

Banksia E/S 4bed

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PROPOSED NEW RESIDENCE FOR:

Lot 874 Golden Sands
Monaro Place
Papamoa

job no: 18/874GS



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E1 / AS1 CALCULATIONS

(all values are derived from E1/AS1 tables.)

Rainfall Intensity From Tauranga IDC. - 126mm/hr

External Gutter = Continuous spouting 1/4 round gutter,
cross sectional area = 6300mm²
= 50m² / 1.26 = 39m² maximum catchment to gutter

Downpipes = 0-25deg roof pitch - 80mm downpipes to serve 85m² / 1.26 = **67m² maximum discharge to downpipes**

Stormwater drainage

100mm @ 1:120 to service 200m²/1.26 = 158m² maximum
100mm @ 1:60 to service 260m²/1.26 = 206m² maximum
100mm @ 1:40 to service 310m²/1.26 = 246m² maximum
100mm @ 1:20 to service 420m²/1.26 = 333m² maximum
100mm @ 1:10 or steeper to service 600m²/1.26 = 476m² maximum

Maintenance:

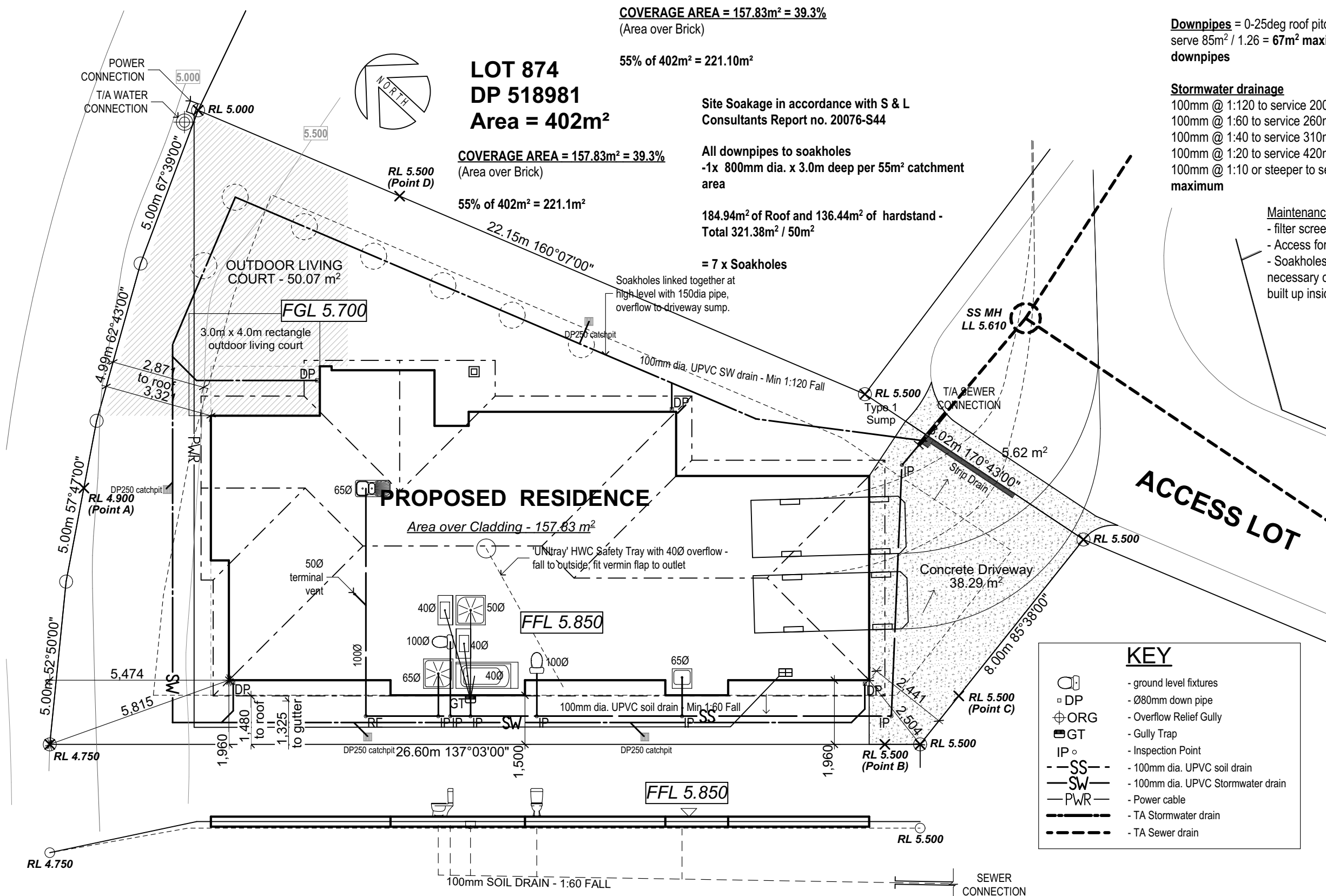
- filter screens to be placed at all pipe intakes.
- Access for the maintenance be provided to soakholes.
- Soakholes should be annually inspected and if necessary cleaned of any silt or debris which may have built up inside the pit.

ALL SANITARY DRAINAGE TO G13/AS3 -
AS/NZS 3500.2:2018 sections 3 & 4


ALL STORMWATER DRAINAGE TO E1/AS1

/ MINIMUM GRADIENT OF DISCHARGE PIPES

1:40 for 65mm diameter and under
1:60 for 100mm diameter and under



KEY

- | | |
|---|------------------------------------|
|  | - ground level fixtures |
| □ DP | - Ø80mm down pipe |
| ⊕ ORG | - Overflow Relief Gully |
| Ⓜ GT | - Gully Trap |
| IP ○ | - Inspection Point |
| — SS — | - 100mm dia. UPVC soil drain |
| — SW — | - 100mm dia. UPVC Stormwater drain |
| — PWR — | - Power cable |
| ———— | - TA Stormwater drain |
| ----- | - TA Sewer drain |

Banksia E/S 4bed

18/874GS



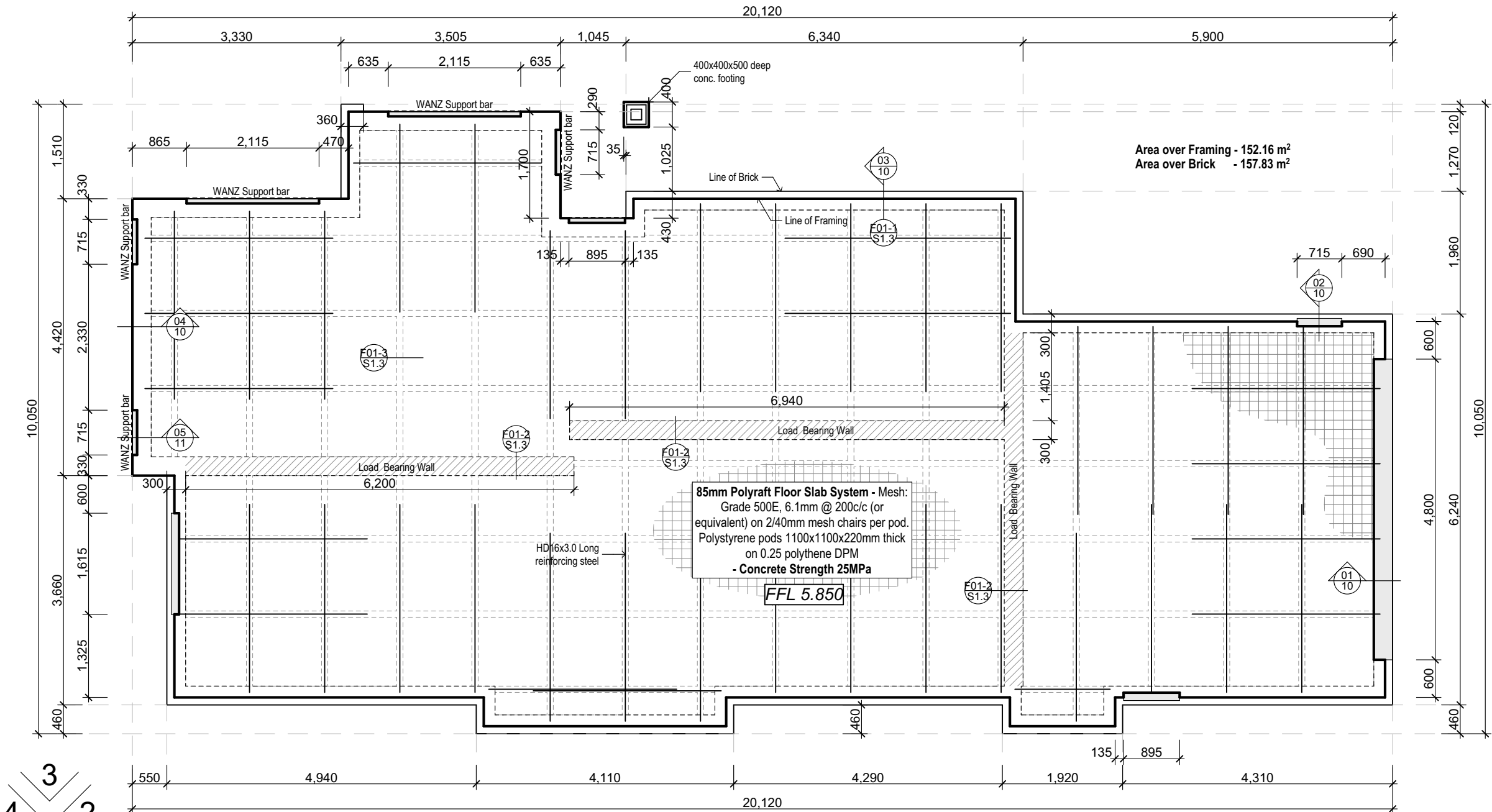
NOTE: It is the contractors responsibility to check and verify all dimensions and levels on site before commencing any works

Site Plan

Lot 874 Golden Sands
Monaro Place - Papamoa

<u>DESIGN</u> K. de Raat		<u>DRAWN</u> M Nicholson	
<u>CHECKED</u> K. de Raat		<u>CLIENT</u> GH Tauranga Ltd.	
<u>DATE</u> 16/01/2019	<u>SCALE</u> 1:125	<u>SHEET</u> 01	

SITE PROFILE / LONGITUDINAL DRAINAGE



3
4 2
1
ELEVATIONS

RIBRAFT:

OVERVIEW:
The Polyraft floor system is a reinforced concrete waffle raft floor slab-on-ground. It consists of an 85mm thick slab supported by a grid of normally 100mm wide at 1200mm x 1200mm centres. The overall depth is 305mm. Edge beams and ribs under loadbearing walls are 300mm wide to provide for the extra load carried by these members.

PODS:
Polystyrene pods 1100mm sq and 220mm thick are placed directly on levelled ground and arranged in such a way as to form a reinforced concrete floor slab with a grid of reinforced concrete ribs and edge beams when concrete is placed into them. Pods may be cut to suit specific architectural layout and slab to accommodate services.

Extra steel shall be placed on top of the mesh, these shall be HD12 bars (grade 500), 1200mm long tied to the mesh at 200mm centres, with 50mm cover from the internal corner.

STEEL:

Reinforcing steel consists of Grade 500E / SE62 reinforcing mesh in the slab with the reinforcing bars on the ribs and edge beams. The reinforcing bar shall comply with the requirements of NZS 4671:2001 'Steel Reinforcing Materials'. Specifically designed spacers are used to position the polystyrene pods and the rib and edge beam reinforcing steel bars in a secure manner until concrete is placed. The reinforcing mesh is held in place by mesh chairs. Conventional timber or steel formwork is used to form the edge of the slab.

ALL STEEL SHALL BE LAPPED A MINIMUM OF 60 BAR DIAMETERS (720mm for 12mm Steel)
MESH SHALL BE LAPPED 225mm MINIMUM AND TIED AT ALL JOINS

CONCRETE:

A 25MPa 80mm slump structural mix using 19mm nominal aggregate size.
Mix to contain 15kg/m³ of 3D 80/60GB steel fibres

DAMP PROOF MEMBRANE:

The damp proof membrane shall:
1. Have a water vapour flow resistance not less than 90MN/g when tested in accordance with ASTM E 96 utilising standard test conditions.
2. Be sufficiently durable to resist damage from installation and normal workable operations.
3. Be laid on a surface that is unlikely to damage the damp proof membrane being used.
4. Have penetrations by services reinforcing and other objects sealed by taping or by applying a wet-applied damp proof membrane material.

FIXING OF TIMBER:

Framing timber shall be fixed to slab on ground floors as required by NZS 3604:2011. By using a proprietary fastener as per NZS 3604:2011, clause 7.5.12.2:- External H1.2 bottom plates fixed to slab with Lumberlok® Bottom plate fixing anchor cast in slab @ 900 crs. When using a sheet brace anchors should be positioned within 150mm from the end of that element, or use a M10 dyna-bolt for additional fixing.

Important

CHECK ALL DIMENSIONS AGAINST FLOOR PLAN, ANY DISCREPANCIES TO BE VERIFIED BY DESIGNER.

General Note

OPENING DIMENSIONS SHOWN FROM EDGE OF SLAB ON FRAMING LINE. 50MM CAVITY, 120MM FROM BRICK TO FRAMING LINE.

Site Preparation

REFER TO ATTACHED GEOTECHNICAL REPORT FOR SPECIFIC SITE PREPARATION DETAILS, BEARING DEPTH AND CAPACITY.

Polyraft Design

REFER TO ATTACHED SPECIFIC DESIGN PRODUCER STATEMENT AND DESIGN CALCULATION'S FOR RIBRAFT FOUNDATION BY KIRK ROBERTS LTD.

Note

REFER TO TRUSS MANUFACTURER'S LAYOUT FOR LOCATION OF SLAB THICKENINGS TO LOAD BEARING WALLS AND POINT LOADS
- LINE LOADS GREATER THAN 4.5kN/m AND LESS THAN 16.5kN/m ARE AS SHOWN IN THE KR DETAILS
- LINE LOADS GREATER THAN 16.5kN/m REQUIRE SPECIFIC DESIGN

KEY

- Top of Floor slab
- Line of footing below
- Line of Brick Rebate
- Full height Window / door rebate
- 1100x1100x220 Polystyrene pods
- Floor slab Mesh

Banksia E/S 4bed 18/874GS

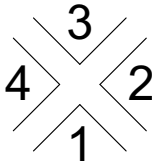
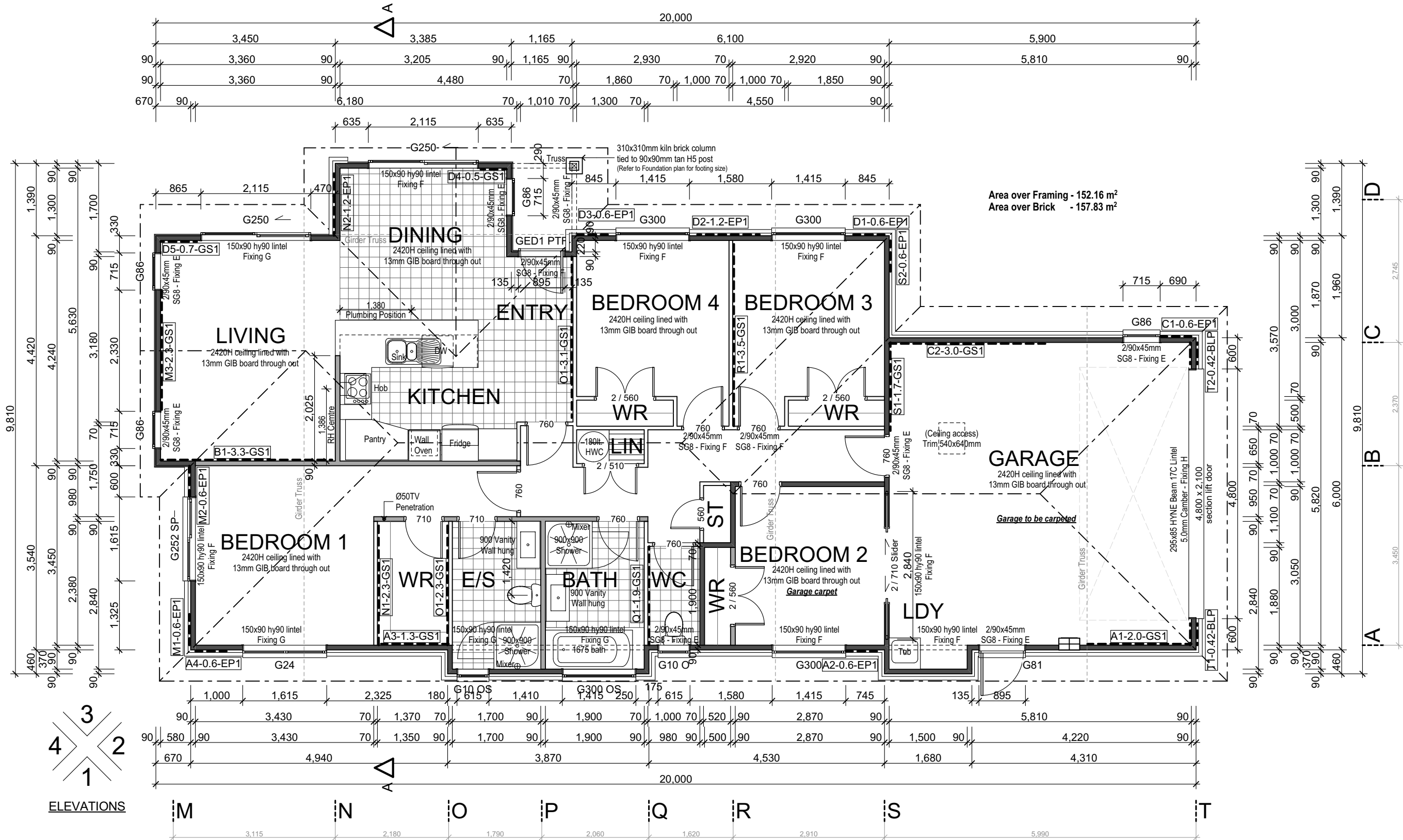


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Foundation Plan

Lot 874 Golden Sands
Monaro Place - Papamoa

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CHECKED	K. de Raat	CLIENT	GH Tauranga Ltd.
DATE	16/01/2019	SCALE	1:75
		SHEET	02



ELEVATIONS

KEY

- 90mm Insulated Wall
- 90mm Un-insulated Wall
- 70mm Un-Insulated Wall

Note:
All flooring tiles to a mean coefficient of friction no less than 0.4
Kitchen compliant with NZBC Clause G3 as an alternative solution

Wind - Earthquake - Exposure - Climate - Snow -

High Zone 1 Zone C Zone 2 Zone 0

ALL STUD FIXINGS TO BE TYPE 'B' UNLESS NOTED OTHERWISE

Note:
All Framing and Lintels to be SG8
Grade timber unless specified otherwise. All timber H1.2 to external and internal framing.

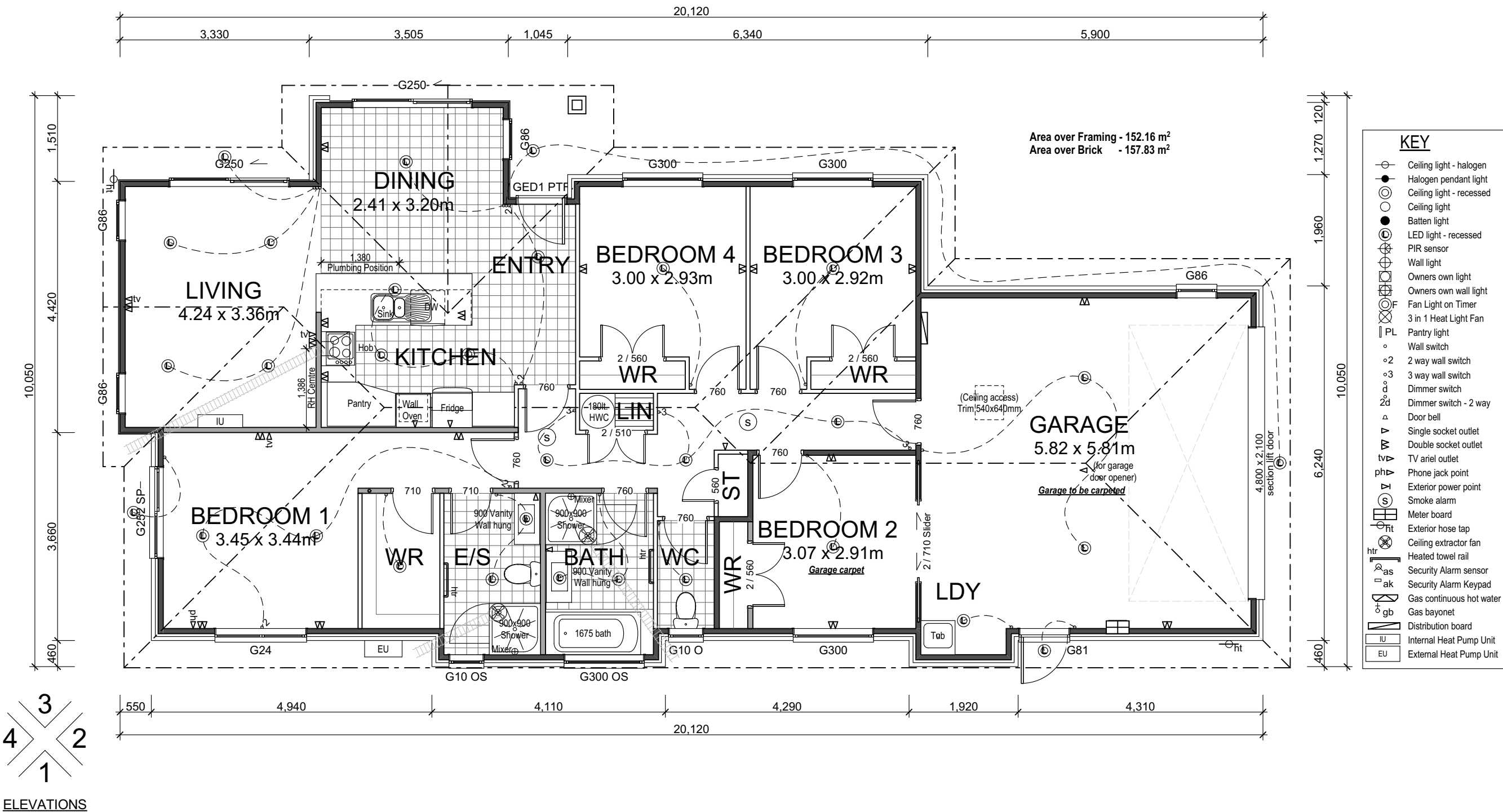
Braced GS1 Walls over 1.8m long to have additional Lumberlok Angle
Brace for stability during transport and construction (max 55° angle)

CHECK ALL DIMENSIONS ON SITE, ANY DISCREPANCIES TO BE VERIFIED BY DESIGNER.



NOTE: It is the contractors responsibility to check and verify all dimensions and levels on site before commencing any works

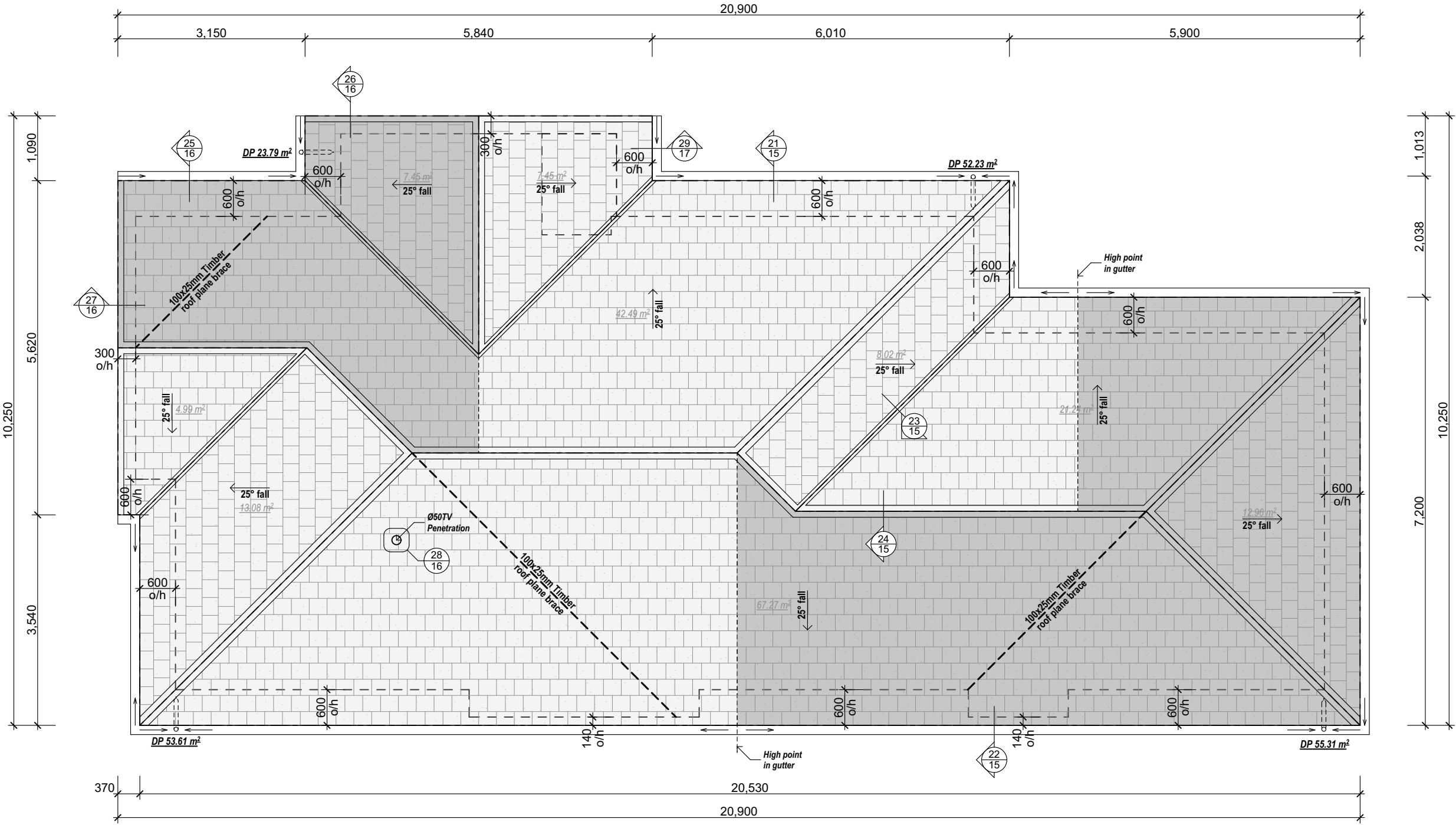
Banksia E/S 4bed		18/874GS	
Floor Plan			
Lot 874 Golden Sands Monaro Place - Papamoa			
DESIGN K. de Raat		DRAWN M Nicholson	
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DATE 16/01/2019	SCALE 1:75		SHEET 03



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Banksia E/S 4bed 18/874GS

Electrical Plan			
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DATE	16/01/2019	SCALE	1:75
		SHEET	04



KEY

- 44.11 m² - Roof plan area served by downpipe
- DP - 80mm Downpipe location
- - Direction of 1:100 gutter fall
- 25° fall → - Roof pitch and direction of fall
- 21.16 m² - Roof Segment area
- - - - - Roof Plane brace
- - - - - High Point of Gutter Roof Projection
- - - - - Building Outline - over framing

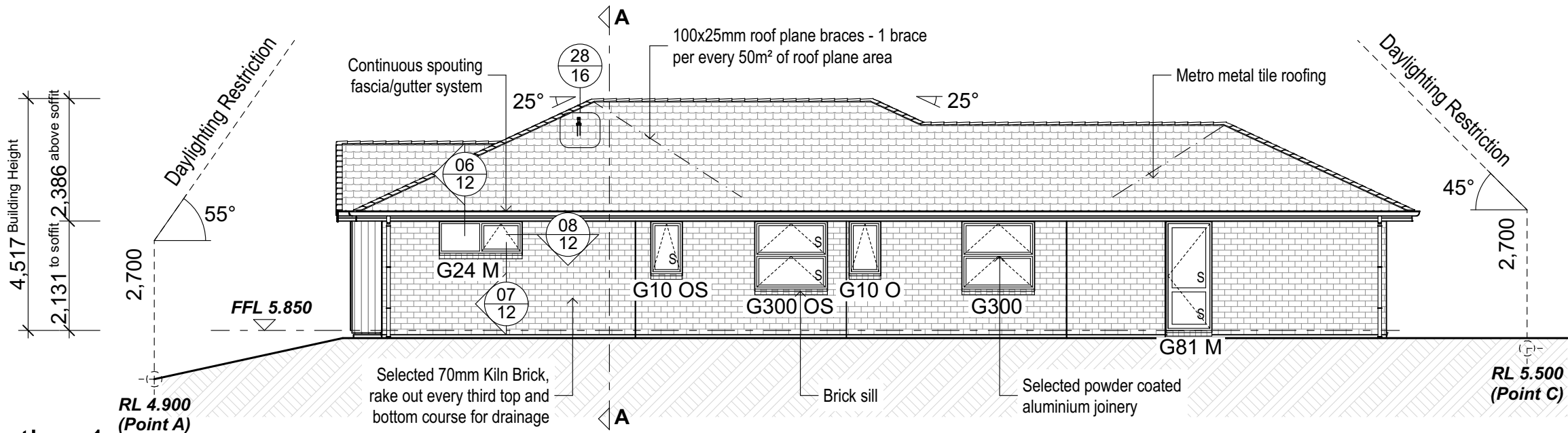
Roof Plane Brace Calculation (Light Roof):
1 brace per 50m² of roof plan area. Continuous
hip or valley to ridge equals one brace each.
Minimum 2 braces per ridge line.

Metrotile shake pressed metal tiles over self
supporting roofing underlay. Trusses @900crs max.

Total Roof Plan Area: 184.94 m²

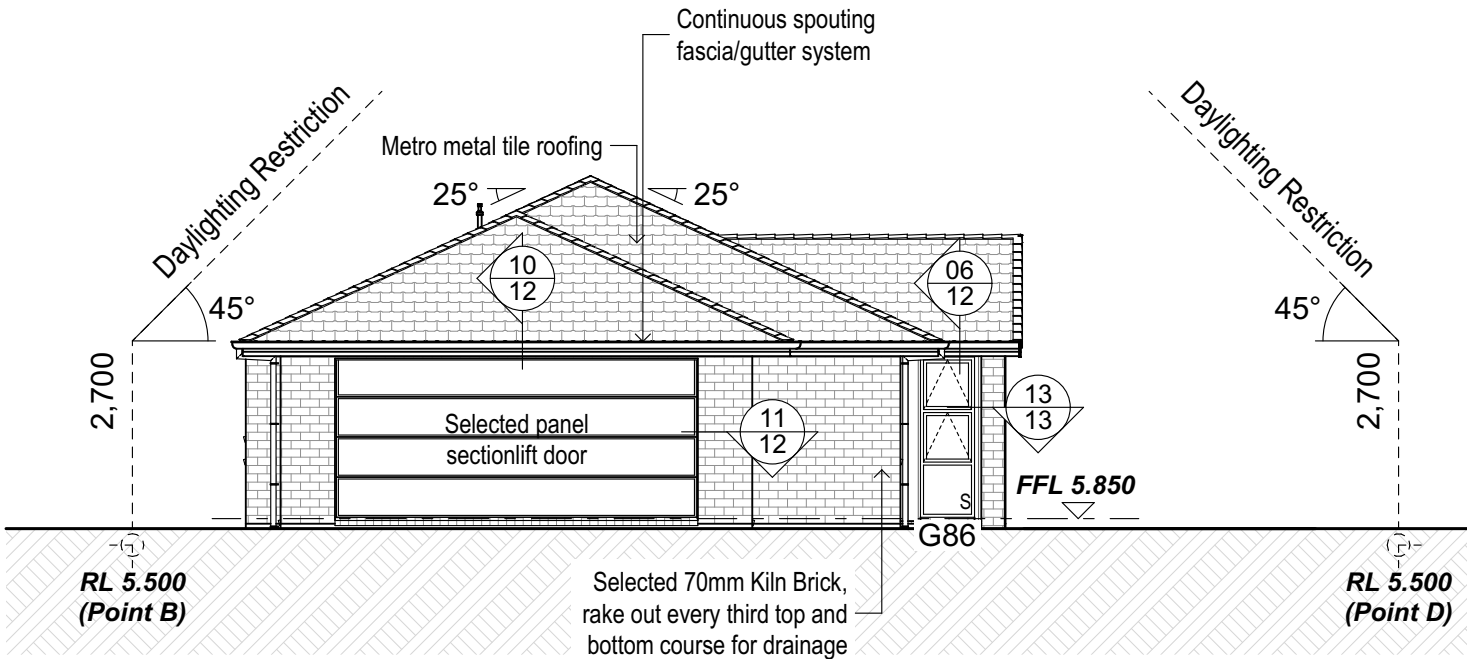
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Banksia E/S 4bed		18/874GS	
Roof Plan			
Lot 874 Golden Sands Monaro Place - Papamoa			
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DATE	16/01/2019	SCALE	1:75
		SHEET	05



Elevation 1

BUILDING ENVELOPE RISK MATRIX		
Elevation 1		
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



Elevation 2

BUILDING ENVELOPE RISK MATRIX		
Elevation 2		
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	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		3



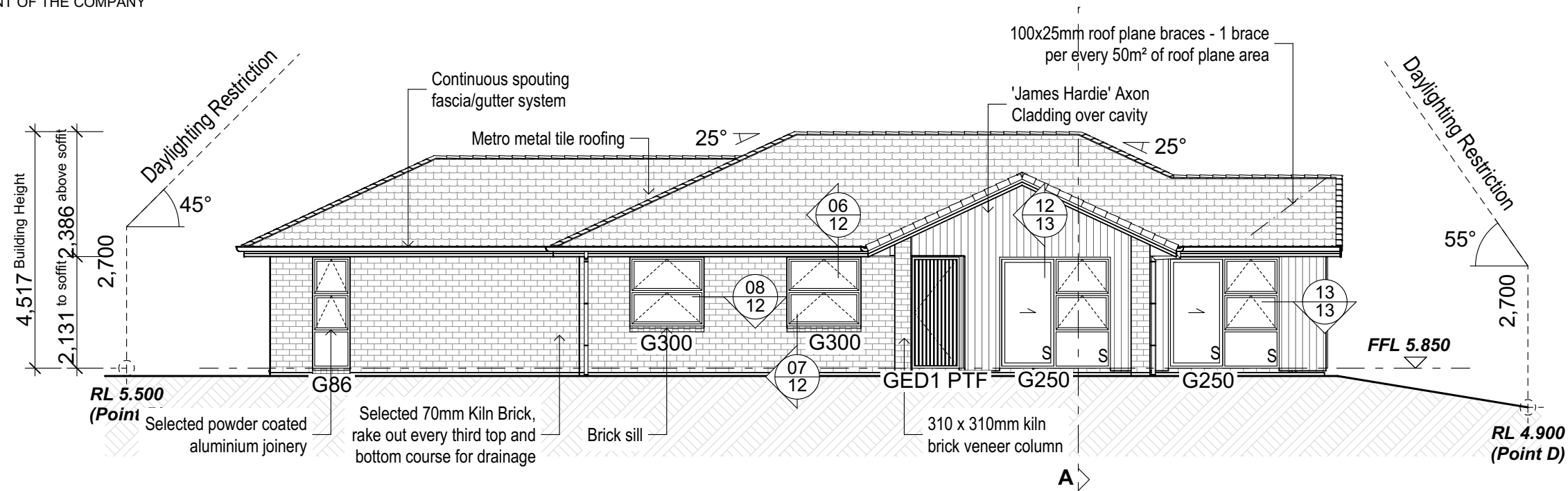
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Banksia E/S 4bed 18/874GS

Elevations 01

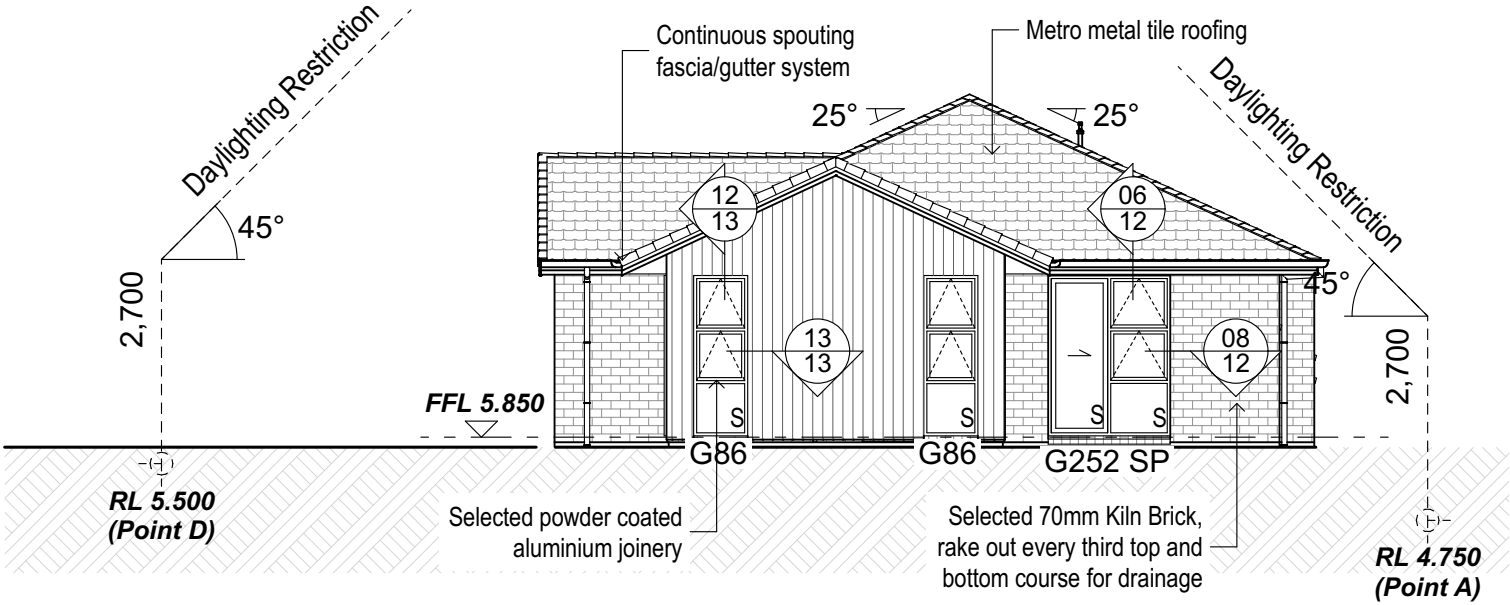
Lot 874 Golden Sands
Monaro Place - Papamoa

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DATE	16/01/2019	SCALE	1:100
		SHEET	06



Elevation 3

BUILDING ENVELOPE RISK MATRIX		
Elevation 3		
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



Elevation 4

BUILDING ENVELOPE RISK MATRIX		
Elevation 4		
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



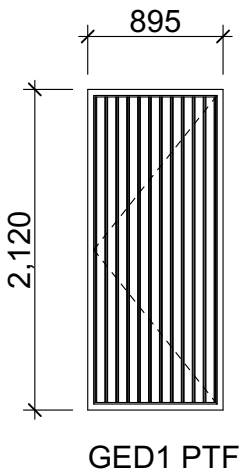
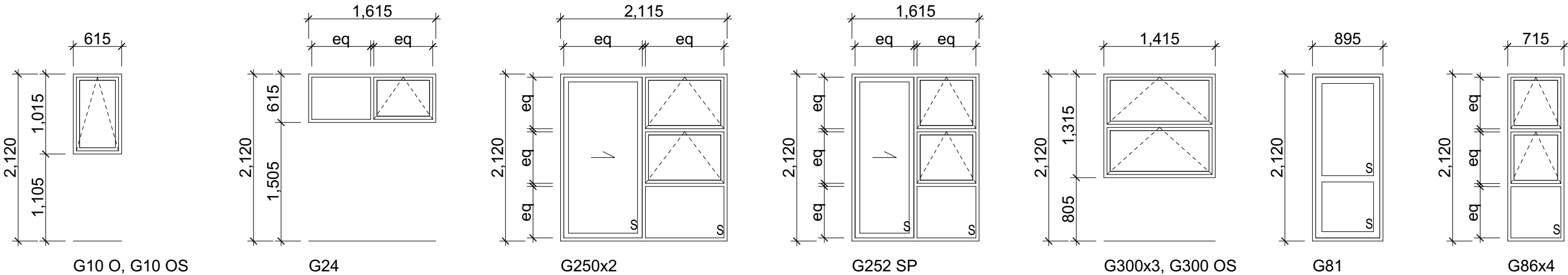
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Banksia E/S 4bed 18/874GS

Elevations 02

Lot 874 Golden Sands
Monaro Place - Papamoa

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DATE	16/01/2019	SCALE	1:100
		SHEET	07



H1 Schedule Method					
Climate Zone	2				
Orientation	Total Wall Area	Actual Wall Area	Window Area	% Glazing	North?
Elevation 1	34.53	28.58	5.95	17.23%	n
Elevation 2	24.45	18.26	6.19	25.32%	
Elevation 3	36.41	21.83	14.58	40.04%	
Elevation 4	26.26	19.81	6.45	24.56%	
All Elevations	121.65	88.48	33.17	27.27%	OK
East,South & West	95.39	68.67	26.72	28.01%	OK
Insulation	Minimum R Value		Achieved R Value		
Roof	2.9		3		OK
Wall	1.9		2		OK
Floor	1.3		2		OK
Glazing	0.26		0.26		OK
Roof Glazing	0.26		n/a		OK

NOTES:
All Glazing excluding garage to be Double Glazed.
All joinery polyester powder coated
All glazing to NZS 4223 - Parts 1 & 4:2008, Parts 2 & 3:2016
All Glazing to bathroom / WC to be selected obscure
All Jambs clear finger jointed 18mm pine
O - denotes window as drawn but with obscure glass
S - denotes window as drawn but with safety glass
M - denotes window as drawn but mirrored
DIMENSIONS SHOWN ARE TRIM SIZE

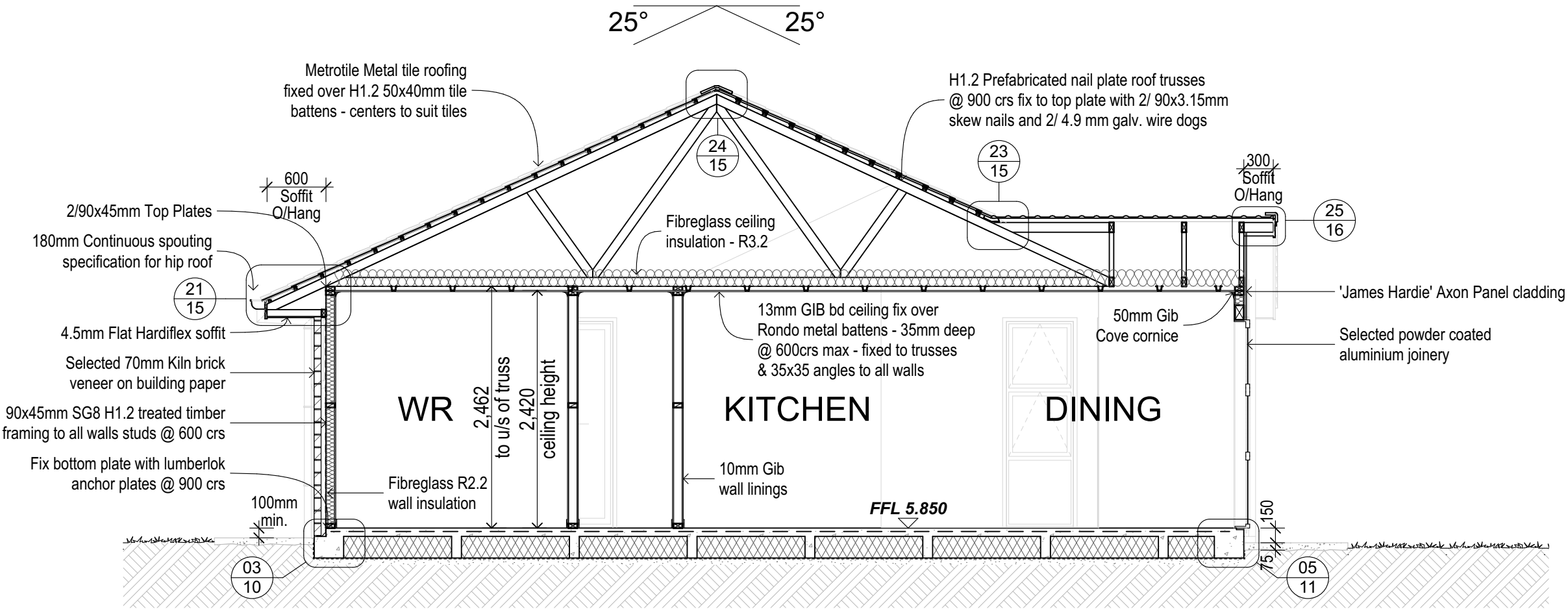
Banksia E/S 4bed 18/874GS

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Window Schedule & H1 Calc.

Lot 874 Golden Sands
Monaro Place - Papamoa

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DATE	16/01/2019	SCALE	1:50, 1:1.20
		SHEET	08



Cross Section A-A
1:50

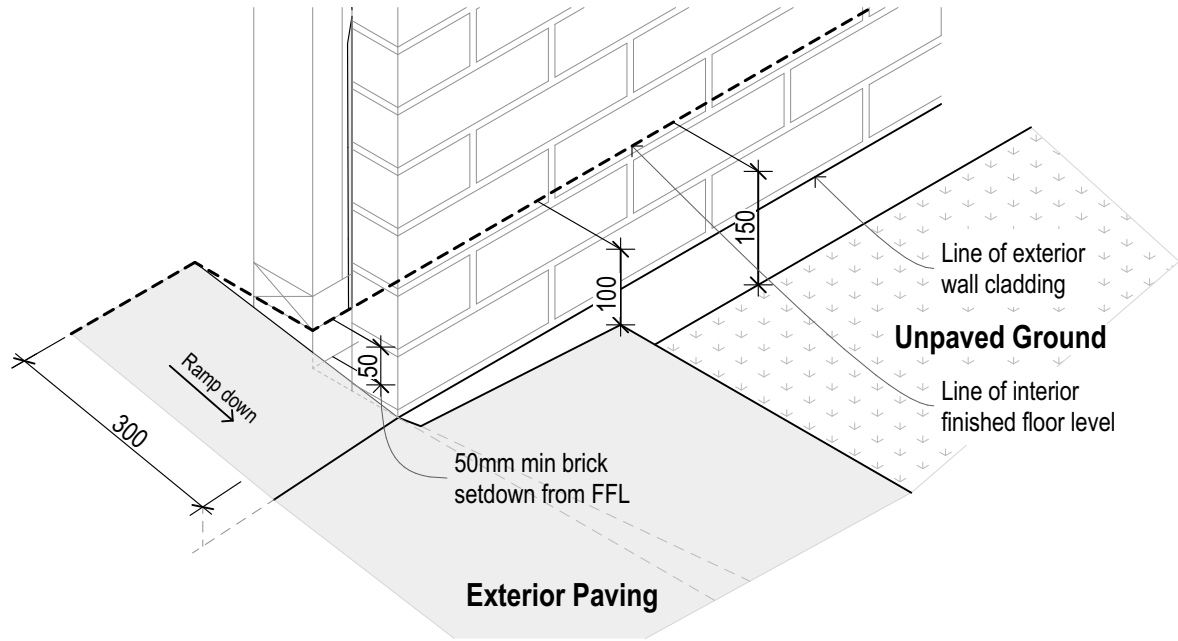
Banksia E/S 4bed 18/874GS

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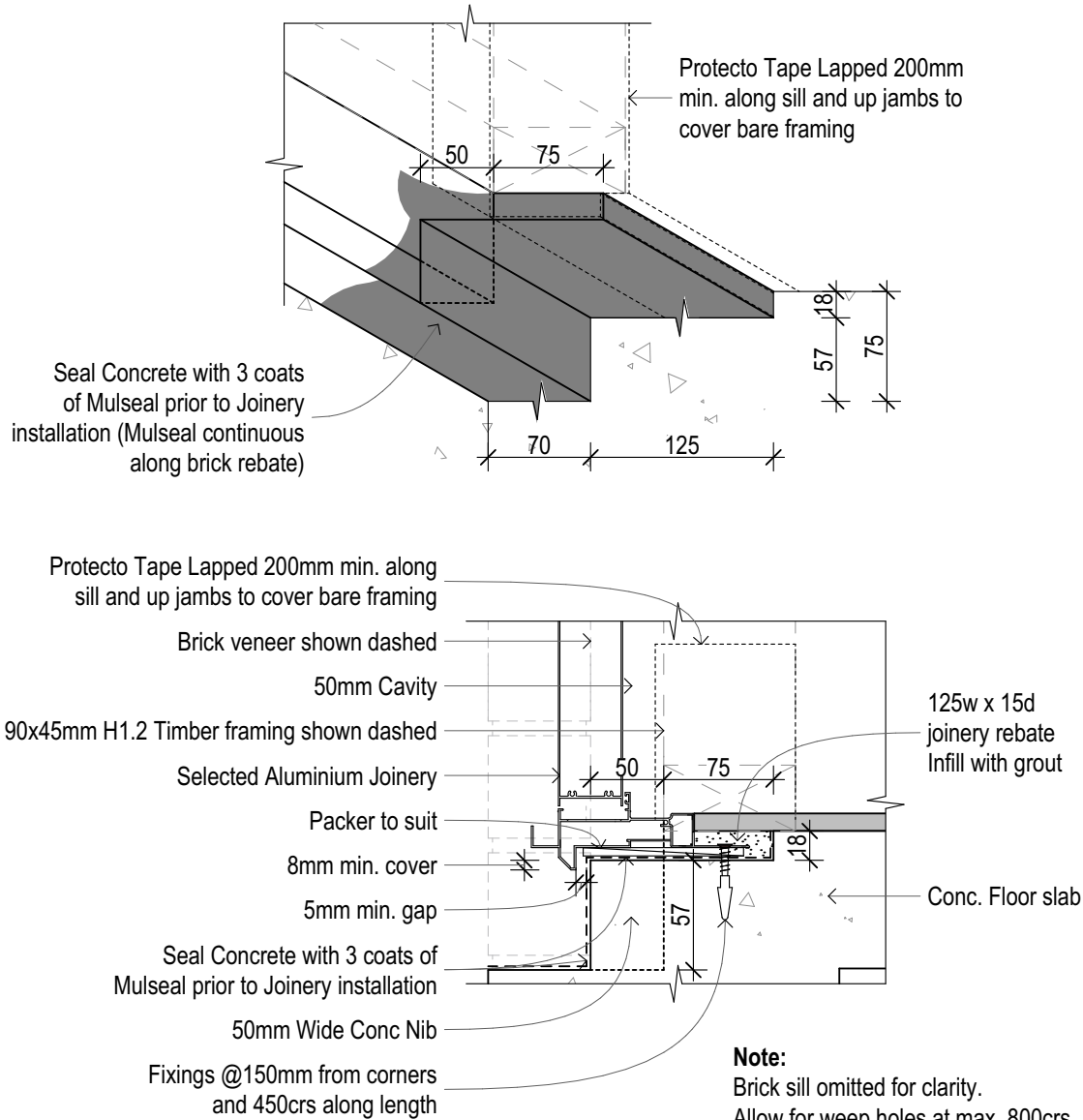
Cross Sections

Lot 874 Golden Sands
Monaro Place - Papamoa

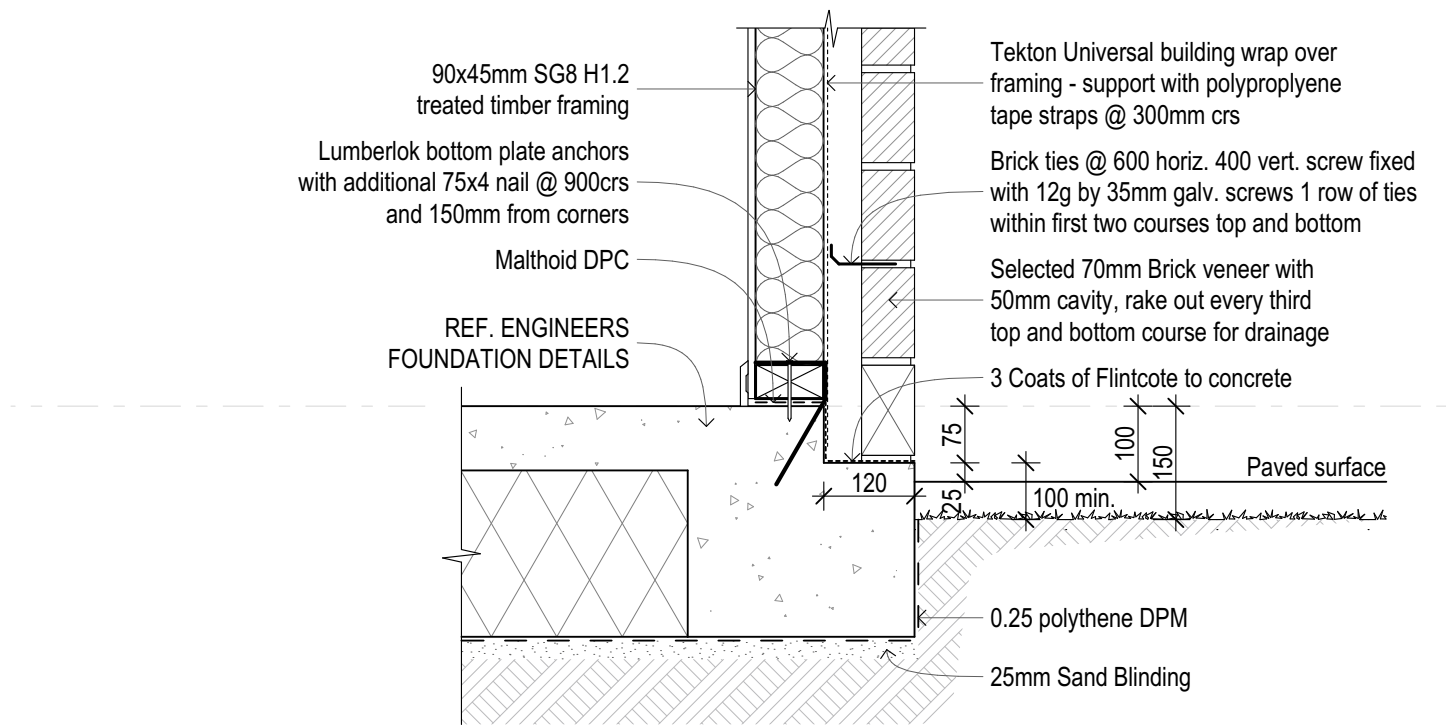
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CHECKED	K. de Raat	CLIENT	GH Tauranga Ltd.
DATE	16/01/2019	SCALE	1:50
		SHEET	09



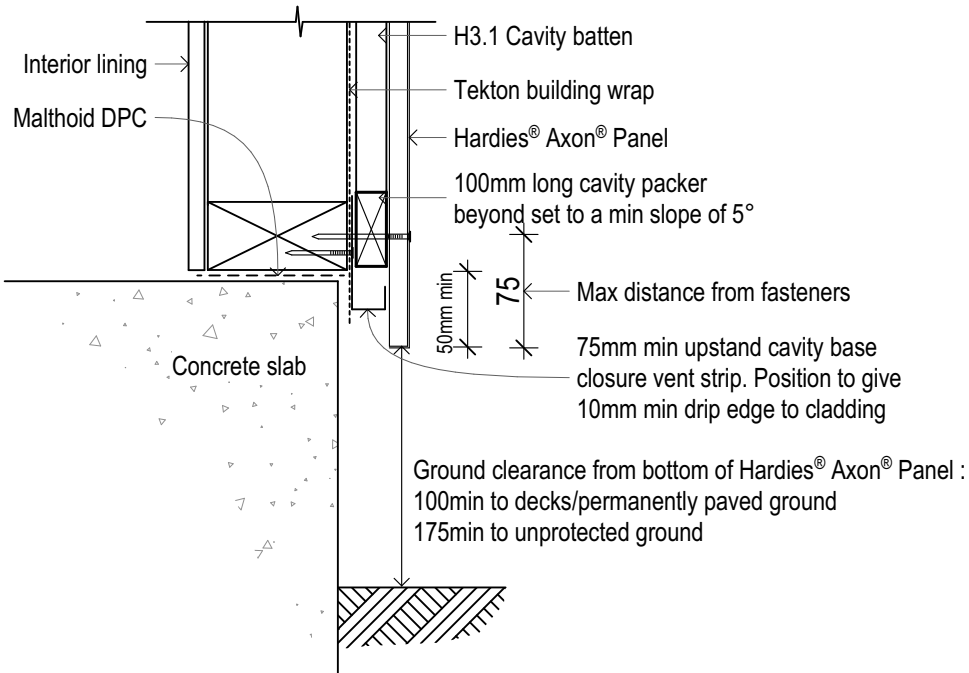
01 Garage Door Threshold - 70mm Brick Veneer
1:10



02 Joinery Sill Rebate - 70mm Brick Veneer
1:5



03 Polyraft Edge Beam - 70mm Brick Veneer
1:10



04 Cladding Base - Axon Panel
1:5

Banksia E/S 4bed 18/874GS

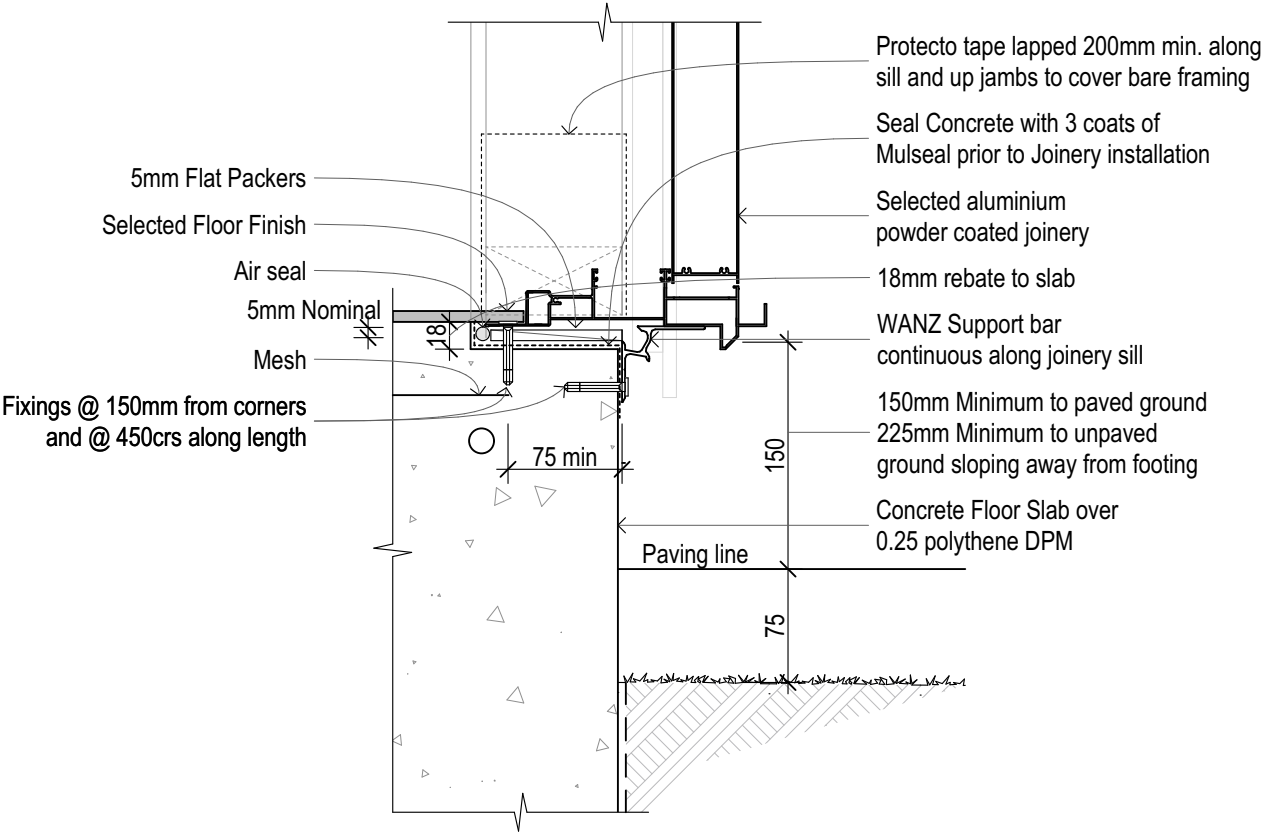


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Details - Footings 01

Lot 874 Golden Sands
Monaro Place - Papamoa

DESIGN	K. de Raat	DRAWN	M Nicholson
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DATE	16/01/2019	SCALE	1:10, 1:5
		SHEET	10



05 Joinery Sill Rebate - Axon Panel
1:5

Banksia E/S 4bed 18/874GS

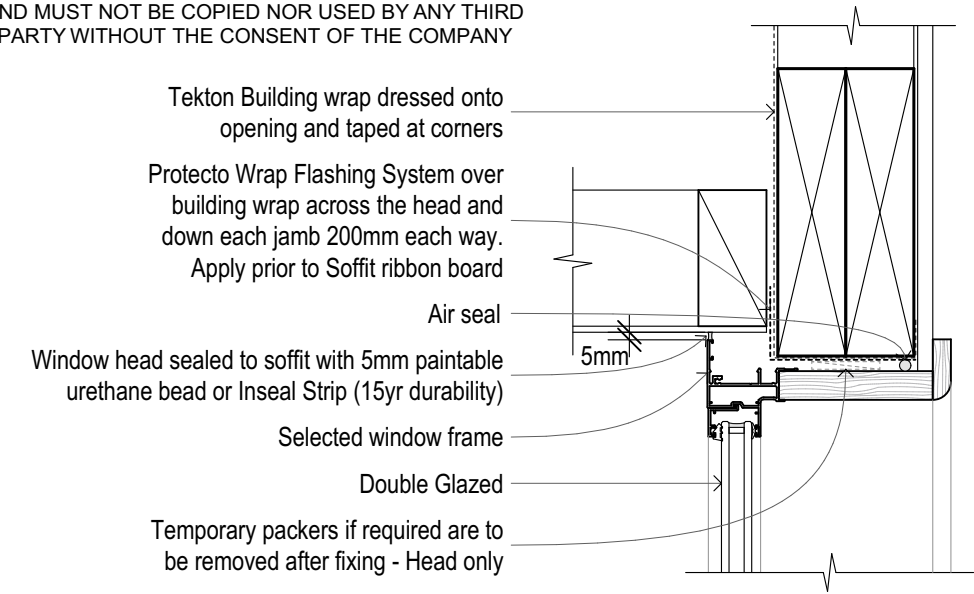


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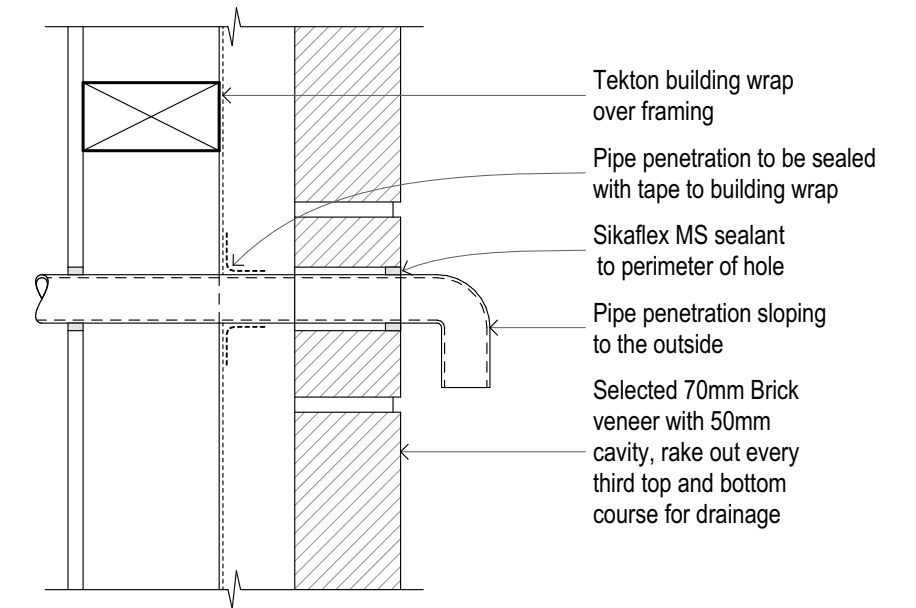
Details - Footings 02

Lot 874 Golden Sands
Monaro Place - Papamoa

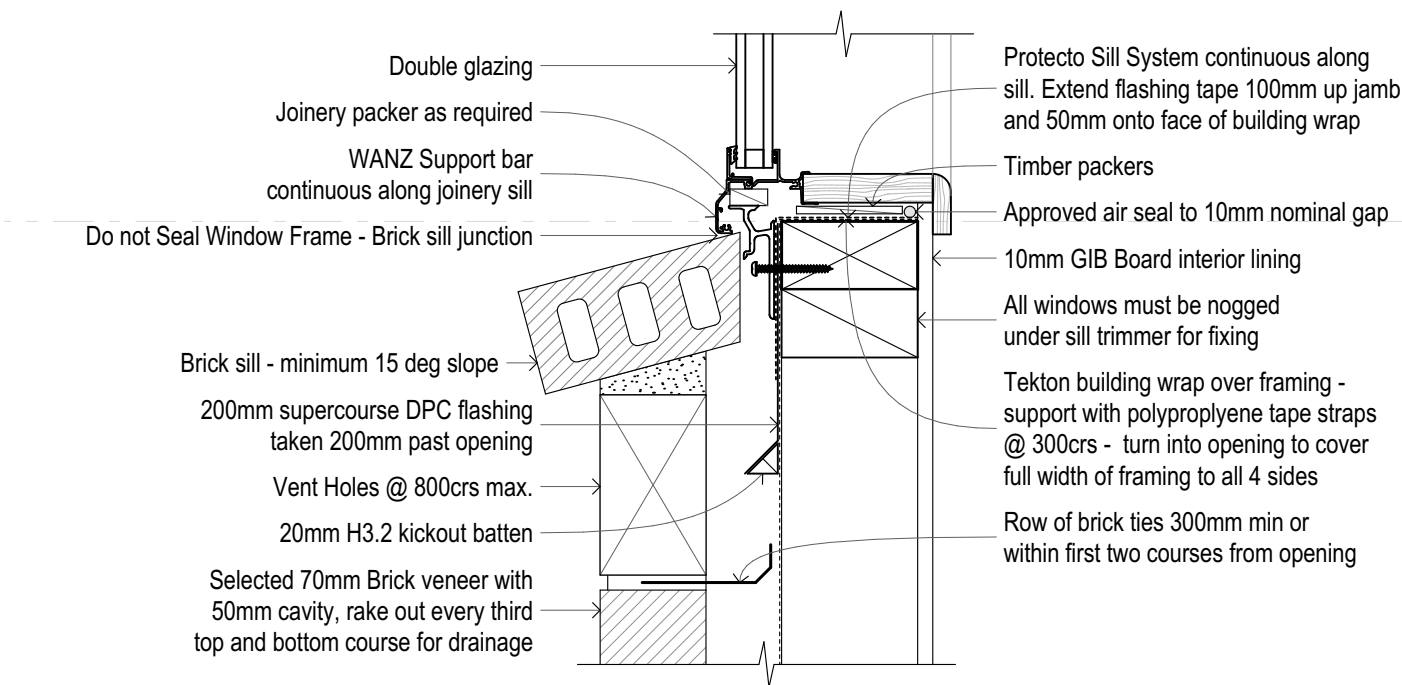
DESIGN	K. de Raat	DRAWN	M Nicholson
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DATE	16/01/2019	SCALE	1:5
		SHEET	11



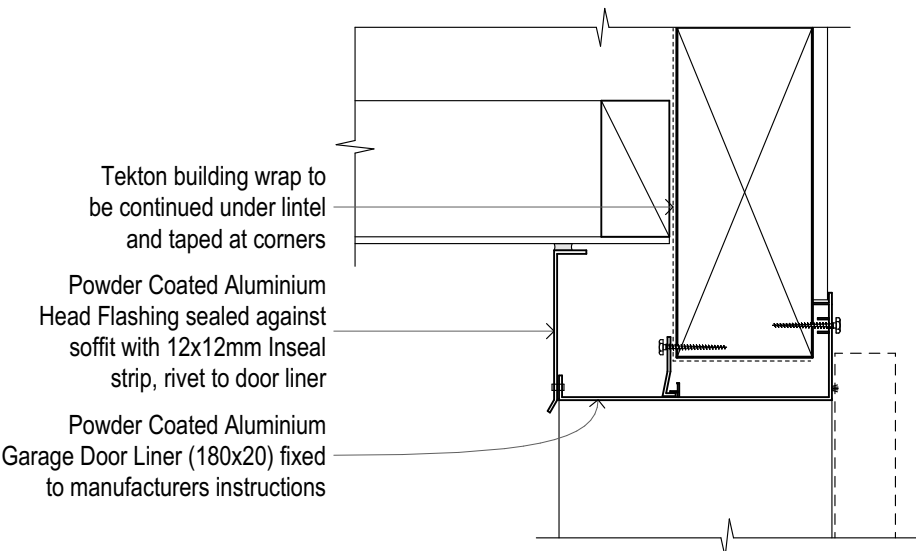
06 Window Head/Soffit Junction 1:5



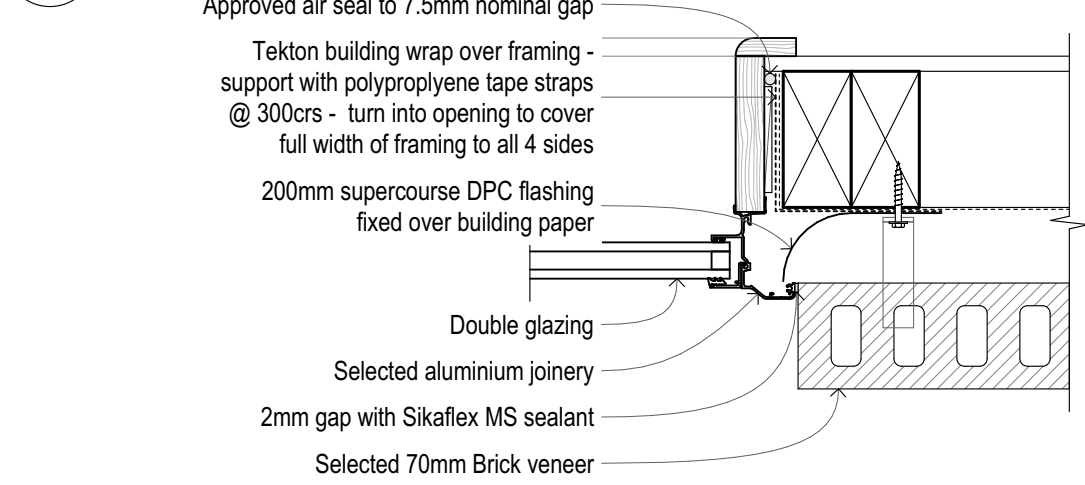
09 Pipe Penetration 1:5



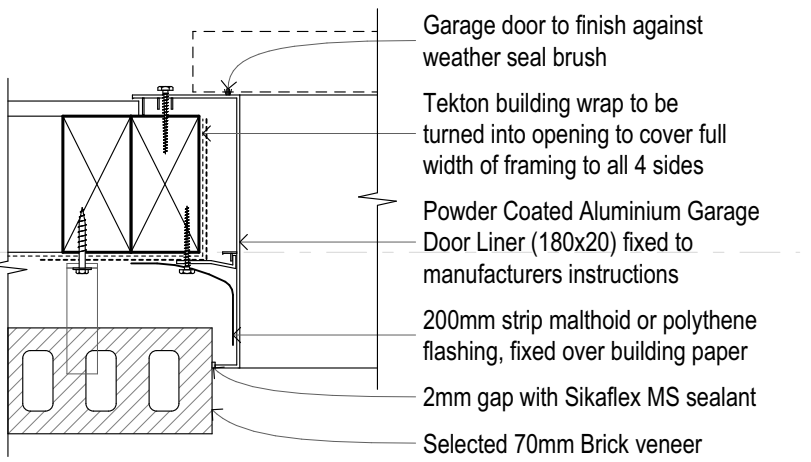
07 Window Sill 1:5



10 Garage Door Head/Soffit Junction 1:5



08 Window Jamb 1:5



11 Garage Door Jamb 1:5

Banksia E/S 4bed 18/874GS

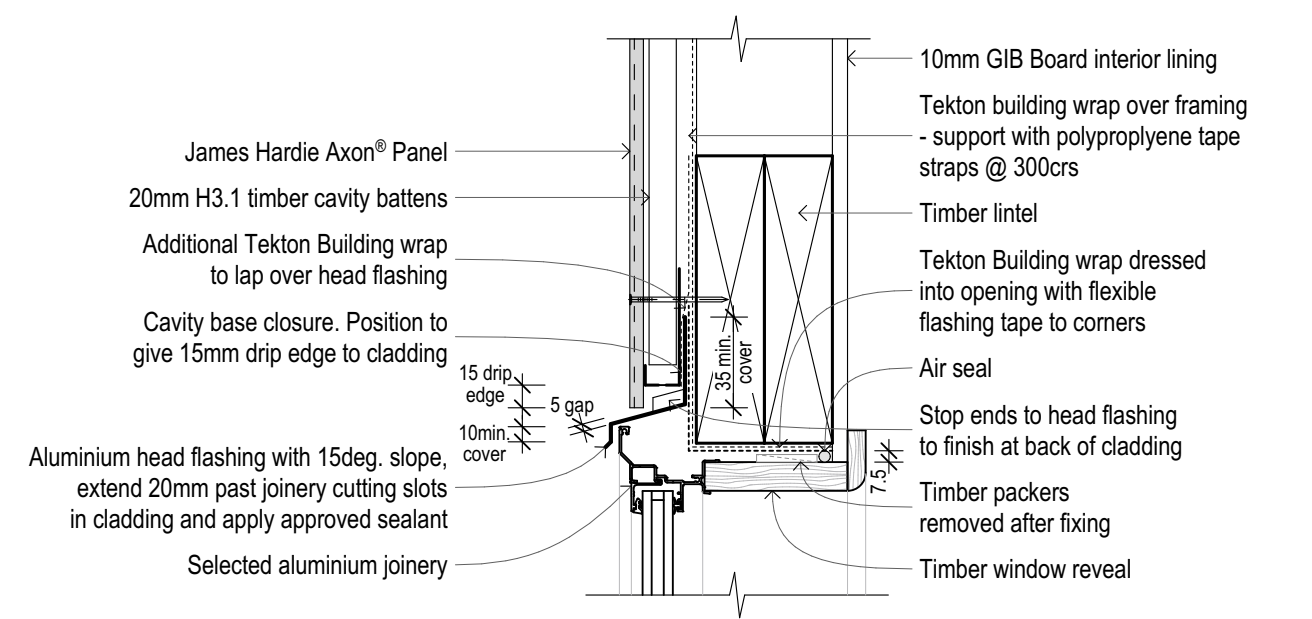


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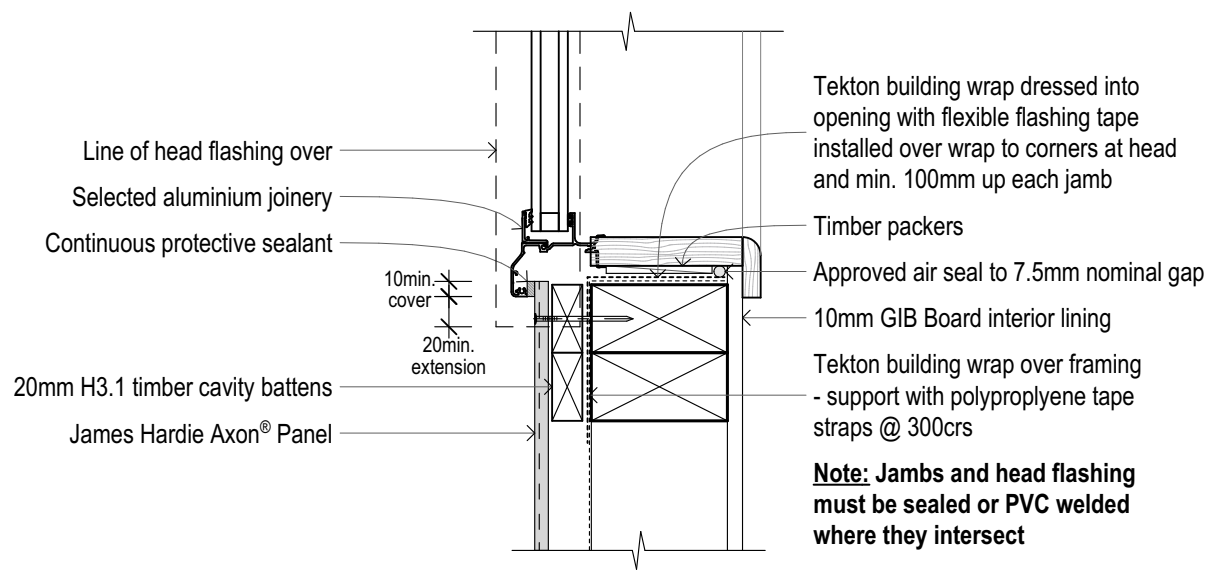
Details - Brick Openings

Lot 874 Golden Sands
Monaro Place - Papamoa

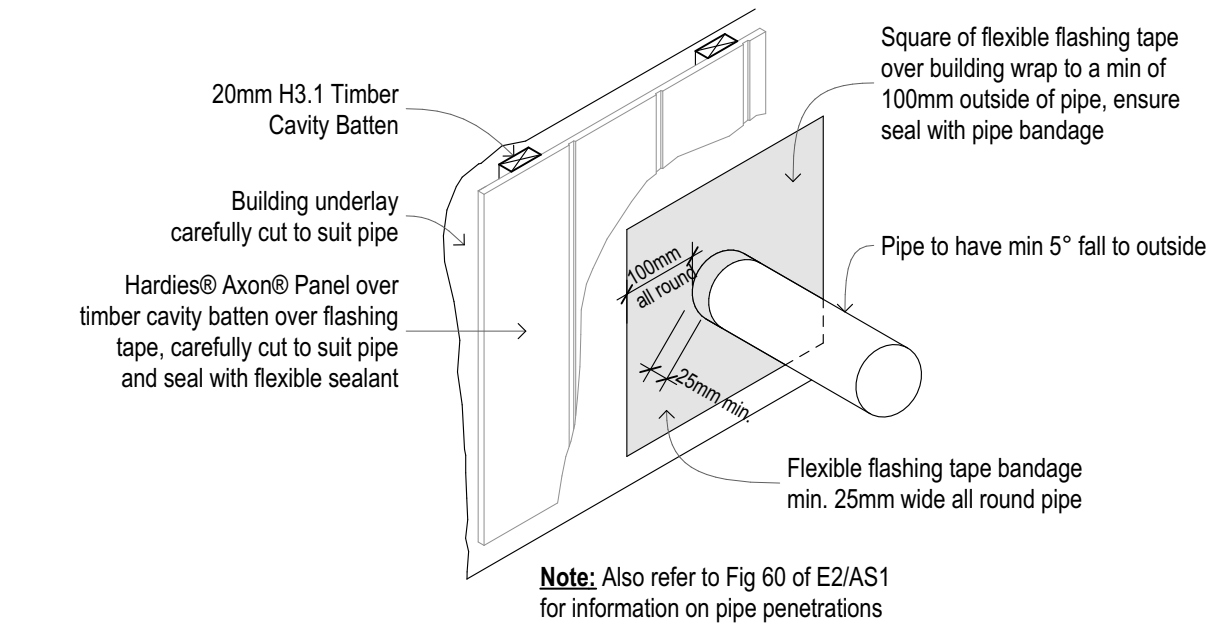
DESIGN	K. de Raat	DRAWN	M Nicholson
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DATE	16/01/2019	SCALE	1:5
		SHEET	12



12 Window Head
1:5



13 Window Jamb
1:5



14 Pipe Penetration
1:10



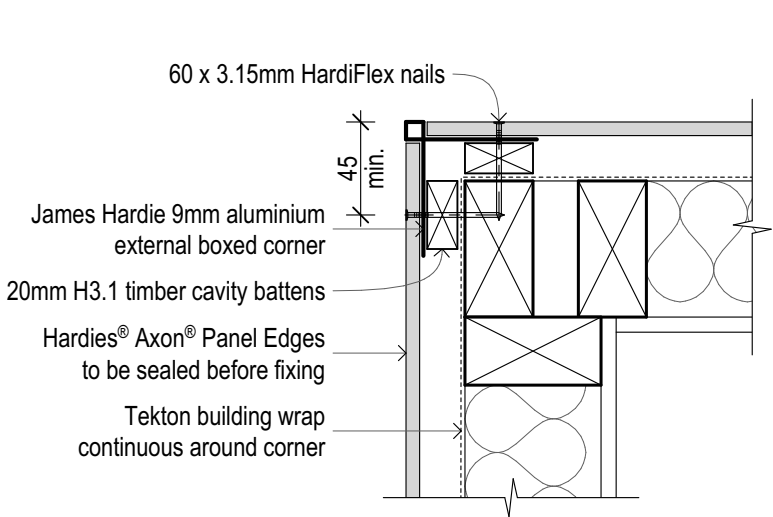
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Banksia E/S 4bed 18/874GS

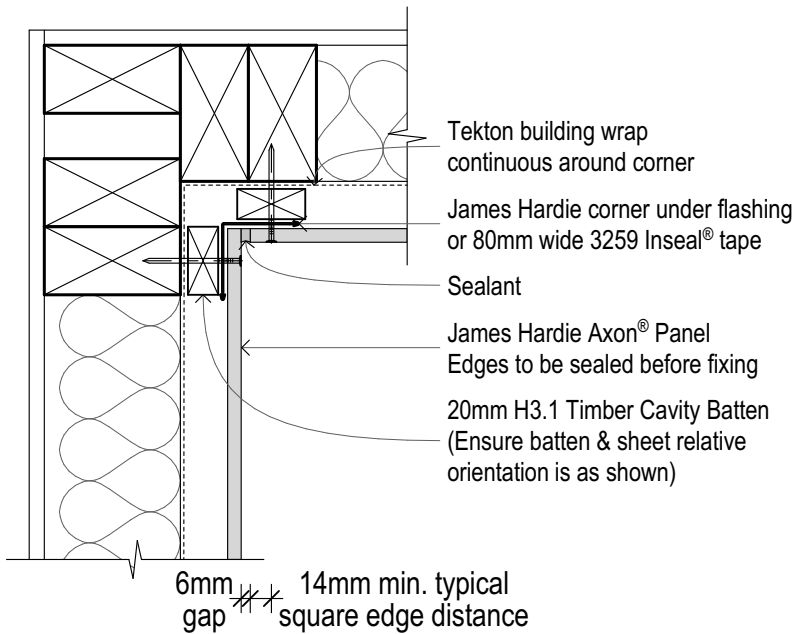
Details - Axon Cladding 01

Lot 874 Golden Sands
Monaro Place - Papamoa

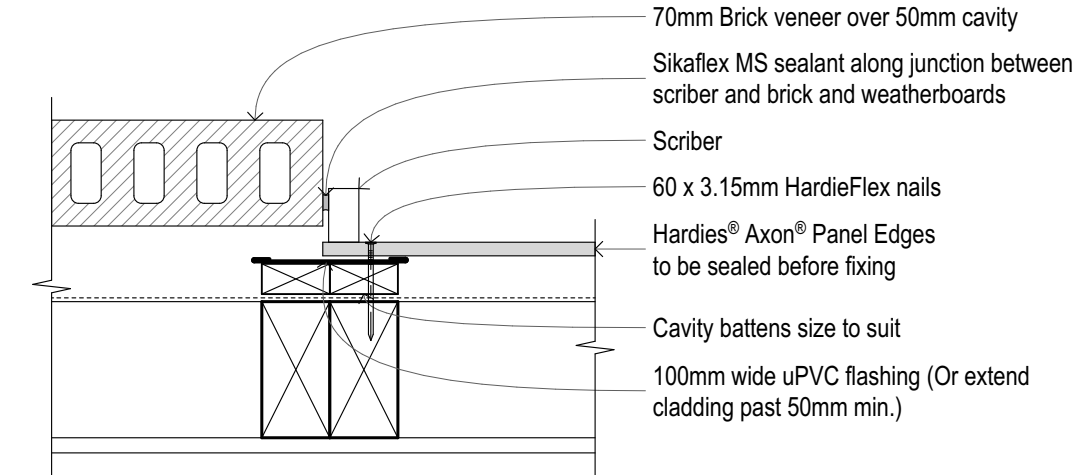
DESIGN	K. de Raat	DRAWN	M Nicholson
CHECKED	K. de Raat	CLIENT	GH Tauranga Ltd.
DATE	16/01/2019	SCALE	1:5, 1:10
		SHEET	13



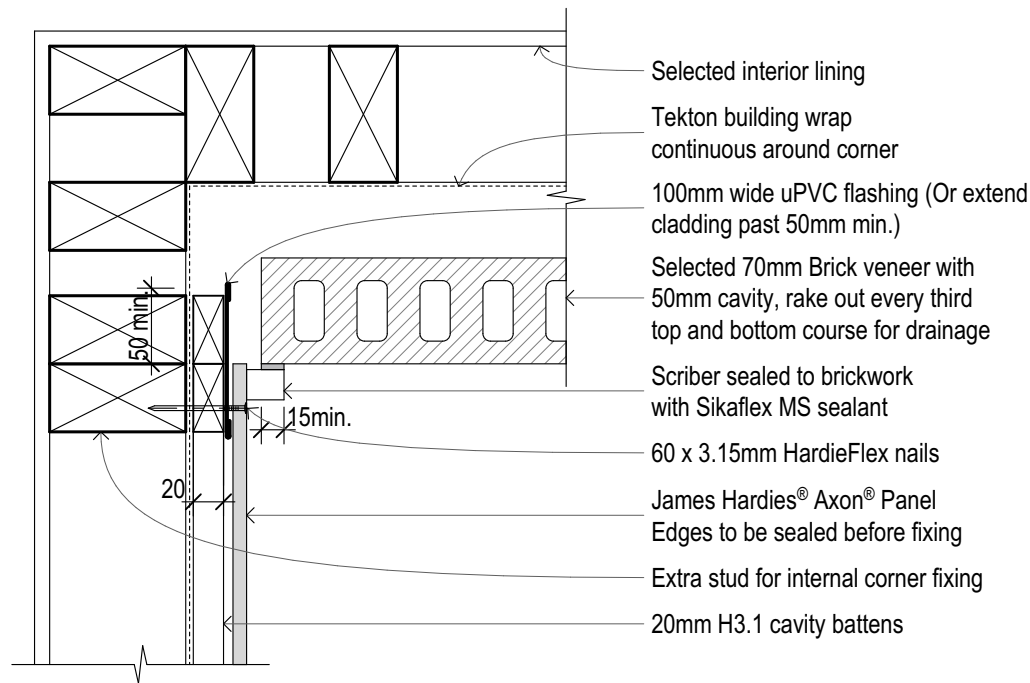
18 External Corner
1:5



16 Internal Corner
1:5



19 Vertical Junction - Brick/Axon
1:5



17 Internal Corner Junction - Brick/Axon
1:5



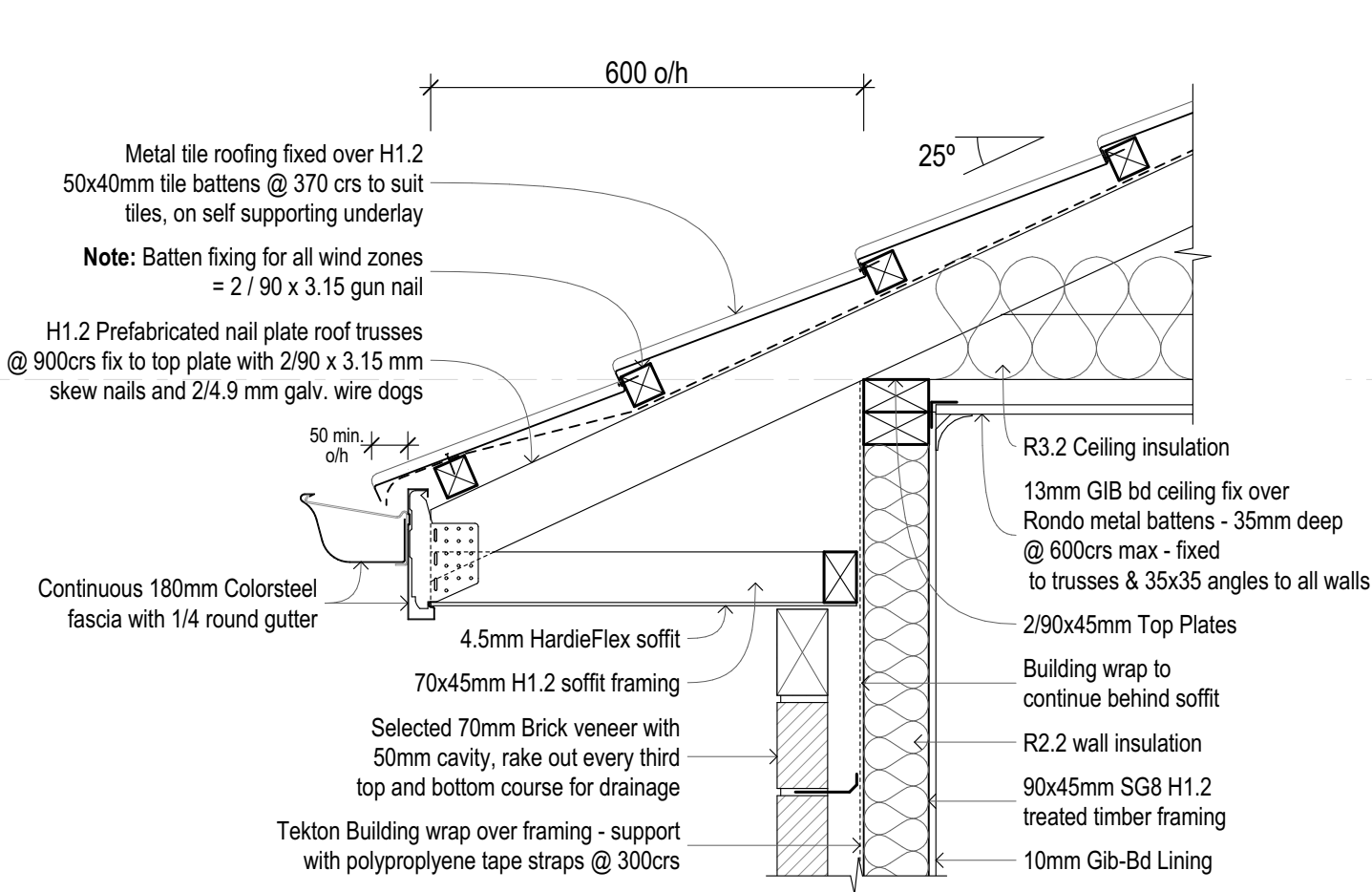
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Banksia E/S 4bed 18/874GS

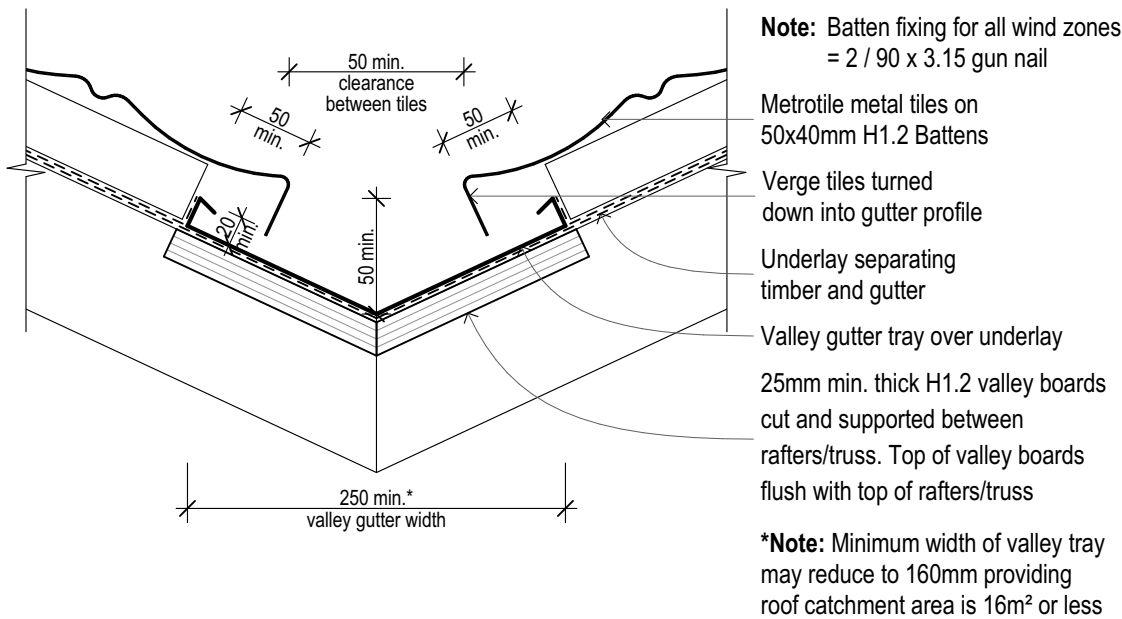
Details - Axon Cladding 02

Lot 874 Golden Sands
Monaro Place - Papamoa

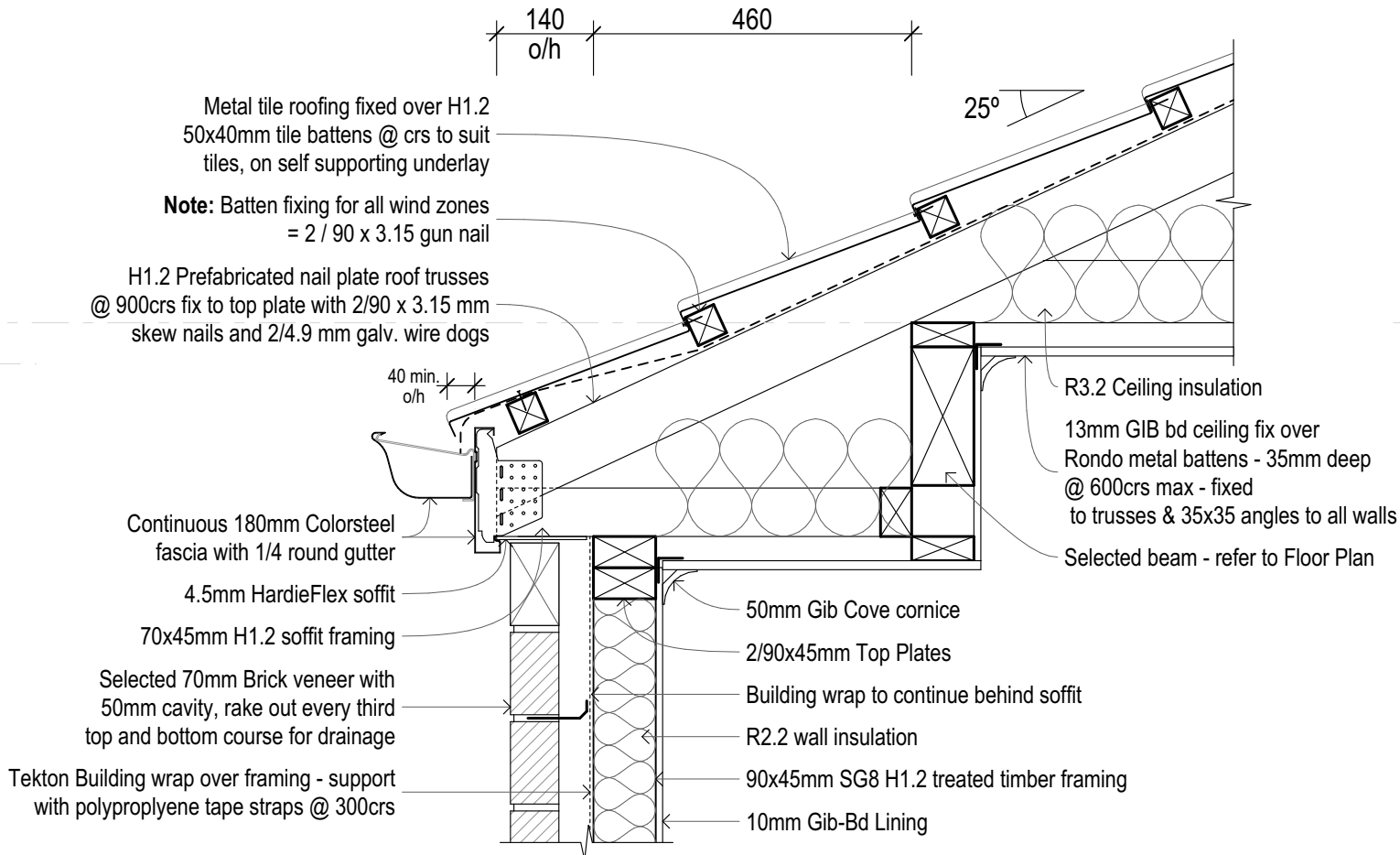
DESIGN	K. de Raat	DRAWN	M Nicholson
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DATE	16/01/2019	SCALE	1:2, 1:5
SHEET	14		



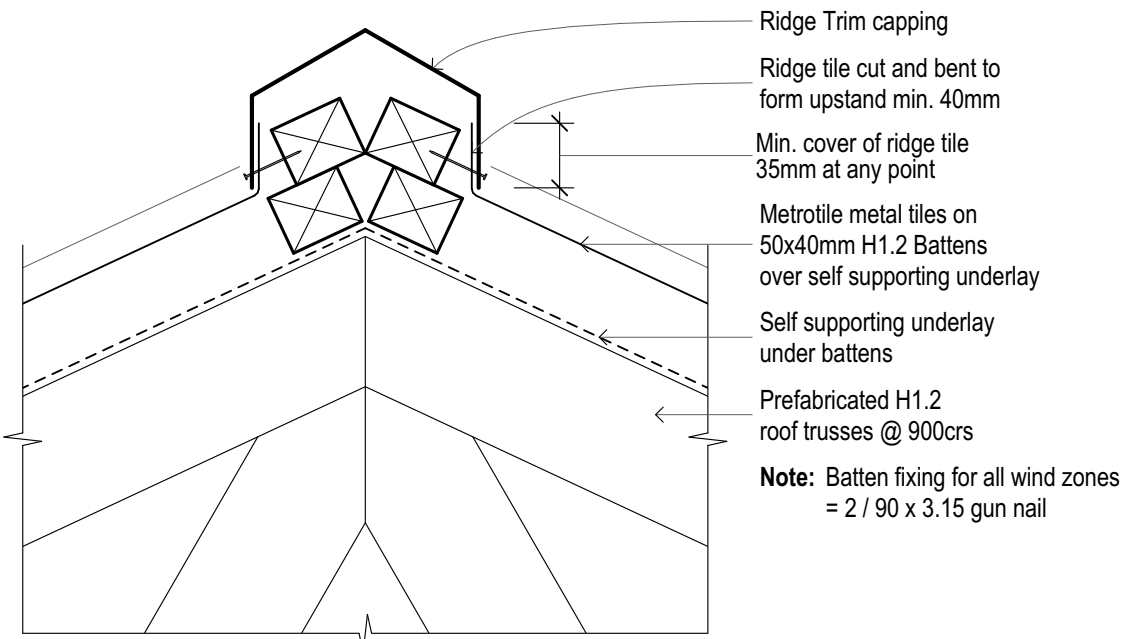
21 Standard Eave 25° - 70mm Brick Veneer
1:10



23 Valley Gutter
1:5



22 Pushout Eave 25° - 70mm Brick Veneer
1:10



24 Ridge Capping
1:5

Banksia E/S 4bed 18/874GS

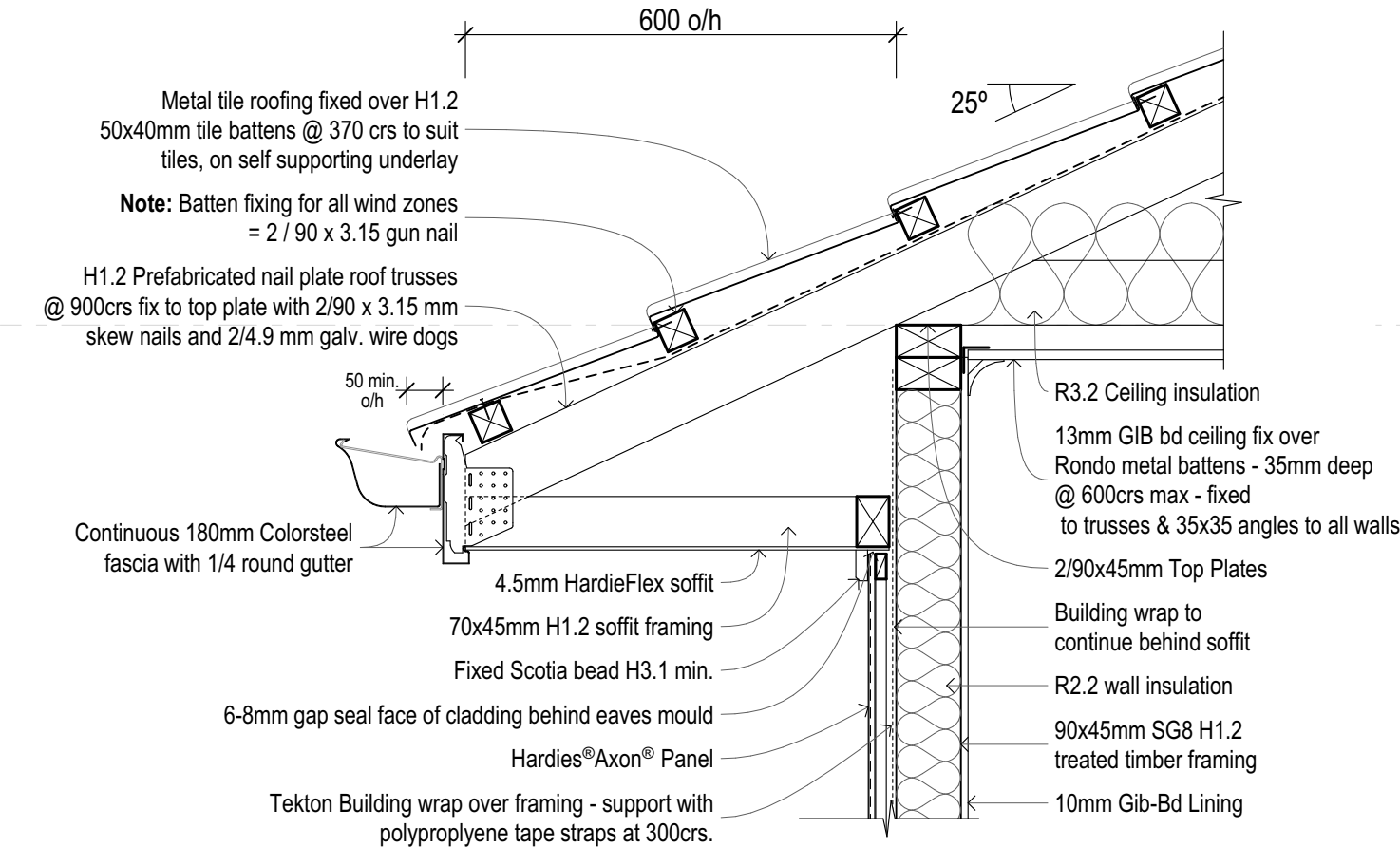


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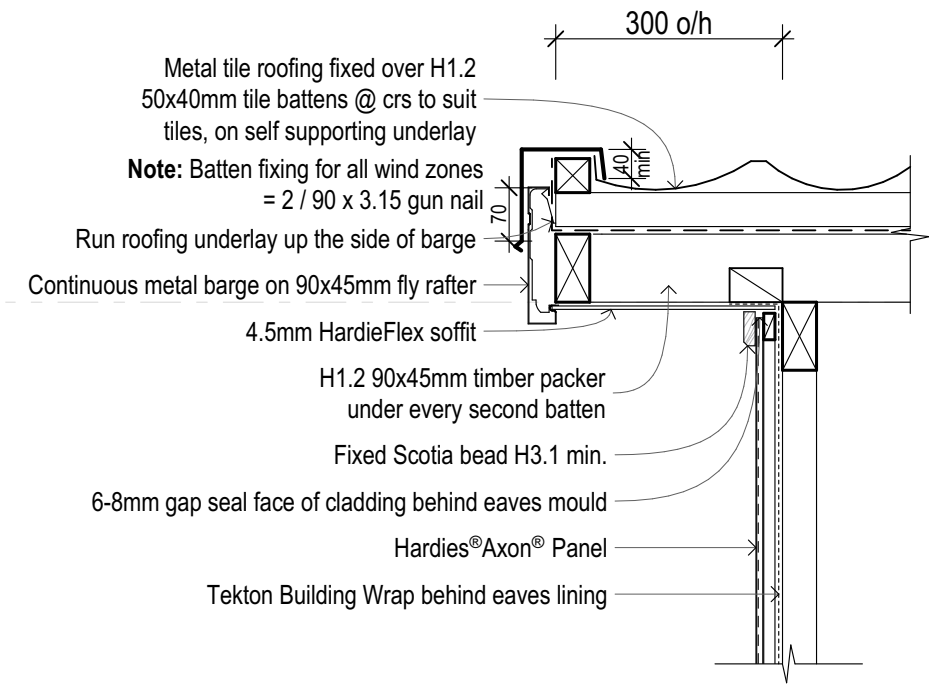
Details - Metal Roofing 01

Lot 874 Golden Sands
Monaro Place - Papamoa

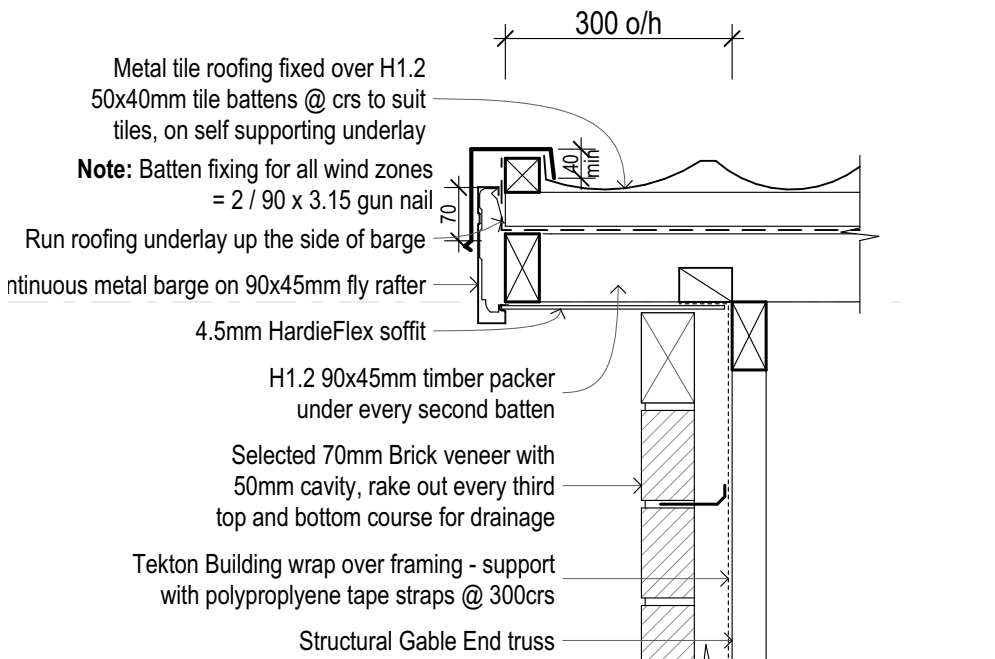
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SHEET			15



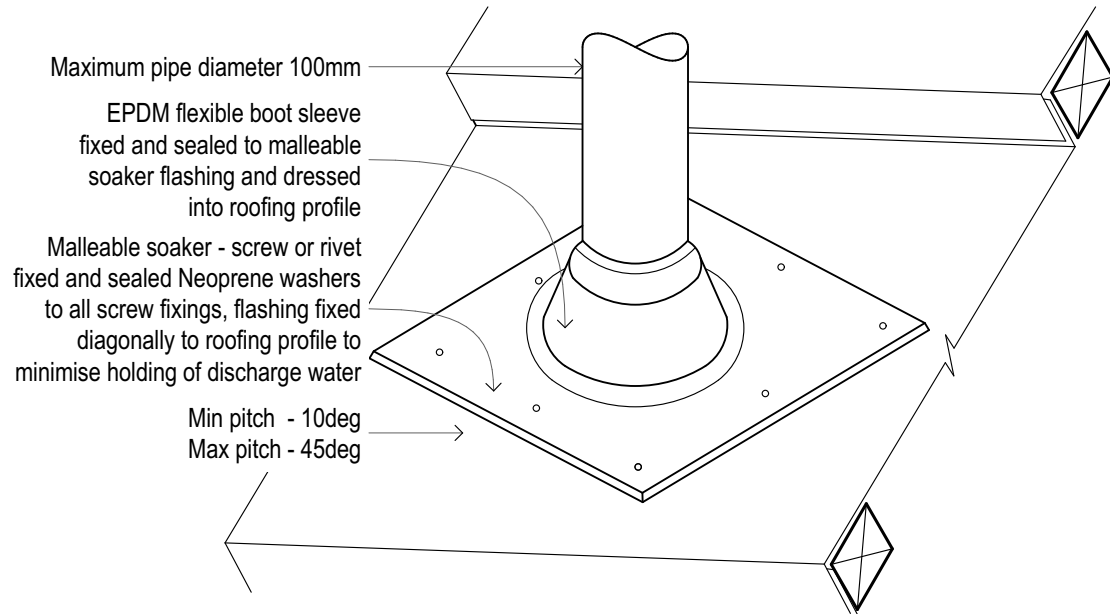
25 Standard Eave 25° - Axon Panel 1:10



27 Barge 300 o/h - Axon Panel 1:10



26 Barge 300 o/h - 70mm Brick Veneer 1:10



28 Roof Penetration 1:10

Banksia E/S 4bed 18/874GS

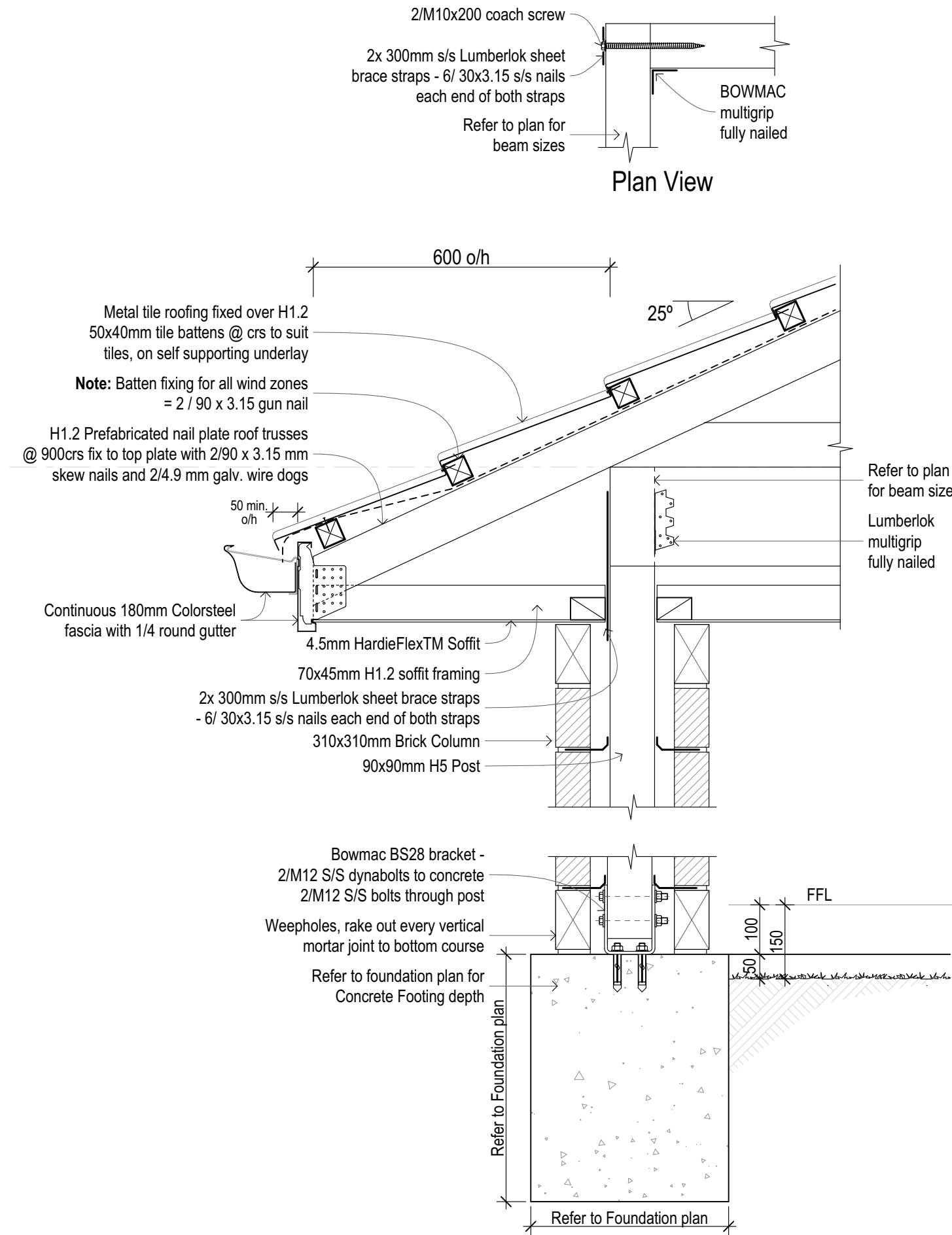


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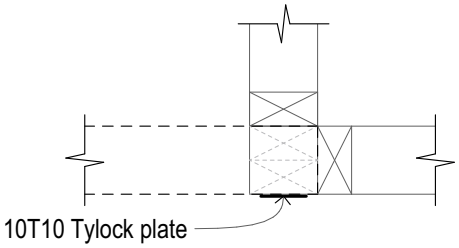
Details - Metal Roofing 02

Lot 874 Golden Sands
Monaro Place - Papamoa

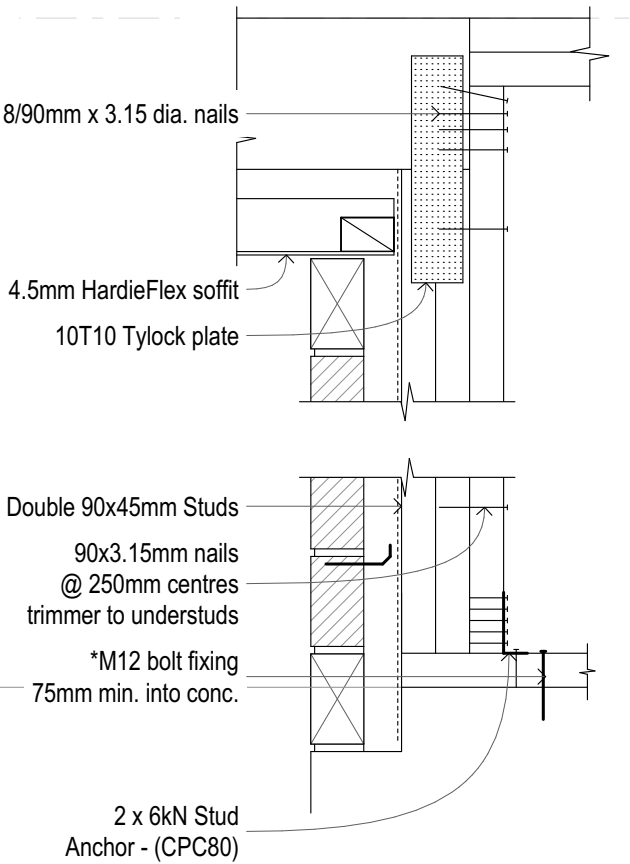
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DATE	16/01/2019	SCALE	1:10
		SHEET	16



Plan View

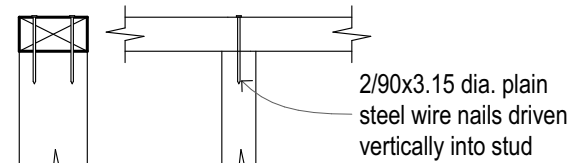


Plan View



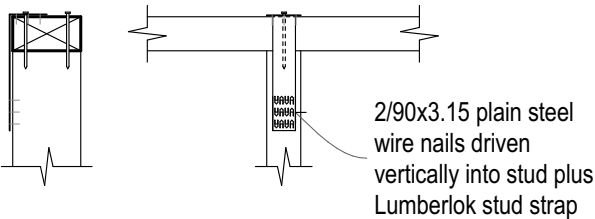
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Details - Metal Roofing 03			
Lot 874 Golden Sands Monaro Place - Papamoa			
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		SHEET	17



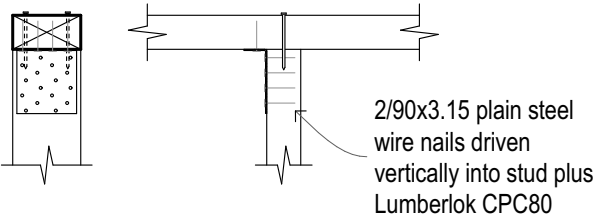
FIXING TYPE A
0.7kN

30 Fixing Type A
1:10



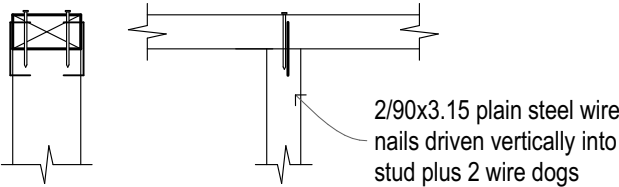
FIXING TYPE B - OPTION 1

31 Fixing Type B
1:10



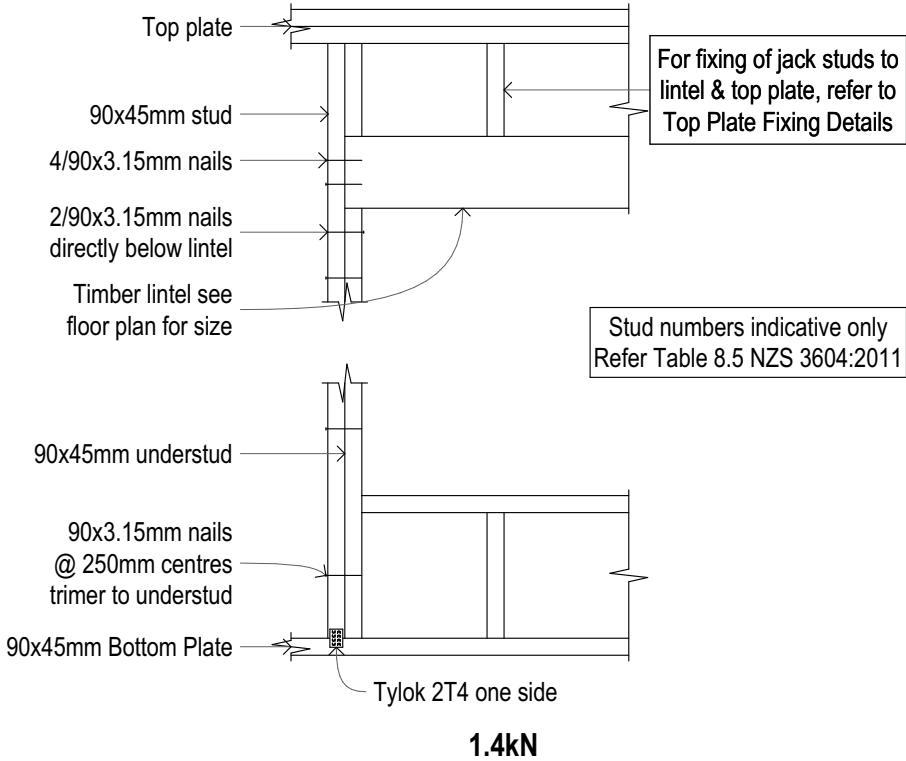
FIXING TYPE B - OPTION 2

32 Fixing Type B
1:10

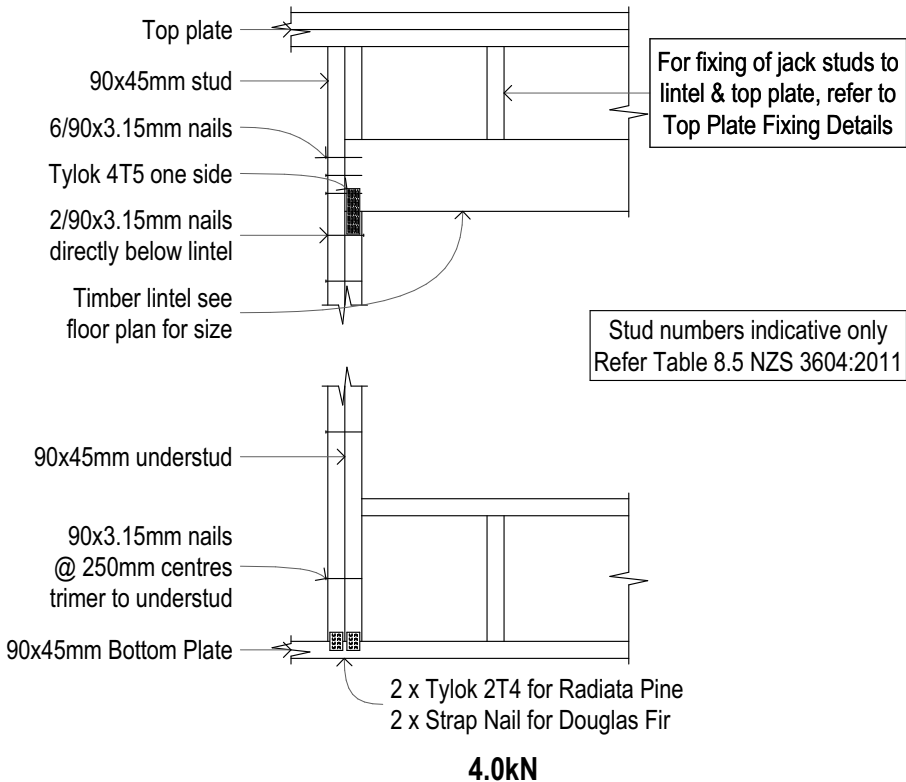


FIXING TYPE B - OPTION 3 (3604:2011)

33 Fixing Type B
1:10



34 Fixing Type E
1:20



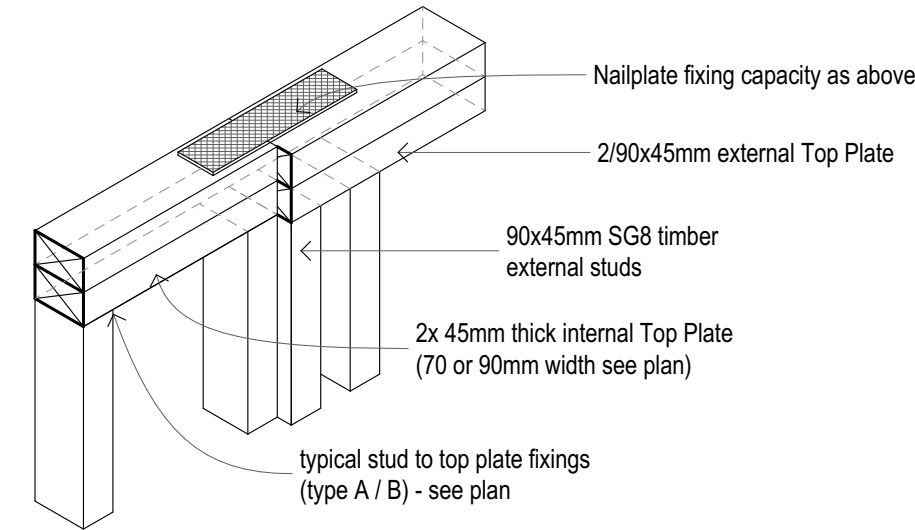
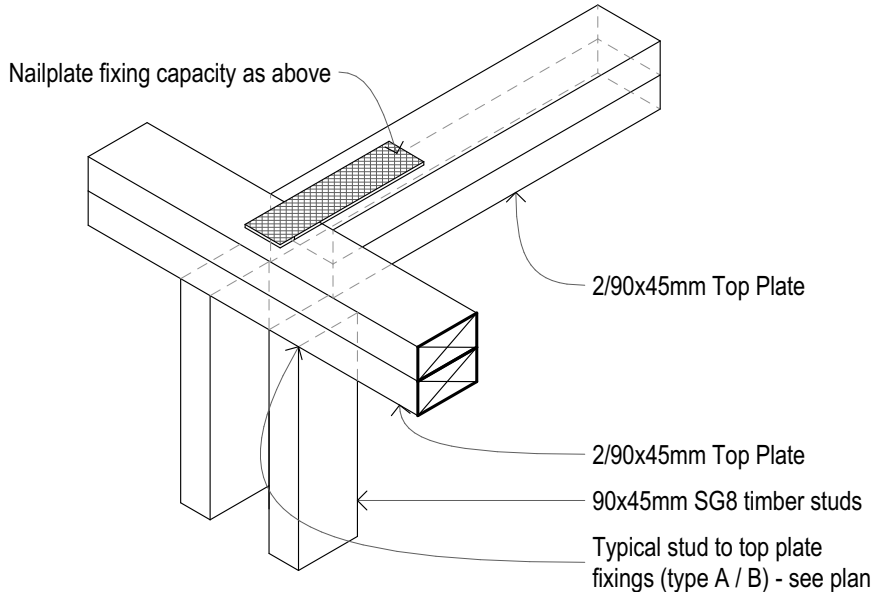
35 Fixing Type F
1:20

Each wall that contains one or more wall bracing elements shall be connected at top plate level, either directly or through a framing member in the line of the wall, to external walls at right angles to it. Top plate fixing(s) of the capacity in tension or compression along the line of the wall bracing element are given as follows.

(a) For each wall containing wall bracing elements with a total bracing capacity of not more than 125 bracing units: to at least one such external wall by a fixing as shown below. 6kN capacity.

(b) For each wall containing wall bracing elements with a total bracing capacity of not more than 250 bracing units: to at least two such external wall by a fixing as shown below. 6kN capacity.

(c) For each wall containing wall bracing elements with a total bracing capacity of more than 250 bracing units: to at least two such external wall by a fixing as shown below. 2.4kN capacity. PER 100BU's



36 Top Plate Connection
1:10



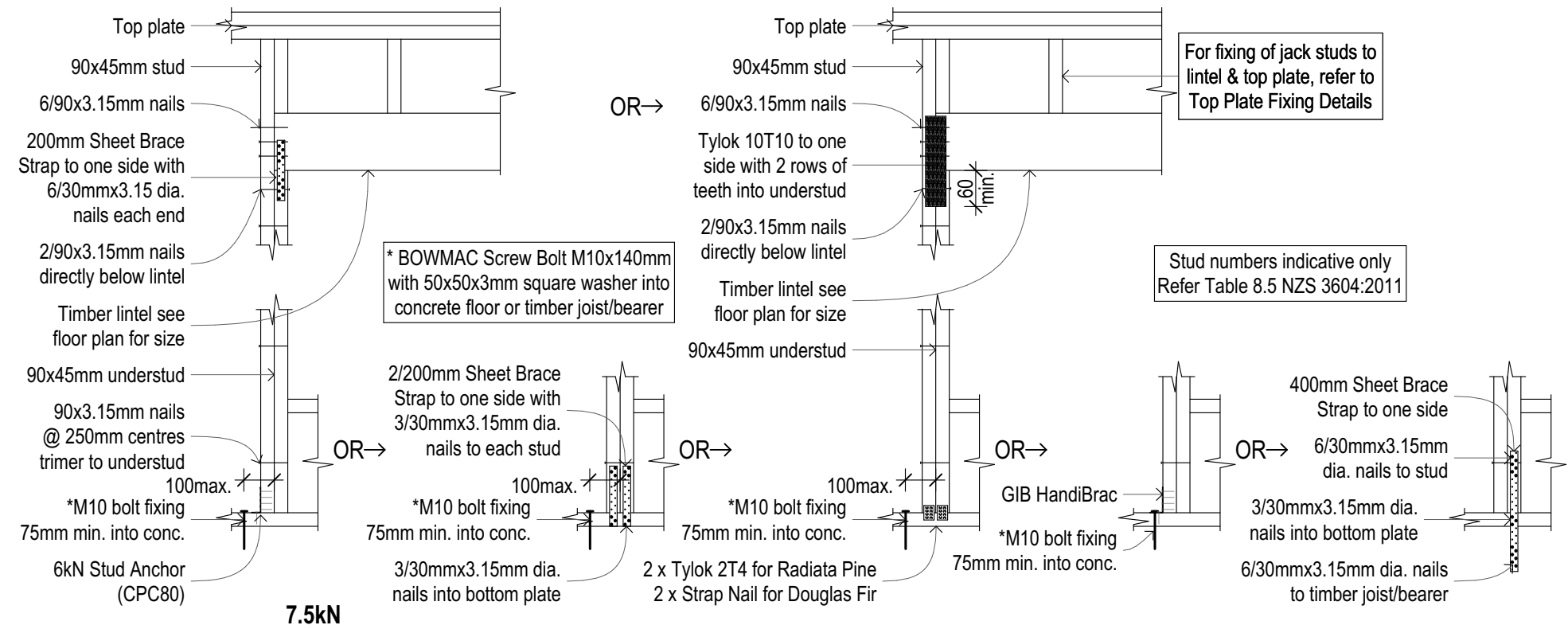
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Banksia E/S 4bed 18/874GS

Details - Fixing 01

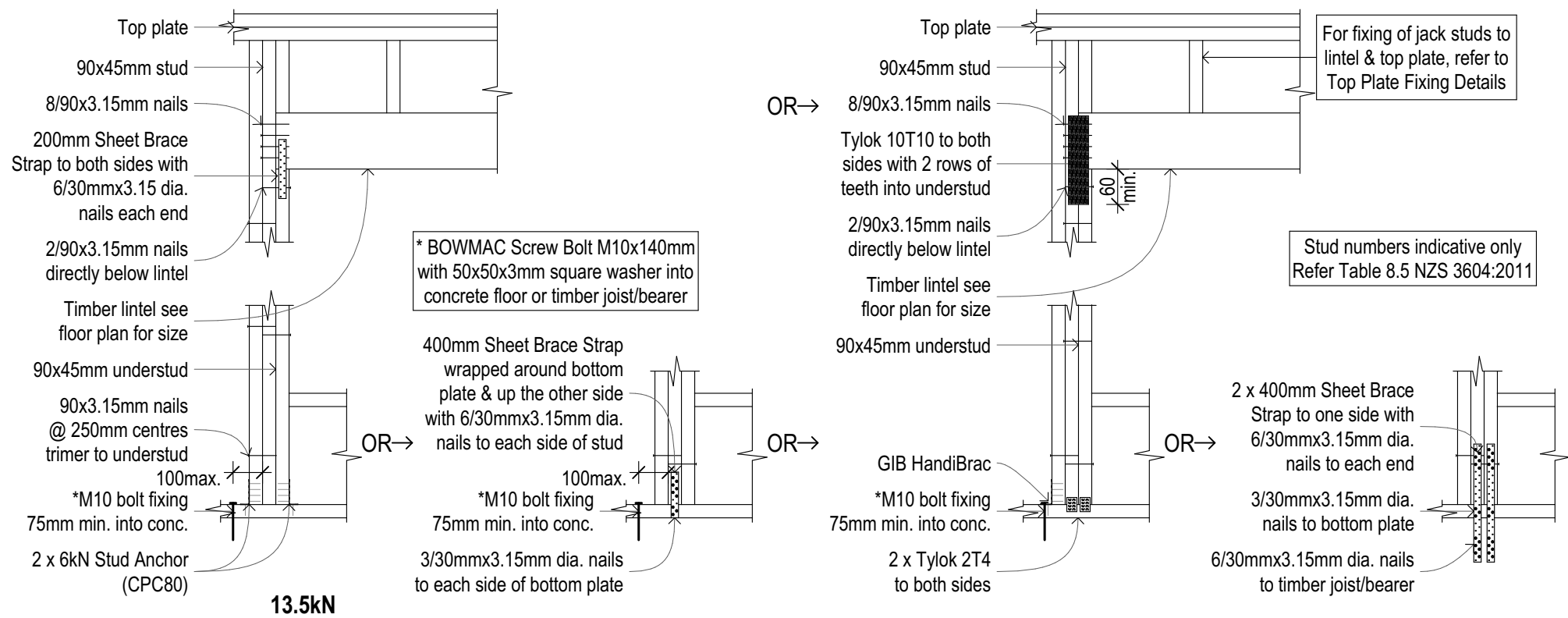
Lot 874 Golden Sands
Monaro Place - Papamoa

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SHEET	18		



37

Fixing Type G
1:20



38

Fixing Type H
1:20



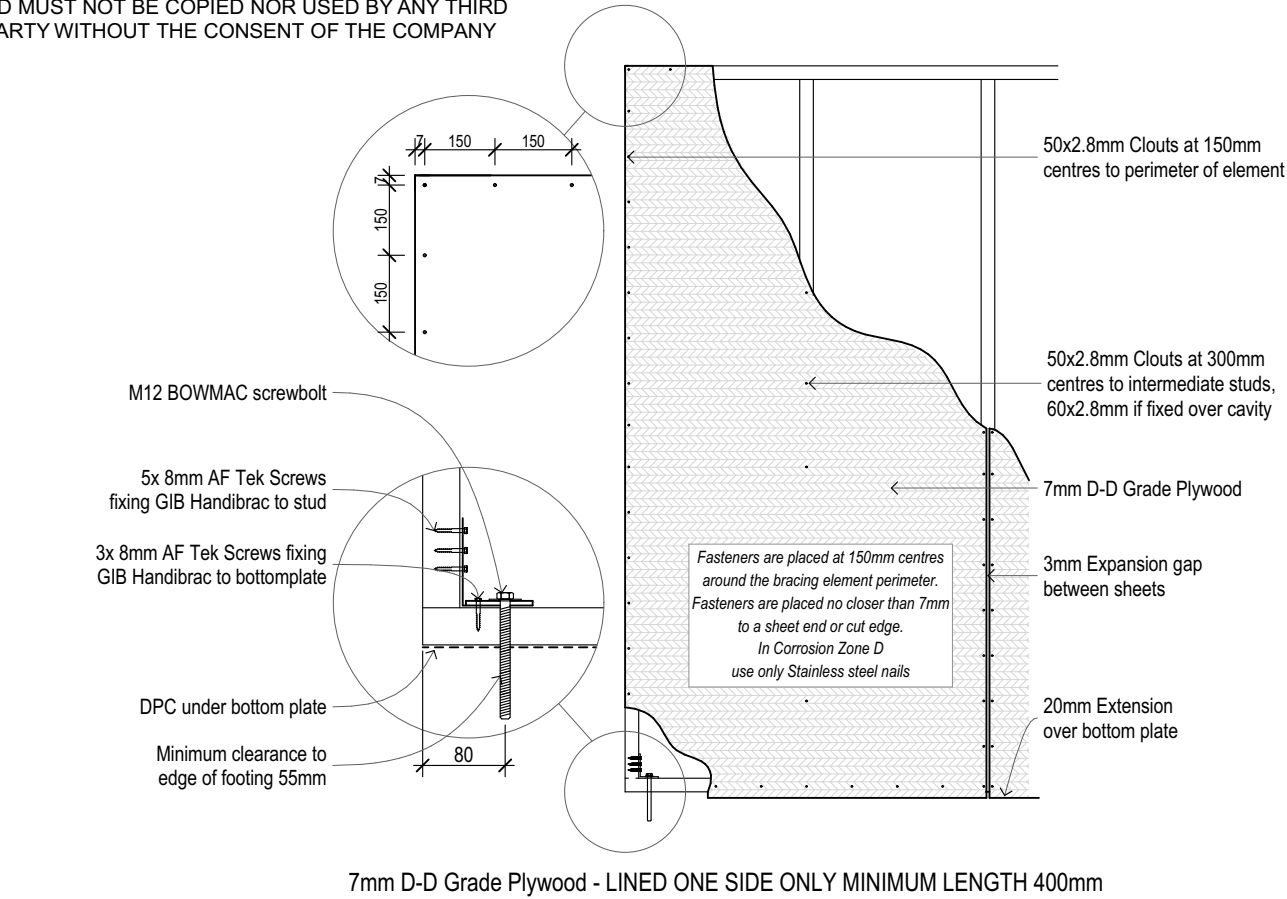
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Banksia E/S 4bed 18/874GS

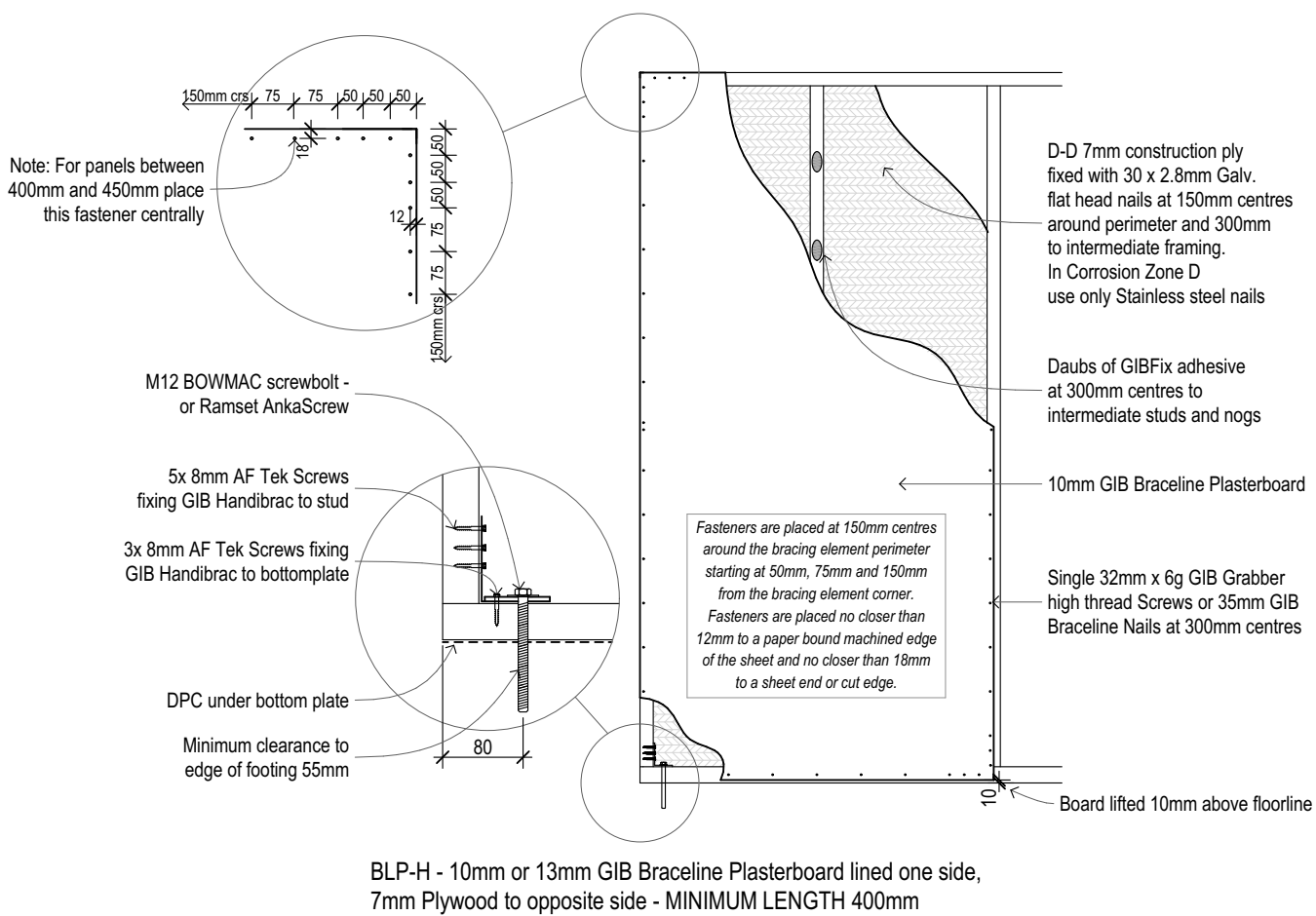
Details - Fixing 02

Lot 874 Golden Sands
Monaro Place - Papamoa

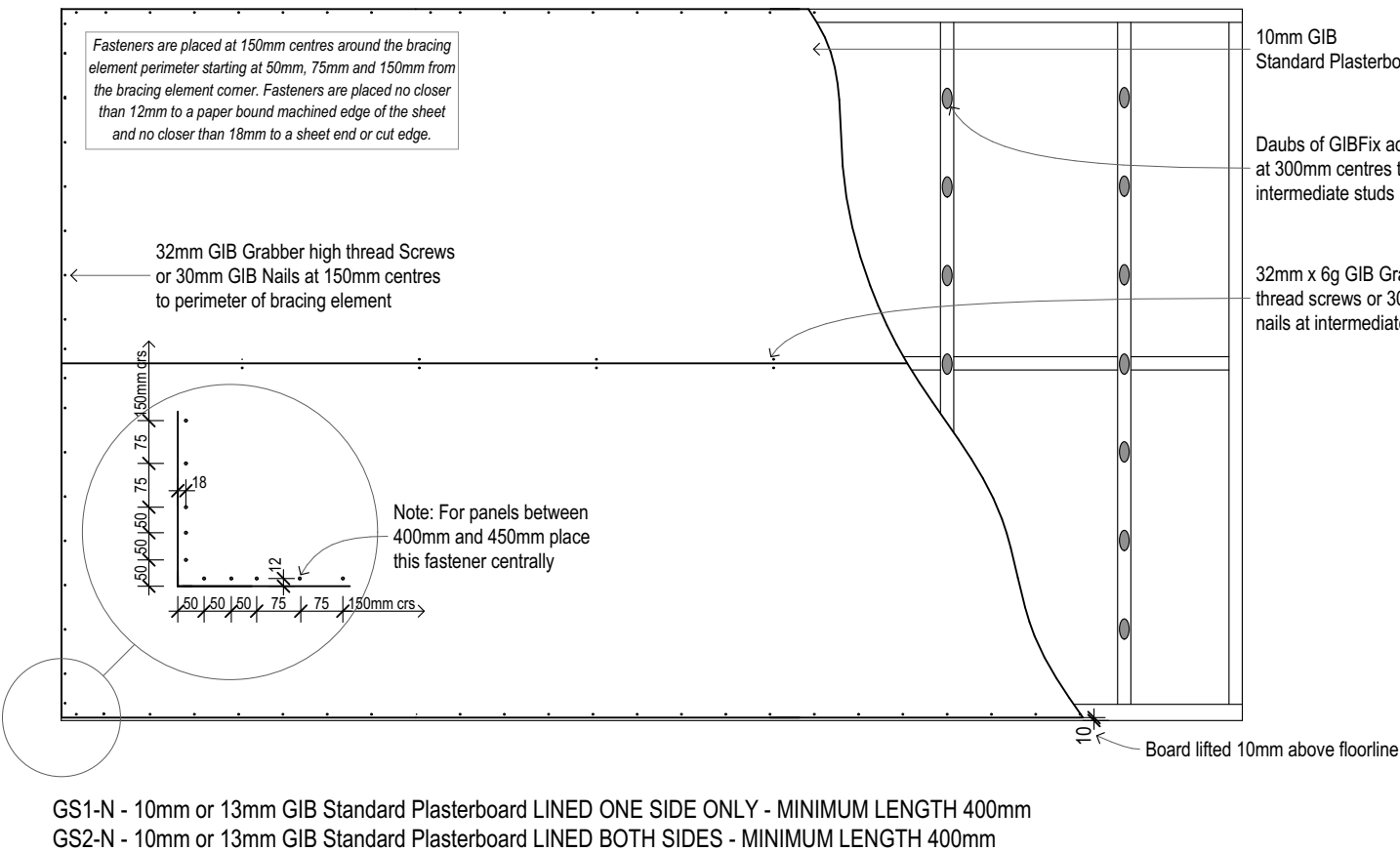
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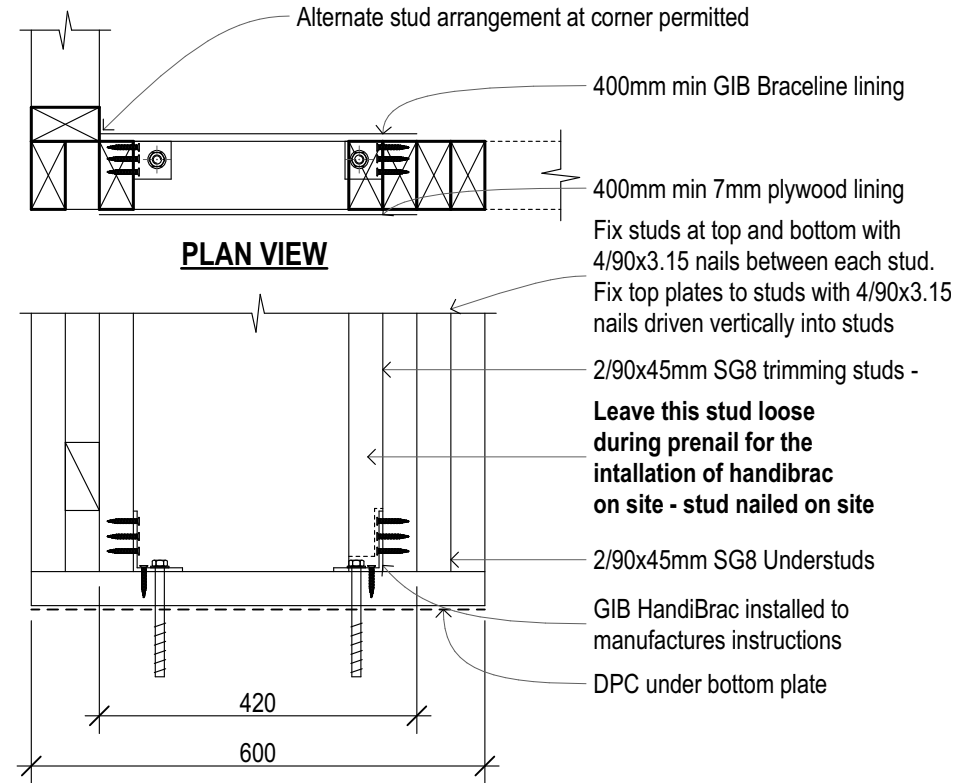
39 EP1 Fixing
1:25



41 BLP-H Vertical Fixing
1:25



40 GS1-N / GS2-N Horizontal Fixing
1:25



42 Garage Door BLP Base Fixing
1:10

Banksia E/S 4bed 18/874GS



NOTE: It is the contractors responsibility to check and verify all dimensions and levels on site before commencing any works

Details - Bracing

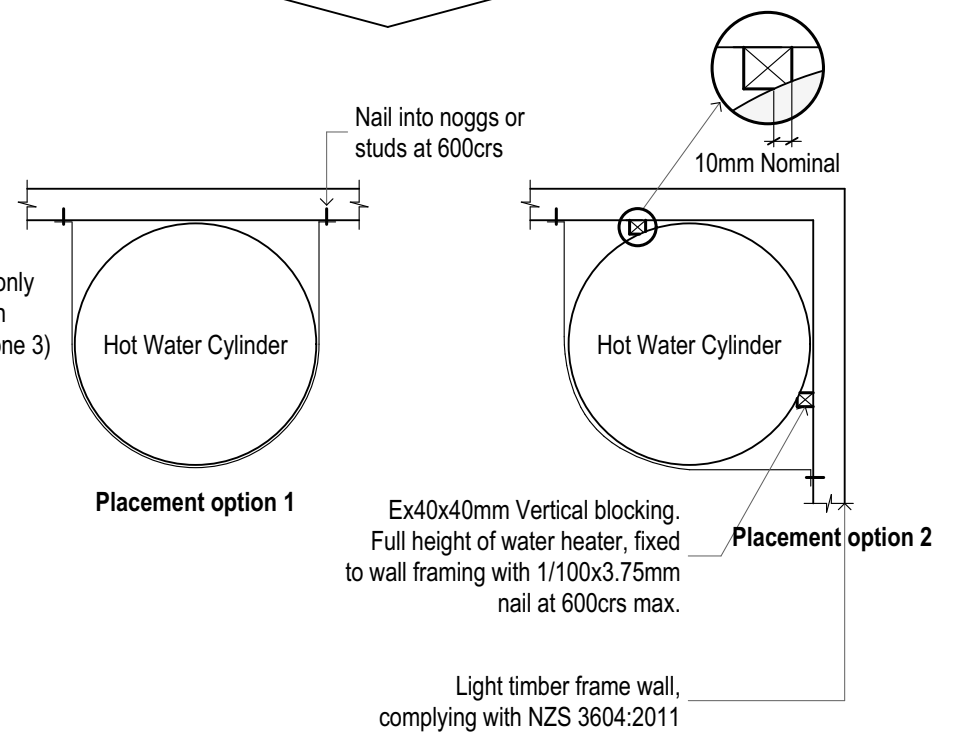
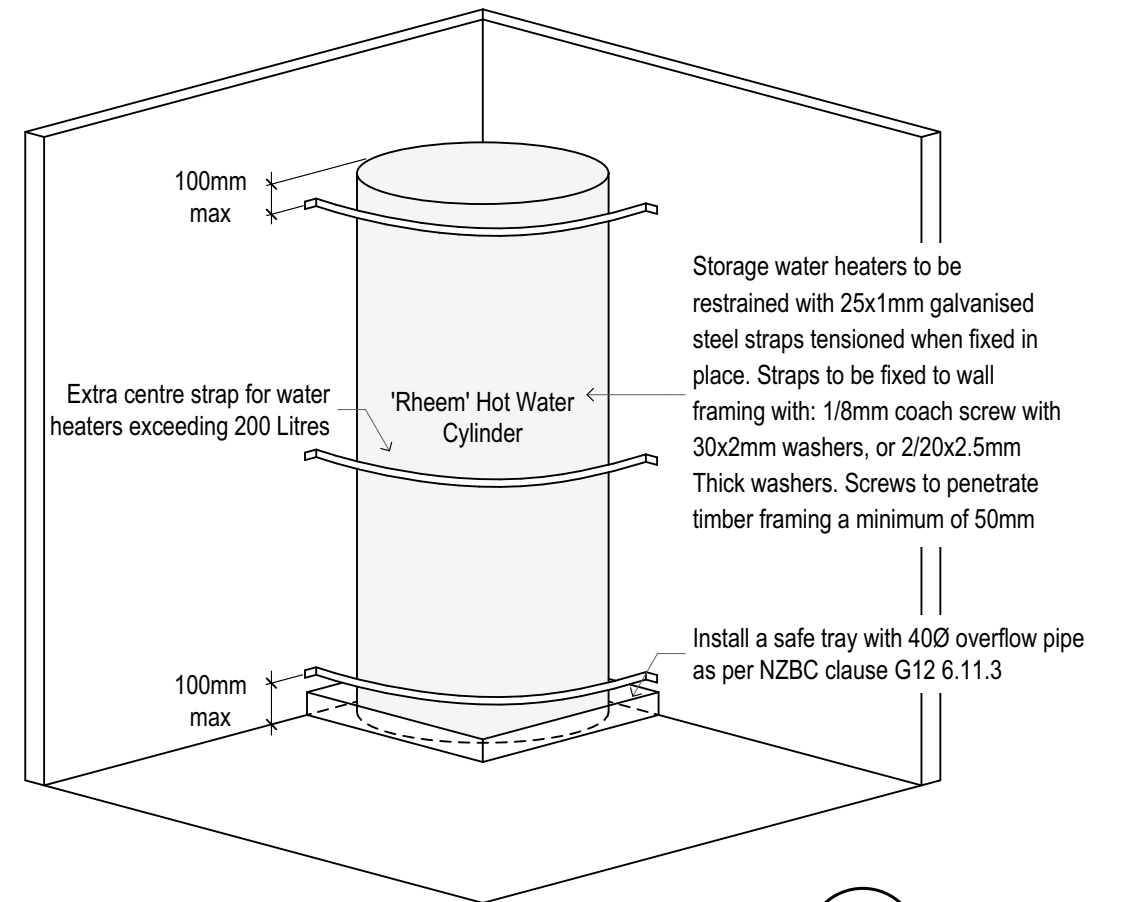
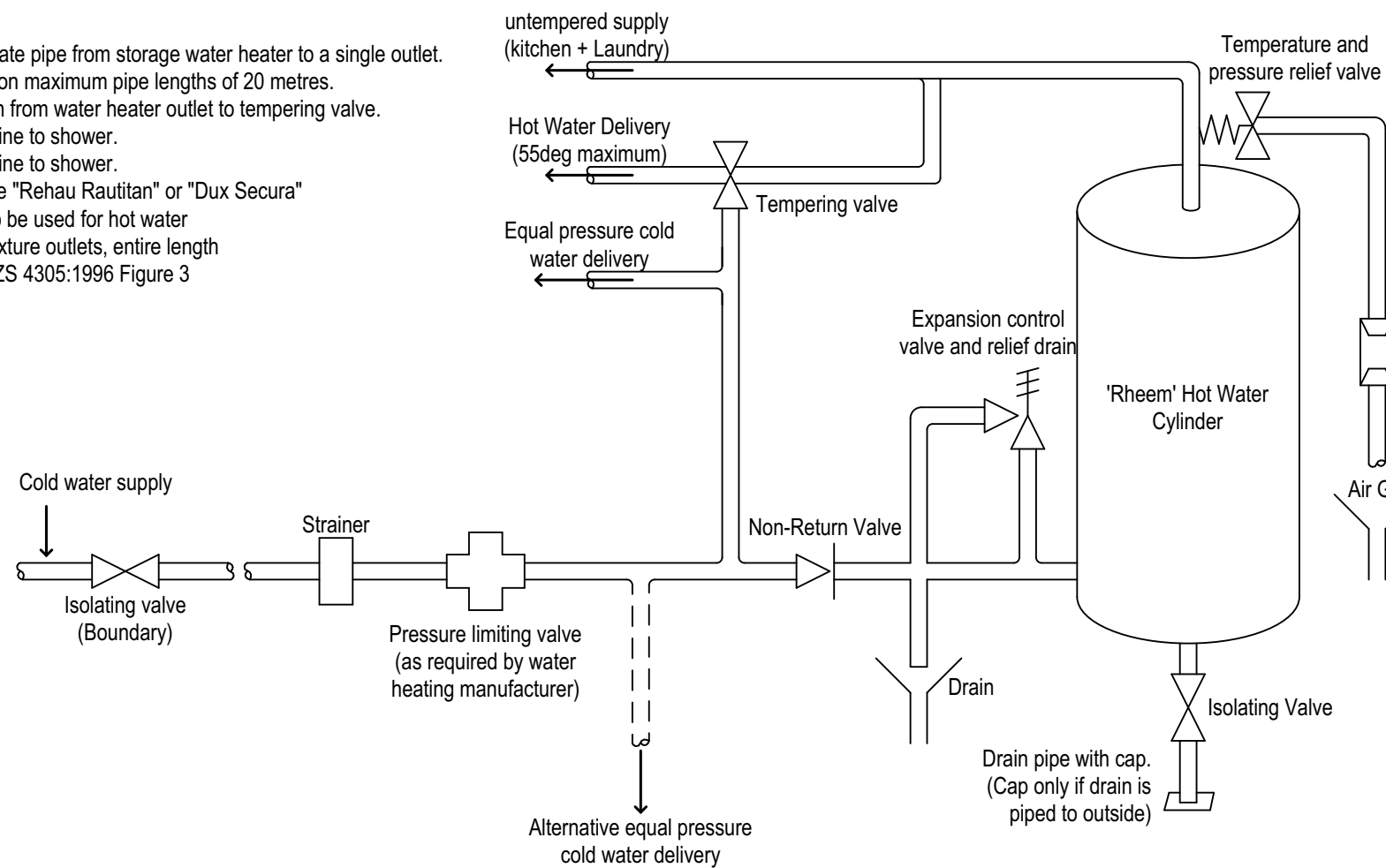
Lot 874 Golden Sands
Monaro Place - Papamoa

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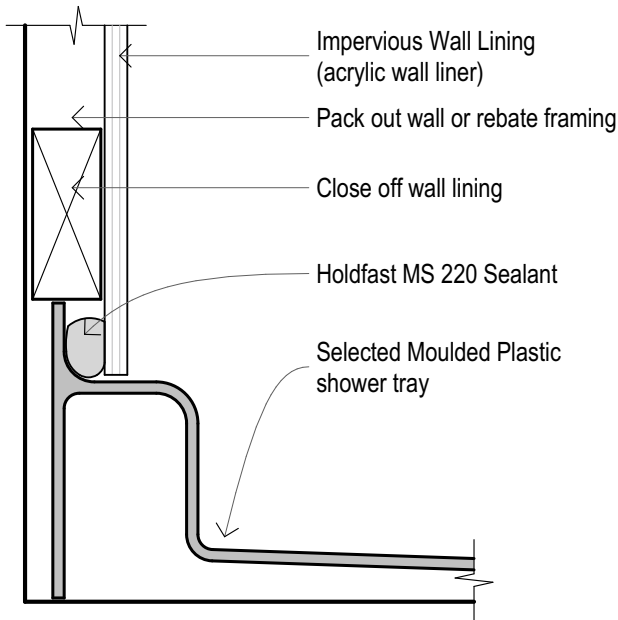
<u>Table 4 NZBC G12/AS1</u> <u>Tempering Valve and nominal pipe diameters</u>	Low Pressure (i.e Header Tank supply or low pressure)	Low and medium Pressure unvented (Valve vented) and open vented	Mains pressure
Pressure of water at tempering valve (kPa)	20-30	30-120	Over 300
Metres Head (m)	2-3	>3-12	Over 30
Minimum tempering valve size	25mm	20mm	15mm
Pipes to tempering valve	25mm (Refer to note 3)	20mm	20mm (15mm Otional) (Refer to note 1)
Pipes to shower	20mm	20mm (Refer to note 4)	20mm (Refer to note 5) (15mm Optional) (Refer to note 1)
Pipes to sink / laundry (refer to note 2)	20mm	20mm	15mm
Pipes to bath (refer to note 2)	20mm	20mm	15mm
Pipes to basins (refer to note 2)	15mm	15mm	10mm

Notes:

1. If supplied by separate pipe from storage water heater to a single outlet.
2. This table is based on maximum pipe lengths of 20 metres.
3. 2m maximum length from water heater outlet to tempering valve.
4. 15mm if dedicated line to shower.
5. 10mm if dedicated line to shower.
6. All pipework shall be "Rehau Rautitan" or "Dux Secura"
7. Preinsulated pipe to be used for hot water supply from HWC to fixture outlets, entire length or as required refer NZS 4305:1996 Figure 3

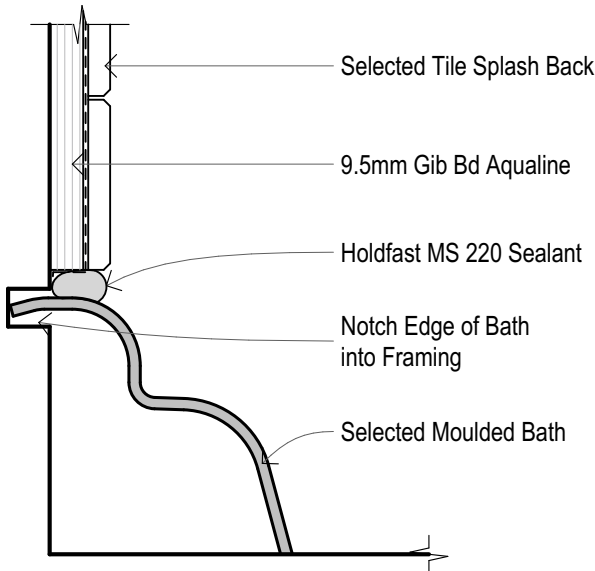


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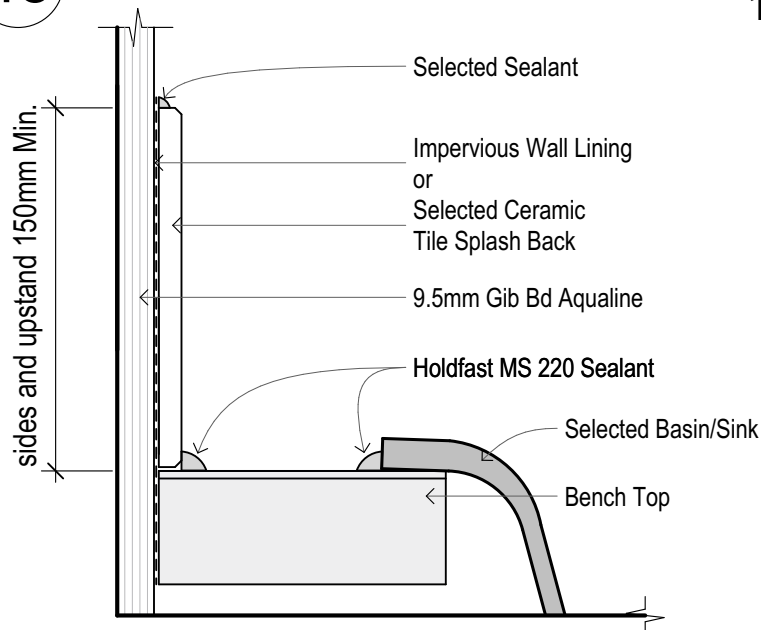
44

Moulded Shower Tray
1:2



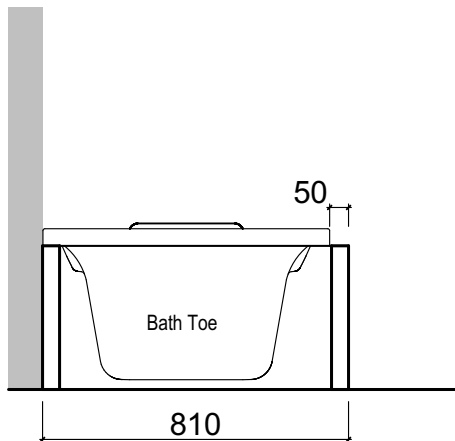
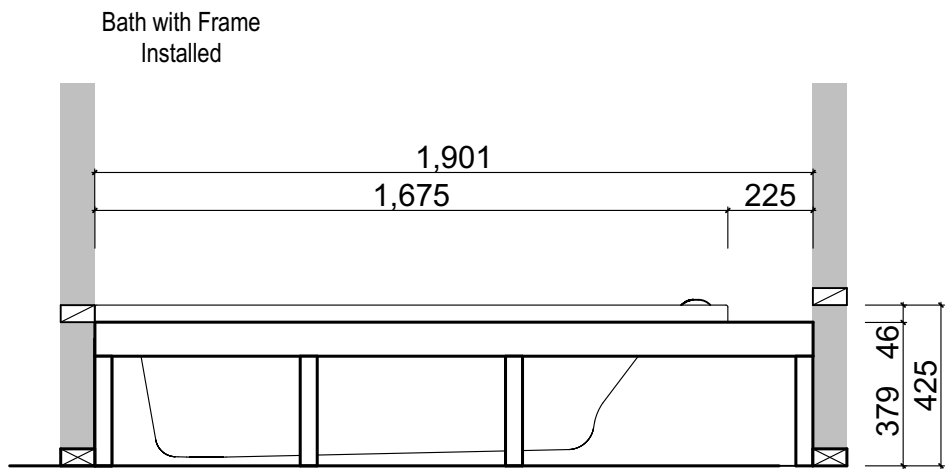
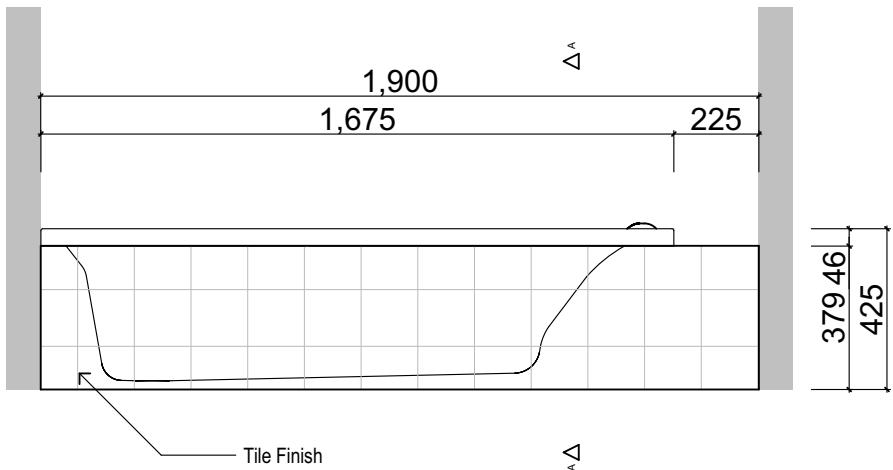
45

Moulded Bath
1:2

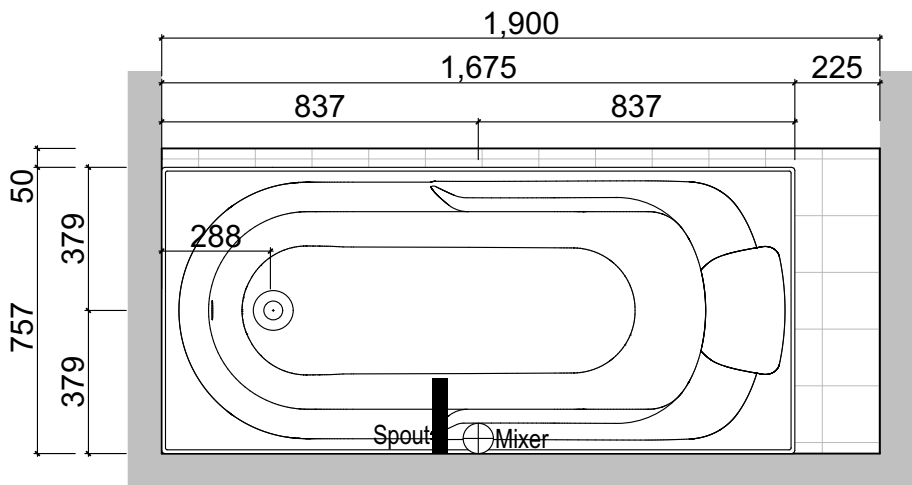
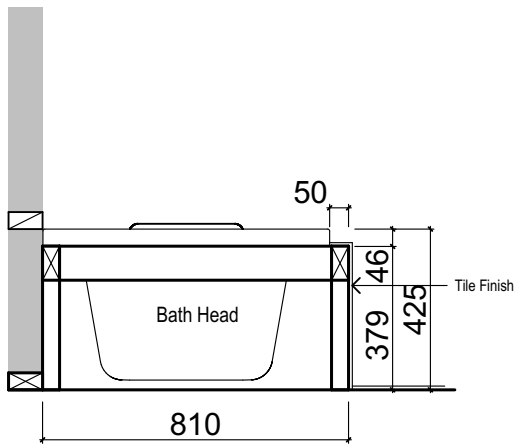


46

Sink and Basin
1:2



Section A-A



47

Bath Detail
1:20

Banksia E/S 4bed 18/874GS

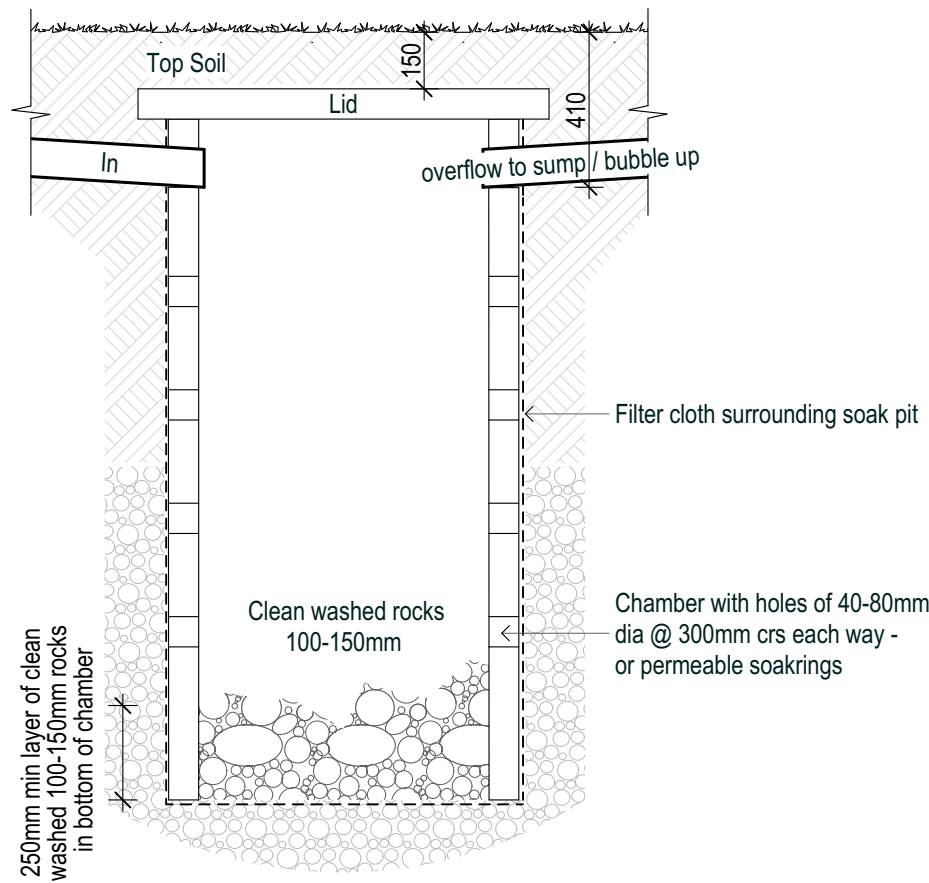


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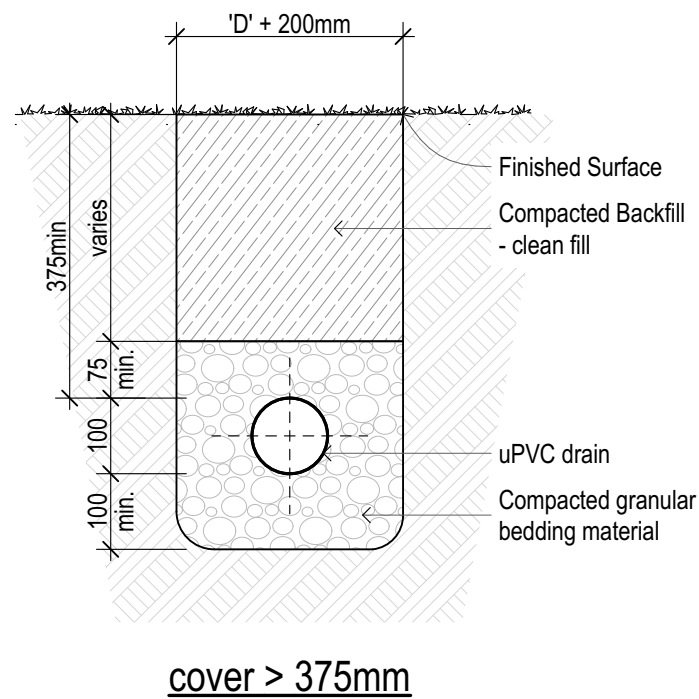
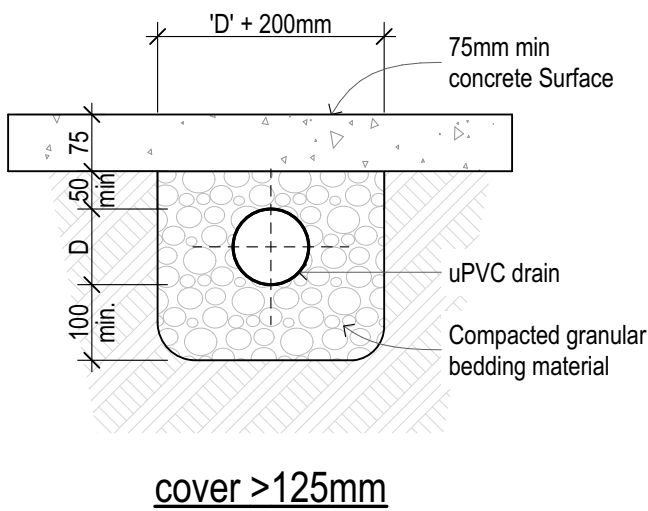
Lot 874 Golden Sands
Monaro Place - Papamoa

Details - Bathroom

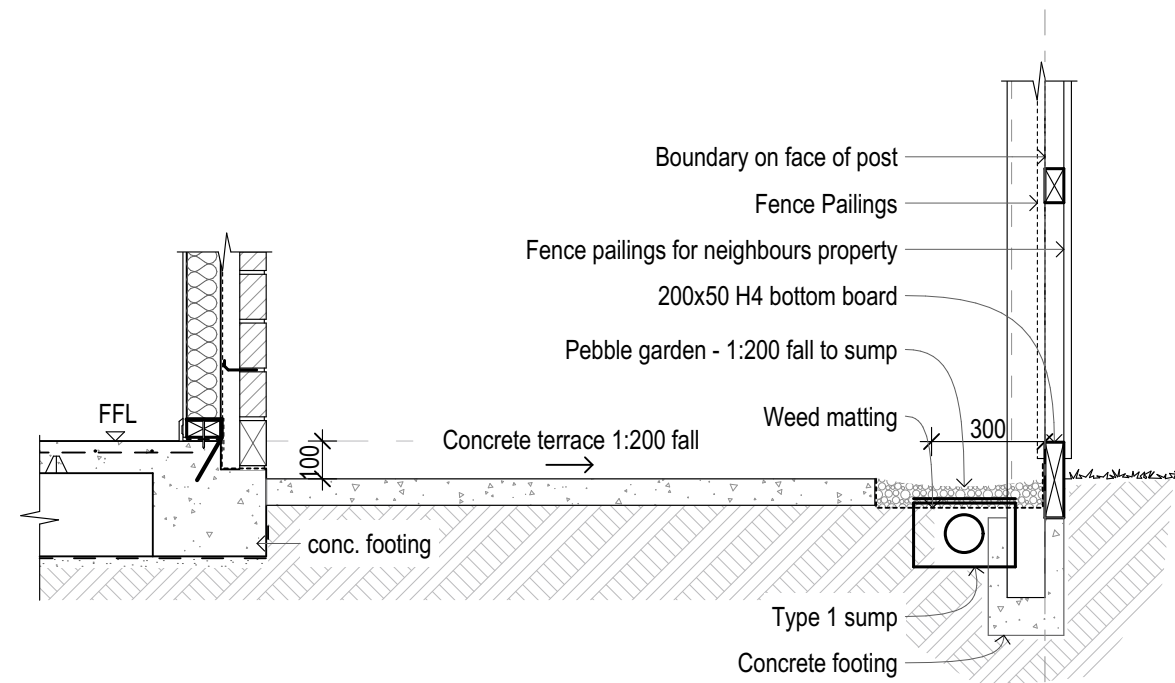
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DATE	SCALE	SHEET
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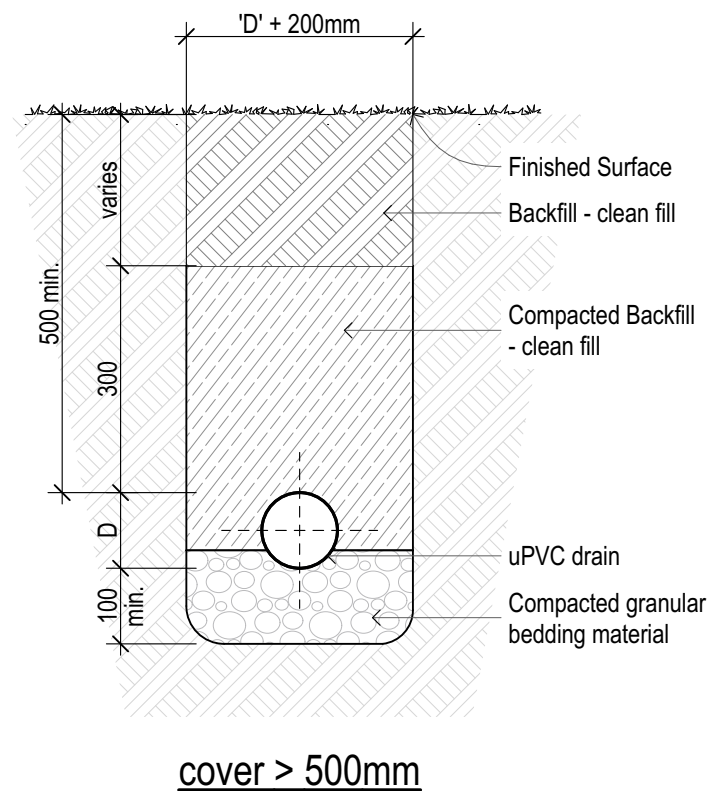
48 Soakage Chamber 1:20



50 Drainage Bedding to AS/NZS3500.2 1:10



49 Pebble Swale 1:20



Banksia E/S 4bed 18/874GS



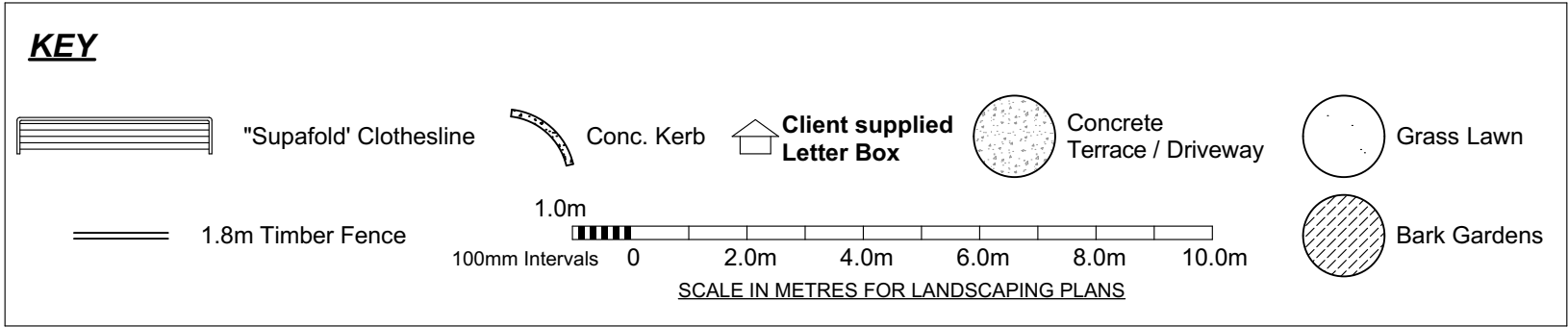
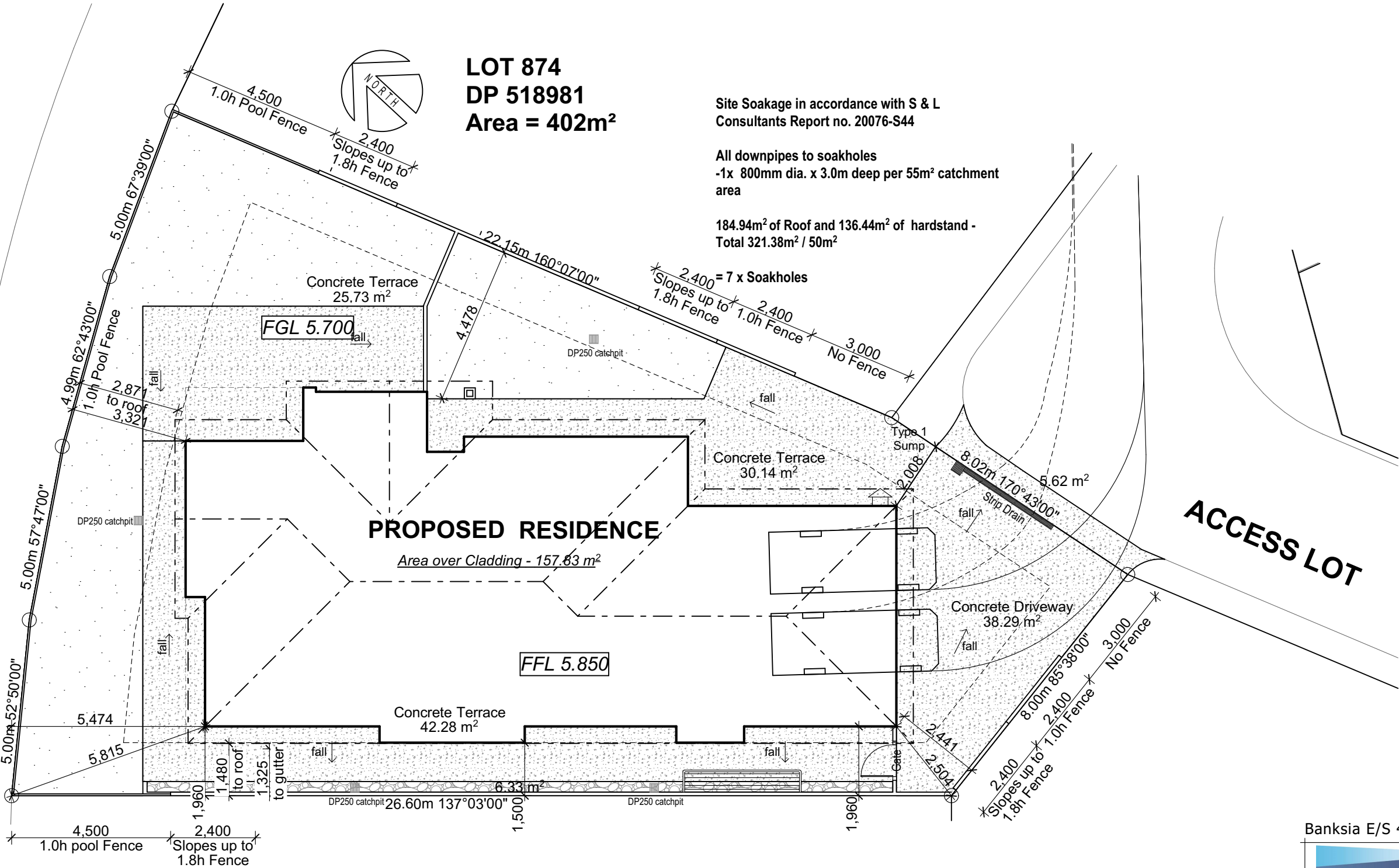
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Details - Drainage

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		SHEET	23

STEVENSON DRIVE



Banksia E/S 4bed 18/874GS



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Landscape Plan

Lot 874 Golden Sands
Monaro Place - Papamoa

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