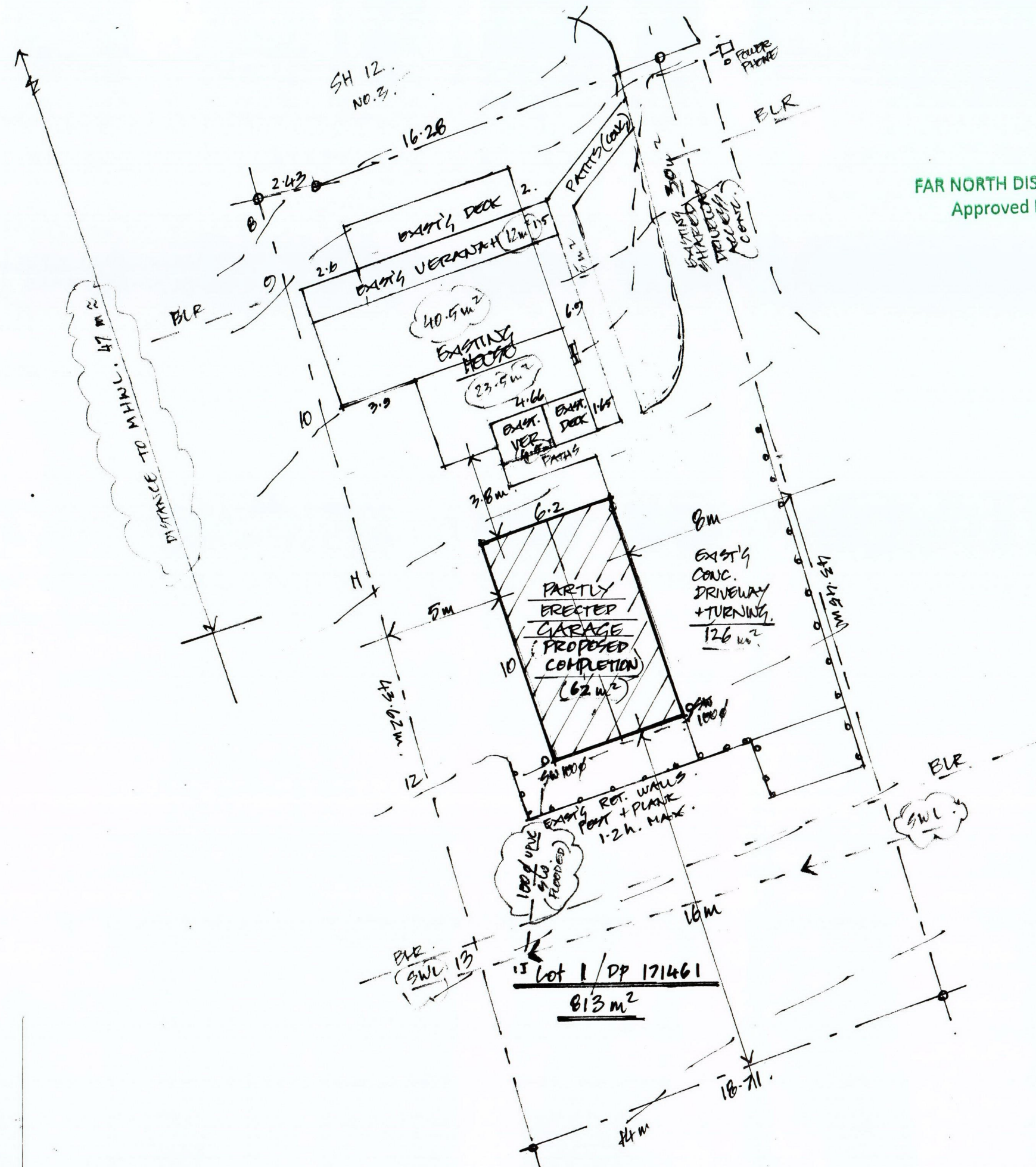


PLANS



002



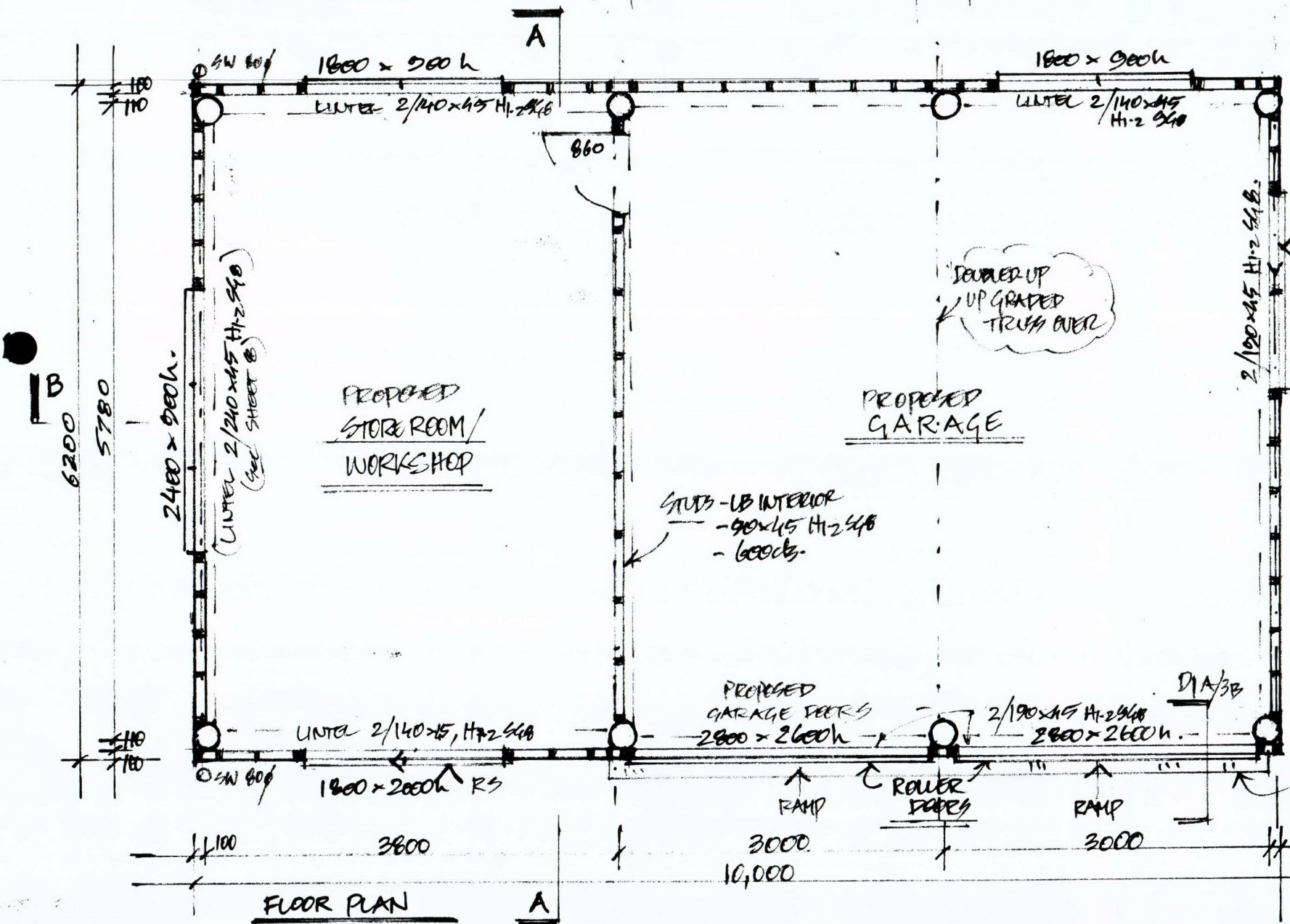
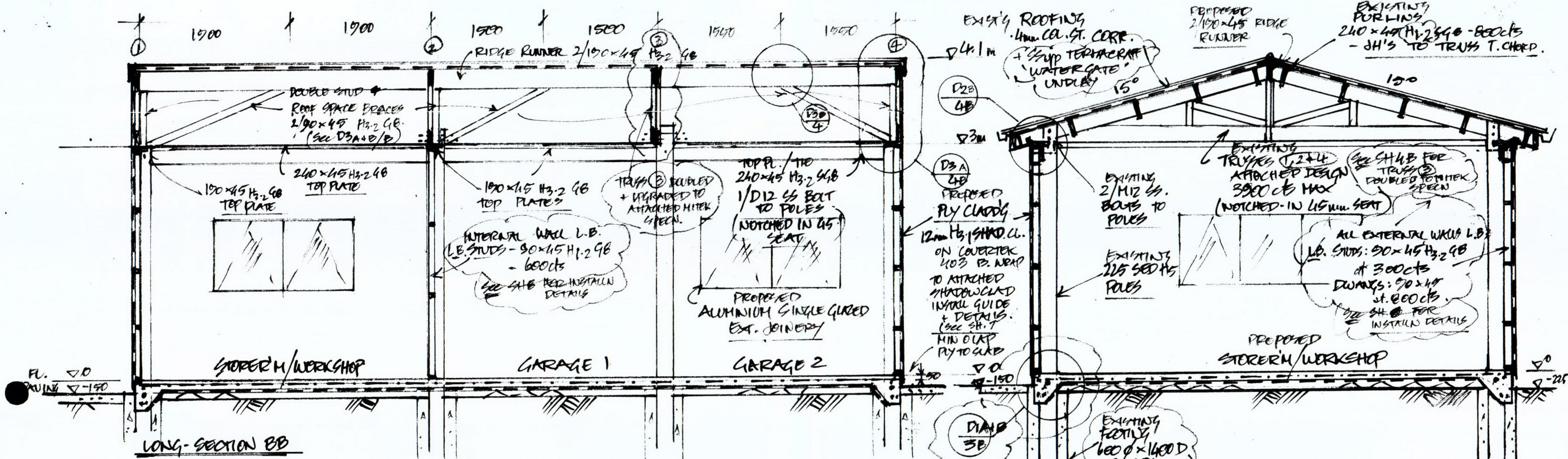
FAR NORTH DISTRICT COUNCIL
Approved Documents



FAR NORTH DISTRICT COUNCIL BUILDING CONSENT ISSUED
 BC 2015-1225 Date 24/9/2015
 District Plan Granting Officer: [Signature]
 Building Granting Officer: [Signature]
 Specific conditions are recorded on building consent

NOTES:
 ZONE: RESIDENTIAL
 WIND: V. HIGH
 SOIL: CLAY
 EARTHQUAKES: 6m³
 IMP. SURF.: 38.5%
 CONTOURS: 1m INT. ABOVE M.S.L.

BUILDINGS:
 ENCLOSURE = 10.5
 23.5
 62
 VERANDAS = 16.5
 PAVING = 126
 15
 90
 313.5



CROSS-SECTION AA

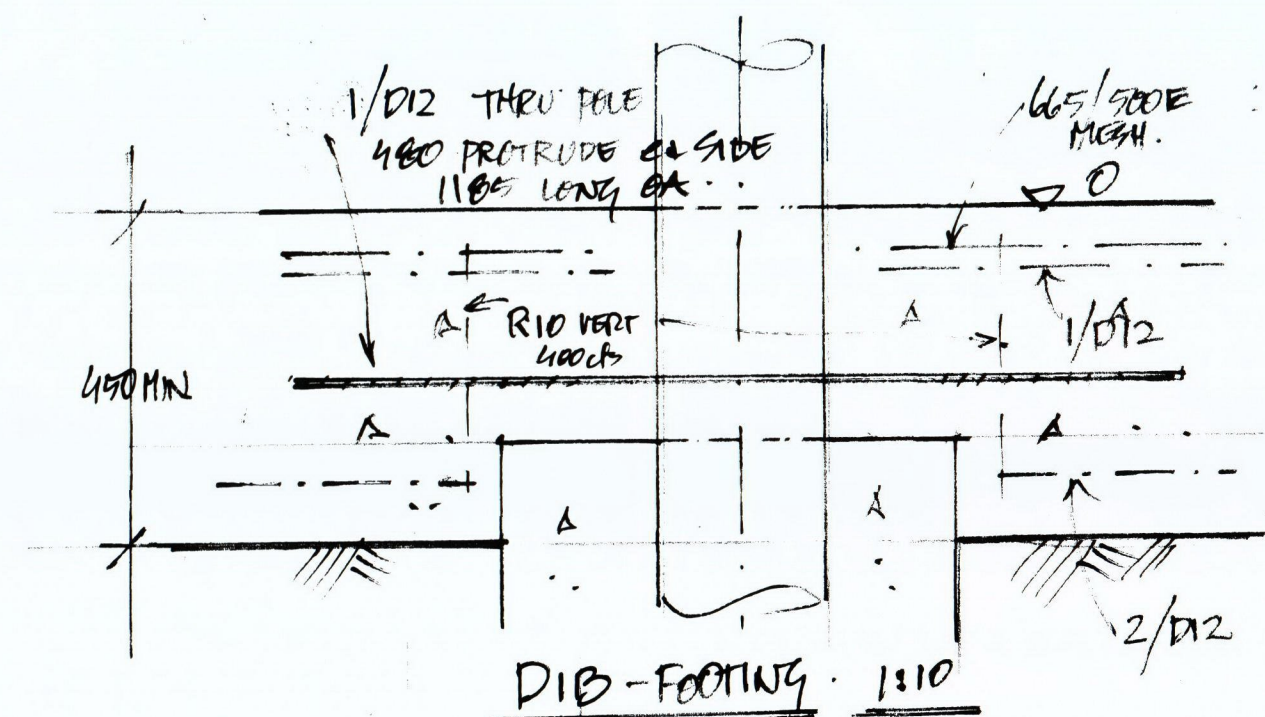
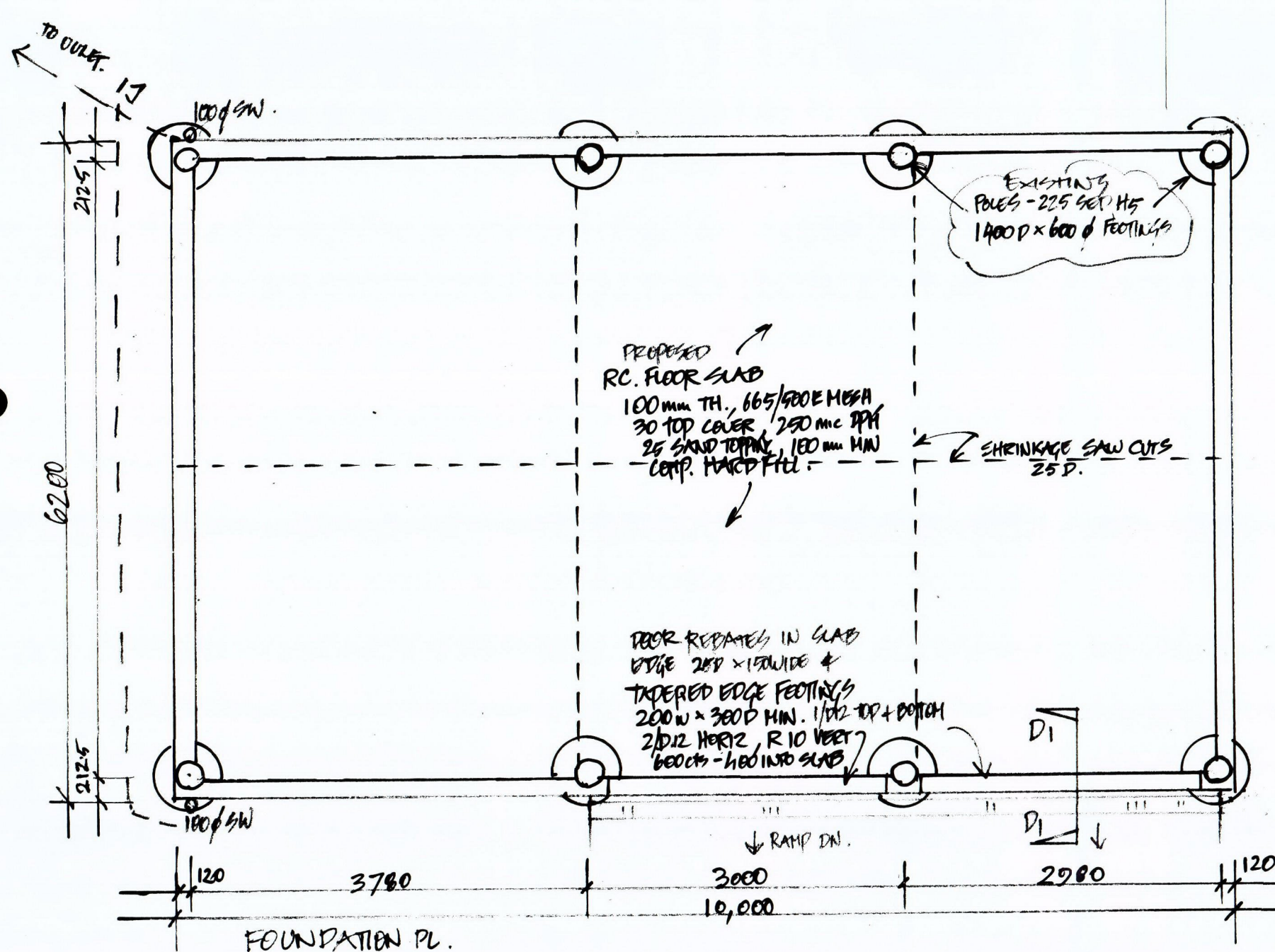
FAR NORTH DISTRICT COUNCIL
Approved Documents

This plan complies with my calculations where applicable 15/5
T. DRUPSTEEN - CP Eng. IntPE
Consulting Engineer 22/03/15

STUDS LB. EXTERIOR
90x45 H1-2 54B - 300cts.

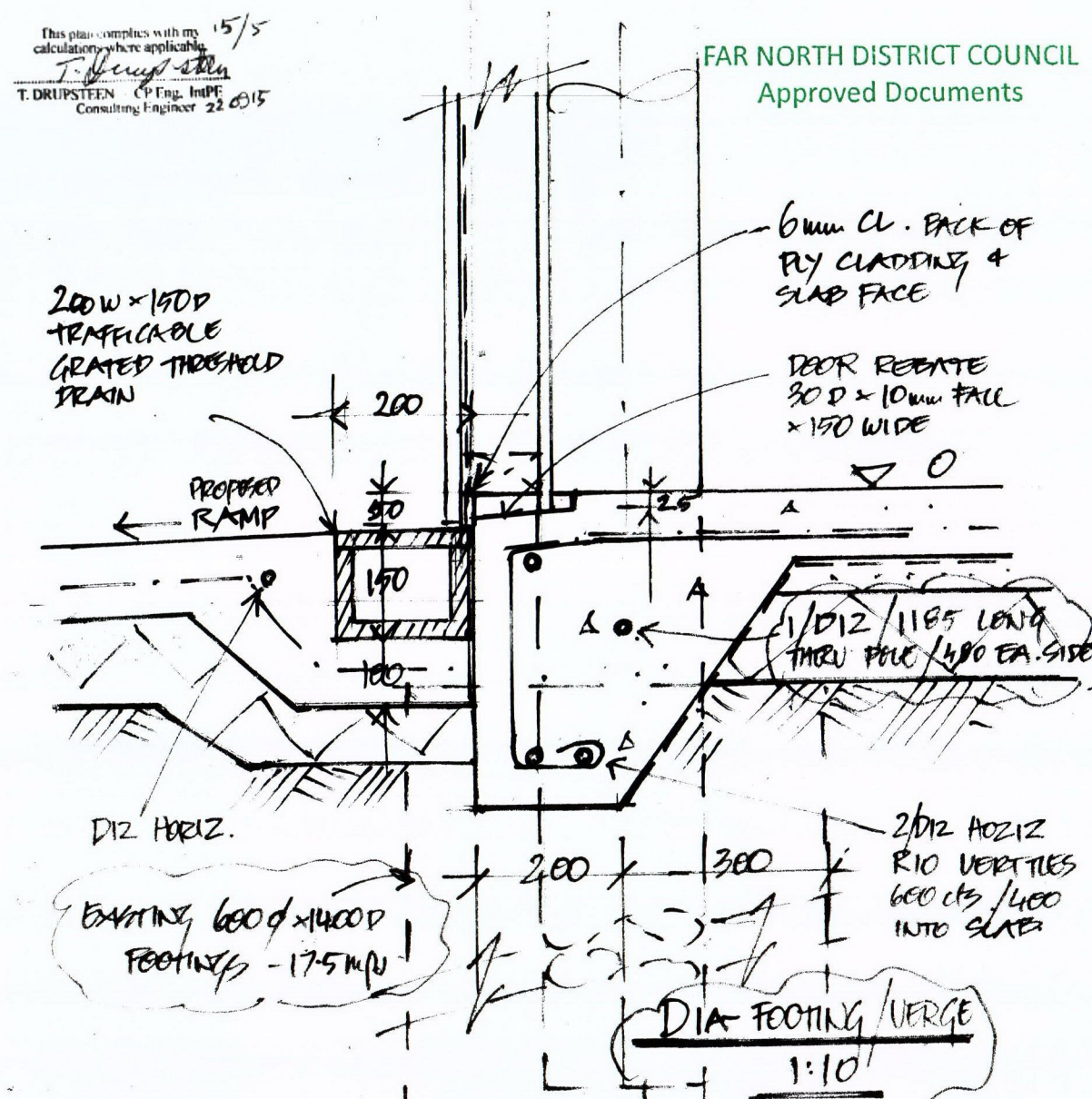
1500 x 2600w -
Verge Cut of Down
& Grated.

O'HALLARAN - PROPOSED GARAGE COMPLETION
FLOOR PLAN / SECTIONS 1:50 (A3) Sheet 2B.
HM DESIGN Rev. 25/8/15 22/8/15 20/2/15

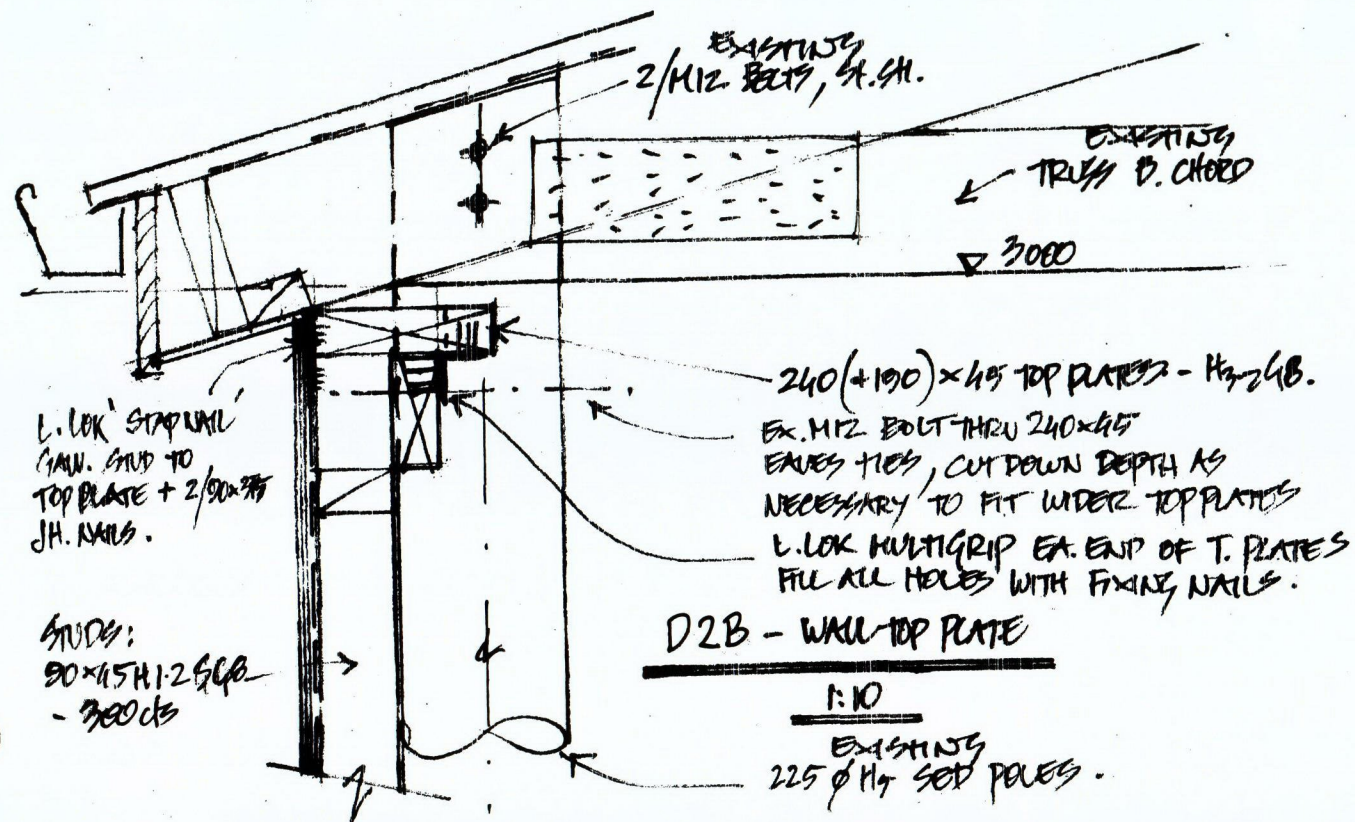


This plan complies with my calculations where applicable.
T. DRUPSTEEN P. Eng. IntPE
Consulting Engineer 22/015

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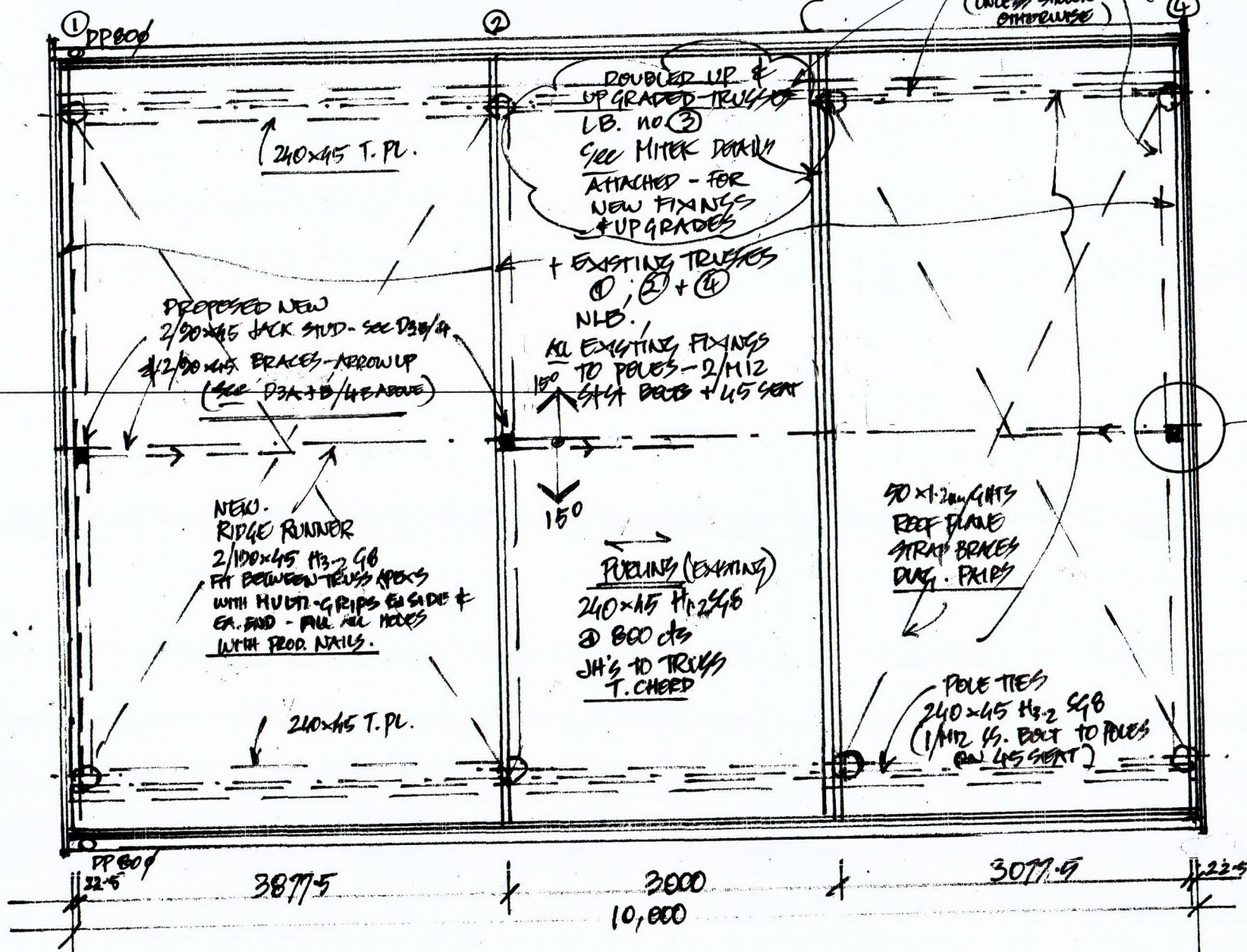
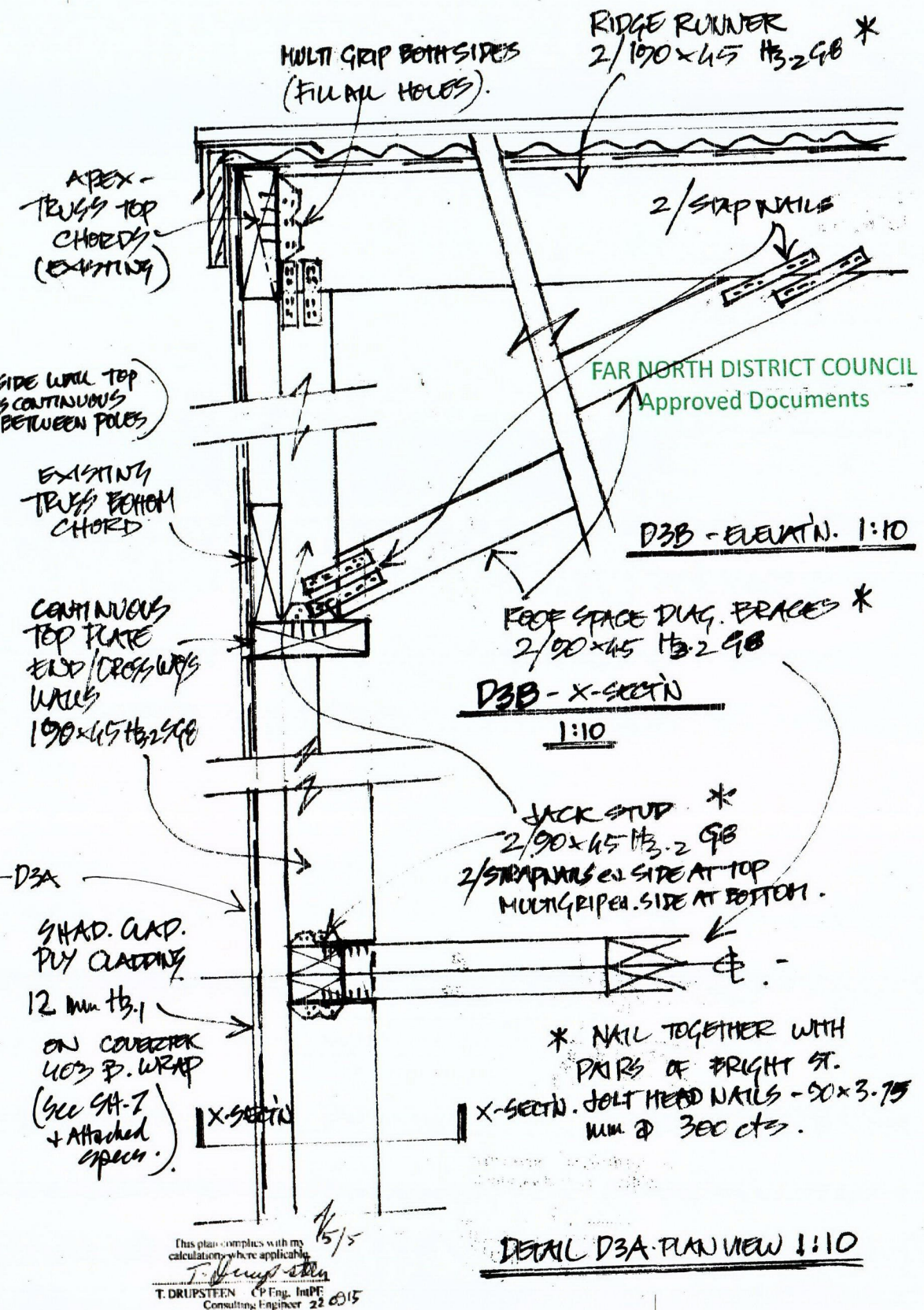


O'HALLARAN GARAGE - PROPOSED COMPLETION
FOUNDATION PLAN 1:50 (A3) Sheet 3B.
HM DESIGN Rev 25/4/15 20/2/15
22/8/15



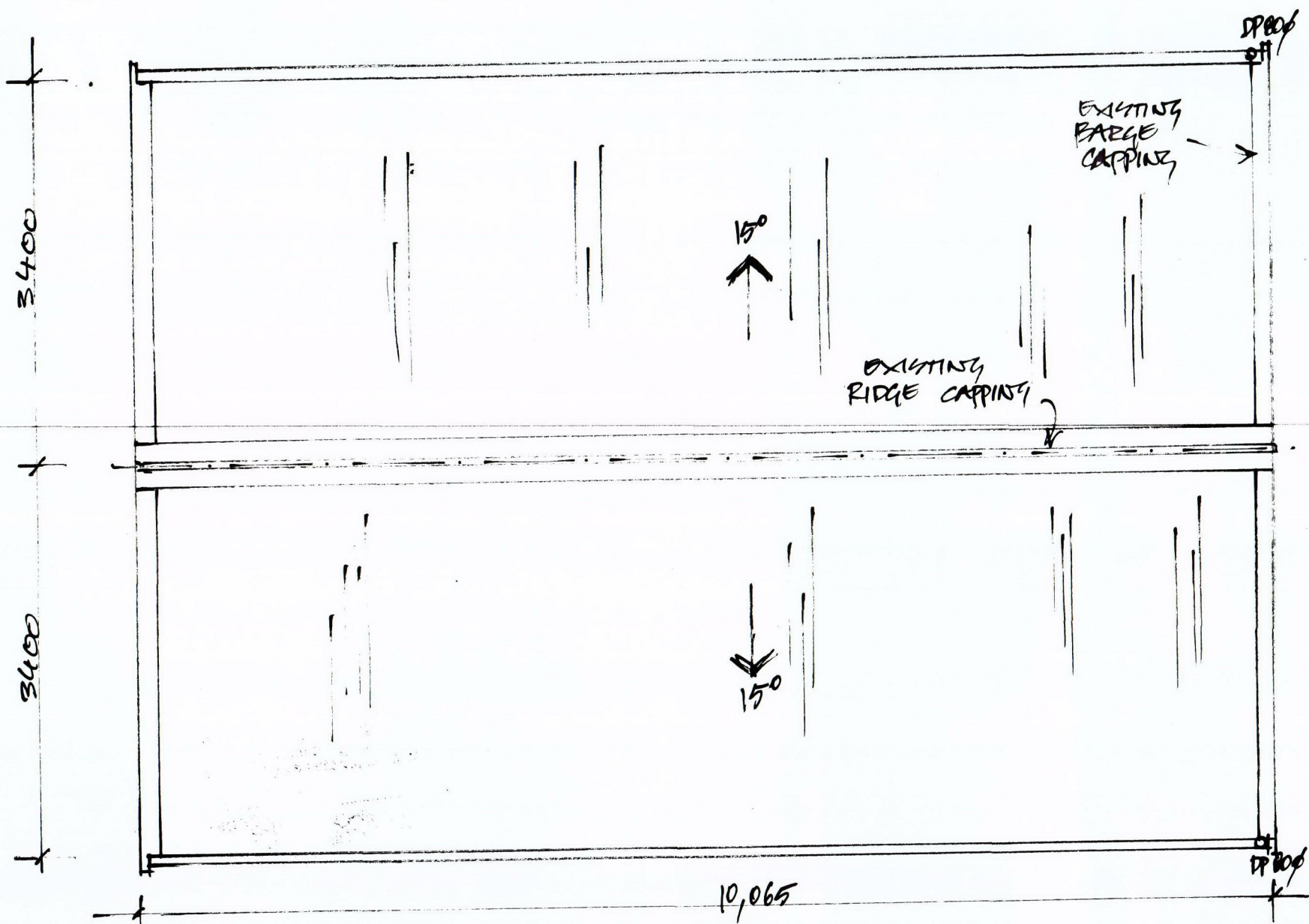
ALL FIXINGS NAILS - 45x3-3 ANNUAL GROOVED LUMBERLOK NAILS & FILL ALL HOLES, UNLESS OTHERWISE STATED.

ALL TIMBER GB GRADE, H3.2 TREATED, UNLESS OTHERWISE STATED

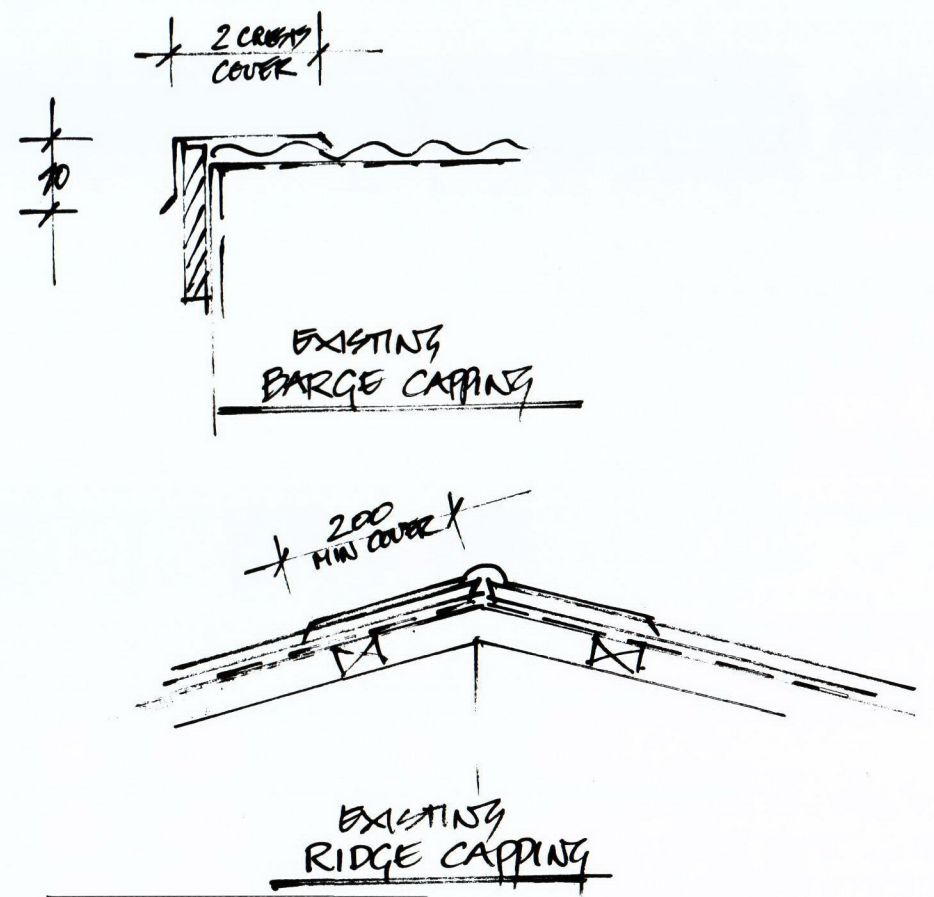


This plan complies with my calculations where applicable.

T. DRUPSTEEN CP Eng. IMPE Consulting Engineer 22/01/15

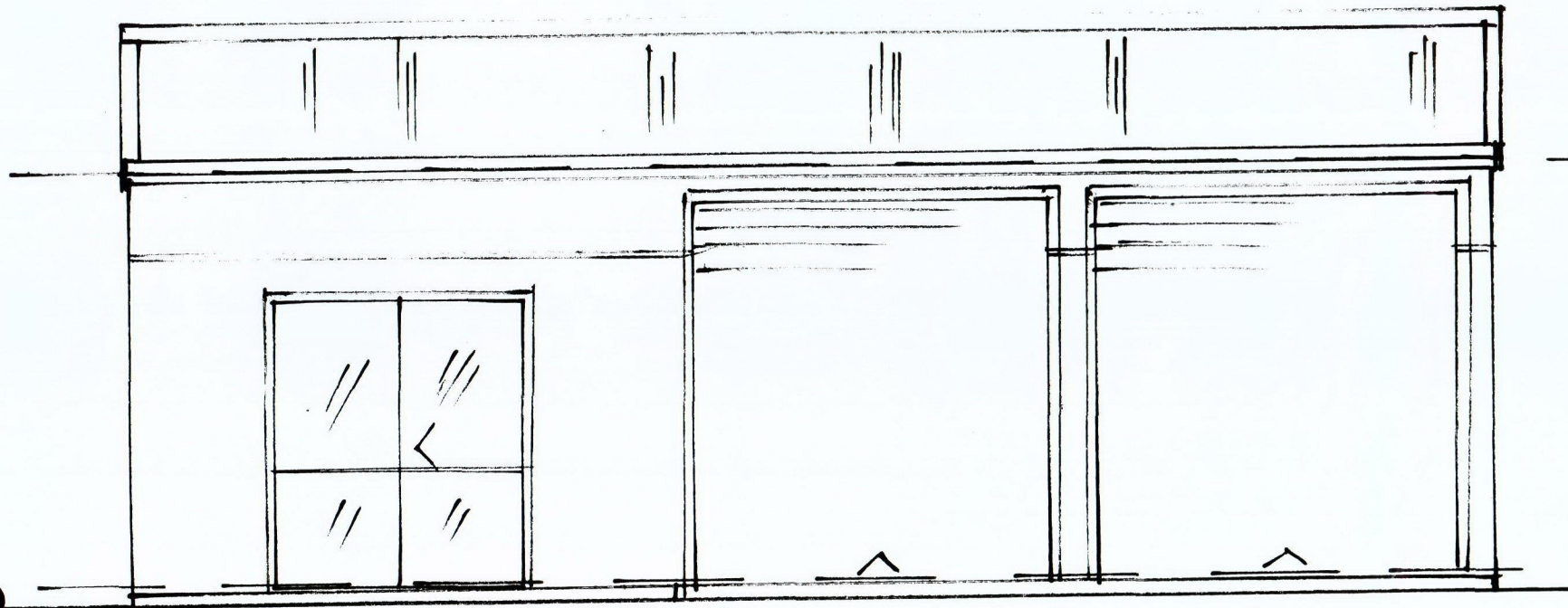


ROOF PLAN 1:50

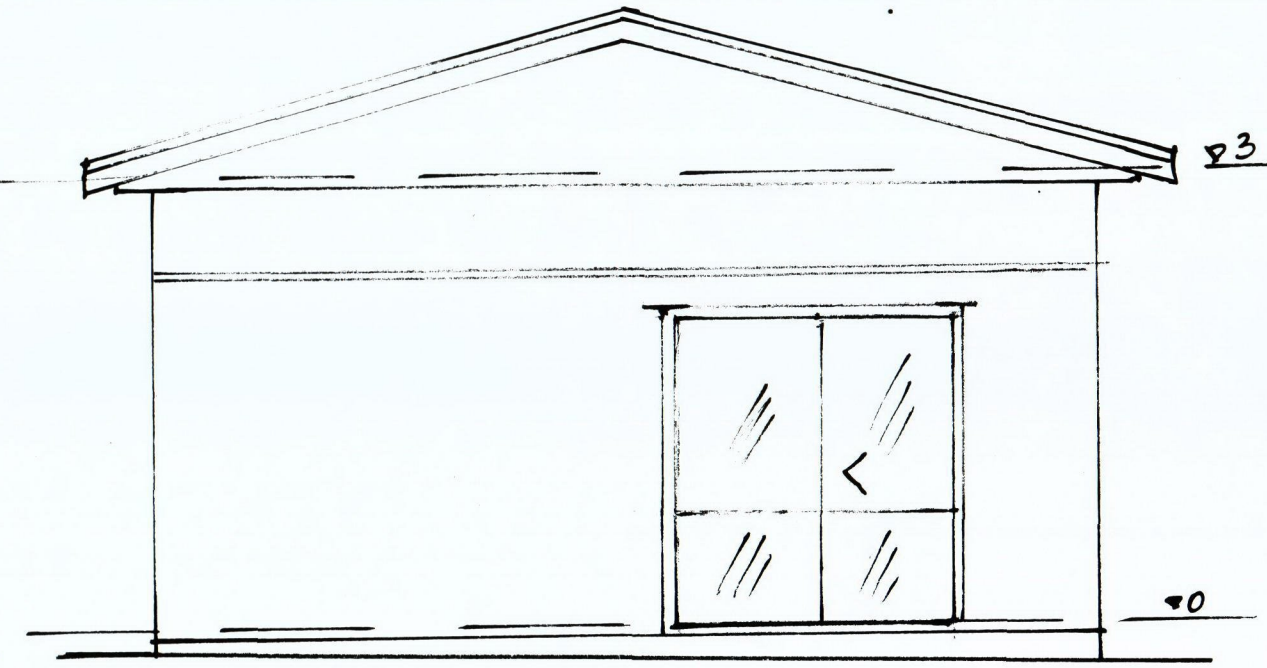


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O'HALLARAN GARAGE - PROPOSED COMPLETION
 ROOF PLAN & DETAILS 1:10, 1:50 (A3) Sheet 5B
 HM DESIGN Rev. 25/4/15. 20/2/15
 22/2/15

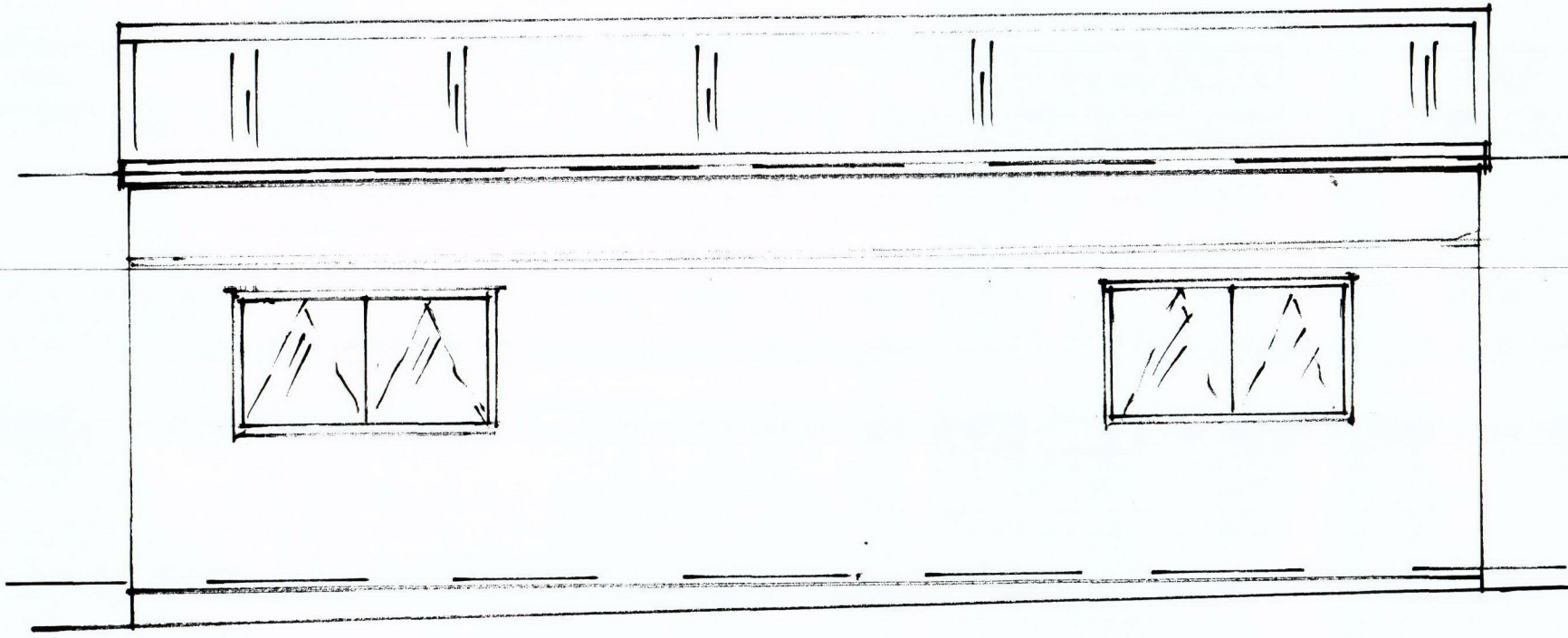


EAST

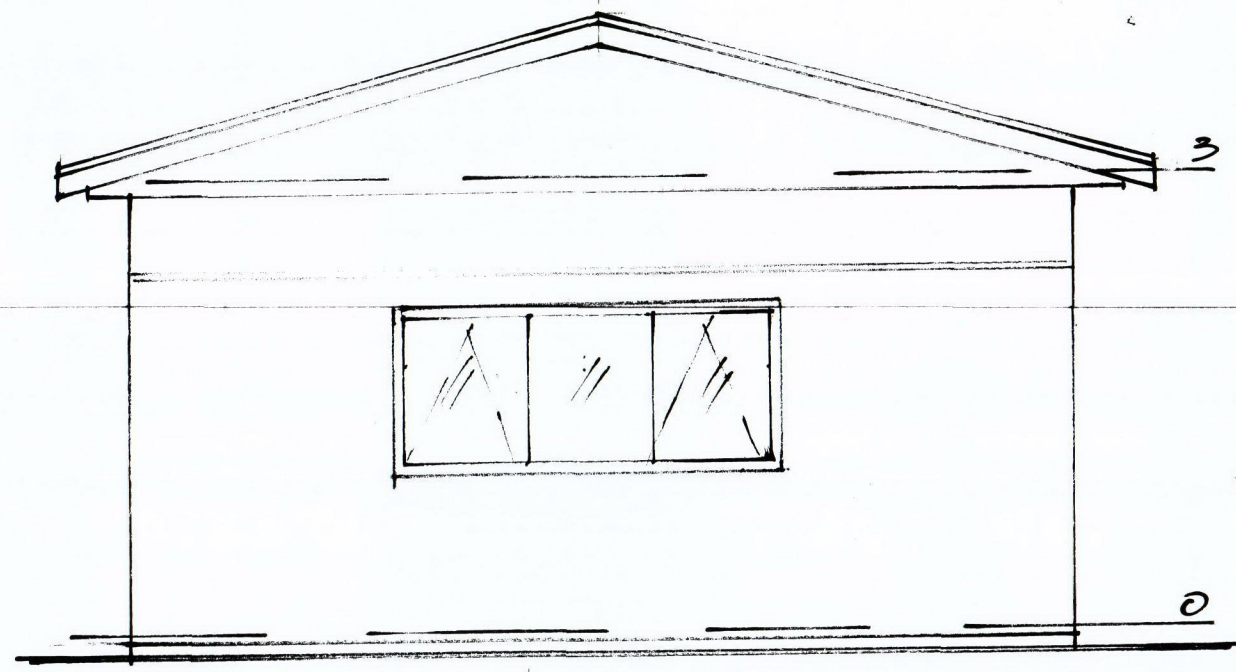


NORTH

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WEST

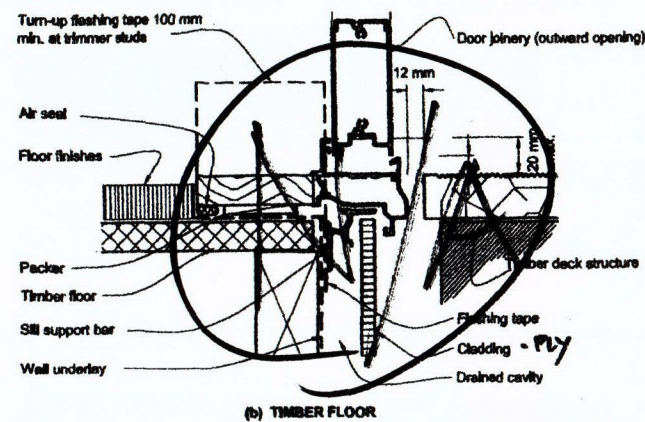
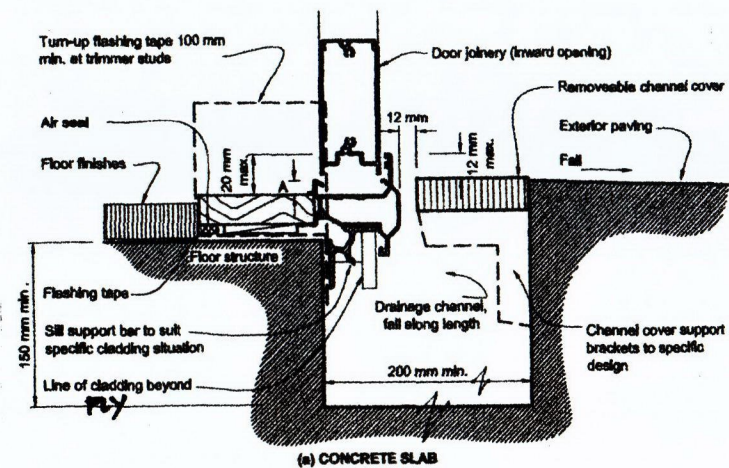


SOUTH

O'HALLARAN - GARAGE - PROPOSED COMPLETION
ELEVATIONS (PROPOSED) 1:50 (A3) Sheet 6B
HM DESIGN Rev 25/4/15 20/2/15
22/8/15

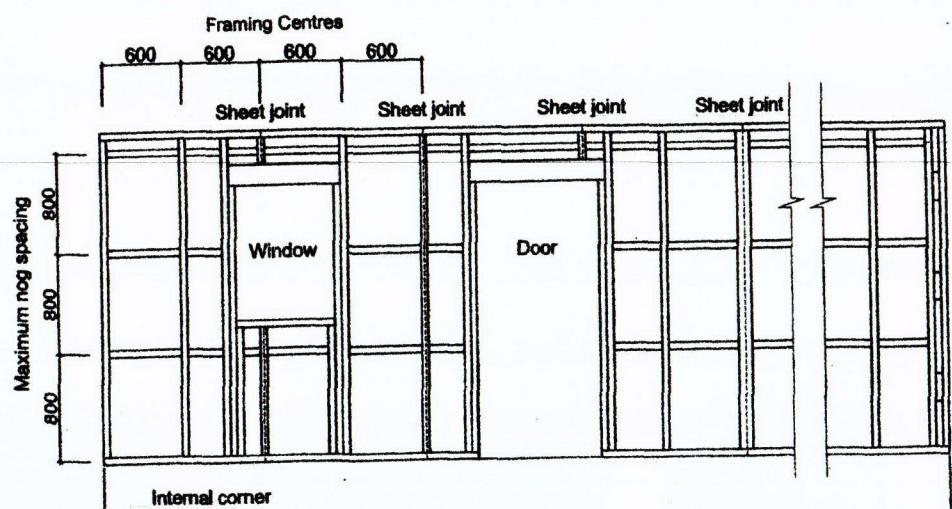
Level thresholds for ground level
Paragraph 7.3 and Figure 17A

NOTE:
(1) Detail (a) is suitable for use with concrete floor slabs - refer Paragraph 7.3.2.1 for requirements.
(2) Detail (b) is suitable for use with timber floors. It may also be adapted for timber decks on upper storeys as per Paragraph 7.1.1 b), or for enclosed decks, with removable panels or decking as shown in Figure 17A.
(3) Both details may be adapted for inward or outward opening doors.
(4) Exposure to wind-driven rain must be specifically taken into account when using these details, and shelter to doors and joinery provided where local conditions warrant.



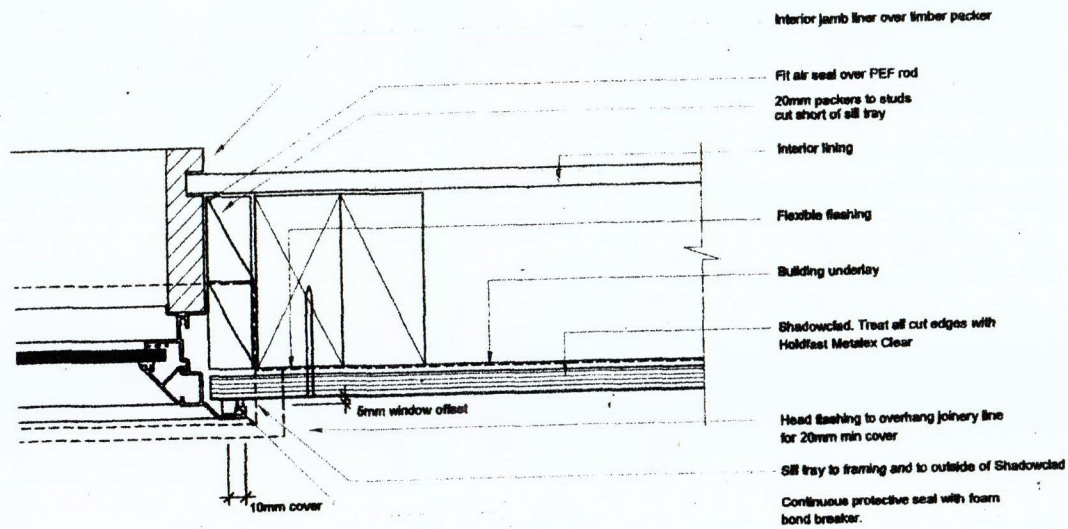
NOTE: 'A' to be the minimum dimension to maintain clearance from the bottom of the door to finished floor or deck, to manufacturer's requirements, and to keep sill upstand height to less than 20 mm

DOOR SILLS (ALUMINUM/PLY/DIR.FIX.)

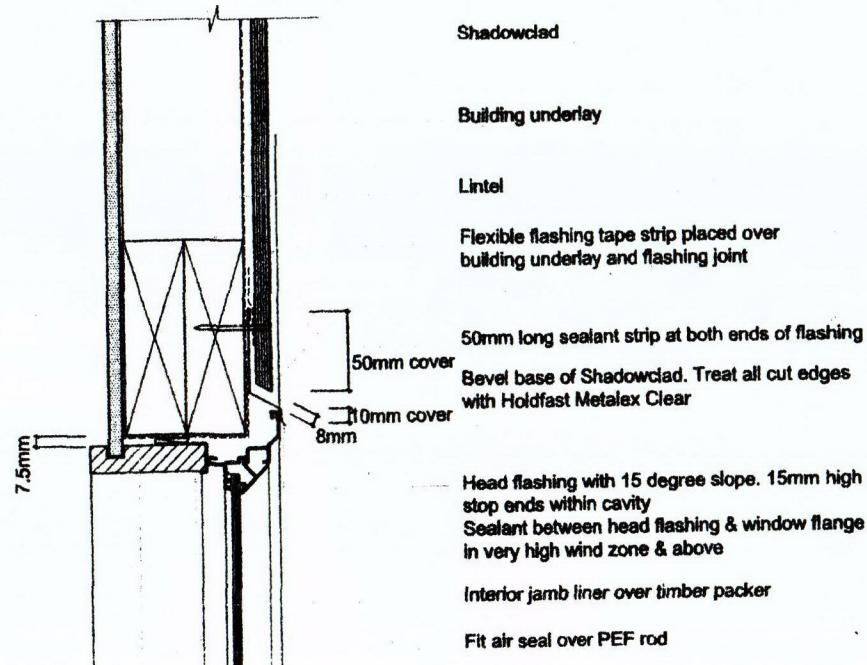


NOTE: Single spans of Shadowclad® should not exceed 600mm (eg below window or on balustrades)

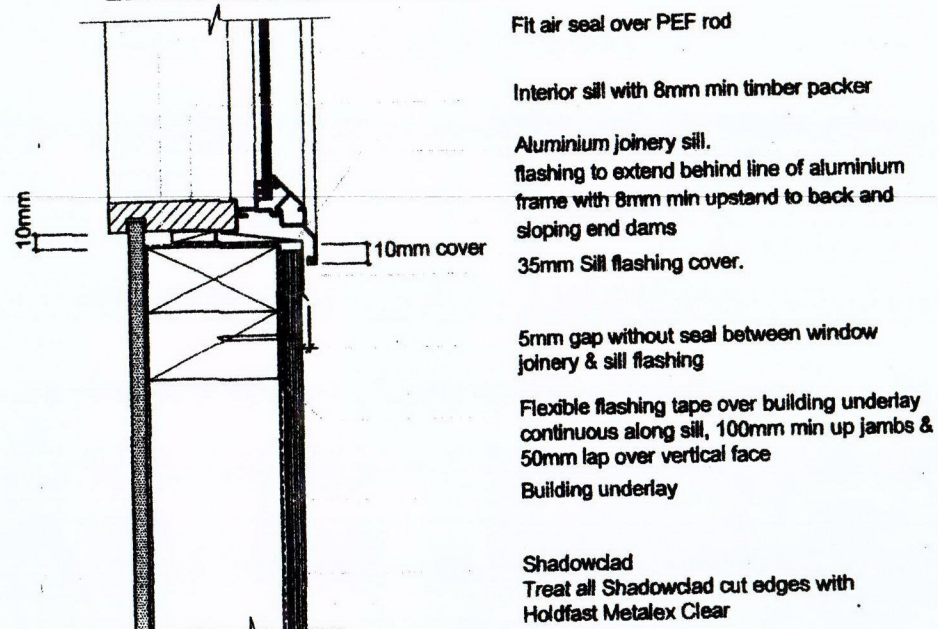
FRAMING LAYOUT - DIR.FIX/PLYWOOD



WINDOW + DOOR JAMBS



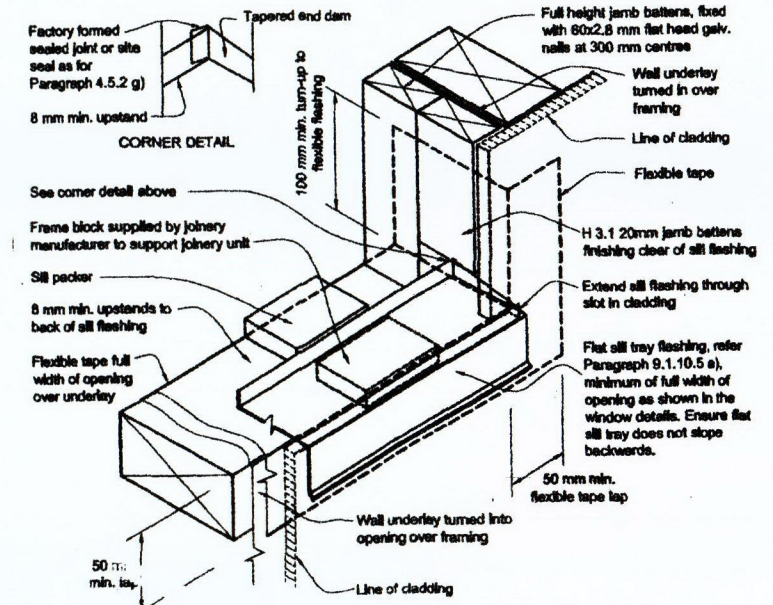
WINDOW + DOOR HEADS



WINDOW SILLS

General window and door opening for direct fixed

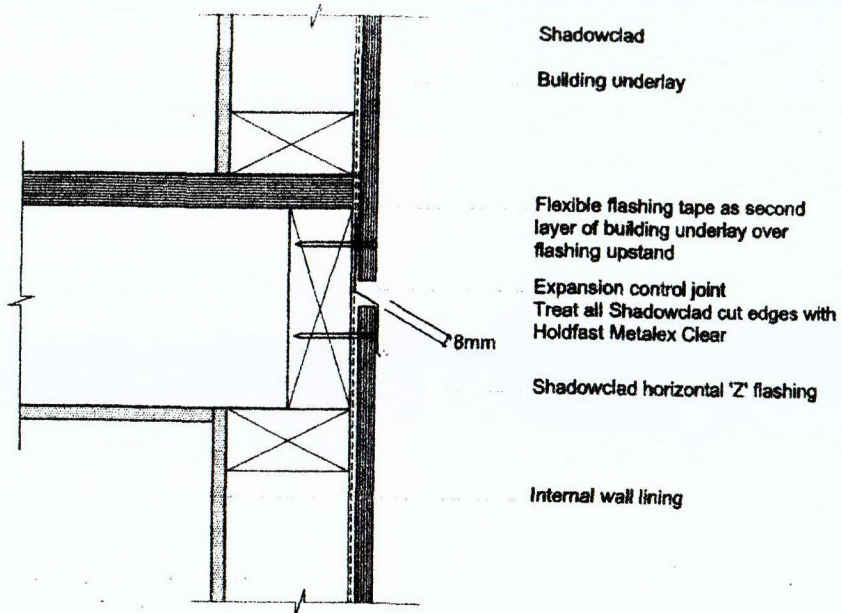
NOTE:
(1) Detailed cladding omitted for clarity, refer to specific claddings.
(2) Sill flashing shall extend back past the condensation channel of the window.
(3) Head to be treated similarly with continuous building underlay and flexible tape at corners.
(4) Refer individual cladding details for jamb flashings and sill tray return requirements



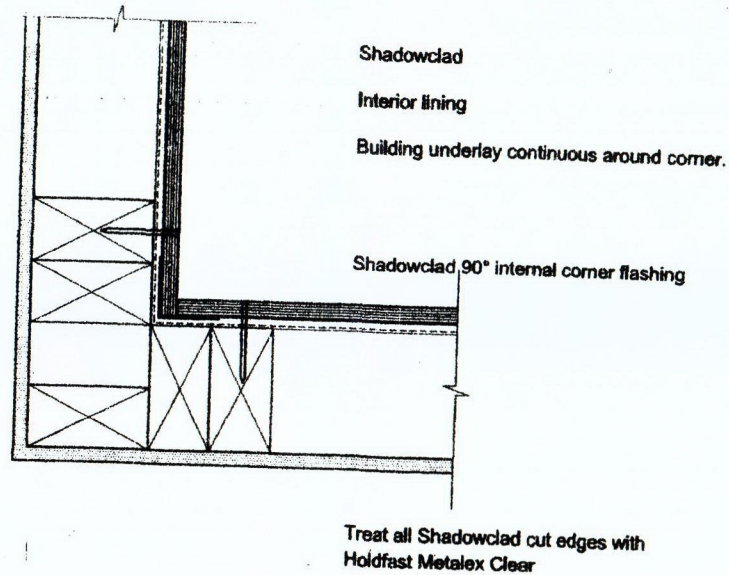
SILL TRAY/FLEX. FLASH'G TAPE/DIR. FIX. FOR ALUMIN. JOINERY.

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Approved Documents

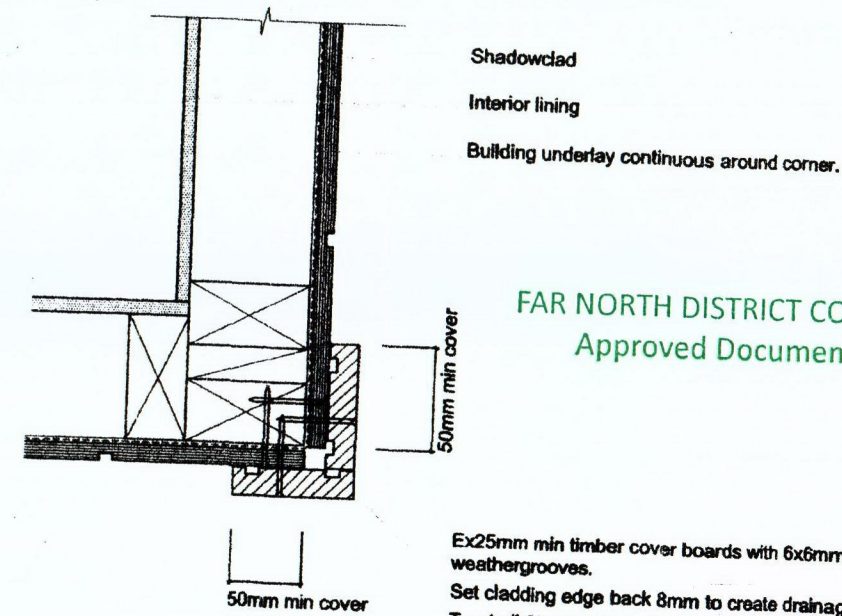
O'HALLAHAN GARAGE
EXT. JOINERY DETAILS - DIR FIX ALUM.-PLY.
SCALES 1:25 **A3 SHEET 70i**
H.M. DESIGN **22/8/15**



HORIZONTAL JOIN (PLY/DIR.FIX)

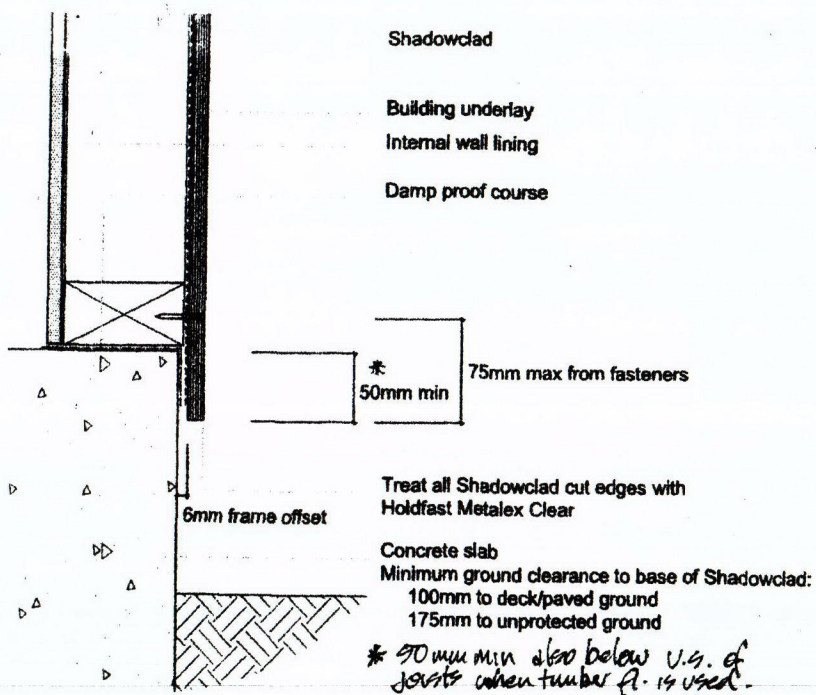


INTERNAL CORNER (PLY/DIR.FIX)

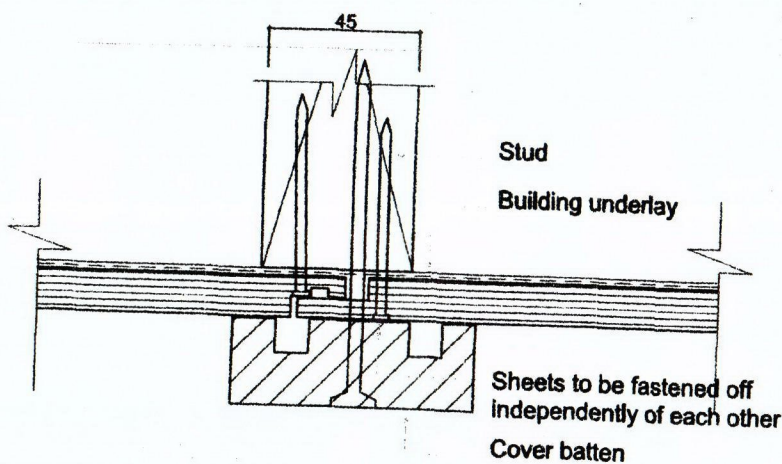


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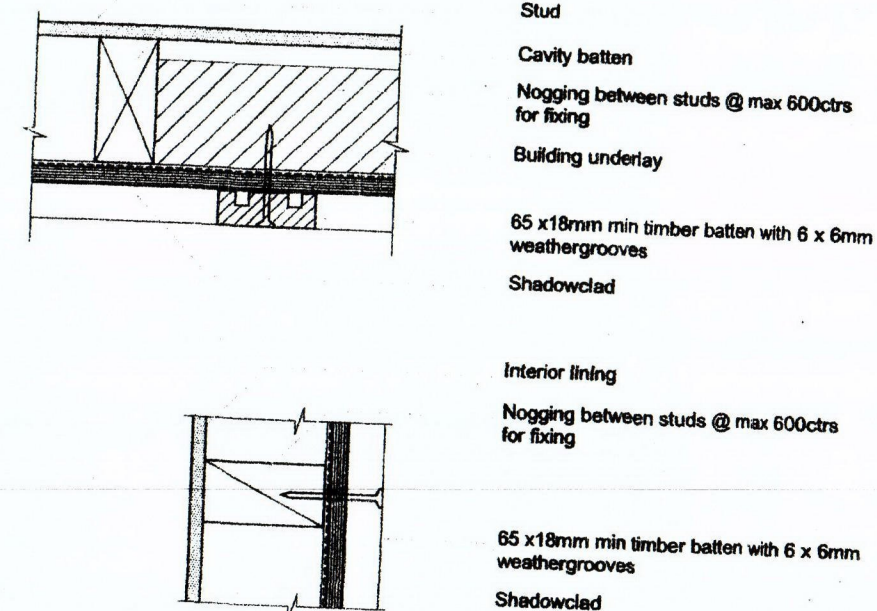
EXTERNAL CORNER (PLY/DIR.FIX)



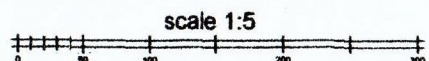
WALL BASE (CONC. FL.) (PLY/DIR.FIX)



VERT. JOIN - WITH BATTEN (PLY/DIR.FIX)
1:2.5 ≈



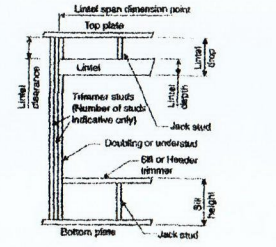
BATTEN-OFF STUD (PLY/DIR.FIX)



OHAWARAN GARAGE
CLADDING FLASH'G - SCALES 1:5, 2.5 ≈ Sheet TBii
HM DESIGN
22/8/15.

**ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:2011 - LINTELS**

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 rafters/trusses to top plate connections have been made. All fixings assume bottom plate thickness of 45mm minimum. 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.



Lintel Supporting Girder Trusses:

Roof Tributary Area	Light Roof Wind Zone	Heavy Roof Wind Zone
Area	L, M, H, VH, EH	L, M, H, VH, EH
0.8 m²	G, H, Q, G, H	G, H, Q, G, H
11.8 m²	H, H, Q, G, H	H, H, Q, G, H
12.1 m²	G, H, H, Q, H, H	G, H, H, Q, H, H
16.3 m²	H, H, Q, G, H, H	H, H, Q, G, H, H
19.1 m²	H, H, Q, G, H, H	H, H, Q, G, H, H
20.0 m²	H, H, Q, G, H, H	H, H, Q, G, H, H
21.8 m²	H, H, Q, G, H, H	H, H, Q, G, H, H
24.3 m²	H, H, Q, G, H, H	H, H, Q, G, H, H

Notes:
1) Roof Tributary Area = approx. 1/2 x (total roof area on girder and rafter trusses supported by lintel)
2) Assumed girder truss to be at mid span or single stud span of lintel
3) Use similar fixings for both ends of lintel
4) All other cases require specific engineering design

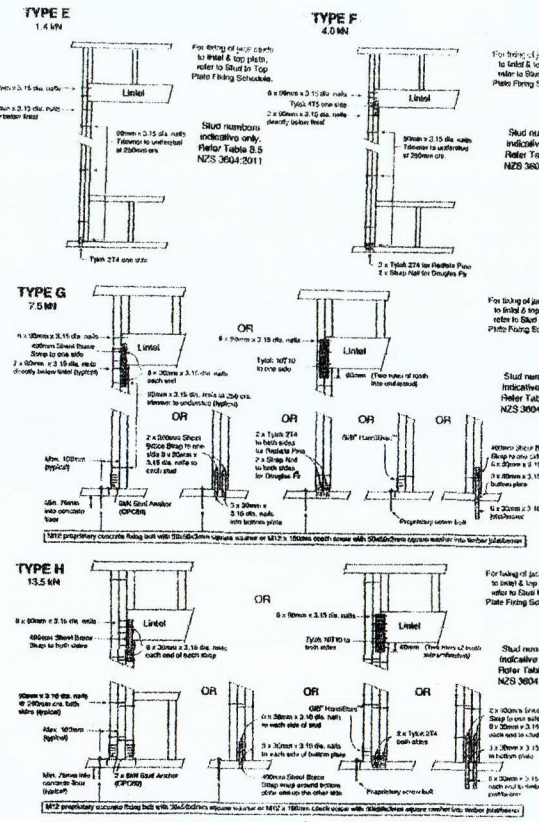


Table 8.14 - Lintel fixing (see 8.6.1.6) - LINTELS

Lintel span (m)	Loaded dimension of studs (mm)	Uplift fixings not required. Use fixings from Table 8.19		Uplift fixings required. See 8.6.1.6 for fixings.	
		Maximum lintel span for fixings above (m)			
0.7	2	NA	NA	3.5	2.6
0.7	3	NA	NA	2.0	1.4
0.7	4	NA	NA	4.4	3.2
0.7	5	NA	NA	2.5	1.8
0.7	6	NA	NA	1.5	5.0
0.7	7	NA	NA	4.3	3.4
0.7	8	NA	NA	1.8	2.4
1.0	2	2.4	1.8	5.0	5.0
1.0	3	1.4	1.4	5.0	5.0
1.0	4	NA	NA	3.7	5.0
1.0	5	3.8	2.8	5.0	5.0
1.0	6	2.1	2.1	5.0	5.0
1.0	8	1.4	1.4	5.0	5.0
1.5	2	NA	NA	4.0	2.9
1.5	3	NA	NA	2.3	1.6
1.5	4	1.3	NA	5.2	3.8
1.5	5	NA	NA	3.0	NA
1.5	6	NA	NA	2.1	7.5
1.5	8	2.1	1.4	5.5	4.3
2.0	2	NA	NA	3.0	2.9
2.0	3	NA	NA	2.3	1.6
2.0	4	1.3	NA	5.2	3.8
2.0	5	NA	NA	3.0	NA
2.0	6	NA	NA	2.1	7.5
2.0	8	2.1	1.4	5.5	4.3
2.4	2	NA	NA	4.0	2.9
2.4	3	NA	NA	2.3	1.6
2.4	4	1.3	NA	5.2	3.8
2.4	5	NA	NA	3.0	NA
2.4	6	NA	NA	2.1	7.5
2.4	8	2.1	1.4	5.5	4.3
3.0	2	NA	NA	4.0	2.9
3.0	3	NA	NA	2.3	1.6
3.0	4	1.3	NA	5.2	3.8
3.0	5	NA	NA	3.0	NA
3.0	6	NA	NA	2.1	7.5
3.0	8	2.1	1.4	5.5	4.3
3.6	2	NA	NA	4.0	2.9
3.6	3	NA	NA	2.3	1.6
3.6	4	1.3	NA	5.2	3.8
3.6	5	NA	NA	3.0	NA
3.6	6	NA	NA	2.1	7.5
3.6	8	2.1	1.4	5.5	4.3

NA Not applicable.
Table 8.19 fixings are satisfactory.
NOTE - Fixings for lintel spans greater than those shown require specific engineering design.

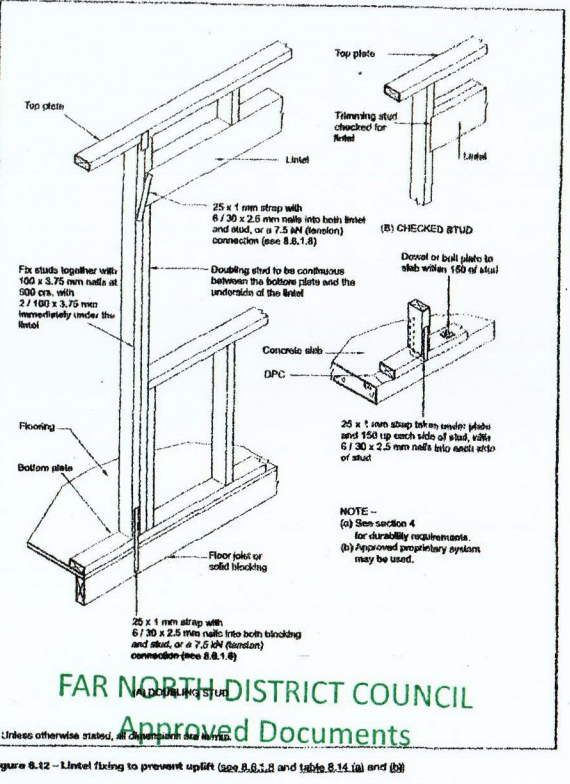


Table 8.19 - Nailing schedule for hand-driven and power-driven nails (see 8.6.1.6)

Location	Length (mm) x diameter (mm) and type	Number/Location	Length (mm) x diameter (mm) and type	Number/Location
Bottom plate to floor framing at:				
(a) External walls and internal wall bracing elements	100 x 3.75	2 at 600 mm centres	90 x 3.15	3 at 600 mm centres
(b) Internal walls (may be nailed to floor decking)	100 x 3.75	1 at 600 mm centres	90 x 3.15	1 at 600 mm centres
(c) Trimmer not exceeding 4.2 m long	100 x 3.75	4 (end nailed)	90 x 3.15	6 (end nailed)
Dwang to stud	75 x 3.15 or 100 x 3.75	2 (skewed) 2 (end nailed)	75 x 3.06 90 x 3.16	2 (skewed) 2 (end nailed)
Flapplate to straightened stud	60 x 2.8	4 each side of cut	60 x 2.8	4 (each side of cut)
Half joint in top plate	75 x 3.15	3	75 x 3.06	4
Lintel to trimming stud	75 x 3.15 or 100 x 3.75	4 (skewed) 2 (end nailed)	90 x 3.15	3 (end nailed)
Ribbon board to stud	100 x 3.75	2	90 x 3.15	3
Sill or header trimmer to trimming stud for:				
(a) Trimmer not exceeding 2.4 m long	100 x 3.75	2 (end nailed)	90 x 3.15	3 (end nailed)
(b) Trimmer not exceeding 3.0 m long	100 x 3.75	3 (end nailed)	90 x 3.15	5 (end nailed)
(c) Trimmers not exceeding 3.6 m long	100 x 3.75	4 (end nailed)	90 x 3.15	6 (end nailed)
Solid plaster bottom to stud	60 x 2.8 (galv.)	900 mm centres	60 x 2.8 (galv.)	500 mm centres
Stud to plate	75 x 3.15 or 100 x 3.75	4 (skewed) 2 (end nailed)	75 x 3.06 90 x 3.15	3 (skewed) 3 (end nailed)
Top plate 140 mm x 35 mm to 90 mm x 45 mm and top plate to lintel	100 x 3.75	2 at 500 mm centres	90 x 3.15	3 at 500 mm centres
Trimming studs at openings, blocking and studs at wall intersections	100 x 3.75	500 mm centres	90 x 3.15	600 mm centres
Trimming stud to doubled stud immediately under lintel	100 x 3.75	2	90 x 3.15	2
Waling to stud	60 x 2.8	2	60 x 2.8	2

NOTE:
1) Nail lengths and diameters are the minimum required.
2) Refer to 4.4 for required protective coatings for metal fasteners.
3) For studs up to 2.7 m length, 2 / 90 x 3.15 power-driven nails (end nailed) are sufficient.

- BOTTOM PLATE TO SLAB

7.5.12.1 Cast-in anchors
Anchors shall be M12 bolts set within 150 mm of each end of the plate, spaced at a maximum of 1200 mm centres, bent to prevent turning and projecting sufficiently to allow a washer and fully threaded nut above the timber.

(b) For internal and external walls, where the slab edge is formed with in-situ concrete, anchors shall be set not less than 90 mm into the concrete, maintaining a minimum edge distance of 50 mm.

(c) For external walls where the slab edge is formed with masonry header blocks, anchors shall be set not less than 120 mm into the concrete, maintaining a minimum edge distance of 50 mm to the outside face of the blocks.

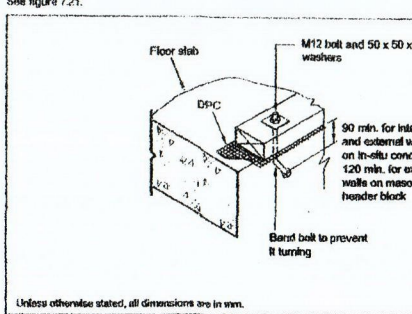


Figure 7.21 - Fixing of bottom plates to slabs and cast-in anchors (see 7.5.12.1)

7.5.12.2 Proprietary post fixed anchors
Proprietary anchors shall be within 150 mm of each end of the plate and be spaced at a maximum of 900 mm centres, or 600 mm centres when used on slab edges formed by masonry header blocks.

7.5.12.3
For external walls, proprietary anchors shall have a minimum capacity when tested in accordance with 2.5.7.4 as follows:

(a) Horizontal loads in the plane of the wall... 2 kN;
(b) Horizontal loads out of the plane of the wall... 3 kN;
(c) Vertical loads in axial tension of the fastener... 2 kN.

7.5.12.4
For internal walls, proprietary anchors shall have a minimum capacity when tested in accordance with 2.5.7.4 as follows:

(a) Horizontal loads in the plane of the wall... 2 kN;
(b) Horizontal loads out of the plane of the wall... 2 kN.

- TOP PLATE TO WALL FRAMING

Table 8.18 - Fixing of top plate of wall to supporting members such as studs and lintels at 600 mm centres (see 8.7.6 and figure 8.12)

Roof member spacing (mm)	Roof member spacing (mm)																			
	800						1200						900							
	Wind zone			Wind zone			Wind zone			Wind zone			Wind zone			Wind zone				
	L	M	H	VH	EH	L	M	H	VH	EH	L	M	H	VH	EH	L	M	H	VH	EH
2.0	A	A	B	B	B	A	A	B	B	B	A	A	B	B	B	A	A	B	B	B
3.0	A	B	B	B	B	A	B	B	B	B	A	A	B	B	B	A	A	B	B	B
4.0	A	B	B	B	B	A	B	B	B	B	A	A	B	B	B	A	A	B	B	B
5.0	B	B	B	B	B	B	B	B	B	B	A	A	B	B	B	A	A	B	B	B
6.0	B	B	B	B	B	B	B	B	B	B	A	A	B	B	B	A	A	B	B	B

NOTE: For walls supporting roof members at 600, 900 or 1200mm centres, Wind Zones L, M, H, VH, EH, as per NZS 3604:2011.

Maximum M12 bolt spacing (mm) of:

Stringer nominal size (mm)	800	900	1200	1600	2400
190 x 45	6.0	5.0	4.0	3.0	2.0
140 x 45	6.0	5.0	4.0	3.0	-

* FOR MAX 2 KPA LOADING

ALTERNATIVE TO TABLE 8.18 NZS 3604:2011 - STUD TO TOP PLATE

All fixings are designed to resist 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 lateral loads. These fixings assume the correct choice of rafters/trusses to top plate connections have been made. Gable and well top plate/lintel connections where the adjacent rafter/truss is located within 1200mm of gable end wall with a maximum verge overhang of 750mm, requires fixing type A as shown below. All fixings assume top plate thickness of 45mm minimum. Wall framing arrangements under girder trusses are not covered in this schedule. All timber selections are as per NZS 3604:2011.

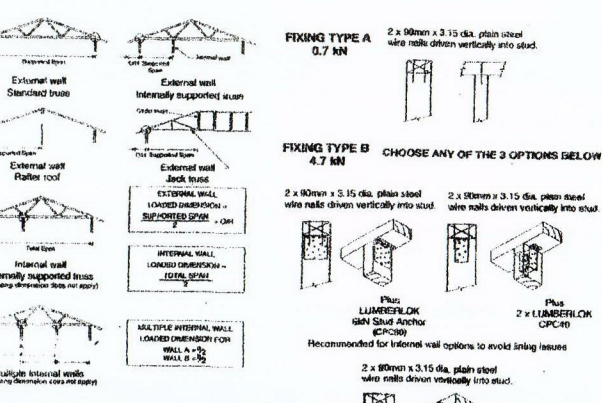


Table 8.18 - Fixing of top plate of wall to supporting members such as studs and lintels at 600 mm centres (see 8.7.6 and figure 8.12)

Roof member spacing (mm)	Roof member spacing (mm)																			
	800						1200						900							
	L	M	H	VH	EH	L	M	H	VH	EH	L	M	H	VH	EH	L	M	H	VH	EH
2.0	A	A	B	B	B	A	A	B	B	B	A	A	B	B	B	A	A	B	B	B
3.0	A	B	B	B	B	A	B	B	B	B	A	A	B	B	B	A	A	B	B	B
4.0	A	B	B	B	B	A	B	B	B	B	A	A	B	B	B	A	A	B	B	B
5.0	B	B	B	B	B	B	B	B	B	B	A	A	B	B	B	A	A	B	B	B
6.0	B	B	B	B	B	B	B	B	B	B	A	A	B	B	B	A	A	B	B	B

NOTE: For walls supporting roof members at 600, 900 or 1200mm centres, Wind Zones L, M, H, VH, EH, as per NZS 3604:2011.

O'HALLARAN - GARAGE PROPOSED COMPLETION
WALL FRAMING FIXING DETAILS
HM DESIGN
Sheet 8B
22/8/15.