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27	STORMWATER RUN OFF

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

Tasman District Council
BUILDING CONSENT AUTHORITY
APPROVED DRAWINGS
Consent Number BC 160489
Signed
Date 23/06/2016

ALL WORK IS TO COMPLY WITH THE NZ BUILDING CODE
DO NOT MAKE CHANGES WITHOUT PRIOR APPROVAL

Tasman District Council
BUILDING CONSENT AUTHORITY
RECEIVED
Date 14/06/16





Orange Residential
HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:
Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information
Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

SHEET INDEX

Version	Sales.	QS	Sheet
05	TONI	BG	1
	Scale.	Drawn.	
	1:1, 1		
	Date:	13/06/2016	

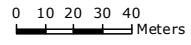
Job Number
598



This map is an approximation of the actual situation only and must not be used to determine the location or size of a lot or to identify legal boundaries. To the extent permitted by law, the Tasman District Council and Nelson City Council, their employees, agents and contractors will not be liable for any costs, damages or loss suffered as a result of the data or plan, and no warranty or representation of any kind is given by the Councils in relation to the data or plan. The data or plan is provided on an "as is" basis and the user must accept the data or plan as it is. Attribution 3.0 New Zealand License, and the use of any data or plan or any information downloaded must be in accordance with the terms of that licence. For more information please contact us. Cadastral and NZ Topo50 related data is sourced from Land Information New Zealand

survey point





13 June 2016



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Earthquake Zone: 2

SITE DATUM

Version	Sales.	QS	Sheet
05	TONI	BG	27
	Scale.	Drawn.	
	Date:	17/06/2016	

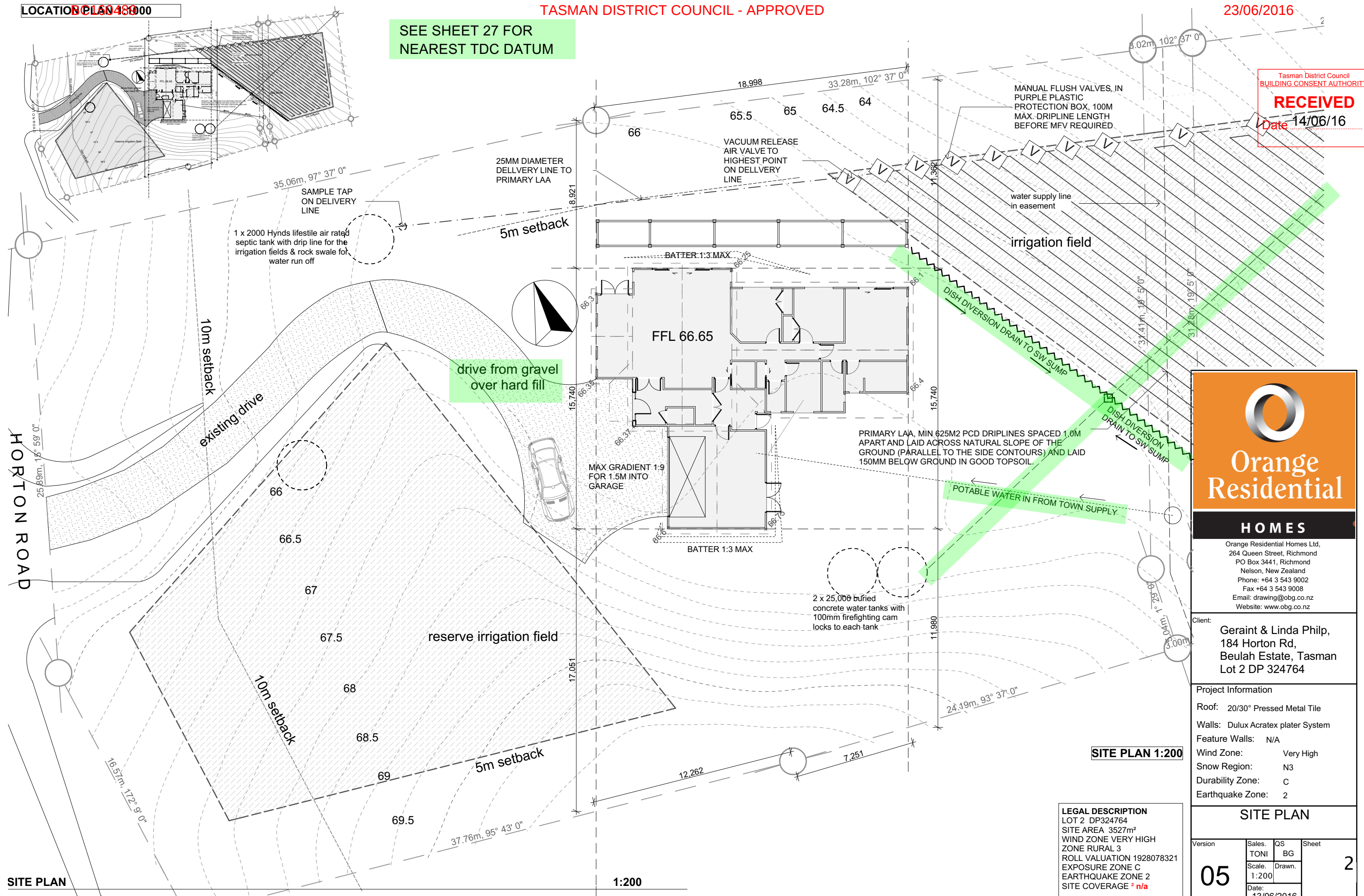
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SEE SHEET 27 FOR
NEAREST TDC DATUM

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SITE PLAN

Version	Sales. TONI	QS BG	Sheet
05	Scale. 1:200	Drawn.	2
	Date: 13/06/2016		

Job Number	598
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LEGAL DESCRIPTION
LOT 2 DP324764
SITE AREA 3527m²
WIND ZONE VERY HIGH
ZONE RURAL 3
ROLL VALUATION 1928078321
EXPOSURE ZONE C
EARTHQUAKE ZONE 2
SITE COVERAGE ² n/a

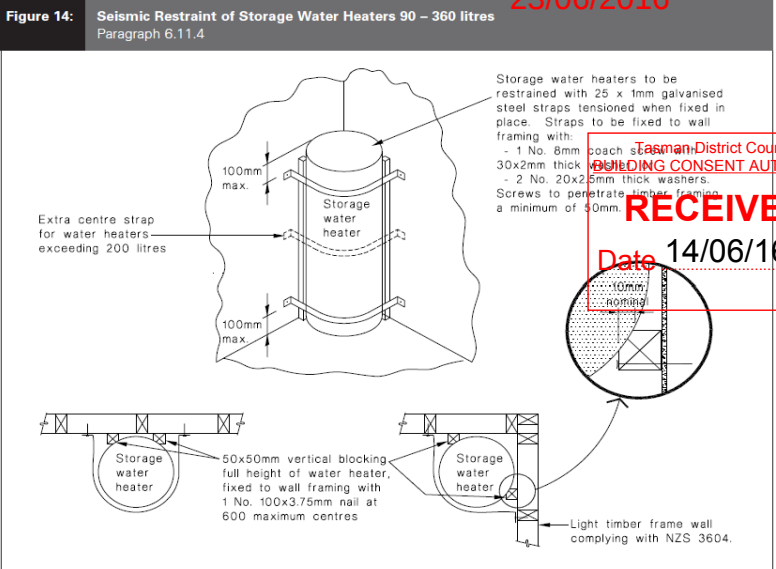
FFL FINISHED FLOOR LEVEL

FOR FULL SET OUT DIMENSIONS SEE FOUNDATION PLAN

BC160489

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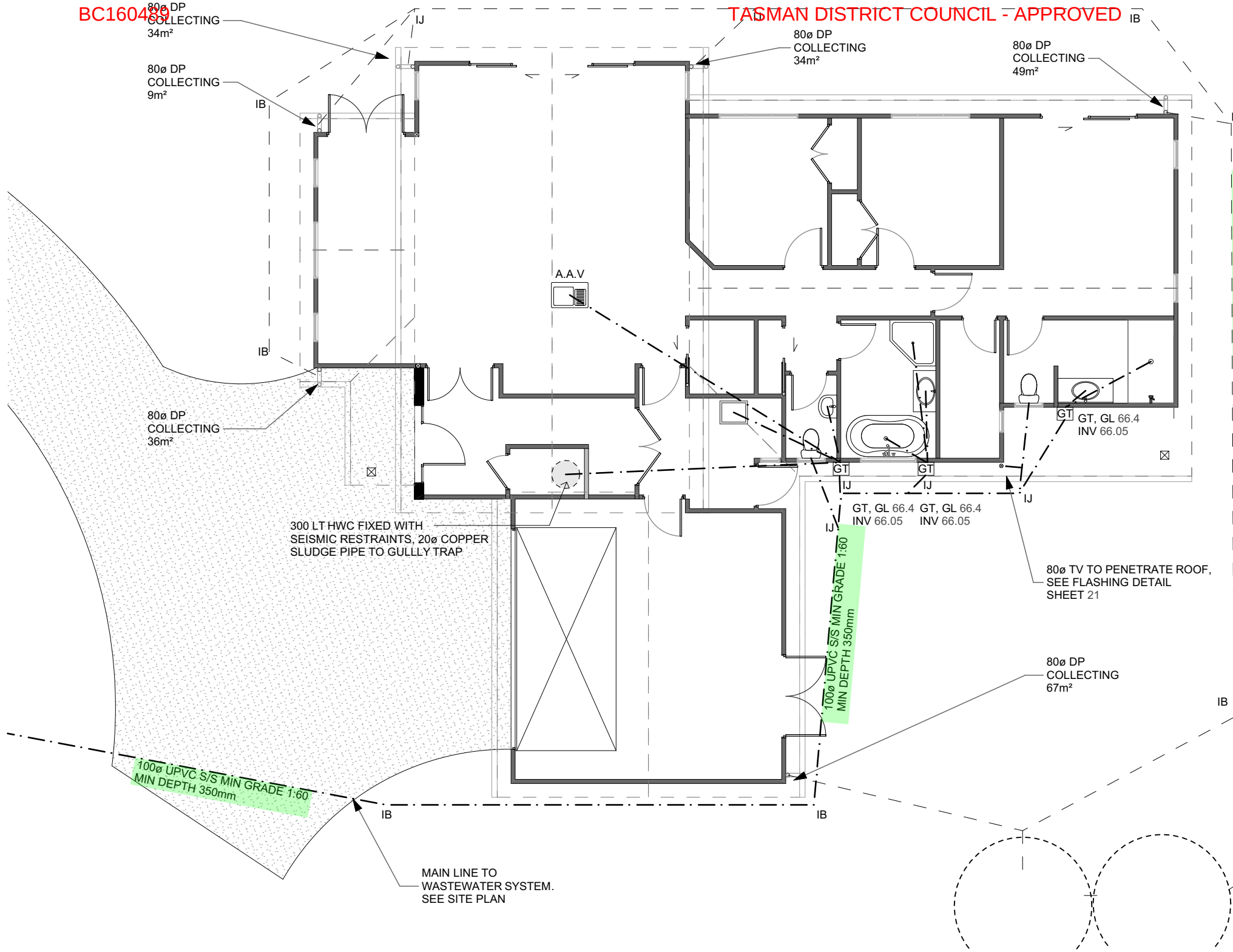
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MAIN LINE TO S/W
TANKS. SEE SITE
PLAN

WASTEWATER DESIGNED TO G13 FOUL WATER
ACCEPTABLE SOLUTION AS1 SANITARY PLUMBING.

STORMWATER DESIGNED TO E1AS1 SURFACE WATER.

100ø OVERFLOW TO RUN TO
NATURAL WATER COURSE.
PROTECT OUTLET OF PIPE
WITH 150-200mm ROCKS
TO PREVENT SCOURING
100ø UPVC S/W MIN GRADE 1:100,
MIN DEPTH 350mm

DRAINAGE PLAN

1:100

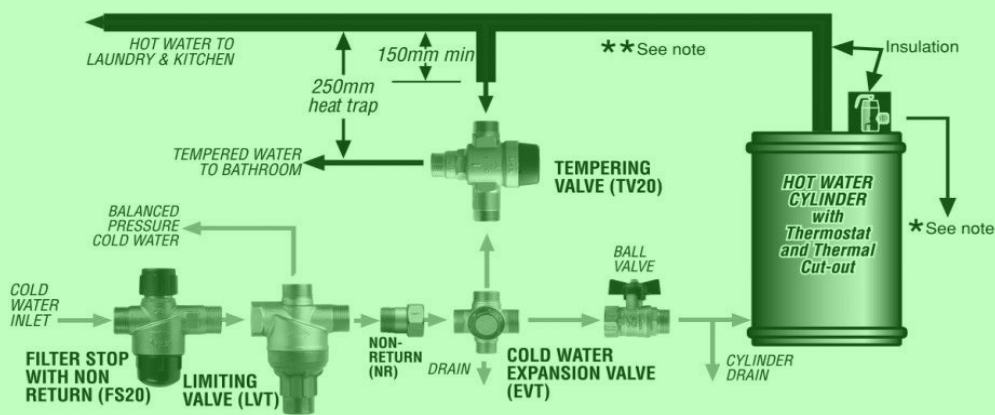
ENSURE HOT WATER SUPPLY TO SANITARY FIXTURES IS TEMPERED AND FLOW RATES AS PER TABLE 3

Table 3: Acceptable Flow Rates to Sanitary Fixtures Paragraph 5.3.1

Sanitary fixture	Flow rate and temperature l/s and °C	How measured
Bath	0.3 at 45°C	Mix hot and cold water to achieve 45°C
Sink	0.2 at 60°C* (hot) and 0.2 (cold)	Flow rates required at both hot and cold taps but not simultaneously
Laundry tub	0.2 at 60°C* (hot) and 0.2 (cold)	Flow rates required at both hot and cold taps but not simultaneously
Basin	0.1 at 45°C	Mix hot and cold water to achieve 45°C
Shower	0.1 at 42°C	Mix hot and cold water to achieve 42°C

* The temperatures in this table relate to the temperature of the water used by people in the daily use of the fixture.
Note:
The flow rates required by Table 3 shall be capable of being delivered simultaneously to the kitchen sink and one other fixture.

HIGH PRESSURE - Valve Vented



DRAINAGE NOTES

SEWER LINE
STORMWATER LINE

GT - GULLY TRAP
TV - TERMINAL VENT
DP - DOWN PIPE
IJ - INSPECTION JOIN
IB - INSPECTION BEND

WASTE SIZES
WC'S 100ø
SHOWERS 40ø
BATH 40ø
BASINS/SINK 40ø

MIN GRADIENT
1:60
1:40
1:40
1:40

DRAINAGE PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	5
Scale:	1:200	Drawn:	
Date:	13/06/2016		

Job Number
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GENERAL:
ALL WORK TO COMPLY WITH TERRITORIAL AUTHORITY REQUIREMENTS AND THE RELEVANT SECTIONS OF THE NEW ZEALAND BUILDING CODE - NZS 3604 2011.
CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. ALL DIMENSIONS ARE TO FRAMING LINES.

FRAMING TIMBER:
TIMBER WALL FRAMING CALCULATED USING NZS 3604 (2011) FOR SG8 TIMBER.
ALL EXTERIOR WALL STUDS = H1.2
ALL INTERIOR WALL FRAMING = H1.2
CAVITY BATTENS = H3.1
ROOF FRAMING = H1.2
PURLINS=H1.2
ALL FRAMING TIMBER TO BE KILN DRIED

STUD SIZES
TIMBER WALL FRAMING CALCULATED USING NZS 3604 2011 FOR SG8 TIMBER -VERY HIGH WIND ZONE

EXTERNAL LOADBEARING STUDS
STUDS UP TO 2.4m 90X45 AT 400 MAX CRS
STUDS UP TO 2.7m 90X45 AT 400 MAX CRS

ALL NON LOAD BEARING (PARTITION)
WALLS 90X45 AT 400 MAX CRS
-ALL WITH DWANGS AT 800 CRS VERT

INSULATION
EXTERNAL WALLS R 2.4 WALL BATTS.

ROOF- R3.6 BATTS.

FLOOR- NO INSULATION REQUIRED TO SLAB

LININGS
10mm GIB TO WALLS, 13mm GIB TO CEILINGS, GIB AQUALINE TO BATHROOM -PAINT BATHROOMS AND L'DRY WITH AN ENAMEL ACRYLIC UNDERCOAT.

INTERNAL DOORS
-ALL INTERNAL DOORS ARE 810X1980 PANELS UNLESS OTHERWISE SPECIFIED
-REVEALS TO BE H1.2 TIMBER WITH 40X12 TIMBER ARCHITRAVES.

GAS / ELECTRIC HOB
ENSURE THAT HOB IS POSITIONED 50mm MIN FROM GIB WALL.
MIN 150mm HIGH UPSTAND OF CERAMIC TILES OR GRAPHIC GLASS INSTALLED TO PROTECT GIB.

SMOKE ALARMS:
TO COMPLY WITH AS3786 WITH HUSH FACILITY
ENSURE THERE ARE SMOKE ALARMS INSTALLED
-TO ALL ESCAPE ROUTES ON ALL LEVELS.
-TO ALL BEDROOMS OR WITHIN 3m OF EVERY SLEEPING SPACE DOOR.

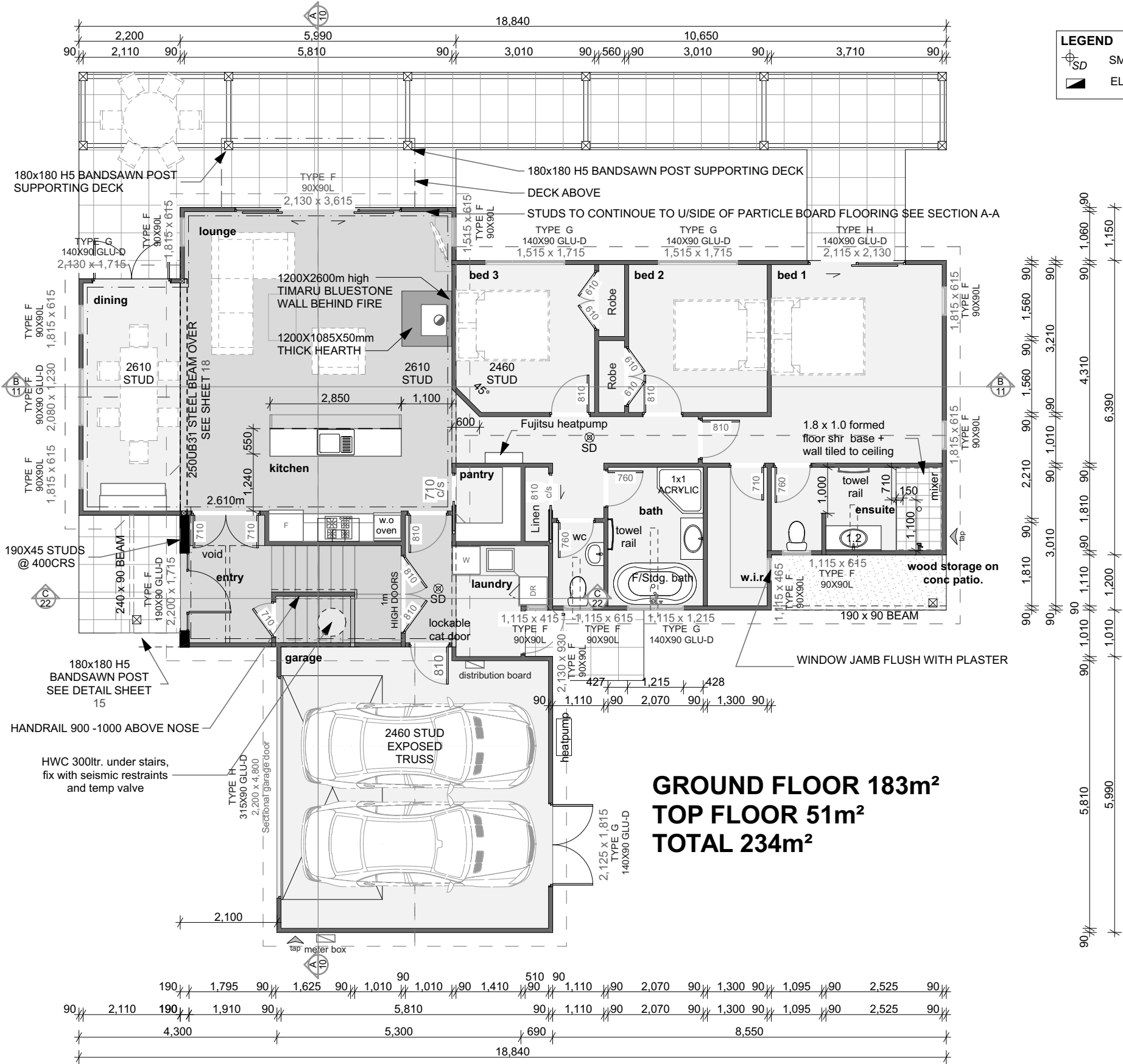
EXTERNAL WINDOWS/DOORS
HEIGHT IS LISTED FIRST IE 1100X1500 MEANS HEIGHT IS 1100
ALL JOINERY CONFIGURATION, SIZES, HARDWARE, AND GLAZING TO BE VERIFIED BETWEEN OWNER AND JOINER PRIOR TO MANUFACTURE

LINTELS
REFER TRUSS MANUFACTURERS

STEEL BEAM
REFER ENGINEERS REPORT

BUILDING WRAP / TAPE
WHERE BUILDING WRAP REQUIRED USE THERMAKRAFT COVER TEK 407
WHERE FLASHING TAPE REQUIRED USE BULLDOG THERMAKRAFT PLUS 2 WINDOW WRAP SEALING TAPE

FLOOR PLAN



GROUND FLOOR 183m²
TOP FLOOR 51m²
TOTAL 234m²

LEGEND
SD SMOKE DETECTOR
ELECTRICAL METER BOARD

Tasman District Council
BUILDING CONSENT AUTHORITY
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Orange Residential Homes Ltd,
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Roof: 20/30° Pressed Metal Tile

Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

FLOOR PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	6
	Scale.	Drawn.	
	Date:	13/06/2016	

Job Number

598

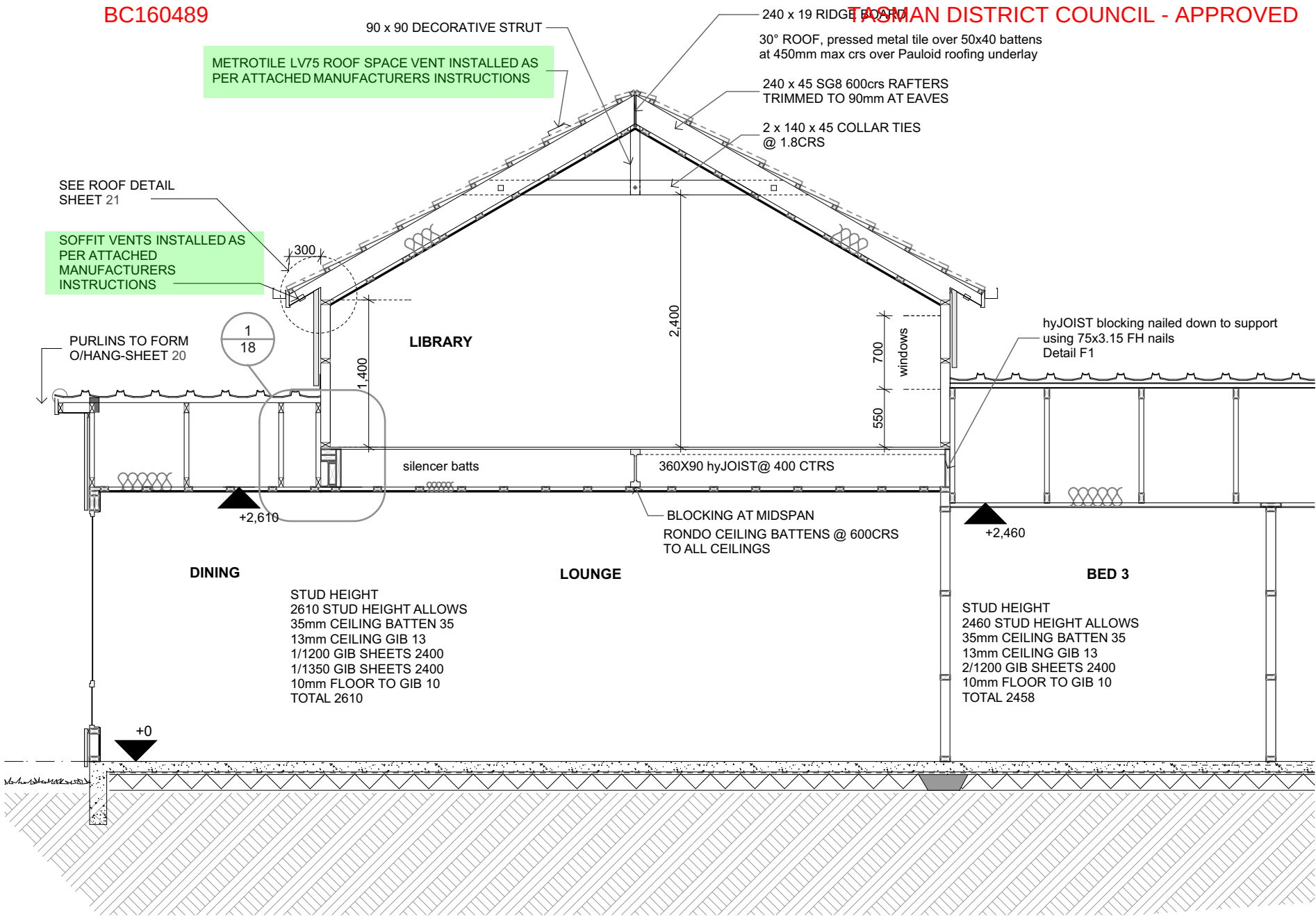
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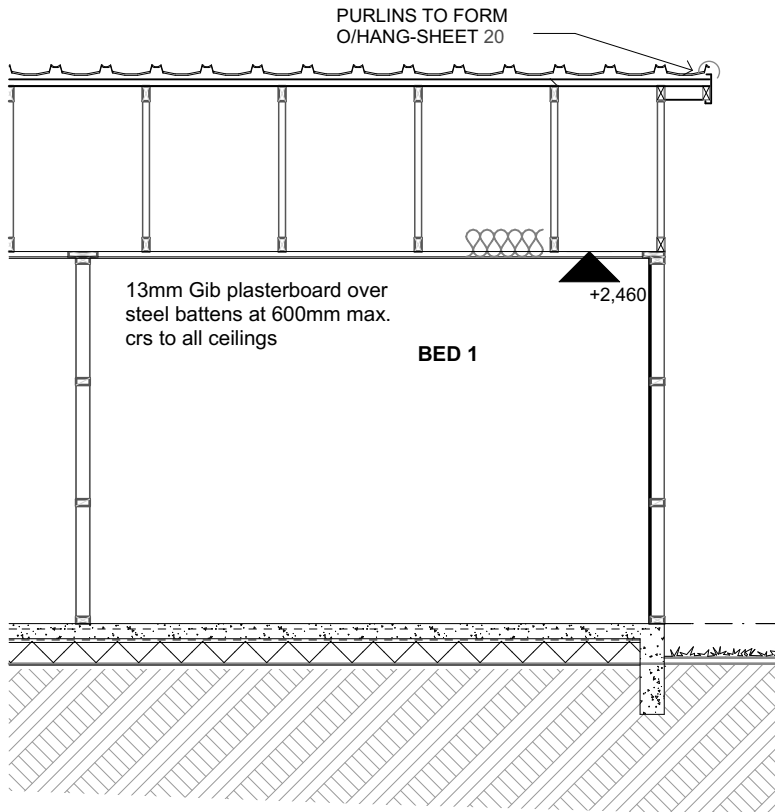
Date **14/06/16**



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HOMES			
Orange Residential Homes Ltd, 264 Queen Street, Richmond PO Box 3441, Richmond Nelson, New Zealand Phone: +64 3 543 9002 Fax +64 3 543 9008 Email: drawing@obg.co.nz Website: www.obg.co.nz			
Client: Geraint & Linda Philp, 184 Horton Rd, Beulah Estate, Tasman Lot 2 DP 324764			
Project Information Roof: 20/30° Pressed Metal Tile Walls: Dulux Acratex plater System Feature Walls: N/A Wind Zone: Very High Snow Region: N3 Durability Zone: C Earthquake Zone: 2			
SECTION A-A			
Version 05	Sales. TONI Scale. 1:50 Date: 13/06/2016	QS BG Drawn.	Sheet 10
Job Number 598			



SECTION B-B



SECTION B-B

1:50

INSULATION CALCULATIONS
COMPLIANCE WITH NZBC H1 INSULATION- CALCULATION METHOD

Proposed Design					Go back to Start
Component	Description	Area	R-value	Heat Loss	Heat Loss = Area / R-value
Roof 1	metal tile/ 900/ R3.6	146.4	3.4	43.1	
Roof 2					
Roof 3					
Wall 1	plaster 600/ R2.4	169.2	1.9	89.0	
Wall 2					
Wall 3					
Floor 1	conc/ ratio 2.5	146.4	1.6	91.5	
Floor 2					
Floor 3					
Glazing 1	double glazing	44.42	0.26	170.8	
Glazing 2					
Skylight 1					
Skylight 2					
				Total Loss	
				394.4	

R-values must be no less than 60% of the R-value of the corresponding Schedule values
Total area of glazing (including skylights) must be ≤50% of the total wall area
Non-glazed areas of door openings greater than 3 m² are treated as wall.
An R-value of 0.26 may be used for traditional leadlight glass if the total area is ≤ 2.6 m²

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r2.4 batts to walls, r3.6 batts to ceiling,no insulation required to slab
Figures obtained from Branz house insulation guide 4th edition
area 140/perimeter 55= 2.5
roof insulation to centre line of exterior walls, allow a 25mm air gap above batts.
Insulation not req to external garage walls,
insulation to walls between garage and house

Zone 3 Non-Solid Reference Building.					Go back to Start
Component	Description	Area	R-value	Heat Loss	Heat Loss = Area/R-value
Roof		146.4	3.3	44.4	
Wall		169.3	2.0	84.7	
Floor		146.4	1.3	112.6	
Glazing (30%)		44.42	0.26	170.8	
Glazing (>30%)			0.34		Total Loss
					412.5

Set wall area as either 70% of total wall area, or actual wall area, whichever is **lower**
Set glazing area as either 30% of total wall area, or actual glazing area, whichever is **higher**
Total area of glazing (including skylights) must be ≤50% of the total wall area
An R-value of 0.26 may be used for traditional leadlight glass if the total area is ≤ 2.6 m²
Non-glazed areas of door openings greater than 3 m² are treated as wall.

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Project Information

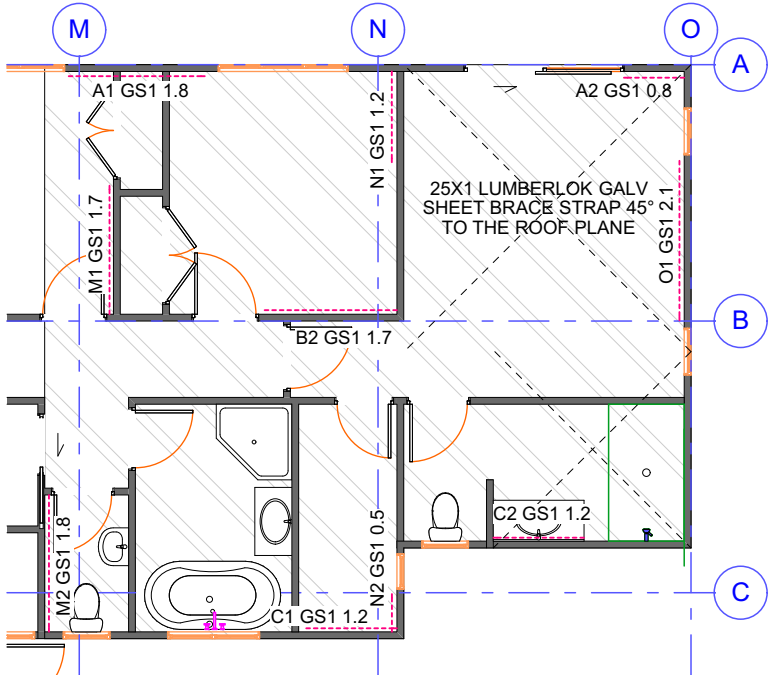
Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

SECTION B-B

Version	Sales.	QS	Sheet
05	TONI	BG	11
	Scale.	Drawn.	
	Date:	17/06/2016	

Job Number

598



BRACING SINGLE STORY PLAN

1:100

BRACING NOTES

LINE 'A'/BRACE 1 → A1 GS1 2.4 LENGTH TYPE

BRACING DONE IN ACCORDANCE WITH NZS 3604 2011
-SEE GIB BRACING GUIDE FOR FULL FIXING REQUIREMENTS
-HOLD DOWN CONNECTIONS TO ALL BRACELINE BRACES

Building Specification

Select Lining Option 10 or 13 mm GIB® Plasterboard

Number of storeys	single
Floor Loading	2kPa
Foundation Type	slab
Cladding Weight	light
Roof Weight	light
Room in Roof Space	no
Roof Pitch (degrees)	20
Roof height above eaves (m)	1.6
Building height to apex (m)	4.2
Ground to lower floor level (m)	0.3
Stud Height (m)	2.4
Building Length (m)	8.5
Building Width (m)	7.6
Building Plan Area (m2)	61

Complete Single Floor Column only

Building Location

Wind Zone Very High
Select by Building Consent Authority Map or Preference Very High
Wind Region Preference selected
Lee Zone Preference selected
Ground Roughness Preference selected
Site Exposure Preference selected
Topographic Class Preference selected

Earthquake Zone 2
Soil Type D&E (deep to very soft)
Annual exceedance probability 1/500 (NZS3604:2011 default)

Bracing Units required for Wind

Demand W (BU)			Walls single
along	slab		
across	slab		413

Bracing Units required for Earthquake

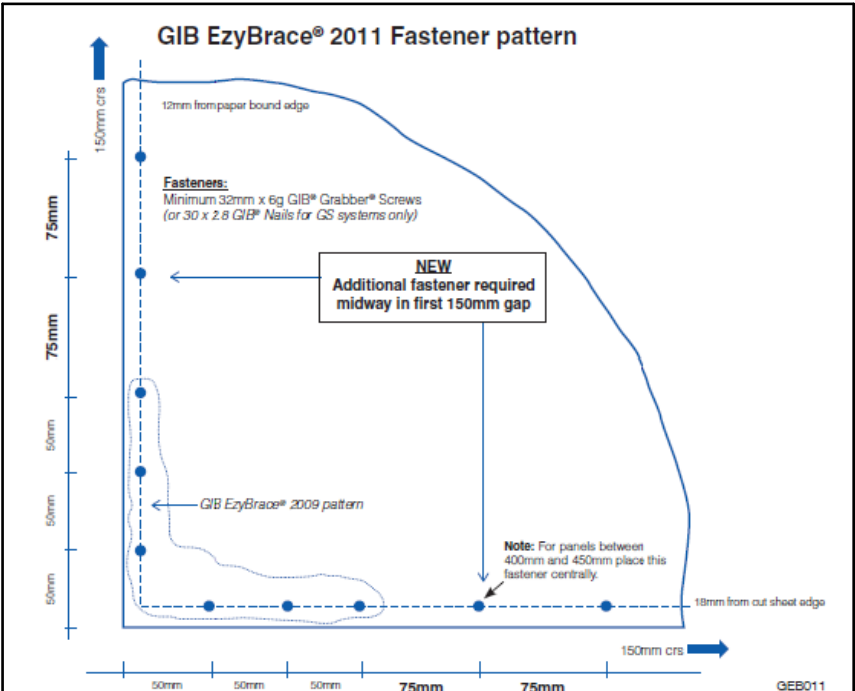
Demand along / across E (BU)	
Walls	
single	
slab	233

SINGLE OR UPPER STOREY WALLS ALONG										V06/11
Lines		Bracing Elements								
1	2	3	4	5	6	7	8	9		10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved		
								W	E	
155	A	1	1.8		2.4	GS1-N	GIB®	124	108	
		2	0.8		2.4	GS1-N	GIB®	49	47	
					2.4	GS1-N	GIB®			
102	B	1	1.7		2.4	GS1-N	GIB®	117	102	
144	C	1	1.2		2.4	GS1-N	GIB®	83	72	
		2	1.2		2.4	GS1-N	GIB®	83	72	

Totals Achieved	W	110%	EQ	172%	456	401
Concrete Slab					OK	OK
Totals Required (from Demand)					413	233

LOWER WALLS ACROSS										V06/11
Lines		Bracing Elements								
1	2	3	4	5	6	7	8	9		10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved		
								W	E	
206	M	1	1.05			BL1-H	GIB®	127	108	
		2	1.05			GS1-N	GIB®	69	63	
		3	0.6			GS1-N	GIB®	34	35	
139	N	1	1.45		2.6	BL1-H	GIB®	171	139	
					2.6	GS1-N	GIB®			
416	O	1	2.1			GS1-N	GIB®	145	126	
		2	2.9			GS1-N	GIB®	200	174	
		3	2.1		2.6	GS1-N	GIB®	134	116	

Totals Achieved	W	#DIV/0!	EQ	#DIV/0!	1601	1388
Timber Floor, design limit of 120 BU/m					accepted	OK
Totals Required (from Demand)						



Panel Hold-down Details

GIB HandiBrac® – RECOMMENDED METHOD

Developed in conjunction with Mittek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and GSP® bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings

Concrete Floor

External walls	Internal walls	Timber Floor	Internal walls
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block

Hold-down fastener requirements

A mechanical fastener with a minimum characteristic uplift capacity of 15kN.

12x150mm galvanised coach screw

Table 1: GIB® Standard Plasterboard Bracing Unit ratings					
Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
GS1-N	0.4	GIB® Standard Plasterboard one side	N/A	W	EQ
	1.2			50	55
GS2-N	0.4	GIB® Standard Plasterboard both sides	N/A	70	60
	1.2			70	65
GSP-H	0.4	GIB® Standard Plasterboard one side plywood the other	Panel hold-down fixings	95	85
	1.2			100	115
				150*	150*

Table 2: GIB Braceline® Bracing Unit ratings					
Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
BL1-H	0.4	GIB Braceline® one side	Panel hold-down fixings	W	EQ
	1.2			90	100
BLG-H	0.4	GIB Braceline® one side GIB® Standard Plasterboard the other	Panel hold-down fixings	125*	105
	1.2			110	115
BLP-H	0.4	GIB Braceline® one side plywood the other	Panel hold-down fixings	150*	145*
	1.2			135*	135*
				150*	150*

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Earthquake Zone: 2

BRACING SINGLE STORY

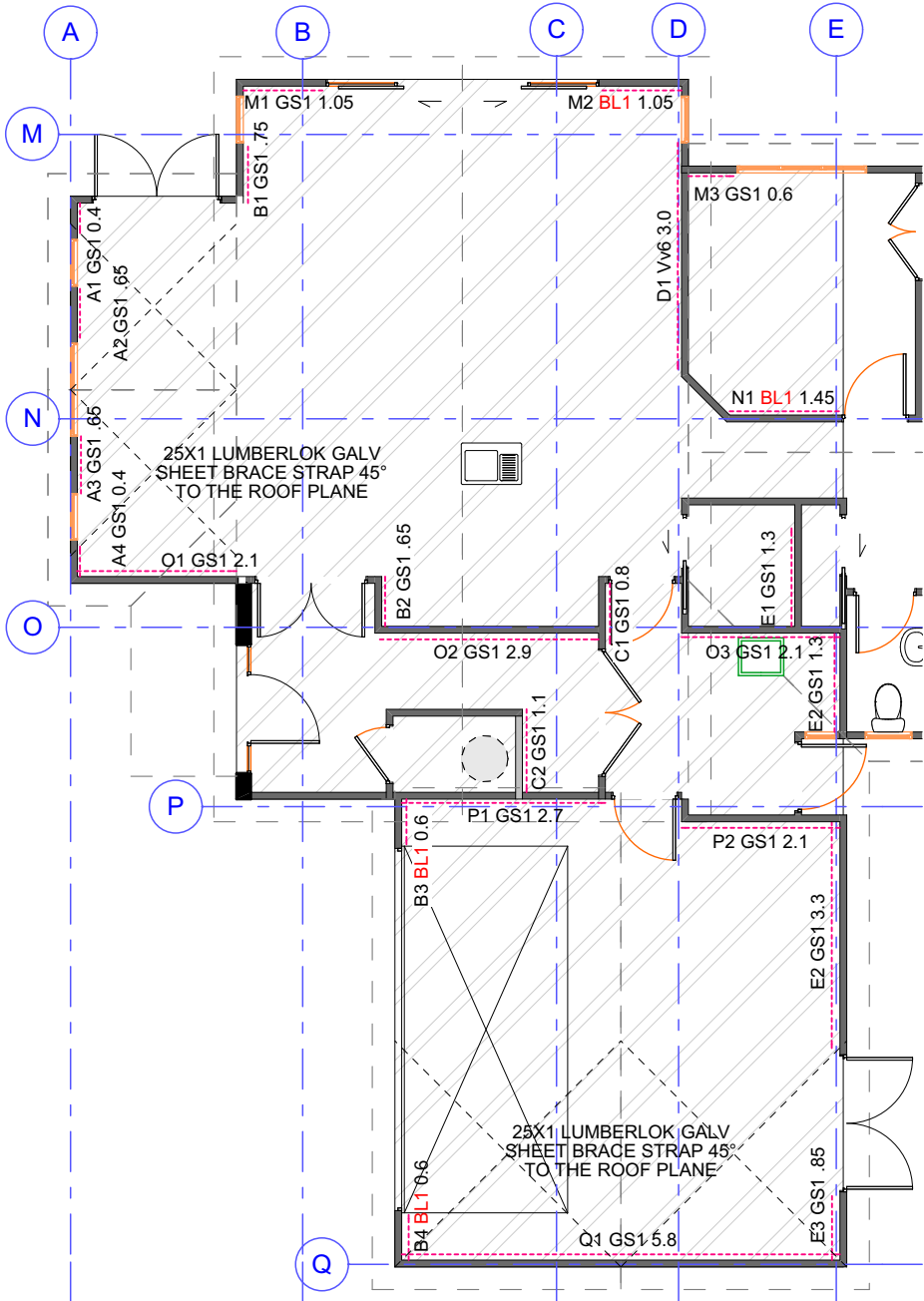
Version	Sales. TONI	QS BG	Sheet
05	Scale. 1:100	Drawn.	12
	Date: 13/06/2016		

Job Number 598

BRACING NOTES

LINE 'A'/BRACE 1 → A1 GS1 2.4
LENGTH
TYPE

BRACING DONE IN ACCORDANCE WITH NZS 3604 2011
-SEE GIB BRACING GUIDE FOR FULL FIXING REQUIREMENTS
-HOLD DOWN CONNECTIONS TO ALL BRACELINE BRACES



BRACING PLAN TWO STORY LOWER

1:100

Building Specification

Number of storeys: two
Floor Loading: 2kPa
Foundation Type: slab

Upper Floor
Cladding Weight: light
Roof Weight: light
Room in Roof Space: no
Roof Pitch (degrees): 30
Roof height above eaves (m): 2.0
Building height to apex (m): 6.8
Ground to lower floor level (m): 0.3

Lower Floor
Cladding Weight: light
Roof Weight: light
Room in Roof Space: no
Roof Pitch (degrees): 20
Roof height above eaves (m): 1.3
Building height to apex (m): 6.8
Ground to lower floor level (m): 0.3

check heights, storey less than 2 m

Lower Floor
Lower to upper floor level (m): 3.0
Stud Height (m): 2.6
Building Length (m): 16.0
Building Width (m): 10.2
Building Plan Area (m2): 123

Building Location

Wind Zone: Very High
Select by Building Consent Authority Map: Very High
or Preference: Preference selected
Wind Region: Preference selected
Lee Zone: Preference selected
Ground Roughness: Preference selected
Site Exposure: Preference selected
Topographic Class: Preference selected

Earthquake Zone: 2
Soil Type: D&E (deep to very soft)
Annual exceedance probability: 1/500 (NZS3604:2011 default)

Bracing Units required for Wind

Demand W (BU)	along	slab	lower	Walls upper
			1036	351
			1476	462

Bracing Units required for Earthquake

Demand along / across E (BU)	Walls	lower	upper
	slab	1021	298

LOWER WALLS ALONG									V0611	
Lines		Bracing Elements								
1 Line Total Check	2 Line Label	3 Bracing Element No.	4 Available Wall Length L (m)	5 Angle to Bracing line (degrees)	6 Element Height H (m)	7 Bracing Type	8 Supplier	9 Bracing Units Achieved		
								W	E	
109	A	1	0.4		2.6	GS1-N	GIB®	20	21	
		2	0.65		2.6	GS1-N	GIB®	35	35	
		3	0.65		2.6	GS1-N	GIB®	35	35	
		4	0.4		2.6	GS1-N	GIB®	20	21	
					2.6	GS1-N	GIB®			
186	B	1	0.75		2.6	GS1-N	GIB®	42	41	
		2	0.65		2.6	GS1-N	GIB®	35	35	
		3	0.6		2.6	BL1-H	GIB®	55	56	
		4	0.6		2.6	BL1-H	GIB®	55	56	
					2.6	GS1-N	GIB®			
113	C	1	0.8		2.6	GS1-N	GIB®	49	47	
		2	1.1		1.2	GS1-N	GIB®	74	66	
271	D	1	3		2.6	Vv6	Hardies	346	271	
						BL1-H	GIB®			
404	E	1	1.3		2.4	GS1-N	GIB®	90	78	
		2	1.3		2.4	GS1-N	GIB®	90	78	
		3	3.3		2.4	GS1-N	GIB®	228	198	
		4	0.85		2.4	GS1-N	GIB®	53	50	

Totals Achieved: W 120%, EQ 107%, Wind 1223, Earthq. 1090
Concrete Slab
Totals Required (from Demand): W 1023, Earthq. 1016

LOWER WALLS ACROSS

V06/11

Lines		Bracing Elements									
1	2	3	4	5	6	7	8	9		10	
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved			
								W	E		
193	M	1	1.05		2.6	GS1-N	GIB®	64	58		
		2	1.05		2.6	BL1-H	GIB®	117	100		
		3	0.6		2.4	GS1-N	GIB®	34	35		
151	N	1	1.45		2.4	BL1-H	GIB®	186	151		
					2.6	GS1-N	GIB®				
416	O	1	2.1		2.6	GS1-N	GIB®	134	116		
		2	2.9		2.4	GS1-N	GIB®	200	174		
		3	2.1		2.4	GS1-N	GIB®	145	126		
266	P				2.6	GS1-N	GIB®				
		1	2.7		2.6	GS1-N	GIB®	172	150		
		2	2.1		2.6	GS1-N	GIB®	134	116		
321	Q	1	5.8		2.6	GS1-N	GIB®	369	321		

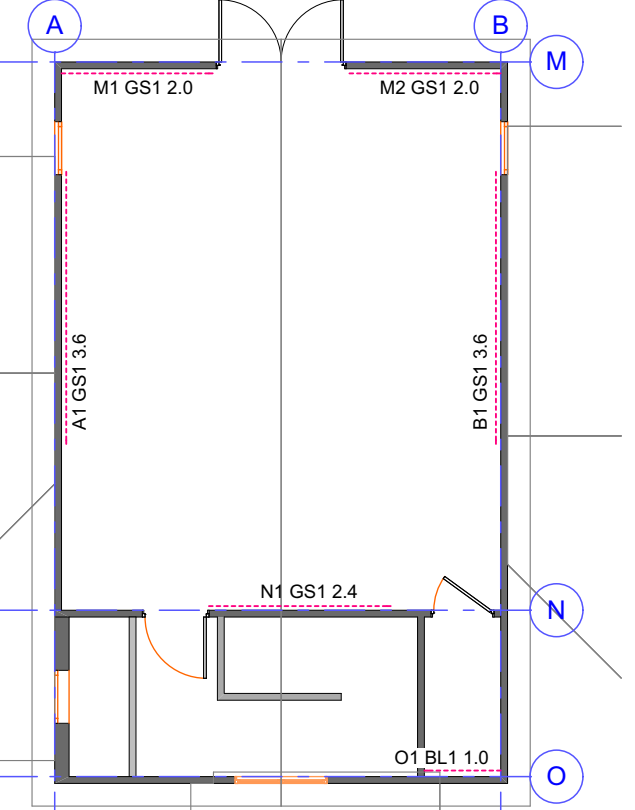
Totals Achieved: W 106%, EQ 133%, Wind 1555, Earthq. 1347
Concrete Slab
Totals Required (from Demand): W 1469, Earthq. 1016

SINGLE OR UPPER STOREY WALLS ALONG										V06/11	
Lines			Bracing Elements								
1	2	3	4	5	6	7	8	9		10	
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved			
								W	E		
216	A	1	3.6		1.4	GS1-N	GIB®	248		216	
216	B	2	3.6		1.4	GS1-N	GIB®	248		216	

Totals Achieved: W 142%, EQ 147%, Wind 497, Earthq. 432
Timber Floor, design limit of 120 BU/m
Totals Required (from Demand): W 351, Earthq. 293

SINGLE OR UPPER STOREY WALLS ACROSS										V06/11	
Lines				Bracing Elements							
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	5	6	7	8	9		10	
				Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved			
								W	E		
240	M	1	2		1.7	GS1-N	GIB®	138		120	
		2	2		1.7	GS1-N	GIB®	138		120	
						GS1-N	GIB®				
144	N	1	2.4		2.4	GS1-N	GIB®	166		144	
					2.4	BL1-H	GIB®				
103	O	1	1		1.8	BL1-H	GIB®	118		103	

Totals Achieved: W 119%, EQ 166%, Wind 560, Earthq. 487
Timber Floor, design limit of 120 BU/m
Totals Required (from Demand): W 471, Earthq. 293



BRACING PLAN TWO STORY UPPER

1:100

Orange Residential HOMES

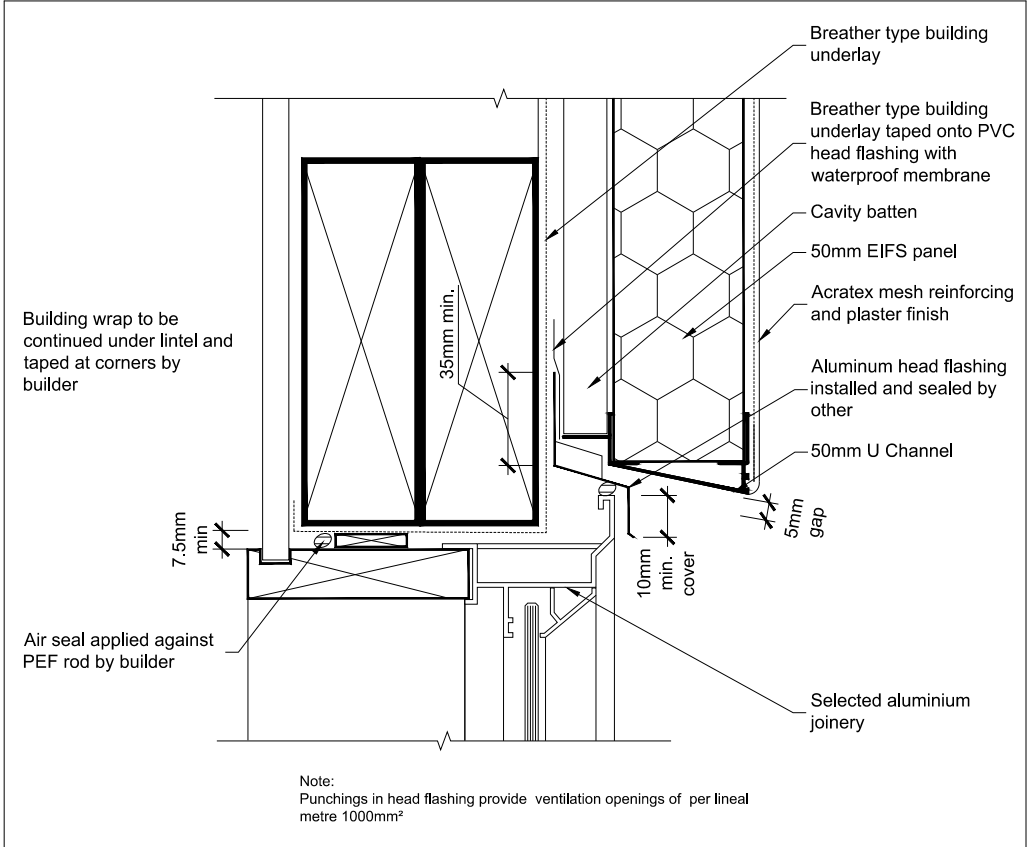
Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax: +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client: Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

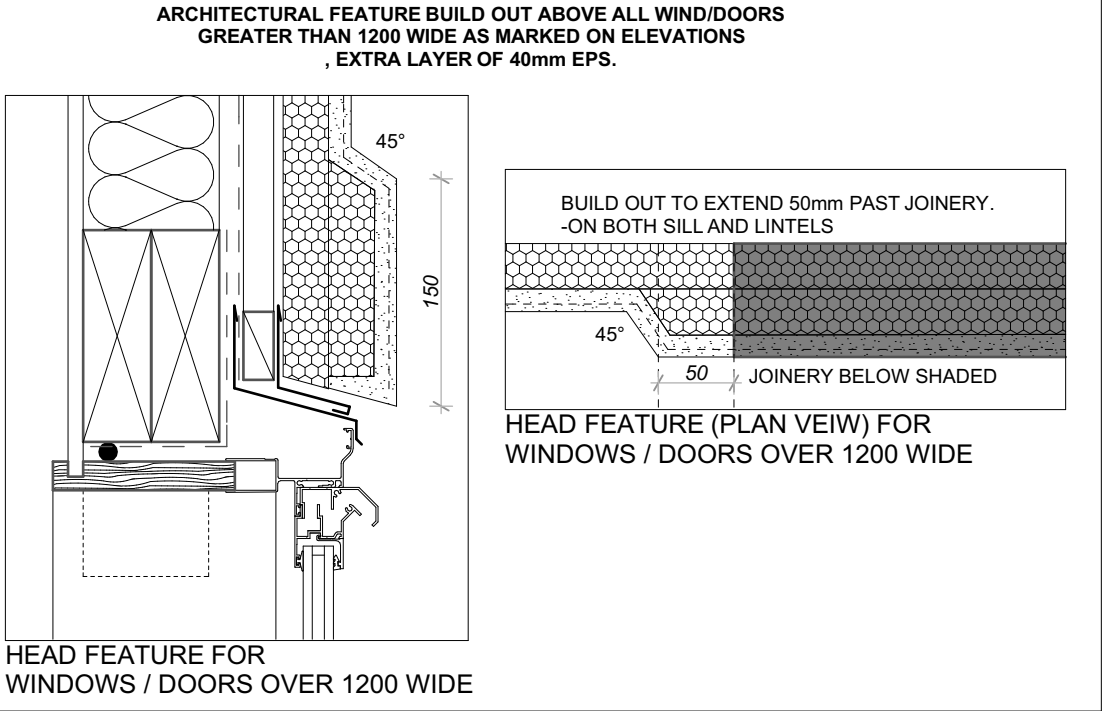
Project Information
Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

BRACING PLAN TWO STORY

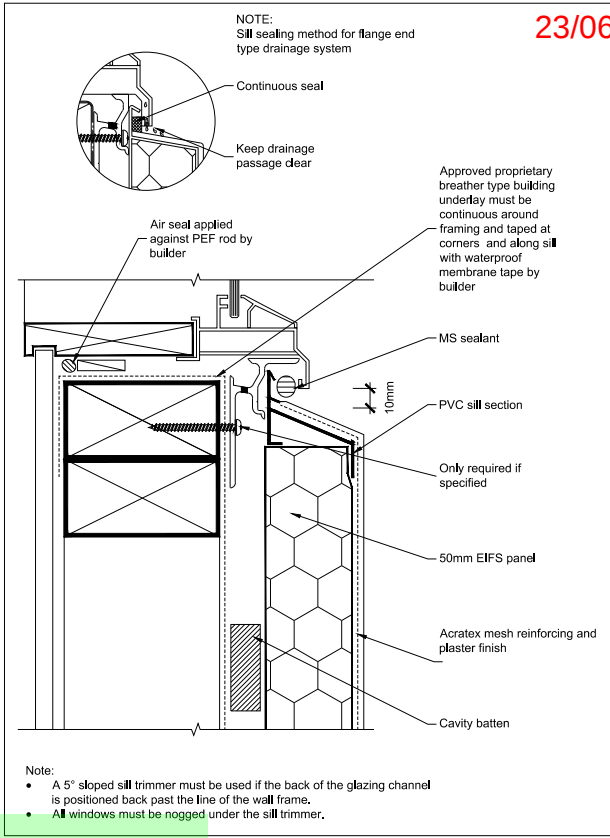
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Sales: TONI
Scale: 1:200
Date: 13/06/2016
Sheet: BG
13
Job Number: 598



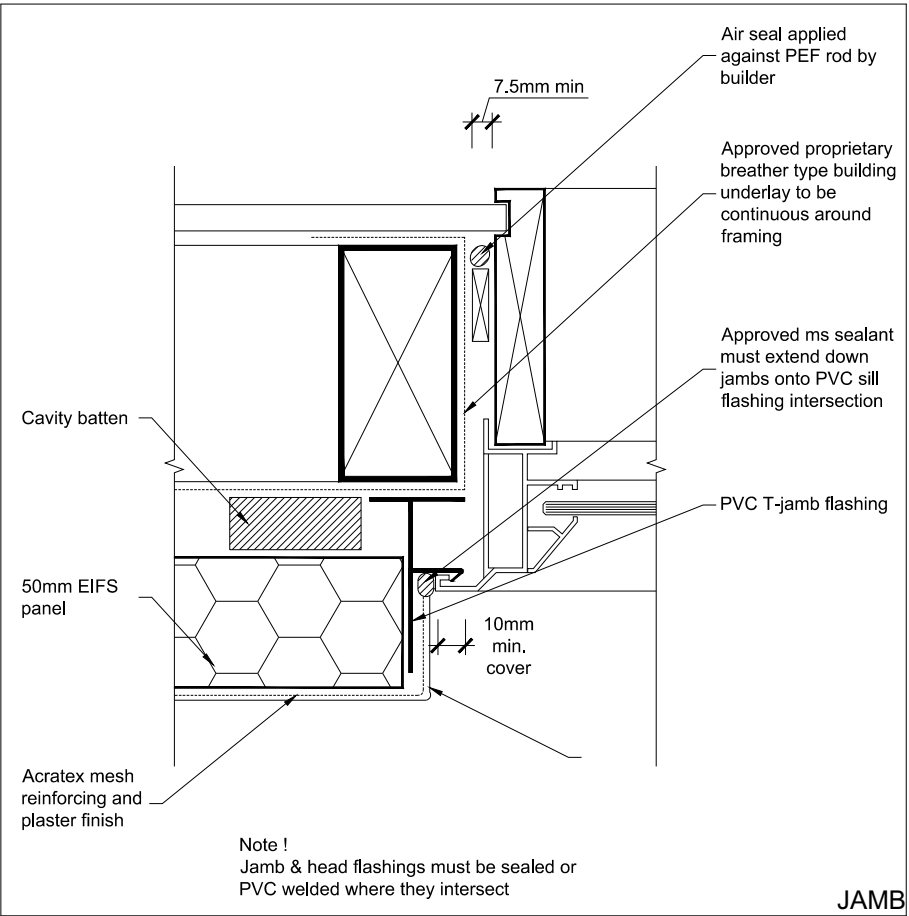
HEAD
SEE ARCHITECTURAL FEATURE



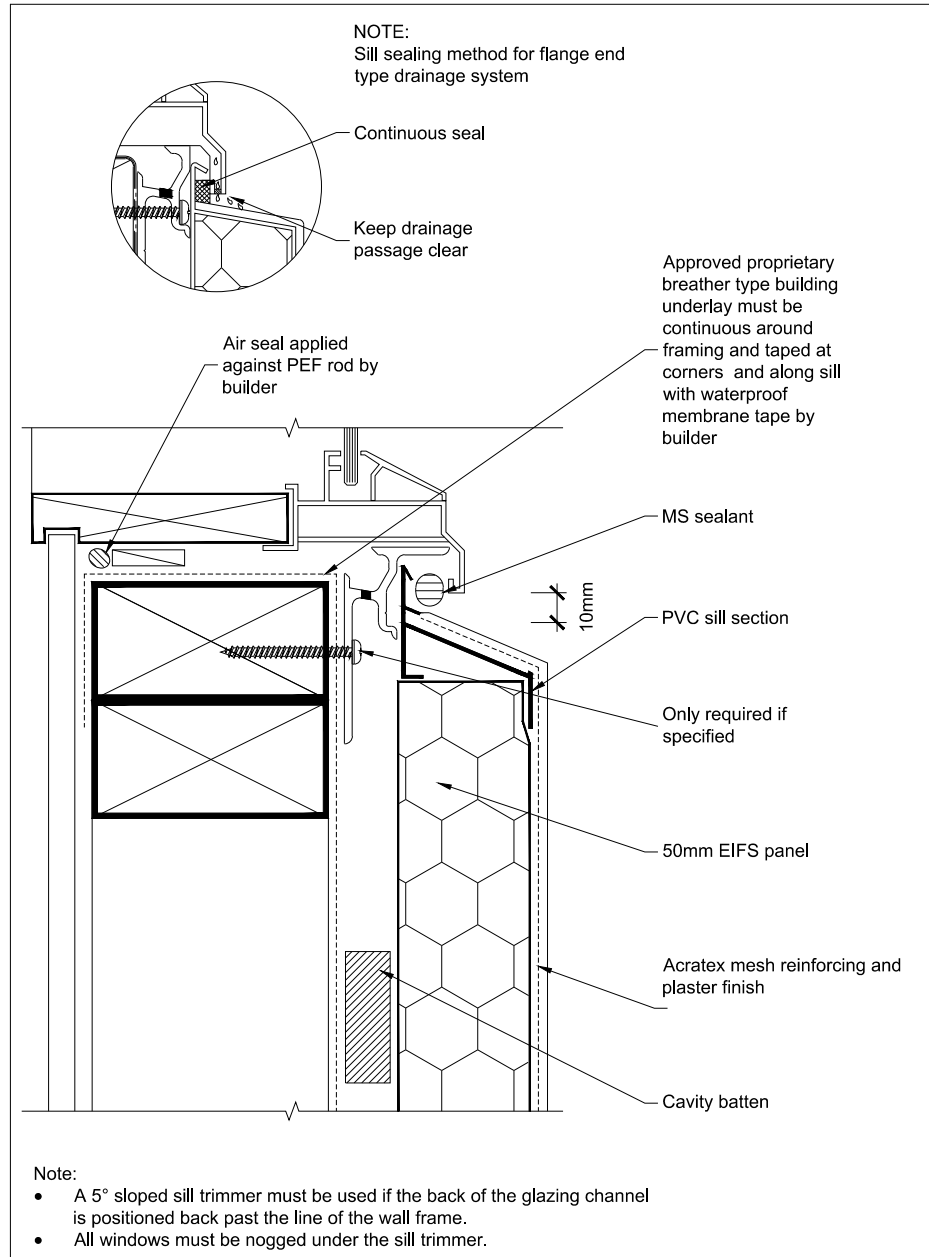
HEAD FEATURE FOR
WINDOWS / DOORS OVER 1200 WIDE



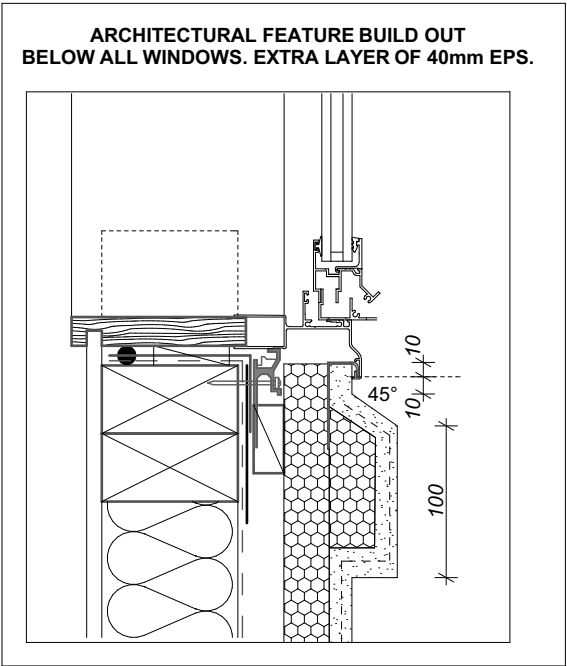
WINDOW SILL



JAMB



DOOR SILL
SEE ARCHITECTURAL FEATURE





Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
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Project Information

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Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

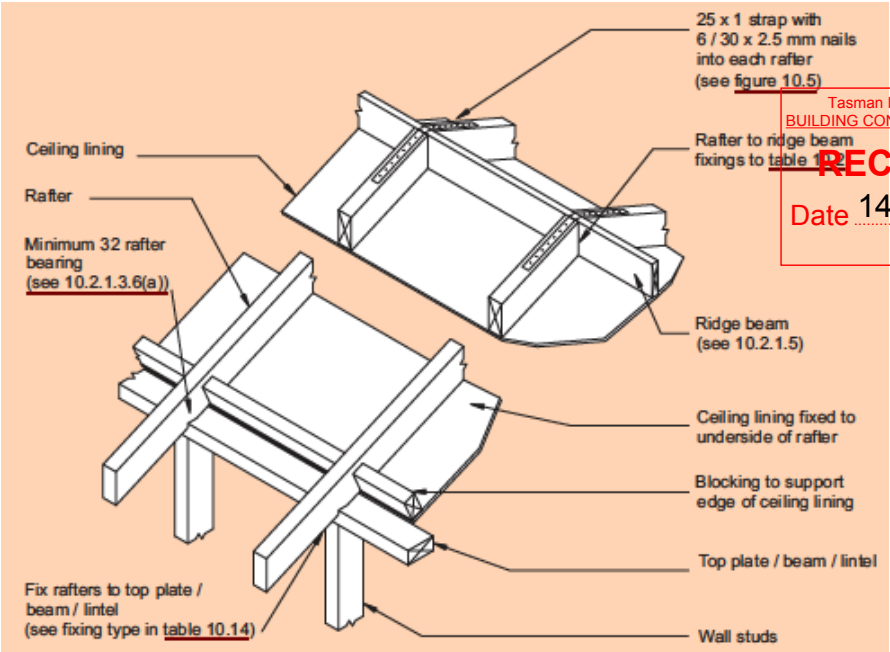
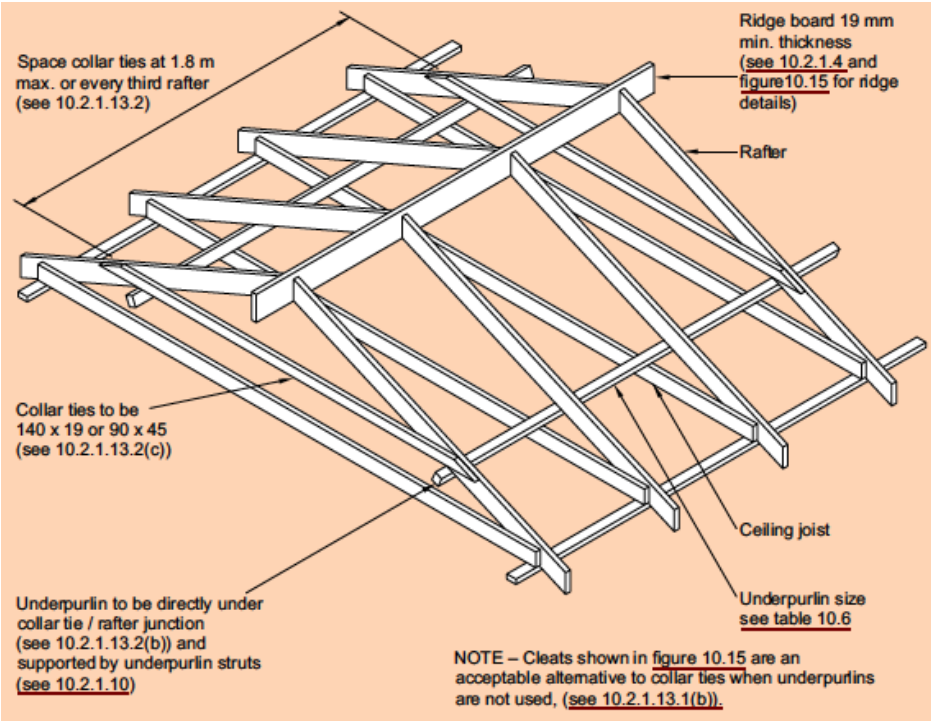
Earthquake Zone: 2

CLADDING DETAILS

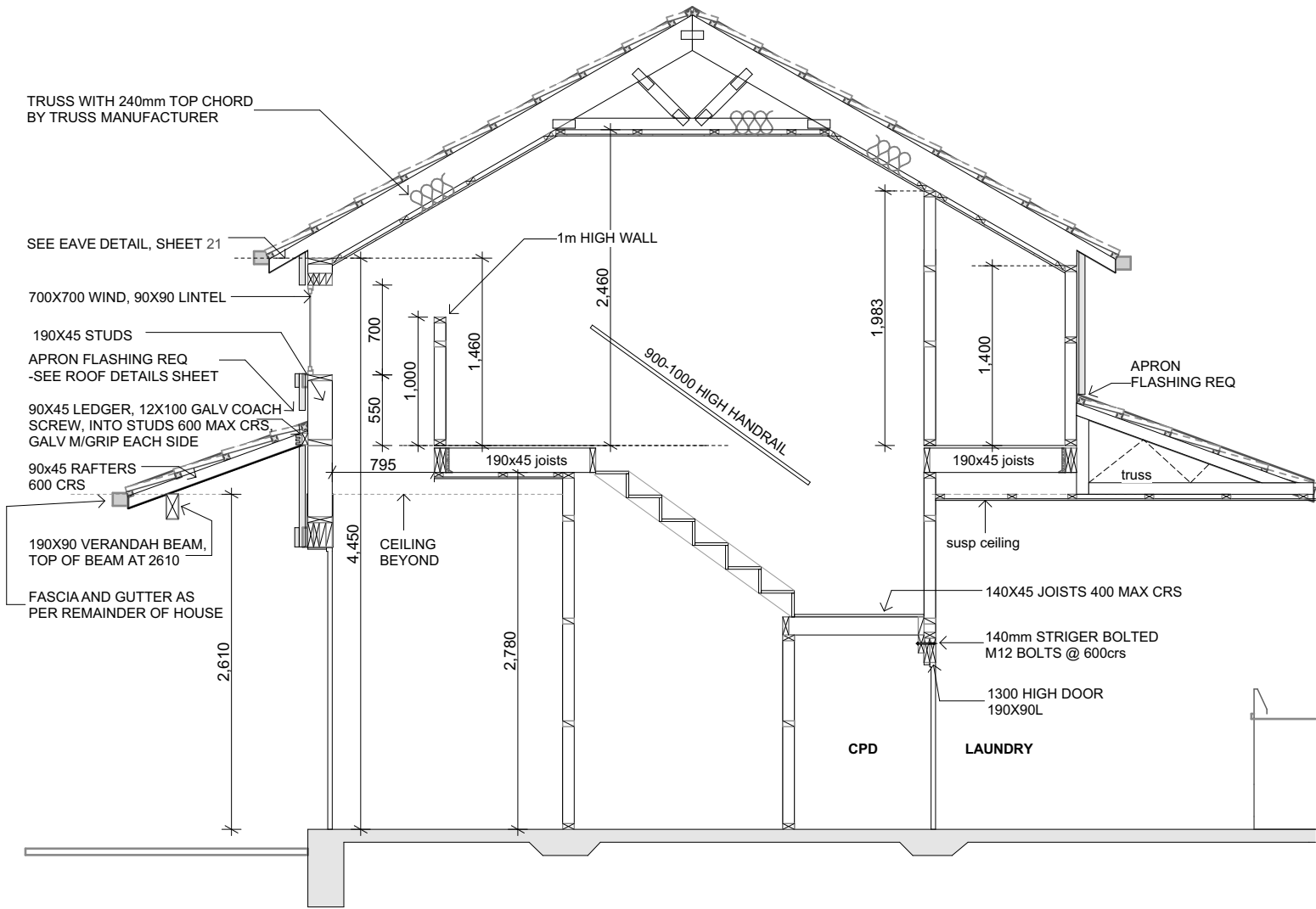
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	1:200		
	Date:		
	13/06/2016		

Job Number

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Tasman District Council
BUILDING CONSENT AUTHORITY
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Date 14/06/16



SECTION C-C

1:50



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Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
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Wind Zone: Very High

Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

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05	TONI	BG	22
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Job Number

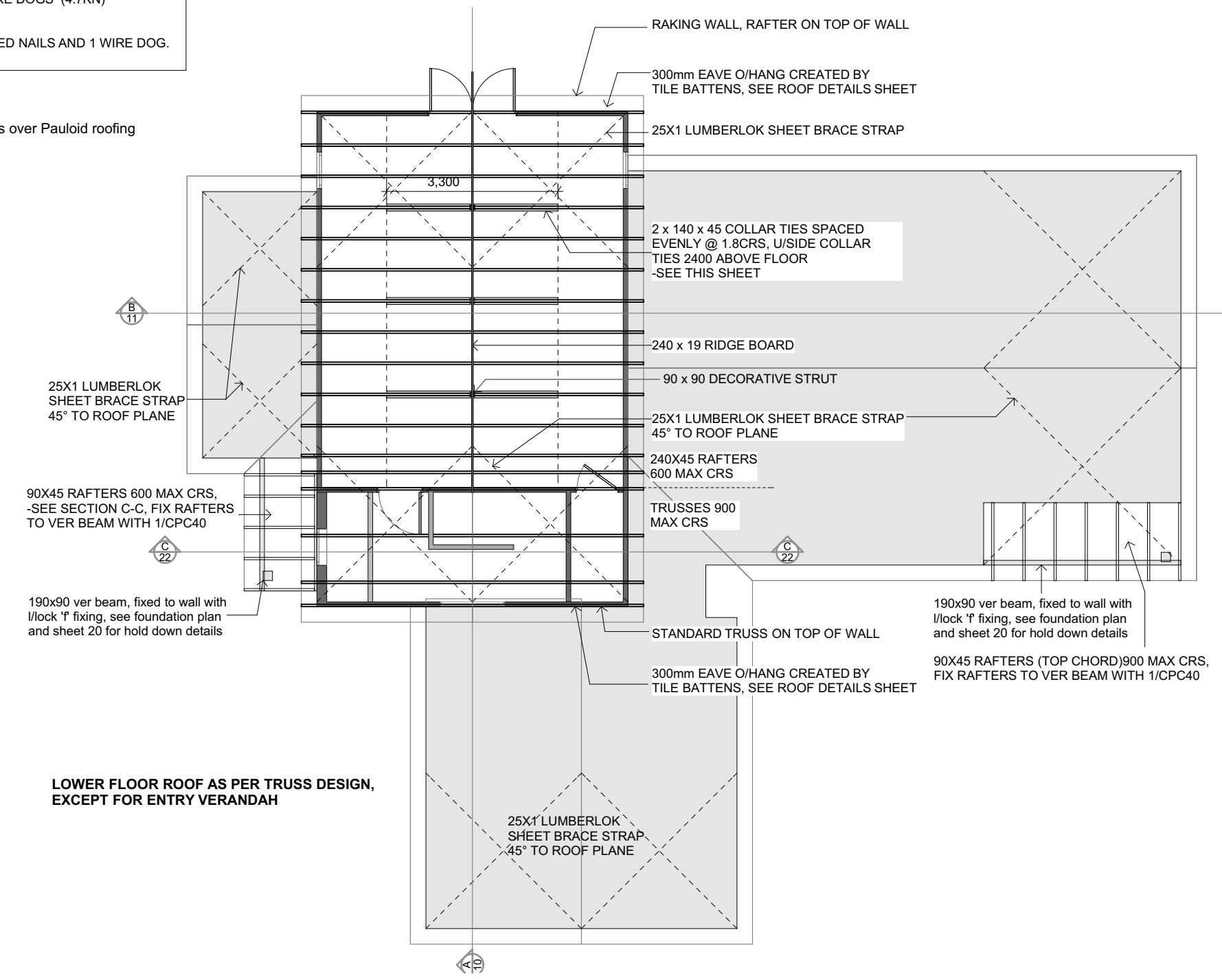
598

ROOF FRAMING NOTES
-CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING CONSTRUCTION.

-TIMBER LINTEL AND RAFTER SIZES DETERMINED USING SG8 TABLES TAKEN FROM NZS 3604 2011
-MAIN MEMBERS ONLY SHOWN FOR CLARITY -PROVIDE ADDITIONAL FRAMING FOR PERIMETERS, SHEET JOINTS ETC. AS REQUIRED.
-WHERE TIMBER MEMBERS END CONNECT (BEAMS JOISTS ETC.) WITHOUT BEARING USE LUMBERLOK JOIST HANGERS OR MULTIGRIP CONNECTERS AS REQUIRED.

FIXINGS
VERY HIGH WIND ZONE
RAFTERS TO TOP PLATE WITH 2/100X3.75 SKEWED NAILS AND 2 WIRE DOGS (4.7KN)
BATTENS TO RAFTERS WITH 1/100mm POWER DRIVEN NAIL
TRUSSES FIXED AS PER TRUSS MANUFACTURERS SPEC
LOAD BEARING WALL TOP PLATE TO STUDS WITH 2/100X3.75 SKEWED NAILS AND 1 WIRE DOG.
FOR RAFTERS AT VERANDAHS SEE SHEET 20

ENTIRE ROOF
-'Roman'pressed metal tile over 50x40 battens at 450mm max crs over Pauloid roofing underlay over trusses at 900mm max crs by approved fabricator



ROOF PLAN

1:100

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

Tasman District Council
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Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
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Fax +64 3 543 9008
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Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

ROOF FRAMING PLAN

Version	Sales. TONI	QS BG	Sheet
05	Scale. 1:200	Drawn.	23
	Date: 13/06/2016		
	Job Number		

598



survey point



010203040

Meters

N

13 June 2016

This map is an approximation of the terrain only and must not be used to determine the location or size of a plot or to identify legal boundaries. To the extent permitted by law, the Tasman District Council and Nelson City Council, their employees, agents and contractors will not be liable for any costs, damages or loss suffered as a result of the data or plan, and no warranty or representation of any kind is given in relation to the data or plan. The data or plan is provided as a guide only and is not to be used for any purpose other than that for which it was intended. Attribution 3.0 New Zealand License, and the use of any data or plan or any information downloaded must be in accordance with the terms of that licence. For more information please contact us. Cadastral and NZ Topo50 related data is sourced from Land Information New Zealand

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Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

SITE DATUM

Version	Sales.	QS	Sheet
05	TONI	BG	27
	Scale.	Drawn.	
	Date:	13/06/2016	

Job Number

598

01

BC160489

01	SHEET INDEX
02	SITE PLAN
03	FOUNDATION PLAN
04	FOUNDATION PLAN UPPER
05	DRAINAGE PLAN
06	FLOOR PLAN
07	FIRST FLOOR PLAN
08	ELEVATIONS
09	ELEVATIONS
10	SECTION A-A
11	SECTION B-B
12	BRACING SINGLE STORY
13	BRACING PLAN TWO STORY
14	FOUNDATION DETAILS CONC SLAB
15	FOUNDATION DETAILS
16	CLADDING DETAILS
17	CLADDING DETAILS
18	CLADDING DETAILS
19	STEEL BEAM DETAILS
20	DECK DETAILS
21	ROOF DETAILS
22	UPPER ROOF DETAILS, SECT C-C
23	ROOF FRAMING PLAN
24	LINTEL FIXINGS
25	PERGOLA DETAILS





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20/30° Pressed Metal Tile

Walls:

Dulux Acratex plater System

Feature Walls:

N/A

Wind Zone:

Very High

Snow Region:

N3

Durability Zone:

C

Earthquake Zone:

2

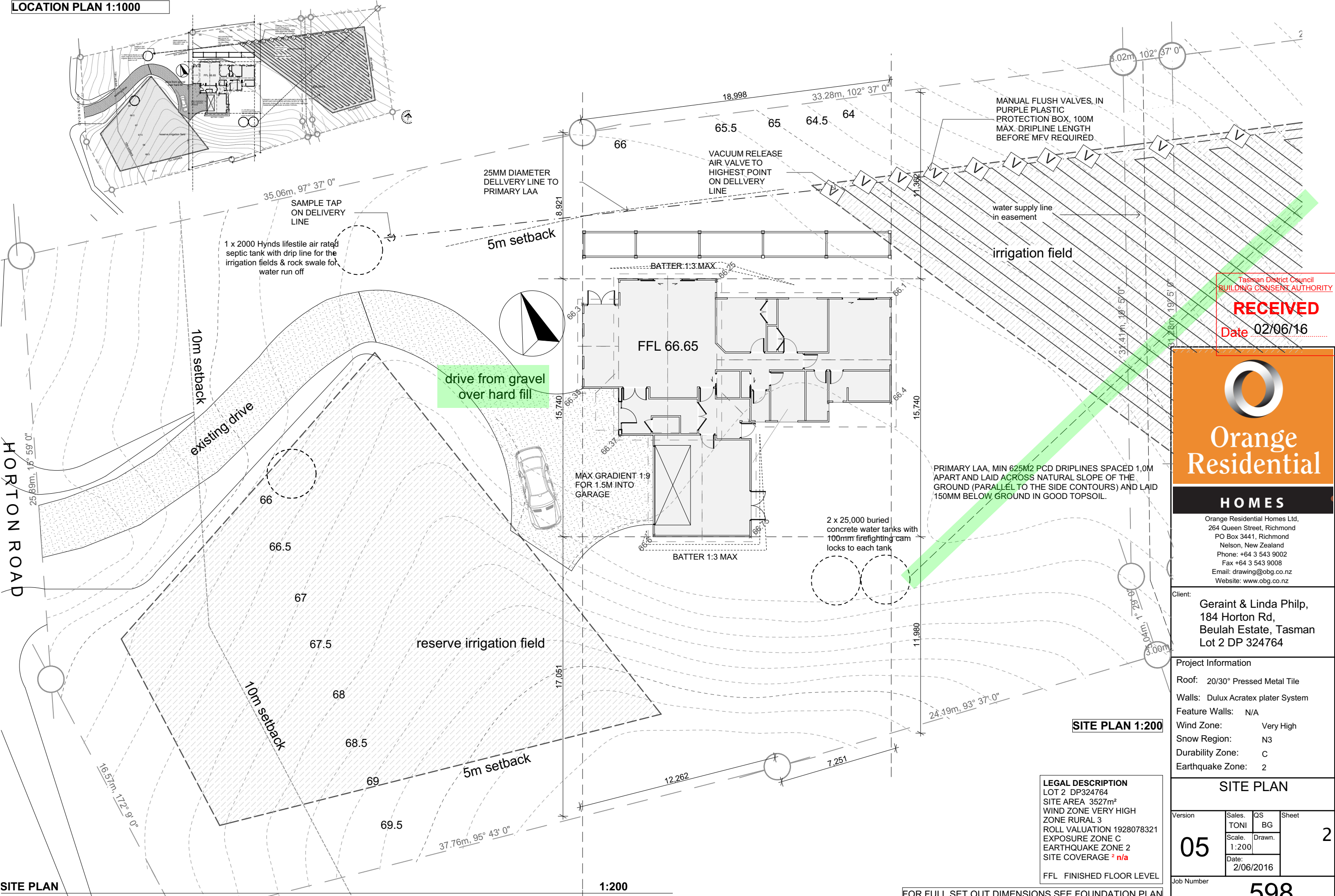
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Version	Sales. TONI	QS BG	Sheet
05	Scale. 1:1, 1	Drawn.	1 i4
	Date: 4/05/2016		

Job Number

598

LOCATION PLAN 1:1000



SITE PLAN

1:200

SITE PLAN 1:200

LEGAL DESCRIPTION
LOT 2 DP324764
SITE AREA 3527m²
WIND ZONE VERY HIGH
ZONE RURAL 3
ROLL VALUATION 1928078321
EXPOSURE ZONE C
EARTHQUAKE ZONE 2
SITE COVERAGE 2 n/a
FFL FINISHED FLOOR LEVEL

FOR FULL SET OUT DIMENSIONS SEE FOUNDATION PLAN

Tasman District Council
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Date 02/06/16



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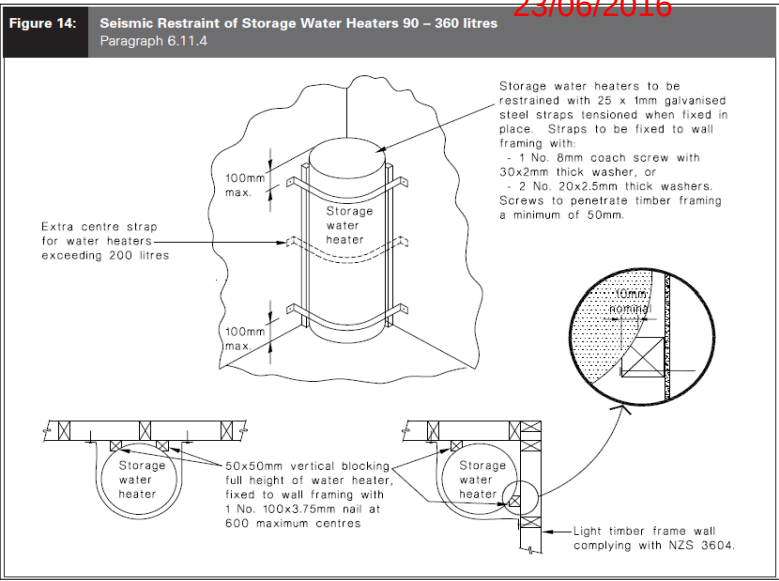
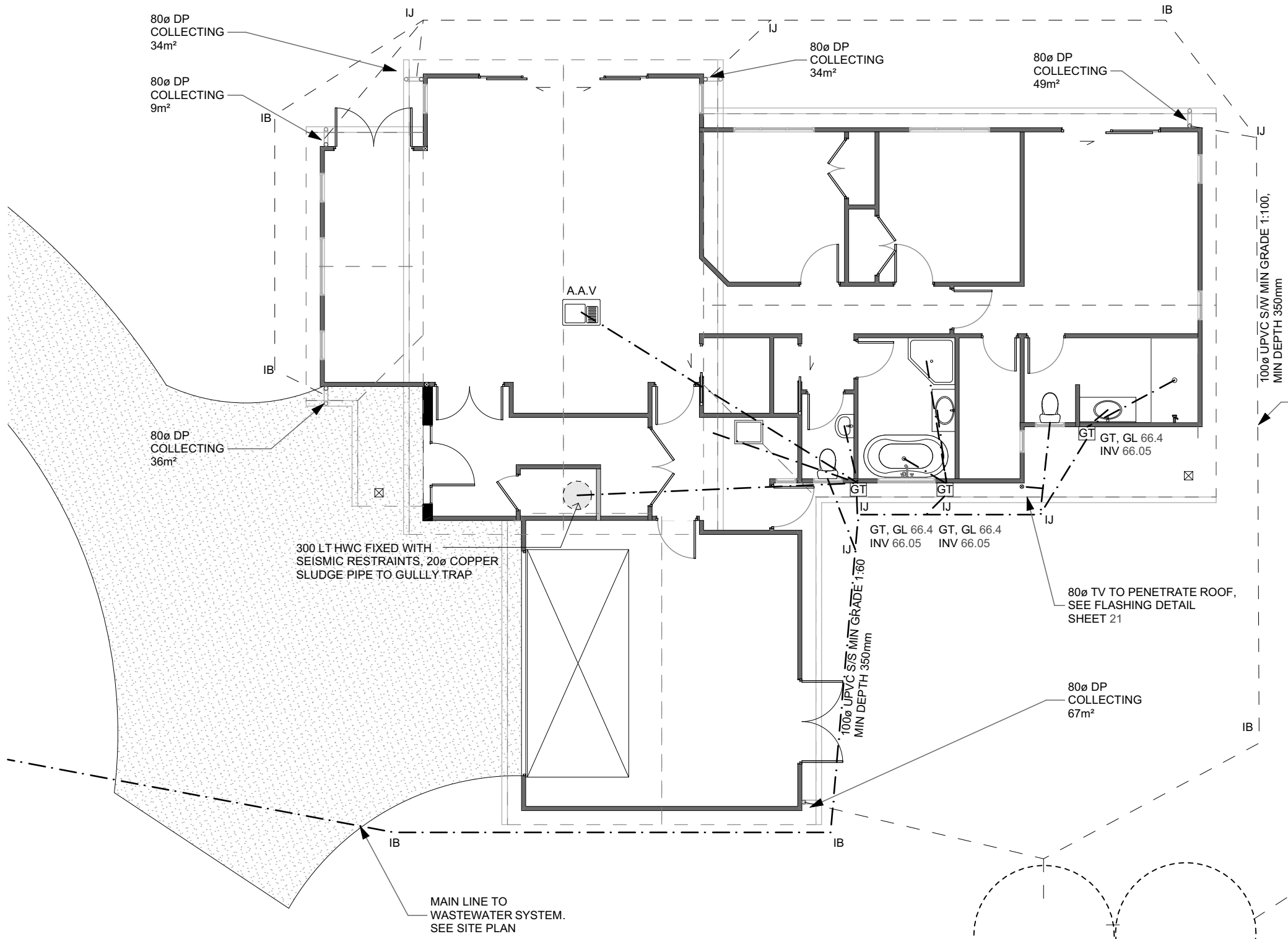
Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

SITE PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	2
	Scale.	Drawn.	
	1:200		
	Date:		
	2/06/2016		

Job Number

598



MAIN LINE TO S/W TANKS. SEE SITE PLAN

100ø OVERFLOW TO RUN TO NATURAL WATER COURSE. PROTECT OUTLET OF PIPE WITH 150-200mm ROCKS TO PREVENT SCOURING. 100ø UPVC S/W MIN GRADE 1:100, MIN DEPTH 350mm

DRAINAGE NOTES	
-----	SEWER LINE
- - - - -	STORMWATER LINE
GT - GULLY TRAP	
TV - TERMINAL VENT	
DP - DOWN PIPE	
IJ - INSPECTION JOIN	
IB - INSPECTION BEND	
WASTE SIZES	MIN GRADIENT
WC'S 100ø	1:60
SHOWERS 40ø	1:40
BATH 40ø	1:40
BASINS/SINK 40ø	1:40

WASTEWATER DESIGNED TO G13 FOUL WATER ACCEPTABLE SOLUTION AS1 SANITARY PLUMBING.
STORMWATER DESIGNED TO E1AS1 SURFACE WATER.

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Lot 2 DP 324764

Project Information

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Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

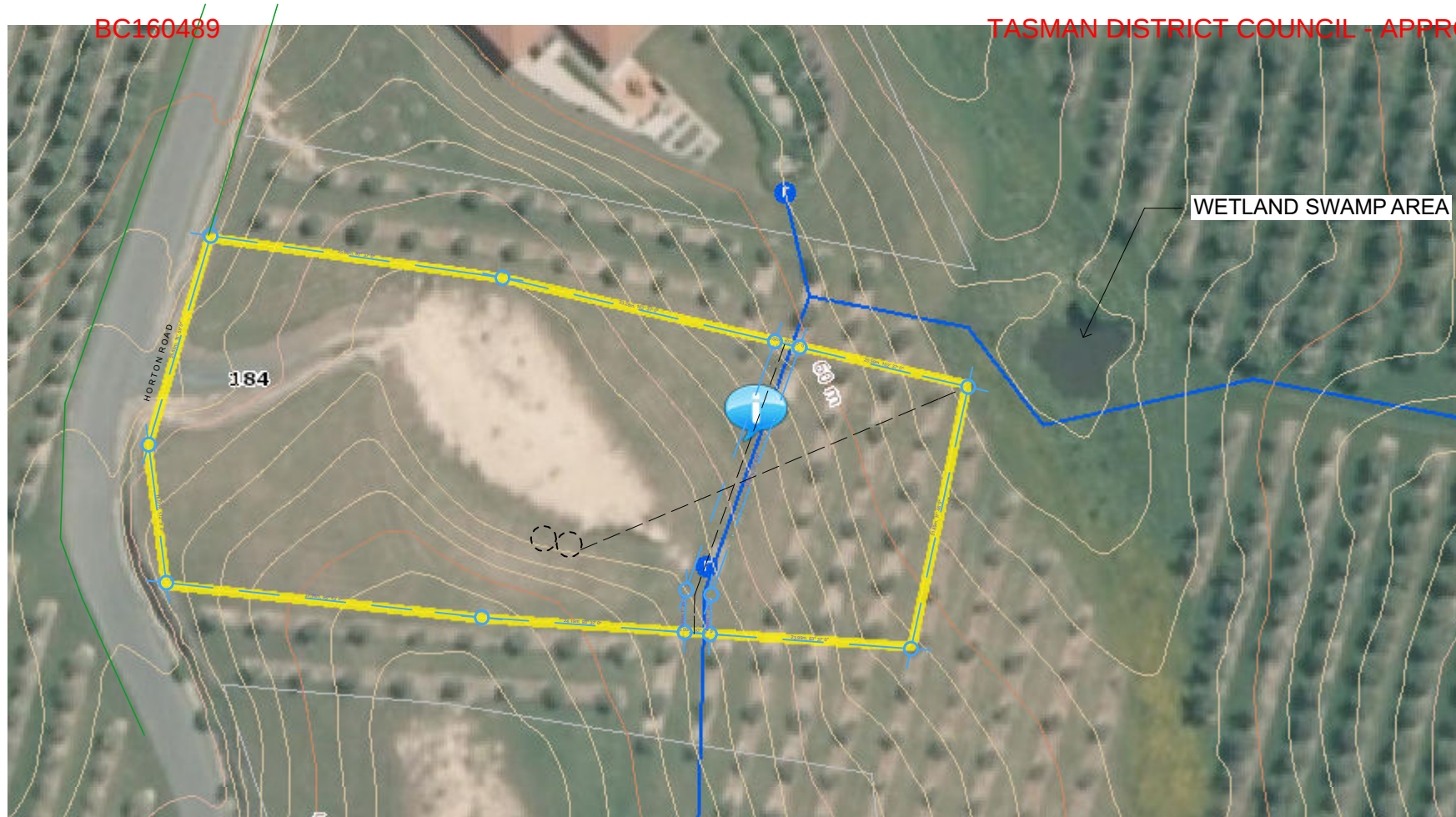
Durability Zone: C

Earthquake Zone: 2

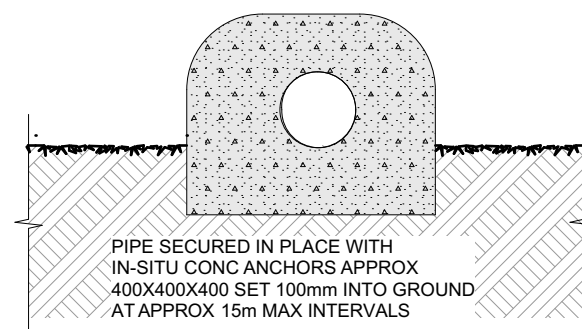
DRAINAGE PLAN

Version	Sales. TONI	QS BG	Sheet
05	Scale.	Drawn.	5
	1:200		
	Date:	2/06/2016	

Job Number 598



GIS IMAGE SHOWING STORMWATER TO NATURAL WATERCOURSE I.E. WETLAND SWAMP AREA



* PURPOSE OF THE OUTLET IS TO AVOID SCOURING
FROM THE CONCENTRATION OF WATER, BUILDING INSPECTOR
TO INSPECT LOCATION AND CONFIRM SUITABILITY PRIOR TO CONSTRUCTION

100Ø ALKATHENE PIPE FROM
STORMWATER IN HOUSE

ROCKS AROUND OUTLET
TO ENSURE WATER FLOWS
OVER ROCK INTO CREEK

EXISTING SWAMP WETLAND AREA

SECTION

STORMWATER PIPE OUTLET

1:10

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Date 02/06/16



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Orange Residential Homes Ltd,
264 Queen Street, Richmond
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Project Information

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Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

**STORMWATER RUN
OFF**

Version	Sales.	QS	Sheet
05	TONI	BG	26
	Scale.	Drawn.	
	1:1, 1		
	Date:	2/06/2016	

Job Number

598

Wind Uplift Resistance Calculations
-VERANDAH BEAMS

Area of roof supported by post - 1.9m²
Conc. required at base - 0.13m³
Footing required 500x500x500mm
Post to lintel connection req. 4.0kN
2/12mm BOLTS SUPPLY 6.8KN

CONTROL JOINTS

25mm deep saw cuts as shrinkage control joints,
bay dimensions not to exceed 1:2 and not more than 6m at exposed
concrete

WANZ BAR

WANZ BAR USED IN SUPPORT OF DOOR JOINERY

2 x D12 bars

1.2 m long at each internal corner (without saw cuts)

BUILD OUT SLAB

70mm at doors to suit selected door joinery profile
and rebate 20mm as per detail

FOUNDATION NOTES

ALL WORK TO COMPLY WITH TERRITORIAL AUTHORITY
REQUIREMENTS AND THE RELEVANT SECTIONS OF THE
NEW ZEALAND BUILDING CODE NZS 3604 2011.
CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR
TO COMMENCING CONSTRUCTION.
FOUNDATIONS TO BEAR IN FIRM, UNDISTURBED SUBSOILS -
NOTIFY A STRUCTURAL ENGINEER IF ANY SOFT SUBSOILS
ARE ENCOUNTERED.

CONC FOOTINGS

CONC FOOTING TO BE MIN 20 mpa AT 28 DAYS

CONCRETE REINFORCING

Fletcher Reinforcing Super Ductile 500E seismic grade reinforcing
mesh to comply with AS/NZS 4671:2001-
place to within 75mm of slab edge,
lap sheets at ends and on sides by 225mm
provide cover to all steel work:
30mm top cover to mesh
50mm against any formwork
75mm from ground
if specific design please confirm with engineer as to strength of floor
slab concrete, footings etc

PLUMBING SET OUT

plumbing fixture dimensions are to slab edge
sink/tub vanity dimensions are to centre of unit
confirm bath waste position against bath type
wc dimensions are to back of unit
confirm shower waste position against shower type

OPTIONS FOR UNDER PERGOLA
OPTION 1)PAVERS ON CONC SLAB, 50m2
-SLAB TO HAVE SE662 MESH, FORMED EDGE, NO
STEEL REQUIRED IN FOOTING/EDGE
OPTION 2)CUT CONCRETE 50m2
-SLAB TO HAVE SE662 MESH, FORMED EDGE, NO
STEEL REQUIRED IN FOOTING/EDGE

ALL PERGOLA POSTS 180X180 H5 BANDSAWN
POST IN MIN 300 x 300 x 300D CONC FOOTING TO
GOOD GROUND, 2 POSTS TO SUPPORT DECK

100MM THICK 20MPA (UNLESS OTHERWISE
STATED) CONCRETE SLAB REINFORCED WITH
SE62 500E SEISMIC GRADE REINFORCING
MESH

750X750X300 DEEP SLAB THICKENING
WITH 4XD12 EACH WAY
-SEE DETAIL SHEET 15

180X180 H5 BANDSAWN POST IN 500 x 500
x 500D CONC FOOTING. AREA OF ROOF
SUPPORTED AGAINST UPLIFT 1.1M²

DRIVEWAY AT GARAGE DOOR OPENING TO BE
50MM BELOW FFL, 180MM WIDE REBATE 30MM
DEEP INSIDE SLOPING TO 50MM DEEP
OUTSIDE

20 MPA SOLID BEARING CONCRETE FOOTING MIN. 300MM
DEEP INTO SOLID BEARING MATERIAL

FOUNDATION PLAN

1:100



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HOMES

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Wind Zone: Very High

Snow Region: N3

Durability Zone: C

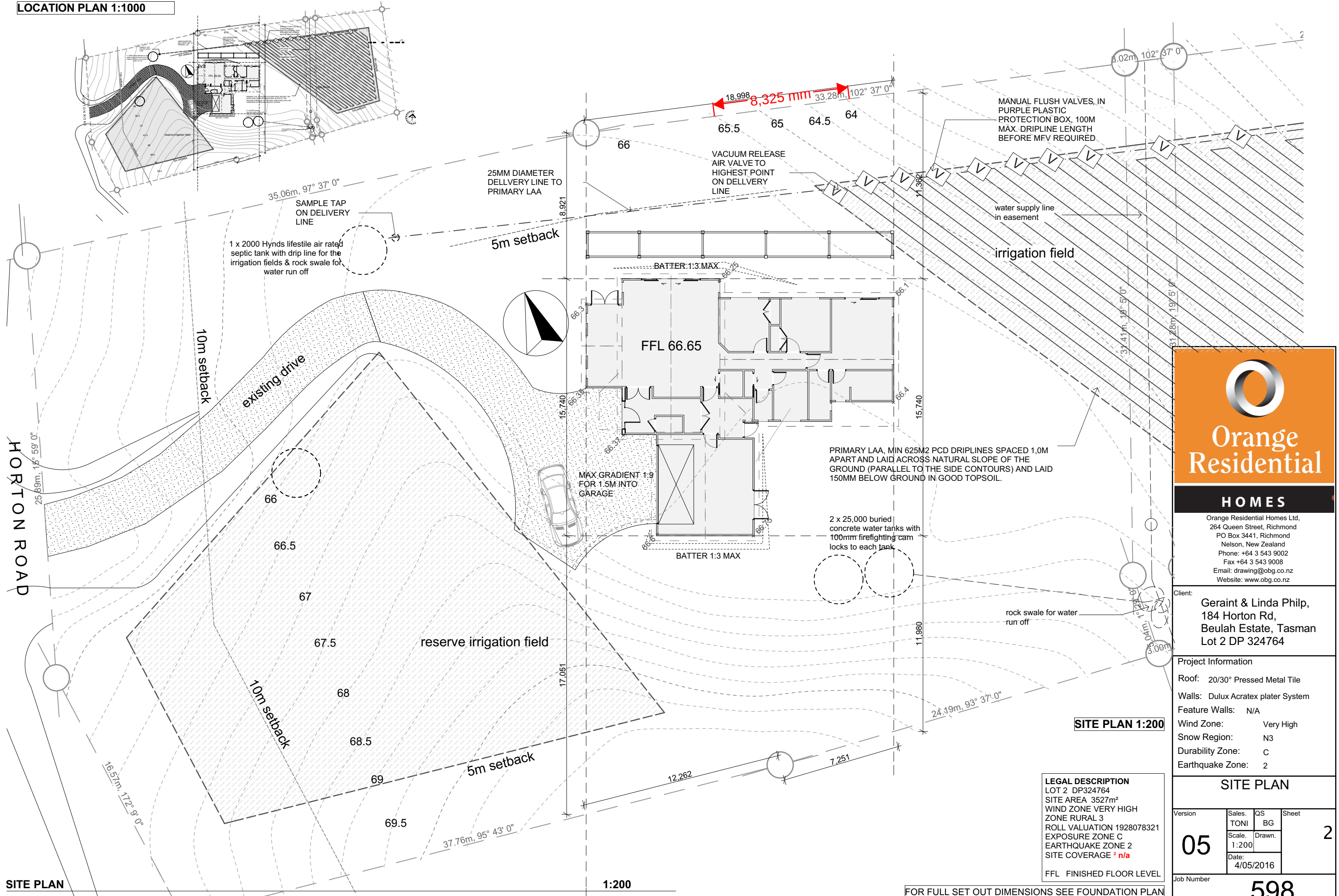
Earthquake Zone: 2

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05	TONI	BG	3
	Scale.	Drawn.	
	1:100		
Date:	4/05/2016		

Job Number

598

LOCATION PLAN 1:1000



TIMBER DECKS

-ALL DECK JOISTS TO BE H3.2 TREATED.
-TIMBER DECKING TO BE 90X20 H3.2 DECKING.
-FIXED WITH EITHER SMOOTH SIDE OR GRIPTREAD UP.
-EITHER HARDWOOD OR H3.2 TREATED PINE.
-FIX WITH EITHER 60mm GALV DECKING NAILS OR
STAINLESS STEEL DECK SCREWS 60mm X 8g min.

SLIP RESISTANCE

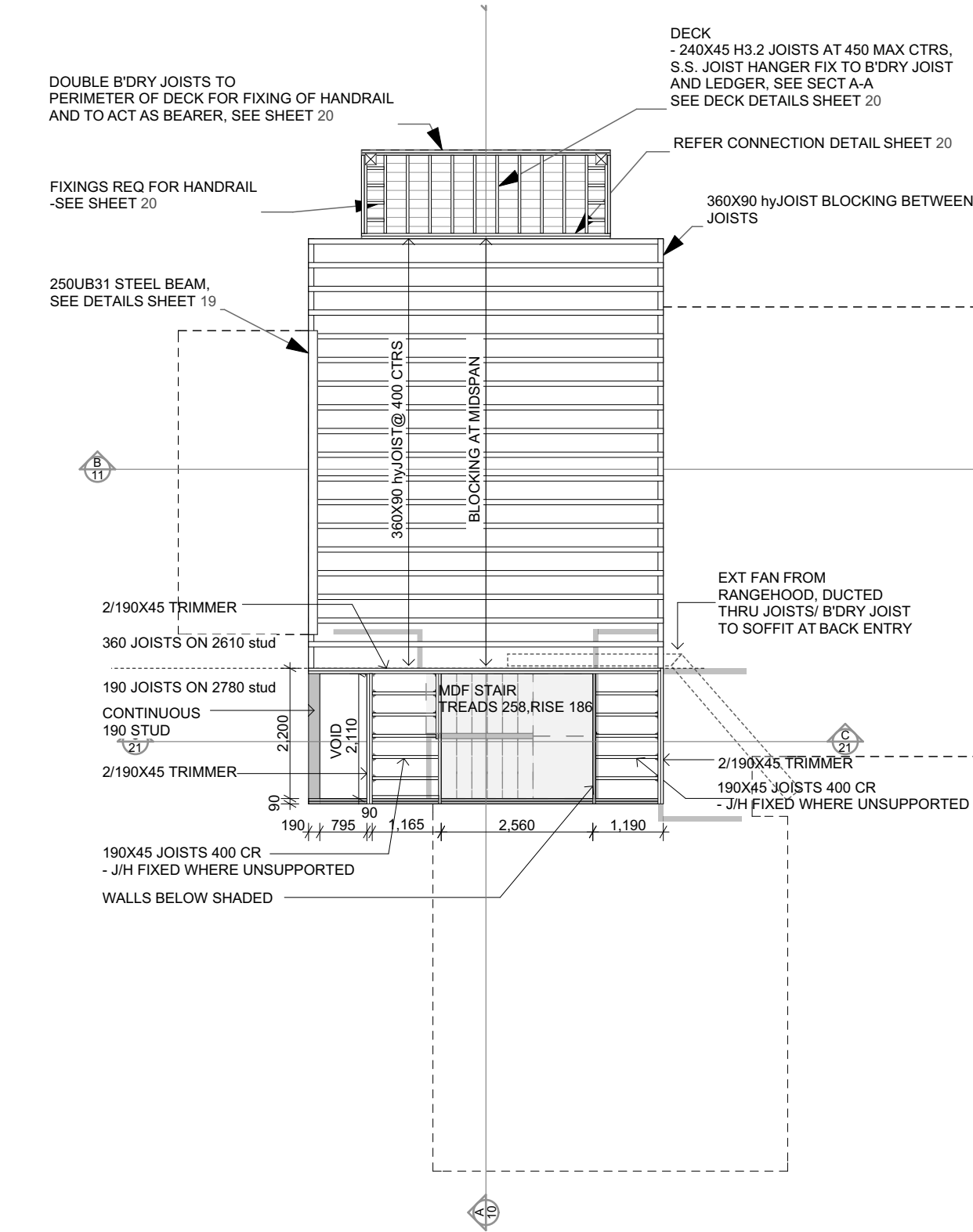
Deck surfaces that provide the main access to a building shall have a slip resistance not less than 0.4 when wet.
Uncoated profiled timber has a slip resistance from 0.45 – 0.60 across the direction of travel. Uncoated smooth timber has a slip resistance of 0.20 – 0.35

TIMBER TREATMENT

-ALL TIMBER POSTS IN GROUND TO BE H5 TREATED.
-ALL FLOOR FRAMING EXPOSED TO ATMOSPHERE TO BE H3.2
-FRAMING ENCLOSED IN FLOOR SPACE TO BE MIN H1.2
-PLY SUPPORTING BUTYNOL TO BE MIN H3.1

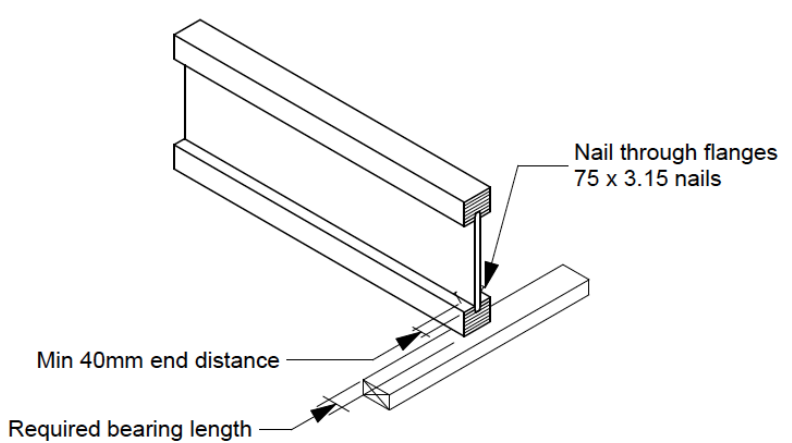
FLOOR FRAMING

FOR CLARITY NOT ALL MEMBERS ARE SHOWN.
PROVIDE BLOCKING AT 1.8m CRS ABOVE LINES OF SUPPORT
PROVIDE BLOCKING AT MID SPAN TO JOISTS EXCEEDING 2.5m SPANS.
PROVIDE A ROW OF BLOCKING AT 600 CRS FOR BOTTOM PLATE FIXINGS UNDER ALL INTERNAL WALLS RUNNING PARALLEL WITH FLOOR JOISTS.
PROVIDE DOUBLE JOISTS UNDER PARTITIONS.
WHERE TIMBER MEMBERS END CONNECT (BEAMS JOISTS ETC) USE LUMBERLOK JOIST HANGERS OR MULTIGRIP CONNECTORS AS REQUIRED.



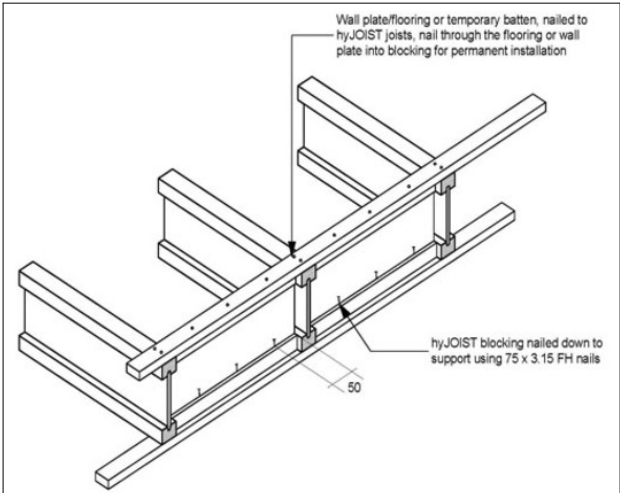
FOUNDATION PLAN UPPER

1:100



Detail F5
Nailing down to supports
Scale: NTS
May 2007

Futurebuild hyJOIST Construction Details
Construction details "Copyright" to Carter Holt Harvey Limited
Supplied for use by building design professionals in New Zealand



Detail F1
End restraint - blocking with hyJOIST
Scale: NTS
May 2007

HY-JOIST BLOCKING
APPLICABLE TO THE PERIMETER AND ALSO TO
BLOCKING AT MID SPAN



Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:

Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

Roof: 20/30° Pressed Metal Tile

Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

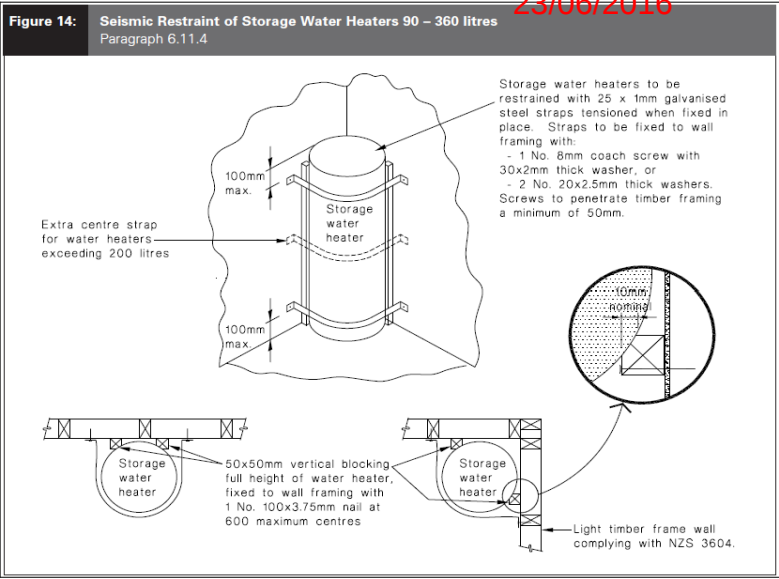
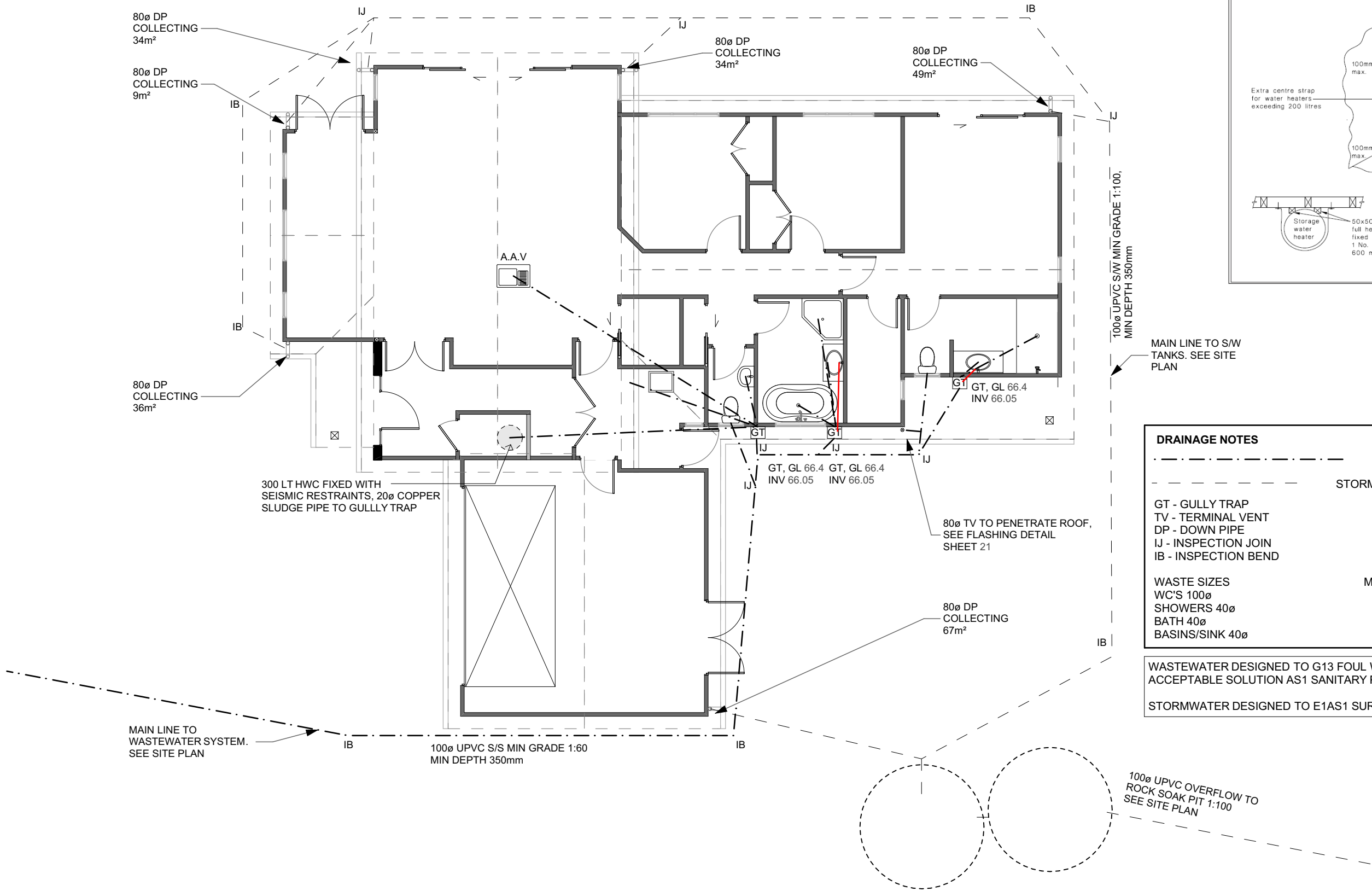
Earthquake Zone: 2

FOUNDATION PLAN UPPER

Version	Sales.	QS	Sheet
05	TONI	BG	4
	Scale.	Drawn.	
	Date:	4/05/2016	

Job Number

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DRAINAGE NOTES

----- SEWER LINE
----- STORMWATER LINE

GT - GULLY TRAP
TV - TERMINAL VENT
DP - DOWN PIPE
IJ - INSPECTION JOIN
IB - INSPECTION BEND

WASTE SIZES	MIN GRADIENT
WC'S 100ø	1:60
SHOWERS 40ø	1:40
BATH 40ø	1:40
BASINS/SINK 40ø	1:40

WASTEWATER DESIGNED TO G13 FOUL WATER
ACCEPTABLE SOLUTION AS1 SANITARY PLUMBING.

STORMWATER DESIGNED TO E1AS1 SURFACE WATER.

DRAINAGE PLAN

1:100

Orange Residential HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
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Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

DRAINAGE PLAN

Version	Sales	QS	Sheet
05	TONI	BG	5
	Scale	Drawn	
	Date	4/05/2016	

Job Number **598**

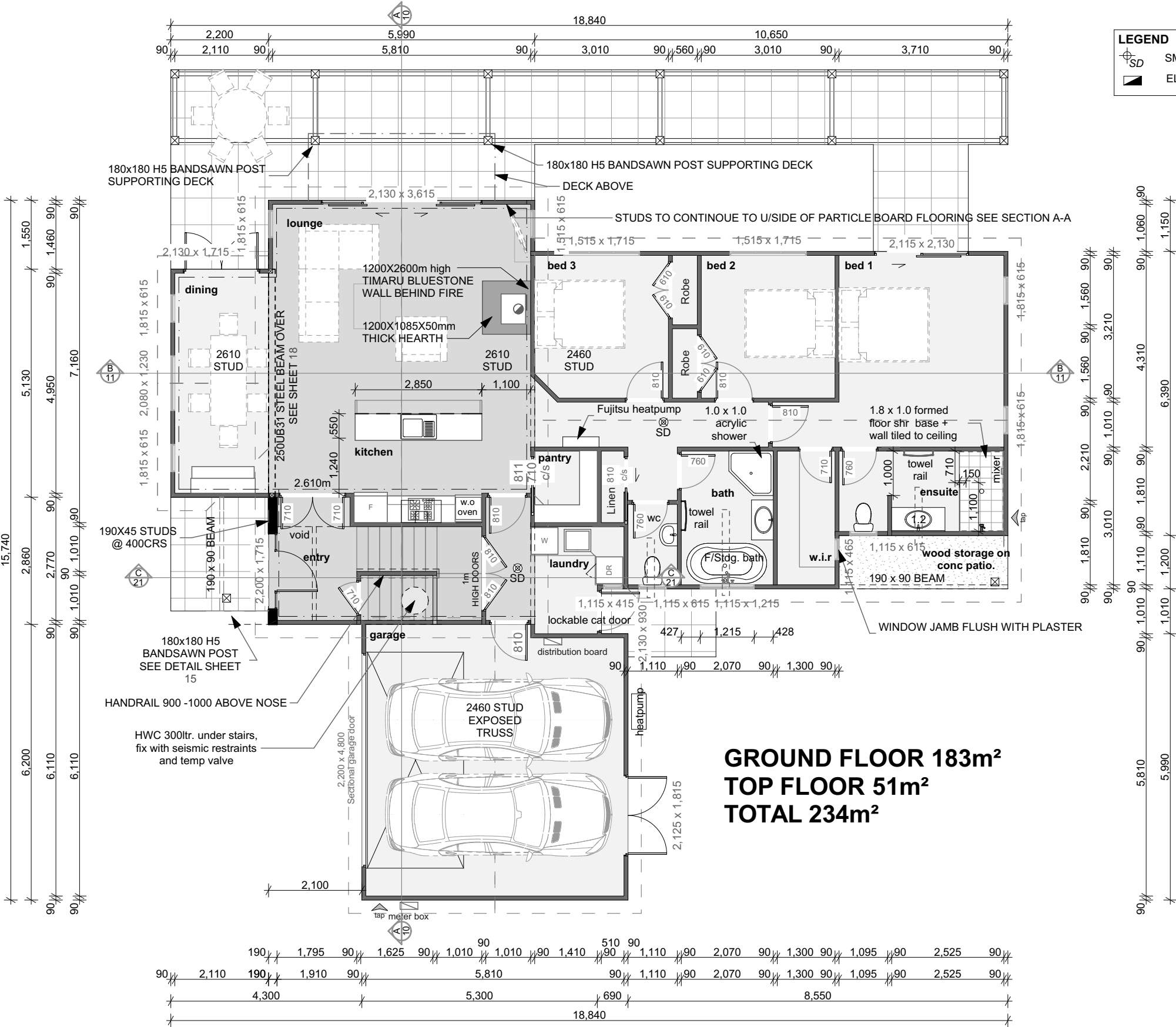
- GENERAL:**
ALL WORK TO COMPLY WITH TERRITORIAL AUTHORITY REQUIREMENTS AND THE RELEVANT SECTIONS OF THE NEW ZEALAND BUILDING CODE - NZS 3604 2011.
CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK.ALL DIMENSIONS ARE TO FRAMING LINES.
- FRAMING TIMBER:**
TIMBER WALL FRAMING CALCULATED USING NZS 3604 (2011) FOR SG8 TIMBER.
ALL EXTERIOR WALL STUDS = H1.2
ALL INTERIOR WALL FRAMING = H1.2
CAVITY BATTENS = H3.1
ROOF FRAMING = H1.2
PURLINS=H1.2
ALL FRAMING TIMBER TO BE KILN DRIED
- STUD SIZES**
TIMBER WALL FRAMING CALCULATED USING NZS 3604 2011 FOR SG8 TIMBER -VERY HIGH WIND ZONE

EXTERNAL LOADBEARING STUDS
STUDS UP TO 2.4m 90X45 AT 400 MAX CRS
STUDS UP TO 2.7m 90X45 AT 400 MAX CRS

ALL NON LOAD BEARING (PARTITION) WALLS 90X45 AT 400 MAX CRS
-ALL WITH DWANGS AT 800 CRS VERT
- INSULATION**
EXTERNAL WALLS R 2.4 WALL BATTS.

ROOF- R3.6 BATTS.

FLOOR- NO INSULATION REQUIRED TO SLAB
- LININGS**
10mm GIB TO WALLS, 13mm GIB TO CEILINGS, GIB AQUALINE TO BATHROOM -PAINT BATHROOMS AND L'DRY WITH AN ENAMEL ACRYLIC UNDERCOAT.
- INTERNAL DOORS**
-ALL INTERNAL DOORS ARE 810X1980 PANELS UNLESS OTHERWISE SPECIFIED
-REVEALS TO BE H1.2 TIMBER WITH 40X12 TIMBER ARCHITRAVES.
- GAS / ELECTRIC HOB**
ENSURE THAT HOB IS POSITIONED 50mm MIN FROM GIB WALL.
MIN 150mm HIGH UPSTAND OF CERAMIC TILES OR GRAPHIC GLASS INSTALLED TO PROTECT GIB.
- SMOKE ALARMS:**
TO COMPLY WITH AS3786 WITH HUSH FACILITY
ENSURE THERE ARE SMOKE ALARMS INSTALLED
-TO ALL ESCAPE ROUTES ON ALL LEVELS.
-TO ALL BEDROOMS OR WITHIN 3m OF EVERY SLEEPING SPACE DOOR.
- EXTERNAL WINDOWS/DOORS**
HEIGHT IS LISTED FIRST IE 1100X1500 MEANS HEIGHT IS 1100
ALL JOINERY CONFIGURATION, SIZES, HARDWARE, AND GLAZING TO BE VERIFIED BETWEEN OWNER AND JOINER PRIOR TO MANUFACTURE
- LINTELS**
REFER TRUSS MANUFACTURERS
- STEEL BEAM**
REFER ENGINEERS REPORT



FLOOR PLAN

1:100

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Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
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Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

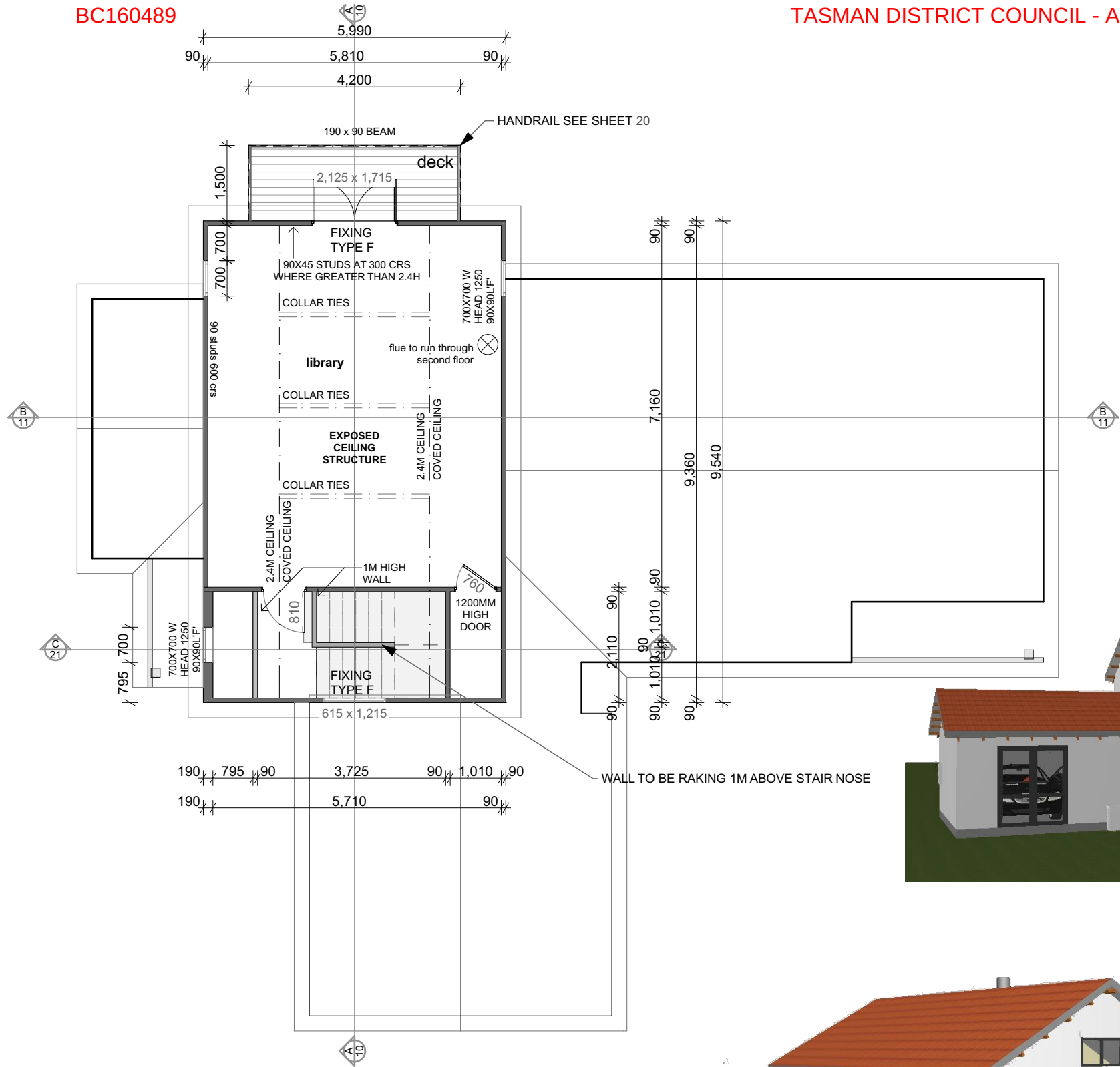
Earthquake Zone: 2

FLOOR PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	6
	Scale.	Drawn.	
	Date:	4/05/2016	

Job Number

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FIRST FLOOR PLAN





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HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
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184 Horton Rd,
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Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

FIRST FLOOR PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	7
	Scale.	Drawn.	
	1:100		
Date:		4/05/2016	

Job Number

598

BC160489

BUILDING ENVELOPE RISK MATRIX		
ALL EXTERNAL WALLS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	High risk	2
Roof/wall intersection design	High risk	3
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	High risk	4
Total Risk Score:		14

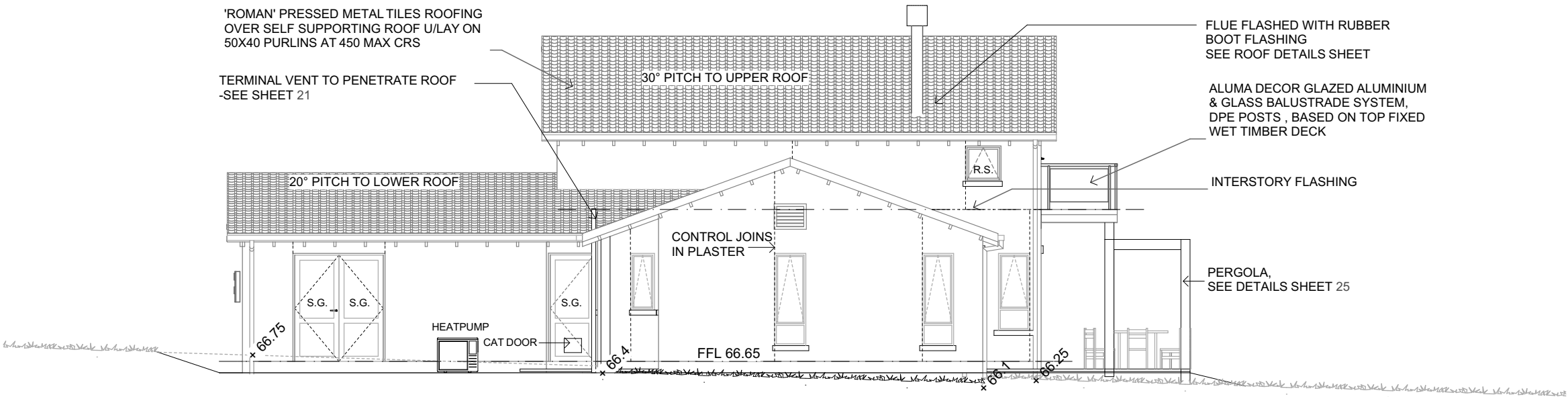
TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

Tasman District Council
BUILDING CONSENT AUTHORITY

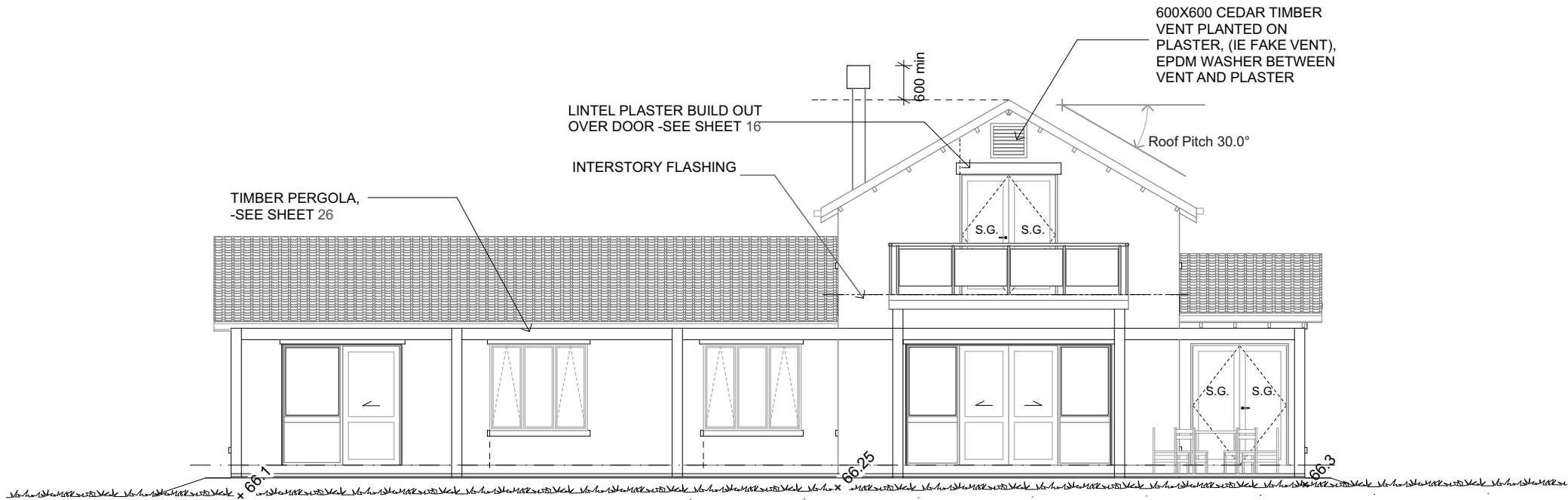
RECEIVED

Date 13/06/16



SOUTH

1:100



EAST

1:100

JOINERY

-ALL JOINERY FROM DOUBLE GLAZED(EXCEPT GARAGE) POWDER COATED ALUMINIUM. TO COMPLY WITH NZS4223.JOINERY MANUFACTURER TO VERIFY ALL SIZES ON SITE, SIZES NOMINATED ON FLOOR PLAN ARE OPENING SIZES
BUILDER, JOINER, OWNER ALL TO AGREE CONFIGURATION OF GLAZING PRIOR TO MANUFACTURE
0= OPAQUE GLASS- VERIFY WITH OWNER
S.G. = SAFETY GLASS REQ
R.S. = RESTRICTOR STAYS REQUIRED TO 2/TOP STOREY WINDOWS

CONTROL JOINTS IN PLASTER

CONTROL JOINTS TO OCCUR ONE SIDE OF ALL JOINERY , BOTH SIDES OF JOINERY WITH WIDTH GREATER THAN 2m AND EVERY 4m FOR SECTIONS OF WALL WITHOUT ANY JOINERY

ROOFING

'ROMAN' PRESSED METAL TILES ROOFING OVER SELF SUPPORTING ROOF U/LAY ON 50X40 PURLINS AT 450 MAX CRS

CLADDING

DULUX ACRATEX MODIFIED PLASTER
MESH REINFORCED PLASTER OVER 50mm POLYSTYRENE ON CAVITY SYSTEM

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HOMES

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Durability Zone: C
Earthquake Zone: 2

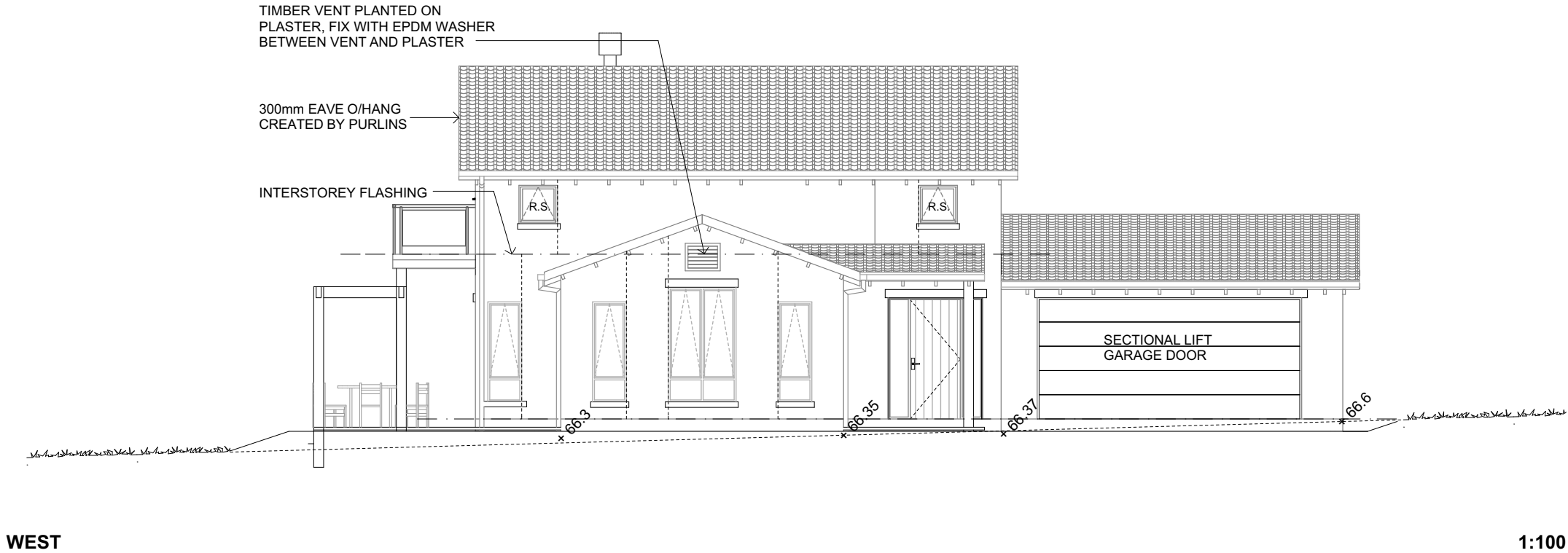
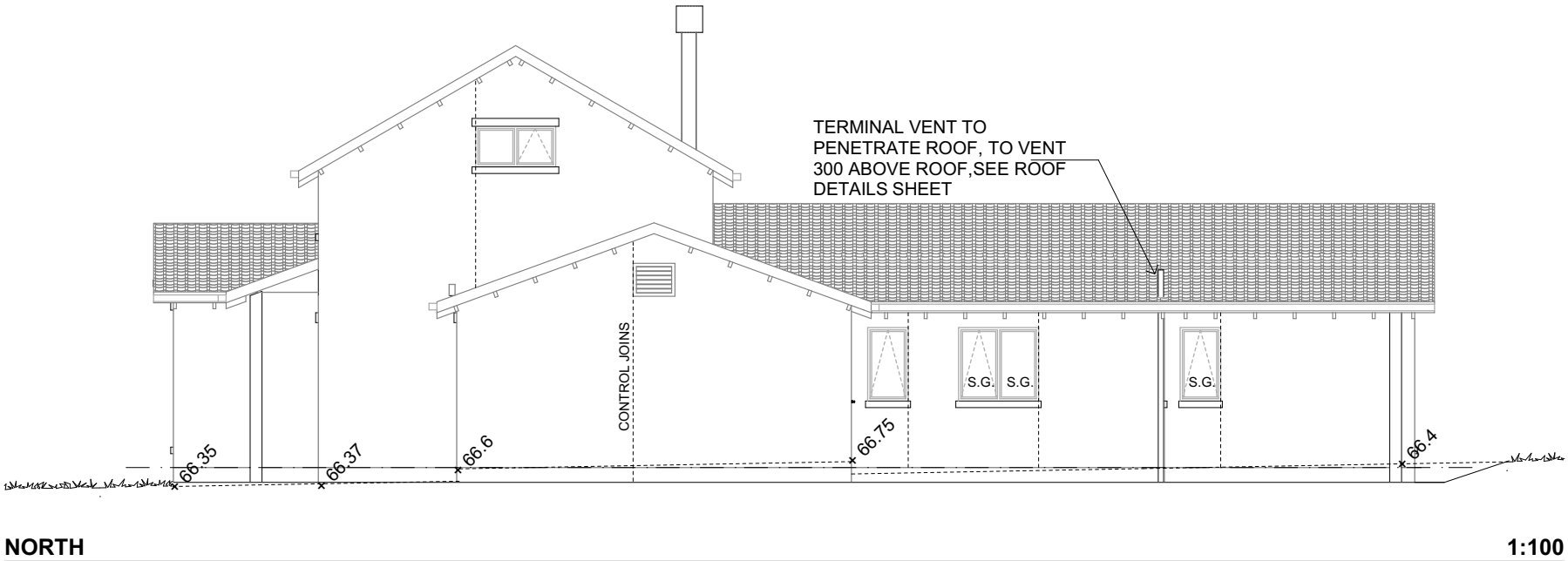
ELEVATIONS

Version	Sales.	QS	Sheet
05	TONI	BG	8
	Scale.	Drawn.	
	1:100		
	Date:		
	4/05/2016		

Job Number

598

BUILDING ENVELOPE RISK MATRIX		
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Risk Factor	Risk Severity	Risk Score
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Number of storeys	High risk	2
Roof/wall intersection design	High risk	3
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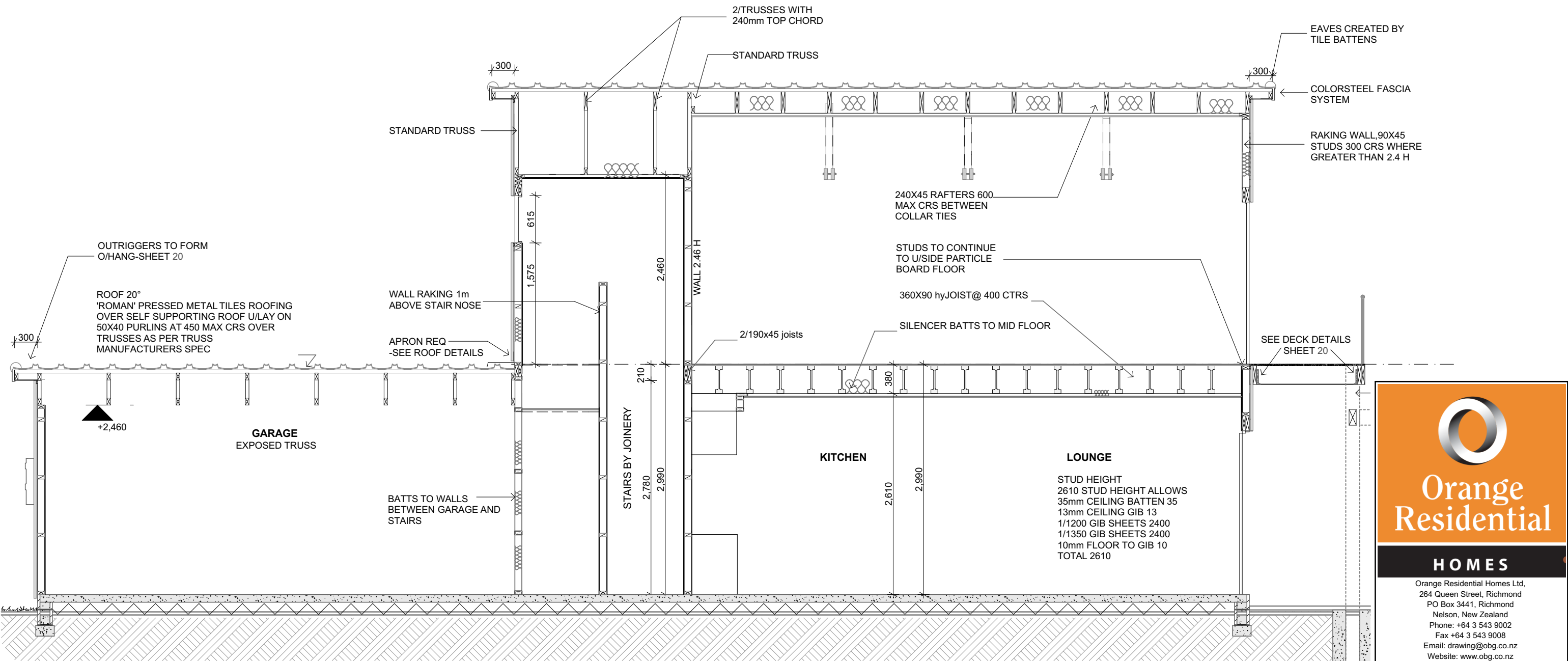
Earthquake Zone: 2

ELEVATIONS

Version	Sales.	QS	Sheet
05	TONI	BG	9 3
	Scale.	Drawn.	
	Date:	4/05/2016	

Job Number

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SECTION A-A

1:50



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Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
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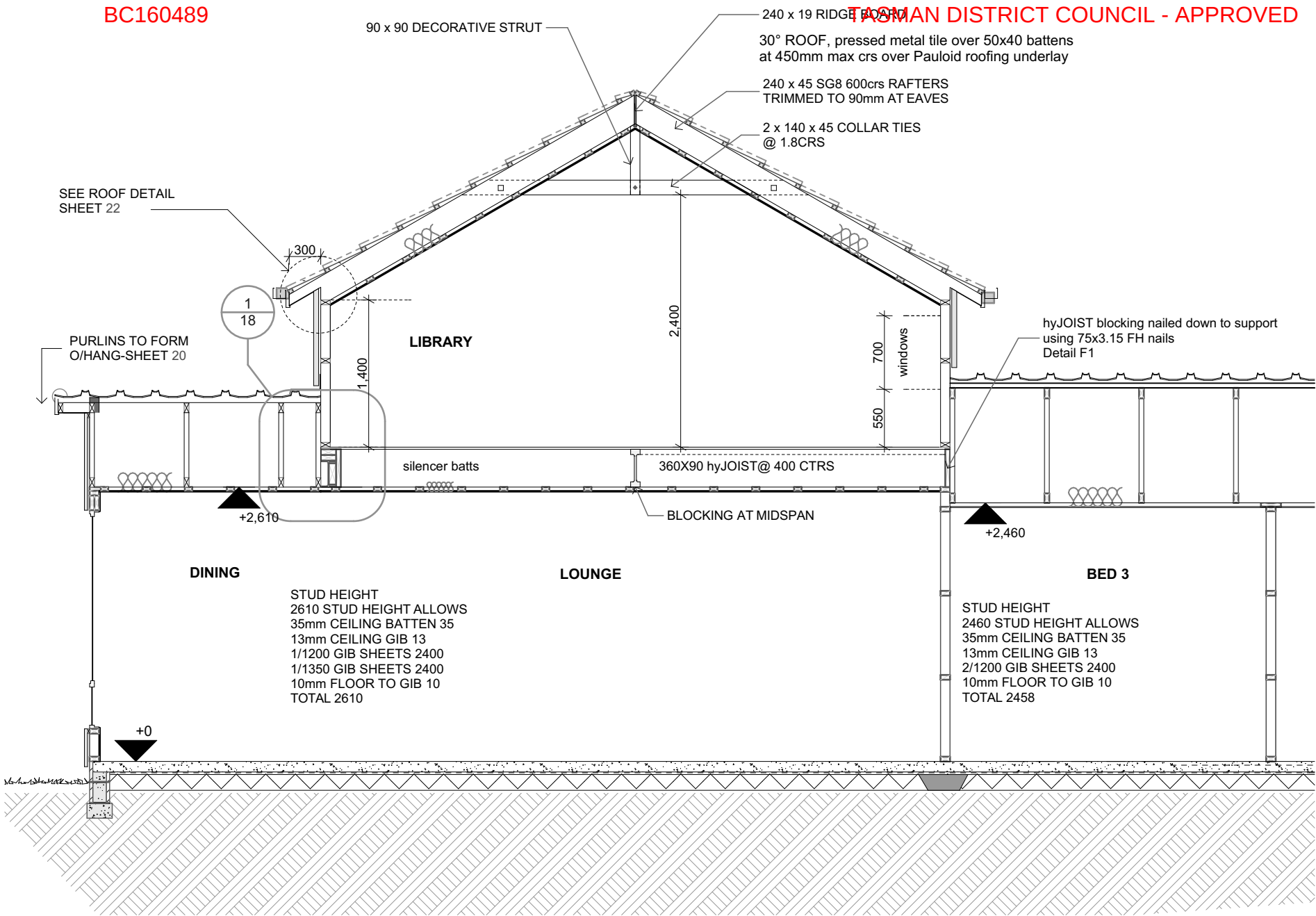
Earthquake Zone: 2

SECTION A-A

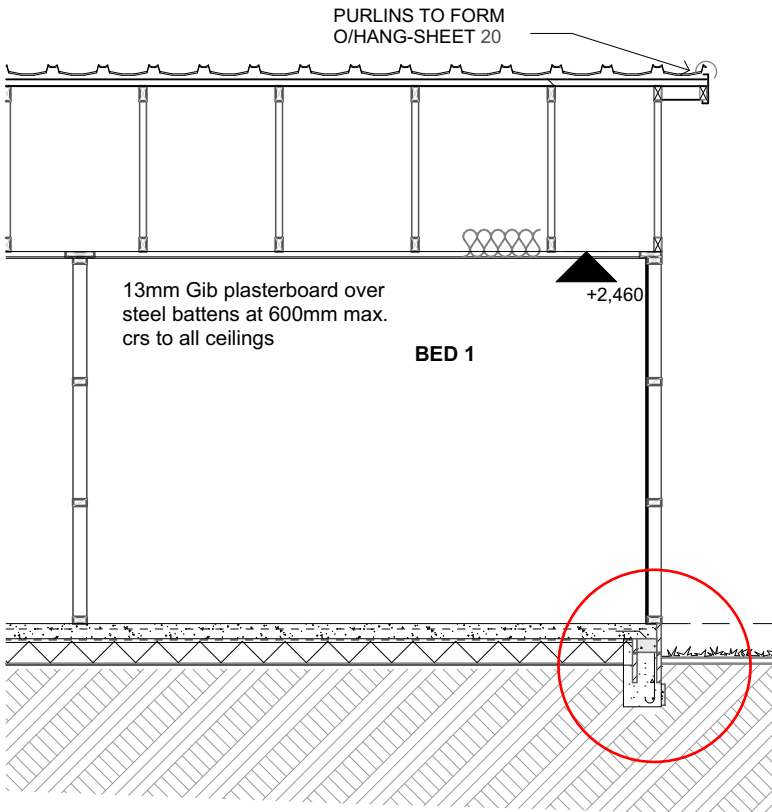
Version	Sales.	QS	Sheet
05	TONI	BG	10
	Scale.	Drawn.	
	1:50		
Date:			
4/05/2016			

Job Number

598



SECTION B-B



SECTION B-B 1:50

INSULATION CALCULATIONS
COMPLIANCE WITH NZBC H1 INSULATION- CALCULATION METHOD

Proposed Design					
					Go back to Start
Component	Description	Area	R-value	Heat Loss	Heat Loss = Area / R-value
Roof 1	metal tile/ 900/ R3.6	146.4	3.4	43.1	
Roof 2					
Roof 3					
Wall 1	plaster 600/ R2.4	169.2	1.9	89.0	
Wall 2					
Wall 3					
Floor 1	conc/ ratio 2.5	146.4	1.6	91.5	
Floor 2					
Floor 3					
Glazing 1	double glazing	44.42	0.26	170.8	
Glazing 2					
Skylight 1					
Skylight 2					
				Total Loss	
					394.4

R-values must be no less than 60% of the R-value of the corresponding Schedule values
Total area of glazing (including skylights) must be ≤50% of the total wall area
Non-glazed areas of door openings greater than 3 m² are treated as wall.
An R-value of 0.26 may be used for traditional leadlight glass if the total area is ≤ 2.6 m²

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r2.4 batts to walls, r3.6 batts to ceiling,no insulation required to slab
Figures obtained from Branz house insulation guide 4th edition
area 140/perimeter 55= 2.5
roof insulation to centre line of exterior walls, allow a 25mm air gap above batts.
Insulation not req to external garage walls,
insulation to walls between garage and house

Zone 3					
					Go back to Start
Non-Solid Reference Building.					
Component	Description	Area	R-value	Heat Loss	Heat Loss = Area/R-value
Roof		146.4	3.3	44.4	
Wall		169.3	2.0	84.7	
Floor		146.4	1.3	112.6	
Glazing (30%)		44.42	0.26	170.8	
Glazing (>30%)			0.34		Total Loss 412.5

Set wall area as either 70% of total wall area, or actual wall area, whichever is **lower**
Set glazing area as either 30% of total wall area, or actual glazing area, whichever is **higher**
Total area of glazing (including skylights) must be ≤50% of the total wall area
An R-value of 0.26 may be used for traditional leadlight glass if the total area is ≤ 2.6 m²
Non-glazed areas of door openings greater than 3 m² are treated as wall.

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HOMES

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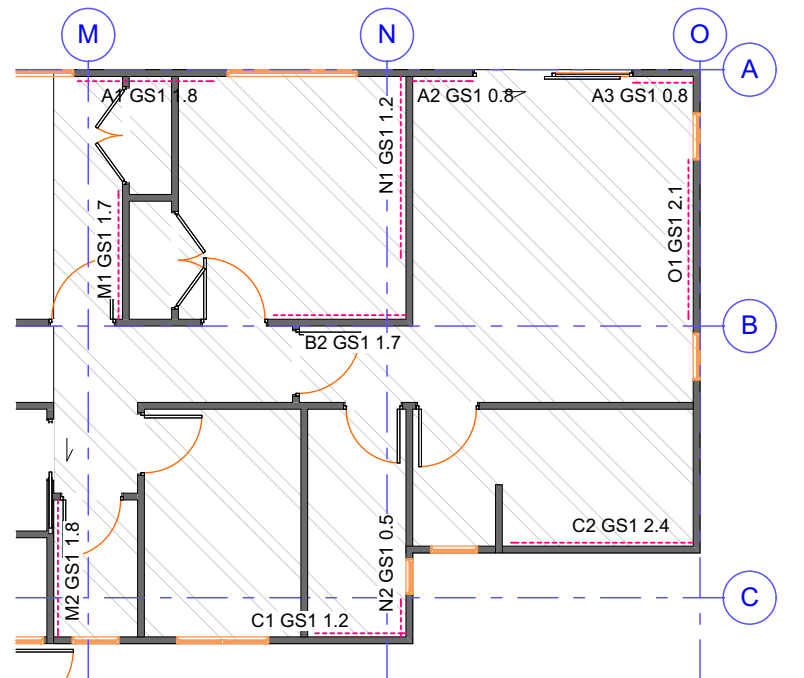
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Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

SECTION B-B

Version	Sales.	QS	Sheet
05	TONI	BG	11
	Scale.	Drawn.	
	Date:	4/05/2016	

Job Number

598



BRACING SINGLE STORY PLAN

1:100

BRACING NOTES

LINE 'A'/BRACE 1 → A1 GS1 2.4 → LENGTH
TYPE

BRACING DONE IN ACCORDANCE WITH NZS 3604 2011
-SEE GIB BRACING GUIDE FOR FULL FIXING REQUIREMENTS
-HOLD DOWN CONNECTIONS TO ALL BRACELINE BRACES

Building Specification

Select Lining Option 10 or 13 mm GIB® Plasterboard

Number of storeys	single	
Floor Loading	2kPa	
Foundation Type	slab	
Single Floor		
Cladding Weight	light	
Roof Weight	light	
Room in Roof Space	no	
Roof Pitch (degrees)	20	
Roof height above eaves (m)	1.6	
Building height to apex (m)	4.2	
Ground to lower floor level (m)	0.3	
Stud Height (m)	2.4	
Building Length (m)	8.5	
Building Width (m)	7.6	
Building Plan Area (m ²)	61	

Complete Single Floor
Column only

Building Location

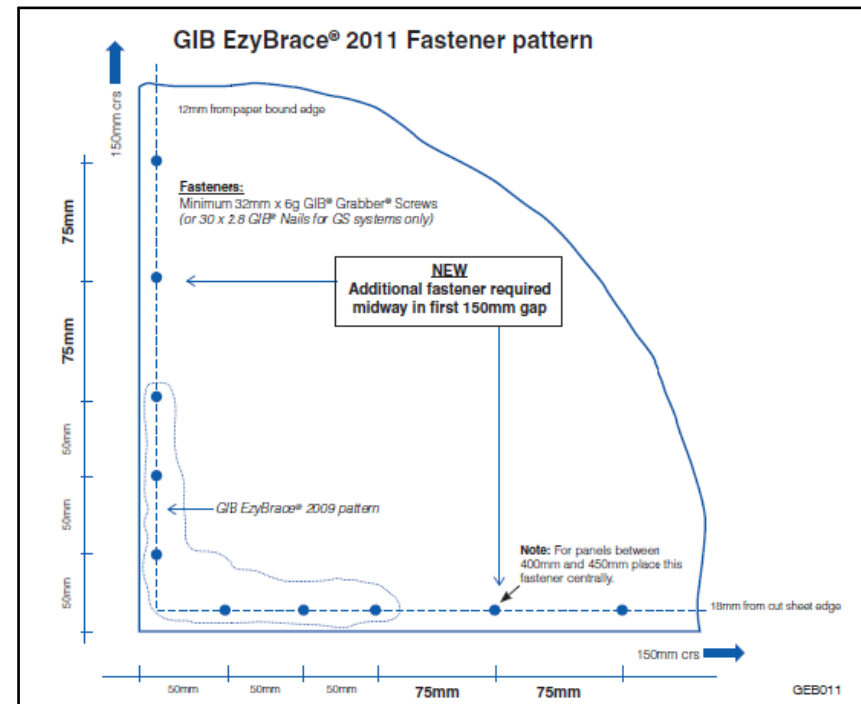
Wind Zone	Very High	Earthquake Zone	Soil Type
Select by Building Consent Authority Map		2	D&E (deep to very soft)
or Preference	Very High	Annual exceedance probability	
Wind Region	Preference selected	1/500 (NZS3604:2011 default)	
Lee Zone	Preference selected		
Ground Roughness	Preference selected		
Site Exposure	Preference selected		
Topographic Class	Preference selected		

Bracing Units required for Wind

Demand W (BU)		
along	slab	413
across	slab	393

Bracing Units required for Earthquake

Demand along / across E (BU)		
	Walls	
	single	
slab	233	



Panel Hold-down Details

GIB HandiBrac® - RECOMMENDED METHOD

Developed in conjunction with Mittek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and GSP® bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings



Concrete Floor		Timber Floor	
External walls	Internal walls	External walls	Internal walls
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block

Hold-down fastener requirements

A mechanical fastener with a minimum characteristic uplift capacity of 15kN.

Table 1: GIB® Standard Plasterboard Bracing Unit ratings

Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
				W	EQ
GS1-N	0.4	GIB® Standard Plasterboard one side	N/A	50	55
	1.2			70	60
GS2-N	0.4	GIB® Standard Plasterboard both sides	N/A	70	65
	1.2			95	85
GSP-H	0.4	GIB® Standard Plasterboard one side plywood the other	Panel hold-down fixings	100	115
	1.2			150*	150*

Table 2: GIB Braceline® Bracing Unit ratings

Type	Minimum Length (m)	Lining	Other Requirements	BU/m	
				W	EQ
BL1-H	0.4	GIB Braceline® one side	Panel hold-down fixings	90	100
	1.2			125*	105
BLG-H	0.4	GIB Braceline® one side GIB® Standard Plasterboard the other	Panel hold-down fixings	110	115
	1.2			150*	145*
BLP-H	0.4	GIB Braceline® one side plywood the other	Panel hold-down fixings	135*	135*
	1.2			150*	150*

SINGLE OR UPPER STOREY WALLS ALONG									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
155	A	1	1.8		2.4	GS1-N	GIB®	124	108
		2	0.8		2.4				
		3	0.8		2.4	GS1-N	GIB®	49	47
102	B	1	1.7		2.4	GS1-N	GIB®	117	102
216	C	1	1.2		2.4	GS1-N	GIB®	83	72
		2	2.4		2.4	GS1-N	GIB®	166	144

Totals Achieved		W	131%	EQ	203%	539	473
Concrete Slab						OK	OK
Totals Required (from Demand)						413	233

SINGLE OR UPPER STOREY WALLS ACROSS									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
210	M	1	1.7		2.4	GS1-N	GIB®	117	102
		2	1.8		2.4	GS1-N	GIB®	124	108
101	N	1	1.2		2.4	GS1-N	GIB®	83	72
		2	0.5		2.4	GS1-N	GIB®	28	29
126	O	1	2.1		2.4	GS1-N	GIB®	145	126

Totals Achieved		W	126%	EQ	187%	497	437
Concrete Slab						OK	OK
Totals Required (from Demand)						393	233

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PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:

Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

BRACING SINGLE STORY

Version	Sales	QS	Sheet
05	TONI	BG	12
	Scale	Drawn	
	1:100		
	Date		
	4/05/2016		

Job Number

598

BRACING NOTES

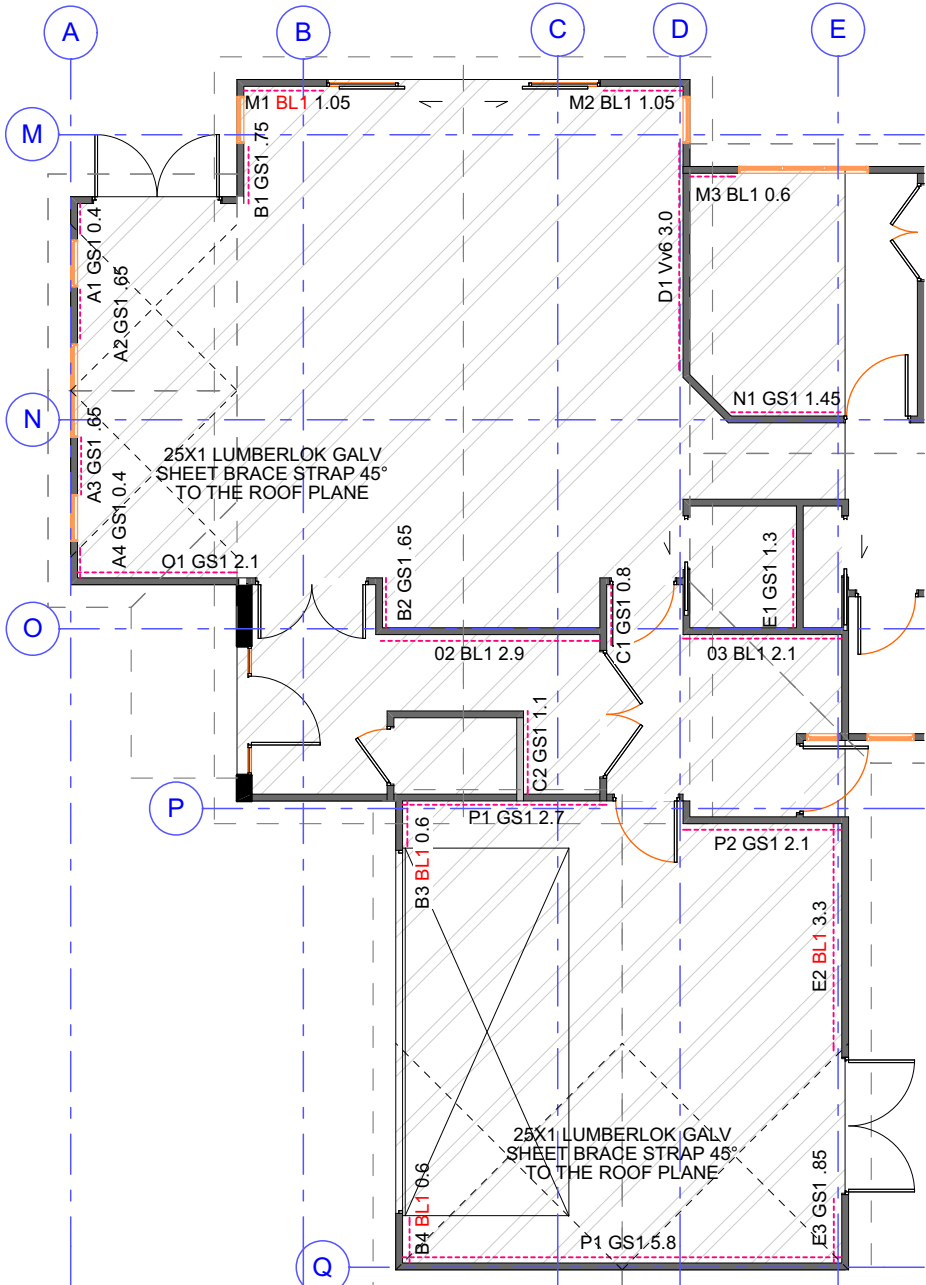
LINE 'A'/BRACE 1

A1 GS1 2.4

LENGTH

TYPE

BRACING DONE IN ACCORDANCE WITH NZS 3604 2011
-SEE GIB BRACING GUIDE FOR FULL FIXING REQUIREMENTS
-HOLD DOWN CONNECTIONS TO ALL BRACELINE BRACES



BRACING PLAN TWO STORY LOWER 1:100

Building Specification

Number of storeys

two

Floor Loading

2kPa

Foundation Type

slab

Cladding Weight

light

Roof Weight

light

Room in Roof Space

no

Roof Pitch (degrees)

30

Roof height above eaves (m)

2.0

Building height to apex (m)

6.8

Ground to lower floor level (m)

0.3

Lower to upper floor level (m)

3.0

Stud Height (m)

1.4

Building Length (m)

9.5

Building Width (m)

6.0

Building Plan Area (m2)

57

Upper Floor

light

20

1.3

Lower Floor

light

20

1.3

check heights, storey less than 2 m

Building Location

Wind Zone

Very High

Earthquake Zone

2

Soil Type

D&E (deep to very soft)

Annual exceedance probability

1/500 (NZS3604:2011 default)

Topographic Class

Preference selected

Bracing Units required for Wind

Demand W (BU)			
along	slab	lower	Walls upper
across	slab	1036	351
		1476	462

Bracing Units required for Earthquake

Demand along / across E (BU)		
Walls	lower	upper
slab	1021	298

LOWER WALLS ALONG									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
109	A	1	0.4		2.6	GS1-N	GIB®	20	21
		2	0.65		2.6	GS1-N	GIB®	35	35
		3	0.65		2.6	GS1-N	GIB®	35	35
		4	0.4		2.6	GS1-N	GIB®	20	21
186	B	1	0.75		2.6	GS1-N	GIB®	42	41
		2	0.65		2.6	GS1-N	GIB®	35	35
		3	0.6		2.6	BL1-H	GIB®	55	56
		4	0.6		2.6	BL1-H	GIB®	55	56
113	C	1	0.8		2.6	GS1-N	GIB®	49	47
		2	1.1		1.2	GS1-N	GIB®	74	66
271	D	1	3		2.6	Vv6	Hardies	346	271
441	E	1	1.3		2.6	GS1-N	GIB®	90	78
		2	3.3		2.6	BL1-H	GIB®	390	317
		3	0.85		2.6	GS1-N	GIB®	49	46

Totals Achieved		W	125%	EQ	110%	1291	1126
Concrete Slab		OK	OK				
Totals Required (from Demand)						1036	1021

LOWER WALLS ACROSS									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
190	M	1	1.05		2.6	BL1-H	GIB®	117	100
		2	1.05		2.6	GS1-N	GIB®	64	58
		3	0.6		2.6	GS1-N	GIB®	32	32
139	N	1	1.45		2.6	BL1-H	GIB®	171	139
					2.6	GS1-N	GIB®		
393	O	1	2.1		2.6	GS1-N	GIB®	134	116
		2	2.9		2.6	GS1-N	GIB®	185	161
		3	2.1		2.6	GS1-N	GIB®	134	116
266	P				2.6	GS1-N	GIB®		
		1	2.7		2.6	GS1-N	GIB®	172	150
		2	2.1		2.6	GS1-N	GIB®	134	116
321	Q	1	5.8		2.6	GS1-N	GIB®	369	321

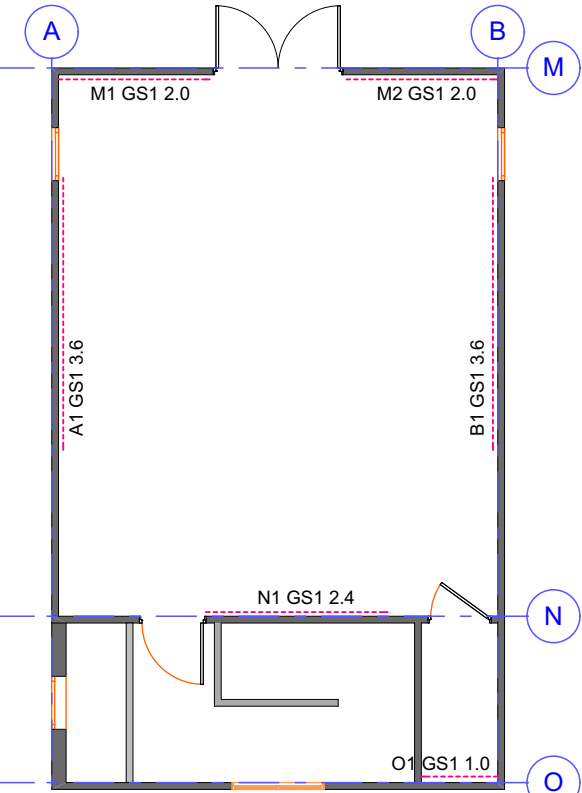
Totals Achieved		W	102%	EQ	128%	1511	1310
Concrete Slab		OK	OK				
Totals Required (from Demand)						1476	1021

SINGLE OR UPPER STOREY WALLS ALONG									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
216	A	1	3.6		1.4	GS1-N	GIB®	248	216
216	B	2	3.6		1.4	GS1-N	GIB®	248	216

Totals Achieved		W	142%	EQ	145%	497	432
Timber Floor, design limit of 120 BU/m		OK	OK	accepted			
Totals Required (from Demand)						351	298

SINGLE OR UPPER STOREY WALLS ACROSS									
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
240	M	1	2		1.4	GS1-N	GIB®	138	120
		2	2		1.4	GS1-N	GIB®	138	120
115	N	1	2.4		3	GS1-N	GIB®	132	115
108	O	1	1.8		2.4	BL1-H	GIB®	124	108

Totals Achieved		W	115%	EQ	156%	533	463
Timber Floor, design limit of 120 BU/m		OK	OK	accepted			
Totals Required (from Demand)						462	298



BRACING PLAN TWO STORY UPPER 1:100

Orange Residential

HOMES

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Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

BRACING PLAN TWO STORY

Version

TONI

05

Scale

1:200

Date

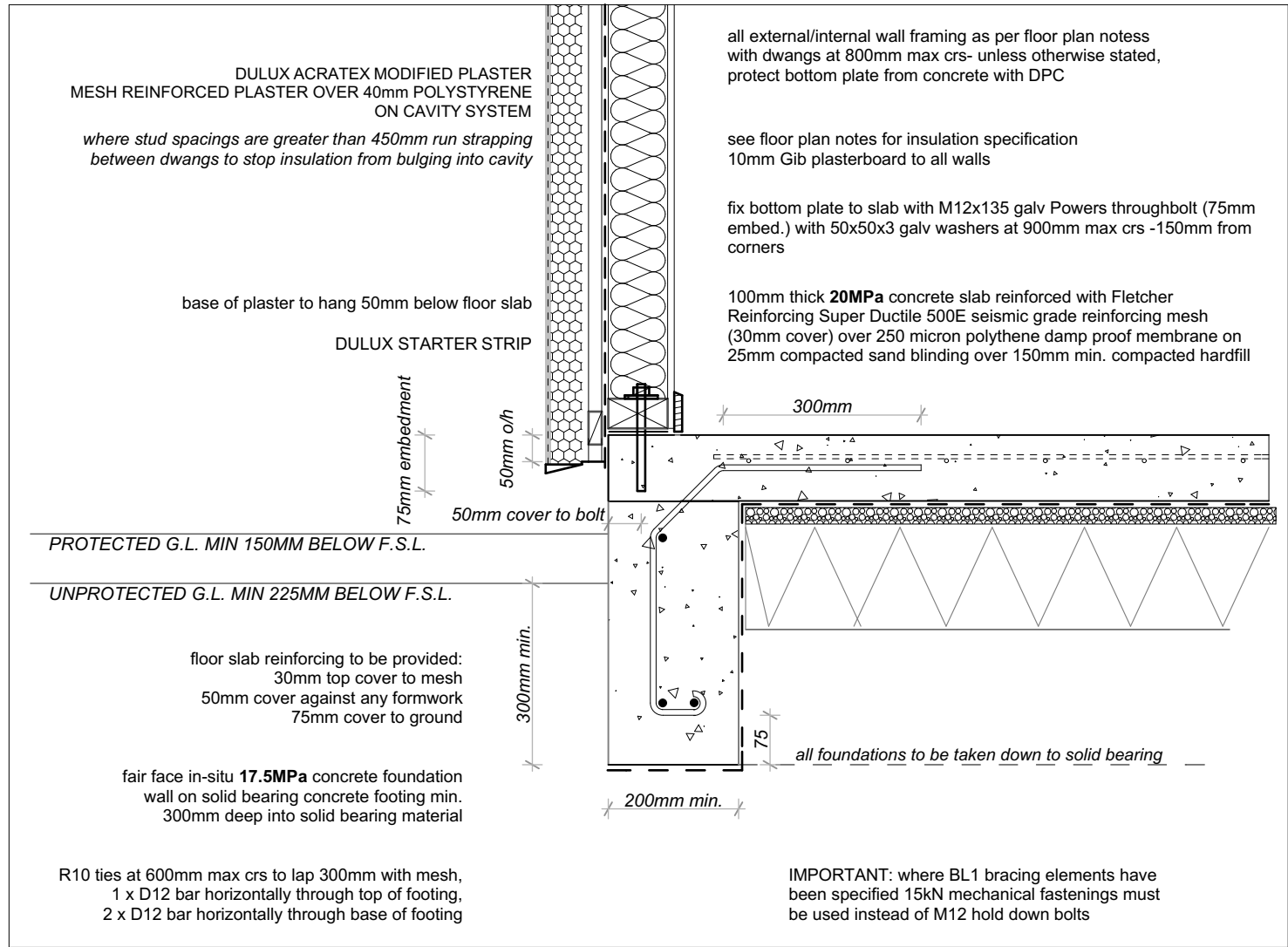
4/05/2016

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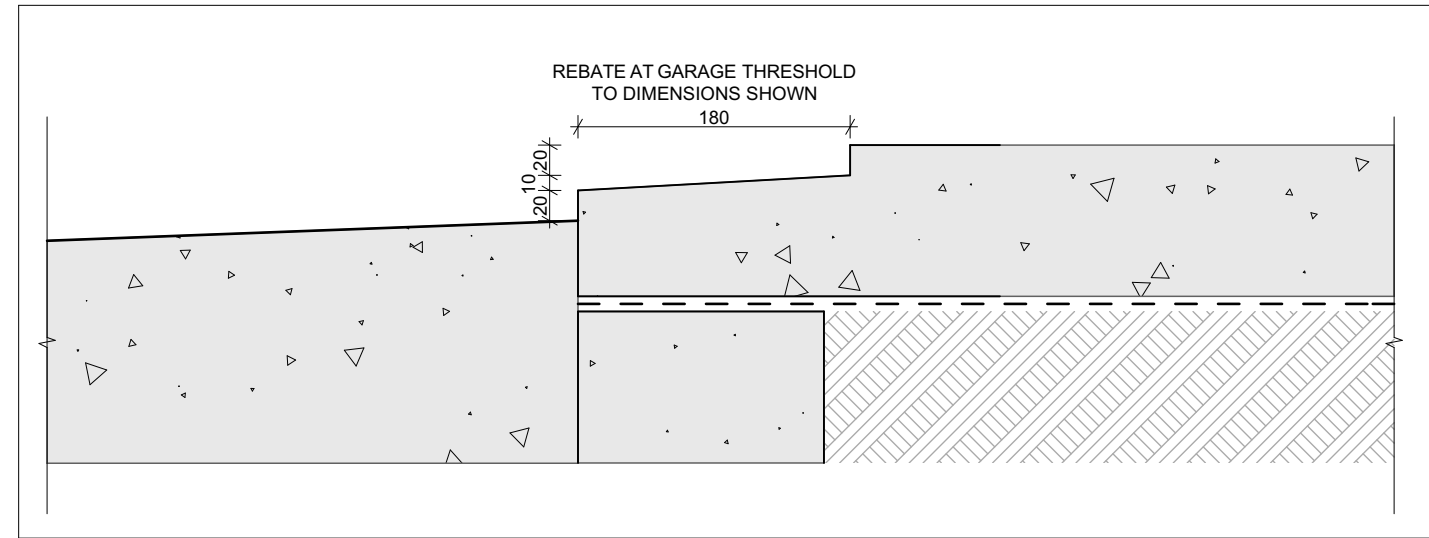
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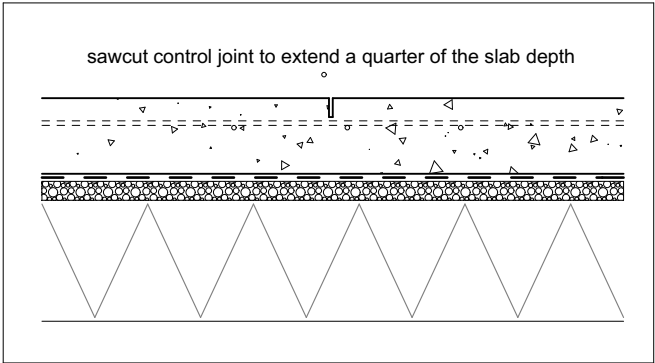
Job Number
598



TYPICAL SLAB EDGE DETAIL -A PPLICABLE TO SINGLE AND 2 STOREY BUILDINGS 1:10



GARAGE DOOR REBATE 1:5



CONTROL JOINT 1:10



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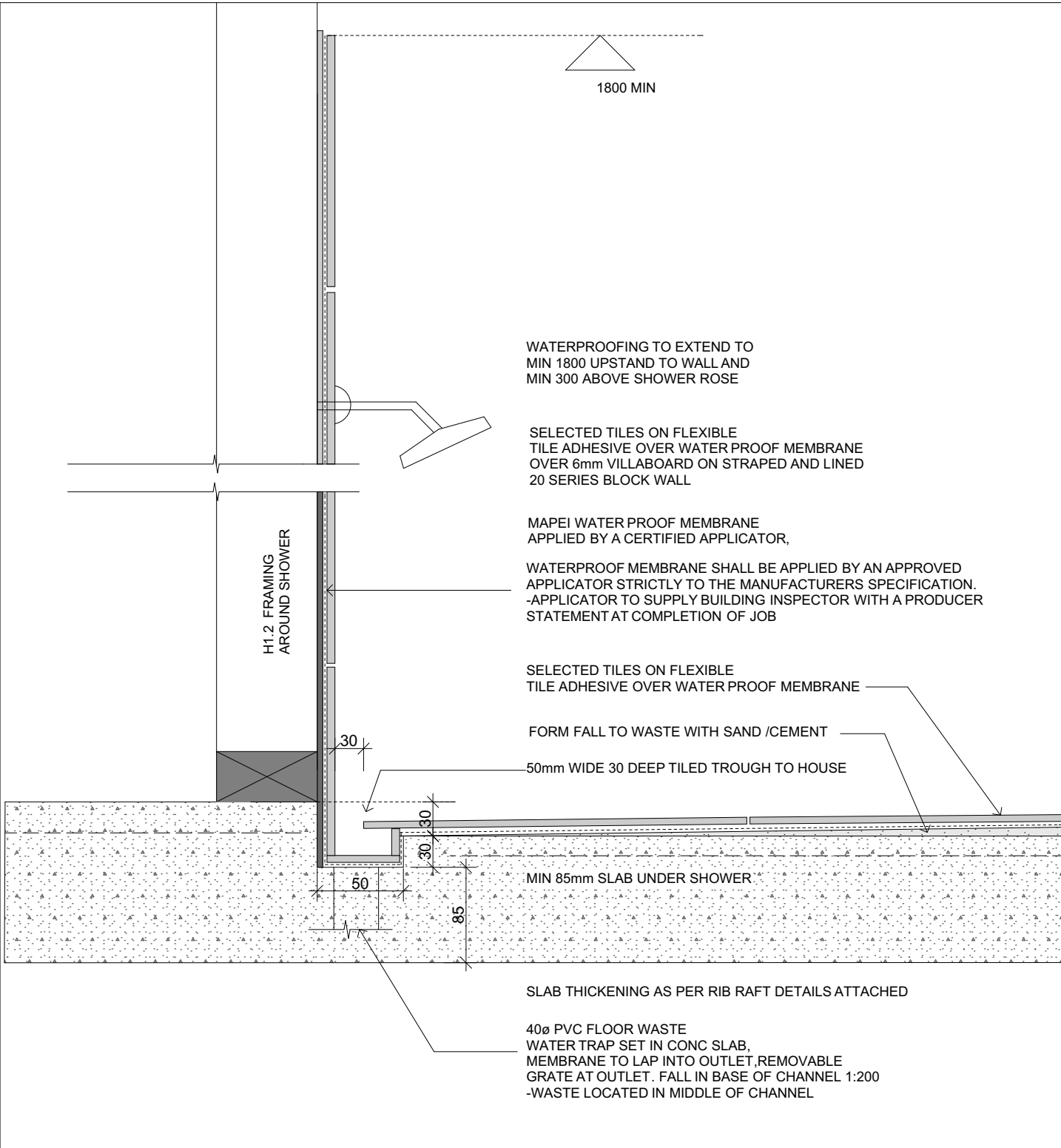
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FOUNDATION DETAILS CONC SLAB

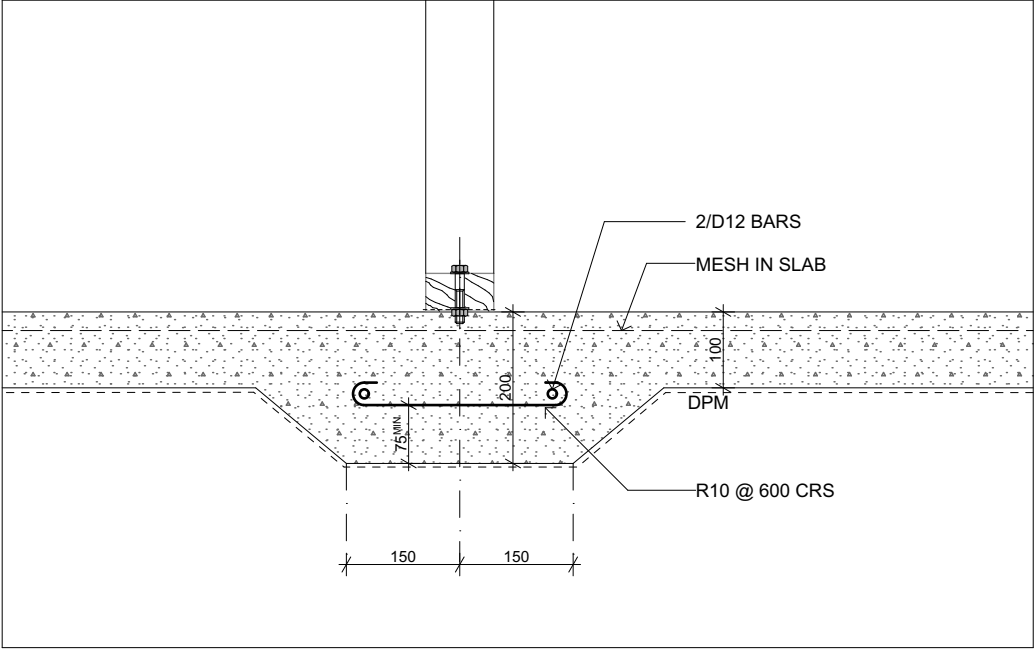
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	4/05/2016		

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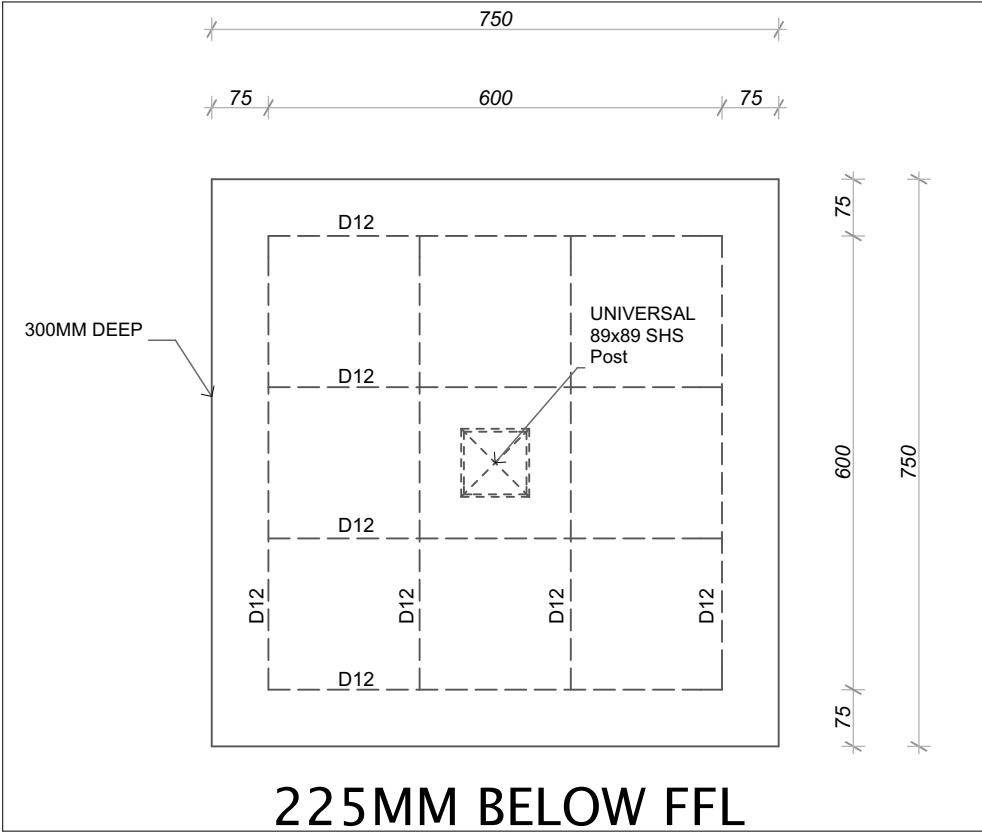
598



FORMED FLOOR SHOWER 13.1 1:5



DETAIL 300mm SLAB THICKENING 1:10



PADS REQ AT STEEL POSTS 1:10

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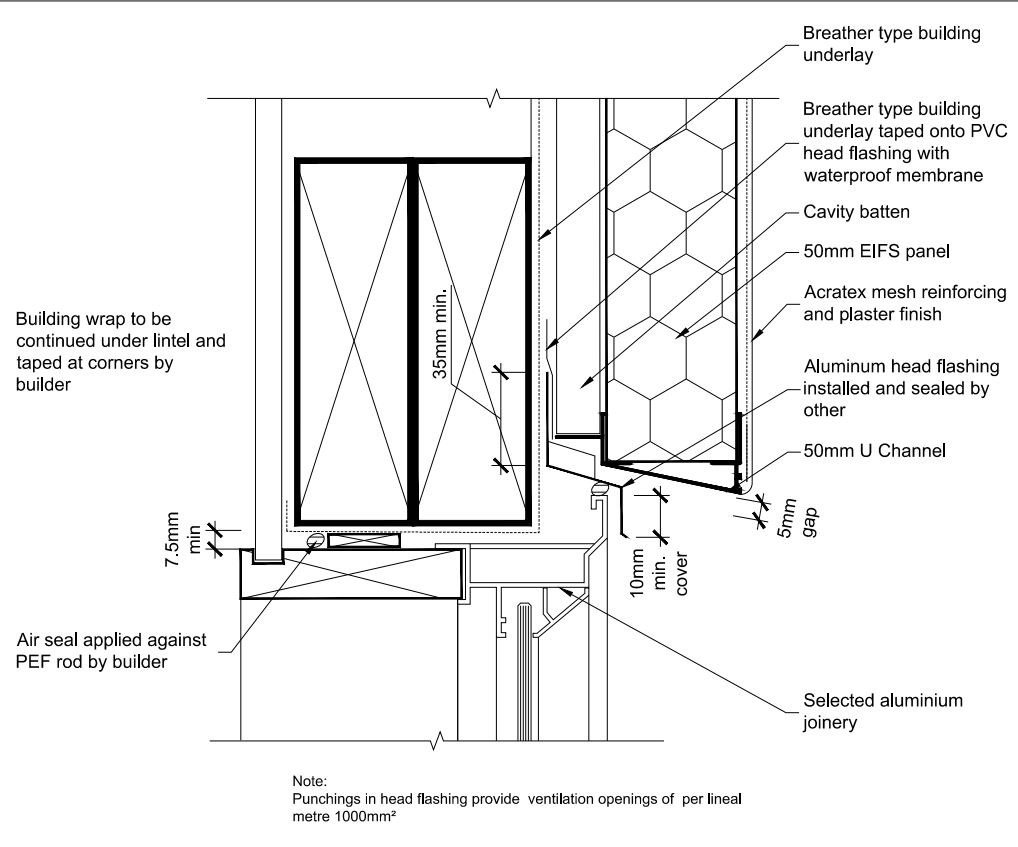
Earthquake Zone: 2

FOUNDATION DETAILS

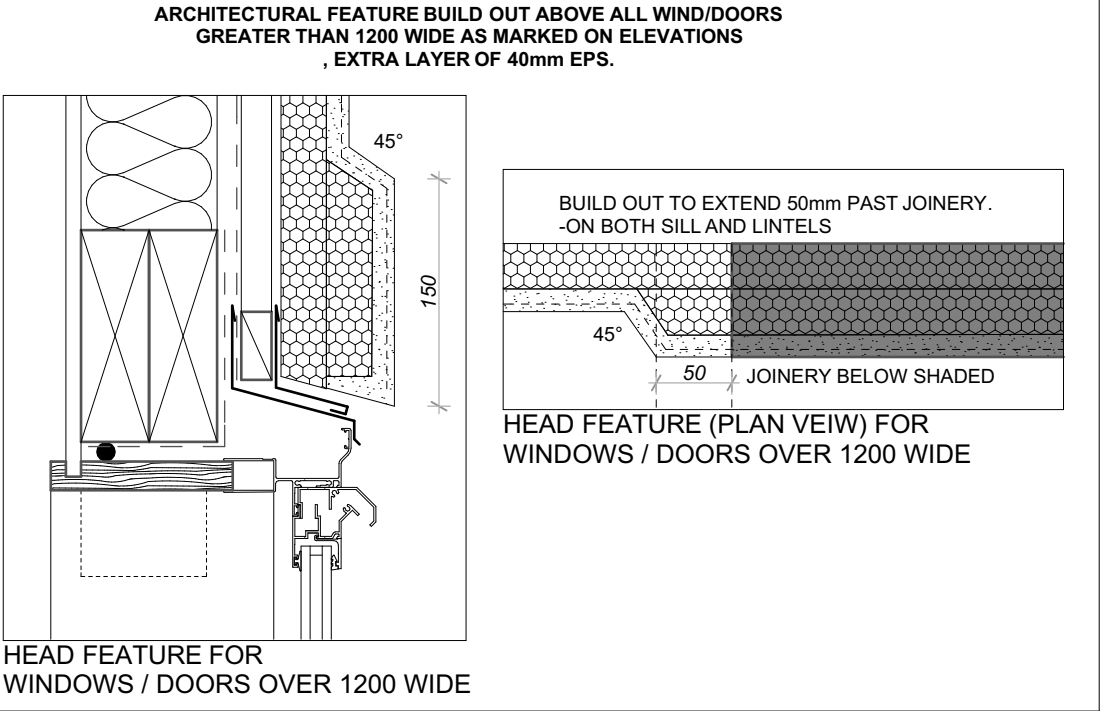
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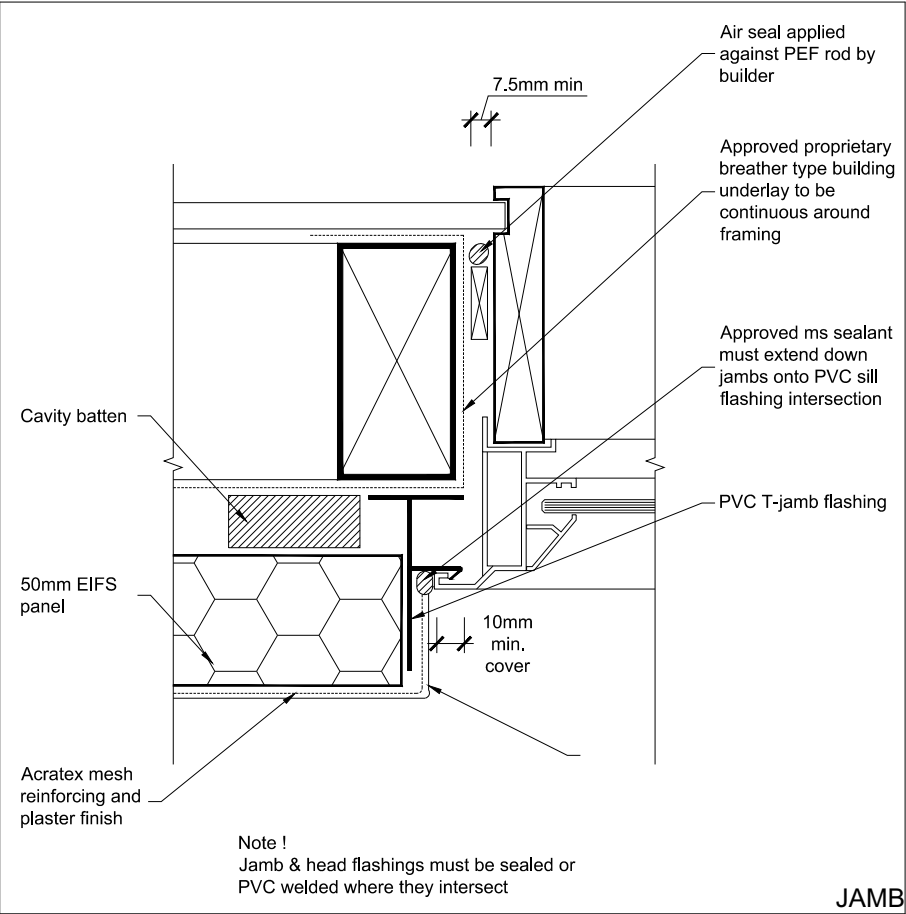
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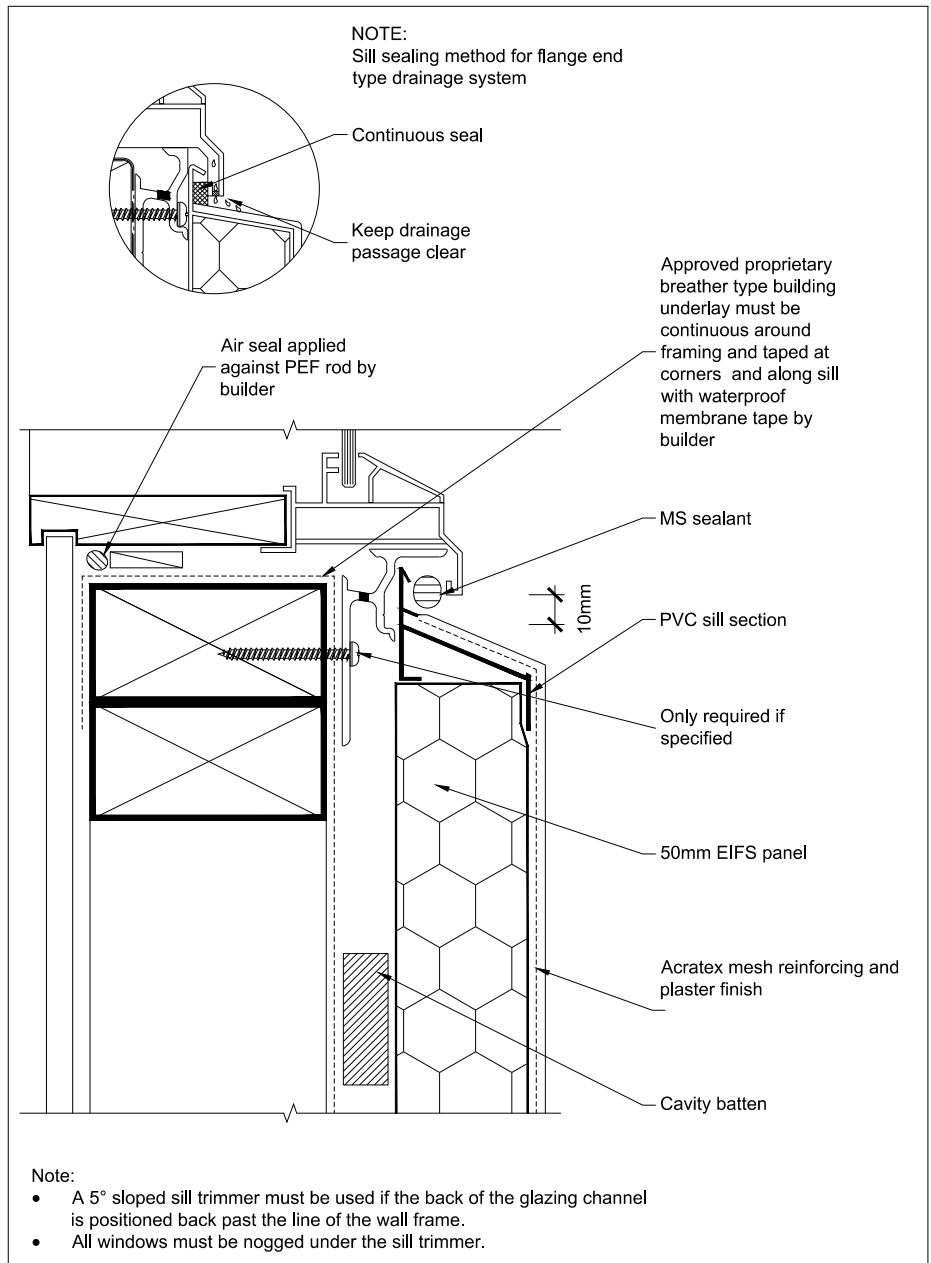
HEAD
SEE ARCHITECTURAL FEATURE



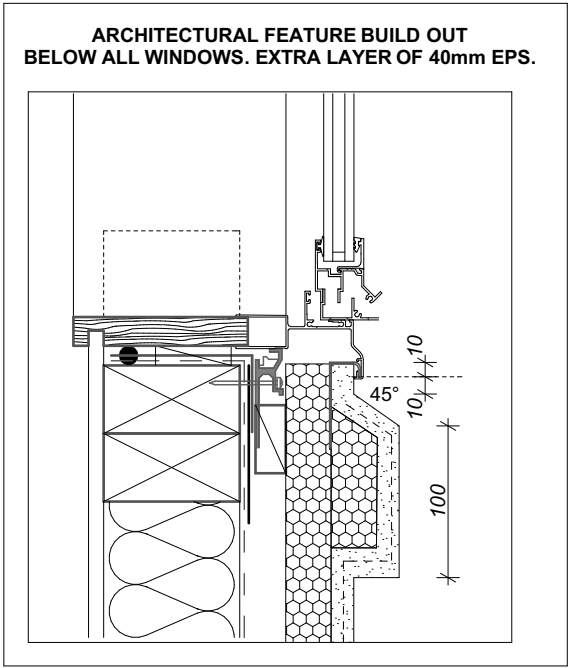
HEAD FEATURE FOR
WINDOWS / DOORS OVER 1200 WIDE



JAMB



SILL
SEE ARCHITECTURAL FEATURE



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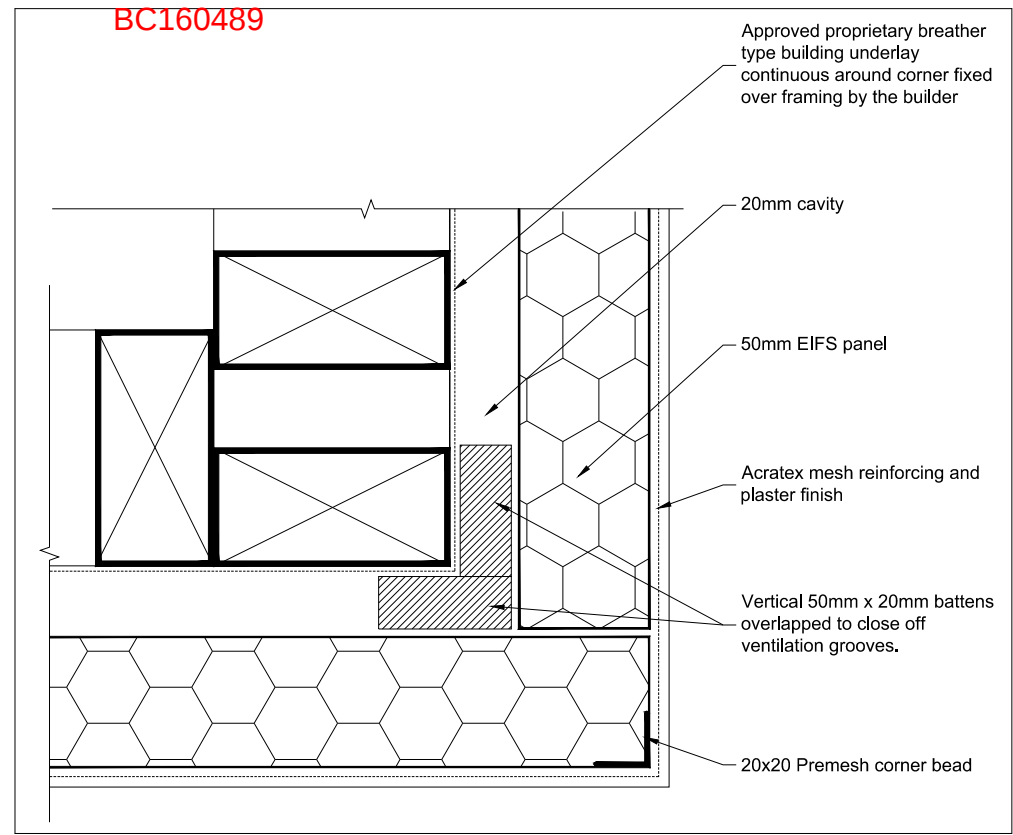
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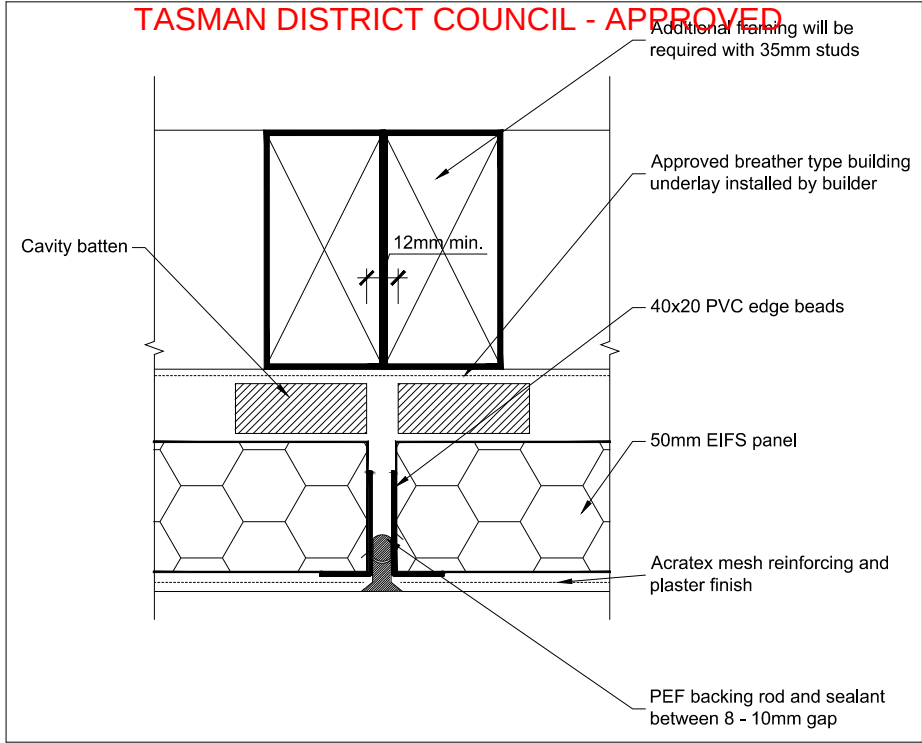
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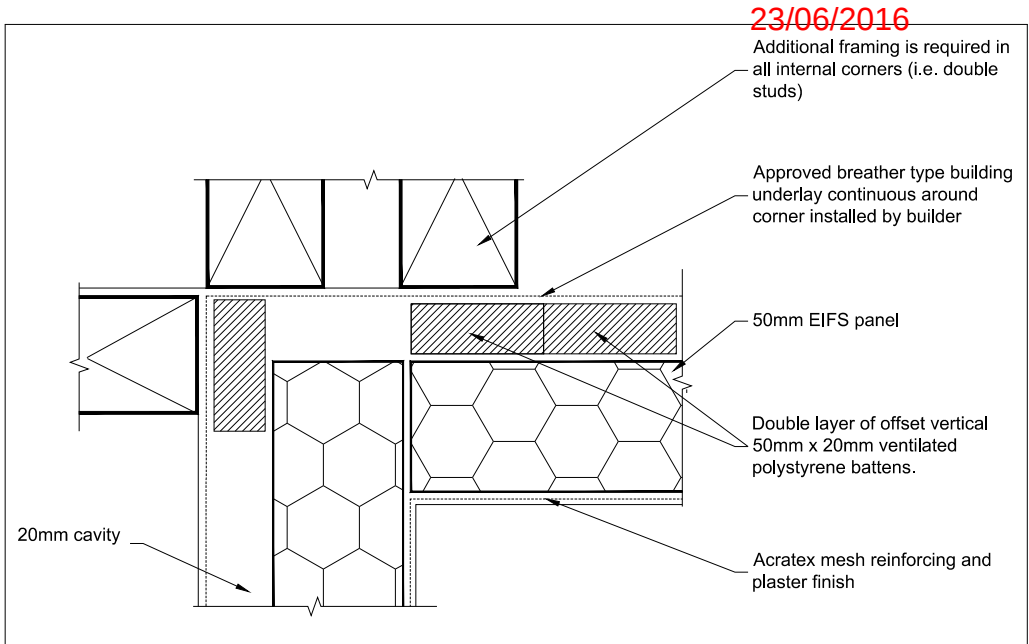
EXTERNAL CORNER

TASMAN DISTRICT COUNCIL - APPROVED



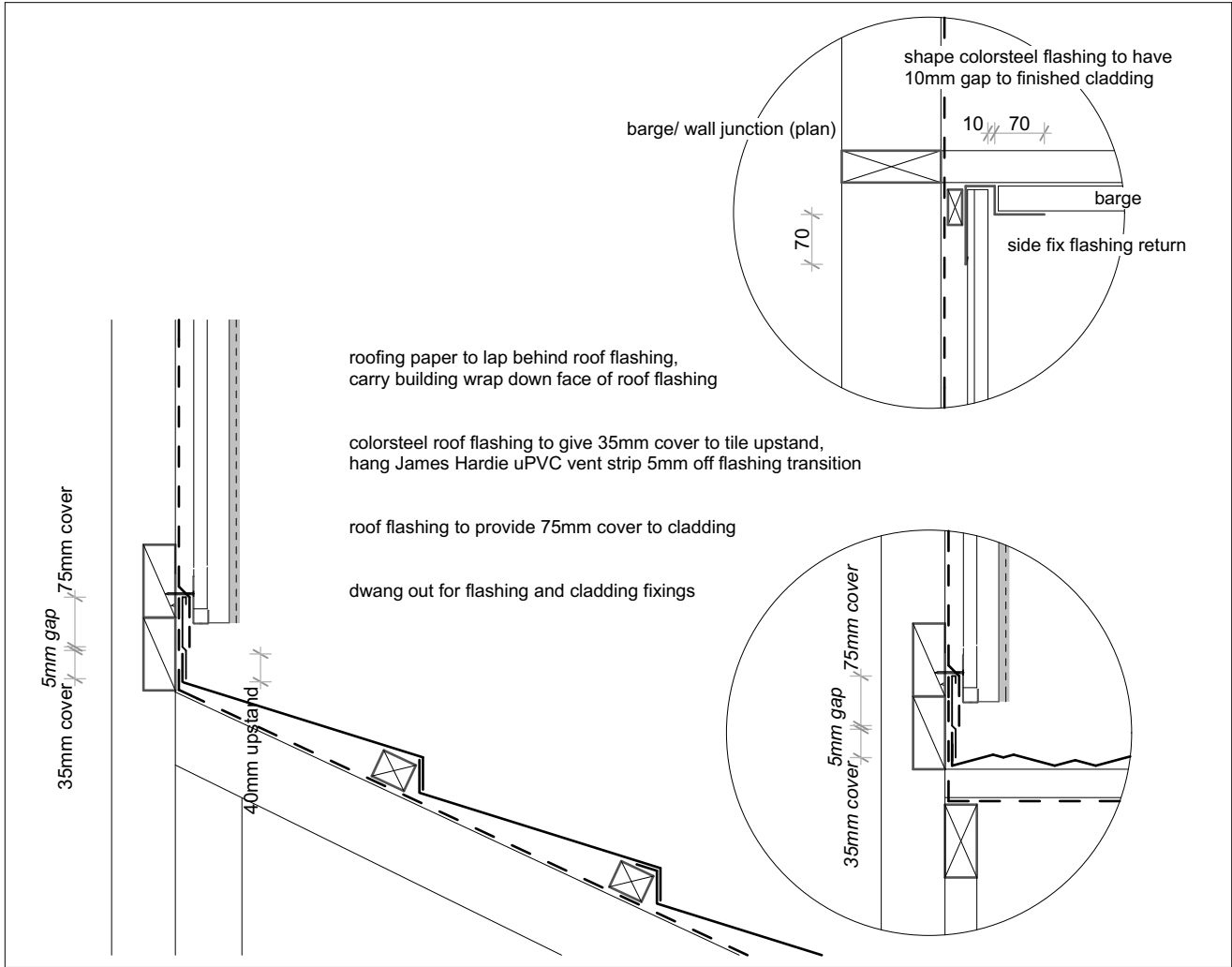
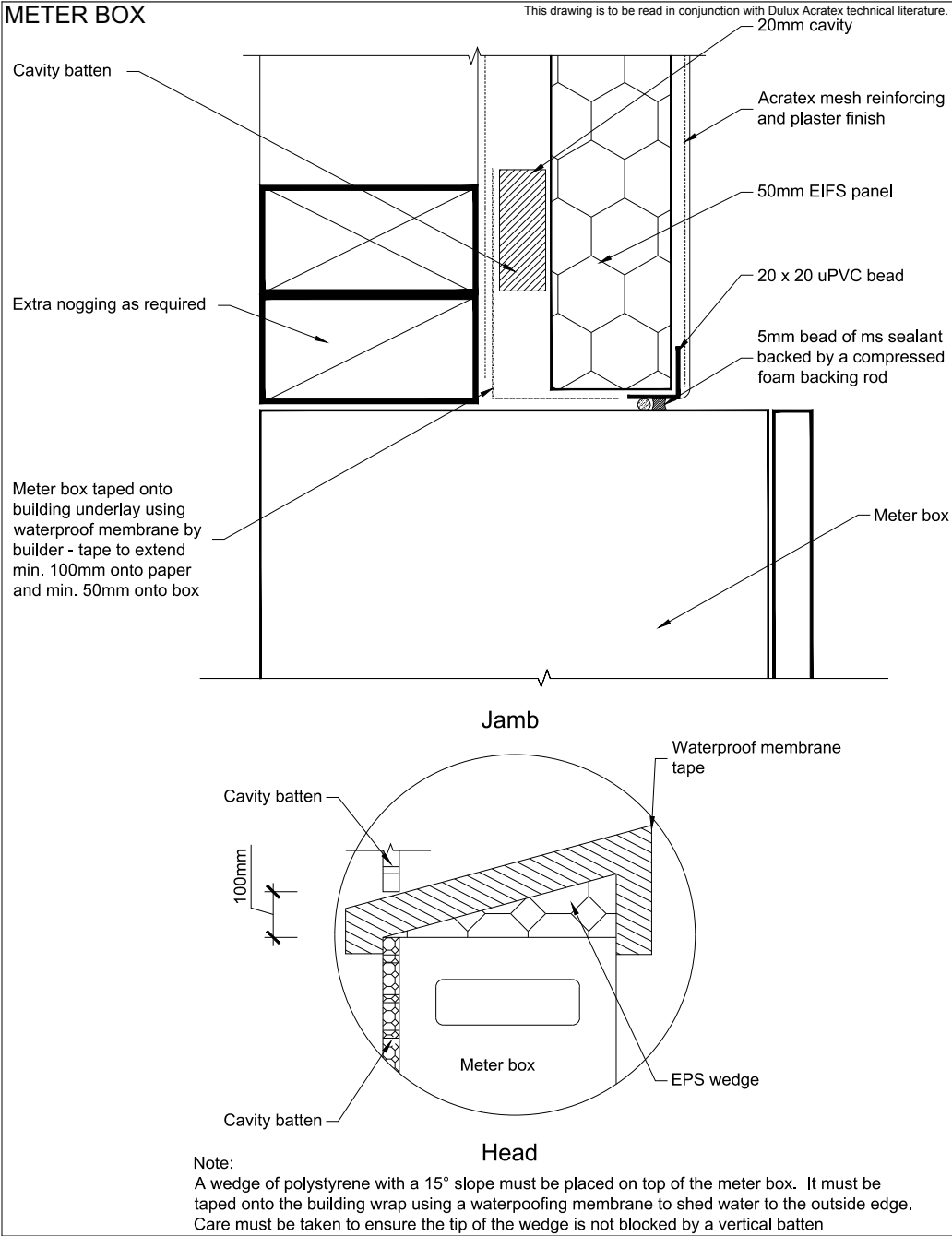
CONTROL JOINT

23/06/2016



INTERNAL CORNER

METER BOX



APRON FLASHING

1:10

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HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
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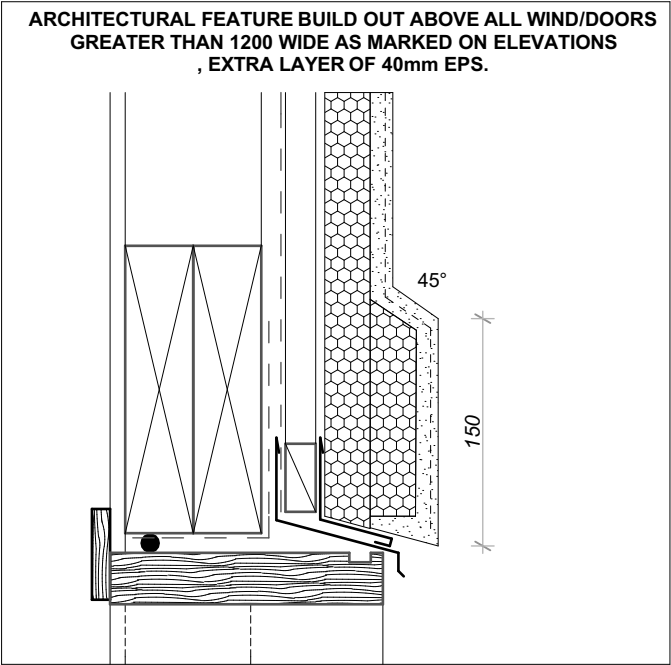
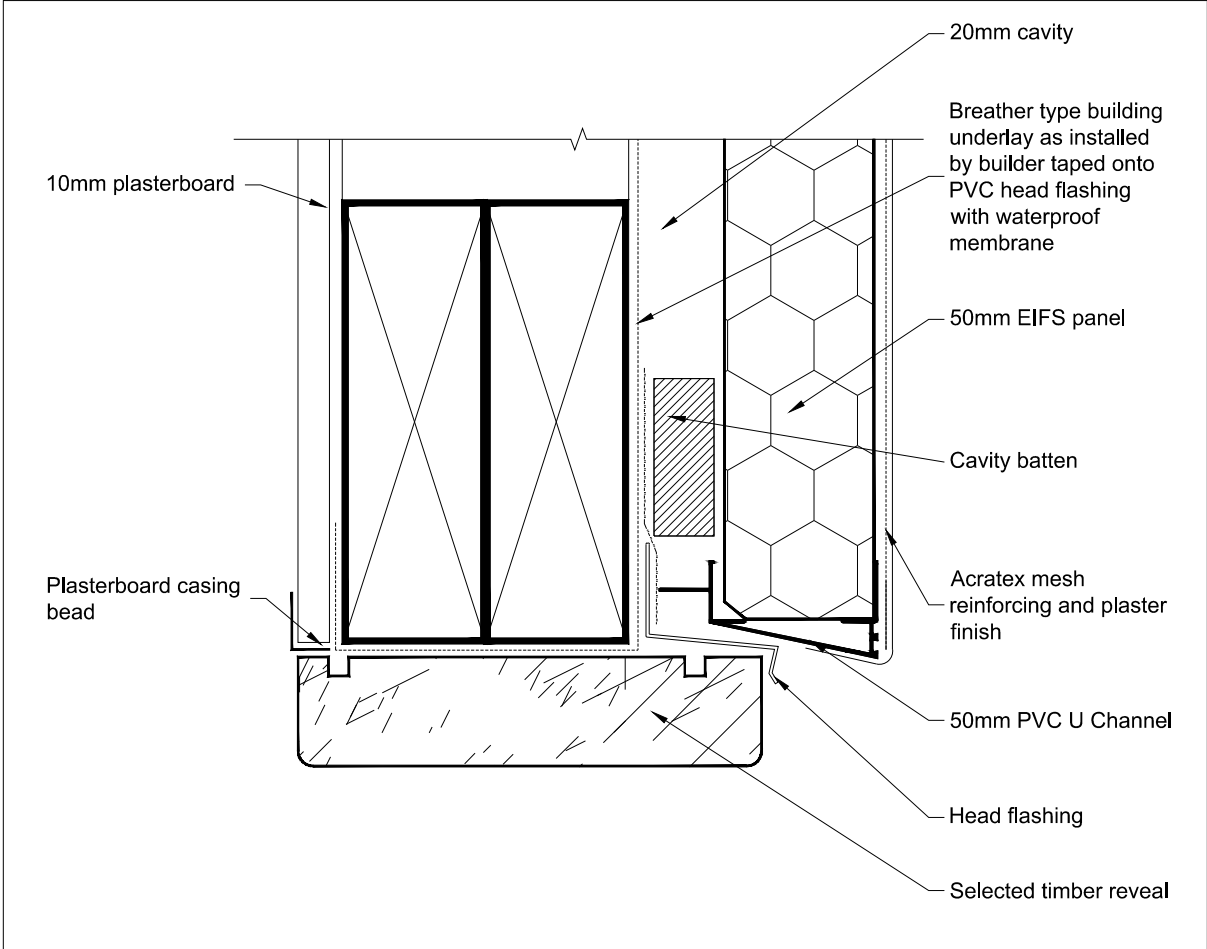
Earthquake Zone: 2

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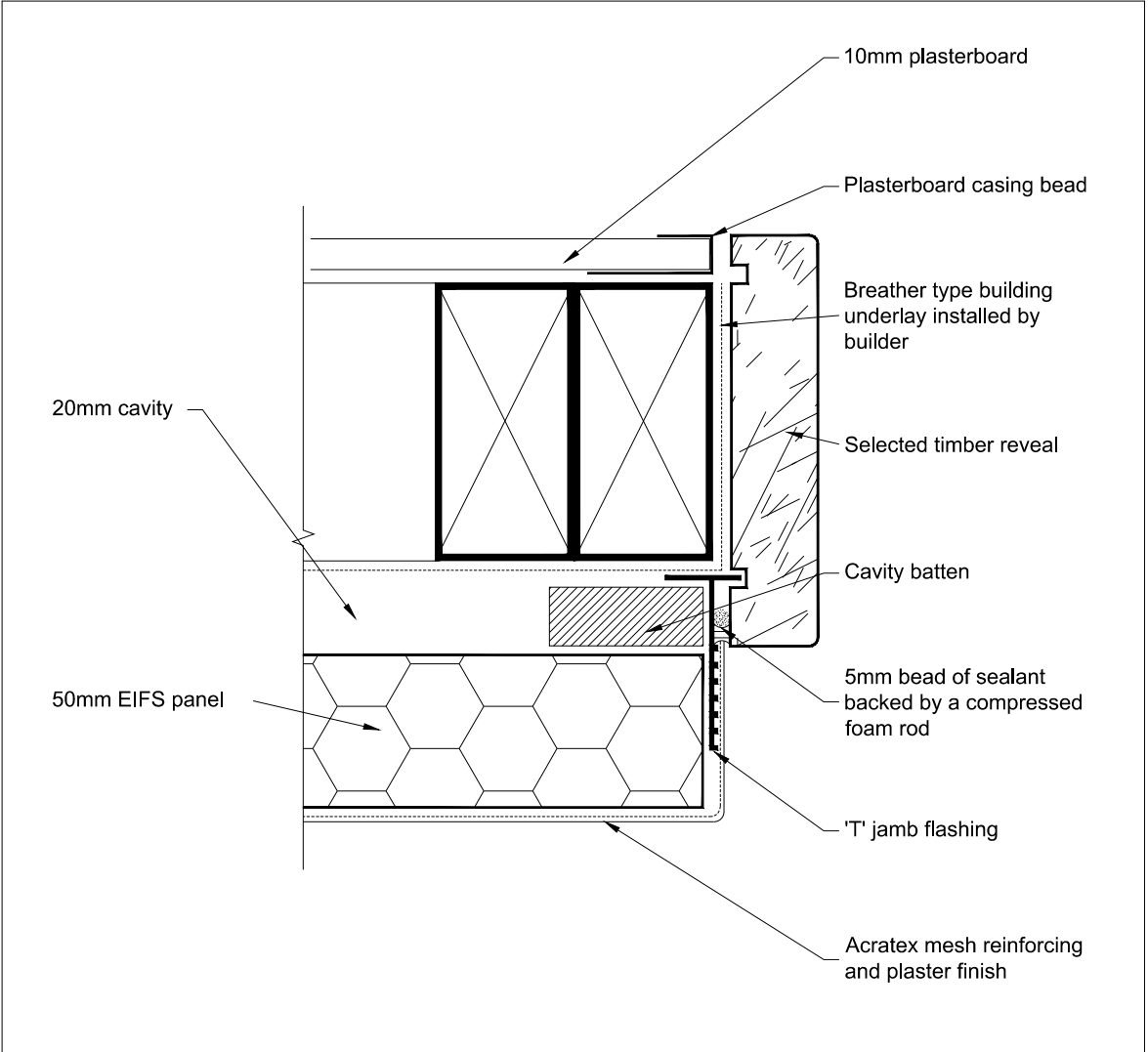
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05	Scale. 1:5, 1	Drawn.	17 44
	Date: 4/05/2016		

Job Number

598



GARAGE HEAD
SEE ARCHITECTURAL FEATURE



GARAGE JAMB



Orange Residential

HOMES

Orange Residential Homes Ltd,
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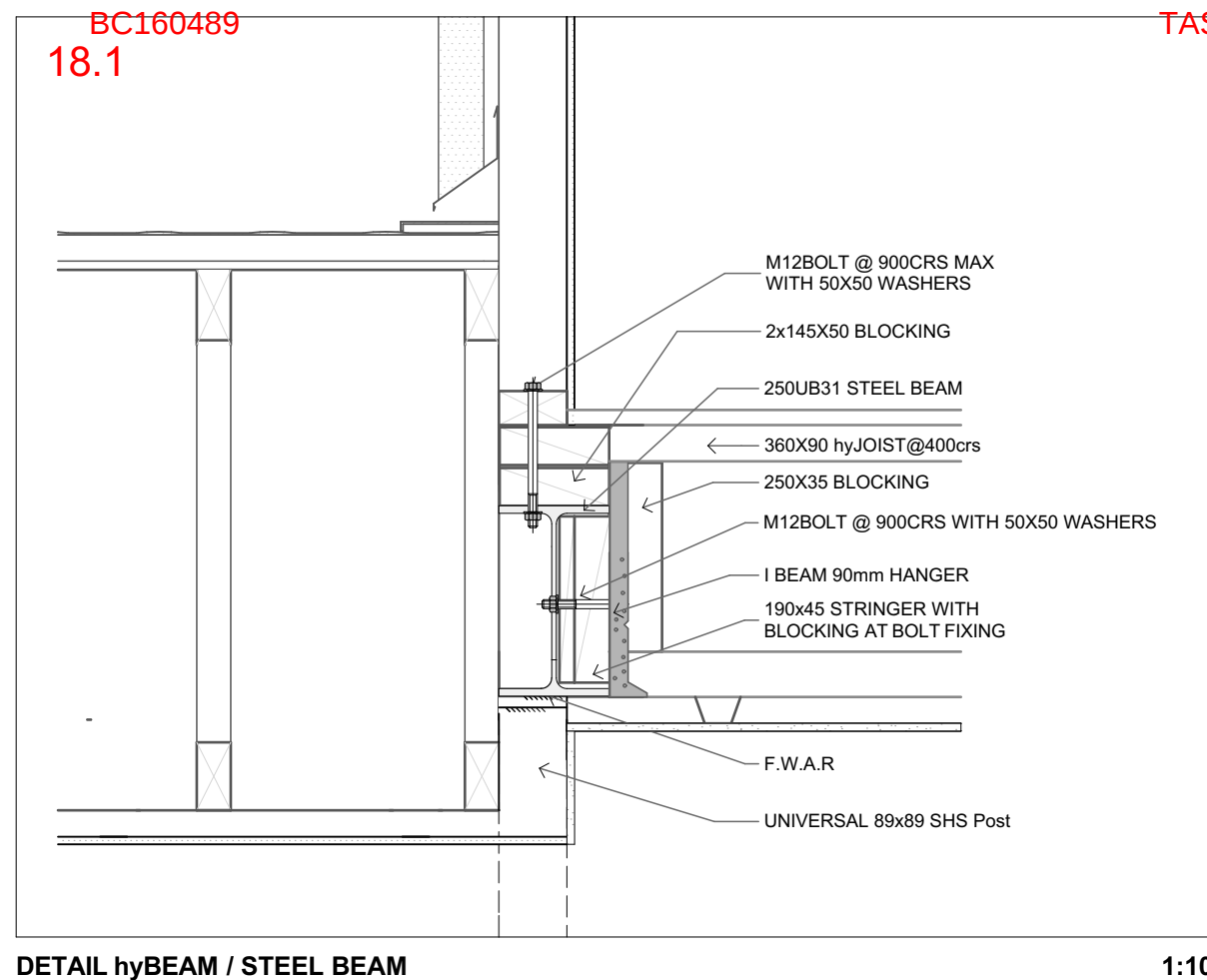
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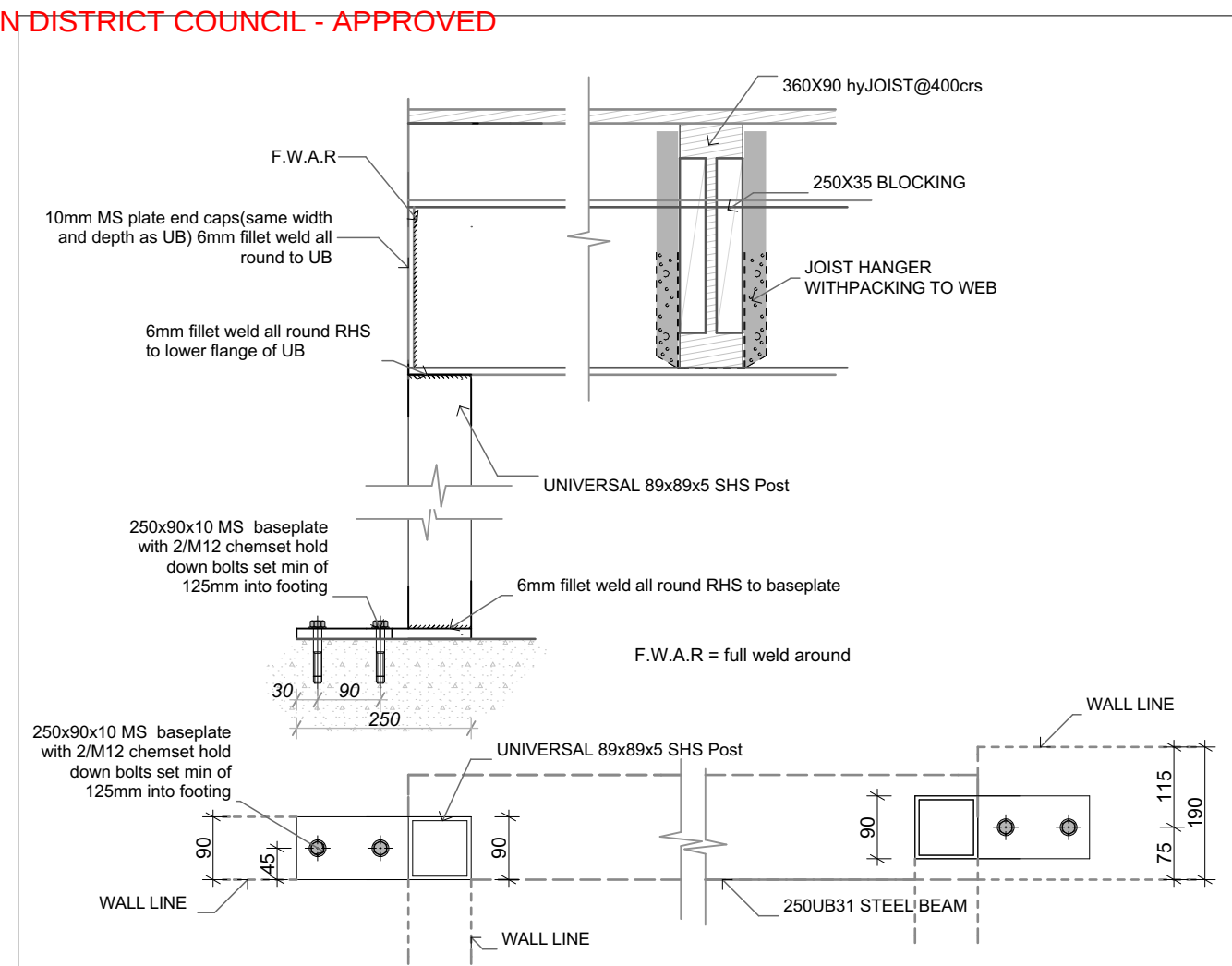
Job Number

598



DETAIL hyBEAM / STEEL BEAM

1:10



DETAIL STEEL BEAM

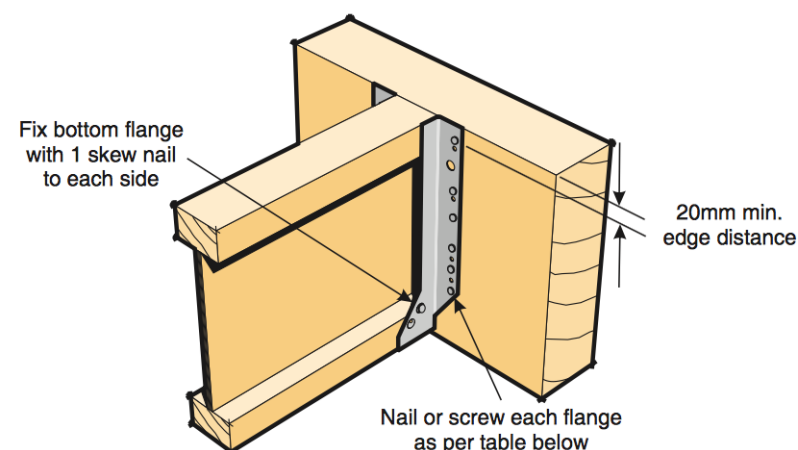
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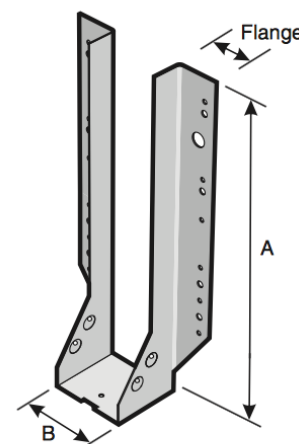
07/2011

I-BEAM HANGERS FOR FACE FIXING OF I-BEAMS TO FLOOR BEAMS

The I-Beam Hanger Face Fix has been developed to provide an effective method of fixing timber I-Beams to supporting timber beams in floor situations.



1. Fix I-Beam Hanger with 35mm x 3.75 dia. galvanised nails to face of supporting beam through small holes (4mm dia.). Alternatively use Type 17-12g x 35mm screws in the larger holes (6mm dia.). Refer to table for quantity of nails/screws required.
2. Fix bottom I-Beam flange using 2 x 35mm x 3.75 dia. galvanised nails. Select one dimple each side of the I-Beam which will allow a 35mm long nail to be driven fully home at a 45° angle.



Definition: Example IBHF30065
IBHF = Face Fix
300 = Height (A)
65 = Width (B)

Material: 1.15 G300 Z275 Galvanised Steel

Loadings

Hanger Type	Characteristic Loads (Down)			
	No. of Nails per flange	Nails	No. of Screws per flange	Screws
IBHF24055	5	12.0 kN	3	18.0 kN
IBHF24065	5	12.0 kN	3	18.0 kN
IBHF24090	5	12.0 kN	3	18.0 kN
IBHF30065	6	14.4 kN	4	24.0 kN*
IBHF30090	6	14.4 kN	4	24.0 kN*
IBHF36065	7	16.8 kN	5	24.0 kN*
IBHF36090	7	16.8 kN	5	24.0 kN*
IBHF40090	8	19.2 kN	6	24.0 kN*

Nails - 35mm x 3.75 dia. or Screws - Type 17-12g x 35mm Hex Head
Additional 2 nails are required for fixing to bottom flange.

*Maximum hanger load.

Characteristic Strengths have been derived from tests in accordance with NZS 3603:1993

Characteristic nail load = 1.2 kN/nail
Characteristic screw load = 3.0 kN/screw

(Top Fixing of I-Beams on reverse side)



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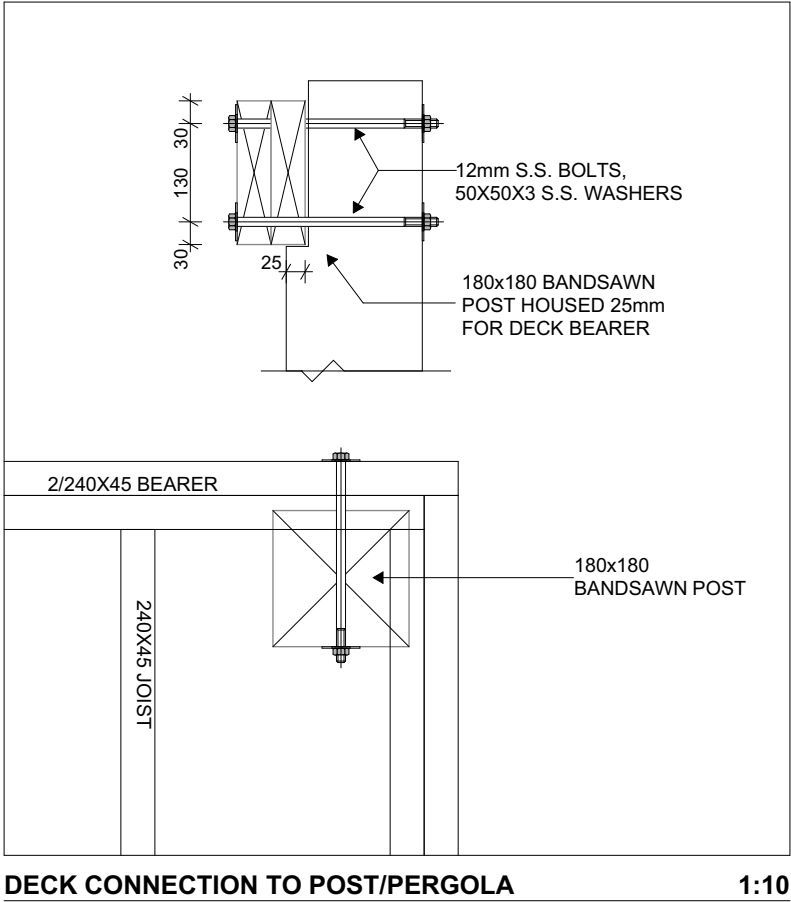
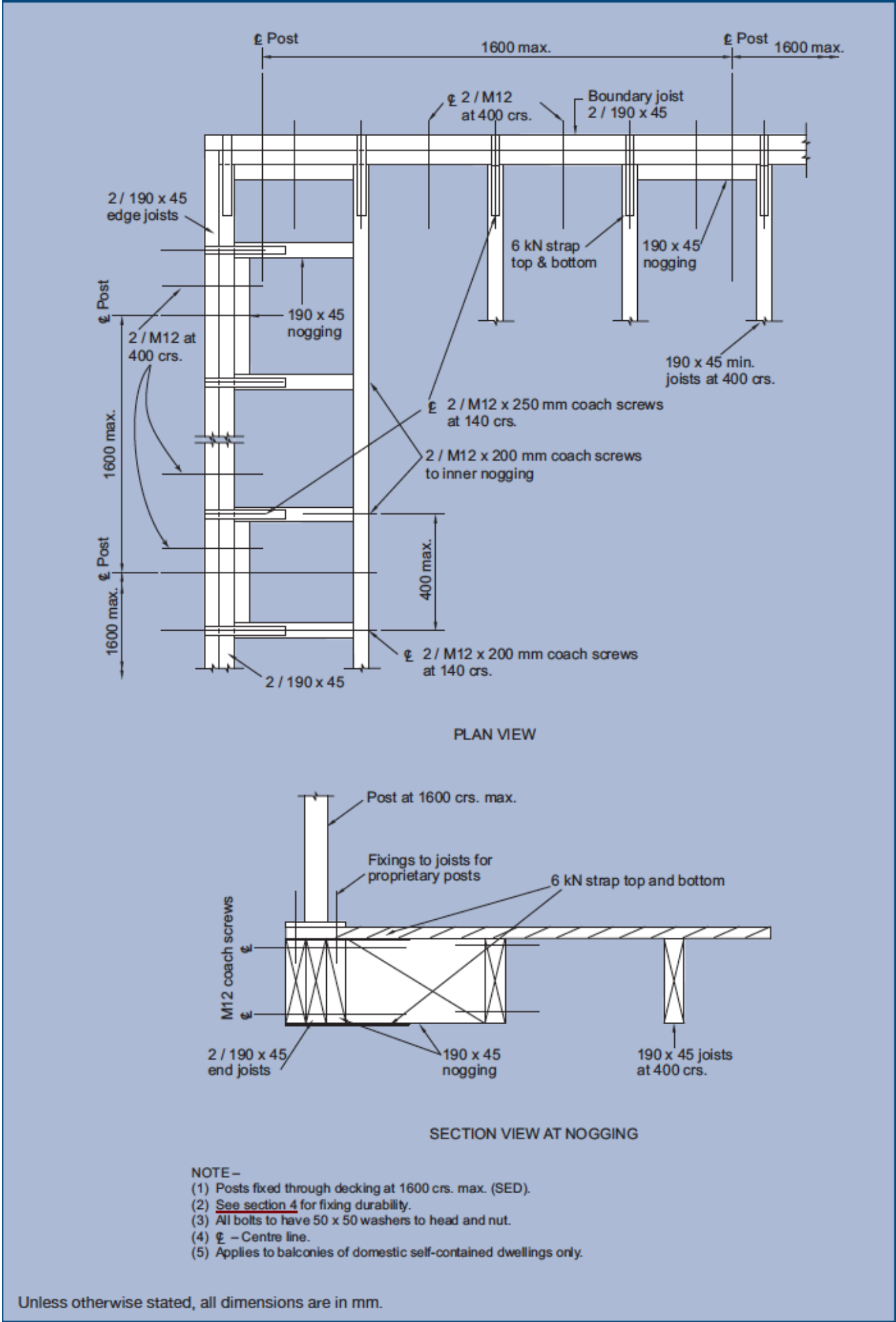
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STEEL BEAM DETAILS

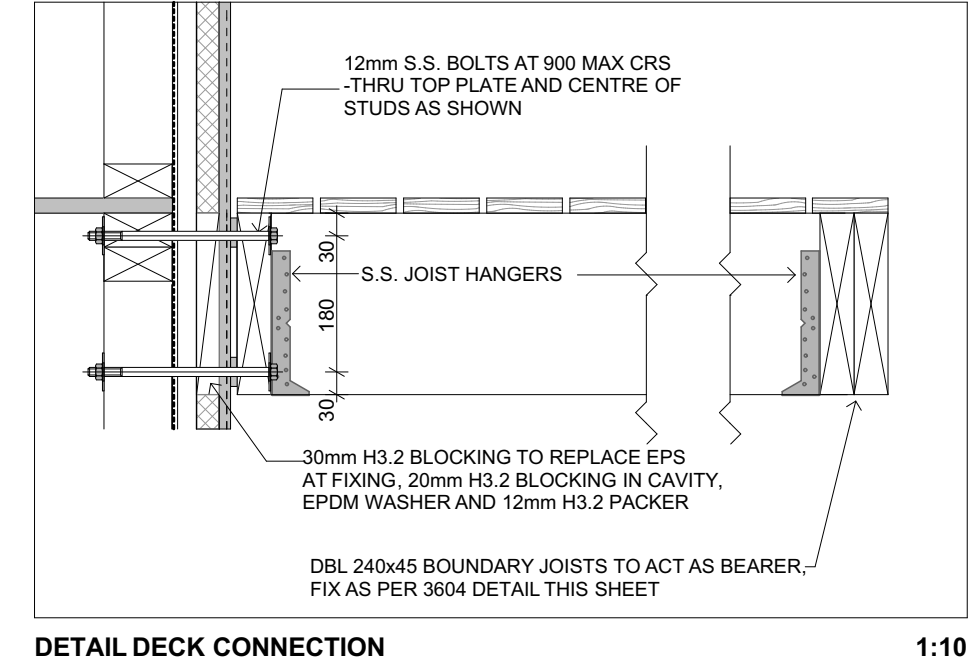
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Scale:	1:10	Drawn:	
Date:	4/05/2016		

Job Number

598



DECK RAIL TO BE
-ALUMA DECOR GLAZED ALUMINIUM & GLASS BALUSTRADE SYSTEM,
TOP FIXED -SEE ATTACHED INFO IN SPECIFICATION.
-INSTALLER TO PROVIDE PS4 ON COMPLETION





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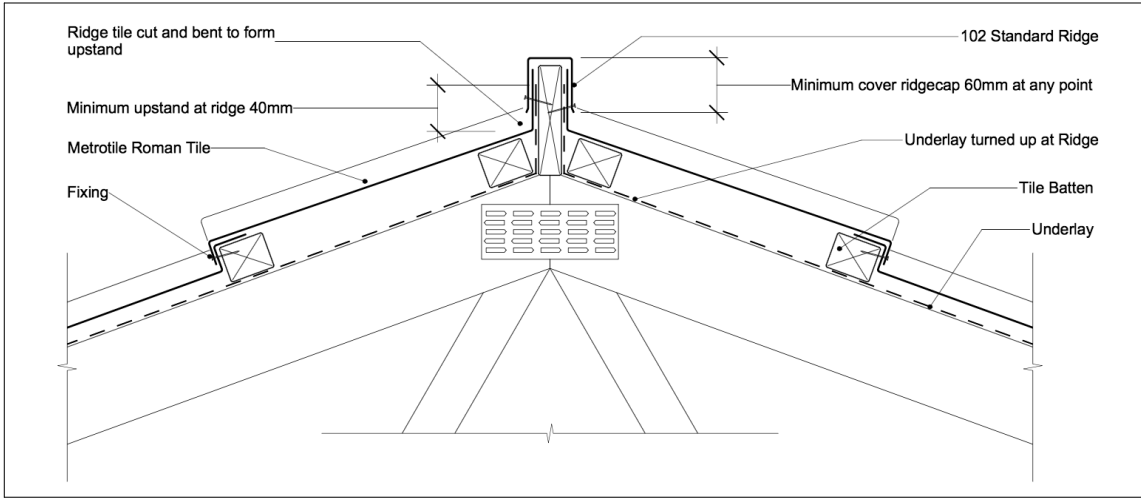
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DECK DETAILS

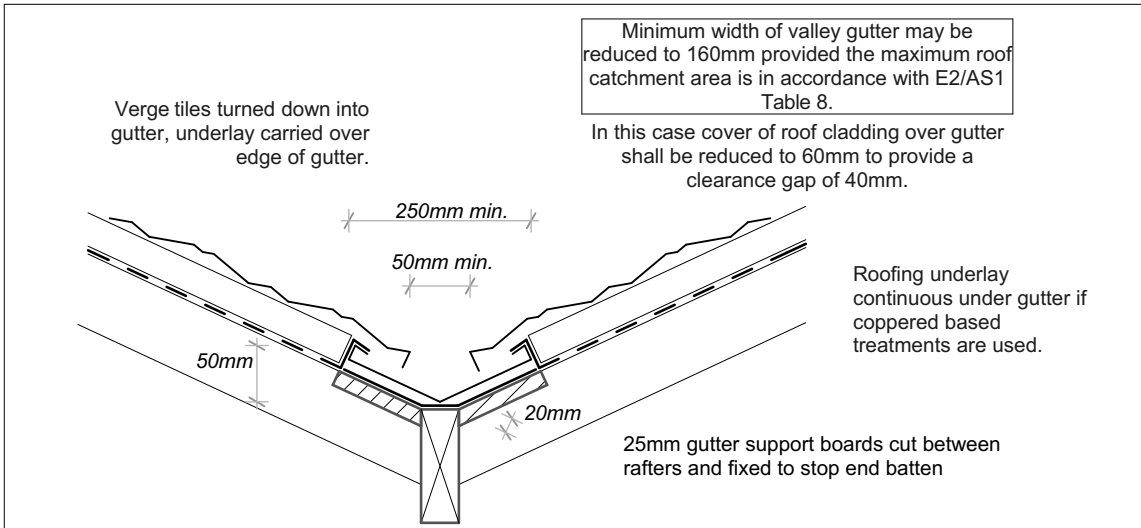
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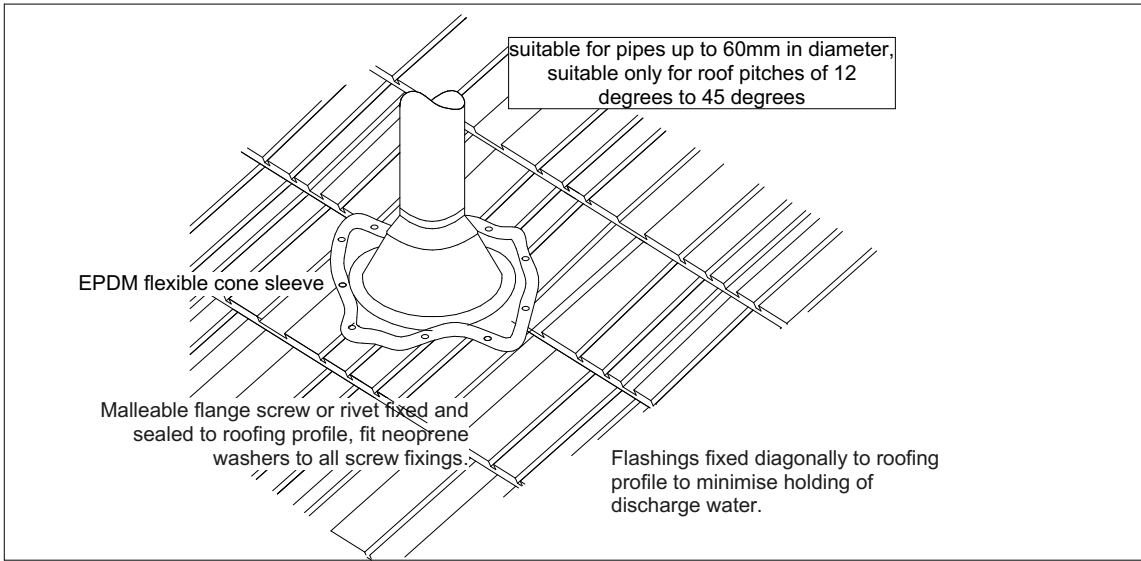
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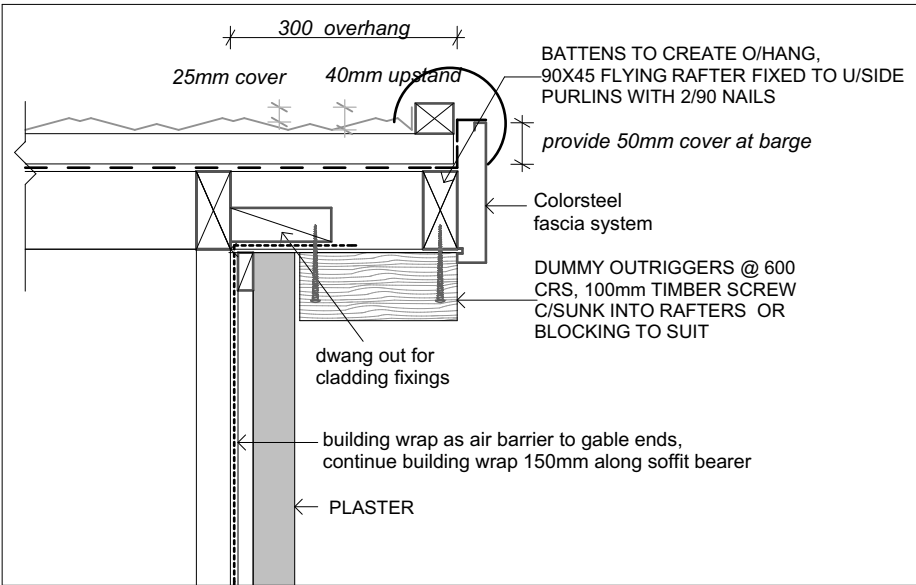
RIDGE 1:10



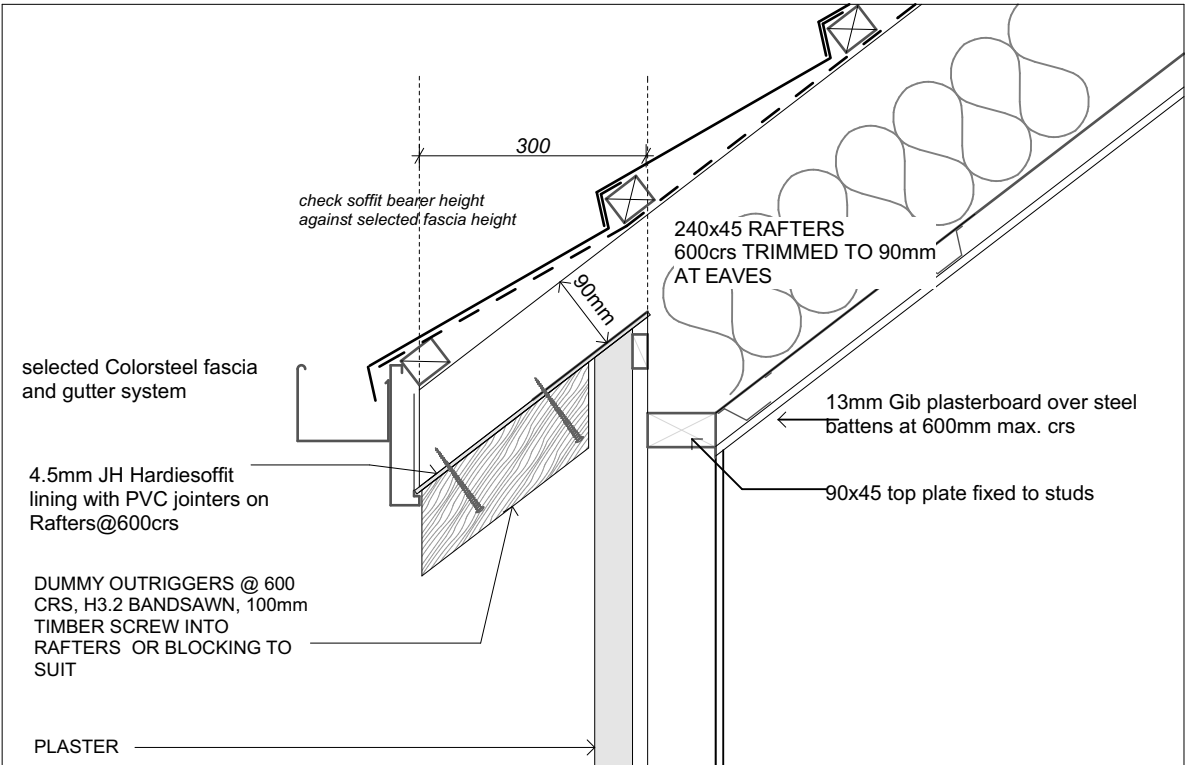
VALLEY 1:10



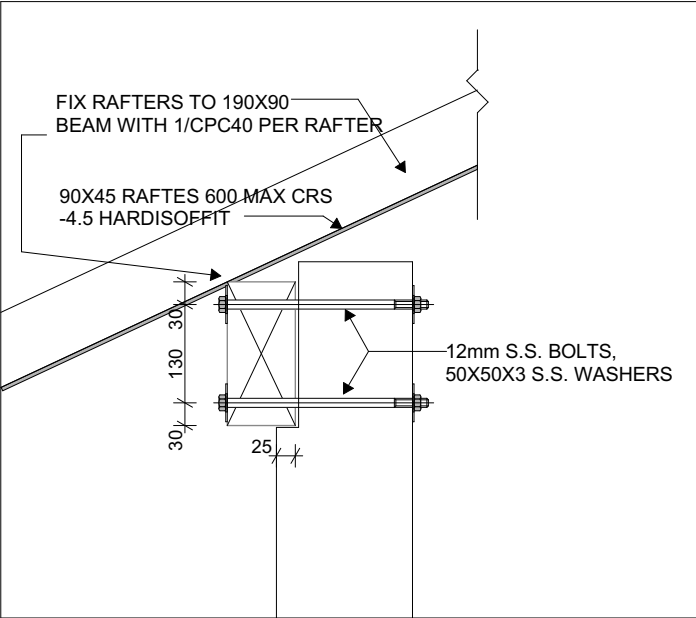
TV PENETRATION JOINT 1:10



GABLE END DETAIL 1:10



TYPICAL FASCIA DETAIL- APPLICABLE TO BOTH ROOFS 1:10



VERANDAH BEAM CONNECTIONS 1:10

Orange Residential

HOMES

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PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client: Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

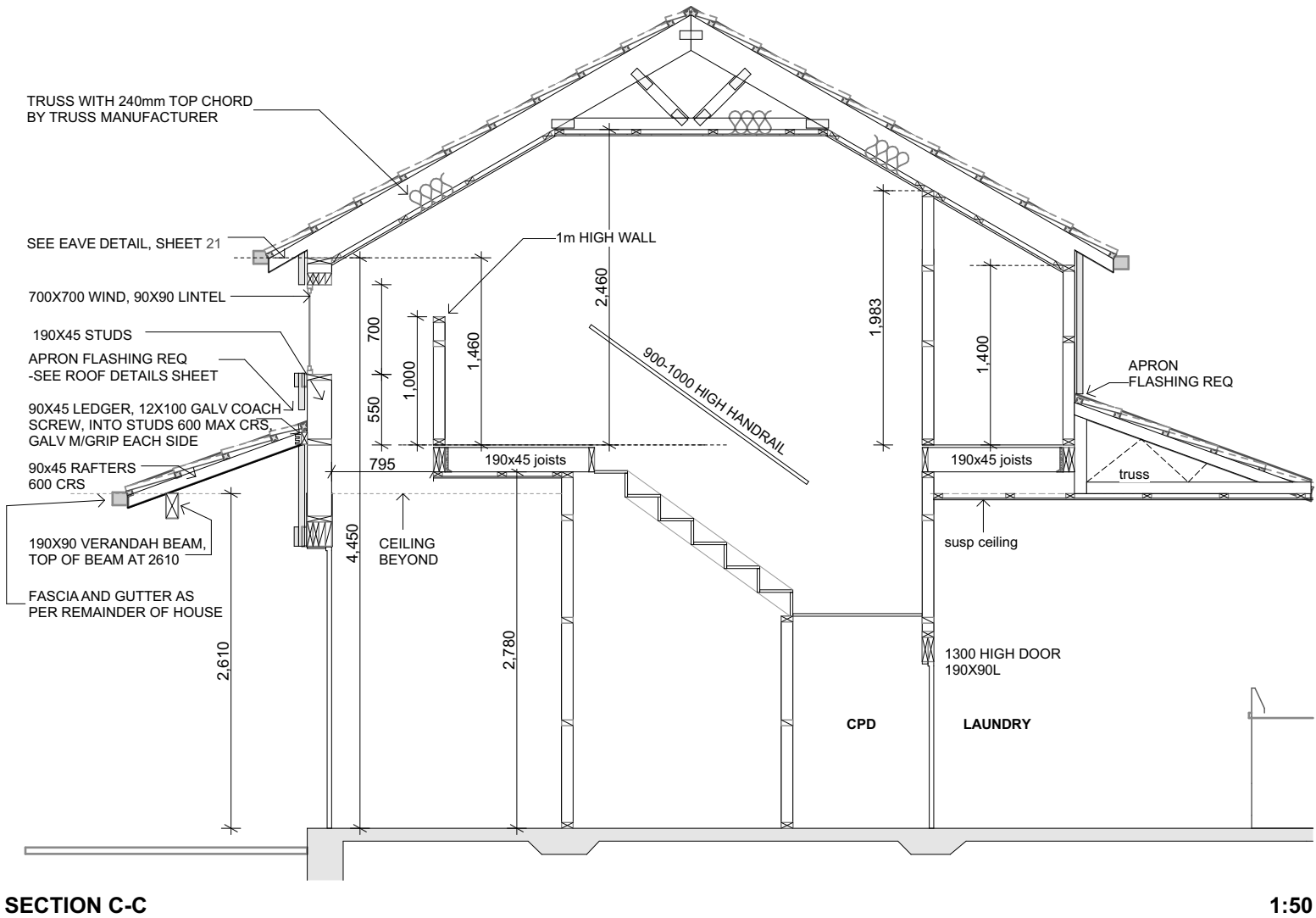
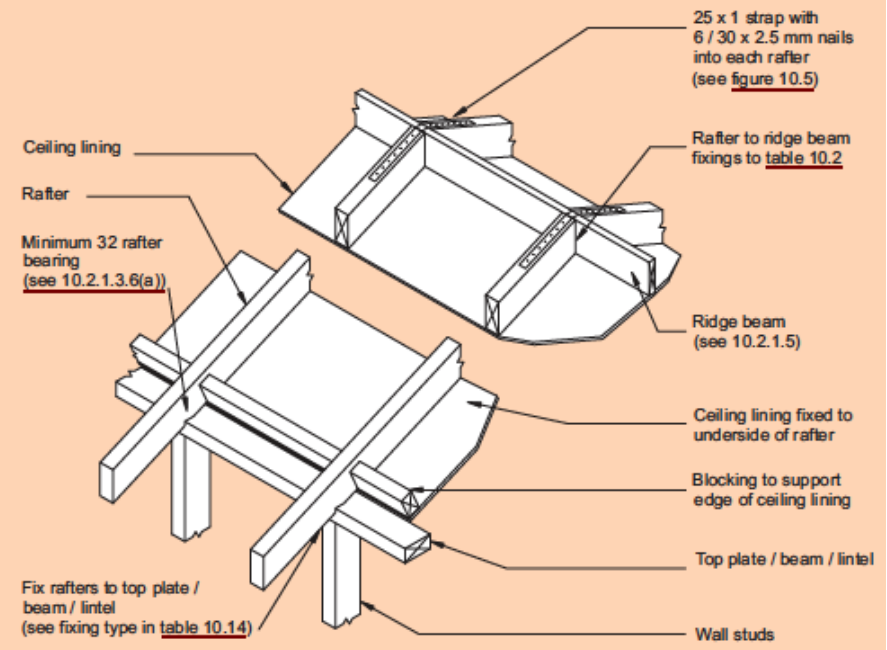
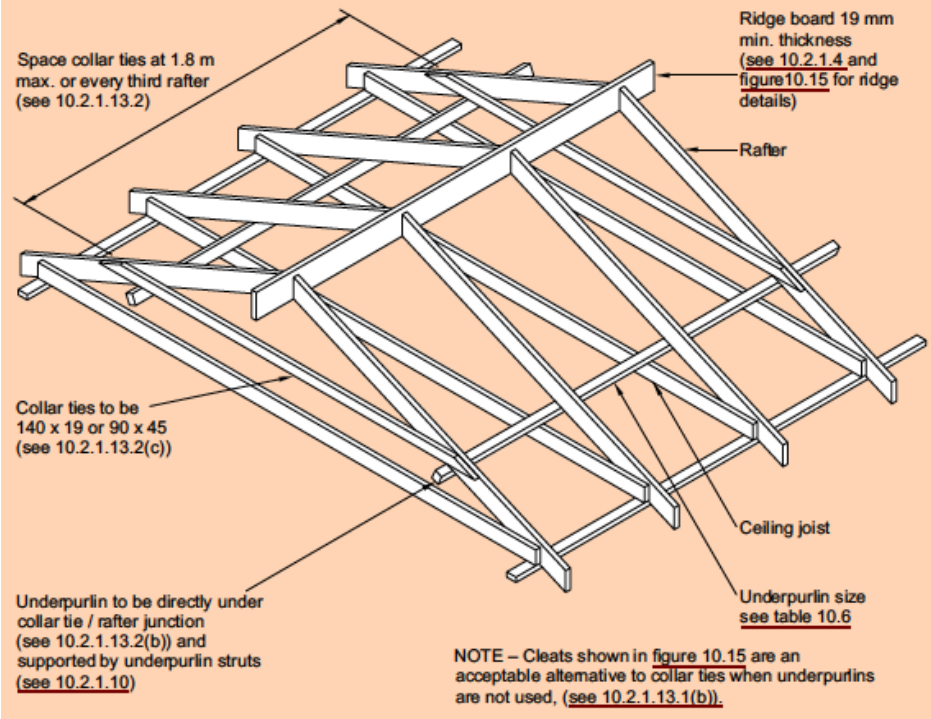
Project Information

Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

ROOF DETAILS

Version	Sales.	QS	Sheet
05	TONI	BG	21
	Scale.	Drawn.	
	Date:	4/05/2016	

Job Number 598





Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client: Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

Roof: 20/30° Pressed Metal Tile

Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

UPPER ROOF DETAILS, SECT C-C

Version	Sales.	QS	Sheet
05	TONI	BG	22
	Scale.	Drawn.	
	1:50		
	Date:	4/05/2016	

Job Number 598

ROOF FRAMING NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING CONSTRUCTION.
- TIMBER LINTEL AND RAFTER SIZES DETERMINED USING SG8 TABLES TAKEN FROM NZS 3604 2011
- MAIN MEMBERS ONLY SHOWN FOR CLARITY -PROVIDE ADDITIONAL FRAMING FOR PERIMETERS, SHEET JOINTS ETC. AS REQUIRED.
- WHERE TIMBER MEMBERS END CONNECT (BEAMS JOISTS ETC.) WITHOUT BEARING USE LUMBERLOK JOIST HANGERS OR MULTIGRIP CONNECTERS AS REQUIRED.

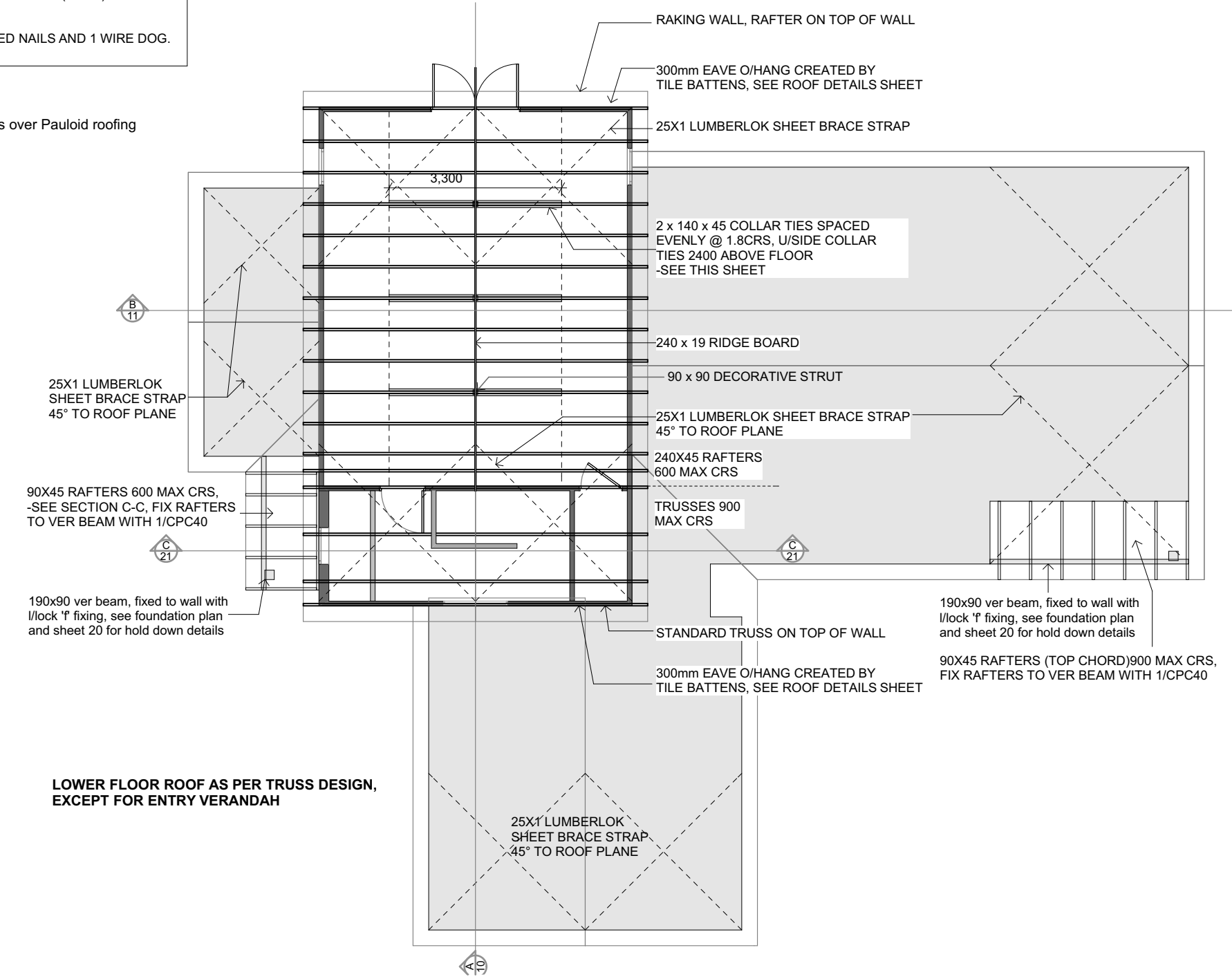
FIXINGS

- VERY HIGH WIND ZONE
- RAFTERS TO TOP PLATE WITH 2/100X3.75 SKEWED NAILS AND 2 WIRE DOGS (4.7KN)
- BATTENS TO RAFTERS WITH 1/100mm POWER DRIVEN NAIL
- TRUSSES FIXED AS PER TRUSS MANUFACTURERS SPEC
- LOAD BEARING WALL TOP PLATE TO STUDS WITH 2/100X3.75 SKEWED NAILS AND 1 WIRE DOG.
- FOR RAFTERS AT VERANDAHS SEE SHEET 20

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

ENTIRE ROOF
-Roman'pressed metal tile over 50x40 battens at 450mm max crs over Pauloid roofing underlay over trusses at 900mm max crs by approved fabricator



ROOF PLAN

1:100



Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:

Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

Roof: 20/30° Pressed Metal Tile

Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

ROOF FRAMING PLAN

Version	Sales.	QS	Sheet
05	TONI	BG	23
	Scale.	Drawn.	
	1:200		
	Date:		
	4/05/2016		

Job Number **598**



10/2011

LINTEL FIXING SCHEDULE

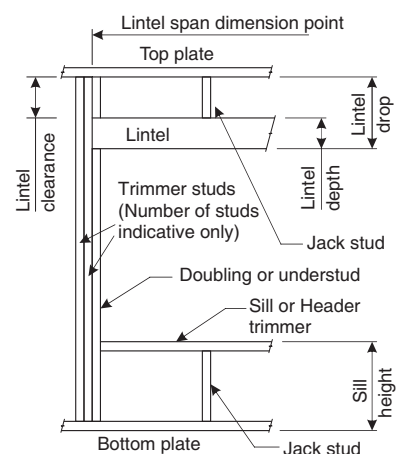
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12

NZS 3604:2011

NOTE:

- ★ All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
- ★ Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist horizontal loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections have been made.
- ★ All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:2011.

DEFINITIONS



Lintel Supporting Girder Trusses:

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

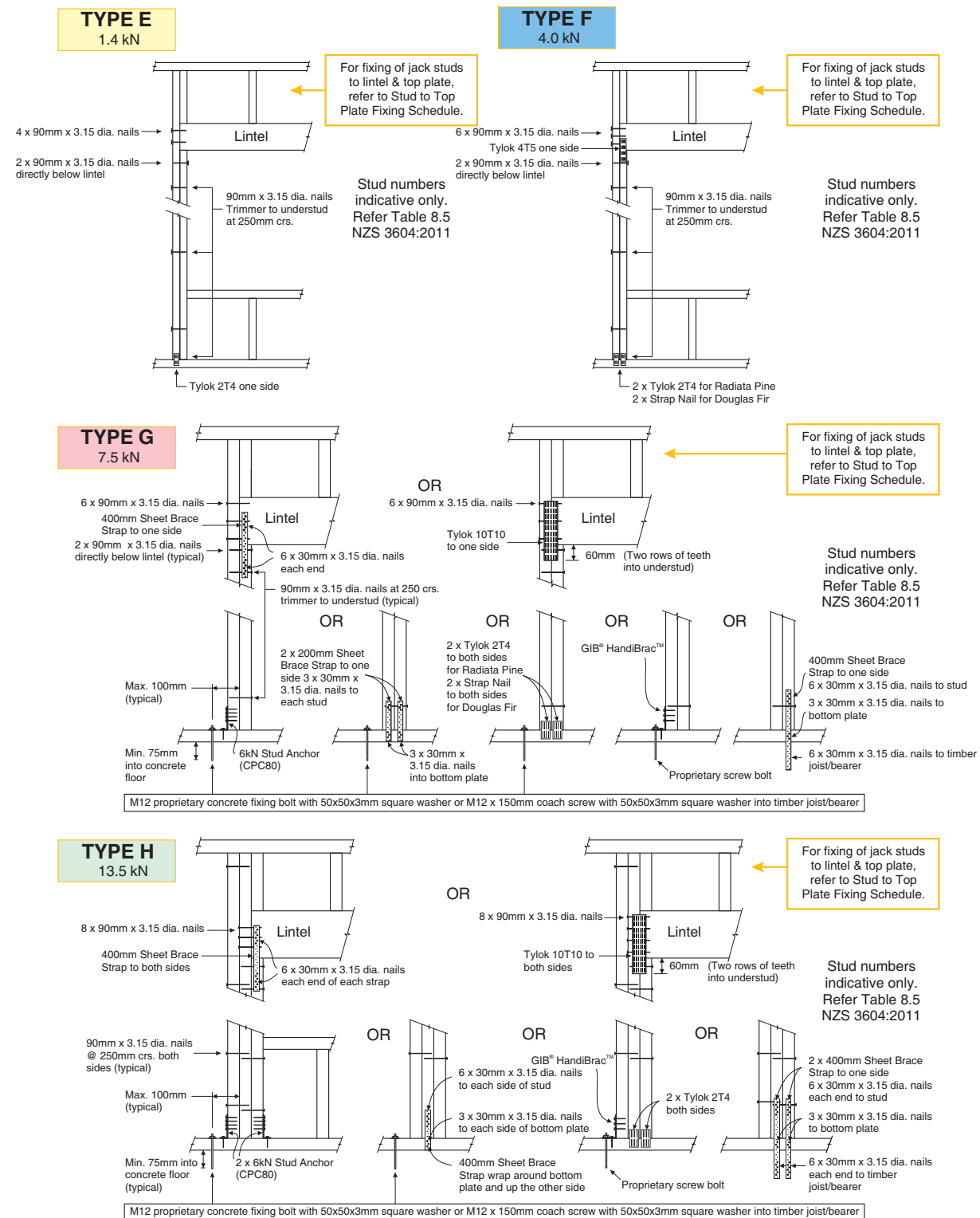
Notes:

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

SELECTION CHART FOR LINTEL FIXING

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

LINTEL FIXING OPTIONS



MiTek New Zealand Limited

AUCKLAND
PO Box 58-014, Botany 2163
Phone: 09-274 7109
Fax: 09-274 7100

CHRISTCHURCH
PO Box 8387, Riccarton 8440
Phone: 03-348 8691
Fax: 03-348 0314

www.mitek.co.nz

GANG-NAIL® LUMBERLOK® BOWMAC®

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Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:

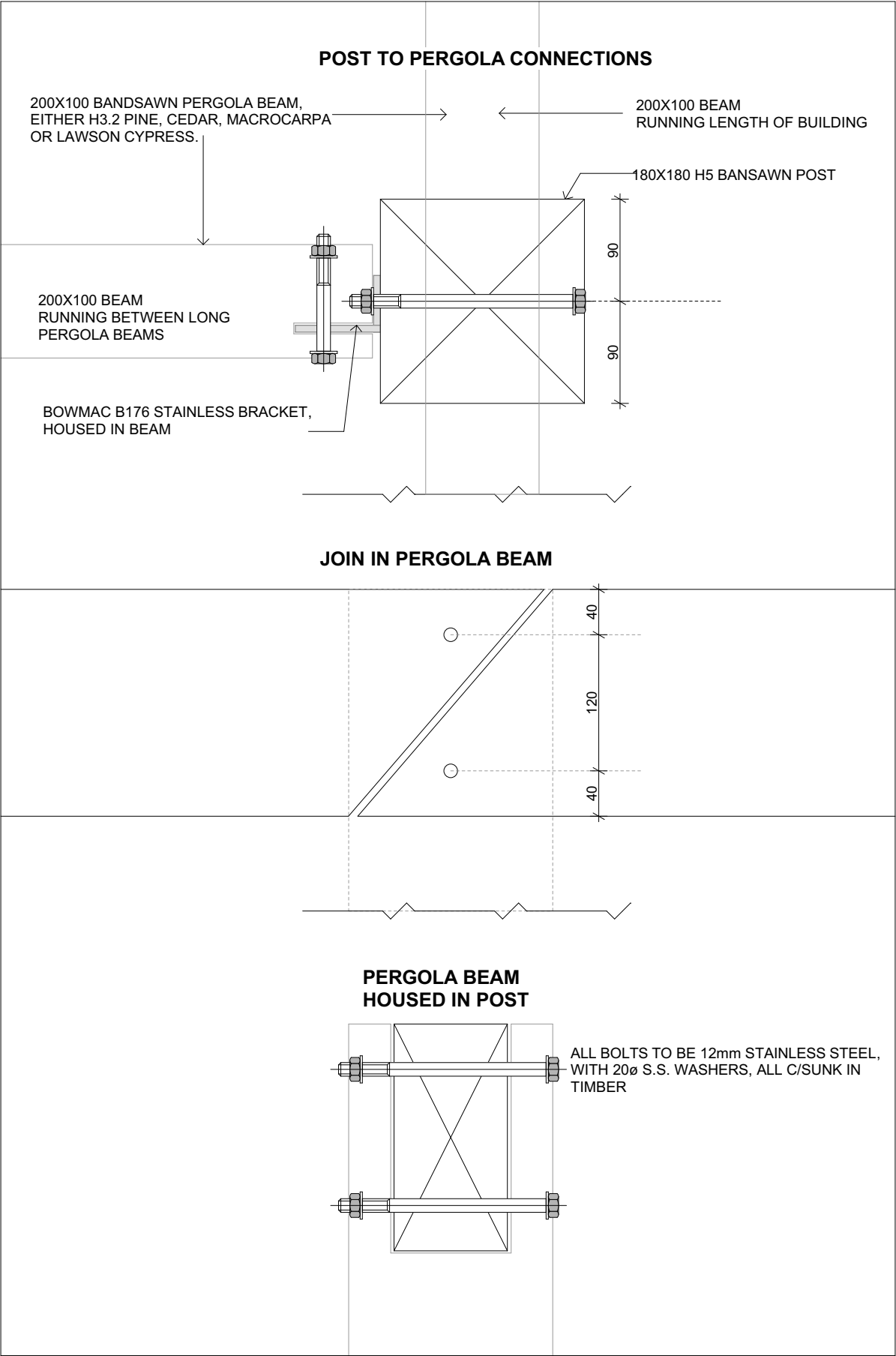
Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

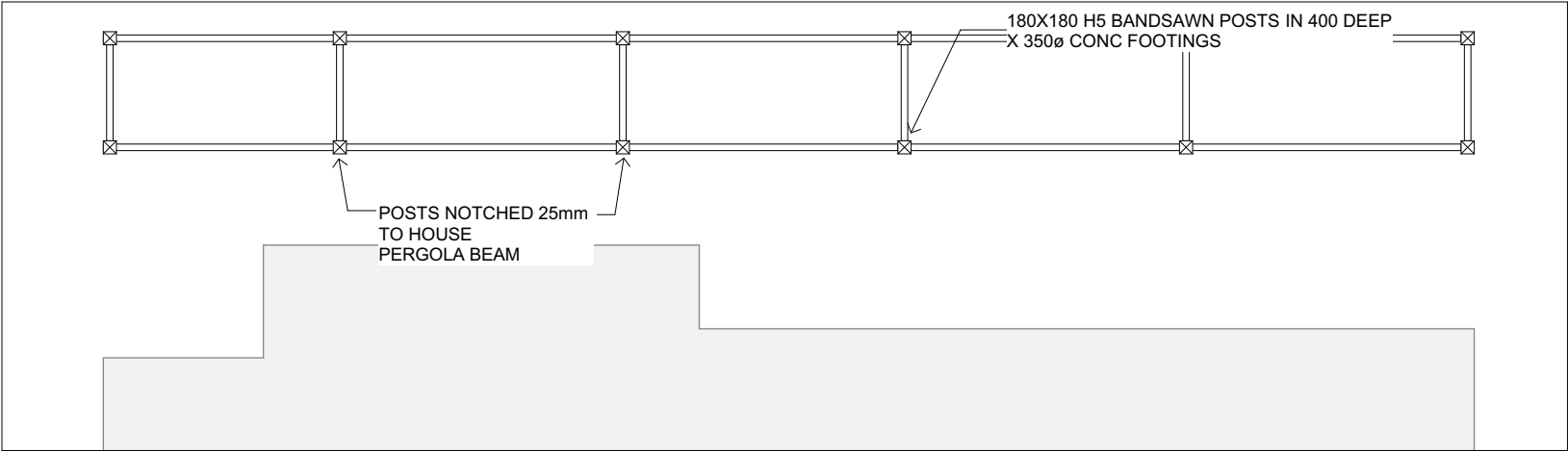
Roof: 20/30° Pressed Metal Tile
Walls: Dulux Acratex plater System
Feature Walls: N/A
Wind Zone: Very High
Snow Region: N3
Durability Zone: C
Earthquake Zone: 2

LINTEL FIXINGS

Version	Sales.	QS	Sheet
05	TONI	BG	24
	Scale.	Drawn.	
	1:1.20		
	Date:		
	4/05/2016		
Job Number			
598			



PERGOLA POST FIXING DETAILS 1:5



PERGOLA PLAN 1:100



Orange Residential

HOMES

Orange Residential Homes Ltd,
264 Queen Street, Richmond
PO Box 3441, Richmond
Nelson, New Zealand
Phone: +64 3 543 9002
Fax +64 3 543 9008
Email: drawing@obg.co.nz
Website: www.obg.co.nz

Client:

Geraint & Linda Philp,
184 Horton Rd,
Beulah Estate, Tasman
Lot 2 DP 324764

Project Information

Roof: 20/30° Pressed Metal Tile

Walls: Dulux Acratex plater System

Feature Walls: N/A

Wind Zone: Very High

Snow Region: N3

Durability Zone: C

Earthquake Zone: 2

PERGOLA DETAILS

Version	Sales.	QS	Sheet
05	TONI	BG	25
	Scale.	Drawn.	
	1:5, 1		
	Date:		
	4/05/2016		

Job Number

598



BC160489

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

MiTek New Zealand Limited

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.mitek.nz.co.nz

Printed: 08:33:32 12 Oct 2015

MiTek 20/20 Engineering 4.6.6.282

PRODUCER STATEMENT for MiTek 20/20[®] TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Limited**

TO: **Building ConneXion Ltd t/a ITM Building Centres**

IN RESPECT OF: **MiTek[®] Truss Designs**

This producer statement covers the MiTek 20/20[®] truss design and the structural performance of the GANG-NAIL[®] connector plate for the job reference **7227** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20[®] truss design program has been developed by MiTek New Zealand Limited for the design of MiTek[®] timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20[®] are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20[®] truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Limited,

Date: Monday, 12 October 2015

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

Job: 7227

Client: ORANGE RESIDENTIAL

Site: Geraint & Linda Philp

Description:
Building Consent No.:
MiTek 20/20 Engineering 4.6.6.282

BC160489

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

Phone:

Printed: 08:33:32 12 Oct 2015

MiTek New Zealand Limited.

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Building ConneXion Ltd t/a ITM Building Centres**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20® TRUSS DESIGN DATA

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek® trusses.

Job Details**Roof Truss**

Timber Group: DDF1.2
Roof
 Material: Metal Tiles
 Dead Load: 0.210 kPa
 Restraints: 400 mm centres
 Live Load: Qur = 0.250 kPa
 Qc = 1.100 kN

Importance Level : 2

Pitch: 15.000 deg
Ceiling
 Material: Gib Board 12mm
 Dead Load: 0.200 kPa
 Restraints: 600 mm centres
 Live Load: Qc = 1.400 kN

Design Working Life : 50 years

Nominal Overhang: 600 mm

Wind

Area: Very High (50.0 m/s)
 Pressure Coeff: Cpe = varies; Cpi = -0.30, 0.20

Snow

Location: Nelson (N3) at 220 m
 Open Ground Load: 0.300 kPa
 Basic Roof Load: 0.400 kPa

The timber for these MiTek® trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a “**closed environment**”, as defined by NZS3604:2011 Section 4.

MiTek® Truss List

Legend: * = detail only, ? = input only, ✕ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
 GB = gable brace required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
J01D	1	2872	15.000	900	J01B	1	2872	15.000	900	V01	1	1200	15.000	900
T03	1	6390	15.000	900	J01C	1	2872	15.000	900	*HB01	1	6139	18.249	900
T04	4	7590	15.000	854	J02	1	1972	15.000	900	*HB02	1	4017	18.249	900
T04A	1	7590	15.000	854	J02A	1	1972	15.000	900	*HB03	2	5007	18.249	900
T04B	3	7590	15.000	854	J03	1	2972	15.000	900	*R01	1	1685	25.000	900
T05	1	2100	15.000	755	J03A	1	2972	15.000	900	*R02	3	913	25.000	900
T06	1	5990	15.000	900	J03B	1	2972	15.000	900	*R02A	3	913	25.000	900
T07	4	5990	15.000	721	J04	1	2072	15.000	900	*R04	1	1513	25.000	900
TG01	1	6390	15.000	900	J04A	1	2072	15.000	900	*R05	2	1027	0.000	836
EN01	1	900	15.000	704	J04B	1	2072	15.000	900	*R06	1	1048	0.000	836
EN02	1	1200	15.000	900	J04C	1	2072	15.000	900	*R07	1	1785	25.000	900
EN03	1	2100	15.000	755	R03	1	1085	15.000	900	*R07A	1	1785	25.000	900
ET01	1	5130	25.000	718	T01	1	5130	15.000	718	*R08	1	6330	25.000	900
ET02	1	2872	25.000	900	T01A	2	5130	15.000	718	*R09	10	1273	0.000	780
J01	1	2872	15.000	900	T02	3	900	15.000	704					
J01A	1	2872	15.000	900	T02A	1	900	15.000	704					

Total quantity : 72**The computer design input has been carried out by:**Signed: 

Date: Monday, 12 October 2015

Name of Detailer: Mark Tolson

Qualifications and Title: Detailer

On behalf of:

Building ConneXion Ltd t/a ITM Building Centres:





BC160489

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

MiTek New Zealand Limited

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.mitek.nz.co.nz

MiTek 20/20 Engineering 4.6.6.322

Printed: 08:17:06 09 Jun 2016

PRODUCER STATEMENT for MiTek 20/20[®] TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Limited**

TO: **Building ConneXion Ltd t/a ITM Building Centres**

IN RESPECT OF: **MiTek[®] Truss Designs**

This producer statement covers the MiTek 20/20[®] truss design and the structural performance of the GANG-NAIL[®] connector plate for the job reference **7227** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20[®] truss design program has been developed by MiTek New Zealand Limited for the design of MiTek[®] timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20[®] are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution, to satisfy the requirements of Clauses B1 and B2 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence
- vi) Timber is graded to the requirements of NZS 3603:1993
- vii) Minimum timber treatment for these MiTek[®] trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20[®] truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Limited,

Date: Thursday, 9 June 2016

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

Job: 7227

Client: ORANGE RESIDENTIAL

Site: Geraint & Linda Philp

Description:
Building Consent No.:
MiTek 20/20 Engineering 4.6.6.322

BC160489

TASMAN DISTRICT COUNCIL - APPROVED

23/06/2016

Phone:

Printed: 08:17:06 09 Jun 2016

MiTek New Zealand Limited.

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Building ConneXion Ltd t/a ITM Building Centres**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20® TRUSS DESIGN DATA

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek® trusses.

Job Details**Roof Truss**

Timber Group: DDF1.2
Roof
 Material: Metal Tiles
 Dead Load: 0.210 kPa
 Restraints: 400 mm centres
 Live Load: Qur = 0.250 kPa
 Qc = 1.100 kN

Importance Level : 2

Pitch: 15.000 deg
Ceiling
 Material: Gib Board 12mm
 Dead Load: 0.200 kPa
 Restraints: 600 mm centres
 Live Load: Qc = 1.400 kN

Design Working Life : 50 years

Nominal Overhang: 600 mm

Wind

Area: Very High (50.0 m/s)
 Pressure Coeff: Cpe = varies; Cpi = -0.30, 0.20

Snow

Location: Nelson (N3) at 220 m
 Open Ground Load: 0.300 kPa
 Basic Roof Load: 0.400 kPa

The minimum timber treatment for these MiTek® trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003. The timber for these MiTek® trusses shall be graded to the requirements of NZS 3603:1993. Proprietary fixings and timber connectors shall be selected in accordance with NZS3604:2011 Section 4 - Durability.

MiTek® Truss List

Legend: * = detail only, ? = input only, ✕ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
 GB = gable brace required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
CT01	3	5990	35.000	715	T03B	3	7590	25.000	854	T08	1	2100	25.000	900
CT01A	1	5990	35.000	715	T04	4	5990	25.000	721	V01	1	1200	25.000	900
ET02	1	7590	25.000	925 GB	T06	4	7590	25.000	925	*R01	1	6330	25.000	900
ET03	1	5990	25.000	923	T07	3	5990	25.000	923	*R02	10	1273	0.000	780
T01	1	5130	25.000	718	EN01	1	900	25.000	704	*R03	1	8790	25.000	900
T01A	2	5130	25.000	718	ET01	1	5130	25.000	718	*R04	1	7190	25.000	900
T03	4	7590	25.000	854	T02	3	900	25.000	704	*R05	10	1478	0.000	888
T03A	1	7590	25.000	854	T02A	1	900	25.000	704	*R06	12	1480	0.000	870

Total quantity : 71

The computer design input has been carried out by:

Mark Tolson

Signed:

Date: Thursday, 9 June 2016

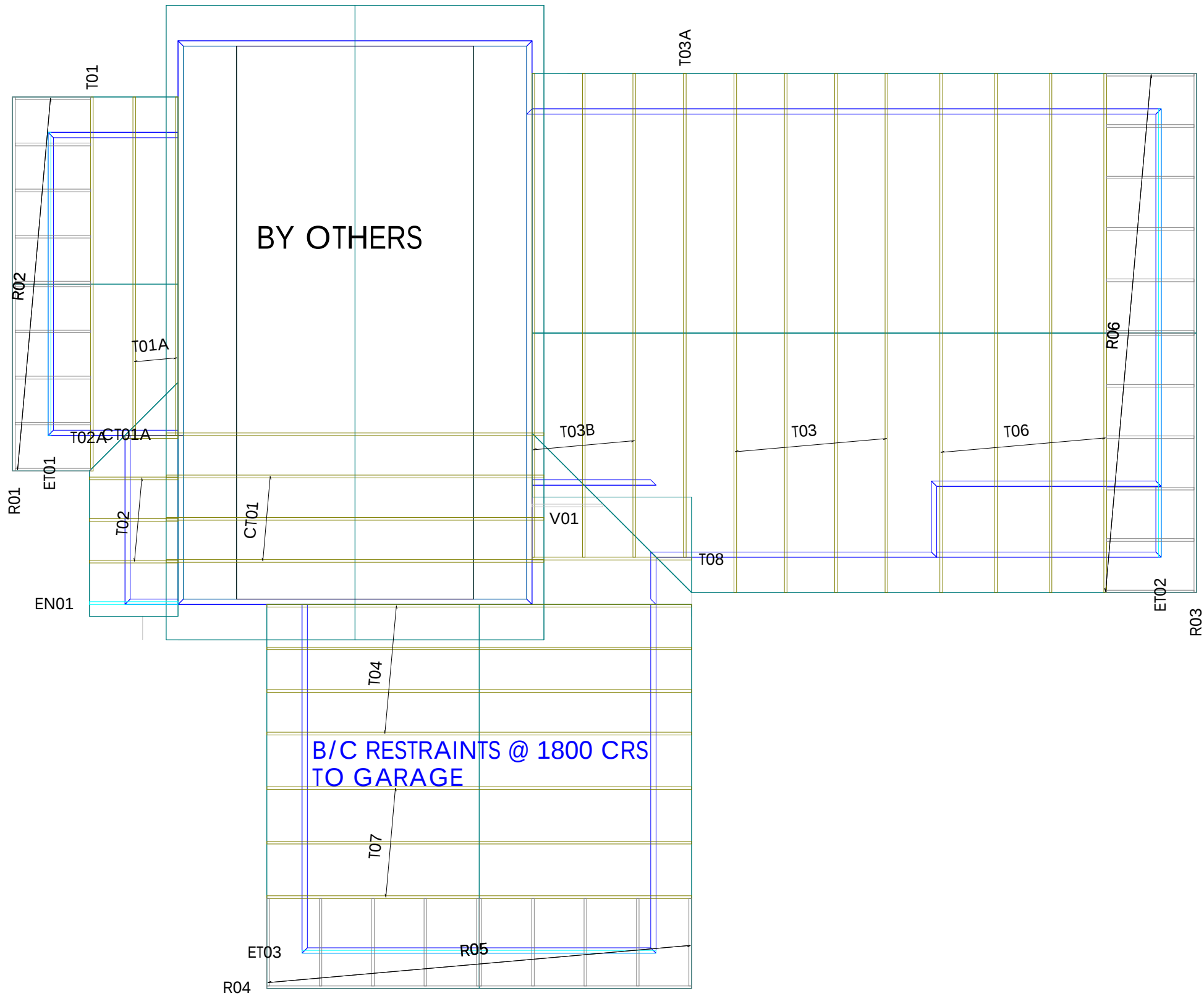
Name of Detailer: Mark Tolson

Qualifications and Title: Assistant Detailer

On behalf of:

Building ConneXion Ltd t/a ITM Building Centres:





VOID IF ITM FRAME AND TRUSS ARE NOT FABRICATORS



Site Address :
Geraint & Linda Philp
Lot 2 184 Horton rd
Beulah Estate

Sheet Title :
For Building Consent
Buildable Truss Layout

Date : 9 Jun,2016
Scale : 1: 130
Drawn : Mark Tolson
System : MiTek 20/20

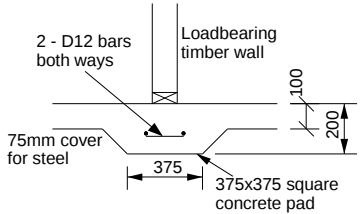
Job Details:
Roof Pitch : 15.000 Deg
Roof Material : Metal Tiles
Ceiling Material : Gib Board 12mm
Wind Zone : Very High
Roof Snow Load : 0.400 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 50.0 m/s

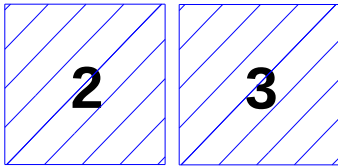


Job Title :
7227
Sheet :
1
Revision Number :

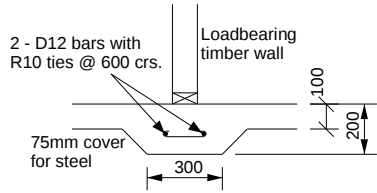
Slab Thickening Details



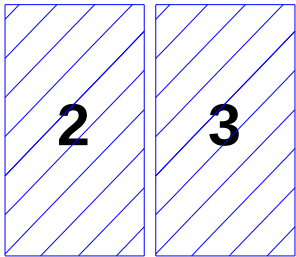
TYPE FP1 - 375x375mm Pad



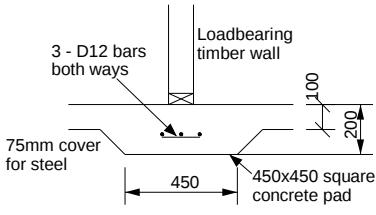
Number of Undercuts



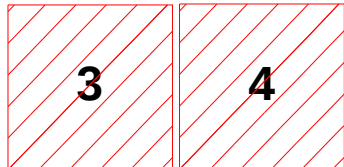
TYPE FS1 - 300mm Strip footing



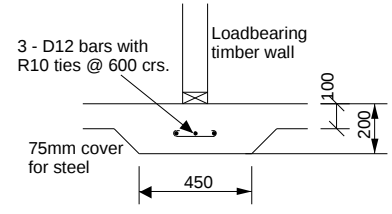
Number of Undercuts



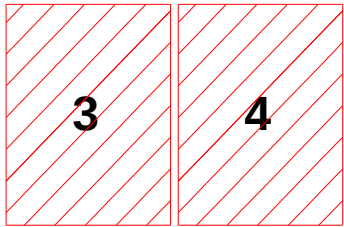
TYPE FP2 - 450x450mm Pad



Number of Undercuts



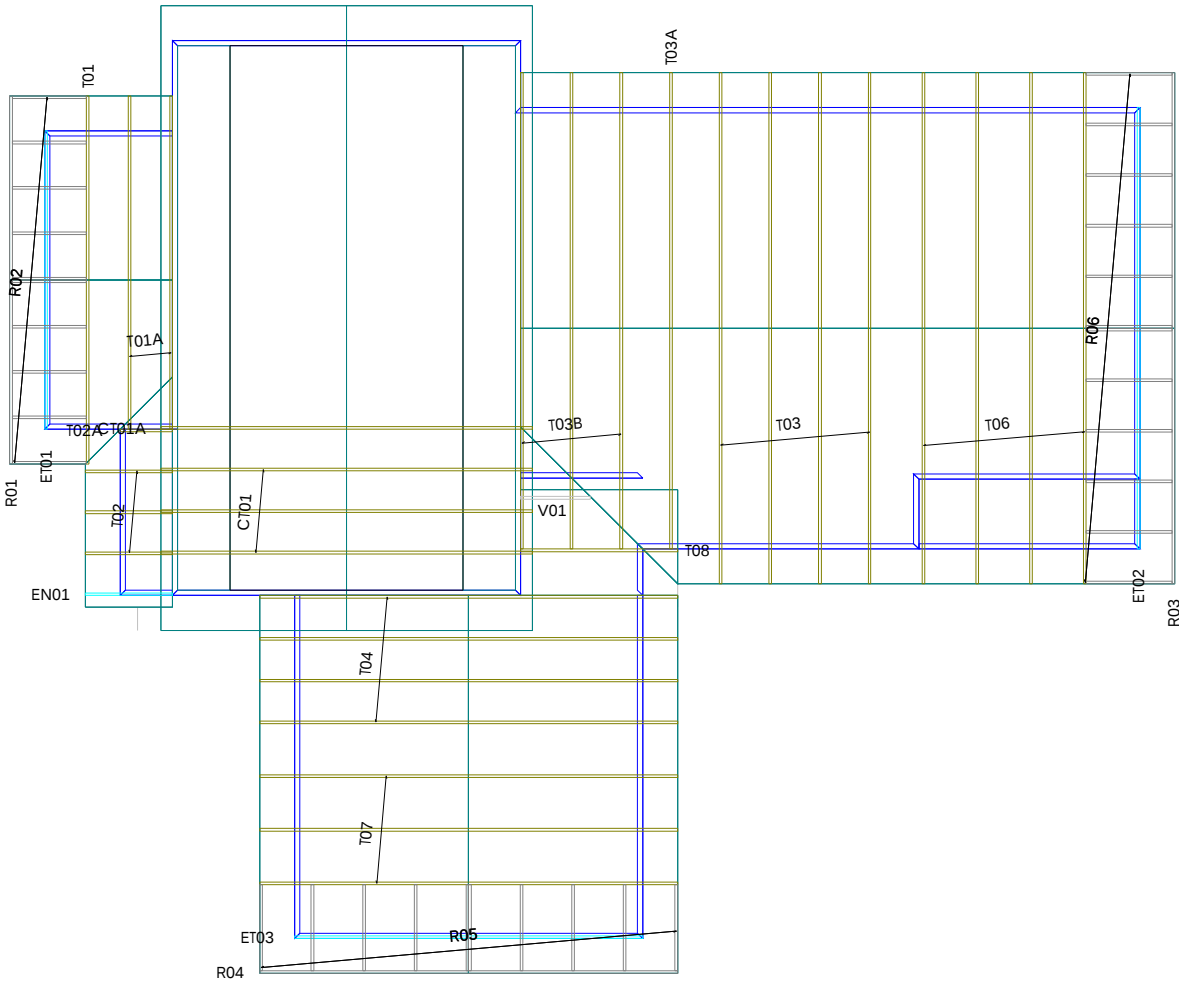
TYPE FS2 - 450mm Strip footing



Number of Undercuts

NOTES:

The numbers found within the hatched area is the number of studs required below each truss. Refer to: GANG-NAIL Internal Load Bearing on Concrete Floor Slabs brochure 12/2006



NO SLAB THICKENING REQUIRED FROM TRUSSES



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Site Address :
Geraint & Linda Philp
Lot 2 184 Horton rd
Beulah Estate

Sheet Title :
For Building Consent
Slab Thickening

Date : 9 Jun,2016
Scale : 1: 130
Drawn : Mark Tolson
System : MiTek 20/20

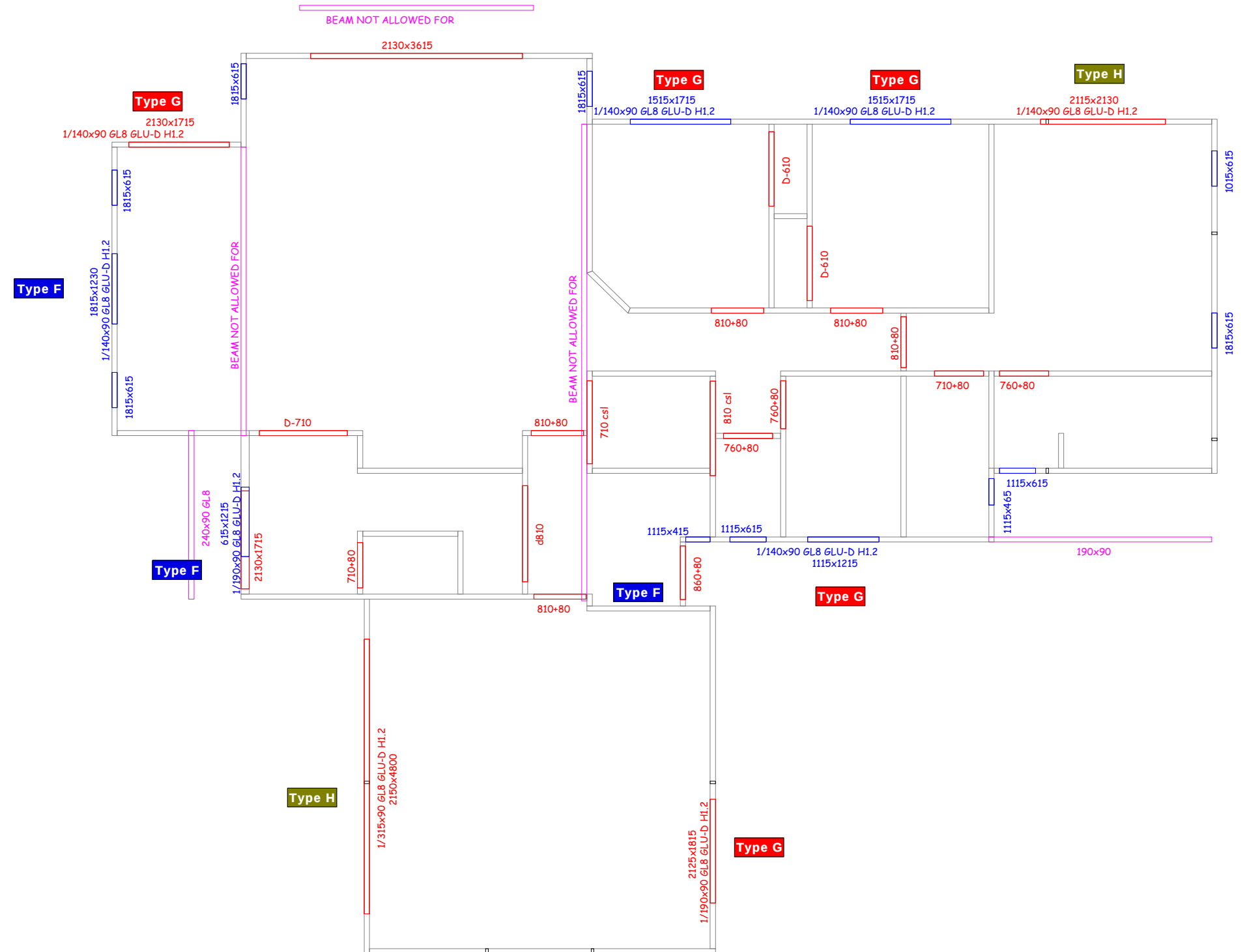
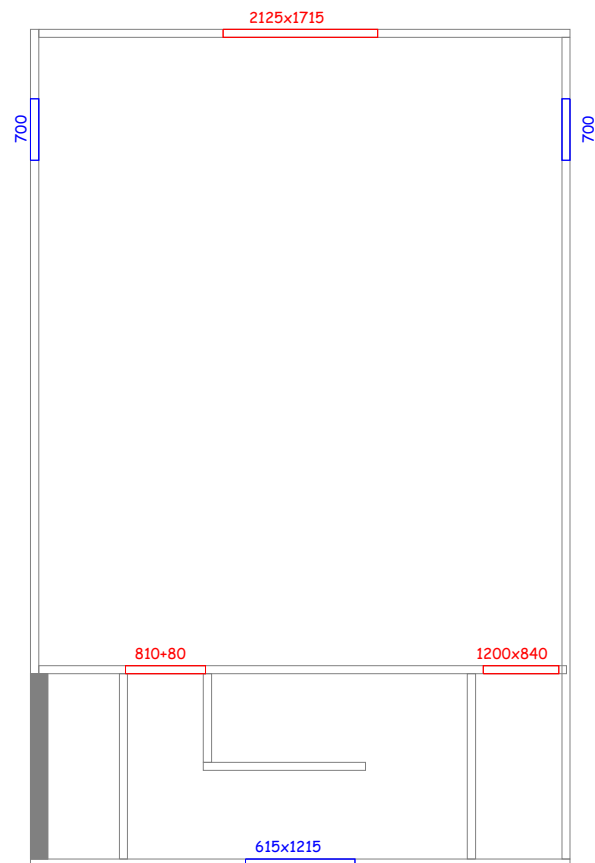
Job Details:
Roof Pitch : 15.000 Deg
Roof Material : Metal Tiles
Ceiling Material : Gib Board 12mm
Wind Zone : Very High
Roof Snow Load : 0.400 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 50.0 m/s



Job Title :
7227
Sheet :
2
Revision Number :

Prowood lintels are selected from the PRO-LAM User guide selection manual 3/2007 or Waimea Sawmillers Ltd Timber Beam Span Tables using only GL8 graded products.



Stud to top plate
fixing details

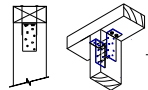
All fixings are to be Type B

FIXING TYPE B
4.7kN

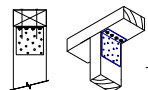
2 x 90mm x 3.15 dia. plain steel wire nails driven
vertically into stud.

Plus 2x LUMBERLOK
CPC40

AND



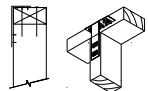
OR



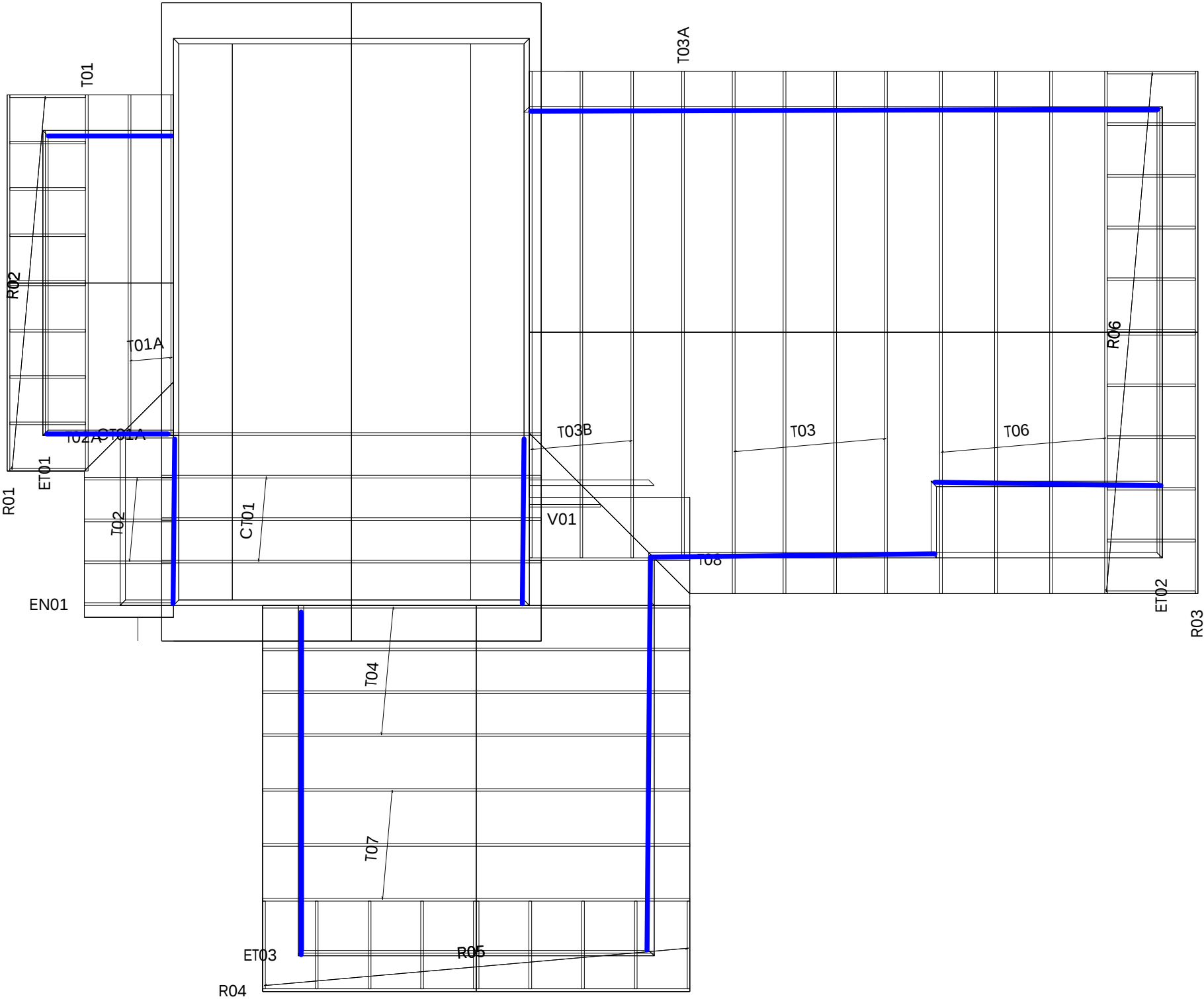
Recommended for
internal wall options to
avoid lining issues.

Plus LUMBERLOK
6 kN Stud Anchor
(CPC80)

OR



Plus LUMBERLOK
Stud Strap
(One face only)



NOTES:

Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate
Fixing Schedule 09/2011

(Alternative to NZS3604:2011 Table 8.18)



PrimeCad v4.6.6.322



Site Address :
Geraint & Linda Philp
Lot 2 184 Horton rd
Beulah Estate

Sheet Title :
For Building Consent
Stud To Top Plate Fixing

Date : 9 Jun,2016
Scale : 1: 130
Drawn : Mark Tolson
System : MiTek 20/20

Job Details:
Roof Pitch : 15.000 Deg
Roof Material : Metal Tiles
Ceiling Material : Gib Board 12mm
Wind Zone : Very High
Roof Snow Load : 0.400 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 50.0 m/s



Job Title :
7227
Sheet :
4
Revision Number :

Truss Fixings

-  X - LUMBERLOK JH47x90 Joist Hanger
-  Z - LUMBERLOK JH47x120 Joist Hanger
-  P - LUMBERLOK JH47x190 Joist Hanger
-  E - LUMBERLOK JH95x165 Joist Hanger
-  O - Pair of LUMBERLOK CT200 Ceiling Ties
-  H - LUMBERLOK CT400 Cyclone Tie
-  B - LUMBERLOK CT600 Cyclone Tie
-  M - Pair of LUMBERLOK Multi Grips
-  NP - LUMBERLOK Nailon Plate
-  N - LUMBERLOK N21 Diagonal Cleat
-  W - Pair of LUMBERLOK CPC40 Cleats
-  K - LUMBERLOK TTP 16kN Truss to Top Plate set

NOTES:

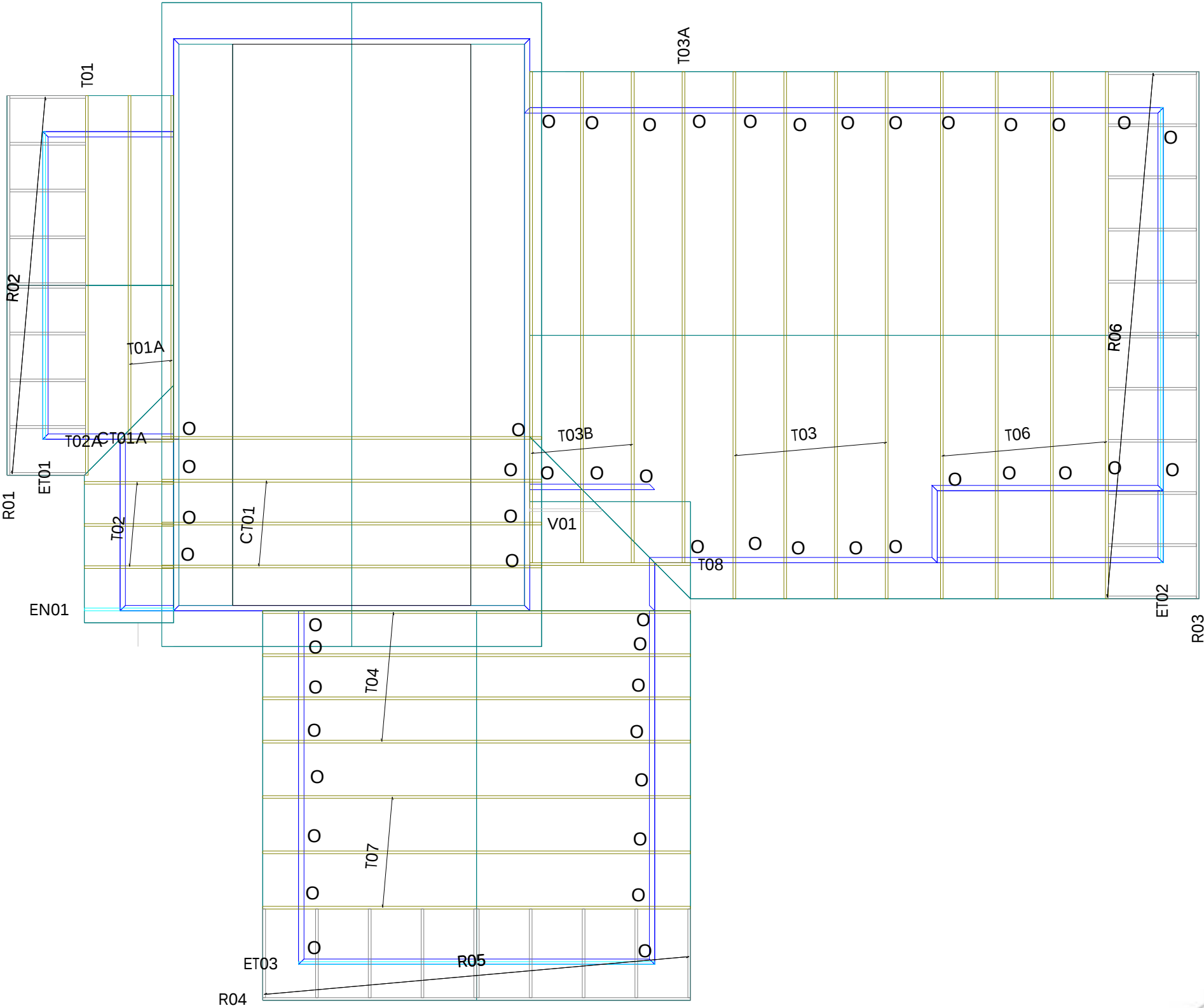
All truss to top plate fixings not labelled require a minimum of a pair of LUMBERLOK Wire Dogs.
All other areas must have a minimum of a pair of 90mm skew nails.

Fix all outriggers to gable trusses with a pair of LUMBERLOK Wire Dogs

Fix all stringers with a pair of LUMBERLOK Multi Grips at every stud.

Fix planted overhang rafters to top chord of truss with a pair of 90mm nails at 300mm centres.

Refer to:
LUMBERLOK Timber Connectors Characteristic Loadings Data brochure 03/04



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Site Address :
Geraint & Linda Philp
Lot 2 184 Horton rd
Beulah Estate

Sheet Title :
For Building Consent
Truss Fixings

Date : 9 Jun,2016
Scale : 1: 130
Drawn : Mark Tolson
System : MiTek 20/20

Job Details:
Roof Pitch : 15.000 Deg
Roof Material : Metal Tiles
Ceiling Material : Gib Board 12mm
Wind Zone : Very High
Roof Snow Load : 0.400 kPa

Truss Centres : 900 mm
Roof Live Load : 0.250kPa
Floor Live Load : kPa
Wind Speed : 50.0 m/s



Job Title :
7227
Sheet :
5
Revision Number :