



WAIMAKARIRI
DISTRICT COUNCIL

Consent Issued BC141564

BC No: BC141564

SITE DETAILS:

41 Koura Drive, Rangiora

LEGAL:

Lot 146 DP 476266

AS BUILT TRUSS LAYOUT REQUIRED –
This must be received by the Building Unit
AT LEAST 10 WORKING DAYS PRIOR to the
Structure Pre-Roof Pre-Wrap Inspection

Truss “As-Built” Designs may be sent to:
buildinginfo@wmk.govt.nz

APPROVED BUILDING CONSENT DOCUMENTS AND PLANS
(FULL SET SUPPLIED)

- ON SITE COPY -

- These plans and specifications must be kept on site during construction, and made available to the building officer on request. Failure to do so will mean an automatic failure of the building inspection and will necessitate re-booking the inspection at the applicant's expense.
- All boundary survey pegs must be located and flagged by the owner before work is commenced.

INSPECTIONS

for bookings or building enquiries

please phone the BUILDING UNIT on:

03 311 8240

or

Email inspection bookings to: bcbooking@wmk.govt.nz

- Please refer to your inspection schedule for details of inspections to be carried out.
- 2-3 working day's notice should be given and provision made to allow access.
- The Code Compliance Certificate will be issued once the:
 - Final inspection has been carried out and passed
 - Audit of WDC building consent file has been completed
 - Payment of any outstanding invoices is received

GENERAL

- 1. These drawings are not to be used for construction until the plan (sheet S2) is signed by the main contractor
- 2. Do not scale. refer any discrepancies to the architect/engineer.
- 3. These drawings are to be read in conjunction with the Architects & Engineers drawings.
- 4. The builder shall be responsible for any damage to works during construction.
- 5. The sand blinding layer shall be 20mm min. & 50mm max. to aid levelling & to prevent rocking of pods.
- 6. Vapour barrier to be 0.25mm (250 micron) polythene complying with NZS 4229. / NZS 3604
- 7. Finished ground level adjacent to slab to be protected from wind, water erosion and undermining.

FOUNDATIONS

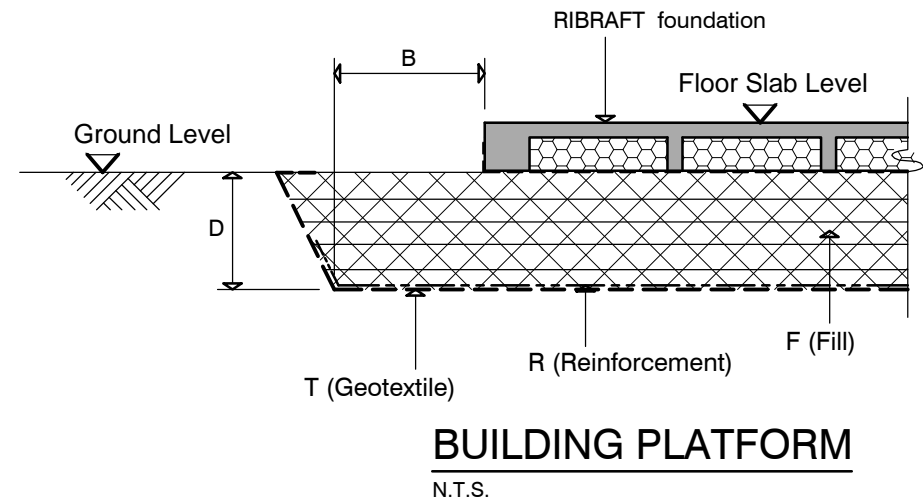
- 1. For assumed allowable bearing capacity refer to calculations/installer guide. Unless otherwise noted in documentation
- 2. If there is any doubt about the integrity of the material on which the slab is to be founded - a FIRTH representative must be notified immediately.

GEOTECHNICAL REQUIREMENTS:

Refer Lewis & Barrow Ltd 'Shallow Geotechnical investigation'. Ref. 21286 - 12th December 2013.

All site work and building platform preparation should be in accordance with Lewis & Barrow's report and be certified by Lewis & Barrow Ltd.

WAIMAKARIRI DISTRICT COUNCIL
Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
141564 9/15/2014 Dawn



ORIGINAL SIZE = A3
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

CONCRETE

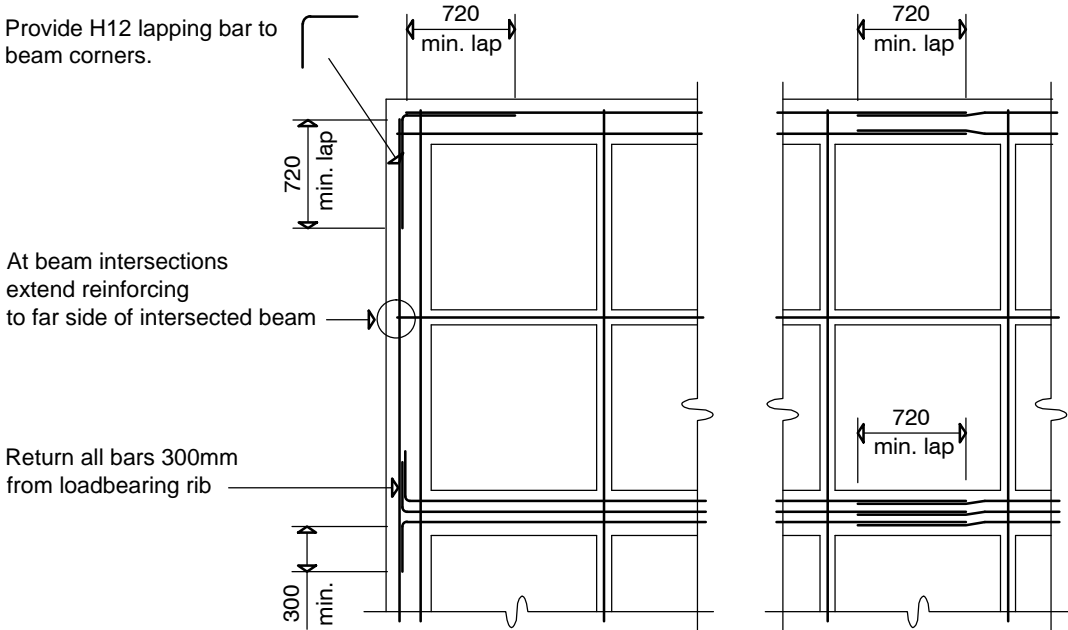
- 1. All workmanship & materials to conform to NZS 3109, NZS 4210 & local authority regulations.
- 2. Minimum covers to reinforcement:
 - Exposed to earth - 75mm.
 - Protected by vapour barrier - 50mm.
 - Not exposed to weather except for a brief period during construction - 25mm.
- 3. No holes or chases other than those specified are to be made in the slab without the approval of the Engineer.
- 4. All concrete shall be 20 MPa FIRTH RP2019TC2 Fibre mix grade with 20mm nominal maximum aggregate size & 80mm slump & shall comply with NZS 3109.
- 5. All concrete to be mechanically vibrated & carefully worked around the reinforcement & into the corners of the formwork.

INSPECTIONS

Inform ENGCO Consulting 48 hours in advance of any inspections required for code compliance certification.

STEEL

- 1. All reinforcing shall be New Zealand sourced and conform to AS/NZS 4671 :2001 in grade 300 or grade 500E.
- 2. All bends to be made cold without fracture.
- 3. All reinforcing shall be deformed type unless otherwise stated.
- 4. Grade 500E deformed bars shall be designated 'H', Grade 300 deformed bars shall be designated 'D' and Grade 300 round bars shall be designated 'R'
- 5. Minimum bar splice 720mm. (or unless otherwise noted)
- 6. All reinforcement to be fixed & tied where necessary in its specified position.
- 7. Welding of steel is not permitted
- 8. Spacers:
 - Edge at 1200mm ctrs (one on edge & two on corners, typically).
 - Internal one on each side of pod (typically).
 - 50mm or similar mesh chair to be used as necessary.
- 9. All mesh shall comply with AS/NZS 4671 & shall conform with elongation requirements exceeding 10%.
- 10. All Mesh shall lap a minimum of 225 m.m. Or 1 grid + 50mm (Which ever is greater)



TYPICAL CORNER STEEL & MIN. LAPPING REQUIREMENTS
N.T.S.

F.L. shall be 225mm min. above G.L.
Refer to Architects drawings.

REVISIONS

A	24.03.14	CONSENT ISSUE
ENGCO CONSULTING - STRUCTURAL ENGINEERS		
DESIGNED: M.CUSIEL DRAWN: D. FLETCHER		
SCALE: NTS DATE: 24.03.14		
DWG NO.	OF	FILE NO.
S1 ^A	6	14-040.11



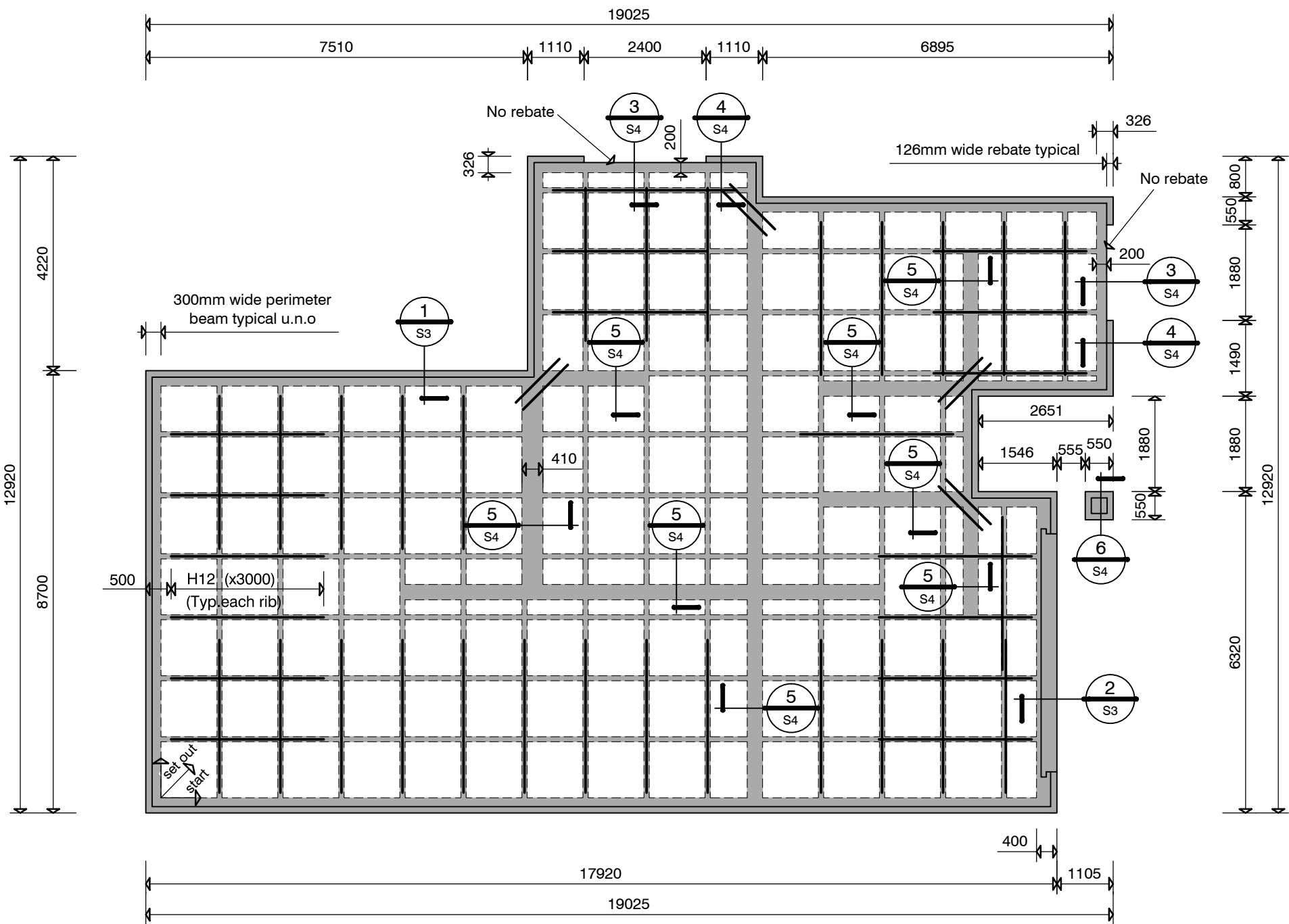
unit 2 • 596 ferry road • Woolston • christchurch 8023
p 03 366 7955 • f 03 366 7954 • e office@engco.co.nz



HORNCastle
HOMES

JOB TITLE:
HORNCastle HOMES Ltd.
LOT 146
KIPPENBERGER ESTATE
RANGIORA

SHEET TITLE:
GENERAL NOTES



PERIMETER BEAM REINFORCING NOTES:

Unless noted otherwise Perimeter Foundation Beam to be 300 wide x 400 deep Reinforced with (2) H12 to bottom & (2) H12 to U/s of SE62 G500 E Mesh. Each 100 m.m. rib to have H12 to bottom. Internal 300 m.m. wide floor beam thickenings to have (2) H12 to bottom & (2) H12 to U/s of mesh. Refer Typical Sections - Drawing S3, S4 & S5

GENERAL NOTES:

Locations shown of internal floor beam thickenings are indicative only. It shall be the responsibility of the Contractor to ensure that they are located centrally under the load bearing walls to which they pertain.

This drawing is to be read in conjunction with the Contract drawings for all details of floor slab set downs, steps, rebates, holding down bolts, cast in componentry and the like.


Shrinkage control joints, where the option is chosen, shall be 20mm deep and cut after hardening but no later than 24 hours in Summer and 48 hours in Winter. Where used, such joints shall be positioned to coincide with major changes in the floor plan. Where concrete is to be exposed or have a thin, brittle, overlay and control joints are chosen, the maximum bay size shall be 6.000m and shall have a length to width ratio of 2:1. Where used, control joints should be positioned over 100mm internal ribs wherever possible and where they coincide with a load bearing floor beam thickening they should be positioned directly above one edge of the beam

Under no circumstance should pipework for services be run longitudinally in 100mm ribs. Similarly they should not be run along perimeter foundations nor internal floor beam thickenings

Vertical or horizontal penetrations through the foundation edge beam or floor beam thickenings must be made through the middle third of the member - refer Firth Ribraft Technical Solutions manual for specific information. Vertical penetrations should not be made through 100 mm ribs.

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with the Building Act 2004, clause 49 and the Building
Regulations 1992, Clause 3
141564 9/15/2014 Dawn

This slab is to be constructed on a site prepared under the supervision of a CP Engineer and certified as being suitable for the design requirements of this slab as noted in the accompanying PS-1.

KEY:
 (2) H12 (x1200) at 200 centres.

Confirm all dimensions with Architectural Drawings.

100 m.m. Floor Slab - 300mm pods
(20 MPa FIRTH RP2019TC2 Fibre mix Concrete)
G500 E SE62 Ductile mesh. 50mm mesh chairs

The design Fibre mix shall be supplied so that the residual flexural tensile stresses $f_{R,1}$ & $f_{R,4}$ shall be 1.5 MPa & 1.0 MPa respectively.

All Mesh shall lap a minimum of 225 m.m. or 1 grid + 50 m.m. (which ever is greater.)

ORIGINAL SIZE = A3
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

REVISIONS

REVISIONS		
A	24.03.14	CONSENT ISSUE
ENGCO CONSULTING - STRUCTURAL ENGINEERS		
DESIGNED: M.CUSIEL DRAWN: D. FLETCHER		
SCALE: 1:100 @ A3 DATE: 24.03.14		
DWG NO.	OF	FILE NO.
S2 ^A	6	14-040.11



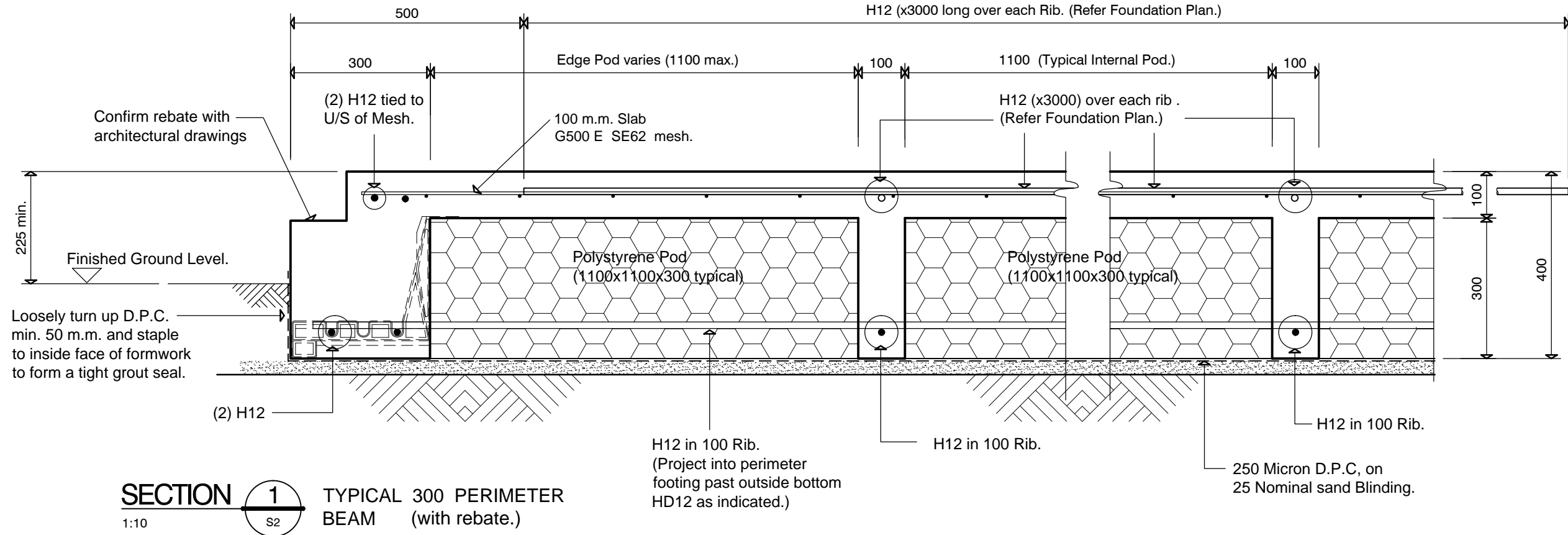
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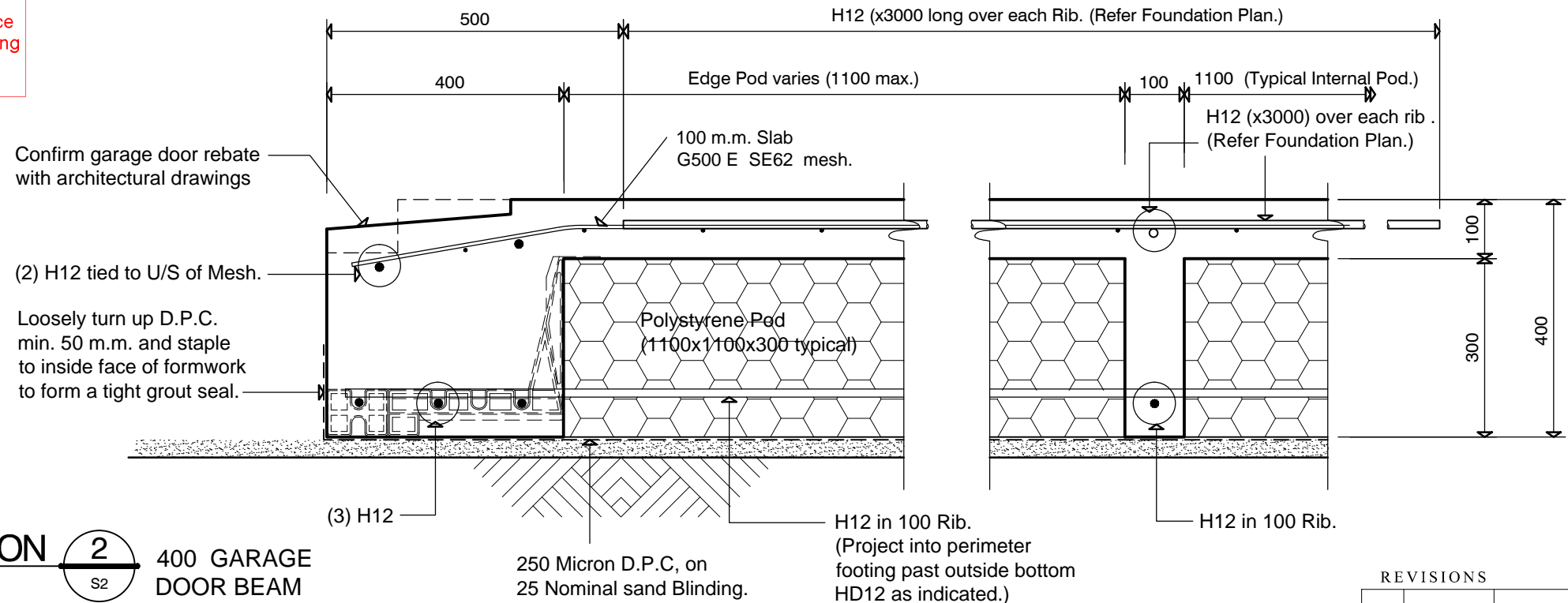
HORNCastle
HOMES

JOB TITLE:
HORNCastle HOMES Ltd.
LOT 146
KIPPENBERGER ESTATE
RANGIORA

SHEET TITLE:
RIBRAFT LAYOUT
FOUNDATION PLAN



WAIMAKARIRI DISTRICT COUNCIL
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A	24.03.14	CONSENT ISSUE
ENGCO CONSULTING - STRUCTURAL ENGINEERS		
DESIGNED: M.CUSIEL DRAWN: D. FLETCHER		
SCALE: 1:10 @ A3 DATE: 24.03.14		
DWG NO.	OF	FILE NO.
S3 ^A	6	14-040.11



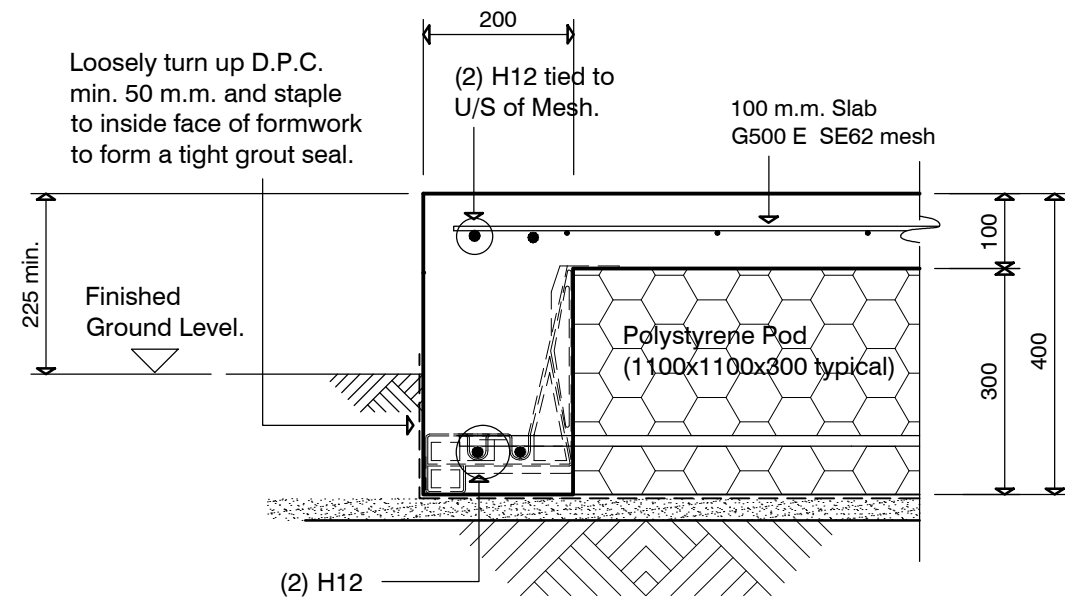
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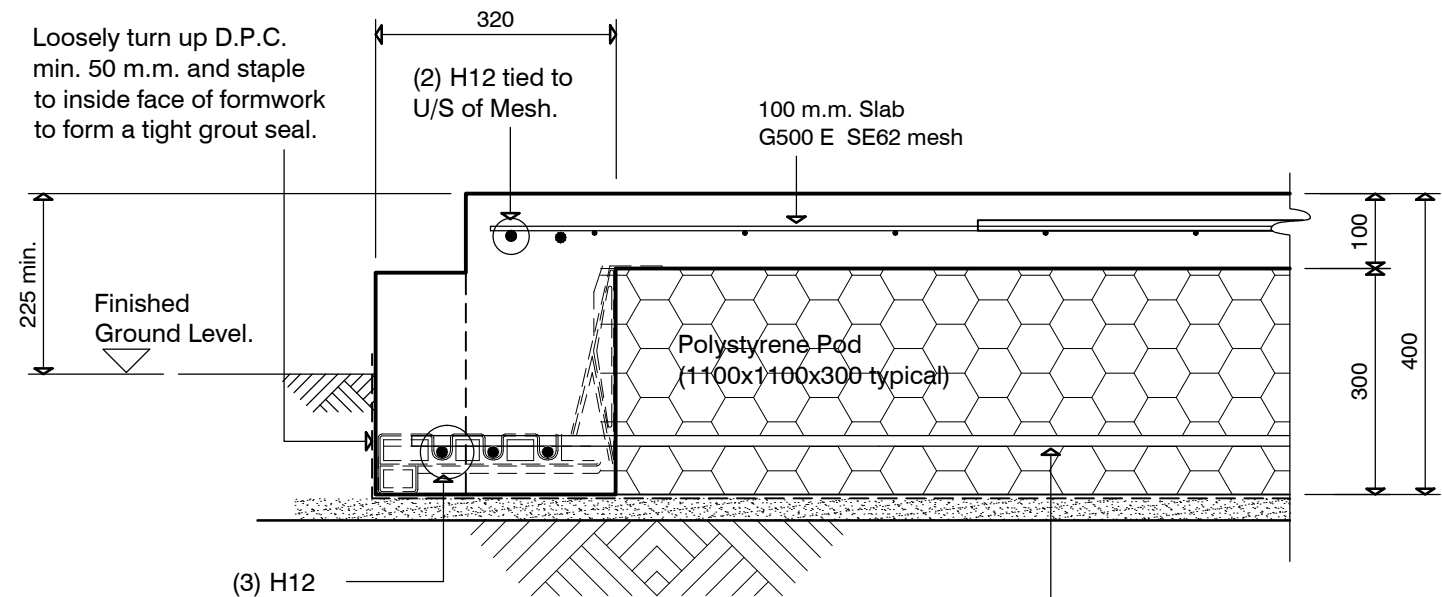
HORNCastle
HOMES

JOB TITLE:
HORNCastle HOMES Ltd.
LOT 146
KIPPENBERGER ESTATE
RANGIORA

SHEET TITLE:
TYPICAL FOUNDATION
SECTIONS



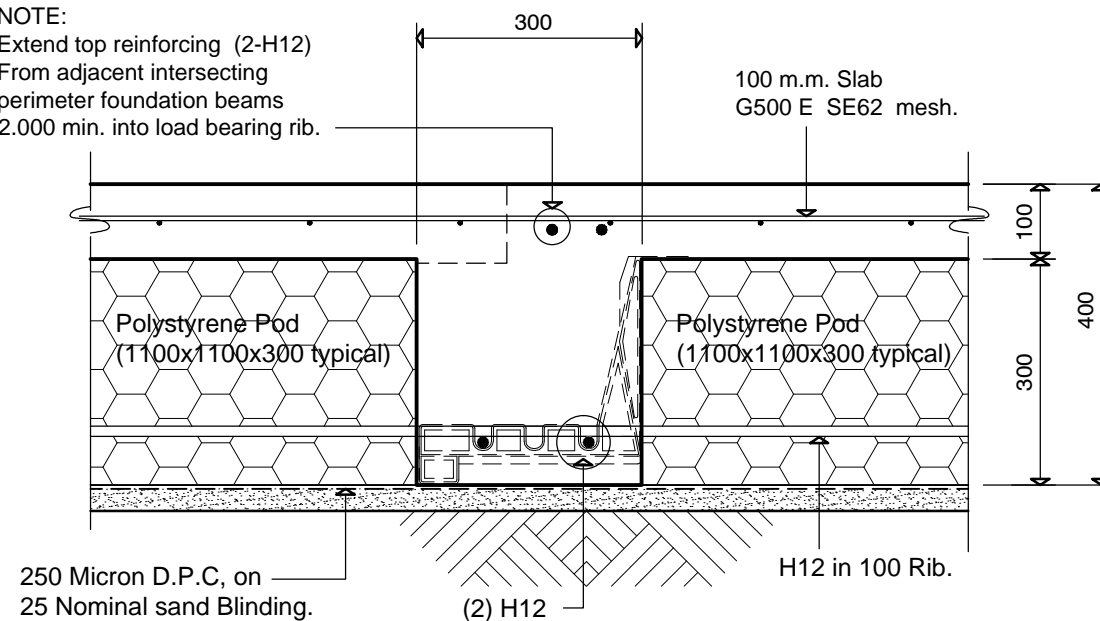
SECTION 3
1:10
200 WIDE PERIMETER
BEAM (no rebate)



SECTION 4
1:10
320 PERIMETER
BEAM (with rebate.)

H12 in 100 Rib.
(Project into perimeter
footing past outside bottom
HD12 as indicated.)

NOTE:
Extend top reinforcing (2-H12)
From adjacent intersecting
perimeter foundation beams
2.000 min. into load bearing rib.



SECTION 5
1:10
TYPICAL 300 WIDE
INTERNAL RIB.

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JOB TITLE:

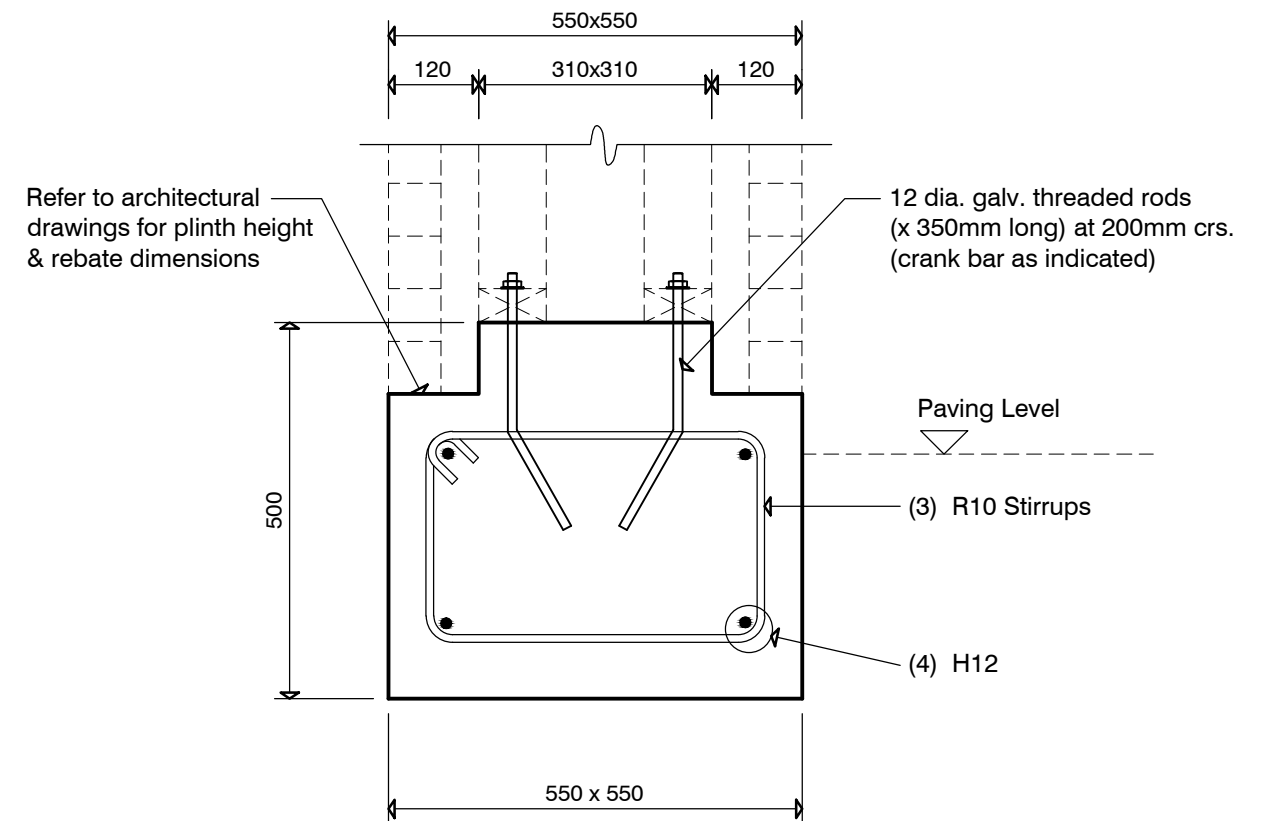
HORNCastle HOMES Ltd.
LOT 146
KIPPENBERGER ESTATE
RANGIORA

SHEET TITLE:

TYPICAL FOUNDATION
SECTIONS

REVISIONS

REVISIONS		
A	24.03.14	CONSENT ISSUE
ENGCO CONSULTING - STRUCTURAL ENGINEERS		
DESIGNED: M.CUSIEL DRAWN: D. FLETCHER		
SCALE: 1:10 @ A3 DATE: 24.03.14		
DWG NO.	OF	FILE NO.
S4 ^A	6	14-040.11



SECTION 6
S2 COLUMN
FOUNDATION

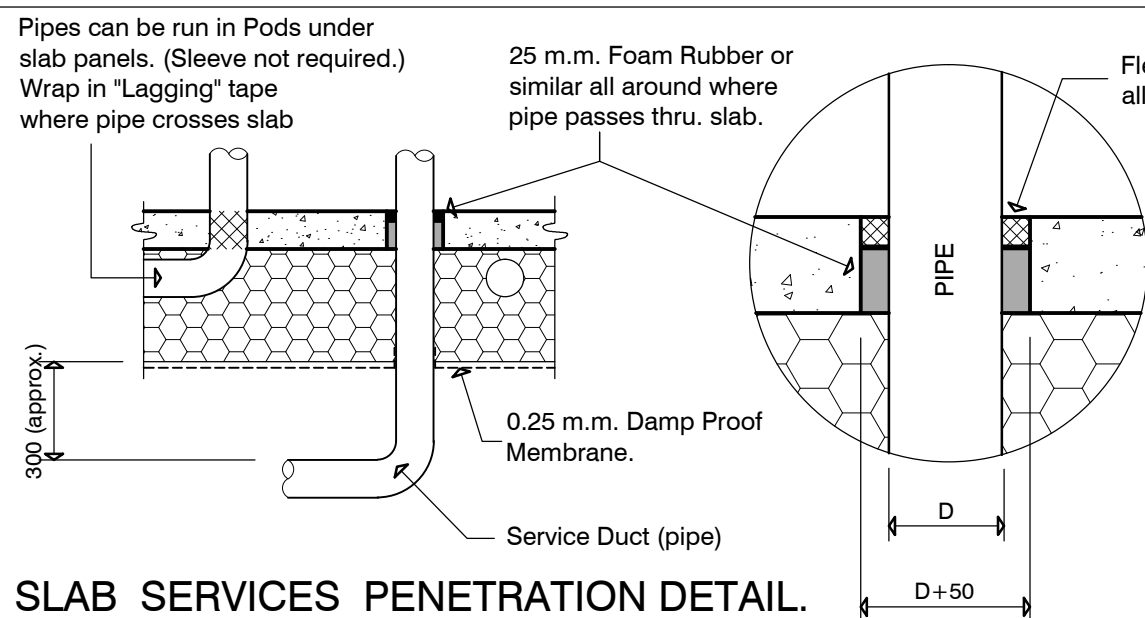
ORIGINAL SIZE = A3
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

REVISONS		
A	24.03.14	CONSENT ISSUE
<p>ENGCO CONSULTING - STRUCTURAL ENGINEERS</p> <p>DESIGNED: M.CUSIEL DRAWN: D. FLETCHER</p> <p>SCALE: 1:10 @ A3 DATE: 24.03.14</p>		
DWG NO.	A	OF
S5		6
		FILE NO.
		14-040.11



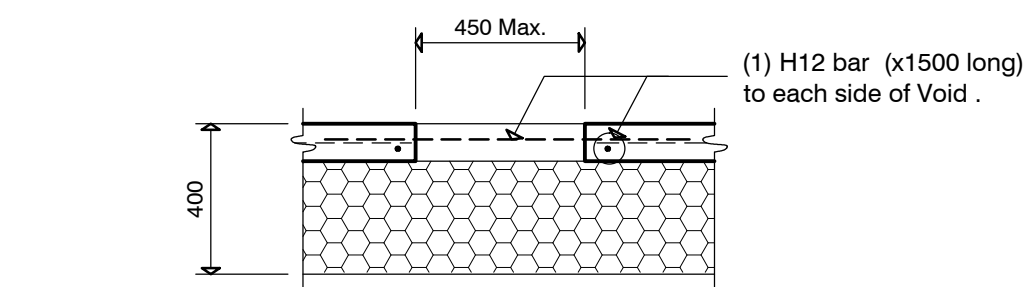
SHEET TITLE:

TYPICAL FOUNDATION
SECTIONS



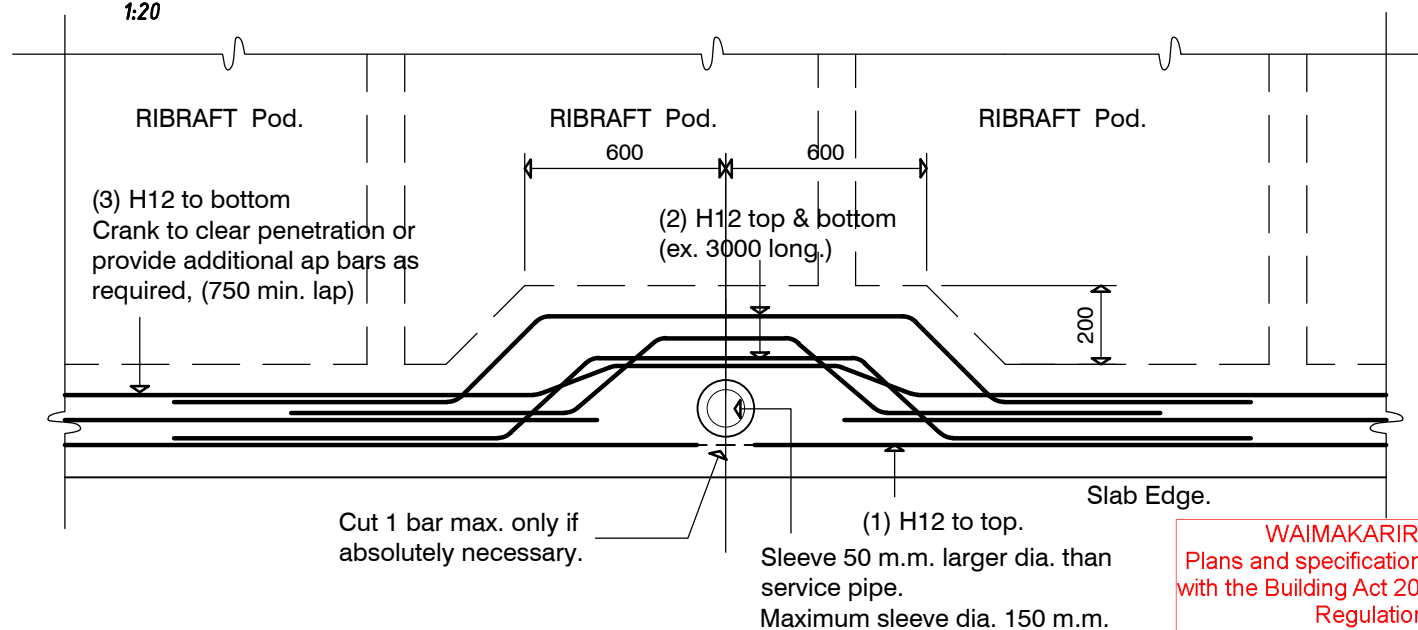
SLAB SERVICES PENETRATION DETAIL.

1:20



LARGE SLAB PENETRATION DETAIL.

1:20



TYPICAL DETAIL.

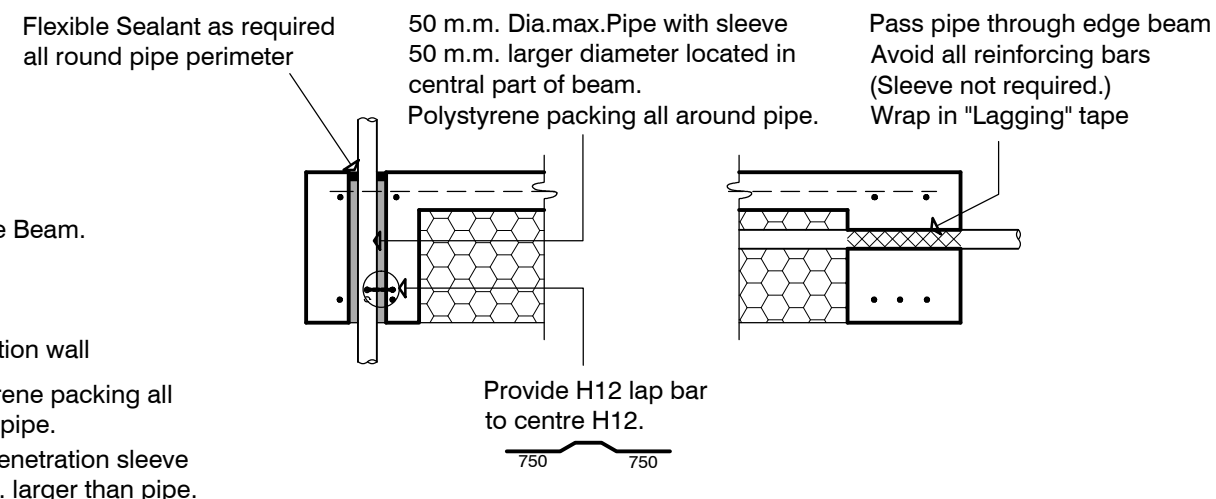
LOCALISED INCREASE IN WIDTH AT EDGE BEAM WHERE VERTICAL SERVICES OF UP TO 100 m.m. DIA. ARE REQUIRED

ORIGINAL SIZE = A3 1:20

CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

Consent Issued BC141564

BC141654



FOUNDATION SERVICES PENETRATION DETAILING.

1:20

Ideally, services ducts shall be conveyed underground to their plan location then brought up through the polystyrene pod and the concrete floor slab, but this may not always be possible. Services shall not be placed within any concrete except to cross that section of concrete i.e. services shall not run along ribs or edge beams. The maximum diameter of the services shall be as outlined in table below.

MAXIMUM DIAMETER OF PIPE SERVICES		
ELEMENT	VERTICAL SERVICES	HORIZONTAL SERVICES
300mm wide edge beam	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, unless detailed as per note 1.
500mm localised wide edge beam	100mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 1.
300mm wide internal load bearing rib	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 1.
100mm wide internal rib	Nil	50mm in a duct 50mm larger diameter than pipe, see note 1.
Slab	110mm in a duct 50mm larger diameter than pipe or for large services 450mm square see also note 2.	Nil

(1) The need for a duct 50mm larger than the service diameter can be deleted when the pipe work does not cross the interface between the bottom of the RibRaft system and the ground at any point along its length. An example would be services laid within the plane of the pods and passing through the edge beam and discharging to a gully trap or similar. In these cases the diameter of the service can be increased to a maximum of 100mm and a service duct is not required. The pipe work shall be wrapped in Lagging tape where it crosses concrete elements to prevent adhesion between the concrete and pipe work.

REVISIONS

NO.	DATE	REVISION
A	24.03.14	CONSENT ISSUE
ENGCO CONSULTING - STRUCTURAL ENGINEERS		
DESIGNED: M.CUSIEL DRAWN: D. FLETCHER		
SCALE: 1:20 @ A3 DATE: 24.03.14		
DWG NO.	OF	FILE NO.
S6	6	14-040.11



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JOB TITLE:
HORNCastle HOMES Ltd.
LOT 146
KIPPENBERGER ESTATE
RANGIORA

SHEET TITLE:
TYPICAL SERVICES
PENETRATION DETAILS

When fresh concrete is water blasted to create an exposed aggregate surface, the resulting cement-based wash water is a very strong alkaline which must not be allowed to enter streams of the reticulated storm water system. Appropriate sediment control measures must be in place to collect and dispose of the wash water.

Building Consent 141564
Received 04/09/14

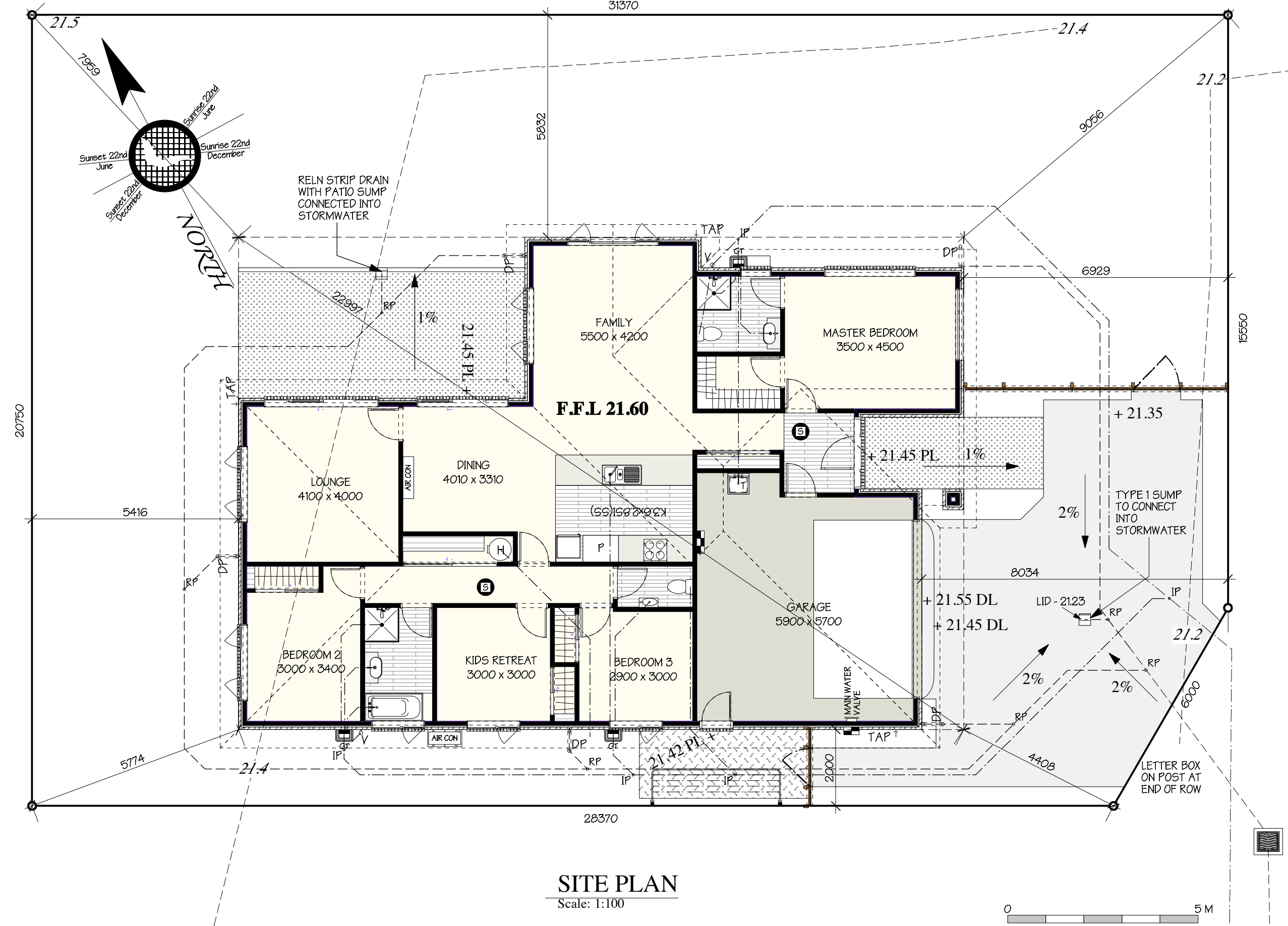
Building Consent 141564
Received 04/09/14

DRAWING LIST

Page Number	Page revision date	Drawing Title
SITE A1.0		SITE PLAN
A1.1		LANDSCAPE & SITE DETAILS
PLANS A2.0		SET OUT PLAN
A2.1	2/9/14	FOUNDATION PLAN
A2.2		SLAB PLAN
A2.3	2/9/14	BRACING PLAN
A2.4		INSULATION & ELECTRICAL PLAN
A2.5		FLOOR PLAN
ELEVATIONS A3.0	2/9/14	ELEVATIONS
SECTIONS A4.0		SECTIONS B
A4.1		SECTIONS A & C
DETAILS A5.0	2/9/14	FOUNDATION DETAILS
A5.1	2/9/14	FRAMING DETAILS
A5.2		ROOFING DETAILS
A5.3		PLUMBING DETAILS
A5.4		CLADDING DETAILS
A5.5		CLADDING DETAILS
SCHEDULES		

NOTE:
-CHECK POSITION OF SEWER & STORMWATER LATERALS ENTERING SITE BEFORE START OF WORK.
-ANTI-SLIP: ON ALL ACCESS ROUTES (BOTH EXTERNAL AND INTERNAL). PROVIDE ANTI-SLIP SURFACES COMPLYING WITH NZBC D1/AS1/TABLE 2 (EXCEPT SURFACES INSIDE ENTRY DOORS OF HOUSING MAY BE CONSIDERED AS DRY AREAS).
-REFER TO LOCATION PLAN - PAGE A1.1 FOR SITE BENCHMARK.

SITE DESCRIPTION		
Zone	R2	
Lot No	146	DP TBA
FLOOR AREA	196.09 sam	
SITE AREA	643.19 sam	
SITE COVERAGE	30.49 %	
GARAGE AREA	37.82 sam	
CORROSION ZONE	C	
WIND ZONE	H	
EARTHQUAKE ZONE	2	
SNOW LOAD	0.428kPa	
TC ZONE	2	



SITE PLAN

Scale: 1:100

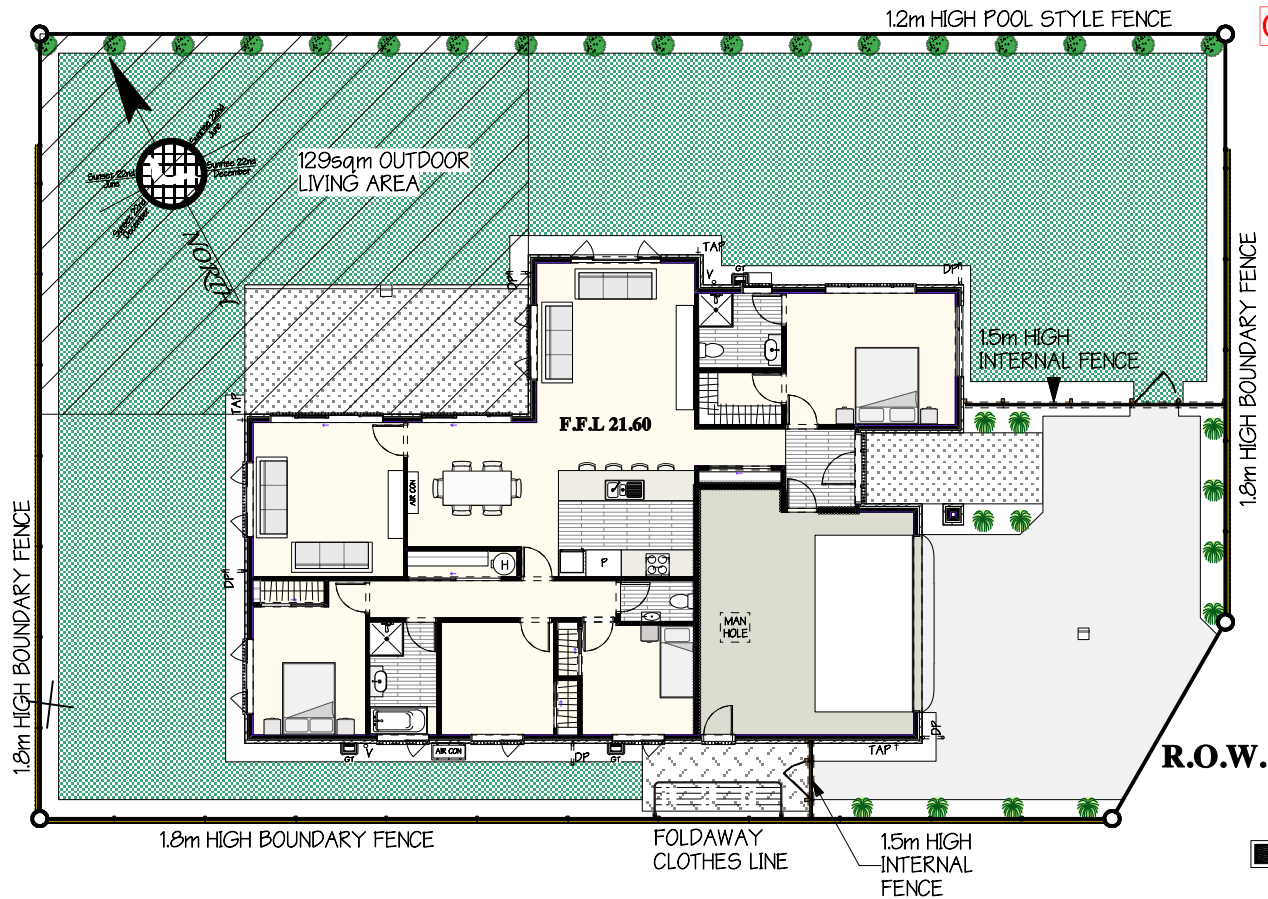
WAIMAKARIRI DISTRICT COUNCIL
Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
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Job Engineer ENGCO CONSULTING ENGINEERS
Job Surveyor SPIIRE



DESIGN P. NAUDE
DRAWN PG_02

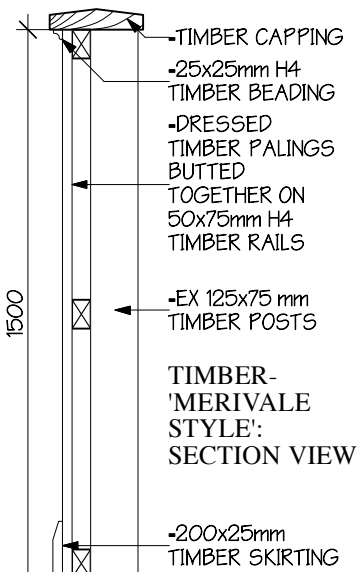
Issue Date = Tue, 2 Sep 2014 3:53:15 PM • VW-17.0.4 for Mac
CHECK S. ADAMS
DATE 22/1/14
PAGE REVISION DATE
LOT 146-TURNKEY-KIPP STG 5-J4146.vwx



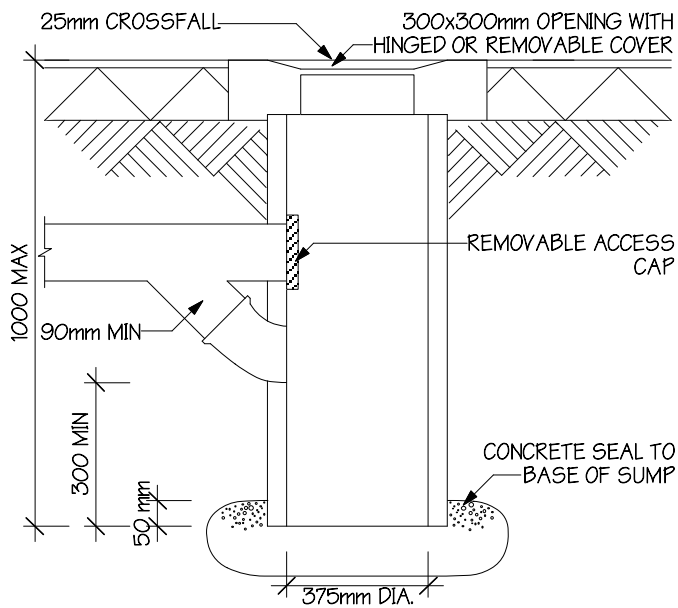
LANDSCAPE PLAN
Scale: 1:200

LANDSCAPING NOTES:
-READYLAWN LAYOUT IS INDICATIVE ONLY (TO BE CONFIRMED BY OWNER ON SITE)
-BASIC SHRUB LAYOUT TO BE CONFIRMED BY OWNER ON SITE

SURFACE FINISHES & AREAS		
DRIVEWAY	ASPHALT	64.50 sqm
SERVICE COURT	PLAIN CONCRETE	8.06 sqm
ENTRY PATH	EXPOSED AGGREGATE	8.79 sqm
PATIOS	EXPOSED AGGREGATE	25.68 sqm
1.8m STD. FENCE		58.71 m
1.2m POOL STYLE		37.38 m
1.5m MERV. FENCE		8.90 m
LAWN		265.04 sqm

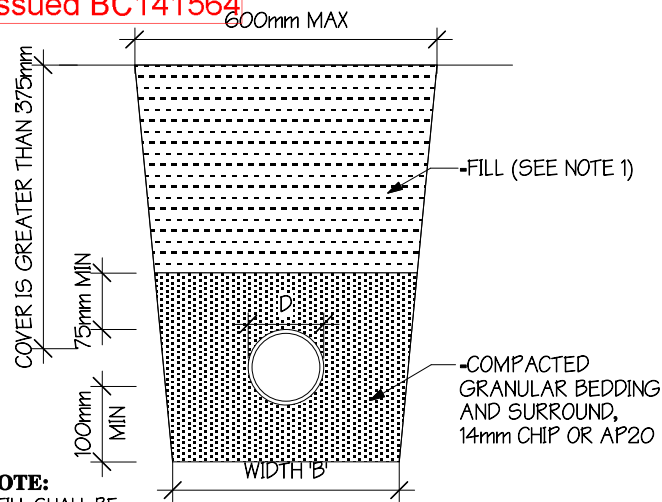


FENCE DETAIL
Scale: 1:20



TYPE 1 WATER SUMP
Scale: 1:20

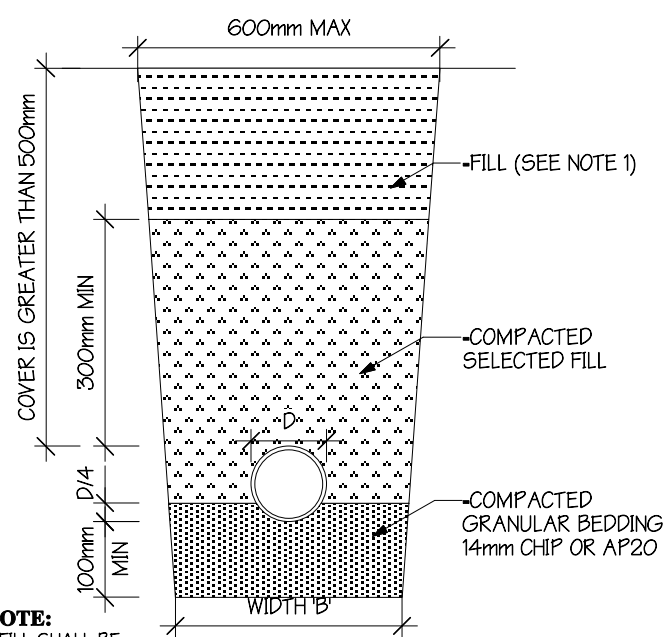
Consent Issued BC141564



- NOTE:**
- FILL SHALL BE:
 - ORDINARY WHERE DRAINS ARE LOCATED BELOW GARDENS AND OPEN COUNTRY
 - COMPACTED SELECTED FILL WHERE THE DRAINS ARE LOCATED BELOW RESIDENTIAL DRIVEWAYS AND SIMILAR AREAS SUBJECT TO LIGHT TRAFFIC
 - WIDTH 'B' SHALL BE THE PIPE DIAMETER + 200mm

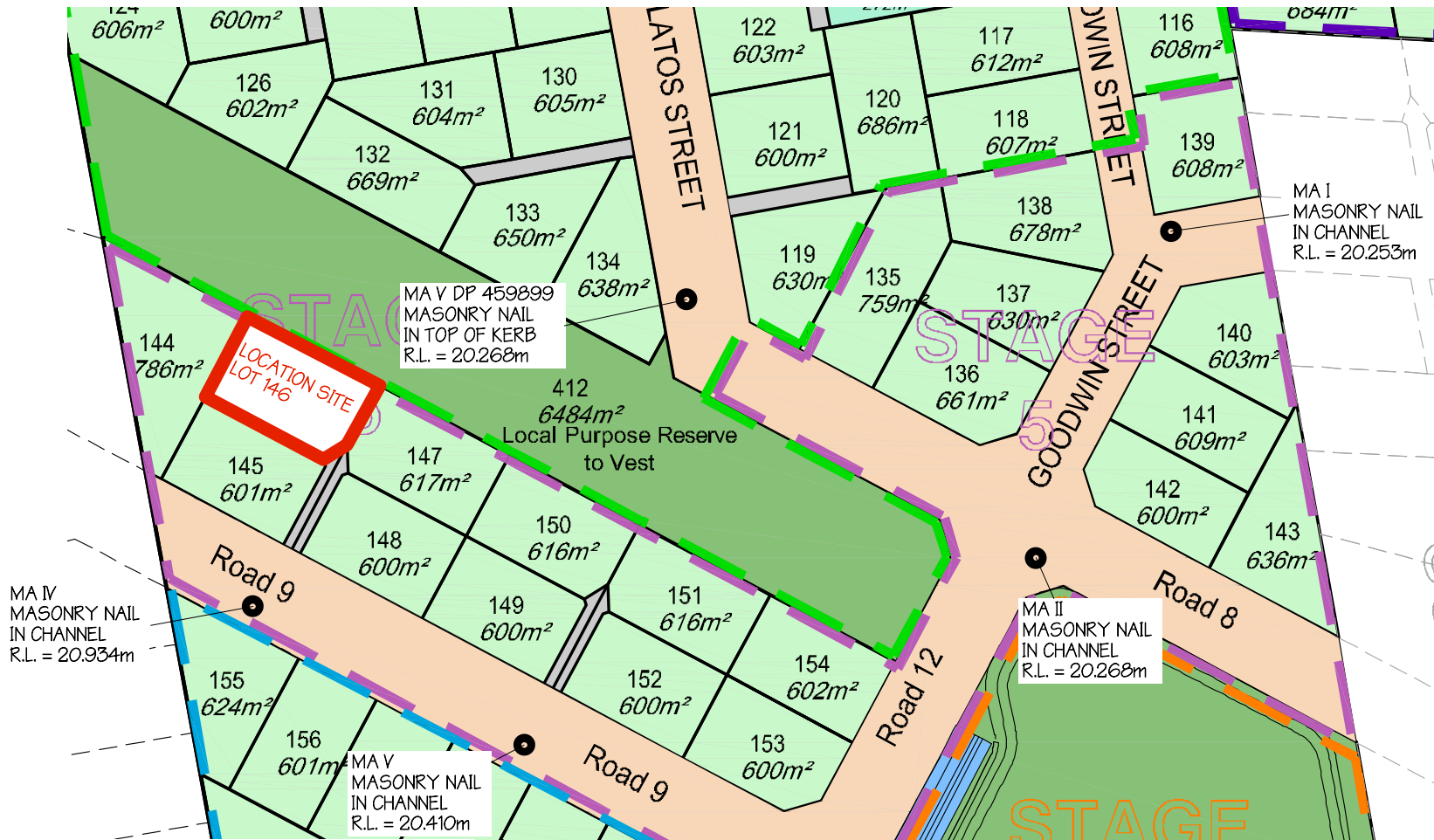
BEDDING & BACKFILLING
BEDDING TYPE 'D' OF NZS 7643
COVER GREATER THAN 375mm

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Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
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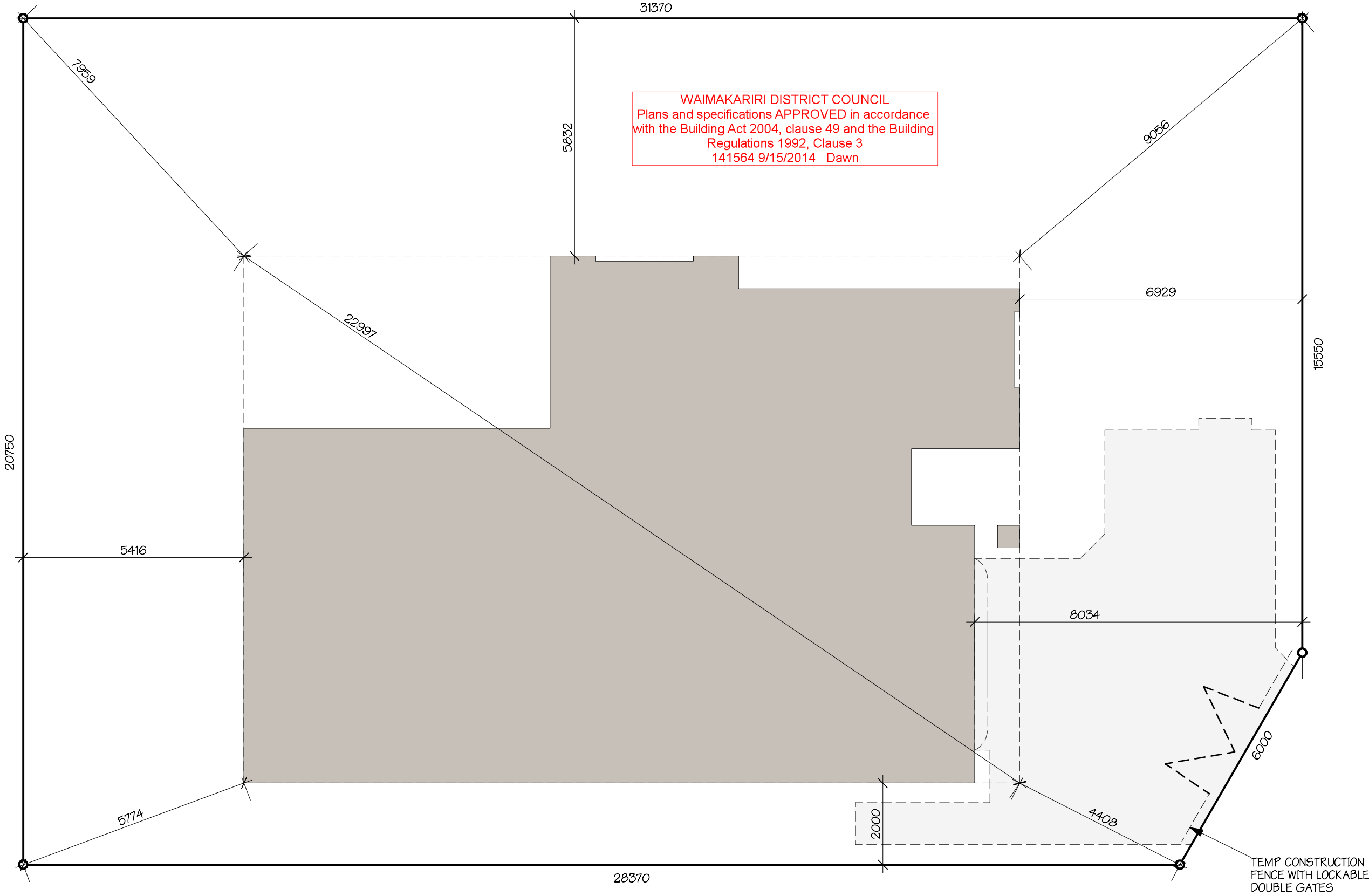
- NOTE:**
- FILL SHALL BE:
 - ORDINARY WHERE DRAINS ARE LOCATED BELOW GARDENS AND OPEN COUNTRY
 - COMPACTED SELECTED FILL WHERE THE DRAINS ARE LOCATED BELOW RESIDENTIAL DRIVEWAYS AND SIMILAR AREAS SUBJECT TO LIGHT TRAFFIC
 - WIDTH 'B' SHALL BE THE PIPE DIAMETER + 200mm

BEDDING & BACKFILLING
BEDDING TYPE 'B' OF NZS 7643
COVER GREATER THAN 500mm



LOCATION PLAN NTS

Consent Issued BC141564



SITE PLAN

Scale: 1:100



NOTE:

- NOTE:**

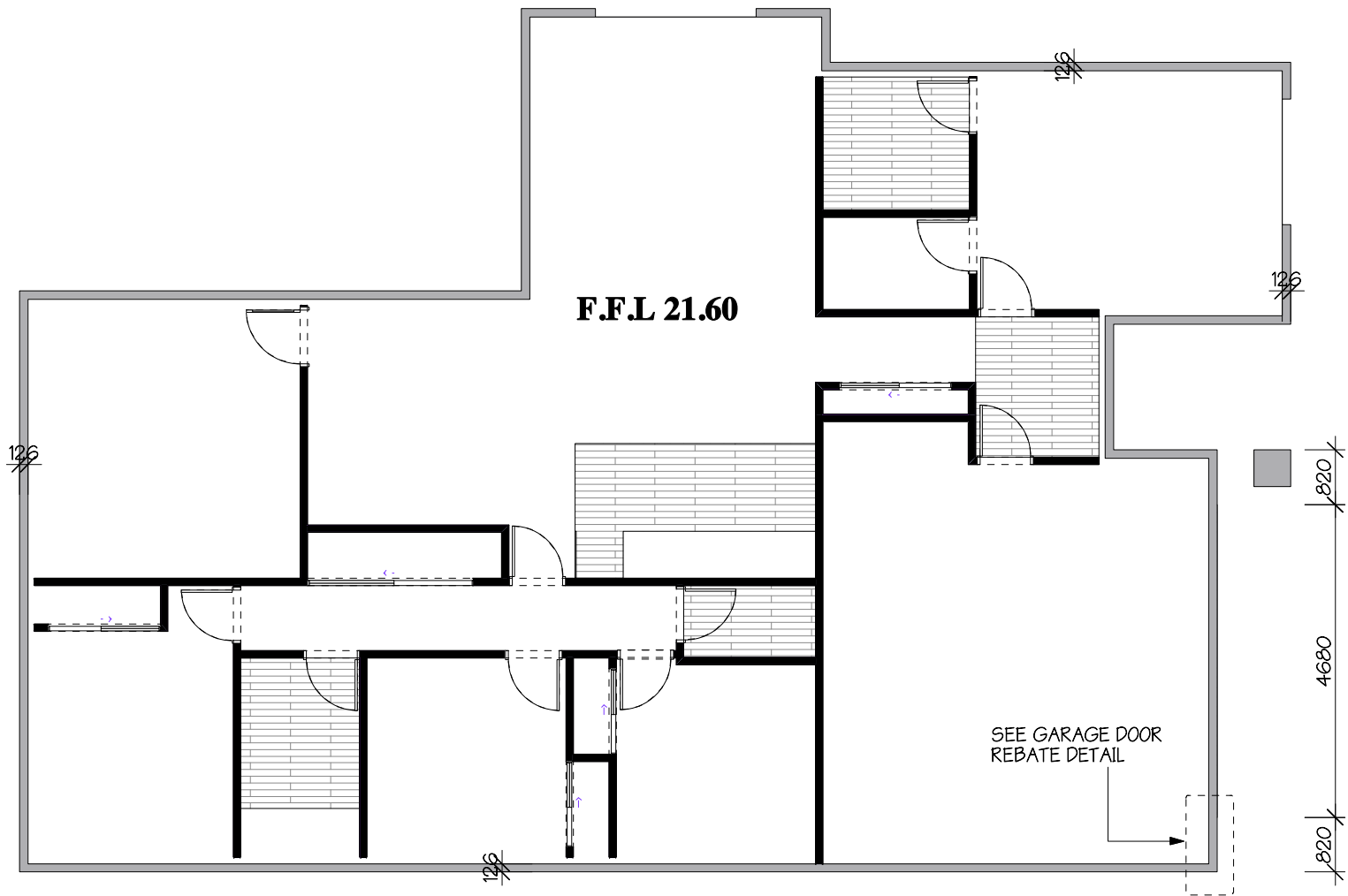
-READ PLAN IN CONJUNCTION WITH ENGCO CONSULTING ENGINEERS - ENGINEERING DRAWINGS S1- S6.

[illegible]

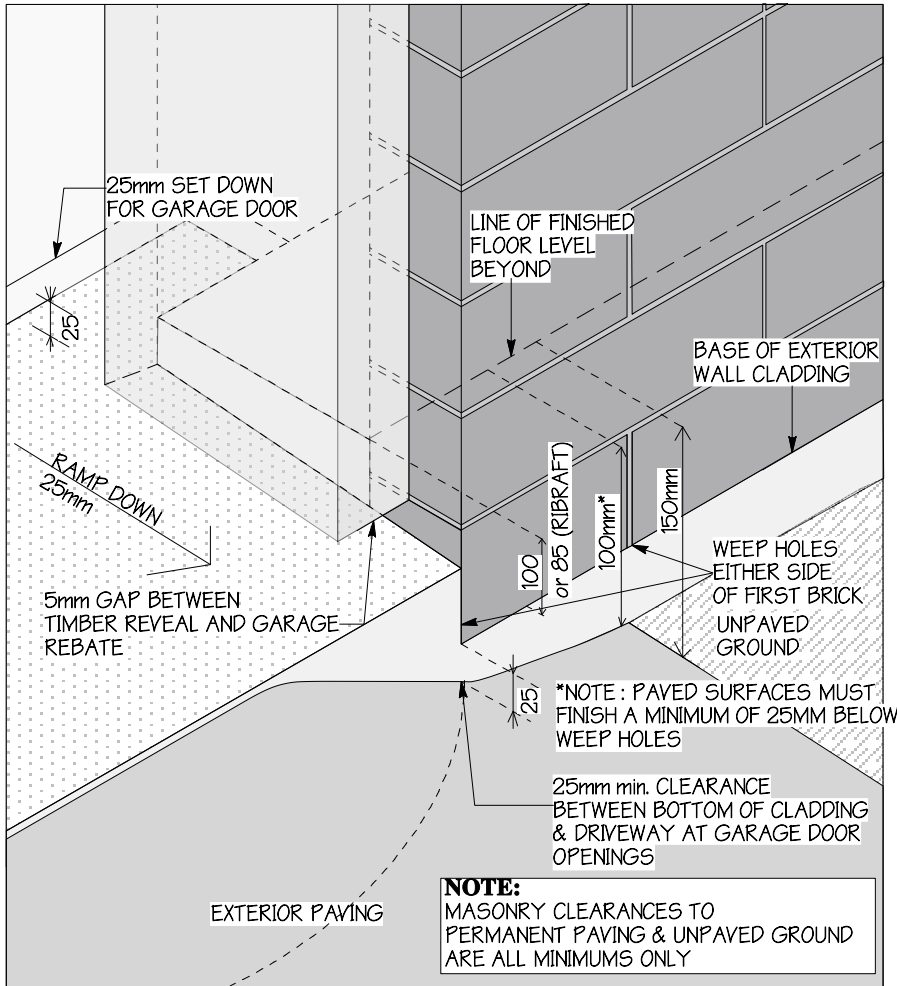
Scale: 1:100

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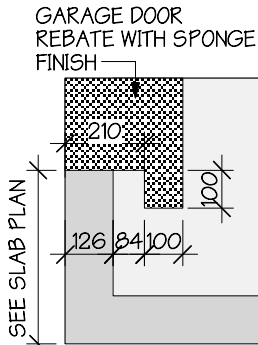


FLOOR SLAB PLAN
Scale: 1:100



MASONRY CLADDING CLEARANCES
TO GARAGE OPENING

NOTE
-READ PLAN IN CONJUNCTION WITH ENGCO CONSULTING ENGINEERS - ENGINEERING DRAWINGS S1 - S6.
-REFER TO ENGINEERING PLANS FOR CORNER REINFORCING POSITIONS



GARAGE DOOR
REBATE 1:20

Bracing Line				Wind		Earthquake	
Provided							
1	2	3	4	5W	6W	5W	6W
Minimum	Bracing	Bracing	Length	Rating	BU's	Rating	BU's
BU's	Element	Type	Element	BU/m	Achieved	BU/m	Achieved
Required	No.		(m)	(m)	(BU/m x L)	(m)	(BU/m x L)
				W	W	EQ	EQ
149	M1	EPBS	1.05	73.6	77.28	73.6	77.28
	M2	EPBS	1.8	73.6	132.48	73.6	132.48
	M3	EPB1	0.5	73.6	36.8	87.4	43.7
149	N1	GS1-N	3.17	64.4	204.148	55.2	174.984
	N2	GS1-N	3	64.4	193.2	55.2	165.6
149	O1	EPBS	1.1	73.6	80.96	73.6	80.96
	O2	EPBS	1	73.6	73.6	73.6	73.6
	O3	GS1-N	1.45	64.4	93.38	55.2	80.04
	O4	GS1-N	1.45	64.4	93.38	55.2	80.04
149	P1	GS1-N	4.39	64.4	282.716	55.2	242.328
	P2	GS1-N	4.4	64.4	283.36	55.2	242.88
153.6	Q1	EPBS	1.2	73.6	88.32	73.6	88.32
	Q2	EPB1	0.55	73.6	40.48	87.4	48.07
	Q3	EPB1	0.55	73.6	40.48	87.4	48.07

Totals Achieved				W	1720.584	EQ	1578.352
Good practise 10% Extra				Good		Good	
From Shee	Totals Required			W	1487.625	EQ	1411.83
Wreq/EQreq =	1.054						

Bracing Line				Wind		Earthquake	
Provided							
1	2	3	4	5W	6W	5W	6W
Minimum	Bracing	Bracing	Length	Rating	BU's	Rating	BU's
BU's	Element	Type	Element	BU/m	Achieved	BU/m	Achieved
Required	No.		(m)	(m)	(BU/m x L)	(m)	(BU/m x L)
				W	W	EQ	EQ
176	A1	EPBS	0.9	73.6	66.24	73.6	66.24
	A2	EPBS	0.9	73.6	66.24	73.6	66.24
	A3	EPBS	1.1	73.6	80.96	73.6	80.96
	A4	EPBS	1.2	73.6	88.32	73.6	88.32
	A5	EPBS	1.05	73.6	77.28	73.6	77.28
176	B1	EPB1	0.4	73.6	29.44	87.4	34.96
	B2	EPBS	1	73.6	73.6	73.6	73.6
	B3	GS1-N	2.21	64.4	142.324	55.2	121.992
	B4	EPBS	1.2	73.6	88.32	73.6	88.32
176	C1	GS1-N	4	64.4	257.6	55.2	220.8
	C2	GS1-N	3.7	64.4	238.28	55.2	204.24
	C3	EPBS	1.2	73.6	88.32	73.6	88.32
	D1	EPBS	1.2	73.6	88.32	73.6	88.32
	D2	EPBS	1.1	73.6	80.96	73.6	80.96
	D3	EPBS	1.2	73.6	88.32	73.6	88.32
	D4	EPBS	1.2	73.6	88.32	73.6	88.32

Totals Achieved				W	1642.844	EQ	1557.192
Good practise 10% Extra				Good		Good	
From Shee	Totals Required			W	892.45	EQ	1411.83
Wreq/EQreq =	0.632						

JOB Details

Name	Turnkey			
Street and Number	Road 9, Kipperberger Estate			
Lot and DP Number	Lot 146			
City/Town/District	Rangiora, Waimakariri			
Location of Storey:	SINGLE (delete one)			
Building height to apex	5.5	m	Roof weight	Light
Roof height above eaves	3	m	Cladding weight	Heavy
Stud height	2.605	m	Room in roof space	N
Average roof pitch	26	°	Subsoil Classification	D
Does the building have GABLES (Y/N)	Y		Snow Load	0.428 kpa
Building length	BL=	19.835 m	Gross Building	
Building width	BW=	13.73 m	Plan Area	GPA= 196.09 m2

Note : When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

Note : For heavy roofs use the roof plan at eaves level to determine GPA.

Wind Zone

Region:		Roughness:		Exposure:		Topography:	
A	*	Urban	*	Sheltered	*	T1	*
W		Open		Exposed		T2	
						T3	
						T4	
Wind Zone:		Low (0.5)		Very high (1.3)		Along	65
From Table		Medium (0.7)		Extra high (1.6)		Across	75
5.4 : 2011	*	High (1.0)		Specific Design		Factor:	1

Earthquake

From figure Eq1 select Earthquake Zone:	1	2	3	4
---	---	---	---	---

BU's required Wind

From Table W1A/B	
W Along =	65.00 BU's/m
W Across =	75.00 BU's/m
Total Wind load,	
W ALONG:	
W Along x BW =	892.45 BU's
W ACROSS:	
W Across x BL =	1487.625 BU's

BU's required Earthquake

From Table EQ1	
E=	7.20 BU's/m2
Note : For a room in the roof space use	
F+3	
Total earthquake load,	
EQ ALONG and EQ ACROSS:	
E x GPA BU's=	1411.83 BU's

PLATE FIXING TABLE

EXTERNAL BRACED WALLS

EP1 - FIXED WITH HANDIBRAC AT EACH END OF BRACING ELEMENT

EPG - FIXED WITH HANDIBRAC AT EACH END OF BRACING ELEMENT

GS1-N - (EXTERNAL) EXTERNAL BRACED WALLS TO BE FIXED WITH TRUBOLTS @900cfs

INTERNAL BRACED WALLS

GS1-N - FIXED WITH 75 x 3.8mm SHOT FIRED FASTENERS WITH 16mm DISCS SPACED AT 150mm AND 300mm FROM END STUDS AND 600mm CENTRES THEREAFTER.

OTHERS- NON BRACED INTERNAL WALLS MAY BE SHOT FIRED.

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BRACING LINE REQUIREMENT CALC'S

NUMBER OF BRACING LINES ACROSS (M.N)	5	
NUMBER OF BRACING LINES ALONG (A.B)	4	
	WIND	EQ
TOTAL BRACING UNITS REQ ACROSS	1487.62	1411.83
TOTAL BRACING UNITS REQ ALONG	892.45	1411.83
MIN UNITS PER LINE ACROSS	148.76	141.18
MIN UNITS PER LINE ALONG	111.56	176.48
NOTE : USE THE GREATER OF THE FOLLOWING		
- FIGURES ABOVE		
- OR 15 BU'S X BUILDING LINE LENGTH		
- 100 BU'S MINIMUM		

BRACING KEY

DIAGONALLY OPPOSING PAIR OF CONTINUOUS STEEL STRIPS EACH HAVING A CAPACITY OF 8kN IN TENSION, FIXED TO EACH TOP CHORD OR RAFTER THAT IS INTERSECTED, AND TO THE TOP PLATE. Ref. NZS3604:2011 10.4.2



= WET AREA

= BRACING UNIT TO ONE WALL FACE

*INTERNAL BRACING WALLS TO BE CONNECTED AT TOP PLATE LEVEL, EITHER DIRECTLY OR THROUGH A FRAMING MEMBER IN LINE WITH THE WALLS, TO EXTERNALS WALLS AT RIGHT ANGLES

BRACING PLAN PLAN

Scale: 1:100

HORNCastle HOMES LTD.

Job Engineer ENGCO CONSULTING ENGINEERS

Job Surveyor SPIIRE



DESIGN P. NAUDE

DRAWN PG_02

CHECK S. ADAMS

DATE 22/1/14

PAGE REVISION DATE 2/9/14

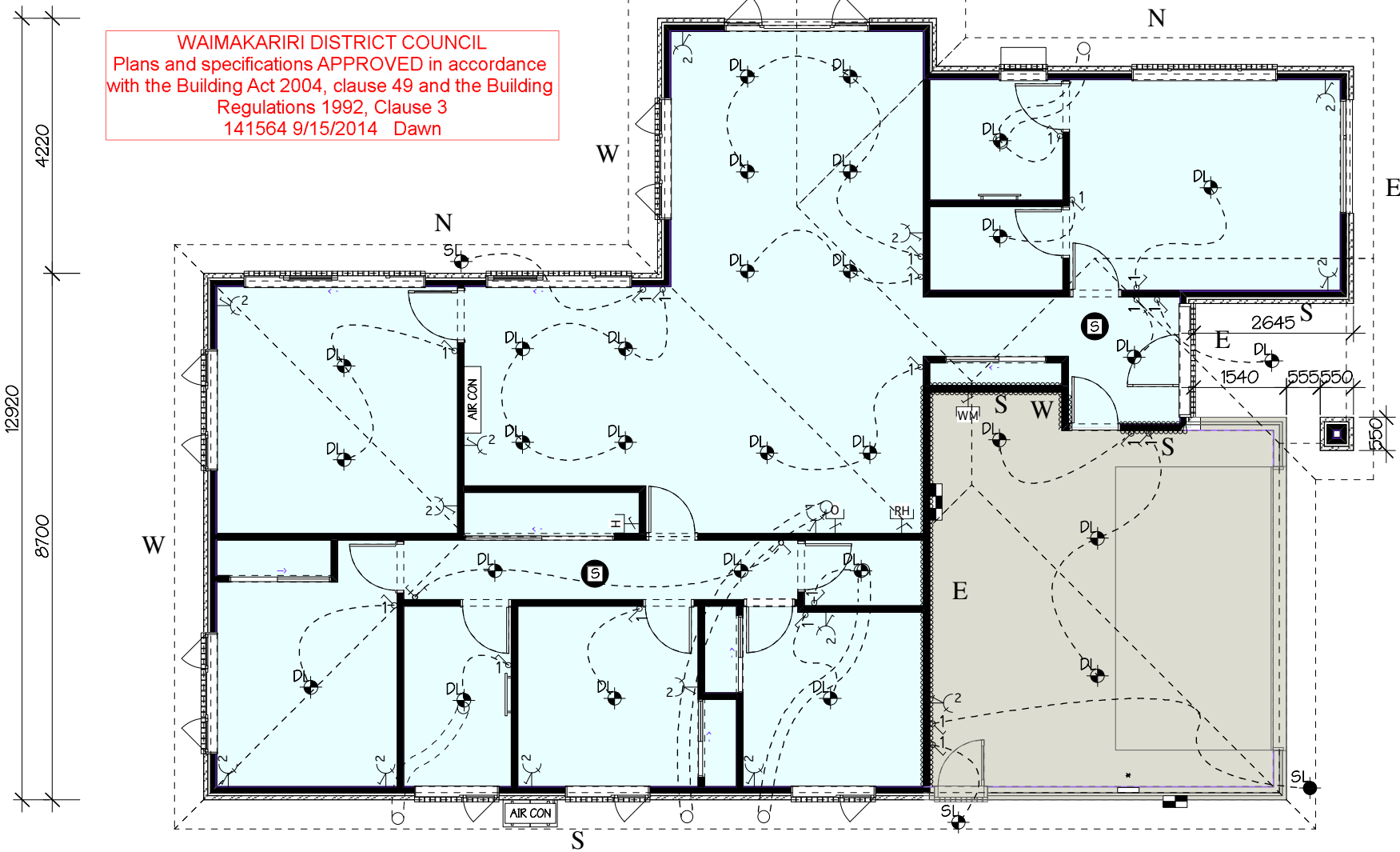
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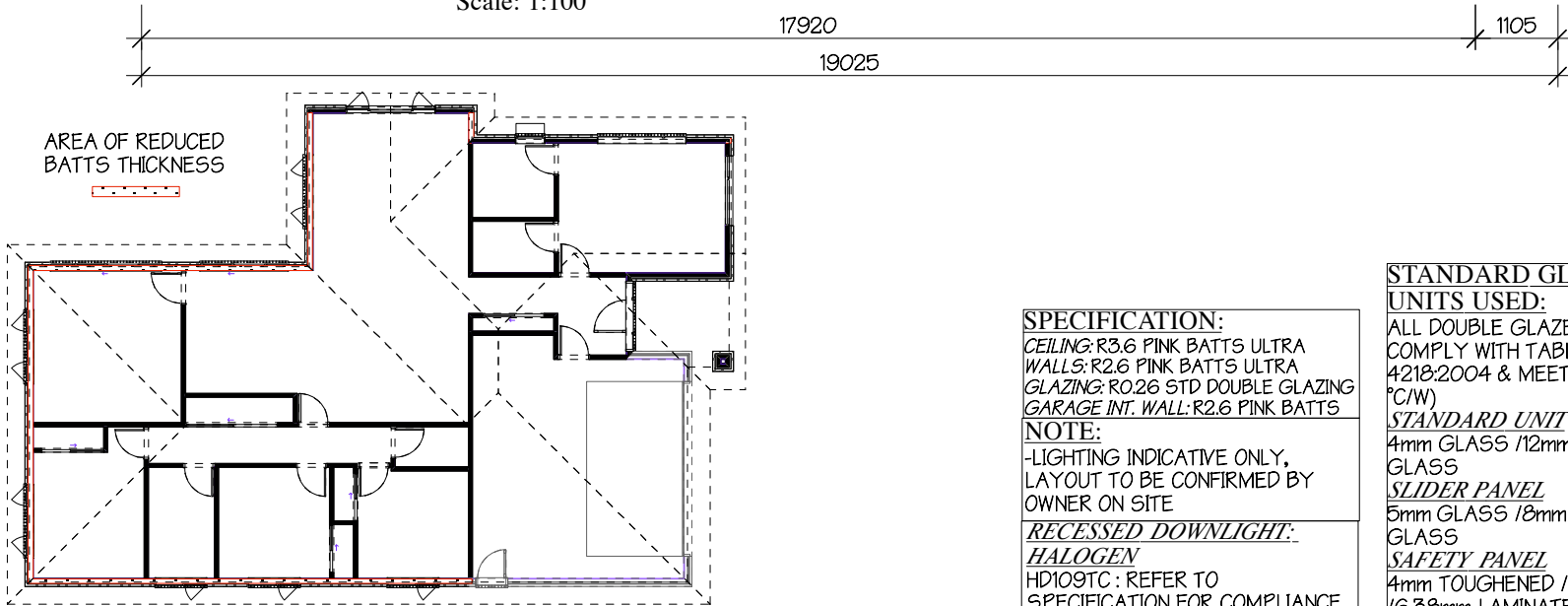


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INSULATION & ELECTRICAL PLAN

Scale: 1:100



REDUCE INSULATION PLAN

Scale: 1:200

HORNCastle HOMES LTD.

SPECIFICATION:
CEILING: R3.6 PINK BATTS ULTRA
WALLS: R2.6 PINK BATTS ULTRA
GLAZING: R0.26 STD DOUBLE GLAZING
GARAGE INT. WALL: R2.6 PINK BATTS
NOTE:
-LIGHTING INDICATIVE ONLY,
LAYOUT TO BE CONFIRMED BY
OWNER ON SITE
RECESSED DOWNLIGHT:
HALOGEN
HD109TC: REFER TO
SPECIFICATION FOR COMPLIANCE
DOCUMENT CERTIFICATE.

STANDARD GLAZING
UNITS USED:
ALL DOUBLE GLAZED UNITS
COMPLY WITH TABLE G2 NZS
4218:2004 & MEET 0.26 (m²sq
°C/W)
STANDARD UNIT
4mm GLASS /12mm AIR GAP /4mm
GLASS
SLIDER PANEL
5mm GLASS /8mm AIR GAP /5mm
GLASS
SAFETY PANEL
4mm TOUGHENED /8mm AIR GAP
/6.38mm LAMINATE

INSULATION & ELECTRICAL KEY:
[Symbol] INSULATION (GGE INT. WALL)
[Symbol] RECESSED DOWNLIGHT
[Symbol] SPOT LIGHT
[Symbol] SENSOR LIGHT
[Symbol] TWO WAY SWITCH
[Symbol] ONE WAY SWITCH (SINGLE)
[Symbol] RANGE HOB (ISOLATION SWITCH REQ'D)
[Symbol] OVEN IN WALL (ISOLATION SWITCH REQ'D)
[Symbol] RANGEHOOD (ISOLATION SWITCH REQ'D)
[Symbol] WASHING MACHINE (10amp SOCKET OUTLET)
[Symbol] SINGLE SWITCHED SOCKET
[Symbol] DOUBLE SWITCHED SOCKET

Calculation Method				BC141654					
Stud Height	2.605 m								
Total Wall Area	63.85 m x	2.61 m	=	166.33 sq m					
Floor & Roof Area (EXT GARAGE)	149.81 sq m								
Area of Glazing	159.04 sq m	113.6 sq m	=	45.45 sq m					
% Glazing / Wall Area	45.45 sq m /	166.33 sq m	=	27.32 %					
Wall Area less Window & Doors	166.33 sq m -	45.45 sq m	=	120.88 sq m					
Area of reduced Insulation	5.07 sq m								
Area of Ceiling less reduction	144.74 sq m								
Area of Brick Walls	86.24 sqm								
Area of Linea Walls	3.187 sqm								
Area of Internal Garage Walls	27.818 sqm								
Reference Building CONSTRUCTION VALUES									
HL	AROOF	+ BROOF	+ A WALL	+ B WALL	+ C WALL	+ AFLOOR	+ AGLAZING		
	3.3	3.3	2.0	2.0	2.0	1.3	0.26		
HL	159	+ 5	+ 86	+ 3	+ 28	+ 150	+ 45		
	3.3	3.3	2.0	2.0	2.0	1.3	0.26		
HL	48	+ 2	+ 43	+ 2	+ 14	+ 115	+ 175	=	398
Proposed Building CONSTRUCTION VALUES									
HL	AROOF	+ BROOF	+ A WALL	+ B WALL	+ C WALL	+ AFLOOR	+ AGLAZING		
	3.4	2.3	2.2	1.8	1.6	1.4	0.26		
HL	159	+ 5	+ 86	+ 3	+ 28	+ 150	+ 45		
	3.4	2.3	2.2	1.8	1.6	1.4	0.26		
	47	+ 2	+ 39	+ 2	+ 17	+ 107	+ 175	=	389
HL Proposed	<			HL Referenced					
389	<			398					GOOD

Insulation Calculation Table			10/09/2012.m
Stud height (STH)	2.605 m		
Perimeter (- GARAGE) (P)	63.85m		
Floor Area (-Garage) (A)	149.81 sq m		
Total Wall Area (STH x P)	166.33 sq m		
Roof Area	149.81 sq m		
Wall Area (- Windows)	120.88 sq m		
Wall Areas (LENGTH x STH)		LENGTH	AREA (GROSS)
North		18.80m	46.59 sq m
East		13.33m	33.25 sq m
South		18.75m	46.13 sq m
West		13.39m	33.08 sq m
Window areas		WALL AREA NETT	WINDOW AREA/WALL
North		25.44 sq m	21.14 sq m
East		25.37 sq m	7.88 sq m
South		38.35 sq m	7.78 sq m
West		24.43 sq m	8.65 sq m
Total area			45.45 sq m
% Glazing / Total Wall Area			27.32 %
East, South, West Combined %			
Windows E + W + S		24.31 sq m	
Walls E + W + S		112.46 sq m	
% Glazing E + W + S			21.61 %
If both are under 30% use the Schedule Method			
Under Floor Insulation			
Area/Perimeter Ratio			2.35
* If ratio is under 2.5 underfloor poly is required for horncastle construction methods			
* If ratio is under 1.9 foundation design needs redesigned			
Note: See table page 89 of branz insulation guide			
MIN INSULATION REQUIREMENTS (CONSTRUCTION VALUES)			
ROOF		R3.3	
WALLS		R2.0	
FLOOR		R1.3	
GLAZING		R0.26	
* SEE GLAZING NOTE FOR COMPLIANCE			
* SEE LIGHTING NOTE FOR CA LIGHT COMPLIANCE			

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Job Surveyor SPIIRE



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FLOOR AREA OVER FOUNDATION

196.09 sq m	inc Garage
STUD HEIGHT	2605mm
PERIMETER =	67.49 m
SLAB AREA =	188.25 sq m
ROOF AREA OVER EAVES =	231.87 sqm
INT WALL LENGTH (90)=	75.39 m
GARAGE AREA =	37.82 sq m

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STUD SIZES
STUDS HAVE BEEN SIZED USING
3604 : 2011 TABLE 8.2 & 8.4
-EXT = 90x45 SGB @ 400crs
-INT LB = 90x45 SGB @ 600crs
-INT NONLB = 90x45 SGB @ 600crs

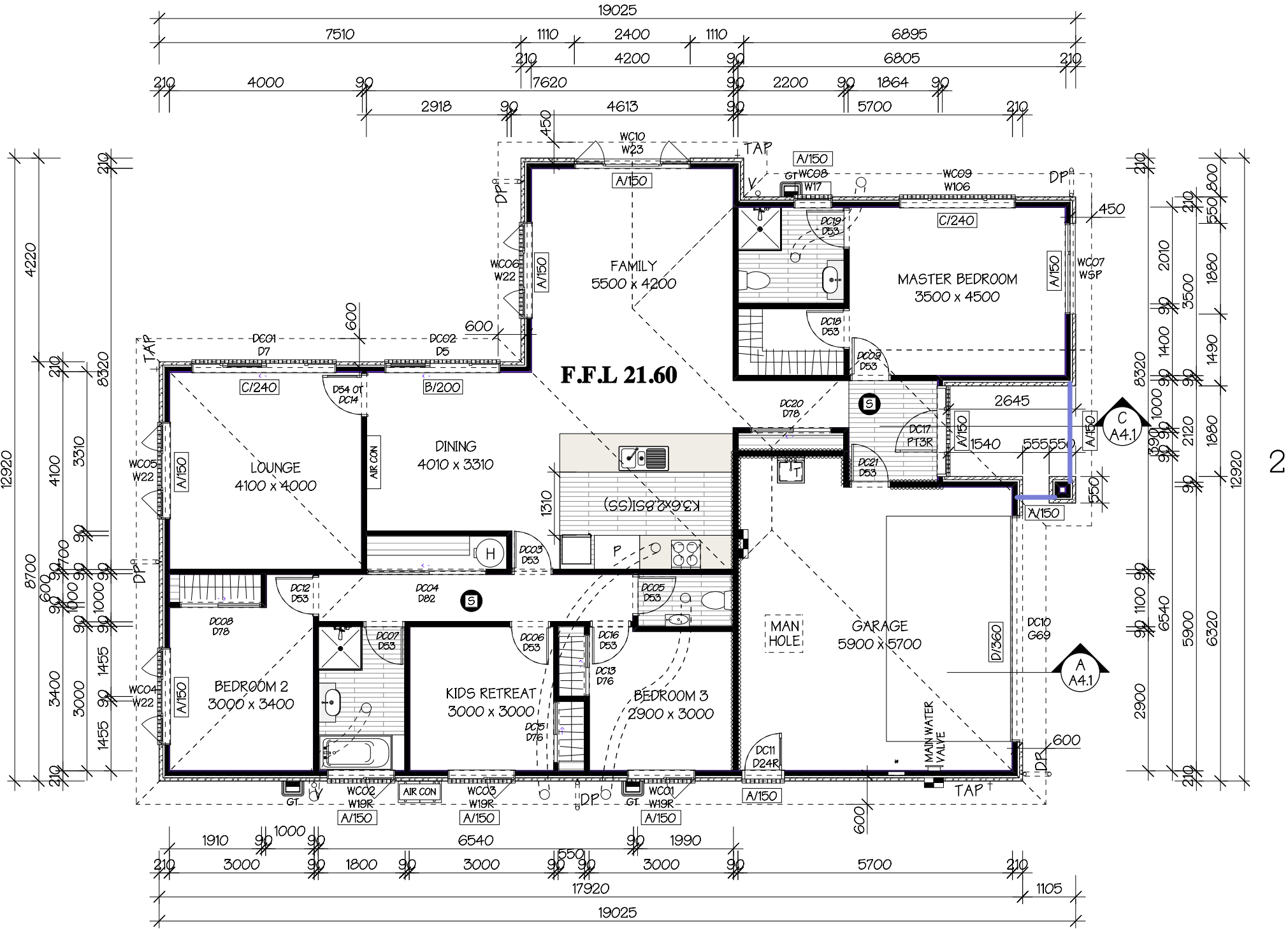
LINTEL SIZES
ALL LINTELS HAVE BEEN SIZED BY
TRUSS & FRAME MAUFACTURE
UNLESS STATED ON PLAN.
-SGB LINTELS HAVE BEEN SIZED
USING 3604 : 2011
-hyONE & hy90 LINTELS ARE SIZED BY
TRUSS MANUFACTURE USING designIT
SOFTWARE OR MAUNALS.

A/150	=	150x90 hy90
B/200	=	200x90 hy90
C/240	=	240x90 hy90
D/360	=	360x90 hy90

PLAN KEY:

- METER BOX
- FUSE BOARD
- SMOKE ALARM
- DOWN PIPE
- TERMINAL VENT
- GULLY TRAP
- VINYL FLOOR
- TELECOM BOX

- NOTES:**
- ALL DIMENSIONS TO TIMBER FRAMING; NOT TO FINISHED ROOM SIZES
 - SEE FOUNDATION PLAN FOR LOAD BEARING WALLS
 - BATT INSULATION BETWEEN HABITABLE & NON-HABITABLE SPACES
 - PROTECTION FOR STEEL FIXINGS & FASTENINGS: FIXINGS & FASTENINGS EXCLUDING NAILS SHALL HAVE ADDITIONAL CORROSION PROTECTION IN ACCORDANCE WITH NZS3604:2011 TABLE 4.1 (F)(a)
 - MECHANICAL VENTILATION IN HOUSING REMOVING MOISTURE SHALL BE VENTED OUTSIDE (INCLUDES WET AREAS & COOKER HOODS. REFER TO NZBC G4/AS1 1.3.c.ii.) MECHANICAL VENTILATION TO BE 150 DIA 230 CU M/H INLINE FAN DUCTED TO SOFFIT.
 - SMOKE ALARMS TO BE INSTALLED TO AS1670.6 REQUIREMENTS. EQUIPMENT TO COMPLY WITH AS3786.
 - JOINTS BETWEEN FIXTURES & WALL LININGS; WHERE BATHS, BASINS, TUBS, OR SINKS ABUT IMPERVIOUS LININGS, THE JOINT BETWEEN FIXTURE & LINING SHALL BE SEALED TO PREVENT WATER PENETRATION TO CONCEALED SPACES OR BEHIND LININGS
 - SHOWERS ARE ENGLEFIELD TRAY AND LINERS. SHOWERS FITTED WITH 6mm MILLENIUM REVERSIBLE FRAMELESS PIVOT DOOR WITH TOUGHENED SAFETY GLASS
 - HWC TO HAVE COPPER RELIEF VALVE & DRAIN TO OUTSIDE
 - HOT WATER PIPE TO KITCHEN;
 - DEVELOPED LENGTH > 12m
 - NOMINAL PIPE SIZE 15mm
 - ALL PIPING POLYBUTYLENE.
 - INSULATE TO NZBC G12/AS1
 - 65 DIA. ROUND DOWNPIPE, 88 x 137mm GUTTERS
 - MULTILINE QUAD GUTTER BY STEEL AND TUBE HAS A CROSS SECTIONAL AREA OF 6850mm2
 - 20mm POLY BEHIND ALL RECESSED BOXES
 - 25mm REBATE IN SLAB FOR GARAGE DOOR SPONGE FINISH
 - ALL CAVITY SLIDERS TO RECESS FULLY WITH PULL RINGS
 - IT IS THE BUILDERS RESPONSIBILITY TO CHECK THE GARAGE DOOR REBATE SIZES BEFORE POURING.
 - MAN HOLE TO BE 600x600 min



FLOOR PLAN
Scale: 1:100



NOTE:
-GRADE 'A' SAFETY GLAZING IN ALL BATHROOMS WHERE GLAZING IS UNDER OR WITHIN 2m OF FLOOR LEVEL. (NZS:4223)
 = SAFETY GLAZING.
-ALL DOORS AND ALL WINDOWS OVER 600mm TO BE FITTED WITH SUPPORT BARS. BARS & FITTING POSITION TO BE SUPPLIED BY ALUMNIUM SUPPLIER (9.110.5 v).
-S.S = SAFETY STAYS FITTED TO WINDOW.
* WALL IS BRACED WITH 7.5 PLY TO OUTSIDE FACE (ALLOW EXTRA FOR REVEAL THICKNESS)

- Notes
1. HARDIES LINEA WEATHERBOARDS (180mm) ON H3.1 20mm BATTENED CAVITY & BUILDING WRAP. CUT ENDS OF WEATHERBOARDS TO BE PRIMED. CAVITY TO FINISH WITH A UPVC VENT STRIP
 2. COLOURSTEEL GUTTER & FASCIA
 3. 135X16 HARDIES CLD TRIM ABOVE WINDOWS & DOORS
 4. 70 SERIES CLAY BRICK VENEER CLADDING
 5. DOUBLE GLAZED POWDER COATED ALUMINIUM FRAMED WINDOWS & DOORS WITH H3.1 TIMBER REVEALS
 6. CORRUGATED COLORSTEEL ROOFING

RISK FACTOR	L	M	H	VH	SUBTOTALS
WIND ZONE	0	0	1	2	1
NUMBER OF STOREYS	0	1	2	4	0
ROOFWALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	0
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2

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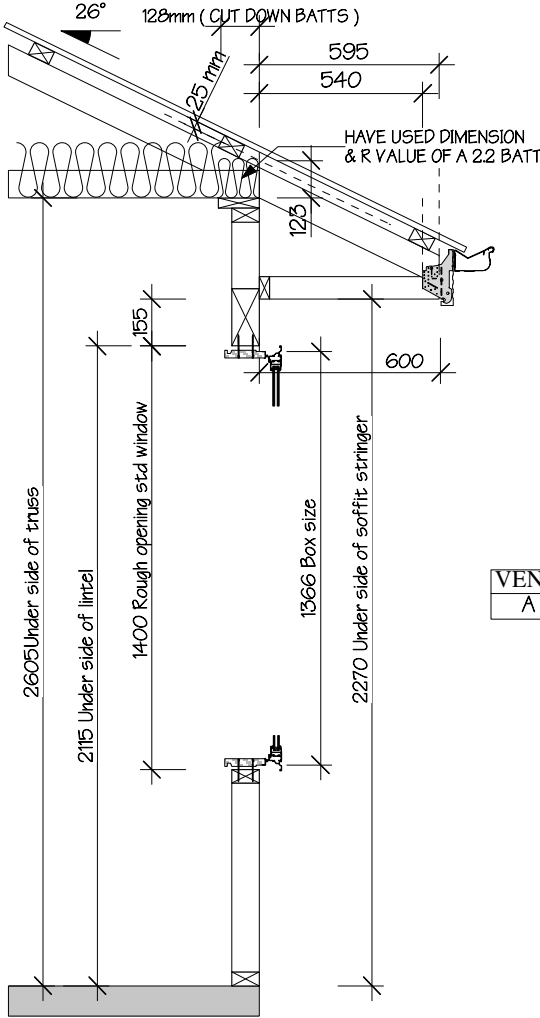


ELEVATION 1
Scale: 1:100

TIMBER TREATMENT SCHEDULE:	
SG8 KILN DRIED PINUS RADIATA	
EXTERNAL WALLS:	H1.2 TREATED
INTERNAL WALLS:	H1.2 TREATED
ALL BEAMS & LINTELS:	H1.2 TREATED
ALL FRAMES TO HAVE:	H1.2 BOTTOM PLATE
TRUSSES & EAVE FRAMING:	H1.2 TREATED
ECOPLY BARRIER:	H3.2 TREATED
WINDOW & DOOR REVEALS:	H3.1 TREATED
CHIMNEY FRAMING:	H1.2 TREATED
VALLEY BOARDS:	H1.2 TREATED
PURLINS:	H1.2 TREATED
COLUMN FRAMING:	H1.2 TREATED
GARAGE DOOR REVEALS:	H3.1 TREATED
CAVITY BATTENS:	H3.1 TREATED

WINDOW SCHEDULE					
ID	MODEL	WIDTH mm	HEIGHT mm	GLAZED AREA sqm	VENTILATION AREA sqm
WC01	W19R	1400 mm	1400 mm	1.56 sqm	0.76 sqm
WC02	W19R	1400 mm	1400 mm	1.56 sqm	0.76 sqm
WC03	W19R	1400 mm	1400 mm	1.56 sqm	0.76 sqm
WC04	W22	2000 mm	1400 mm	2.10 sqm	1.52 sqm
WC05	W22	2000 mm	1400 mm	2.10 sqm	1.52 sqm
WC06	W22	2000 mm	1400 mm	2.10 sqm	1.52 sqm
WC07	W5P	1880 mm	2000 mm	3.33 sqm	0.87 sqm
WC08	W17	800 mm	1400 mm	0.81 sqm	1.01 sqm
WC09	W106	2400 mm	2000 mm	3.84 sqm	1.52 sqm
WC10	W23	2400 mm	1400 mm	2.83 sqm	1.73 sqm

DOOR SCHEDULE					
ID	MODEL	WIDTH mm	HEIGHT mm	GLAZED AREA sqm	VENTILATION AREA sqm
DC01	D7	3000 mm	2115 mm	4.32 sqm	3.23 sqm
DC02	D5	2400 mm	2115 mm	3.43 sqm	2.47 sqm
DC03	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC04	D82	2480 mm	2050 mm	0.00 sqm	2.35 sqm
DC05	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC06	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC07	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC08	D78	1680 mm	2050 mm	0.00 sqm	1.55 sqm
DC09	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC10	G69	4680 mm	2115 mm	0.00 sqm	19.26 sqm
DC11	D24R	875 mm	2115 mm	0.94 sqm	1.52 sqm
DC12	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC13	D76	1280 mm	2050 mm	0.00 sqm	1.15 sqm
DC14	D54 OT	890 mm	2050 mm	0.71 sqm	1.63 sqm
DC15	D76	1280 mm	2050 mm	0.00 sqm	1.15 sqm
DC16	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC17	PT3R	1880 mm	2115 mm	1.60 sqm	1.73 sqm
DC18	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC19	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm
DC20	D78	1680 mm	2050 mm	0.00 sqm	1.55 sqm
DC21	D53	840 mm	2050 mm	0.00 sqm	1.53 sqm



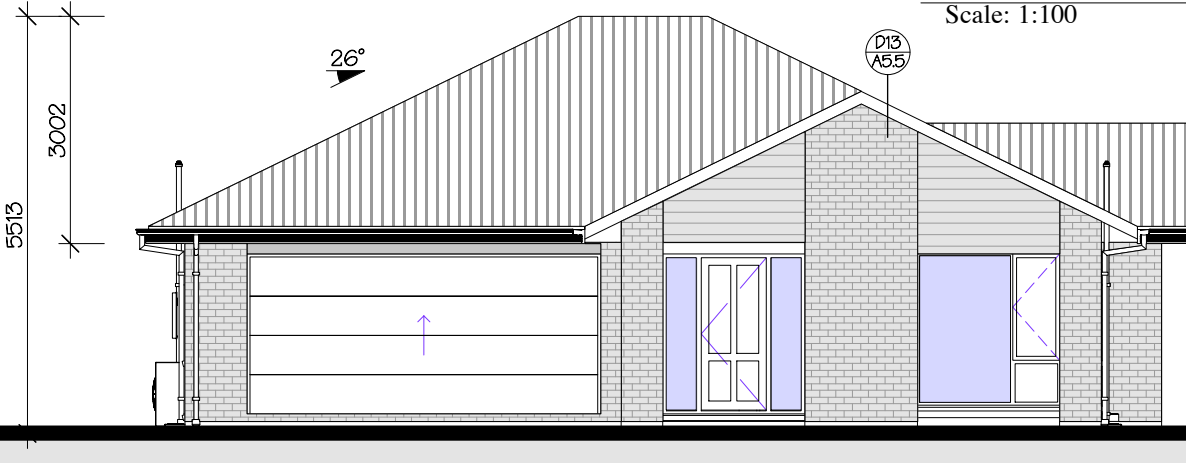
RISK FACTOR	L	M	H	VH	SUBTOTALS
WIND ZONE	0	0	1	2	1
NUMBER OF STOREYS	0	1	2	4	0
ROOFWALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	2
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					4

VENEER LINTEL TABLE	
A	60x60x6L

RISK FACTOR	L	M	H	VH	SUBTOTALS
WIND ZONE	0	0	1	2	1
NUMBER OF STOREYS	0	1	2	4	0
ROOFWALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	0
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2

2570 STUD
STANDARD WINDOWS
Scale: 1:25

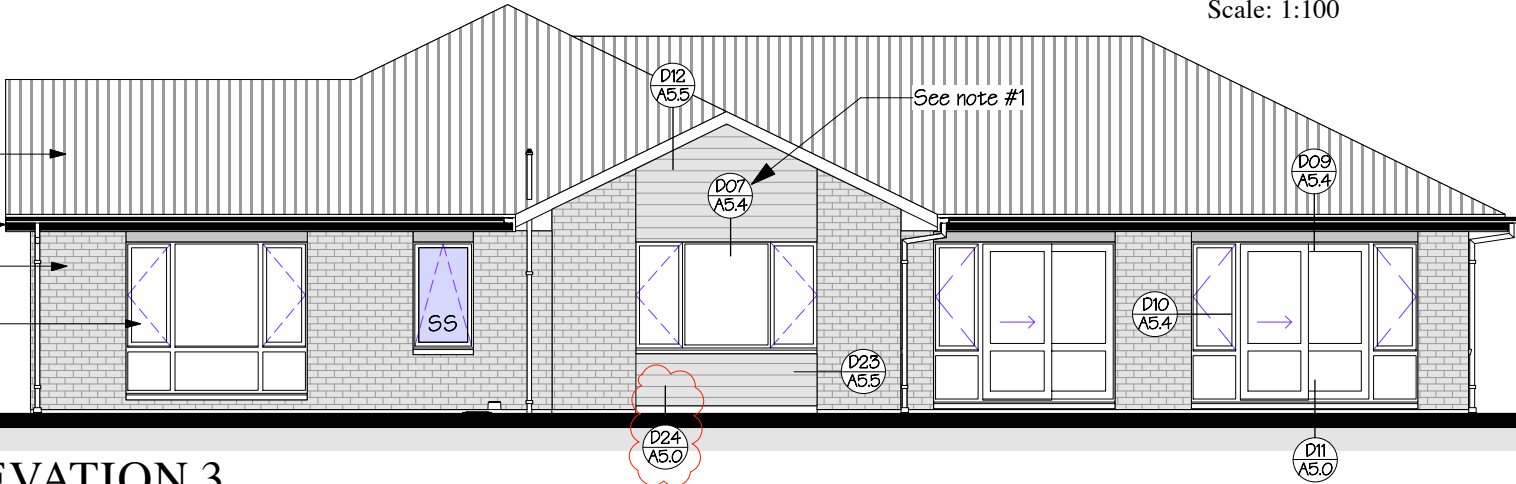
RISK FACTOR	L	M	H	VH	SUBTOTALS
WIND ZONE	0	0	1	2	1
NUMBER OF STOREYS	0	1	2	4	0
ROOFWALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	2
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					4



ELEVATION 2
Scale: 1:100



ELEVATION 4
Scale: 1:100



ELEVATION 3
Scale: 1:100

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Notes

1. COLORSTEEL CORRUGATED IRON ON H1.2 75x45 PURLINS @ 900 crs max WITH THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY.

2. R 3.6 CEILING BATTS

3. COLORSTEEL GUTTER & FASCIA SYSTEM

4. TRUSSES TO BE DESIGNED AND CERTIFIED BY APPROVED MANUFACTURER. TRUSSES @ 900 crs max

5. REFER TO "AS BUILT" TRUSS DESIGN FROM MANUFACTURER FOR TRUSS, TOP PLATE & LINTEL FIXINGS

6. DOUBLE GLAZED POWDER COATED ALUMINIUM FRAMED WINDOWS & DOORS WITH H3.1 TIMBER REVEALS

7. R 2.6 ULTRA WALL BATTS

8. 10 mm GIBRALTER BOARD LINING THROUGH-OUT BOTH; GLUE & SCREW FIX (FINISH TO LEVEL 4)
9. ENGINEERED FOUNDATION - RIB RAFT - REFER TO ATTACHED ENGINEERED DESIGN FOR DETAILS

10. 4.5mm HARDIESOFFIT TO UNDERSIDE WITH PVC JOINTERS

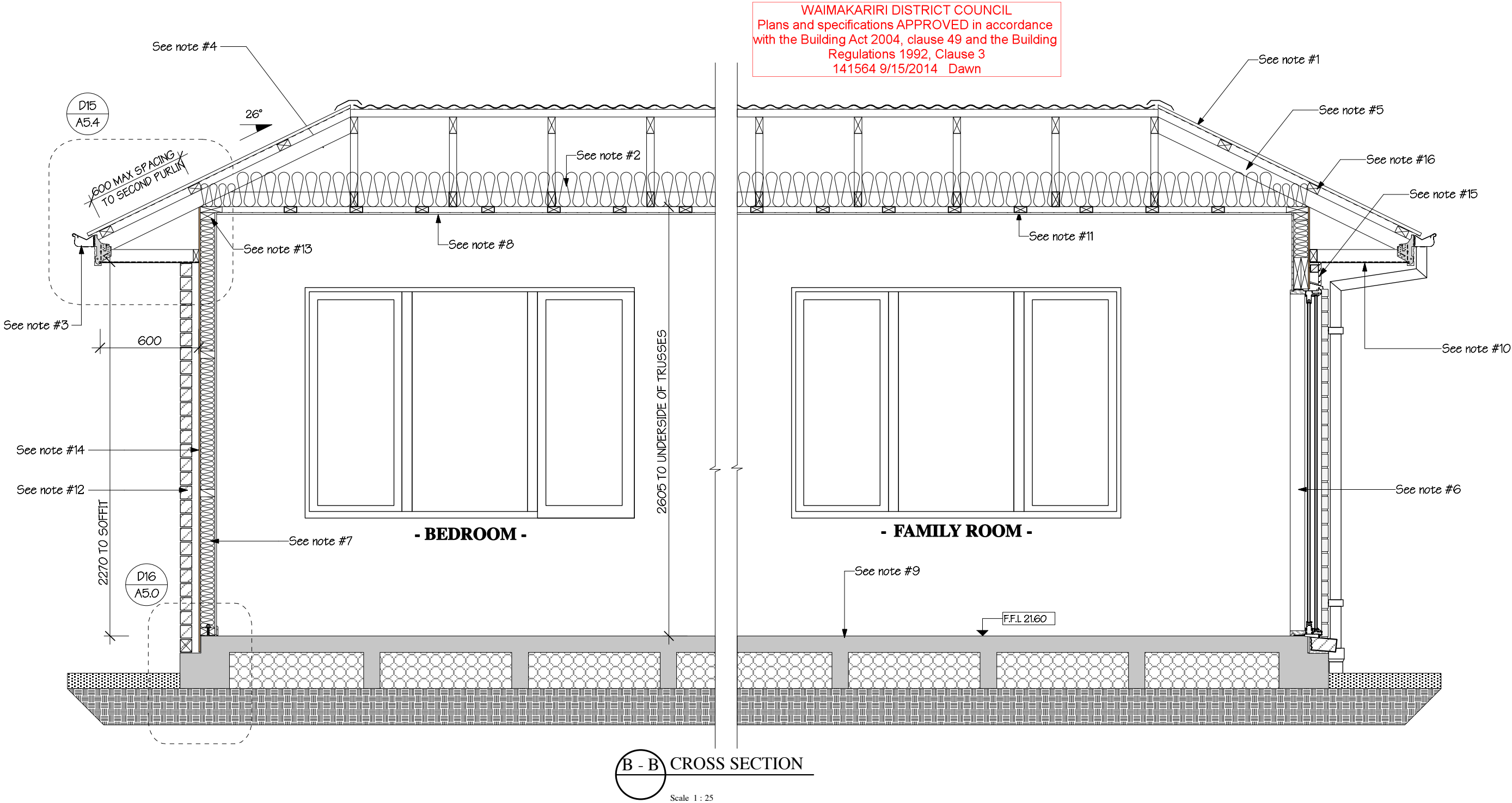
11. 75x35 CEILING BATTENS @ 400crs

12. 70 SERIES CLAY BRICKS. BRICK TIES @ - 400mm HORZ. MAX - 400mm crs VERTICALLY
13. H1.2 90x45 SGB KILN DRIED LASER FRAME FRAMING. STUDS @ 400crs WITH 7mm H3.2 ECOPLY BARRIER. DWANGS @ 800crs

14. H3.2 7mm ECO PLY BARRIER FIXED WITH GALV FLAT HEAD NAILS @ 150mm crs TO ALL SHEET EDGES AND 300mm crs TO CENTER OF SHEETS.BASE OF SHEET TO OVER HANG SLAB BY 25mm.

15. 135x16 HARDIES TRIM OVER DOUBLE H3.1 BATTENED CAVITY

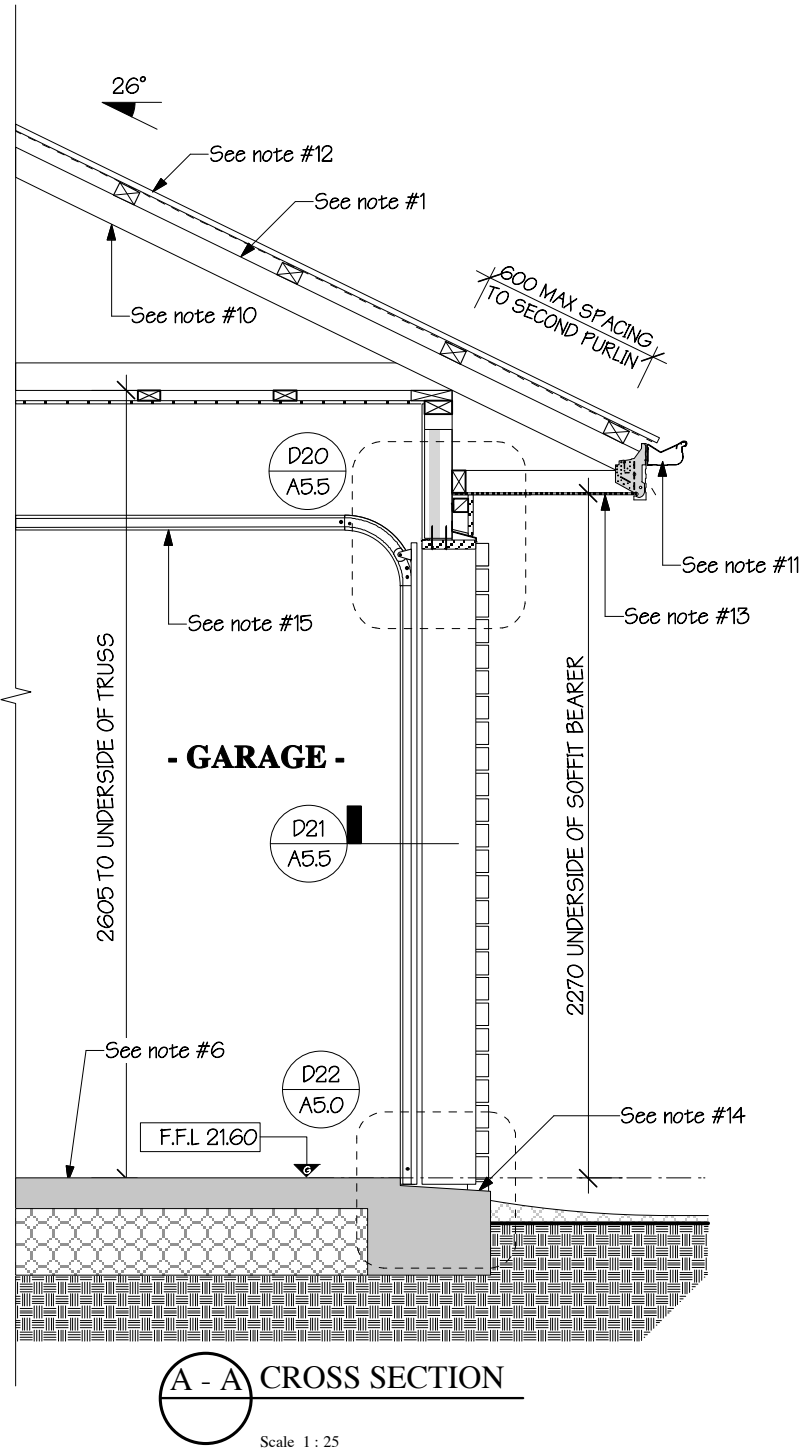
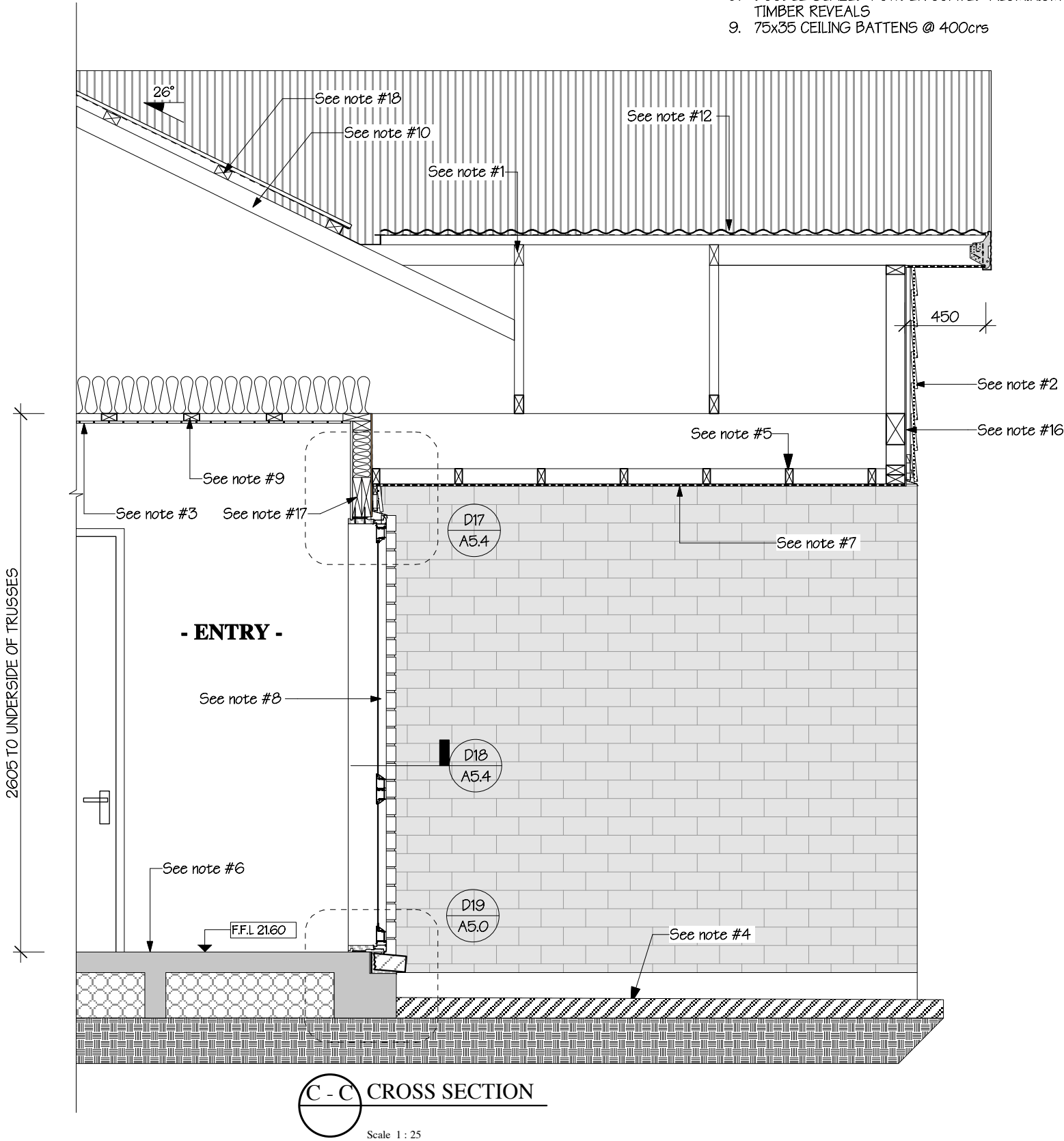
16. PURLIN FIXING: 1/10g SELF-DRILLING SCREW 80mm LONG. ALT. FIXING CAPACITY 2.4kN

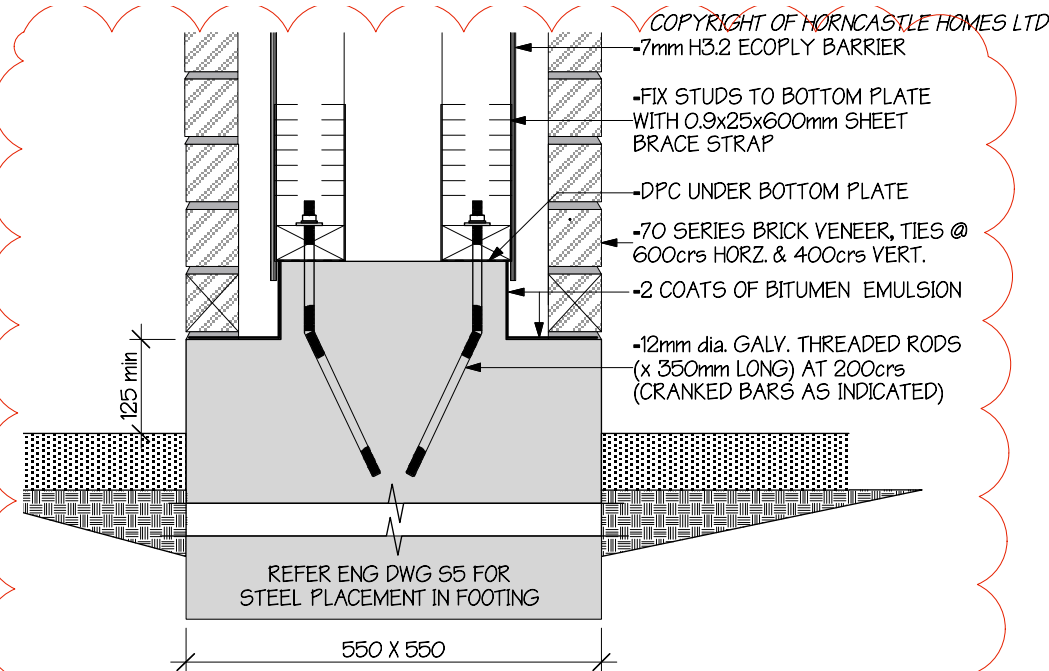
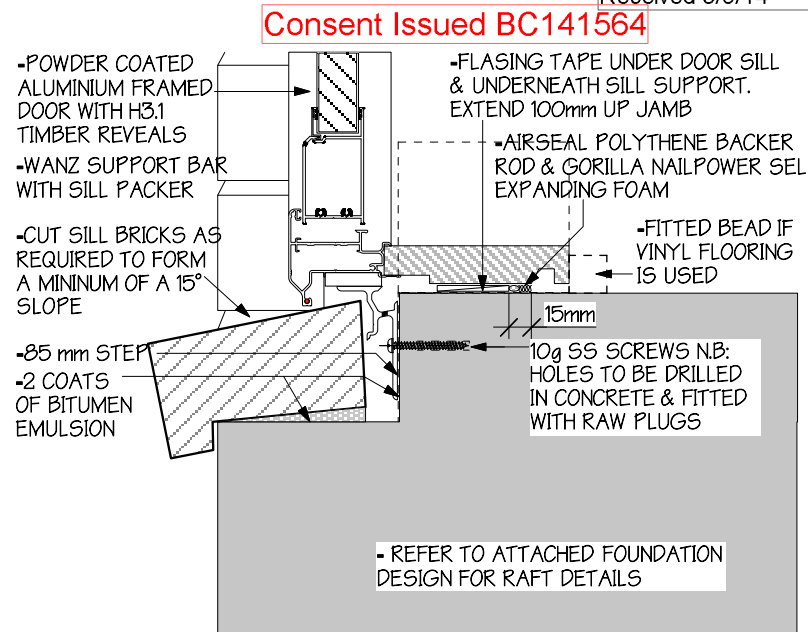


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Regulations 1992, Clause 3
141564 9/15/2014 Dawn

Notes **Consent Issued BC141564**

1. TRUSSES TO BE DESIGNED AND CERTIFIED BY APPROVED MANUFACTURER. TRUSSES @ 900 crs max
2. HARDIES LINEA WEATHERBOARDS (180mm) ON H3.1 20mm BATTENED CAVITY & ECOPLY. CUT ENDS OF WEATHERBOARDS TO BE PRIMED. CAVITY TO FINISH WITH A UPVC VENT STRIP
3. 10 mm GIBRALTER BOARD LINING THROUGH-OUT BOTH. GLUE & SCREW FIX (FINISH TO LEVEL 4)
4. ANTI-SLIP FINISH COMPLIANT WITH NZBC D1/AS1: TABLE 2 TO ENTRY PATH
5. H1.2 90x45 CEILING JOISTS @ 600crs SOLID NOG AT MID SPAN
6. ENGINEERED FOUNDATION - RIB RAFT - REFER TO ATTACHED ENGINEERED DESIGN FOR DETAILS
7. 4.5mm HARDIESOFFIT TO UNDERSIDE WITH PVC JOINTERS
8. DOUBLE GLAZED POWDER COATED ALUMINIUM FRAMED WINDOWS & DOORS WITH H3.1 TIMBER REVEALS
9. 75x35 CEILING BATTENS @ 400crs
10. REFER TO "AS BUILT" TRUSS DESIGN FROM MANUFACTURER FOR TRUSS, TOP PLATE & LINTEL FIXINGS
11. COLORSTEEL GUTTER & FASCIA SYSTEM
12. COLORSTEEL CORRUGATED IRON ON H1.2 75x45 PURLINS @ 900 crs max WITH THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY.
13. 4.5mm HARDIESOFFIT TO UNDERSIDE OF SOFFIT BEARER WITH PVC JOINTERS
14. GARAGE DOOR REBATE WITH SPONGE FINISH. REFER TO FOUNDATION PLAN FOR REBATE SIZE
15. SECTIONAL GARAGE DOOR & TRACKS
16. 7mm ECO PLY BARRIER TO GABLE FRAMES.
17. H1.2 90x45 SGB KILN DRIED LASER FRAME FRAMING. STUDS @ 400crs WITH 7mm H3.2 ECOPLY BARRIER. 2 ROWS OF DWANGS
18. PURLIN FIXING: 1/10g SELF-DRILLING SCREW 80mm LONG. ALT. FIXING CAPACITY 2.4kN

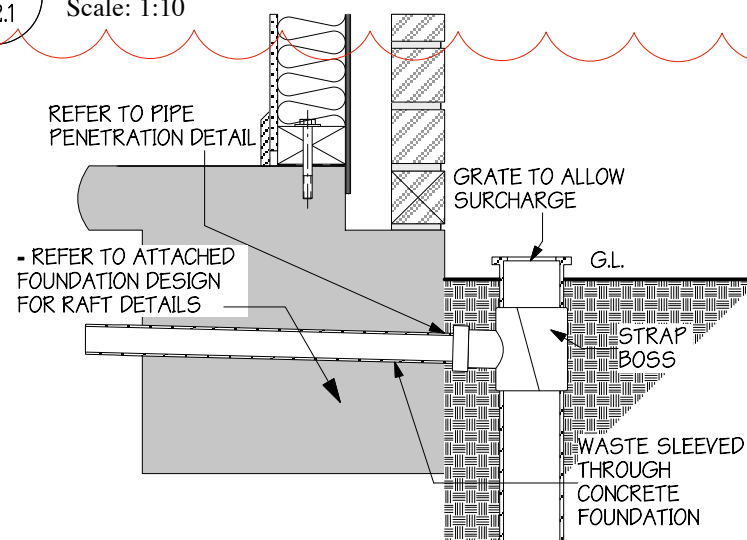




COLUMN FOOTING DETAIL

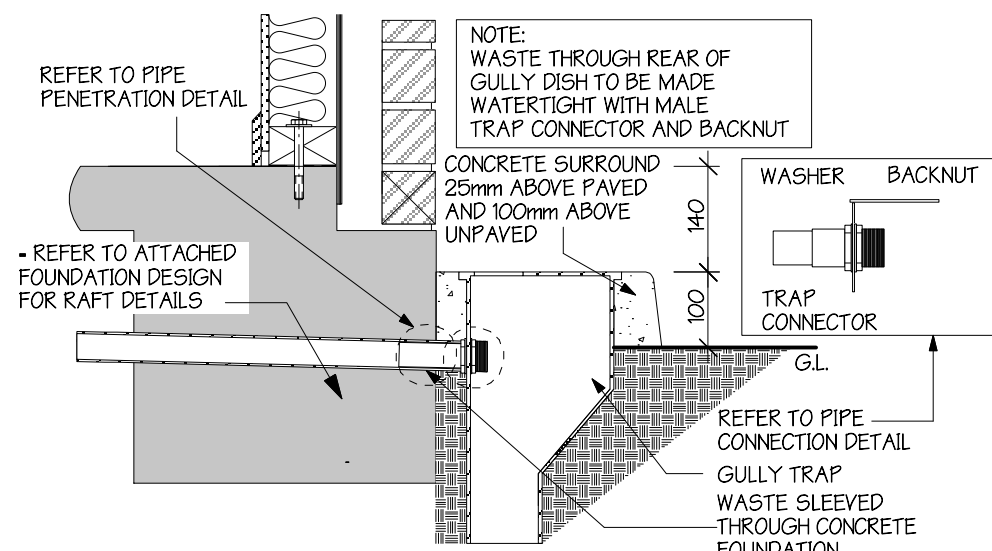
D25
A21

COLU
Scale: 1:10



WASTE DISCHARGING * TO SINGLE GULLY

Scale: 1:10



WASTE DISCHARGING TO REAR OF GULLY*

Scale: 1:10

Issue Date = Tue, 2 Sep 2014 3:53:15 PM • VW-17.0.4 for Mac

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Regulations 1992, Clause 3
141564 9/15/2014 Dawn

Job Engineer ENGCO CONSULTING ENGINEERS
Job Surveyor SPIIRE



DESIGN	P. NAUDE
DRAWN	PG_02

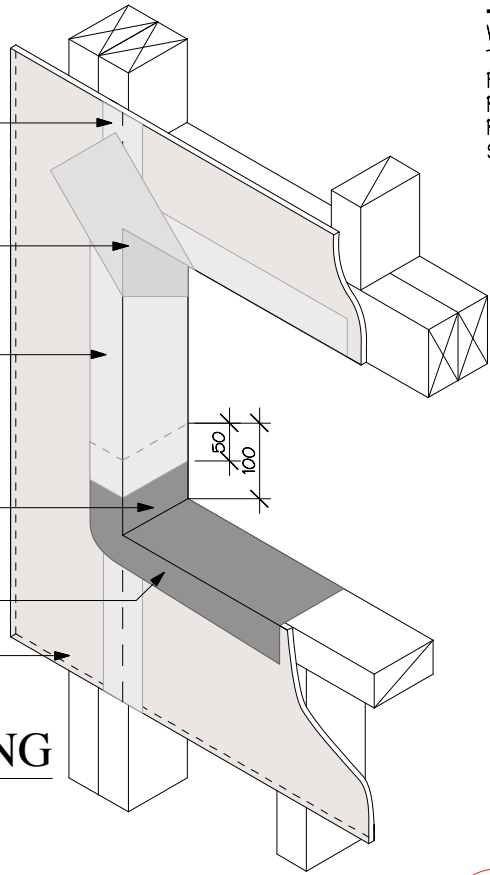
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S. ADAMS	22/1/14		2/9/14
LOT 146-TURNKEY-KIPP STG 5-J4146.vwx			

A5.0

- SEAL VERTICAL JOINTS BY APPLYING ECOPLY BARRIER SEALING TAPE OVER THE JOINTS.
- CAREFULLY SLIT THE TAPE FROM THE CORNER TO GET A SMOOTH ADHESION TO THE PLYWOOD PANEL. BEND THE FRAME FLASHING TAPE TO MOULD INTO THE CORNERS. CUT & APPLY A SMALL STRIP 100x150mm TO REINFORCE THE CORNER.
- ECOPLY BARRIER FRAME FLASHING TAPE TO THE VERTICAL TRIMMER STUD & LINTEL OF THE OPENING. ALL EXPOSED TIMBER FRAMING MUST BE COVERED, THE TAPE IS SEALED 50mm MIN OVER PLYWOOD.
- 100mm MIN TURN UP TO FLEXIBLE SILL TAPE
- FLEXIBLE SILL TAPE TURNED OUT 50mm MIN OVER PLYWOOD SHEATHING.
- ECOPLY BARRIER

ECOPLY TO OPENING

Scale: 1:10



Consent Number BC141564

-H3.2 7mm ECOPLY BARRIER FIXED WITH 50x2.8mm HOT DIP GALV. NAILS TO WALL END STUDS (NOT CORNER FRAMING) AS PER BRACING REQUIREMENTS. ADDITIONAL FIXING REQUIRED AT CORNERS TO SECURE SHEETS.

-ALLOW FOR 2-3mm EXPANSION GAP BETWEEN SHEETS. ENSURE SURF. JOINTS ARE COVERED BY COVERING OVER JOINT WITH ECOPLY BARRIER SEALING TAPE.

BRACE PANEL

100mm MAX

2-3mm

-HANDIBRAC FIXED AS CLOSE TO INTERNAL EDGE OF BOTTOM PLATE. BOLT TO BE 100mm MAX. FROM BRACE PANEL EDGE.

-CRITICAL STUD POSITION. WHERE WALL IS CONTINUOUS: CENTER OF STUD TO LINE UP WITH END OF BRACE PANEL.

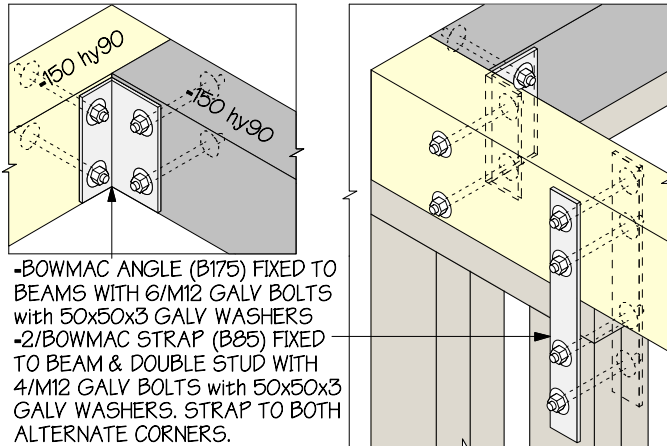
-ECOPLY BARRIER TO RUN FULL LENGTH UP TO WINDOW OPENING. USE 150mm FLEXIBLE FLASHING TAPE CONTINUOUSLY AROUND THE WINDOW HEAD, JAMB & SILL. LAP 50mm MIN. OVER ECOPLY BARRIER

INSTALL IN CONJUNCTION WITH THE LATEST "ECOPLY INSTALLATION & SPECIFICATION GUIDE" and "ECOPLY BARRIER INSTALLATION & SPECIFICATION GUIDE".

NOTE:
AT WINDOW/ DOOR OPENINGS, BRACE PANELS TO BE MEASURED 45mm SHORT OF WINDOW/ DOOR OPENING. 1200mm ECOPLY BARRIER SHEET LENGTH = 1110mm MAXIMUM BRACE PANEL LENGTH AT EXT. CORNERS.

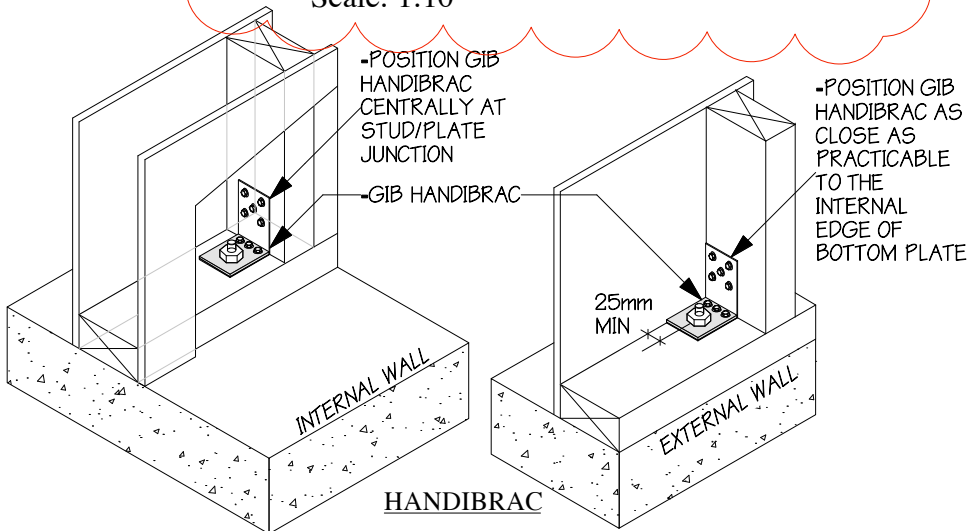
ECOPLY BARRIER DETAIL

Scale: 1:10



COLUMN FRAMING CONNECTION

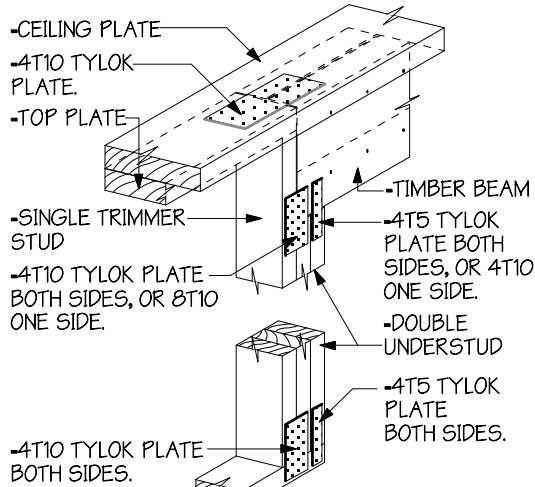
Scale: 1:10



*HOLD DOWN FASTENER REQUIREMENTS: 10x140mm HILTI HUS-H SCREW WITH 8x TEK SCREWS (8mm AF). HILTI HUS-H SCREWS ACHIEVING THE MINIMUM UPLIFT CAPACITY OF 15kN. NOTE: FOR EP BRACING. EPB1, EPBG, BL1-H, BLG-H & BLP-H ONLY

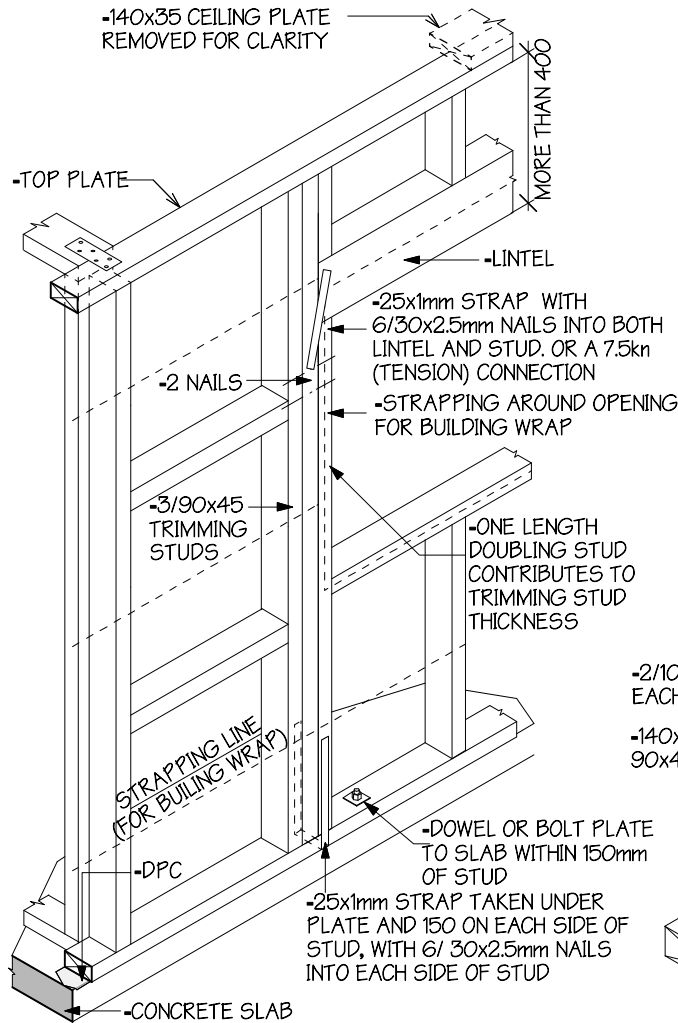
PANEL HOLD DOWN: INTERNAL / EXTERNAL WALL

Scale: N / A



SIMPLY SUPPORTED TIMBER BEAM

Scale: 1:10



LINTEL FIXING 2570-2720 STUD HEIGHT

Scale: 1:10

Building Consent 141564
Received 3/9/14

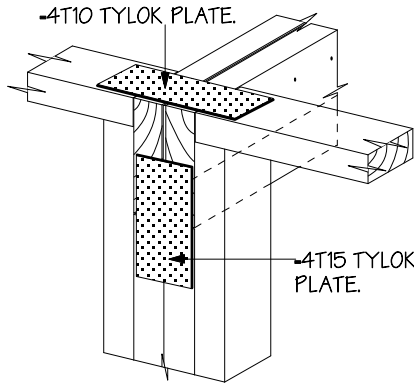
-6kN CONNECTION TO TOP PLATE WITH 25x0.9mm GALVANISED M.S. PLATE AND THREE 30x2.5mm GALVANISED NAILS ON EACH SIDE OF JOINT OR A TYLOK 6T5

-3kN CONNECTION TO TOP PLATE WITH 25x0.9mm GALVANISED M.S. PLATE AND SIX 30x2.5mm GALVANISED NAILS ON EACH SIDE OF JOINT OR A TYLOK 6T5

-THE TOP PLATE OF A WALL THAT CONTAINS ONE OR MORE WALL BRACING ELEMENTS SHALL BE JOINTED ACCORDING TO THE RATING OF THE HIGHEST RATED INDIVIDUAL WALL BRACING ELEMENT AS FOLLOWS:
A) RATING NOT EXCEEDING 100 BRACING UNITS: A 3kN CONNECTION AS SHOWN OR BY AN ALTERNATIVE FIXING OF 3kN CAPACITY IN TENSION OR COMPRESSION ALONG THE PLATE;
B) RATING EXCEEDING 100 BRACING UNITS: A 6kN CONNECTION AS SHOWN OR BY AN ALTERNATIVE FIXING OF 6kN CAPACITY TENSION OR COMPRESSION ALONG THE PLATE.

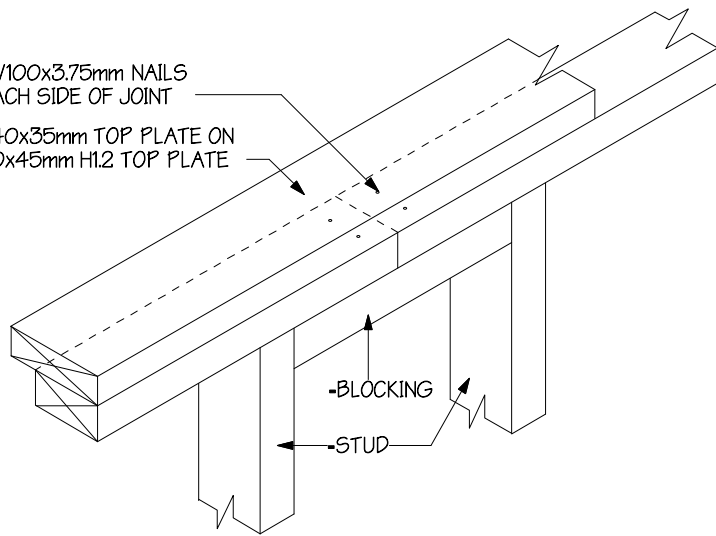
TOP PLATE CONNECTIONS

Scale: N / A



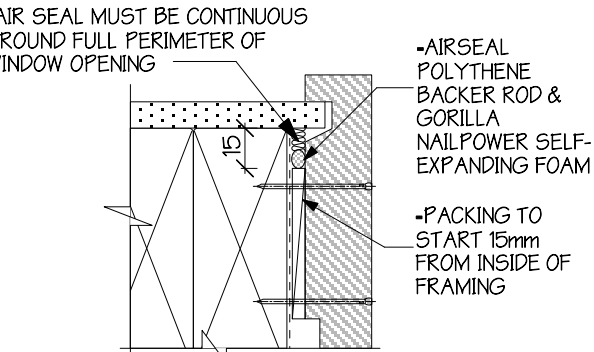
BEAM POCKET

Scale: 1:10



TOP PLATE TO STUD CONNECTION

Scale: 1:10



AIR SEAL DETAIL*

N.T.S

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HORNCastle HOMES LTD.

Job Engineer
Job Surveyor
ENGCO CONSULTING ENGINEERS
SPIIRE



DESIGN
P. NAUDE
DRAWN
PG_02

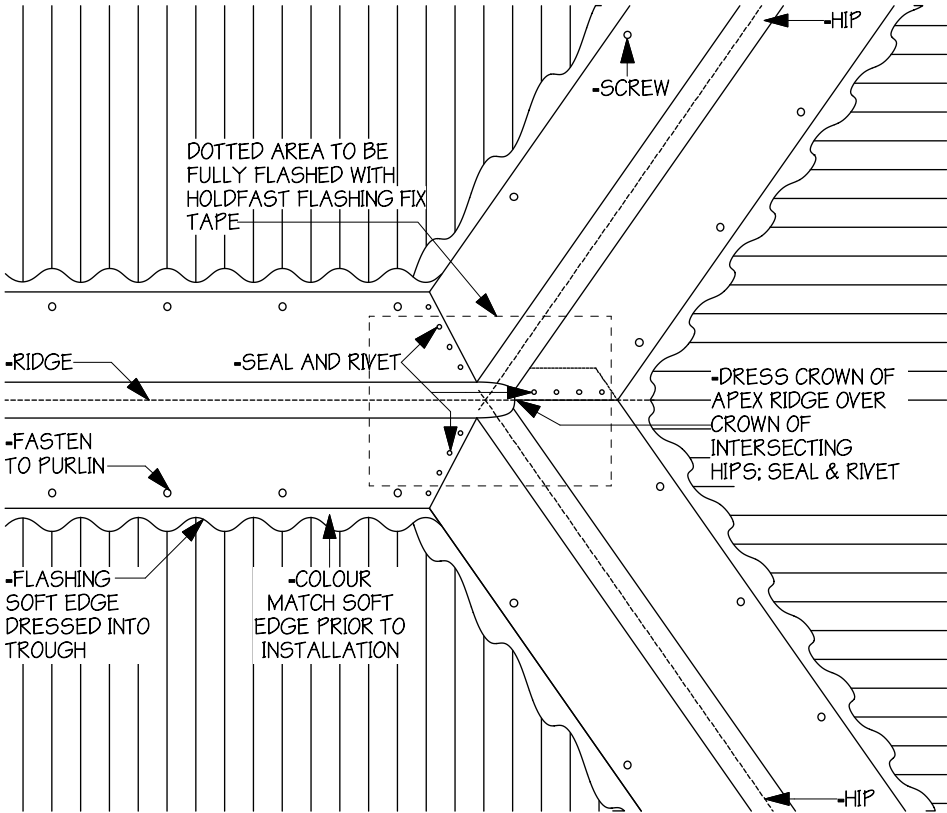
CHECK
S. ADAMS

DATE
22/1/14

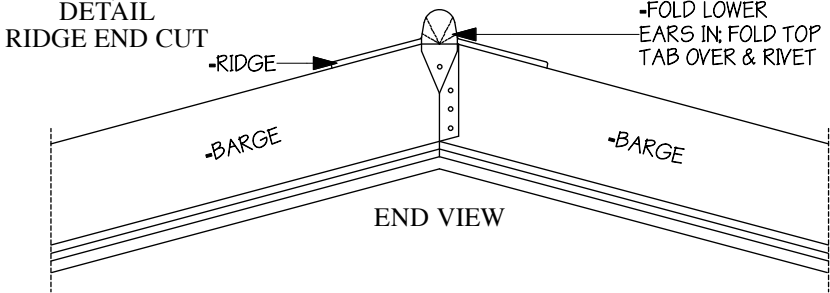
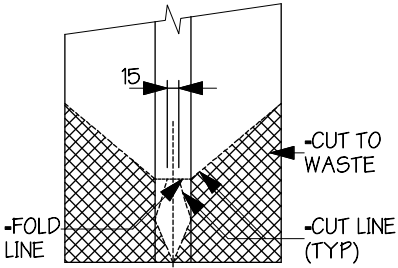
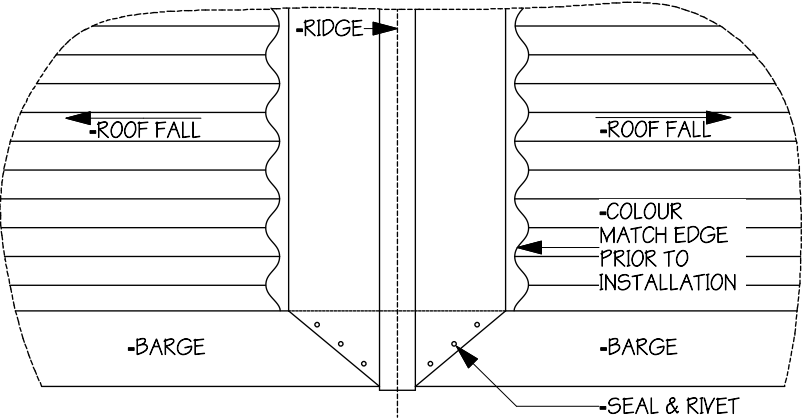
PAGE REVISION DATE
2/9/14

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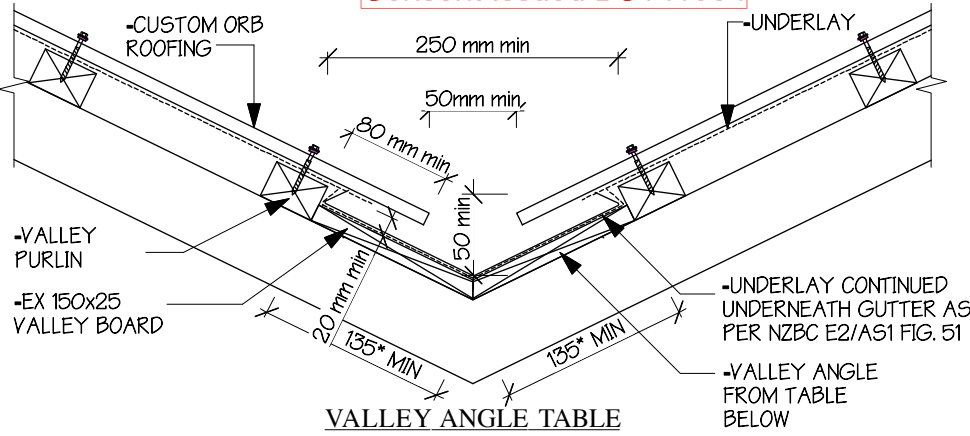
LONGRUN HIP
Scale: 1:10



LONGRUN RIDGE END
Scale: 1:10

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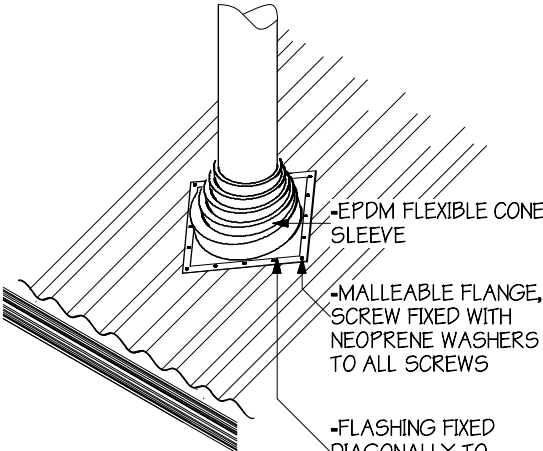
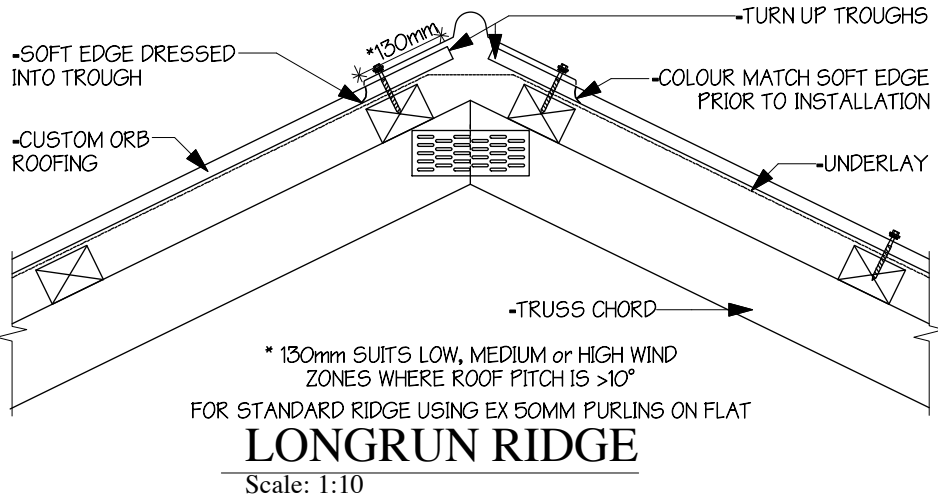


VALLEY ANGLE TABLE

ROOF PITCH	5	10	15	20	25	30	35	45	60
VALLEY ANGLE	173	166	159	152	145	139	132	120	104

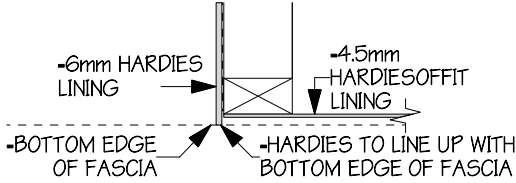
NOTE: *DIMENSIONS SUITABLE FOR 25M≤ CATCHMENT AT 12°. FOR LARGER CATCHMENTS OR LOWER PITCHES DESIGN AS FOR INTERNAL GUTTER.

LONGRUN VALLEY
Scale: 1:10

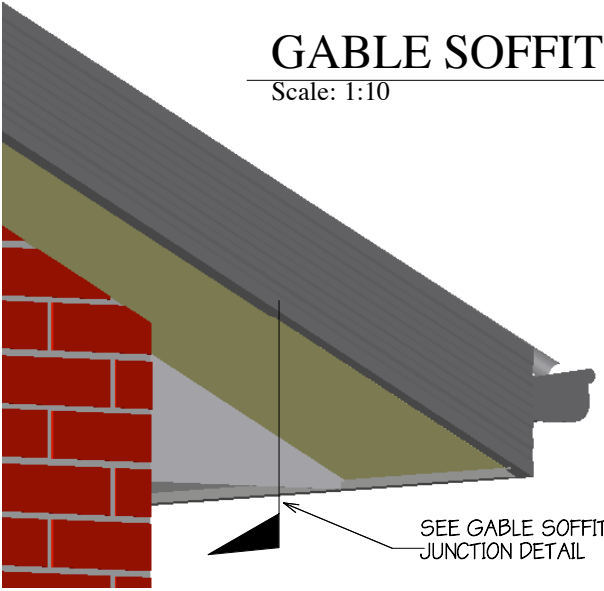


NOTE:
-SUITABLE FOR PIPES UP TO 85mm
-45° MAX ROOF PITCH, 10° MIN ROOF PITCH IF
BASE OF FLANGE COVERS ONE OR MORE
COMPLETE TROUGHS.

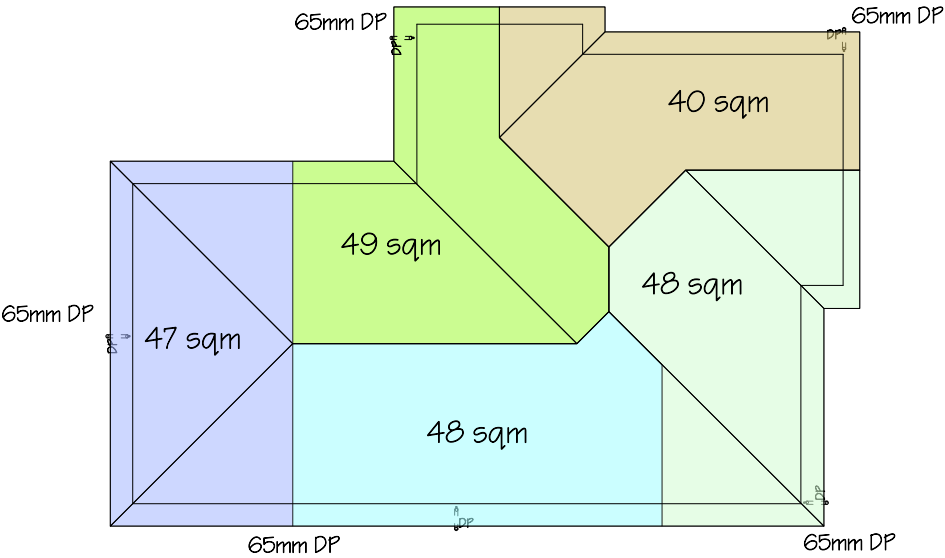
FLASHING FOR SMALL PIPES
Scale: 1:10



GABLE SOFFIT JUNCTION
Scale: 1:10

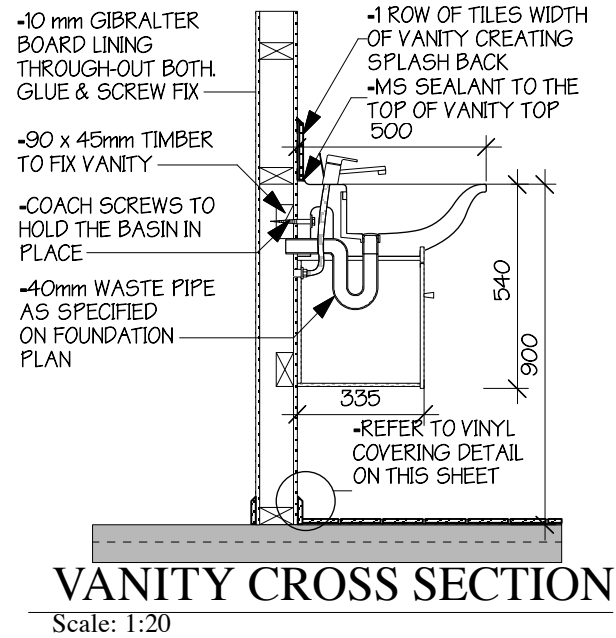
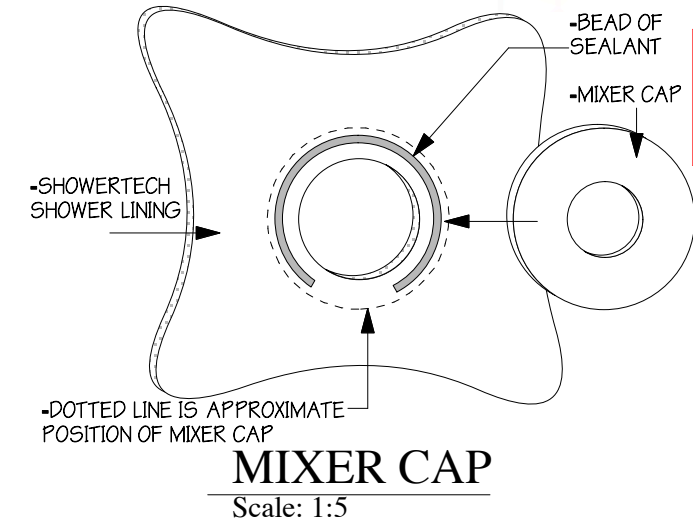
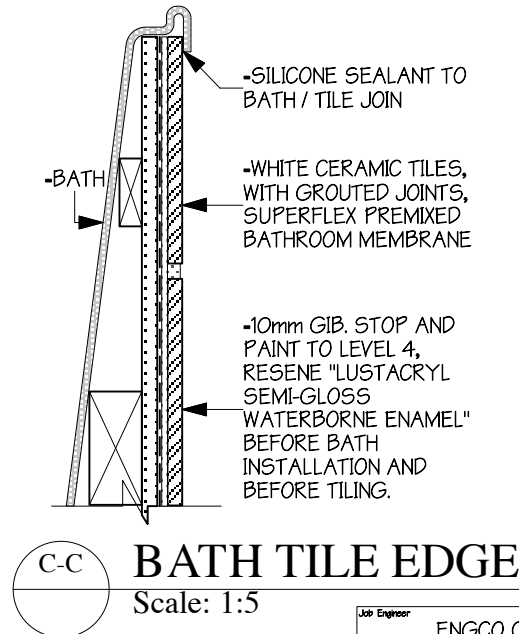
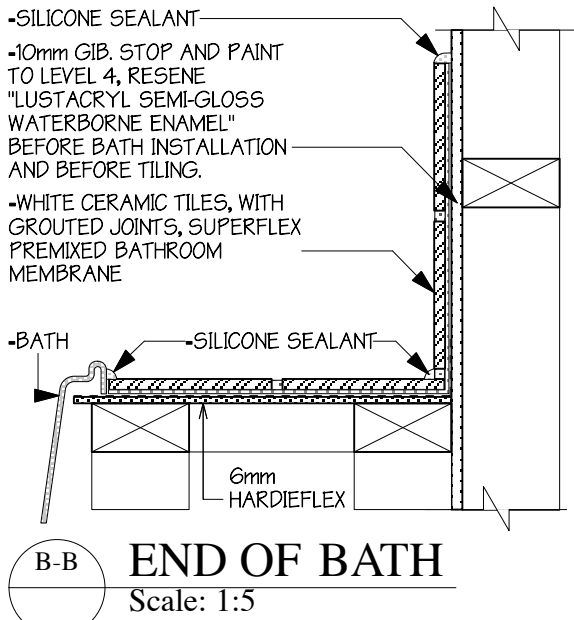
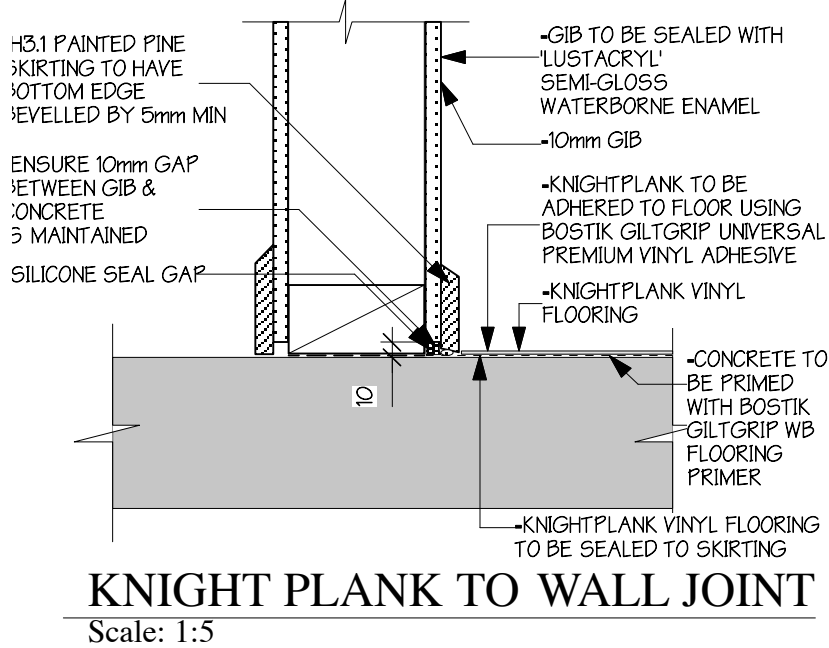
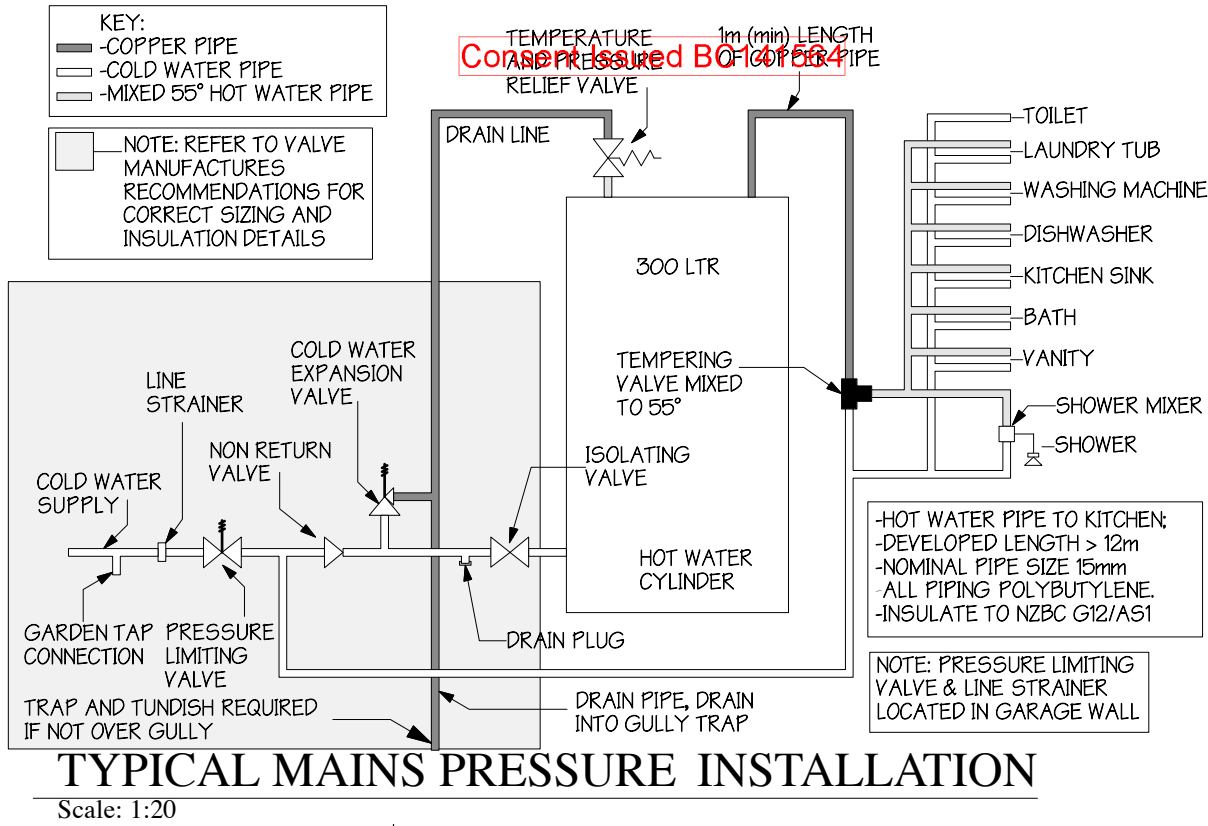
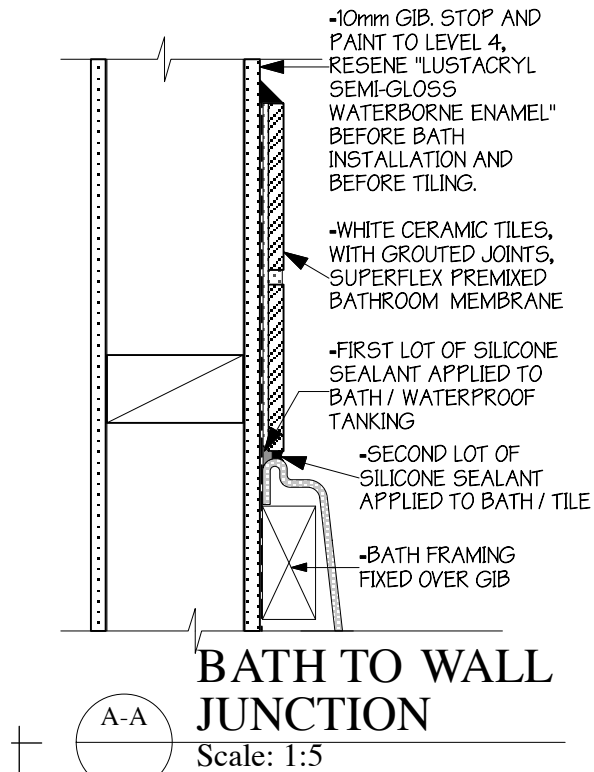
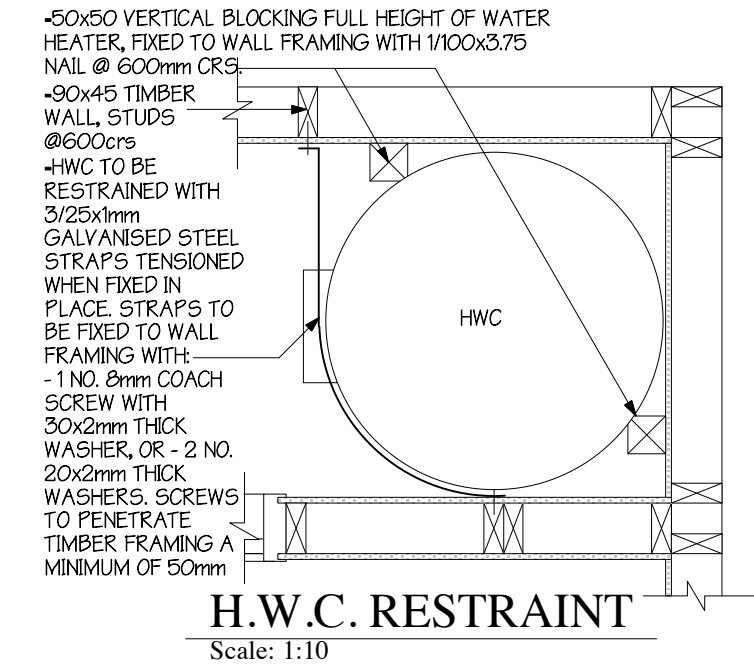
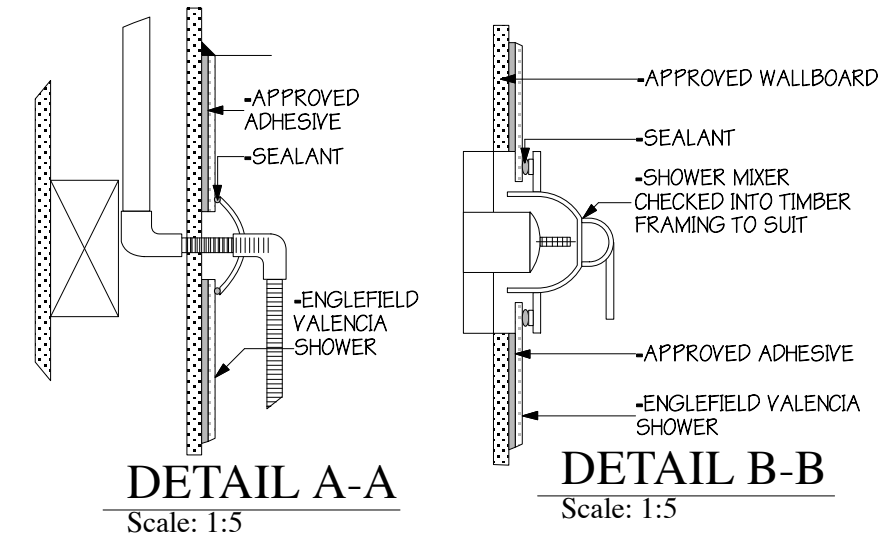


3D GABLE DETAIL *
Scale: 1:10



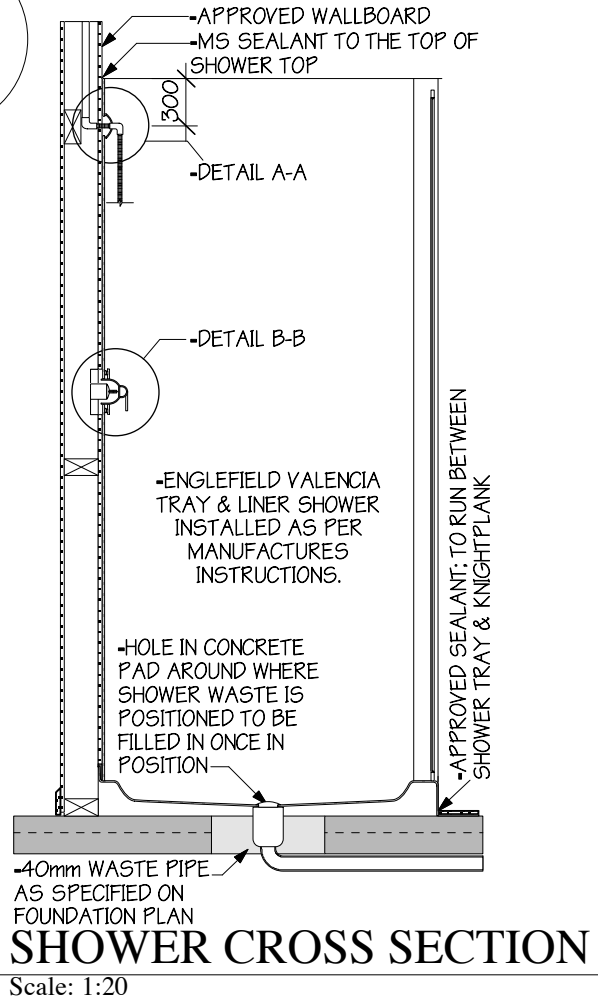
ROOF AREA PER DOWNPIPE PLAN 1 : 200

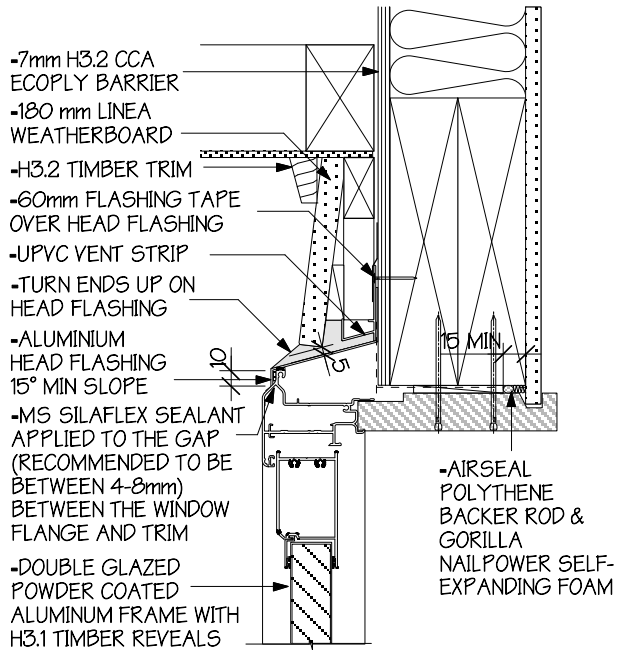
NOTE:
EACH 65MM DIA. ROUND UPVC DOWNPIPE TAKING A MAX. PLAN
ROOF AREA OF 50SQM, WITH THE GUTTER TAKING A MAX.
CROSS SECTIONAL AREA OF 7000SQM IN ACCORDANCE WITH
E1/AS1 TABLE 5 AND FIGURE 15.



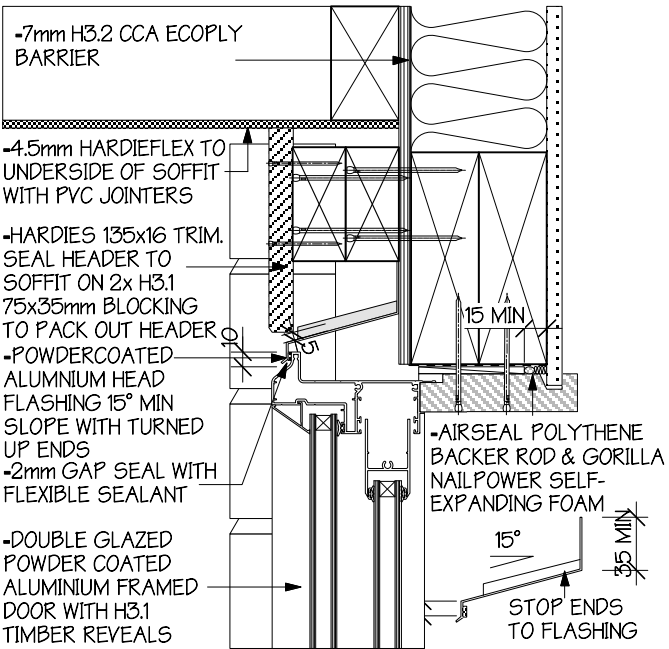
BATH TANKING
Scale: 1:20

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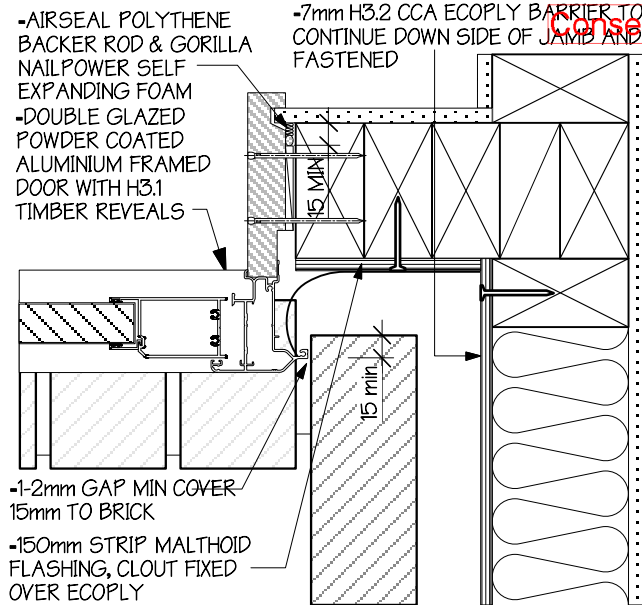




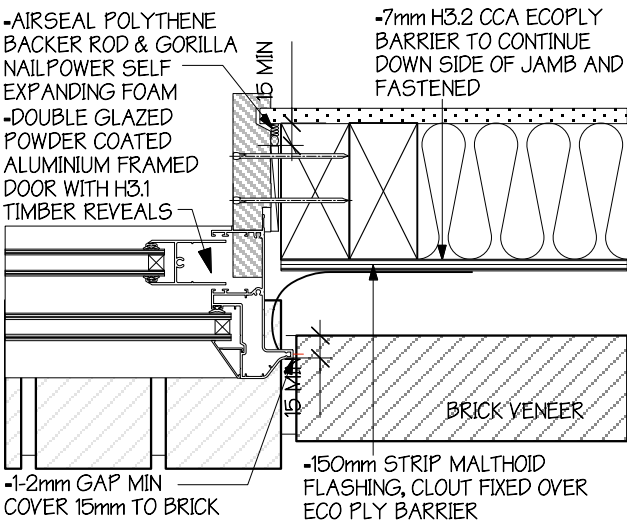
D17
A3.0
ENTRY DOOR HEAD
Scale: 1:5



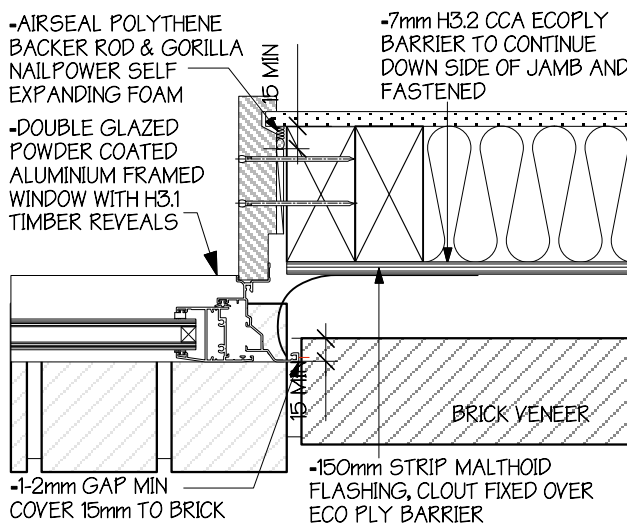
D09
A3.0
SLIDING DOOR HEAD*
Scale: 1:5



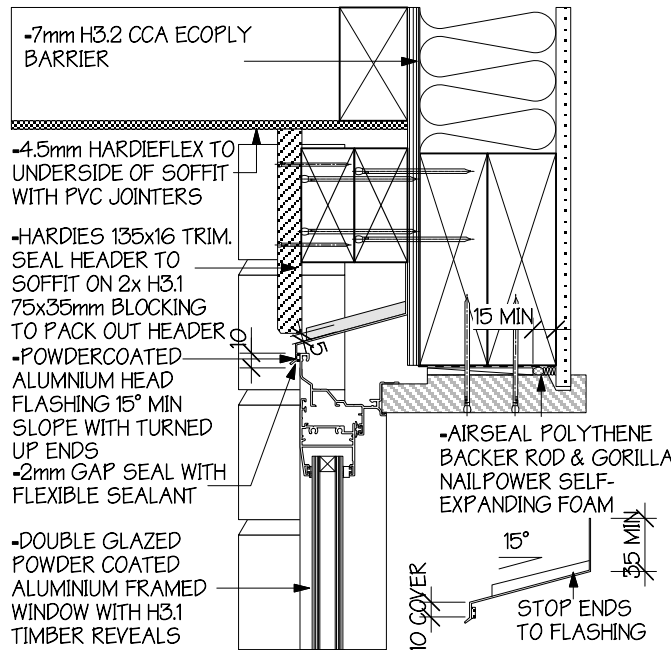
D18
A3.0
ENTRY DOOR JAMB*
Scale: 1:5



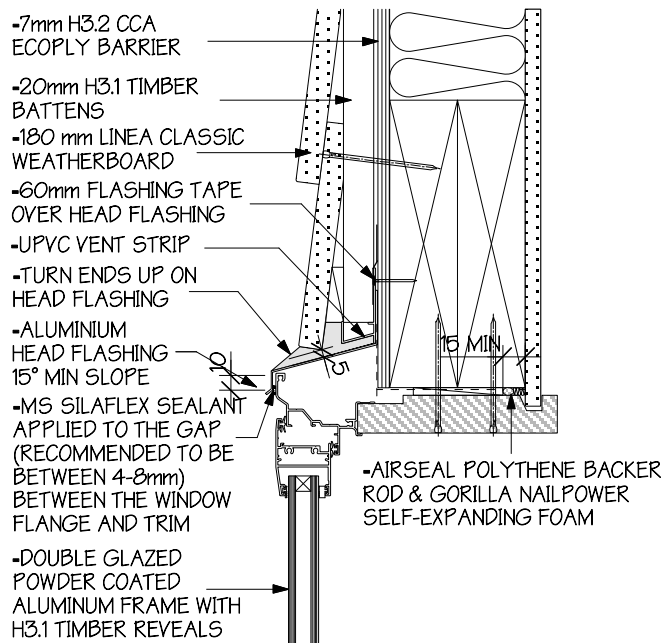
D10
A3.0
SLIDING DOOR JAMB*
Scale: 1:5



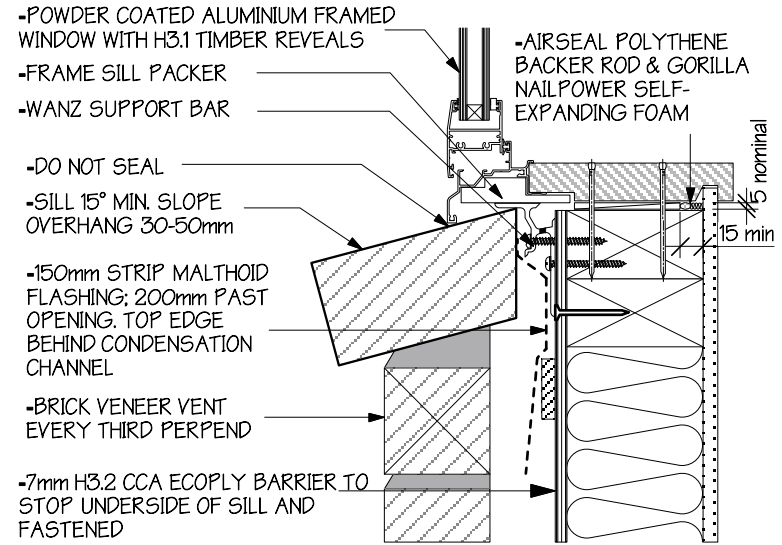
D05
A3.0
WINDOW JAMB*
Scale: 1:5



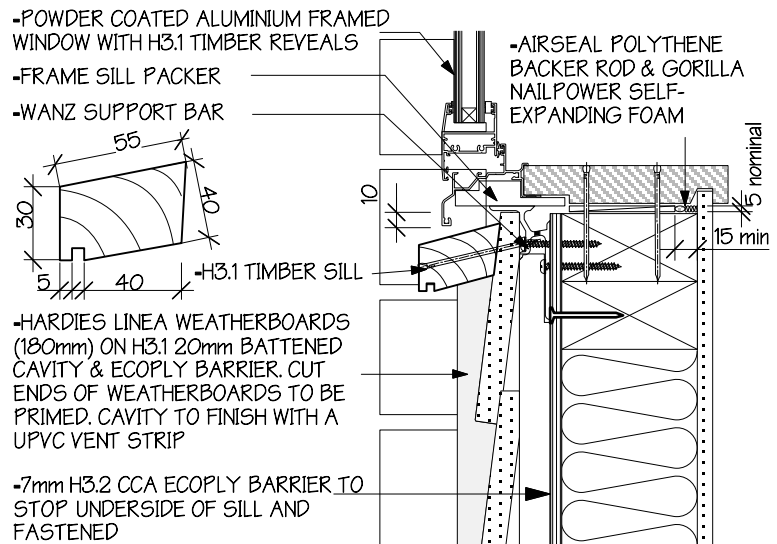
D04
A3.0
WINDOW HEAD*
Scale: 1:5



D07
A3.0
LINEA WINDOW HEAD *
Scale: 1:5

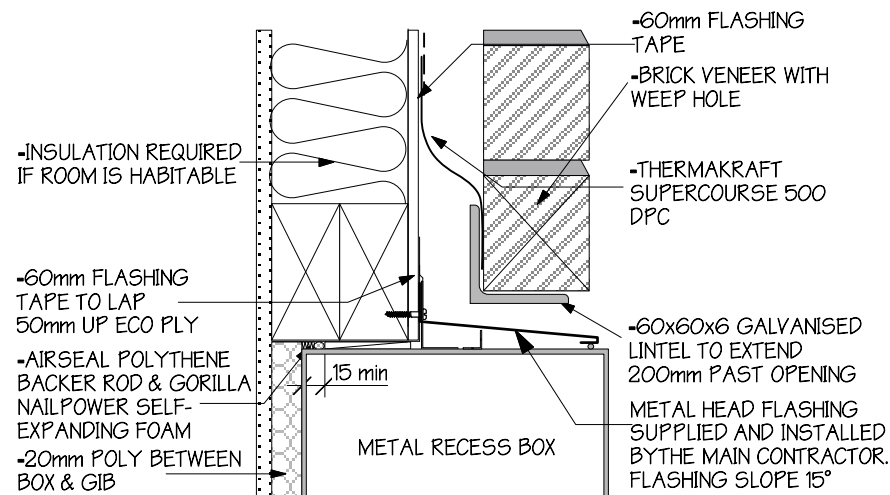


D06
A3.0
BRICK WINDOW SILL*
Scale: 1:5

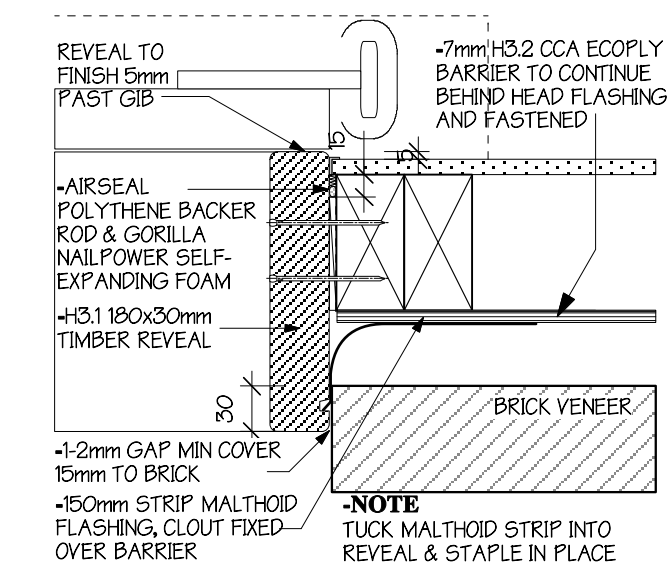


D08
A3.0
LINEA WINDOW SILL*
Scale: 1:5

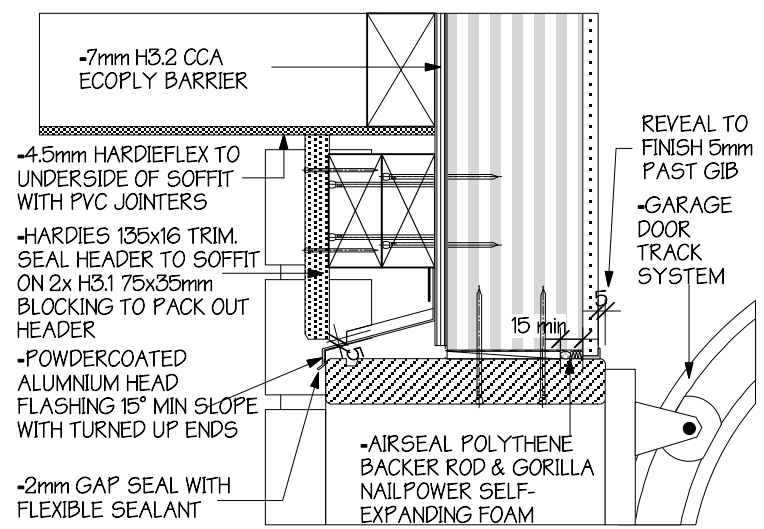
WAIMAKARIRI DISTRICT COUNCIL
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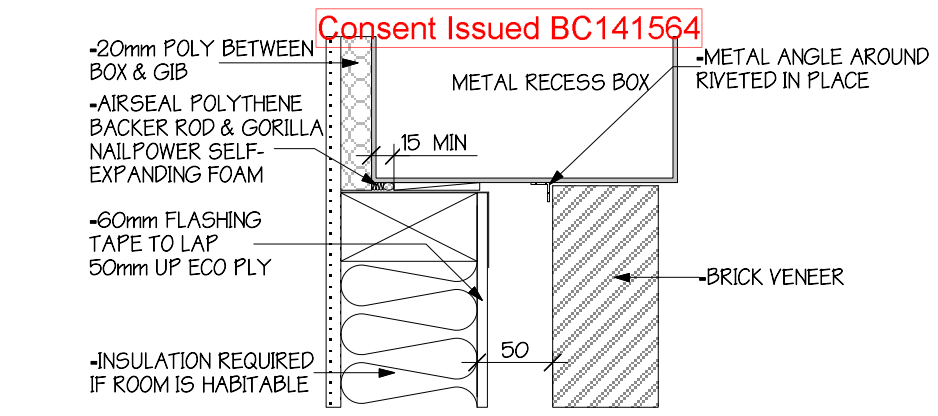
D01
A3.0
RECESS METER BOX HEAD*
Scale: 1:5



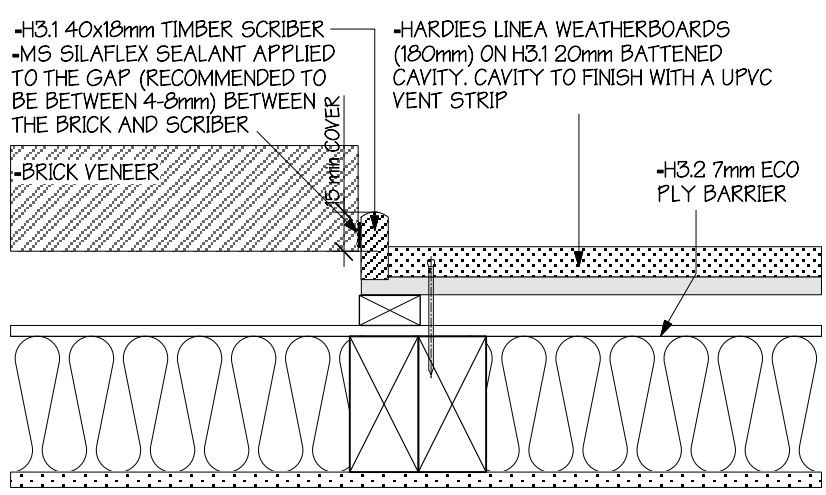
D21
A4.0
GARAGE DOOR JAMB
Scale: 1:5



D20
A4.0
GARAGE DOOR HEAD
Scale: 1:5

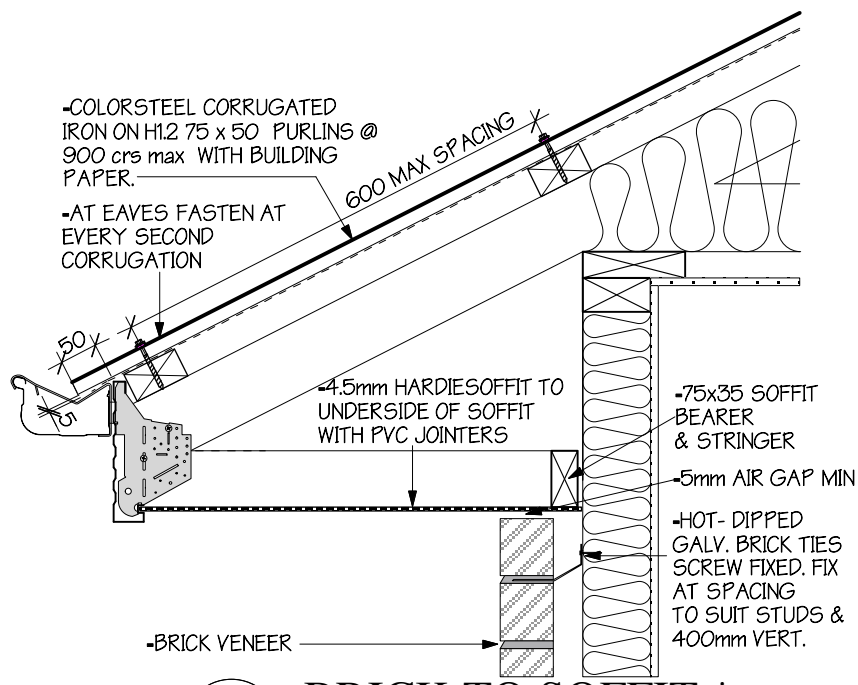


D02
A3.0
RECESS METER BOX JAMB*
Scale: 1:5

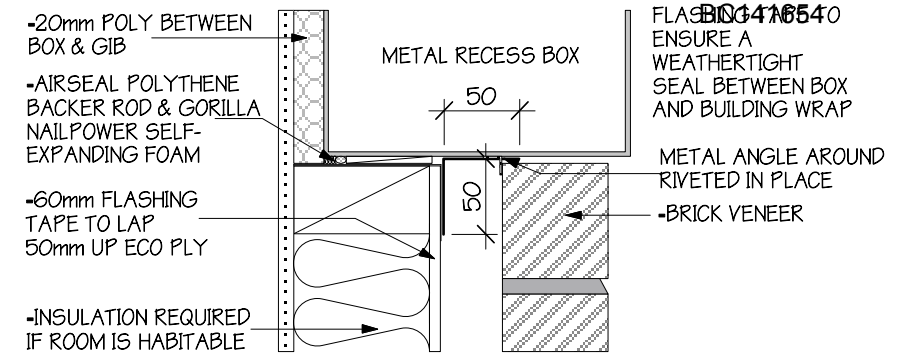


D23
A3.0
BRICK TO LINEA *
Scale: 1:5

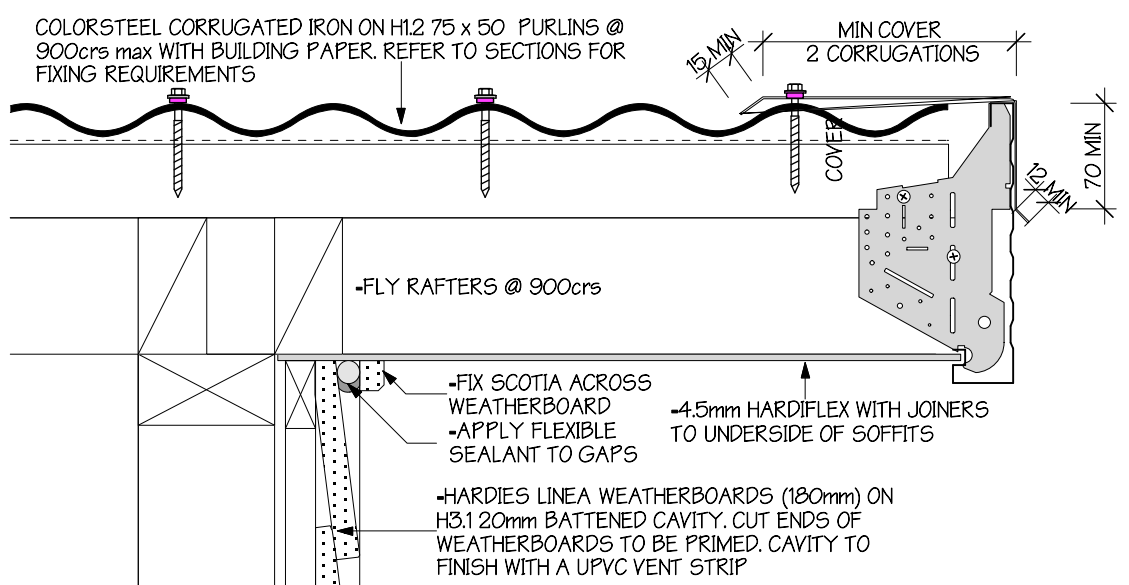
Note: DETAIL TAKEN FROM FIG 15 - JAMES HARDIES JUNCTIONS MANUAL FEB 2013



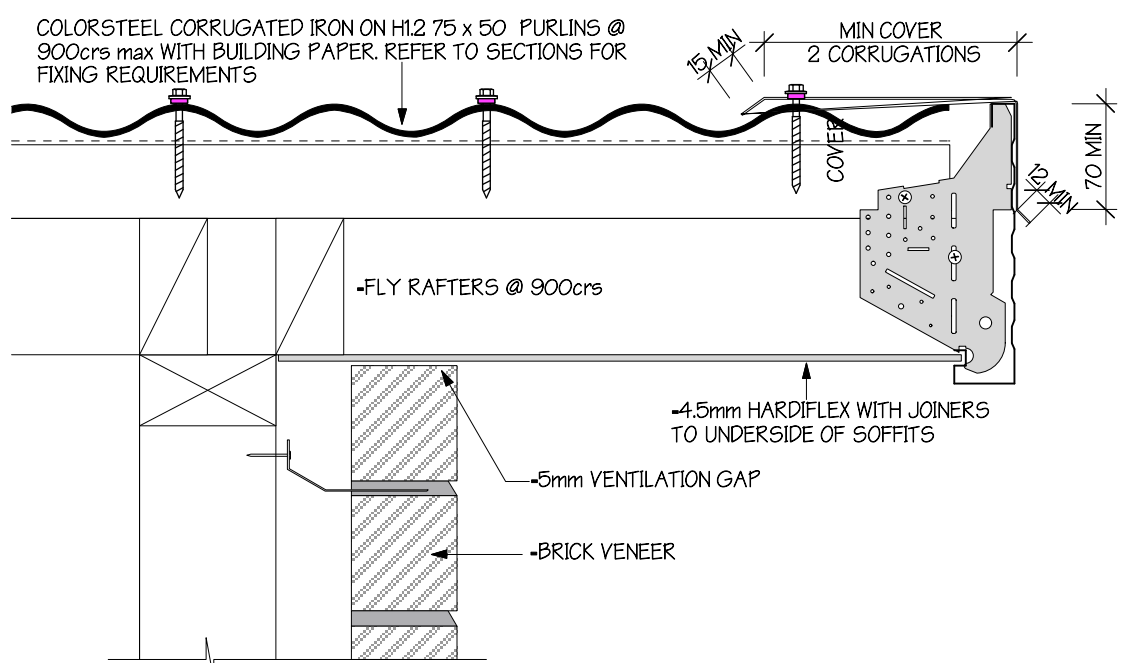
D15
A3.0
BRICK TO SOFFIT *
Scale: 1:10



D03
A3.0
RECESS METER BOX SILL*
Scale: 1:5



D12
A3.0
LINEA GABLE SOFFIT*
Scale: 1:5



D13
A3.0
BRICK GABLE SOFFIT*
Scale: 1:5