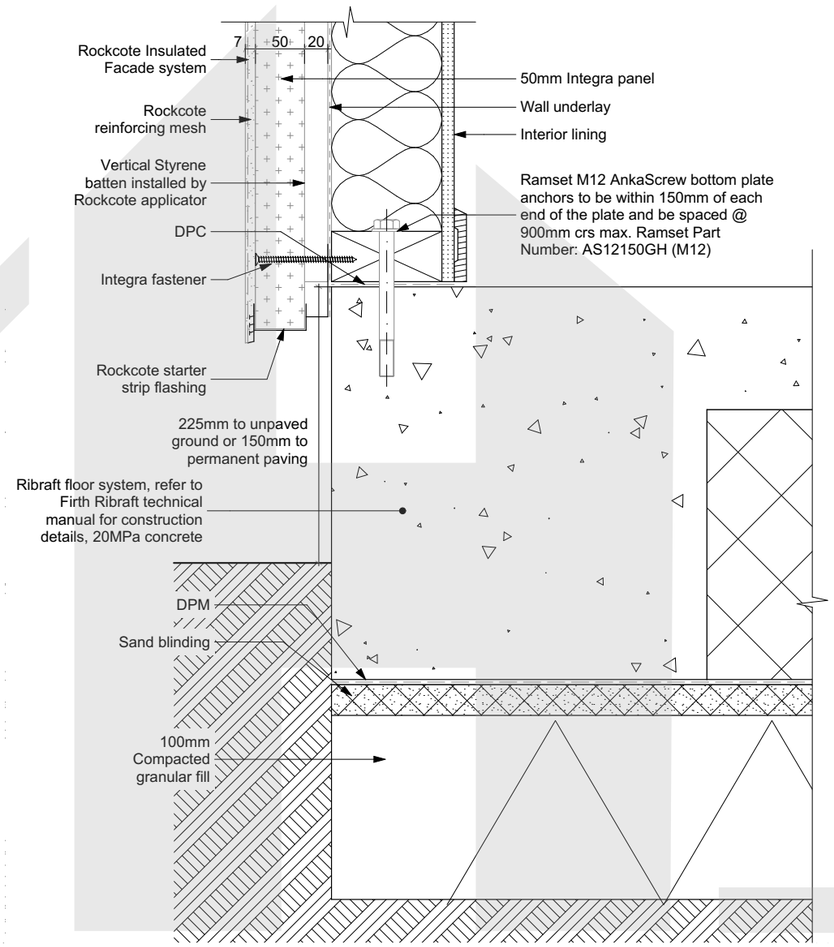
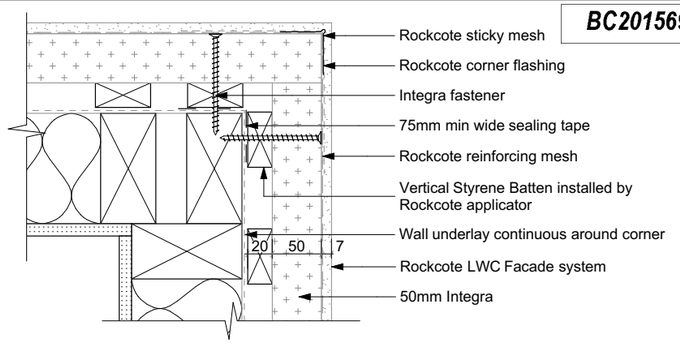


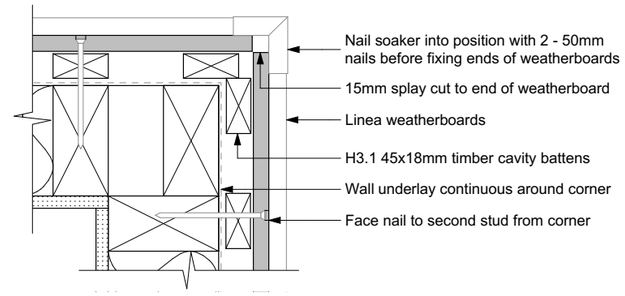
1 Wall Base - Linea 1:5



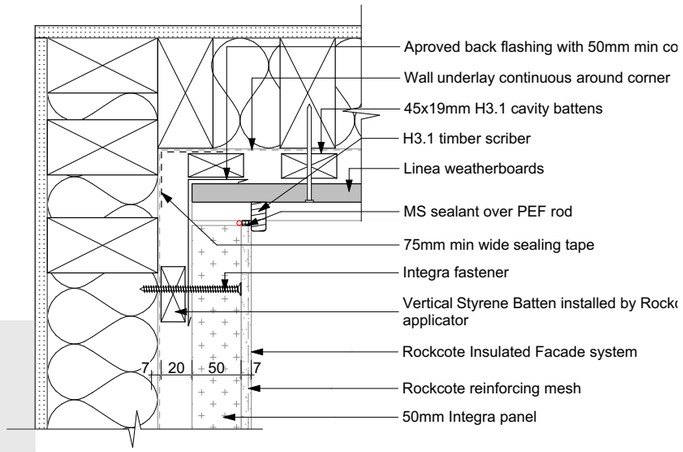
2 Wall Base - Rockcote 1:5



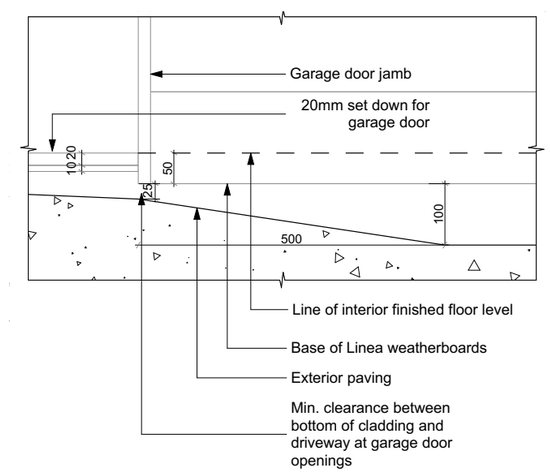
5 External Corner - Rockcote 1:5



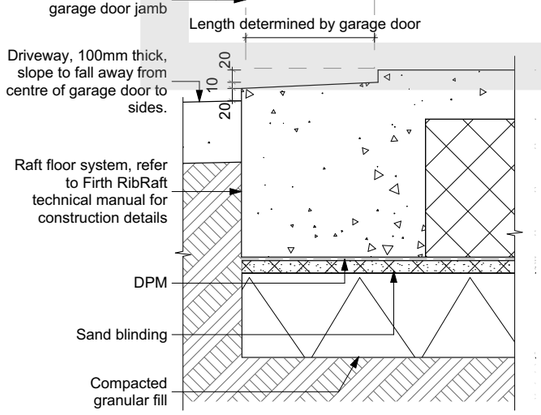
6 External Corner - Linea 1:5

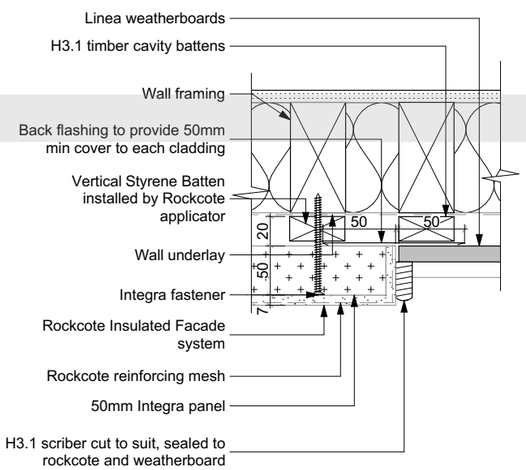


7 Internal Corner Junction - Rockcote/Linea1:5



3 Garage Door Threshold 1:10





4 Verical Junction - linea/Rockcote 1:5

Note: All details to be read in conjunction with attached manufacturer's installation guides and specifications. If there are any inaccuracies or inconsistencies please contact designer for clarification prior to commencing work

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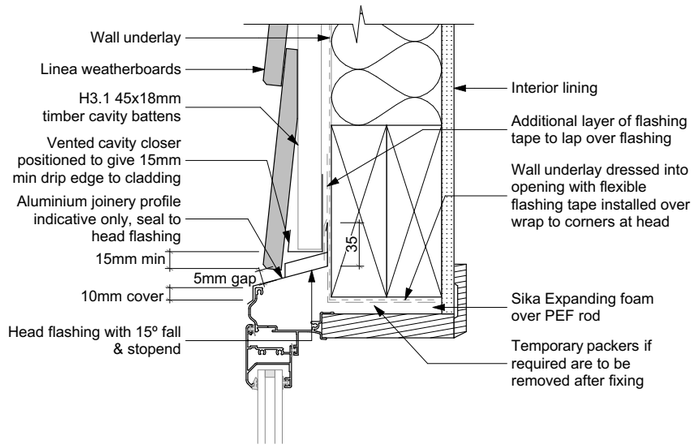
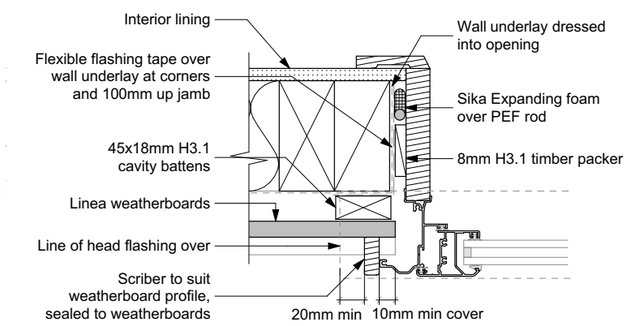
Details - Foundation & Cladding

ISSUE DATE: 2/12/2020	REV. DATE:		SHEET NO. 401
REF: 19083			
SCALES (A3): 1:5, 1:10		CODE:	

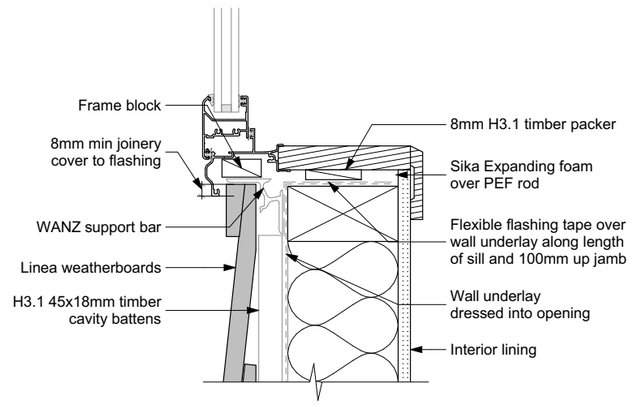
BC201569



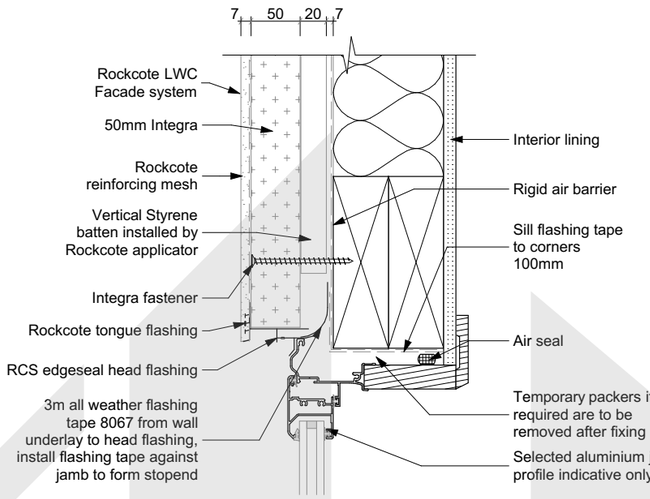
1 Window Head - Linea 1:5



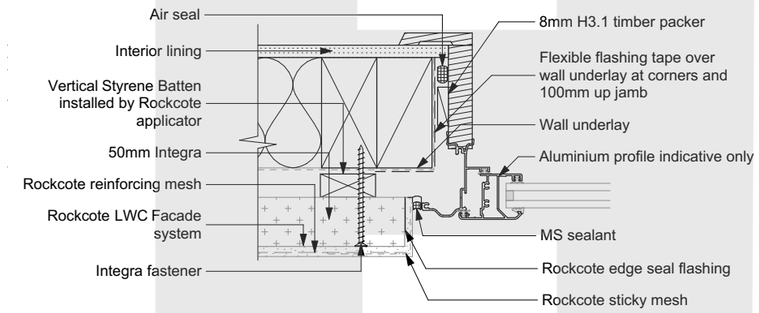
2 Window Jamb - Linea 1:5



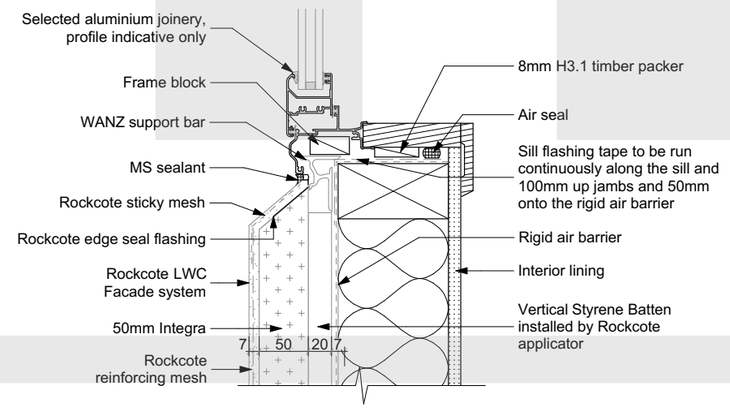
3 Window Sill - Linea 1:5



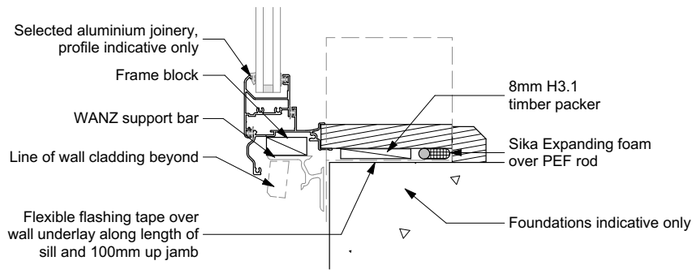
4 Window Head - Rockcote 1:5



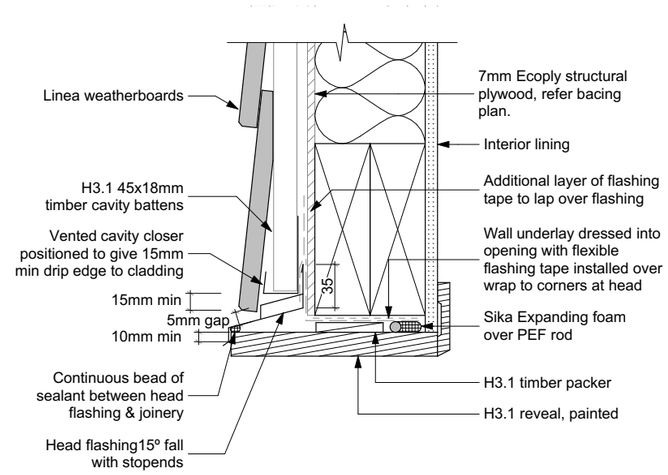
5 Window Jamb - Rockcote 1:5



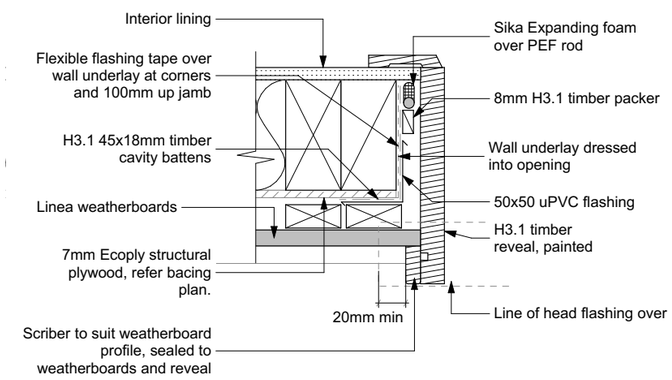
6 Window Sill - Rockcote 1:5



7 Door Threshold 1:5



8 Garage Door Head - Linea 1:5



9 Garage Door Jamb - Linea 1:5

BUILDING CONSENT

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Details - Window & Door

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	402
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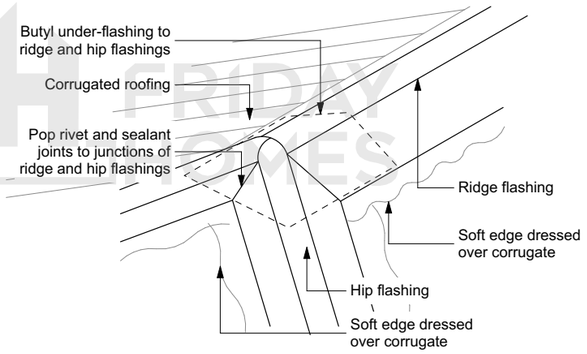
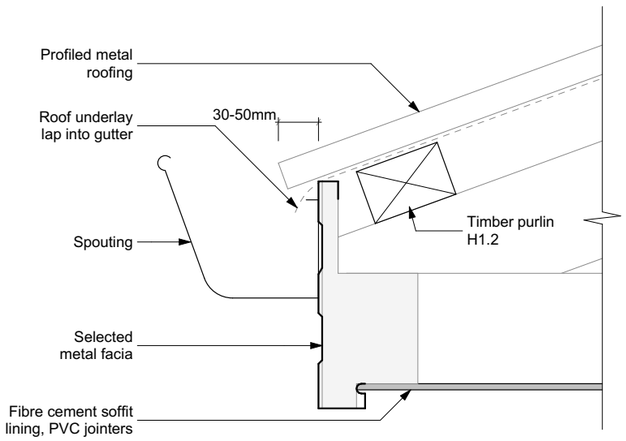
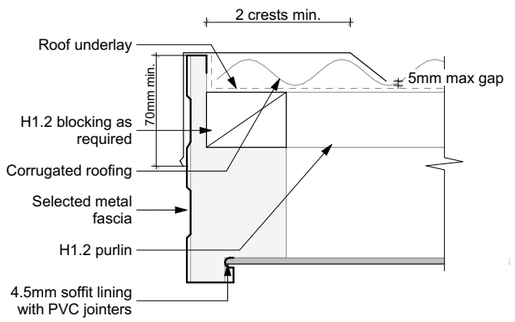


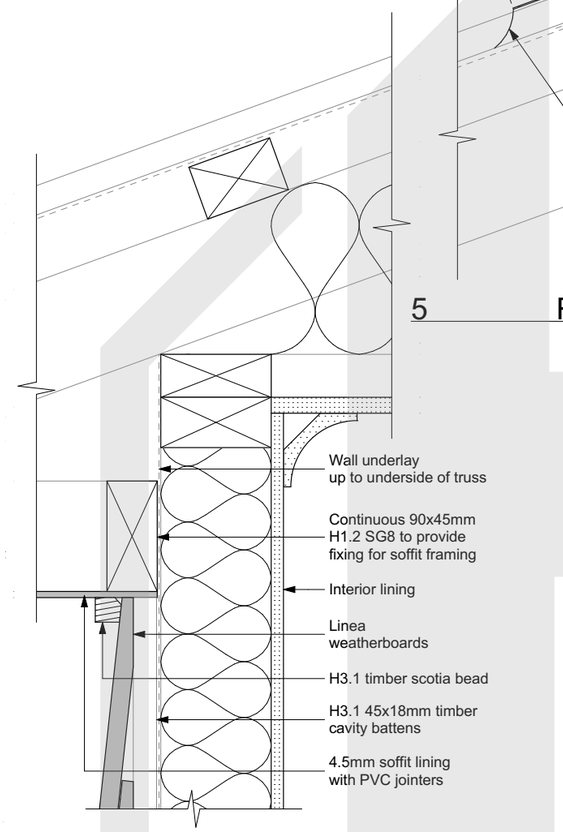
1 Roof Ridge To Hip Junction 1:5



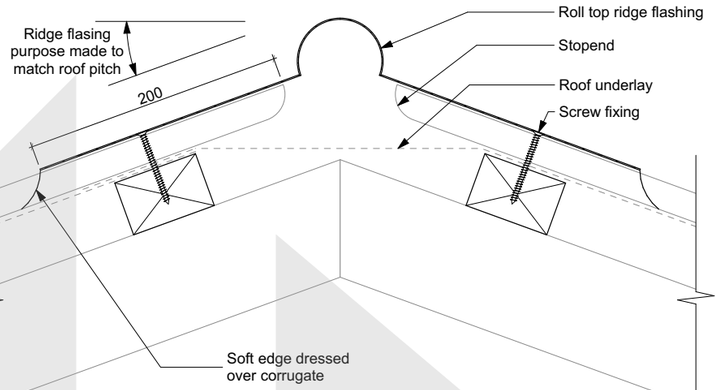
2 Roof - Eave 1:5



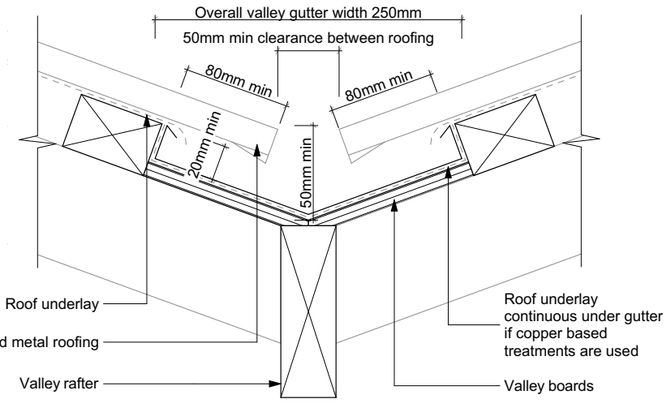
3 Roof - Barge - Corru. 1:5



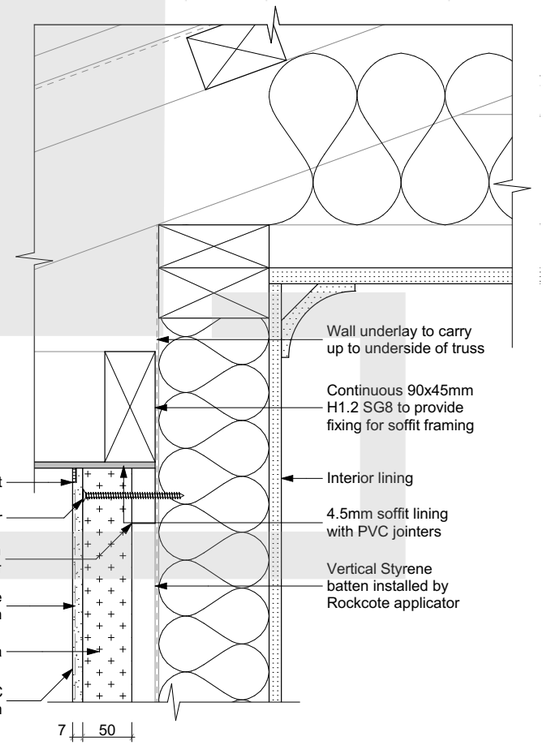
4 Soffit - Linea 1:5



5 Roof - Ridge 1:5



6 Roof - Valley 1:5



7 Sloping soffit - Rockcote 1:5

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Note: All details to be read in conjunction with attached manufacturer's installation guides and specifications. If there are any inaccuracies or inconsistencies please contact designer for clarification prior to commencing work.

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Details - Roof

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	
REF: 19083		403	
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BC201569

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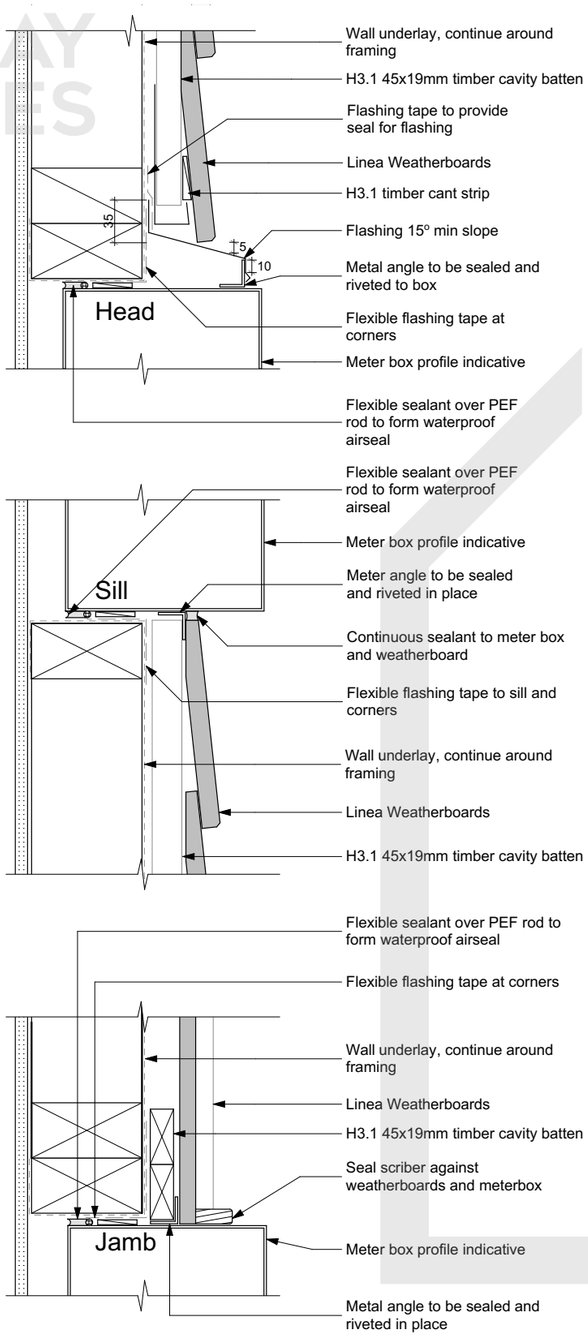
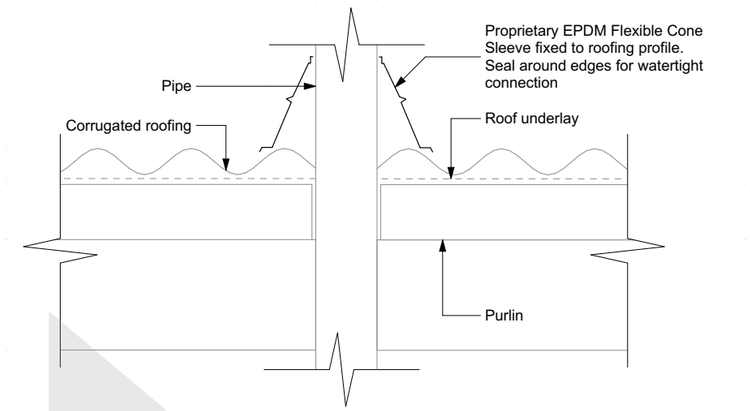
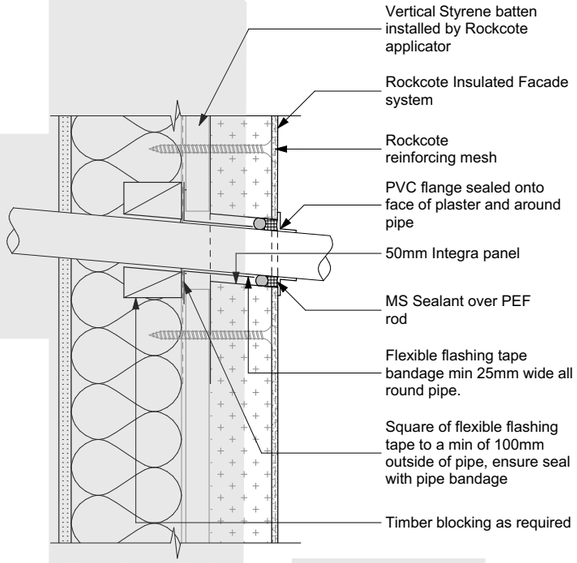


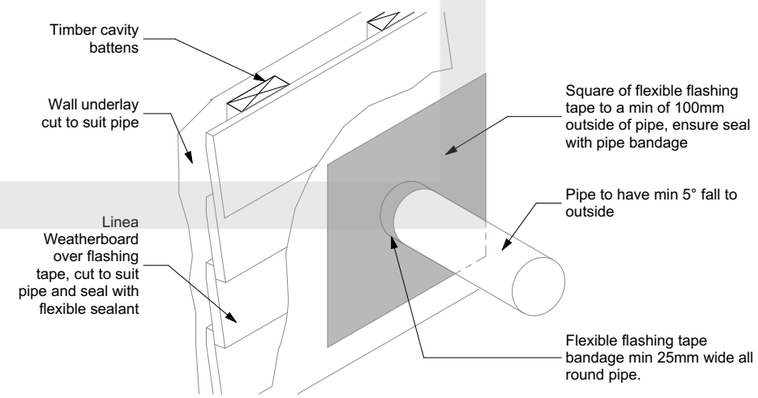
1 Meterbox - Linea 1:5



4 Roof pipe penetration - Corru. 1:5



2 Wall pipe penetration - Rockcote 1:5



3 Wall pipe penetration - Linea 1:5

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Details - Meter Box & Penetrations

ISSUE DATE: 2/12/2020	REV. DATE:		SHEET NO. 404
REF: 19083			
SCALES (A3): 1:5		CODE:	

Table 6 Maximum Diameter Of Pipe Services

ELEMENT	VERTICAL SERVICE	HORIZONTAL SERVICE
300mm wide edge beam	50mm nominal bore pipe	100mm NB pipe
500mm localized wide edge beam (1)	100mm NB pipe	100mm NB pipe
300mm wide internal load bearing rib	50 NB pipe	100mm NB pipe
100mm wide internal rib	Nil	100mm NB pipe
Slab	100 NB pipe, or for large services 450mm square see also Note 3	Nil

Notes:

(1) For situations where a 100mm diameter pipe is required to pass vertically through the edge beam, the edge beam shall be locally increased in width to a minimum of 500mm wide. This shall be achieved by keeping flush the outside face of the edge beam and removing 200mm from the pod. The width shall remain at 500mm for a distance of 600mm beyond the service pipe. Refer to figure 14 for details for pipes passing vertically through edge beam and internal rib.

(2) Where a gas pipe line runs through the RibRaft® floor system, in addition to the requirements above, the pipeline shall enter the building through the outside face of the perimeter foundation beam and be located in the plane of the pods. The aim being to ensure that damage to the gas pipe will most likely occur outside the building envelope should movement occur between the ground and RibRaft® in a large earthquake.

(3) Larger penetrations or voids up to 450mm square (e.g. for shower waste/traps) are permitted through the slab provided all the conditions of this paragraph are met. These openings shall be trimmed with 1 HD12 (Grade 500E) bar 1500mm long placed along each side of the opening, tied to the mesh. One set of parallel bars shall be placed on top of the mesh and the other set placed under the mesh. These openings shall not be placed over a rib or edge beam. If necessary, the rib spacing shall be reduced or the pod layout altered to ensure that the opening occurs solely in the slab above a polystyrene pod. Penetrations such as these shall not be installed in garages or other areas where large (>3kN) point loads could be present. Only one penetration greater than 110mm is permitted in the slab above any single pod or part pod. Where two large openings are required to be in close proximity, an internal rib shall separate them. For these large penetrations/voids in the slab, the services shall not be within 25mm of the edges of the void through which they pass, and the opening shall be sealed to prevent materials entering the subfloor cavities. (This type of opening is normally only required for a shower waste/trap and the installation of the shower will ensure that the void is sealed/covered).

A pictorial of some of the above requirements is illustrated in Figure 13 and 14.

Figure 13 Example of Detailing Requirements For Services

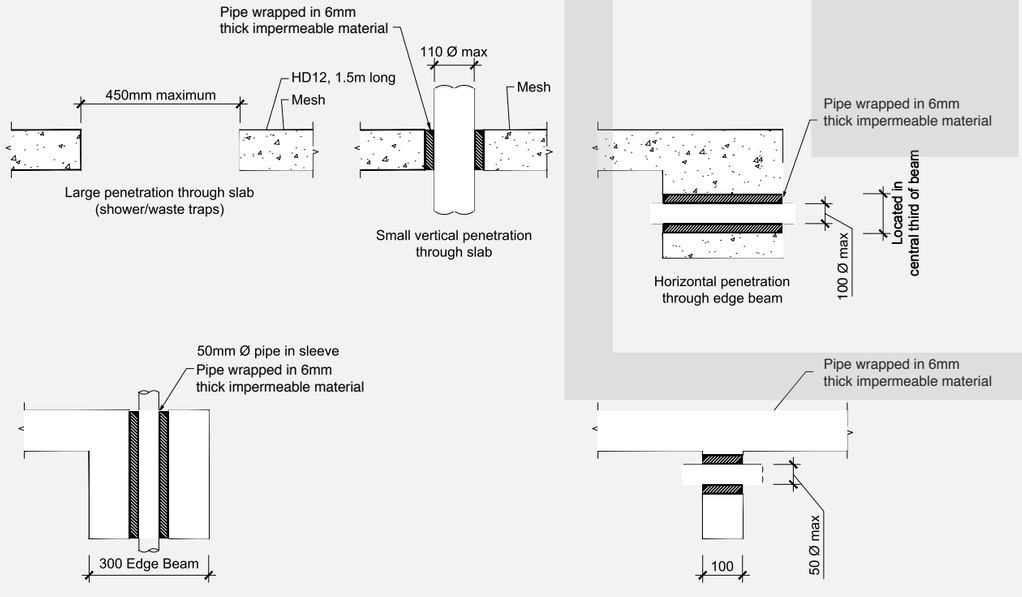
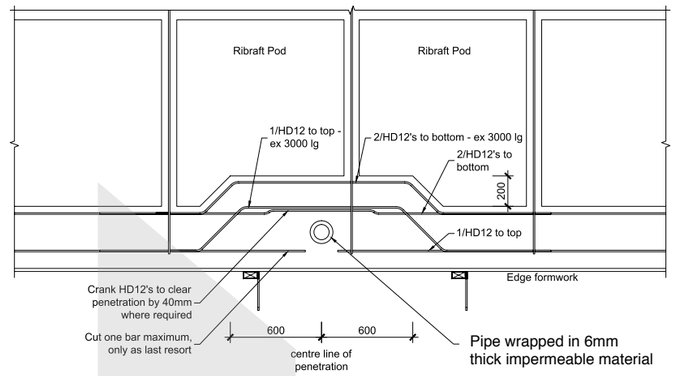
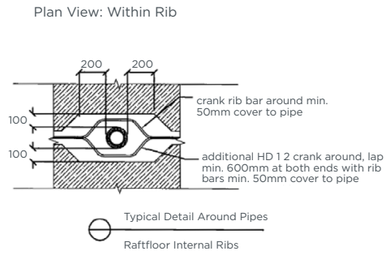


Figure 14
Localised Increase In Width At Edge Beam Where Vertical Service Up To 100mm Diameter Are Required





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Foundation Penetrations

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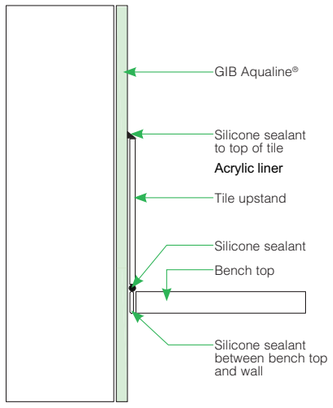
GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

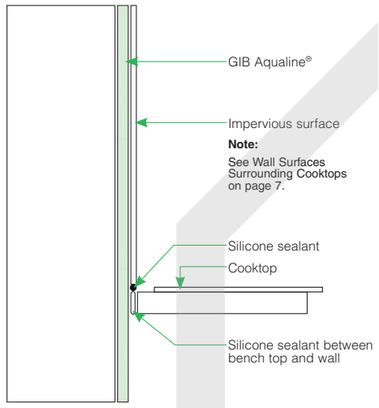
Kitchen and Laundry

MARCH 2007

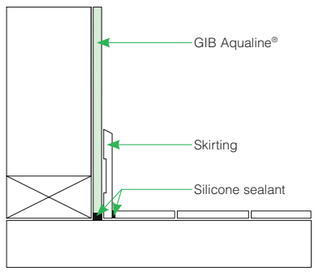
A GAW-D031



B GAW-D032



C GAW-D033



WALL SURFACES SURROUNDING COOKTOPS

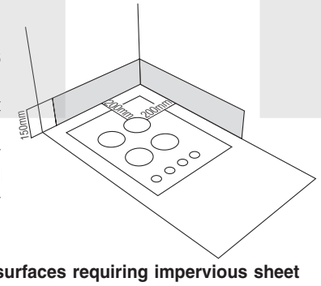
The protection of combustible surfaces surrounding gas cooking appliances is covered by NZS 5261. Consult the current version of this standard to ensure compliance.

However, as a guide the following options are acceptable for wall surfaces within 200mm of the periphery of a gas element to a height of 150mm above the element for the full dimension (width and depth) of the cooktop surface area:

- 5mm ceramic tiles on GIB® plasterboard
- 5mm toughened glass on GIB® plasterboard
- or any system that can be demonstrated to meet the requirements of Clause 2.6.2.6 of NZS5261.

Because of the moisture generated by cooking, it is highly recommended that GIB Aqualine® is used in kitchen areas.

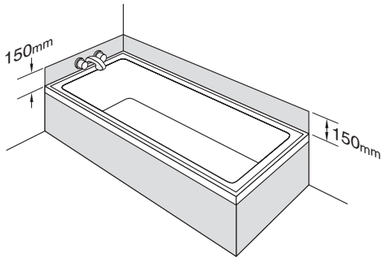
GIB® plasterboard products must not be exposed to temperatures in excess of 52°C for sustained periods. Check with the appliance manufacturer that this requirement will be met. However, it would be unusual for surfaces outside 200mm to exceed 52°C for sustained periods.



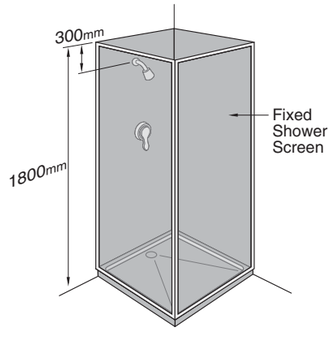
Dark grey shaded areas in the diagrams below represent the minimum extent of wall surfaces requiring impervious sheet materials or waterproof membranes prior to tiling. Light grey shaded areas represent good practice.

Code Requirement
Good Practice

Bath



Enclosed shower



RIGID SHEET SHOWER LININGS

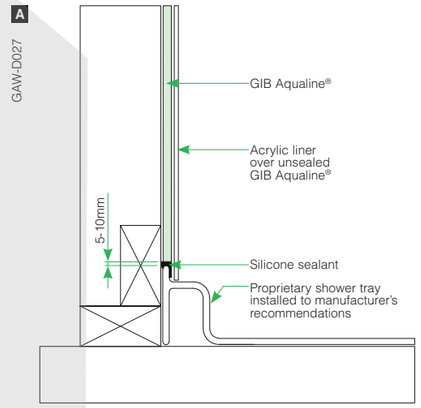
- The manufacturers/suppliers of thin (usually 2-3mm) and rigid acrylic shower linings commonly recommend direct adhesive fixing to wall linings using solvent-based adhesives
- Water temperature changes will cause movement of the thin acrylic sheet, which in turn will stress the adhesive and wall lining substrate
- **Do not preseal or paint** areas which are to be covered by the rigid shower linings
- The wall surface must be free of dust before installation of the lining
- Suppliers of rigid sheet acrylic shower linings recommend a minimum of 24 hours for the adhesive to cure fully prior to the shower being put into service
- Care must be taken to ensure that rooms are adequately ventilated and the adhesive is fully cured before the shower is used
- Consult the manufacturer/supplier of the shower lining for full installation details.

GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

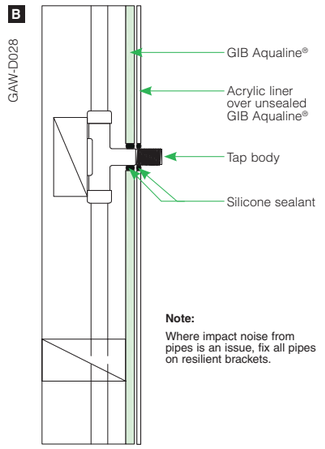
Shower – Acrylic Liner and Base

MARCH 2007

A GAW-D027



B GAW-D028



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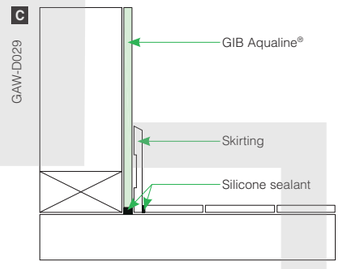
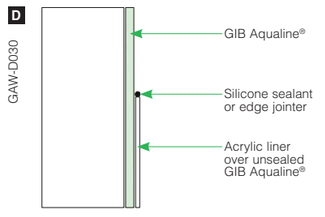


D GAW-D030



Note: Builder or project manager to consult with client to select plumbing fixtures, builder to select appropriate solution on site

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Details - Internal Waterproofing

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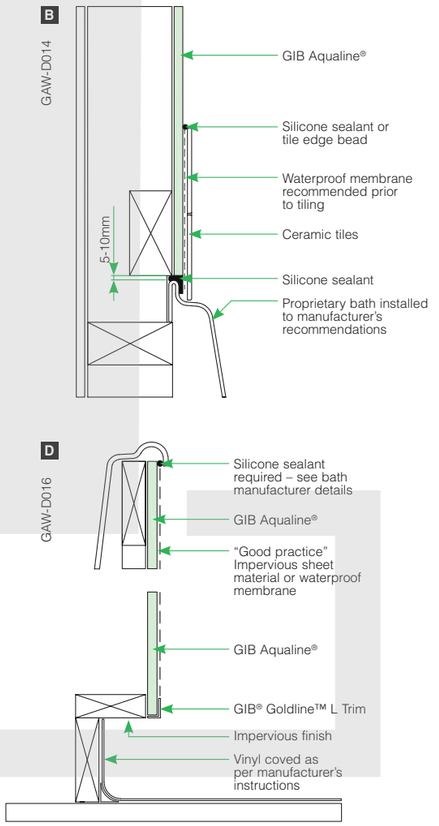
GIB AQUALINE® WET AREA SYSTEMS – TYPICAL DETAILS

Bath – Tiled Upstand

MARCH 2007



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Details - Internal
Waterproofing cont.

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REF: 19083			
SCALES (A3):		CODE:	

GIB® plasterboard linings

When fixing part sheets of GIB® plasterboard, a minimum sheet width of 300mm applies for bracing elements. Horizontal fixing is recommended. If fixing vertically, full height sheets shall be used where possible. Where sheet end butt joints are unavoidable they must be formed over nogs or over the studs and fastened at 200mm centres. Alternatively, and preferably, sheet end butt joints may be back-blocked.

When a GIB® Bracing element has been designated for a section of wall, BU ratings cannot be increased by incorporating additional proprietary bracing elements within that same section of wall.

LIMITATIONS

- GIB® plasterboard must be stacked flat and protected from the weather.
- GIB® plasterboard must be handled as a finishing material.
- GIB® plasterboard in use must not be exposed to liquid water or be installed in situations where extended exposure to humidities above 90% RH can reasonably be expected.
- GIB EzyBrace® Systems must not be used in showers or behind baths.
- It is highly recommended not to install GIB® plasterboard in any situation where external claddings are not in place or the property is not adequately protected from the elements.
- If GIB® plasterboard is installed under these conditions, the risk of surface defects such as joint peaking or cracking is greatly increased.

GIB EzyBrace® Systems in water-splash areas

When GIB® plasterboard is installed in locations likely to be frequently exposed to liquid water it must have an impervious finish. Examples are adhesive fixed acrylic shower linings or ceramic tiles over an approved waterproof membrane over GIB Aqualine®. The NZBC requires 15 years durability in these situations. Bracing elements are required to have a durability of 50 years. Bracing elements are not to be located in shower cubicles or behind baths because of durability requirements, the likelihood of renovation, and practical issues associated with fixing bracing elements to perimeter framing members. Otherwise GIB EzyBrace® Systems can be used in water-splash areas as defined by NZBC Clause E3, provided these are maintained impervious for the life of the building.

For futher design details refer to the current GIB Aqualine® Wet Area Systems literature.

Renovation

When relining walls during the process of renovation, ensure that bracing elements are reinstated (check the building plans).

Openings in bracing elements

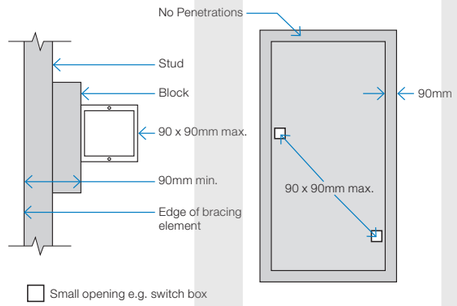
SMALL OPENINGS

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. A block may need to be provided alongside the perimeter stud as shown below.

LARGE OPENINGS

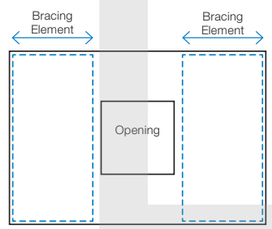
Openings above 90 x 90mm such as switch boards, recessed cabinets and TV's etc. should be placed outside of the bracing element or locate bracing on the other side of the wall framing.

FIGURE 10: SMALL OPENINGS IN BRACING ELEMENTS



GEB001

FIGURE 11: LARGE OPENINGS AND BRACING ELEMENTS



Timber framing

General framing requirements such as grade, spacings and installation shall comply with the provisions of NZS 3604:2011. To achieve the published bracing performance the minimum actual framing dimensions are 90 x 45mm for external walls and 70 x 45mm for internal walls.

As a minimum the use of Kiln Dried Stress Graded timber for all wall, roof and mid-floor framing members is recommended.

GIBFix® Framing System (alternative layout)

Practices recommended as part of the GIBFix® Framing System aim to increase timber framing efficiencies, reduce reliance on unnecessary framing at wall junctions and minimise surface imperfections that commonly arise from constructing plasterboard junctions over multiple timber members. GIBFix® Angles fixed to a single timber framing member are introduced to tie together plasterboard junctions, improving seismic resilience and decrease the risk of future defects due to timber movement. The GIBFix® Framing System can be used in conjunction with the GIB EzyBrace® System.

Note: GIBFix® Angles and 32mm x 7g GIB® Grabber® Dual Thread Screws may also be used in traditional wall framing layouts and in GIB EzyBrace® Systems.

When the GIBFix® Framing System is used a minimum of 2 equally spaced nogs for walls between 2.4m and 3m in height are required at corners and wall junctions.

When used in GIB EzyBrace® systems GIBFix® Angles must run from top to bottom on all applicable studs. If 2 GIBFix® Angles are required on a stud they must be overlapped by a minimum of 300mm with 2/32mm 7g GIB® Grabber® Dual Thread Screws penetrating through both GIBFix® Angles.

For full specification details refer to GIBFix® Framing System literature available at gib.co.nz/gibfix.

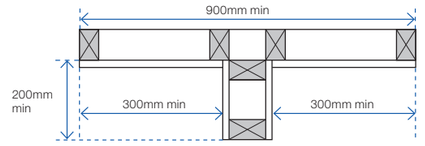
Guidelines for intersection walls

GIB® Bracing Elements may have intersecting walls with a minimum length of 200mm. Fasteners are required around the perimeter of the bracing element. Vertical joints at T-junctions shall be fixed and jointed as specified for intermediate sheet joints. The bracing element length must be no less than 900mm.

Where a Wall Bracing Element is interrupted by a T-junction the element is deemed to be continuous for the whole length (900mm minimum in the example illustrated).

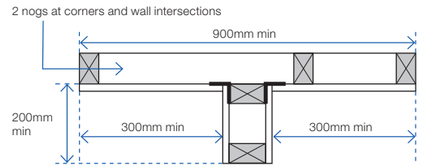
When fixing part sheets of GIB® plasterboard to the side of a T-junction, a minimum width of 300mm applies for bracing elements. See figures 12 and 13.

FIGURE 12: WALL INTERSECTION (TRADITIONAL WALL FRAMING)



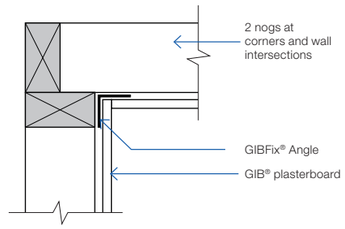
GEB002

FIGURE 13: WALL INTERSECTION (GIBFIX® FRAMING SYSTEM)



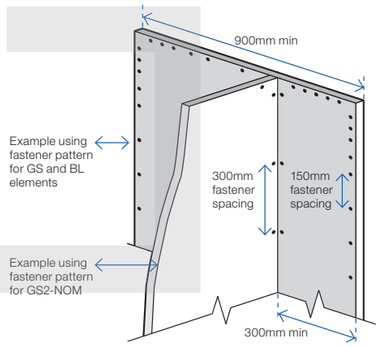
GEB003

FIGURE 14: CORNER INTERSECTION (GIBFIX® FRAMING SYSTEM)



GFS001

FIGURE 15: WALL INTERSECTION FASTENER PLACEMENT



Junction

Min 32mm x 6g GIB® Grabber® High Thread or 32mm x 7g GIB® Grabber® Dual Thread Screws @ 300mm ctrs each side.

AUGUST 2016 CALL OUR HELPLINE 0800 100 442 OR VISIT GIB.CO.NZ FOR MORE INFO GIB EZYBRACE® SYSTEMS

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Details - Bracing

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	408
REF: 19083			
SCALES (A3):	CODE:		

Top plate connections

For top plate connections refer to NZS3604:2011 section 8.7.3.

Parapets and gable end walls

Bracing elements must be fixed from top plate to bottom plate. Fixing to a row of nogs is not acceptable unless either:

A continuous member such as an ex 90 x 45mm ribbon plate is fixed across the studs just above a row of nogs at the ceiling line, as shown in figure 16.

or

GIBFix® Angle as shown in figure 17. The angle is fixed to a row of nogs with 30 x 2.5mm galv flat head nails or 32mm x 7g GIB® Grabber® Dual Thread Screws at 300mm centres.

Bottom plate fixing

TIMBER FLOOR

For elements with an 'N' specification use 2/100 x 3.75mm hand or 3/90 x 3.15mm power-driven nails at 600mm centres.

In addition, for elements with an 'H' specification, use GIB HandiBrac® panel hold-down fixings at each end of the bracing element, see p.16.

CONCRETE FLOOR — EXTERNAL WALL BRACING ELEMENTS

For bracing elements with an 'N' specification fix external wall plates in accordance with NZS 3604:2011.

Use GIB HandiBrac® panel hold-down fixings at each end of bracing elements with an 'H' specification and minimum intermediate fixings as required by NZS 3604:2011.

CONCRETE FLOOR — INTERNAL WALL BRACING ELEMENTS

For bracing elements with an 'N' specification fix plates in accordance with NZS 3604:2011 or use 75 x 3.8mm shot-fired fasteners with 16mm discs spaced at 150 and 300mm from end-studs and 600mm centres thereafter.

For bracing elements with an 'H' specification use GIB HandiBrac® panel hold-down fixings at each end of the element and minimum intermediate fixings as required by NZS 3604:2011.

FIGURE 16: PARAPETS AND GABLE ENDS WITH RIBBON PLATE

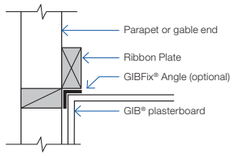
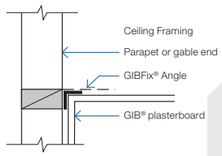


FIGURE 17: PARAPETS AND GABLE ENDS WITH GIBFIX® ANGLE



GFS003

BOTTOM PLATE FIXINGS FOR GIB® BRACING ELEMENTS

Brace type	Concrete slabs		Timber floors
	External wall	Internal wall	External and Internal walls
GS1-N	As per NZS 3604:2011. No specific additional fastening required.	As per NZS 3604:2011. Alternatively use 75 x 3.8mm shot-fired fasteners with 16mm discs, 150mm and 300mm from each end of the bracing element and at 600mm thereafter.	Pairs of 100 x 3.75mm flat head hand driven nails or 3/90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011.
GS2-N	Not applicable.		
GS2-NOM			
GSP-H BL1-H BLP-H	Intermediate fastenings to comply with NZS 3604:2011 In addition: GIB HandiBrac® fixings or metal wrap-around strap fixings and bolt as illustrated on p.15 and 16.		Pairs of 100 x 3.75mm flat head hand driven nails or 3/90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011. In addition: GIB HandiBrac® fixings or metal wrap-around strap fixings and bolt as illustrated on p.15 and 16.
BLG-H	Not applicable	As for GSP-H, BL1-H, BLP-H on concrete slab as illustrated on p.15 and 16.	

Length of GIB EzyBrace® elements ('N' Type)

The length of GIB EzyBrace® elements with an 'N' extension (requiring standard NZS3604:2011 plate connections) can be taken as the full frame length measured from the outside of the end-stud to the opening face as illustrated in figures 29-32.

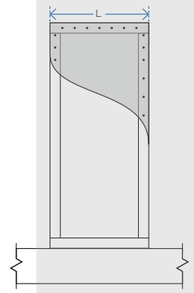
'N' type GIB EzyBrace® elements are identified by GIB® specification numbers GS1-N, GS2-N and GS2-NOM

The dimension 'L' shall not be less than 400mm.

Perimeter bracing fixing for linings of both 'H' and 'N' type elements is along the top and bottom plates, end stud, and doubling stud immediately adjacent to the opening.

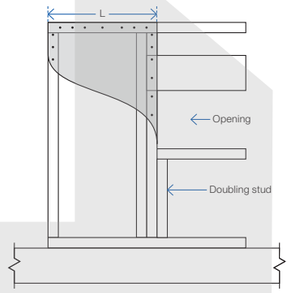
Fastener spacings and diagram scales shown in Figures 29–32 are indicative only. Refer to p.23–30 for construction details.

FIGURE 29: GS BRACING ELEMENTS (OPTION A)



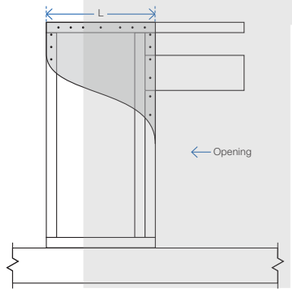
GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 30: GS BRACING ELEMENTS (OPTION B)



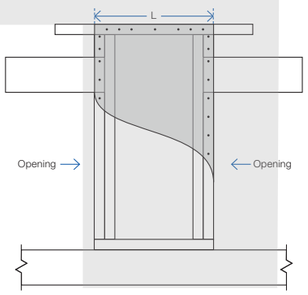
GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 31: GS BRACING ELEMENTS (OPTION C)



GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 32: GS BRACING ELEMENTS (OPTION D)



GS1-N, GS2-N elements
'L' indicates the length of the bracing element

Length of GIB EzyBrace® elements ('H' Type)

GIB EzyBrace® elements with an 'H' extension (requiring special panel hold-down fixings) can be used when the dimension 'L' as illustrated in figures 33–36 is 400mm or more.

'H' type GIB EzyBrace® elements are identified by GIB® specification numbers GSP-H, BL1-H, BLG-H and BLP-H.

The length of an 'H' type element is not only determined by the sheet material, but also by the placement of the hold-down fixings.

Hold-down fixings cannot be placed closer together than what is shown for the standard panel in figure 33.

Hold-down fixings can be placed under windows provided sill trimming studs beneath the opening are connected to the bracing element using 8/90mm gun nails, as illustrated in figure 34.

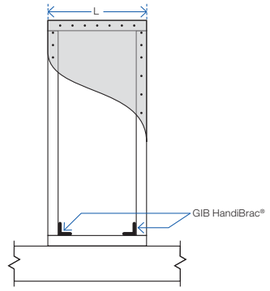
Spike doubling stud to trimming stud using a minimum of 2/90mm gun nails at 600mm centres. Lintel straps (where required for wind uplift) should be checked in and be located away from the bracing element fasteners.

Perimeter bracing fixing for linings of both 'H' and 'N' type elements is along the top and bottom plates, end stud, and doubling stud immediately adjacent to the opening as indicated in figures 34-36.

When using bracing straps, installed in accordance with p.17, fix the strap to the same framing member as shown for the GIB Handibrac® below, and install the adjacent anchor bolt in the same position as the GIB HandiBrac® bolt.

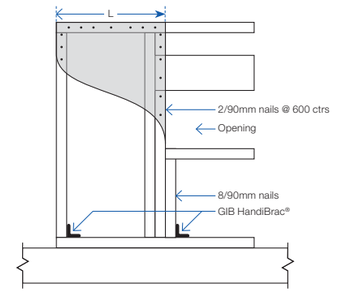
Fastener spacings and diagram scales shown in figures 33–36 are indicative only. Refer to p.23–30 for construction details.

FIGURE 33: BL BRACING ELEMENTS (OPTION A)



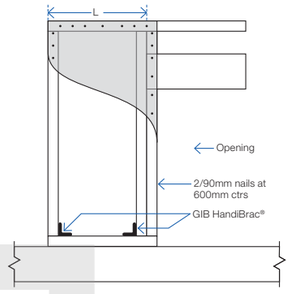
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 34: BL BRACING ELEMENTS (OPTION B)



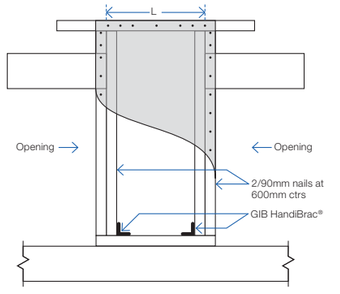
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 35: BL BRACING ELEMENTS (OPTION C)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 36: BL BRACING ELEMENTS (OPTION D)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

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Details - Bracing Cont.

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.
REF: 19083		409
SCALES (A3):	CODE:	

GIB EzyBrace® Systems specification GS1-N

Specification code	Minimum length (m)	Lining requirement
GS1-N	0.4	Any 10mm or 13mm GIB® Standard plasterboard to one side only

WALL FRAMING
Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING
Timber floor
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres.

Concrete floor
Internal Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and 600mm centres thereafter.

External Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for external wall bottom plate fixing.

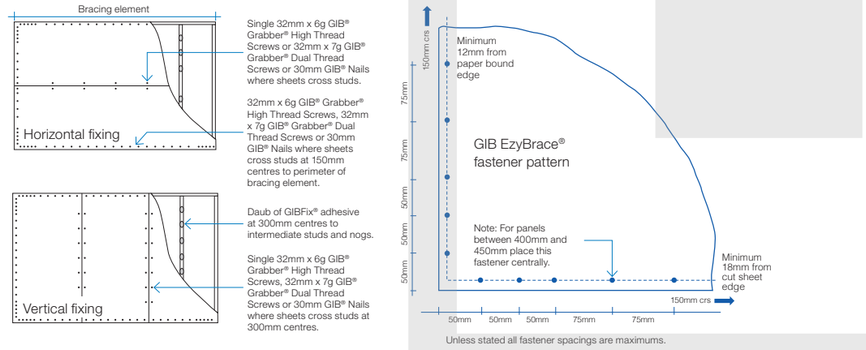
WALL LINING
- Any 10mm or 13mm GIB® plasterboard lining.
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES
For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING
Fasteners
32mm x 6g GIB® Grabber® High Thread Screws, 32mm x 7g GIB® Grabber® Dual Thread Screws or 30mm GIB® Nails. If using the GIBFix® Angle use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

Fastener centres
50,100,150, 225, 300mm maximum from each corner and 150mm thereafter around the perimeter of the bracing element. For vertically fixed sheets place fasteners at 300mm maximum centres to intermediate sheet joints. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING
Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

GIB EzyBrace® Systems specification GS2-NOM

Specification code	Minimum length (m)	Lining requirement
GS2-NOM	0.4	Any 10mm or 13mm GIB® Standard plasterboard fixed to each side of the wall framing

WALL FRAMING
Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING
Timber floor
Pairs of hand driven 100mm x 3.75mm nails at 600mm centres; or three power driven 90mm x 3.15mm nails at 600mm centres.

Concrete floor
Internal Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75mm x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and then 600mm centres thereafter.

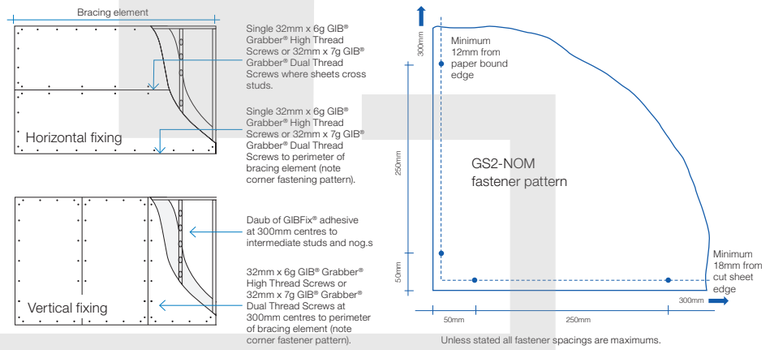
WALL LINING
- A layer of 10mm or 13mm GIB® plasterboard to each side of the wall.
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES
For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING
Fasteners
32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Angle use 32mm x 7g GIB® Grabber® Dual Thread Screws.

Fastener centres
50, 300mm from each corner and 300mm maximum thereafter around the perimeter of the bracing element. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING
Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.



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Details - Bracing Cont.2

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	410
REF: 19083			
SCALES (A3):	CODE:		

GIB EzyBrace® Systems specification BL1-H

Specification code	Minimum length (m)	Lining requirement	Other requirements
BL1-H	0.4	10mm or 13mm GIB Braceline® to one side only	Hold downs

WALL FRAMING
Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING
Timber floor
Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide.

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or Three power driven 90 x 3.15mm nails at 600mm centres.

Concrete floor
Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604:2011.

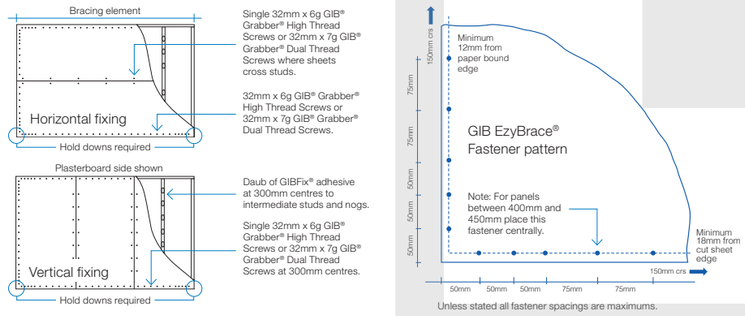
WALL LINING
- A layer of 10mm or 13mm GIB Braceline®
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES
For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING
Fasteners
32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Framing System or if fastening through GIBFix® Angles use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

Fastener centres
50,100,150, 225, 300mm from maximum each corner and 150mm thereafter around the perimeter of the bracing element. For vertically fixed sheets place fasteners at 300mm maximum centres to the sheet joint. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING
Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.



Unless stated all fastener spacings are maximums.

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

GIB EzyBrace® Systems specification BLP-H

Specification code	Minimum length (m)	Lining requirement	Other requirements
BLP-H	0.4	10mm or 13mm GIB Braceline® to one side of the frame plus minimum 7mm structural plywood manufactured to AS/NZ 2269.0 :2012 to the other side	Hold downs

WALL FRAMING
Wall framing to comply with;

- NZBC B1 — Structure; B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING
Timber floor
Use panel hold downs at each end of the bracing element. The GIB® HandiBrac is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide.

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or Three power driven 90 x 3.15mm nails at 600mm centres.

Concrete floor
Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of AS/NZ 2269/0 :2012.

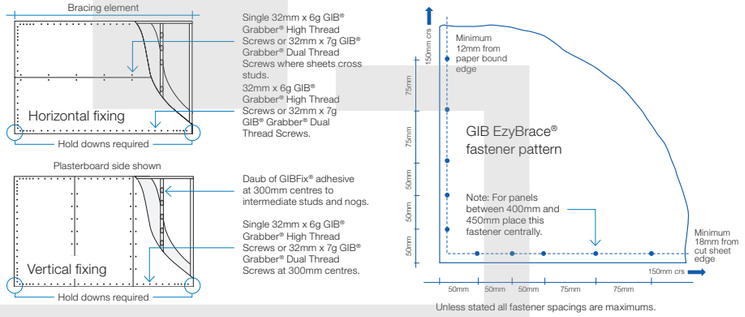
WALL LINING
- A layer of 10mm or 13mm GIB Braceline® to one side of the wall plus minimum 7mm structural plywood manufactured to AS/NZS 2269.0 :2012 to the other side.
- Sheets can be fixed vertically or horizontally.
- Plywood is to be fixed vertically with edges supported.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES
For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING
Fasteners
GIB Braceline® side: 32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. Plywood: 50 x 2.8mm Galv or Stainless steel annular grooved FH nails. If using the GIBFix® Framing System or if fastening through GIBFix® Angles use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

Fastener centres
GIB® Plasterboard side: 50,100,150, 225, 300mm from each corner and then 150mm thereafter around the perimeter of the bracing element. For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge. Plywood side: 150mm centres to the perimeter of each sheet. GIB® corner fastener pattern does not apply to the plywood side. 300mm centres to intermediate studs.

JOINTING
Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.



Unless stated all fastener spacings are maximums.

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

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Details - Bracing Cont.3

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO. 411	
REF: 19083			
SCALES (A3):	CODE:		

Ceiling diaphragms

GIB® plasterboard ceiling diaphragms are stiff and strong horizontal elements which effectively transfer loads to bracing walls. They themselves do not have a bracing unit rating but are used when bracing lines exceed 6m separation. The basic shape of a ceiling diaphragm is square or rectangular. Protrusions are permitted but cut-outs are not. The length of a ceiling diaphragm shall not exceed twice its width. Dimensions are measured between supporting bracing lines. Supporting bracing lines shall have a bracing capacity no less than the greater of 100 bracing units or 15 bracing units per metre of diaphragm dimension, measured at right angles to the line being considered, see figure 21.

Limitations for GIB® plasterboard ceiling diaphragms

Ceiling diaphragms may be constructed using any GIB® plasterboard provided perimeter fixing is at;

150mm centres for: Diaphragms up to 7.5m in length, no steeper than 15°.

100mm centres for: Diaphragms up to 7.5m in length, no steeper than 45°. Diaphragms up to 12m in length, no steeper than 25°.

Diaphragms outside these parameters must be specifically designed.

General fixing requirements for GIB® Ceiling Diaphragms:

- Linings must be installed over the entire area of the diaphragm.
- Fastening must be no less than 12mm from sheet edges and not less than 18mm from sheet ends.
- Sheets must be supported by framing members (e.g., ceiling battens) spaced at no more than 500mm centres for 10mm GIB® plasterboard and at no more than 600mm centres for 13mm GIB® plasterboard.
- Sheets within the diaphragm area may be fastened and finished conventionally in accordance with the publication entitled, "GIB® Site Guide". All joints shall be GIB® Joint Tape reinforced and stopped. It is recommended that sheet butt joints are formed off framing and back-blocked (see "GIB® Site Guide").
- Use full width sheets where possible. At least 900mm wide sheets with a length not less than 1800mm shall be used. Sheets less than 900mm wide but no less than 600mm may be used provided all joints with adjacent sheets are back-blocked (see "GIB® Site Guide" and figure 22).
- Fasteners are placed at the specified centres around the ceiling diaphragm with the corners fastened using the GIB EzyBrace® fastener pattern.

FIGURE 20: PROTRUSIONS AND CUTOUTS

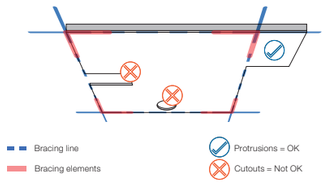


FIGURE 21: DIAPHRAGM BRACING LINING SPACINGS

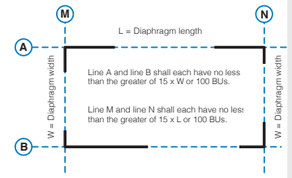
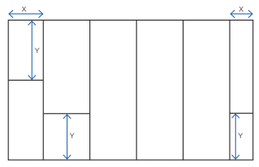
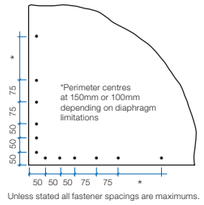


FIGURE 22: GIB® CEILING DIAPHRAGM SHEET WIDTHS AND LENGTHS



X = 900mm min or 600–900mm min provided all adjacent joints are back-blocked.
Y = 1800mm min sheet lengths at ends of ceiling diaphragms.

FIGURE 23: GIB EZYBRACE® FASTENER PATTERN



Unless stated all fastener spacings are maximums.

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Ceiling battens in ceiling diaphragms

Ceiling diaphragms may be constructed using steel or timber ceiling battens.

Battens shall be spaced at a maximum of:
- 500mm for 10mm GIB® plasterboard.
- 600mm for 13mm GIB® plasterboard.

Timber battens shall be fixed in accordance with the requirements of NZS 3604:2011.

Metal battens shall be GIB® Rondo® battens with two external flanges of 8mm to allow direct screw fixing to roof framing.

GIB® Rondo® metal battens shall be fixed with 2/32mm x 8g GIB® Grabber® Wafer Head Self Tapping screws to supporting framing.

GIB® Rondo® metal battens must be fixed directly to the roof framing. If a clip system has been used, a timber block (min 300mm) or a continuous timber member can be fixed alongside the bottom chord to permit a direct connection to the batten, see figure 26.

For GIB® Rondo® metal battens, a GIB® Rondo® metal channel or metal angle is required at the perimeter of the diaphragm. The perimeter channel shall be fastened to the top plate with 32mm x 8g GIB® Grabber® Wafer Head Self Tapping screws or 32mm x 7g GIB® Grabber® Dual Thread screw at 300mm centres maximum.

Linings are fastened to metal using 25mm x 6g GIB® Grabber® Self Tapping screws and to timber framing using 32mm x 6g GIB® Grabber® High Thread screws. Alternatively 32mm x 7g GIB® Grabber® Dual Thread screws can be used in both cases. Fastener centres are specified on p.18.

Coved ceiling diaphragms can be achieved by using nominally 32 x 32 x 0.55mm proprietary galvanised metal angles ("back-flashing") at the changes in direction. These angles shall be:
- Fastened at 300mm on each edge to metal battens using 32mm x 8g GIB® Grabber® Wafer Head Self Tapping screws or 32mm x 7g GIB® Grabber® Dual Thread screws.
- Fastened to timber framing using 32mm x 7g GIB® Grabber® Dual Thread screws when linings are installed.

FIGURE 26: GIB® RONDO® METAL CEILING BATTEN INSTALLATION

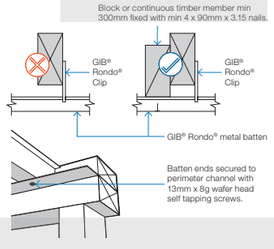

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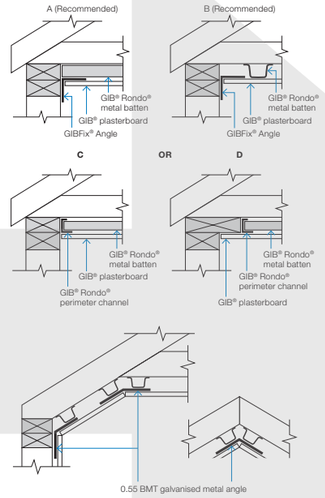
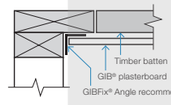
FIGURE 27: GIB® RONDO® METAL CEILING BATTENS WITH CORNER ANGLES



GEB017

FIGURE 28: TIMBER CEILING BATTENS*



GEB018

Openings in ceiling diaphragms

SMALL OPENINGS

Small opening (e.g. down lights) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the ceiling diaphragm.

LARGE OPENINGS

Openings are allowed withing the middle third of the diaphragms length and width. Fixing of sheet material to opening trimmers shall be at 150mm centres. Neither opening dimension shall exceed a third of the diaphragm width. Larger openings or openings in other locations require specific engineering design.

Where fireplace flue or range hood openings are required in a ceiling diaphragm use a galvansed metal backing plate as shown in figure 25, with a maximum hole diameter of 350mm.

Figure 25 can also be used for range hood openings in walls.

For information on openings in ceiling diaphragms contact the GIB® Helpline on 0800 100 442.

FIGURE 24: LARGE OPENINGS IN CEILING DIAPHRAGMS

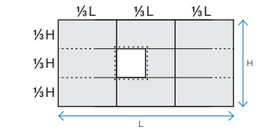
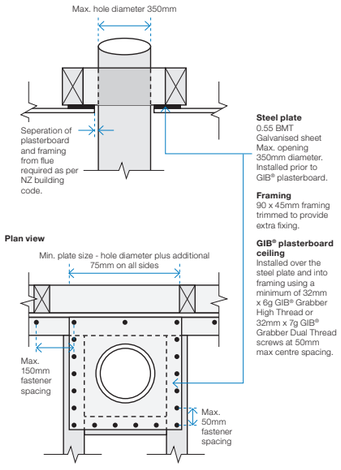


FIGURE 25: FIREPLACE FLUES AND RANGE HOOD OPENINGS



Plasterboard ceiling not shown in plan view

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Ceiling Diaphragm

ISSUE DATE: 2/12/2020	REV. DATE:	SHEET NO.	412
REF: 19083			
SCALES (A3):	CODE:		

Lintel Fixing Schedule

Acceptable solutions in conjunction with tables 8:14 & Fig 8:12 of NZS3604:2011

Span Meters	Wind Zone	LIGHT ROOF Loaded Dimensions Meters					HEAVY ROOF Loaded Dimensions Meters				
		2	3	4	5	6	2	3	4	5	6
0.6	L	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
	M	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
	H	L1	L1	L1	L2	L2	L1	L1	L1	L1	L1
	VH	L1	L1	L2	L2	L2	L1	L1	L1	L2	L2
	EH	L1	L2	L2	L2	L3	L1	L1	L2	L2	L2
0.9	L	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
	M	L1	L1	L1	L1	L2	L1	L1	L1	L1	L1
	H	L1	L1	L2	L2	L2	L1	L1	L1	L2	L2
	VH	L1	L2	L2	L3	L3	L1	L2	L2	L2	L2
	EH	L2	L2	L3	L3	L3	L2	L2	L2	L3	L3
1.2	L	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1
	M	L1	L1	L2	L2	L2	L1	L1	L1	L1	L1
	H	L1	L2	L2	L3	L3	L1	L1	L2	L2	L2
	VH	L2	L2	L3	L3	L3	L1	L2	L2	L3	L3
	EH	L2	L3	L3	L3	L3	L2	L2	L3	L3	L3
1.8	L	L1	L1	L1	L2	L2	L1	L1	L1	L1	L1
	M	L1	L2	L2	L2	L3	L1	L1	L1	L1	L2
	H	L2	L3	L3	L3	L3	L1	L2	L2	L3	L3
	VH	L3	L3	L3	L3	L4	L2	L3	L3	L3	L3
	EH	L3	L3	L3	L4	L4	L3	L3	L3	L3	L4
2.1	L	L1	L1	L2	L2	L2	L1	L1	L1	L1	L1
	M	L2	L2	L2	L3	L3	L1	L1	L1	L2	L2
	H	L2	L3	L3	L3	L3	L2	L2	L3	L3	L3
	VH	L3	L3	L3	L4	L4	L2	L3	L3	L3	L3
	EH	L3	L3	L4	L4	L4	L3	L3	L3	L4	L4
2.4	L	L1	L1	L2	L2	L2	L1	L1	L1	L1	L1
	M	L2	L2	L3	L3	L3	L1	L1	L1	L2	L2
	H	L2	L3	L3	L3	L4	L2	L2	L3	L3	L3
	VH	L3	L3	L4	L4	L4	L3	L3	L3	L3	L4
	EH	L3	L4	L4	L4	SED	L3	L3	L4	L4	L4
3.0	L	L1	L2	L2	L3	L3	L1	L1	L1	L1	L1
	M	L2	L3	L3	L3	L3	L1	L1	L2	L2	L2
	H	L3	L3	L3	L4	L4	L2	L3	L3	L3	L3
	VH	L3	L4	L4	L4	SED	L3	L3	L3	L4	L4
	EH	L3	L4	L4	SED	SED	L3	L4	L4	L4	SED
3.6	L	L2	L2	L2	L3	L3	L1	L1	L1	L1	L1
	M	L2	L3	L3	L3	L3	L1	L2	L2	L2	L3
	H	L3	L3	L4	L4	L4	L2	L3	L3	L3	L4
	VH	L3	L4	L4	SED	SED	L3	L3	L4	L4	L4
	EH	L4	L4	SED	SED	SED	L3	L4	L4	L4	SED
4.2	L	L2	L2	L3	L3	L3	L1	L1	L1	L1	L1
	M	L3	L3	L3	L3	L4	L1	L2	L2	L3	L3
	H	L3	L4	L4	L4	SED	L3	L3	L3	L4	L4
	VH	L4	L4	L4	SED	SED	L3	L4	L4	L4	SED
	EH	L4	L4	SED	SED	SED	L4	L4	L4	SED	SED
4.8	L	L2	L3	L3	L3	L3	L1	L1	L1	L1	L1
	M	L3	L3	L3	L4	L4	L1	L2	L2	L3	L3
	H	L3	L4	L4	L4	SED	L3	L3	L3	L4	L4
	VH	L4	L4	SED	SED	SED	L3	L4	L4	SED	SED
	EH	L4	SED	SED	SED	SED	L4	L4	SED	SED	SED

Notes:

Lintel spans and loaded dimensions measured in metres.

All frame nailing not indicated, refer to table 8.19 of NZS 3604:2011.

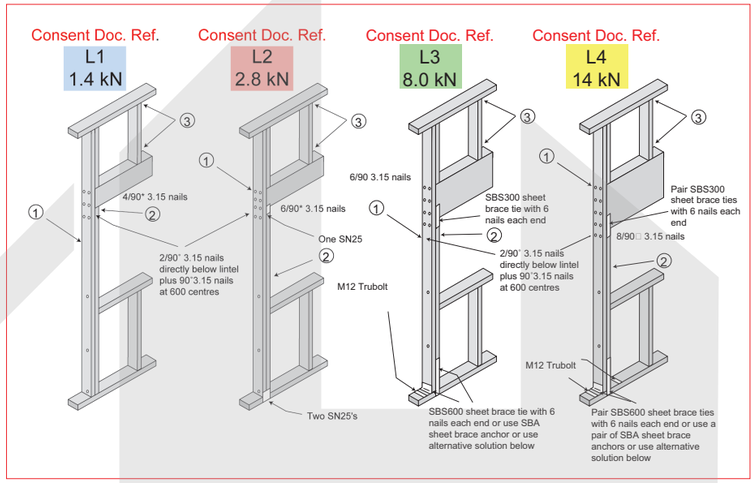
In all cases a 90mm thick external wall is assumed.

600mm overhangs allowed for in the tables.

SED designates that a Specific Design is required.

Lintel Fixing Schedule

Acceptable solutions in conjunction with tables 8:14 & Fig 8:12 of NZS3604:2011



1. For trimming stud thickness refer to Table 8.5 NZS 3604:2011. Additional studs to that shown to have a minimum stud to stud fixing of 11/90 x 3.15mm nails.

2. Where a double stud which provides support for a lintel is shorter by 400mm or more than the full stud height, its thickness shall not be included as contributing to the thickness of trimming studs.

3. Studs & Jack Studs to be fixed in accordance with the Pryda Top Plate to Stud Fixing Guide on page 39.

Alternative solution for L3 & L4 SBS use

All capacities are limit state design values and not characteristic strength therefore these may be compared directly to Pryda design software output. Capacitities assume a minimum timber grade of SG8.

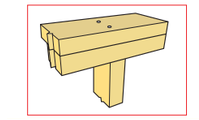
Top Plate to Stud Fixing Guide

Alternative Solution to NZS3604:2011 Table 8.18

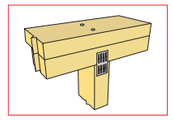
It is proposed that PRYDA Strapnails, Stud Ties or Concealed Cleats be preferred as opposed to PRYDA Z and U nails for ease of fixing and to lessen interference with the cladding.

Notes:

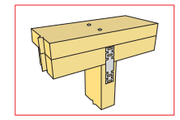
- Refer to NZS3604:2011 Table 8.18 and 8.19
- All truss to top plates to be fixed as per truss manufacturer's fixing schedule and details
- SG8 min dry wall framing with moisture content <18%
- Studs at 600mm centres. For 400mm stud centres divide loaded dimension by 1.5
- Nails specified are 90 x 3.15mm power driven or 100 x 3.75mm hand driven
- Assumed that the top plate is 45mm



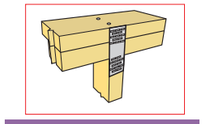
TPO - 0.7kN



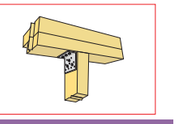
TP1 - 1.7kN



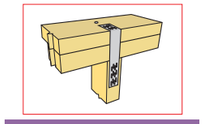
TP2 - 2.5kN



TP3 - 4.7kN



TP3 - 6.0kN



TP3 - 6.0kN

Minimum Top Plate to Stud Joint Fixing Table for roof member 600, 900 & 1200 Centres

Loaded Dimension (m)	Light Weight Roof Wind Zone					Heavy Weight Roof Wind Zones				
	L	M	H	VH	EH	L	M	H	VH	EH
2.0	TPO	TPO	TP1	TP2	TP3	TPO	TPO	TPO	TP1	TP2
3.0	TPO	TP1	TP2	TP3	TP3	TPO	TPO	TP1	TP2	TP3
4.0	TPO	TP2	TP3	TP3	TP3	TPO	TPO	TP2	TP3	TP3
5.0	TP1	TP2	TP3	TP3	TP3	TPO	TPO	TP2	TP3	TP3
6.0	TP2	TP3	TP3	TP3	TP3	TPO	TPO	TP3	TP3	TP3

Consent Doc Ref.	Fixing Capacity	Fixing Detail
TPO	0.7kN	2/End Nails
TP1	1.7kN	2/End Nails + MP2R4 Knuckle Plate
TP2	2.5kN	2/End Nails + MPSN2 Strapnail
TP3	4.7kN	2/End Nails + SN50L Strapnail
TP3	4.7kN	2/End Nails + NPPC6 with 3/T17 14g x 75mm hex head screws
TP3	6.0kN	2/End Nails + SST

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Details - Stud & Lintel Fixings

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REF: 19083		
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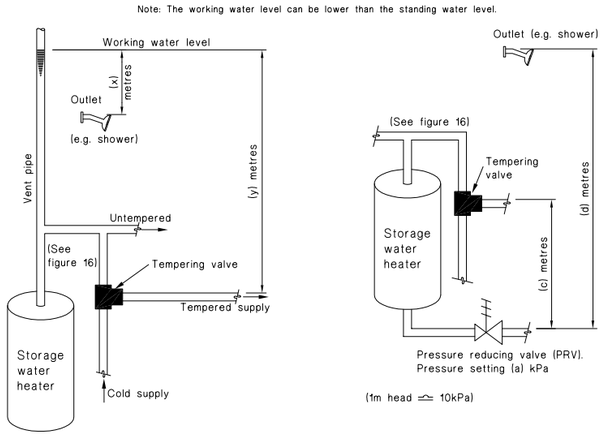
Figure 5: Head of Water Available
Paragraph 5.3.2



Examples of Head of Water

e.g. (x) = Head of water in metres at shower outlet

e.g. (y) = Head of water in metres at Tempering valve

Examples of Head of Water
PRV setting (a)/10 = (b) metre head

e.g. (b)-(c) = Head of water in metres at Tempering valve
e.g. (b)-(d) = Head of water in metres at shower outlet

Note: Valves omitted for clarity.

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

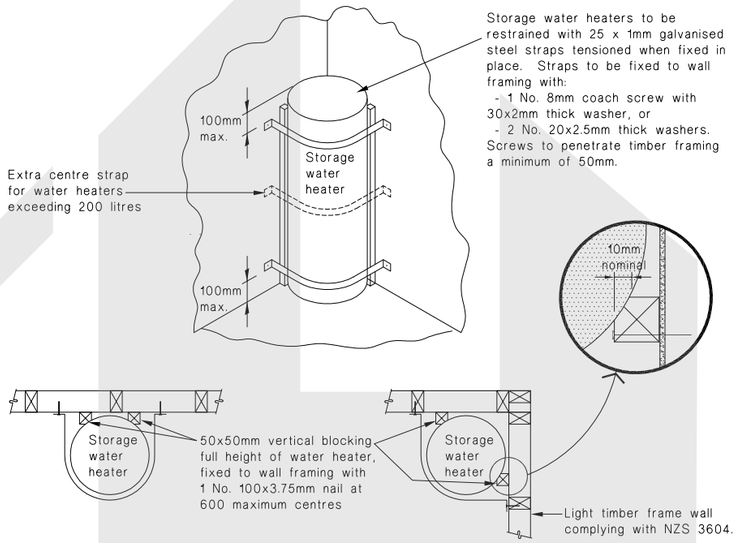
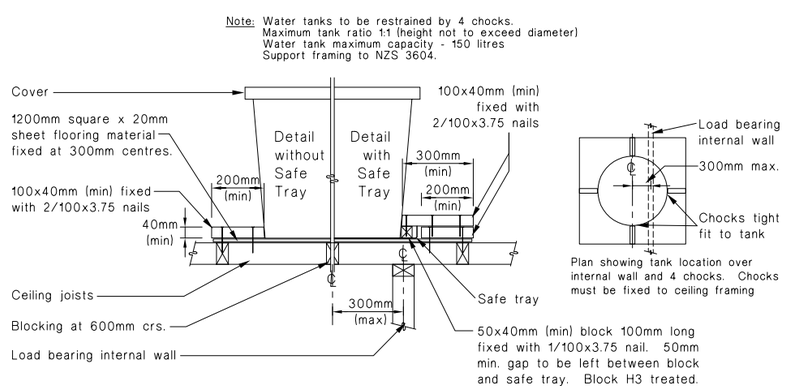
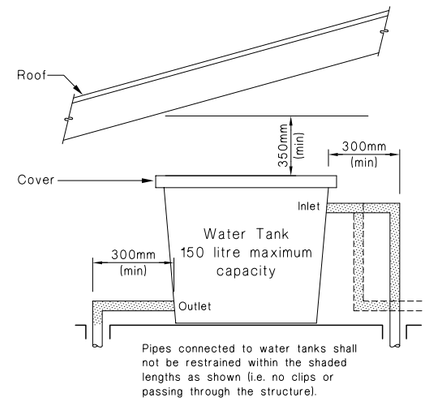


Figure 4: Structural Support for Water Tanks (150 litre maximum capacity)
Paragraphs 5.2.1, 5.2.3 and 5.2.7

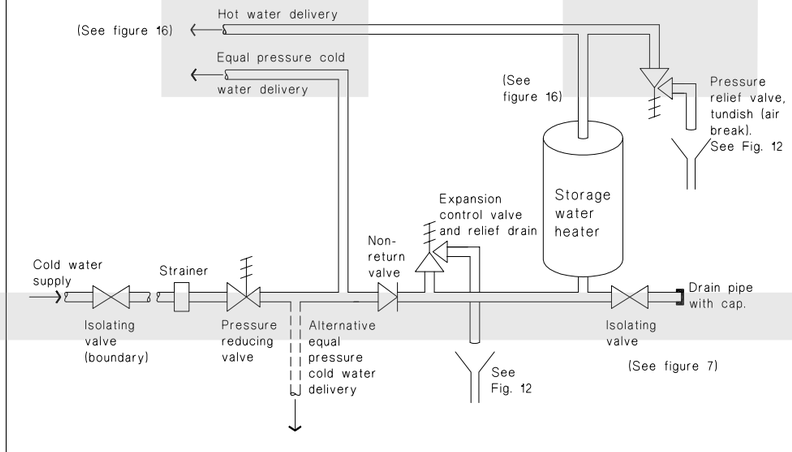


(a) Structural support



(b) Pipe connections

Figure 10: Low Pressure Valve – Vented Storage Water Heater System – Pressure Relief Valve
Paragraphs 6.1.2 and 6.2.1 b)



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Hot Water Cylinder

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SCALES (A3):	CODE:		

Joinery Notes

BC201569

General joinery notes
All dimensions to be checked on site prior to fabrication

Windows & doors viewed from exterior

Window & door supplier is responsible for ensuring that all components fit the structure and opening size

All windows & doors to be installed in accordance with construction details in drawing set

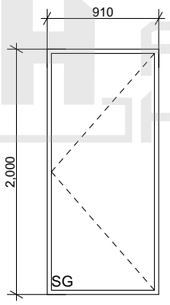
All windows to comply with NZS4211.

Aluminium joinery
Selected colour powder-coated aluminium joinery. All head, jamb and sill liners to be 20mm H3.1 timber, painted

Glazing
Glazing weight to comply with NZS4223

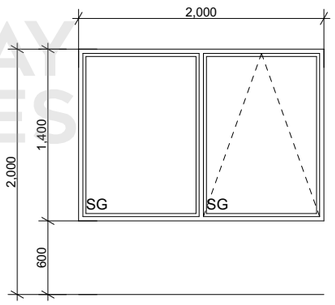
Flashings and flexible flashing tape
All flashings and flashing tape to be installed to comply with NZBC E2/AS1 and manufacturer's specification. Do not fix through flashings unless otherwise specifically shown in details

Window and door opening widths
All window and door sizes shown on the plan refer to 'Box' size only and do not allow for jamb battens and packers. pre-nailer to increase opening width accordingly



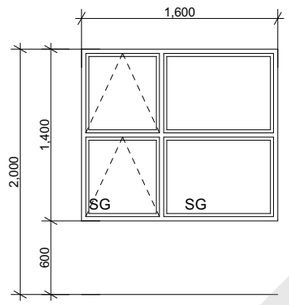
EJ01

Type: Entry Door
Material: Aluminium
Glazing: Double, Grade A Safety



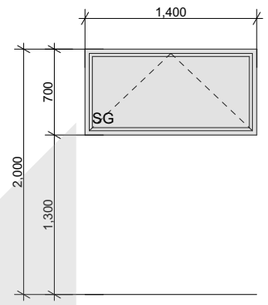
EJ02

Type: Awning Window
Material: Aluminium
Glazing: Double



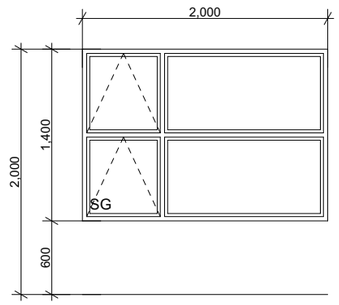
EJ03

Type: Awning Window
Material: Aluminium
Glazing: Double, Grade A Safety



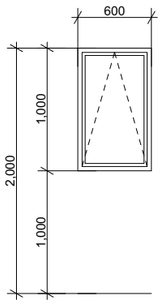
EJ04

Type: Awning Window
Material: Aluminium
Glazing: Double, Obscured, Grade A Safety



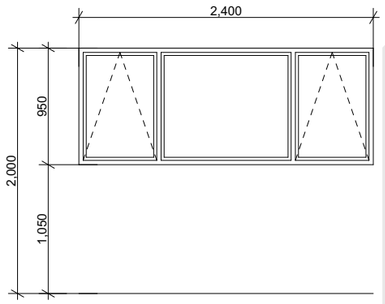
EJ05

Type: Awning Window
Material: Aluminium
Glazing: Double, Grade A Safety



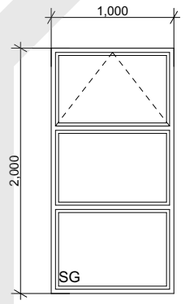
EJ06, EJ07

Type: Awning Window
Material: Aluminium
Glazing: Double



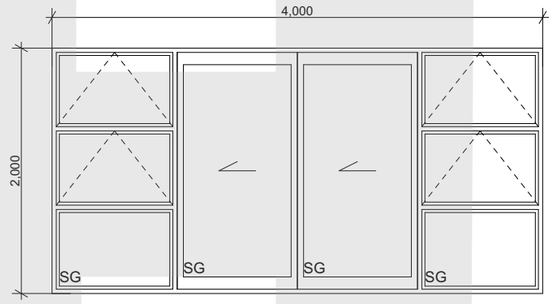
EJ08

Type: Awning Window
Material: Aluminium
Glazing: Double



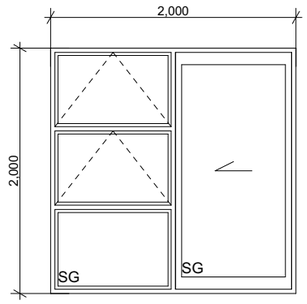
EJ09, EJ10

Type: Awning Window
Material: Aluminium
Glazing: Double, Grade A Safety



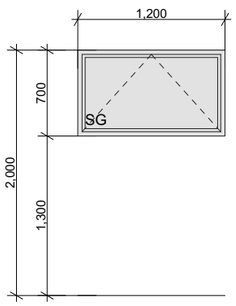
EJ11

Type: Sliding Door With Awning Window
Material: Aluminium
Glazing: Double, Grade A Safety



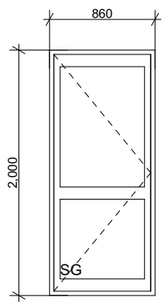
EJ12, EJ13

Type: Sliding Door With Awning Window
Material: Aluminium
Glazing: Double, Grade A Safety



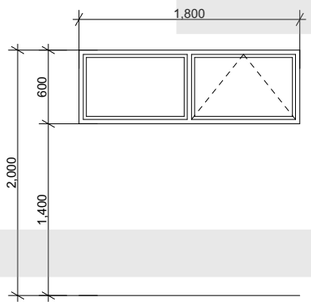
EJ14

Type: Awning Window
Material: Aluminium
Glazing: Double, Obscured, Grade A Safety



EJ15

Type: External Hinged Door
Material: Aluminium
Glazing: Double, Grade A Safety



EJ16

Type: Awning Window
Material: Aluminium
Glazing: Single

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Window & Door Schedule

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