



GISBORNE DISTRICT COUNCIL

BUILDING CONSENT

Form 5 - Section 51, Building Act 2004

Issued by Gisborne District Council



FITZHERBERT STREET, GISBORNE, NEW ZEALAND. PO BOX 747, GISBORNE. TEL (06) 867-2049 FAX (06) 867-8076

Page 1

Building Consent application
type: PIM/CONSENT

Building Consent No.: 9517

AKROYD, REGINALD RHODES
2 DAPHNE STREET
OUTER KAITI
GISBORNE 4010

Owner/s: AKROYD, REGINALD RHODES
AKROYD, SANDRA JOAN

AMENDED COPY

COUNCIL CHARGES: WHERE IN ANY PARTICULAR CASE A CHARGE IS INADEQUATE TO ENABLE THE COUNCIL TO RECOVER ITS ACTUAL AND REASONABLE COSTS; IN SUCH INSTANCES WHEN INSPECTIONS ARE CALLED FOR AND WORK IS SUBSTANDARD AND/OR THE INSPECTION IS CALLED PREMATURELY THE COUNCIL WILL REQUIRE PAYMENT OF AN ADDITIONAL CHARGE.

BUILDING / PROJECT LOCATION	
Street Address:	21 ENDCLIFFE ROAD GISBORNE
Legal Description:	LOT 12 DP1644
Valuation Number:	08411 396 00
Level/Unit No - Building Name:	
Location of Building within site/block no.:	
Building File No.:	14260
Intended Use:	RESITE/RELOCATE DWELLING
Intended Life:	INDEFINITE BUT NOT LESS THAN 50 YEARS

PROJECT / BUILDING WORK	
Estimated Value (Incl GST.):	\$60,000
Building work authorised by this consent:	A1:RELOCATE DWELLING & ALTERATIONS/REMOVE GARAGE

COMPLIANCE SCHEDULE	

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is issued subject to the conditions specified overleaf.

Date: 09 Dec 2008

Ian Petty
CONSTRUCTION/CONSENTS ADMINISTRATOR
On behalf of: Gisborne District Council



Please see over page...

TERMS AND CONDITIONS

1. This consent is issued subject to all necessary clearances/permits/authorisations being obtained in respect of any energy work ie gasfitting and/or electrical work. A copy of the Energy work certificate relating to this building consent is required by the Council prior to the Code Compliance Certificate being issued.
2. No deviation or alteration from the original plans and specifications is permissible without the written consent of the Gisborne District Council.
3. Pursuant to Section 52 of the Building Act 2004 this consent shall lapse and be of no effect if the building work concerned has not been commenced within 12 calendar months after the date of issue.
4. Pursuant to Section 93 of the Building Act 2004, Council requires that the Code Compliance Certificate be issued within 24 months of the issue of this consent. Council will follow up on Code Compliance Certificates that are not issued within the 24 month period.
5. The owner of the property is responsible for the correct siting of buildings and additions thereto. The owner shall ascertain the true position of survey pegs before any building work commences.
6. Pursuant to Section 114 of the Building Act 2004 the use of the building must not be changed from that specified on page 1 of this Consent, unless notice of the change of use is given to the Gisborne District Council in writing.
7. The inspections detailed in the attached "Schedule of Required Inspections" have been deemed necessary by the Gisborne District Council. Failure to call for these inspections may result in the Gisborne District Council declining to issue a Code Compliance Certificate.
8. No building work shall commence until all requirements as detailed on Schedule 1 of the Project Information Memorandum (PIM) have been met or the applicant has satisfied Council that any additional requirements (parking spaces etc.) will be met on completion of the project.
9. Stormwater shall be discharged in a manner approved by the Council. All drainage work shall be carried out by a Registered Drainlayer using approved materials.
10. No construction to be over existing drain or sewer systems unless prior Council approval has been obtained.
11. Pursuant to Section 90 (1) of the Building Act 2004 this consent is subject to the inspectors as agents of the Gisborne District Council being permitted access to the land and buildings on which the building work is being carried out, for such inspections and measurements as they consider necessary.
12. No driveway, footpath, or other building work is to be constructed outside the property boundary without a permit to do work in road reserve first being obtained from Council's Engineering and Works Department. If any such work is carried out the owner may be required to remove the said works and reinstate the road reserve to the satisfaction of the Manager; Engineering and Works.
Any person unsure of where the demarcation line between their legal boundary and Council's Road Reserve is located is advised to contact either a Council Construction Control Officer or Roading Engineer.
13. The minimum floor height is to be 300mm above existing average ground level.

Attachments - Copies of the following documents are attached to this building consent:

Project Information memorandum number PIM 9517

IMPORTANT NOTE: It is responsibility of the owner or their appointed agent (usually the builder) to call for all of the following inspections at the appropriate time. Ultimately, the owner should ensure their appointed agent has done so.

Completed inspections will be signed off by a council building inspector on the customer inspection checklist (kept at the site).

It is advisable that in agreement with your builder, a portion of the builders payment is withheld until the job is completed and the owner holds the final **CODE COMPLIANCE CERTIFICATE**

SCHEDULE OF REQUIRED INSPECTIONS

REQUIRED PURSUANT TO SECTION 90 OF THE BUILDING ACT 2004

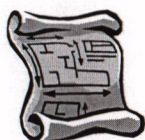
BUILDING STRUCTURE INSPECTIONS

1 x SI-Site/Foundation inspection required prior to any concrete pour.(Tidy Pad).

1 x D-Drain inspection & test (foul water) prior to backfilling.

1 x SW-Drain inspection & test (stormwater) prior to backfilling.

2 x FIB-Final Inspection - prior to issue of code compliance certificate.



GISBORNE DISTRICT COUNCIL PROJECT INFORMATION MEMORANDUM

Section 35, Building Act 2004

**Issued by: Gisborne District Council**

FITZHERBERT STREET, GISBORNE, NEW ZEALAND. P O BOX 747, GISBORNE. TEL (06) 867-2049 FAX (06) 867-8076

Project Information Memorandum application

type: PIM/CONSENT

PIM No.: 9517

AKROYD, REGINALD RHODES
2 DAPHNE STREET
OUTER KAITI
GISBORNE 4010
Owner/s: AKROYD, REGINALD RHODES
AKROYD, SANDRA JOAN

AMENDED COPY

DATE APPLICATION RECEIVED:	28 Jul 2008
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BUILDING / PROJECT LOCATION

Street Address:	21 ENDCLIFFE ROAD GISBORNE
Legal Description:	LOT 12 DP1644
Valuation Number:	08411 396 00
Level/Unit No - Building Name:	
Location of Building within site/block no.:	
Building File No.:	14260
Intended Use:	RESITE/RELOCATE DWELLING
Intended Life:	INDEFINITE BUT NOT LESS THAN 50 YEARS

PROJECT / BUILDING WORK

Estimated Value (Incl GST.):	\$60,000
Building work authorised by this consent:	A1:RELOCATE DWELLING & ALTERATIONS/REMOVE GARAGE

COMPLIANCE SCHEDULE

This document contains details specific to the above project for your information. It is not a building consent and is in no way permission to build unless accompanied by an approved building consent.

This Project Information Memorandum is issued subject to the terms and conditions specified in the following page/s.

This Project Information Memorandum shall lapse and be of no effect if a Building Consent for the building work concerned has not been issued within 24 calendar months of the date of issue of this document.

Date: 09 Dec 2008

Ian Petty
CONSTRUCTION/CONSENTS ADMINISTRATOR
On behalf of: Gisborne District Council

TERMS AND CONDITIONS

This Project Memorandum is:

Notification that other authorisations, detailed in Schedule 1, must be obtained before the project may be undertaken.

This Project Memorandum is:

Information identifying relevant special features of the land concerned, as detailed in Schedule 2.

This Project Information Memorandum has:

Been prepared for the purposes of Section 35 of the Building Act 2004 and contains all the relevant information held by Council. The information provided is based on a search of Council's property records and there may be other information relating to the land which has not been specifically recorded against this property or known to Council.

NOTICE IS GIVEN THAT (where relevant):

1. **Public Buildings:** Section 363 of the Building Act 2004 makes it an offence, in respect of any building intended for public use, to use or permit a person to use any part of that building that is affected by building work for which no building consent was obtained, or where a building consent was/has been obtained, but no code compliance certificate was issued.

Where public access to a building, or part of a building is required while consented building work is in progress, section 363a requires that the person who owns, occupies or controls the premises must apply to the council to issue a CERTIFICATE OF PUBLIC USE before permitting public entry.

2. **Offence for residential property developer to transfer household unit without code compliance certificate.** Section 364 of the Building Act 2004 states that unless a residential property developer and the purchaser of the household unit enter into a written agreement stating that *either or both of the following do not apply*, a residential property developer commits an offence if they;
 - (a) complete a sale of the household unit and/or
 - (b) allow a purchaser of the household unit to enter into possession of the household unitbefore a code compliance certificate is issued in relation to that household unit.

SCHEDULES

SCHEDULE 1: Other Authorisations

1. No work shall commence outside the legal boundary of the property without the appropriate consents being obtained from the Controlling Authority.
2. The first inspection for a building often requires boundary (yard) distances to be checked. If the boundary is not clearly defined (by such features as an existing fence) a string line from identifiable survey pegs must be in place prior to the arrival of the inspector so distances can be accurately measured. Please note that required distances are from the finished building and include cladding. For example: 2 metre clearance required to boundary, cladding 15mm thick on 30mm cavity = required distance from boundary 2045. Eaves may project into a yard by up to 600mm.
3. Follow Condition 3 of Resource Consent, copy of Consent attached.
4. The new vehicle crossing shall be constructed and formed in accordance with Chapter 15 of the Plan.
5. A work within the road reserve permit will also be required to construct the new vehicle crossing.
6. The proposal is a controlled activity under the provisions of the Proposed Combined Regional Land and District Plan. Accordingly a Resource Consent is required to be granted before work can begin on the site. Please contact the Planning Department if you have any questions.
7. The minimum floor height is to be 300mm above existing average ground level.
8. **Sewer Reticulation and Disposal**
 - As per submitted drainage plan, a new sewer lateral connection to a new manhole to be located at the Endcliffe Road boundary will be required for the proposed relocated dwelling - subject to a suitable grade being achieved. The applicant **or their contractor** shall contact the Gisborne District Council Utilities Department for inspection of connection.
 - All work carried out shall be in accordance with the Gisborne District Council Engineering Code of Practice. Conditions existing onsite shall be updated to be in accordance with the Gisborne District Council Engineering Code of Practice.
9. **Stormwater Reticulation**
 - Stormwater from buildings, sealed areas and other structures within the development shall be collected, controlled and discharged to piped drain in Ranfurly Street.
 - The stormwater discharge quality from this site shall be in accordance with the 'PROPOSED REGIONAL PLAN FOR DISCHARGE TO LAND & WATER, WASTE MANAGEMENT AND HAZARDOUS SUBSTANCES'. A copy of this plan is available at the Gisborne District Council front counter.
 - Notwithstanding the location of portions of the stormwater system outside of these property or development boundaries, stormwater connections are privately owned to the point of connection to the Gisborne District Council administered reticulation. It is the owners responsibility to maintain, inspect and renew stormwater connections.
 - Discharge to the piped drain will require a separate consent for work in the road reserve from Gisborne District Council.

10. Water Supply and Reticulation

- The proposed dwelling is required to be supplied with a separate 20mm internal diameter Medium Density Poly Ethylene (MDPE) water connection into the water main in Ranfurly Street. Each connection shall have installed a manifold containing a water toby, and double check backflow preventer in its own Acuflo AMB300 toby box with base. The toby box shall be located on the Ranfurly Street road frontage so that it may be inspected without entering private property. Materials shall conform, and installation shall occur, in accordance with the standards outlined in the Gisborne District Council Engineering Code of Practice.
- This connection is regarded as extra-ordinary under the Gisborne Water Supply Bylaw. It will require a separate application to this consent and is granted subject to the discretion of the Utilities Engineer (Water Supply). Extra-ordinary water services to be installed at the property owners cost. The Bylaw requires a separate water connection to each dwelling, which can generally be installed within 15 working days.

11. The Building Consent Authority has determined that your building is in a medium wind zone. As such you will need to ensure that the bracing of the building is consistent with the requirements for this wind loading.

SCHEDULE 2: Special Features of the Land

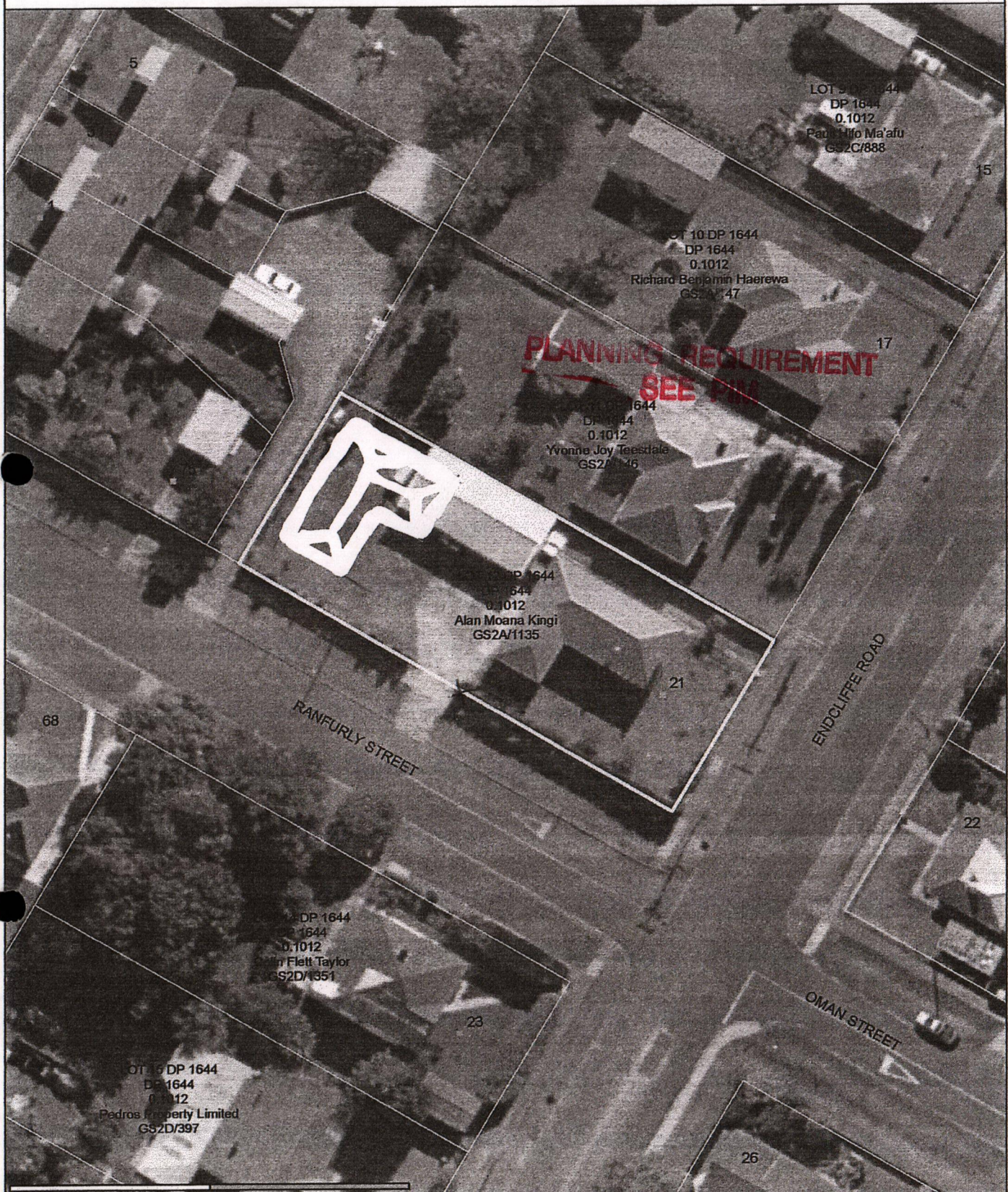
1. The property is zoned General Residential with Land Overlay 1 and Flood Hazard Overlay F7 Urban Stormwater under the proposed Combined Regional Land and District Plan.

2. Urban Services

- Water Supply: Location of Connection: 23.4 metres from the left hand boundary (Endcliffe Road) looking from Ranfurly Road. Diameter of street main: 300mm Asbestos Cement 1960 in Endcliffe Road and 100mm Asbestos Cement 1963 in Ranfurly Road.
- Sewerage: Depth of Street Main: 2.056m Reinforced Concrete 1964 150mm - Endcliffe Road.
- Stormwater: Road Reserve in Ranfurly Road and main in Endcliffe Road. Depth of Street Main: 1.237 metres 900mm diameter.

3. Rivers and Land Drainage

- The property is in a known Flood Hazard Zone.
- The property or part thereof is subject to river/stream flooding, flooded in 1977 and/or 1985.
- There are reference maps available, EW126; 1977 flood levels, at the Gisborne District Council's Engineering and Works Department.
- The developers attention is drawn to the New Zealand Fire Service Code of Practice for Fire Fighting Water Supplies. The developer is advised that there is a new fire fighting code of practice. Council does not guarantee the ability to meet the Fire fighting code of practice requirements with flows from fire hydrants. Any upgrades to the reticulation to achieve compliance with this code shall be at the ~~developers cost~~ and carried out in accordance with the Gisborne District Council Engineering Code of Practice and with the agreement of Council.



Building Consent No:

9517

Author:

Scale: 1: 0

Building File No:

14260

24 JUL 2008

BUILDING CONSENT

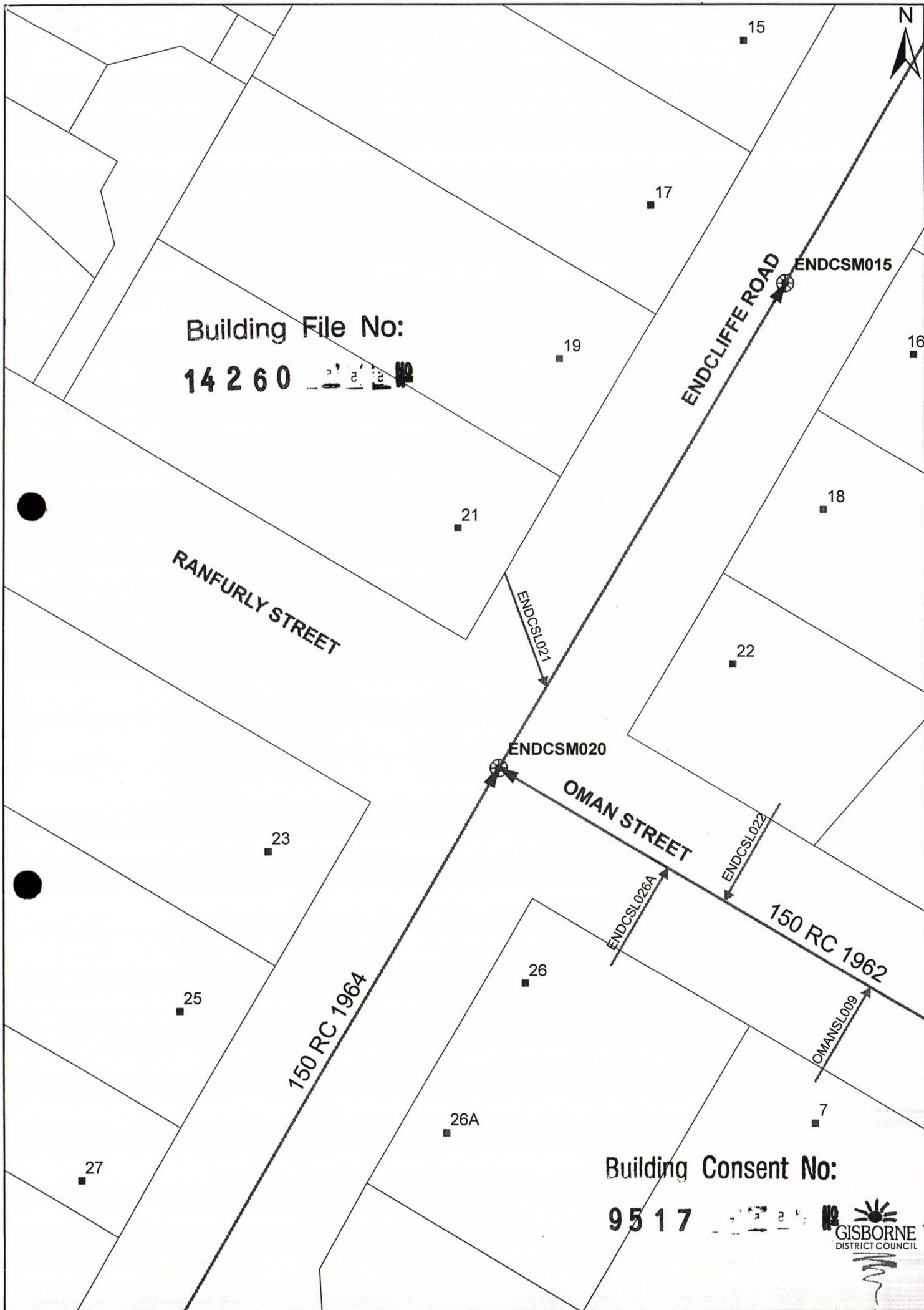


The position of property boundaries are INDICATIVE only and must not be used for legal purposes.

The information displayed in this map has been taken from GDC's databases and maps. It is made available in good faith but it's accuracy and completeness is not guaranteed. This map is not to be reproduced without permission.

Gisborne District Council

Map produced from Intrapmap on: Mon Feb 4 11:15:51 2008



Building File No:

14 2 6 0

Building Consent No:

95 1 7



Gisborne District Council

PO Box 747
Gisborne District Council
Phone (06) 867 2049

CUSTOMER VALUATION ENQUIRY

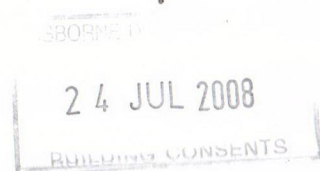
Valuation Number: 08411 396 00
Location: 21 ENDCLIFFE ROAD
Legal Description: LOT 12 DP 1644
Area (Ha): 0.1012
Valuation Date: 01 Sep 2005

	normal	special
Land Value:	51,000	
Improve Value:	69,000	
Capital Value:	120,000	
Tree Value:	0	

Current Year's Assessed Rates: 2009: \$1,997.33

Building File No.
14 2 0 0 — No

Building Consent No.
95 1 7 — No



23 July 2008

Gisborne District Council

PO Box 747
Gisborne District Council
Phone (06) 867 2049

CUSTOMER VALUATION ENQUIRY

Valuation Number: 08411 396 00

Location: 21 ENDCLIFFE ROAD

Legal Description: LOT 12 DP 1644

**PLANNING REQUIREMENT
SEE PIM**

Area (Ha): 0.1012

Valuation Date: 01 Sep 2005

	normal	special
Land Value:	51,000	
Improve Value:	69,000	
Capital Value:	120,000	
Tree Value:	0	

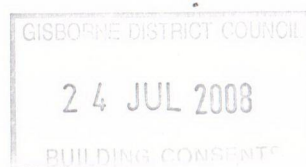
Current Year's Assessed Rates: 2009: \$1,997.33

Building Consent No:

95 1 7 1 2 3 4 5 6 7 8 9 10 11 12 **12**

Building File No:

14 2 6 0 1 2 3 4 5 6 7 8 9 10 11 12 **12**



23 July 2008



File Ref: S/VA01/5

7 May 2008

NOTICE OF RATING VALUATION

VALUATION REFERENCE NUMBER 08411 396 00

Please quote this number in all correspondence

AKROYD, SANDRA JOAN
AKROYD, REGINALD RHODES
2 DAPHNE STREET
GISBORNE 3801

PROPERTY VALUE

Property value as at 01 September 2005
being the date of the latest revaluation of
properties in the district.

Land Value:	51,000
Value of Improvements:	50,000
Capital Value:	101,000

Tree Value:	0
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PROPERTY DESCRIPTION

Property Address:	21 ENDCLIFFE ROAD
Owners Name:	AKROYD, SANDRA JOAN AKROYD, REGINALD RHODES
Ratepayers Name:	AKROYD, SANDRA JOAN AKROYD, REGINALD RHODES
Nature of Improvements	DWG OBS OI
Area Of Land:	0.1012 hectares
Legal Description:	LOT 12 DP 1644

Nature of Improvements Key: DWG = Dwelling, BLDG = Building, FG = Fencing, OI = Other Improvements, OB = Other Buildings

REASON FOR VALUATION NOTICE SALE INSPECTED – VALUE AMENDED

OBJECTION DATE

If you wish to lodge an objection to your valuation or to information appearing on the Valuation Roll, you must do so within 20 working days from this date 7 May 2008. Further information on the objection process is included with this Notice of Valuation.

GENERAL

Local authorities use information in the district valuation roll to set rates. This notice details information on your property that is contained in the district valuation roll of the Gisborne District Council. The Rating Valuations Act 1998 now obliges councils to maintain the valuation rolls but allows them to choose their valuation service provider.

The Valuer General regulates the maintenance of the district valuation rolls to ensure that they meet the minimum standards set out in the Rating Valuations Act, the Rating Valuations Regulations 1998 and the Rating Valuations Rules.

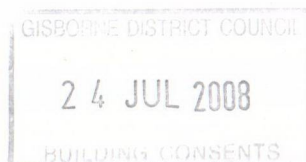
The Gisborne District Council has contracted Landmass Technology Limited to carry out this valuation. Any correspondence should be directed to the address at the bottom of the page.

Building Consent No:

95 1 7

Building File No:

14 2 6 0



Rishworth, Wall & Mathieson

Principals

Douglas Drury Rishworth LLB
John Campbell Mathieson LLB
Alfred Phillip Dreifuss LLB (District Inspector of Mental Health)

50 Wainui Road, Gisborne.
P.O. Box 55, Gisborne, New Zealand.
Telephone: (06) 867 1379 DXLP 78512
Facsimile: (06) 867 7473
Email: office@wainuichambers.co.nz

Staff Solicitors

~~Michael John Wall LLB~~
Leighvi Hauiti Maynard BA, LLB

Your Ref:

Our Ref:

Mr AP Dreifuss

Date:

26 March 2008

Reg and Sandra Akroyd
2 Daphne Street
GISBORNE

Building File No:

Dear Reg and Sandra

14 2 60

RE: **PURCHASE OF 21 ENDCLIFFE ROAD, GISBORNE**

We confirm that settlement of the purchase of the above property was completed on 18 March 2008.

Statements

We previously provided to you the following:

Building Consent No:

1. our statement of account;
2. settlement statement; and
3. a note of our costs and disbursements.

95 1 7

We acknowledge receipt of the amount required from you of \$823.73 in order to complete settlement. No further amount is payable by you.

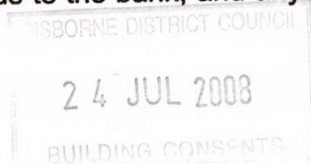
Rates

You will note from the settlement statement that the Gisborne District Council rates were apportioned on settlement, and the vendor has paid the rates to 31 March 2008.

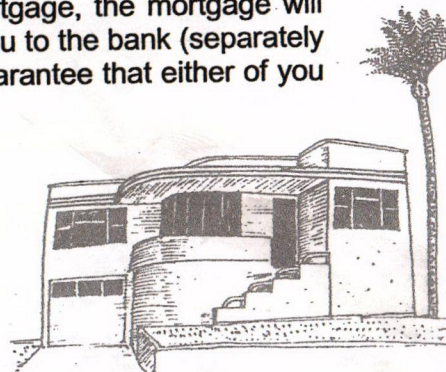
The vendor's solicitors are obliged to advise the Council of the change of ownership and future rate demands should issue to you. You will be responsible for the 4th instalment of the rates.

Mortgage

The property will be subject to a mortgage to ANZ National Bank Limited. You also entered into a loan of \$170,000.00 with the bank. As discussed when you signed the mortgage and loan documents, because your loan is secured by an "all obligations" mortgage, the mortgage will therefore secure for example any overdraft indebtedness of either of you to the bank (separately or together) any joint or separate credit cards to the bank, and any guarantee that either of you



Barristers and Solicitors



together or separately may give to the bank of any other parties indebtedness.

Insurance

The insurance on the property has been arranged through Tower and the Bank's interest as mortgagee recorded against the policy.

Costs and disbursements

As indicated above a copy of our costs and disbursements is enclosed for your information. The total due has been deducted from the balance paid as instructed. No further amount is required.

Land Titles Office Registration


We confirm that registration at the Land Transfer Office has been completed by way of electronic registration. Accordingly we **enclose** herewith a post registration search of certificate of title GS2A/1135 evidencing registration of the transfer of ownership and mortgage to ANZ National Bank Limited.

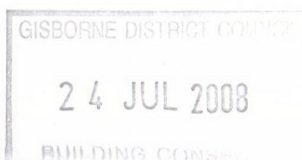
Relevant copies of the security documents have been forwarded to ANZ National Bank Limited for their security as first Mortgagee.

We trust that this letter and enclosures summarises the transaction. Should you require clarification about any matter, please do not hesitate to contact the writer.

Thank you for your instructions.

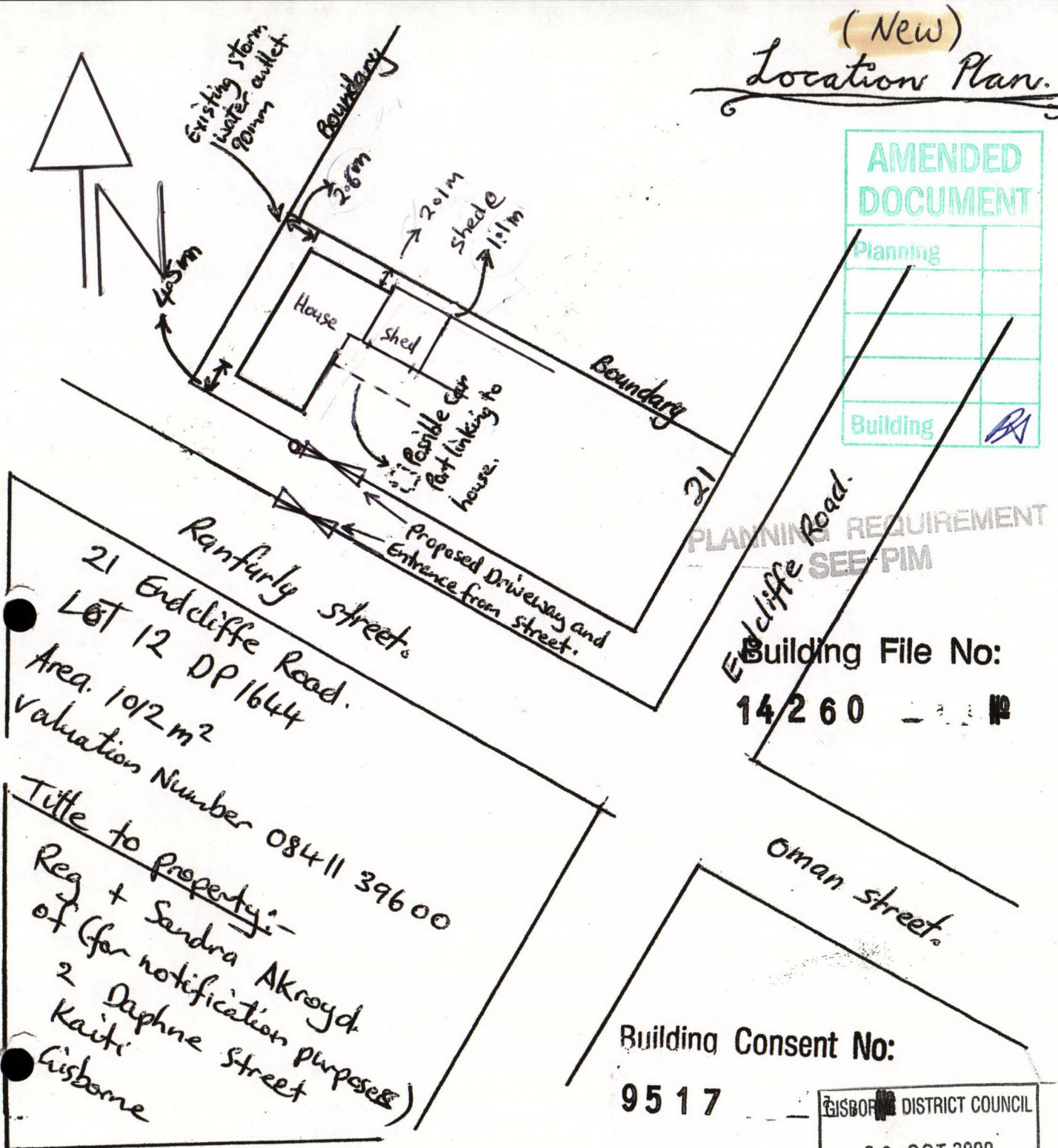
Yours faithfully


RISHWORTH WALL & MATHIESON
PAD/TET



(New)
Location Plan.

AMENDED DOCUMENT	
Planning	
Building	RA



Environmental Effects:-

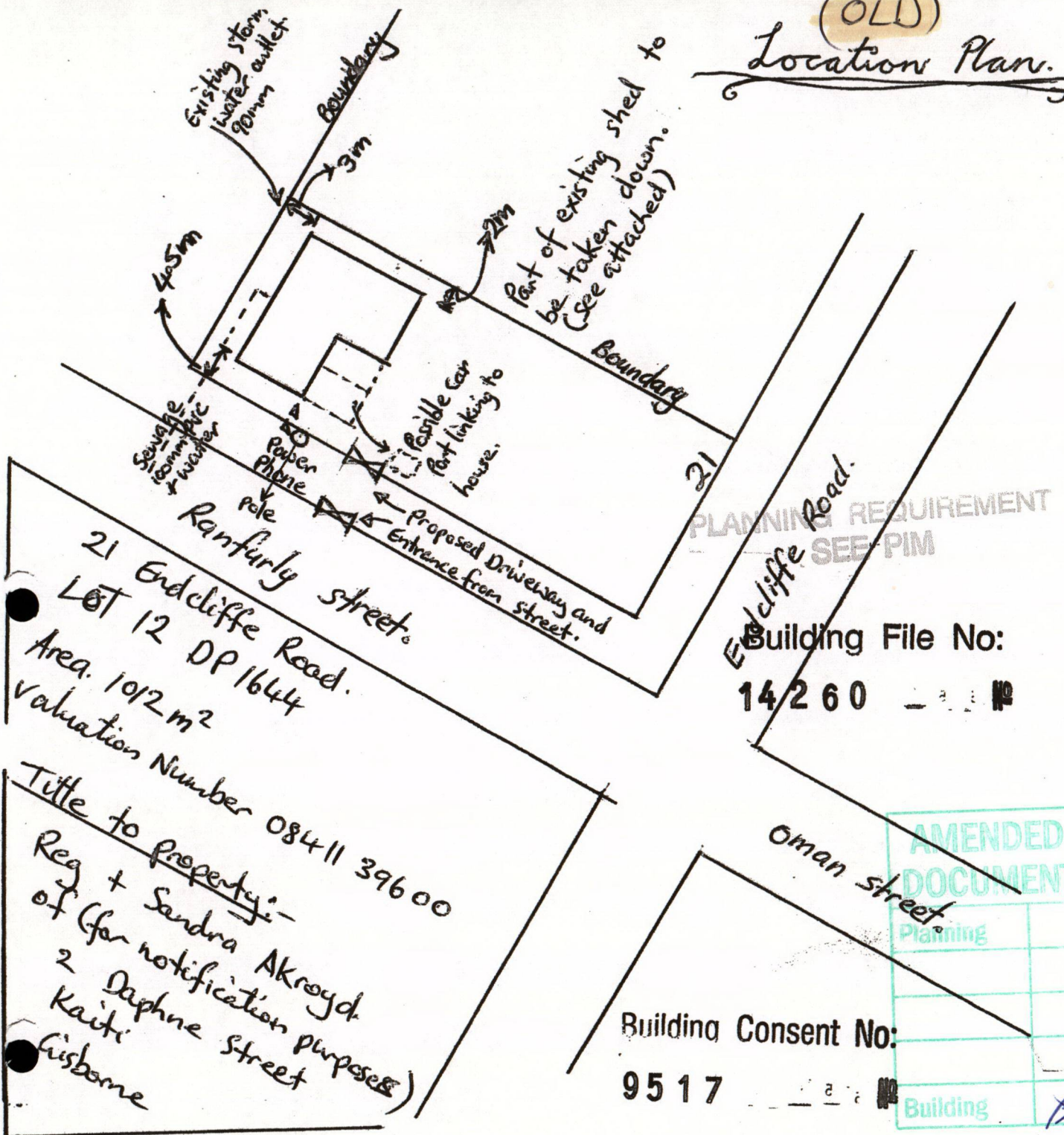
This house has a low roof and is unassuming in the locality. It seeks to soften the effects of the 2 Storey Housing Corpⁿ housing adjacent to it. One neighbour loves the idea that will be removed - she doesn't like the look of it. In respect to the area, this gives another lovely family house to be available.



GISBOROUGH DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

24 JUL 2008

(OLD)
Location Plan.



Environmental Effects:-

This house has a low roof and is unassuming in the locality. It seeks to soften the effects of the 2 Storey Housing Corpⁿ housing adjacent to it. One neighbour loves the idea that will be removed. She doesn't like the In respect to the area, this gives house to be available.



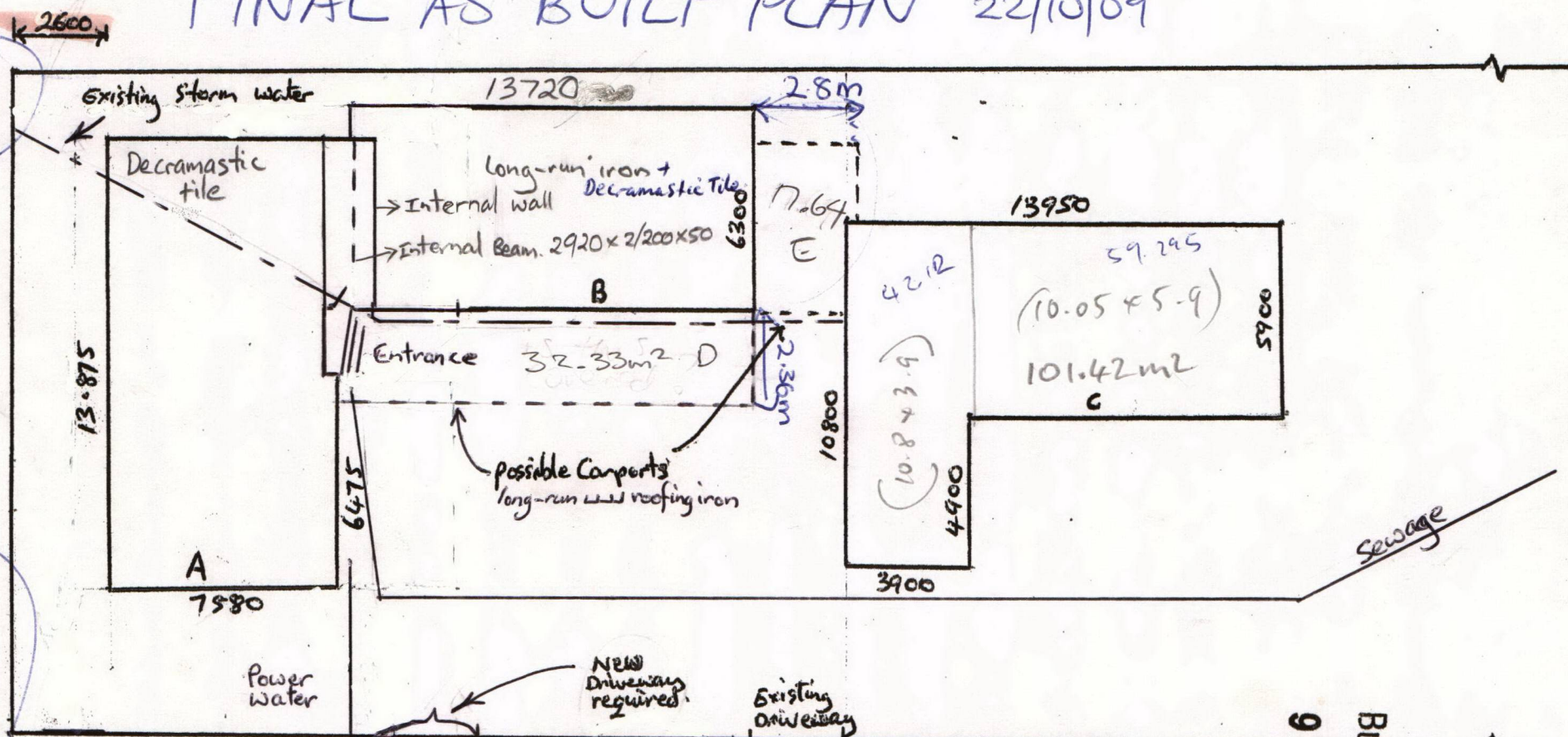
much of the shedding look of it. another lovely family

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

4 JUL 2008

Calculation of Total area covered by Buildings (New)

FINAL AS BUILT PLAN 22/10/09



Total area² of section = 1012 m²

Area A = 105.1725 m²

Area B = 86.436 m²

Area C = 101.42 m²

Total A, B + C = 293.03 m²

Section e 1012 m² x 35% = 354.2 m²

plus entrance carport = 32.33 m² (D)

plus carport = 17.64 m² (E)

A = 13.875 x 7.580 = 105.1725

105.1725 m²

B = 13.720 x 6.300 = 86.436 m²

C = 10.800 x 3.900 = 42.12

+ 5.900 x 10.05 = 59.295

101.42 m²

TOTAL Site coverage = 343 m² (under 35%)

Building File No: 14260

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

Building Consent No: 9517

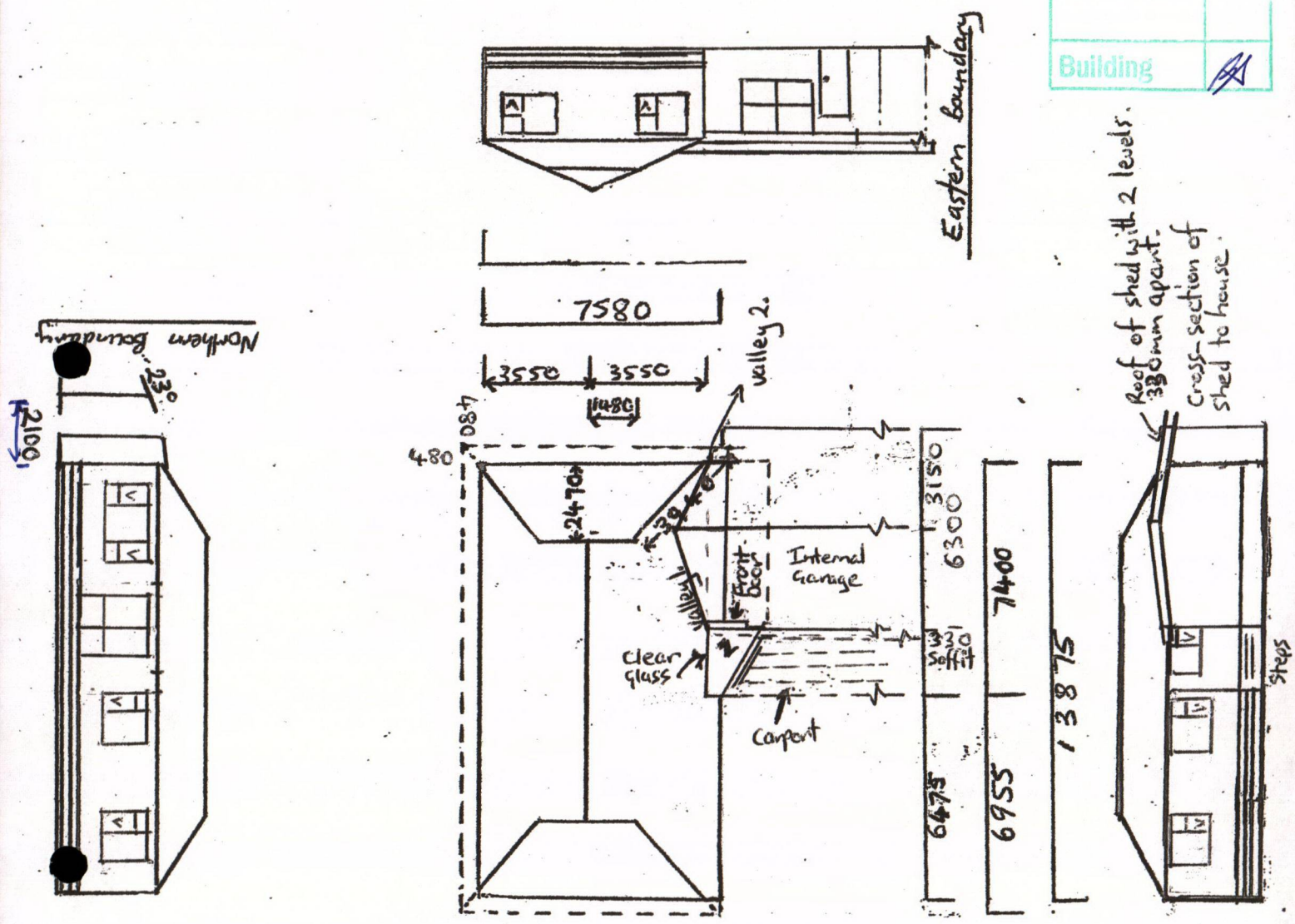
AMEND	DATE	BY
1	24 JUL 2009	Building
2		
3		
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10		

CSA

Profiles of House (RR+SS AKROYD) (NEW)

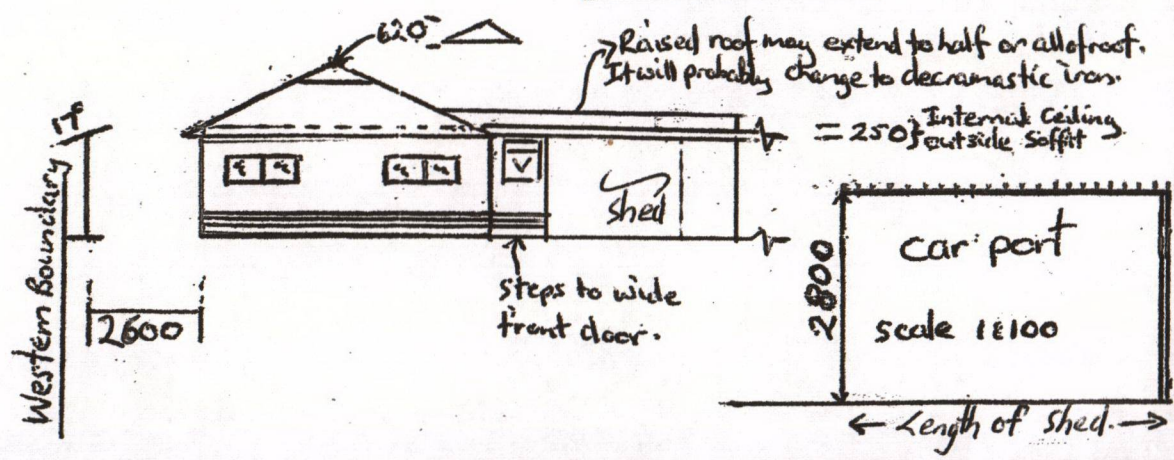
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AMENDED DOCUMENT	
Planning	
Building	<input checked="" type="checkbox"/>



GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

Southern Boundary



(RR+SJ AKROYD)
(old)

Building File No:

14260

No

Building Consent No:

9517

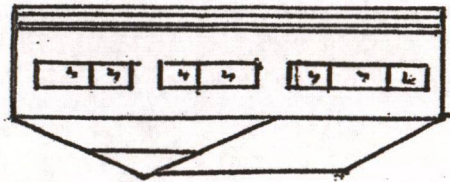
AMENDED
DOCUMENT

Planning

Building

BS

Eastern Boundary

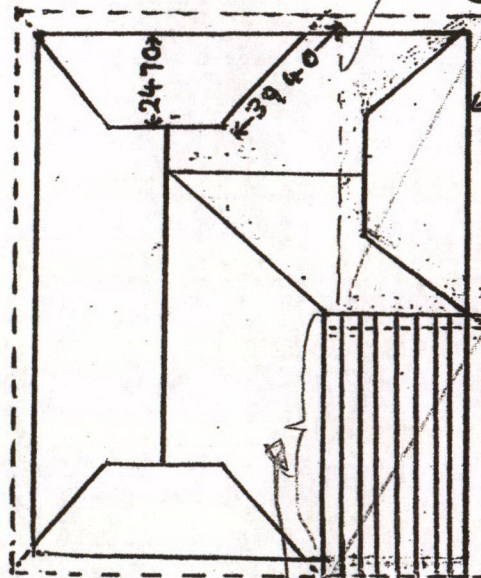


11180

7580

3550 3550
1480

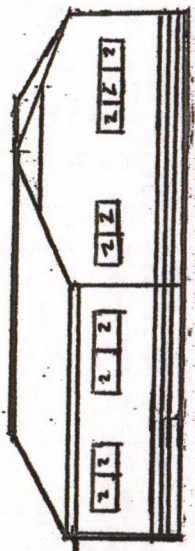
original soffit here only *
for this side



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13875



GISBORNE DISTRICT COUNCIL

20 OCT 2009

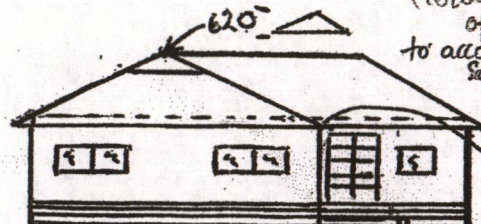
BUILDING CONSENTS

Southern Boundary

Roof pitch R. Tapers 19.20°

no soffit/room built at
spacing closest to building

Internal wall
has this mit
(lowered corner
of room)
to accommodate
soffit.



steps to wide
front door.

Roof line

= 25c Internal ceiling
outside soffit

2800

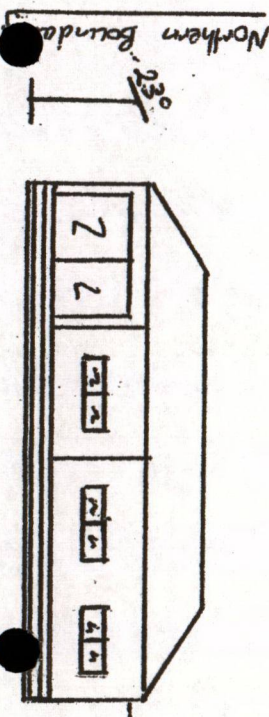
car port
scale 1:100

Western Boundary

3000

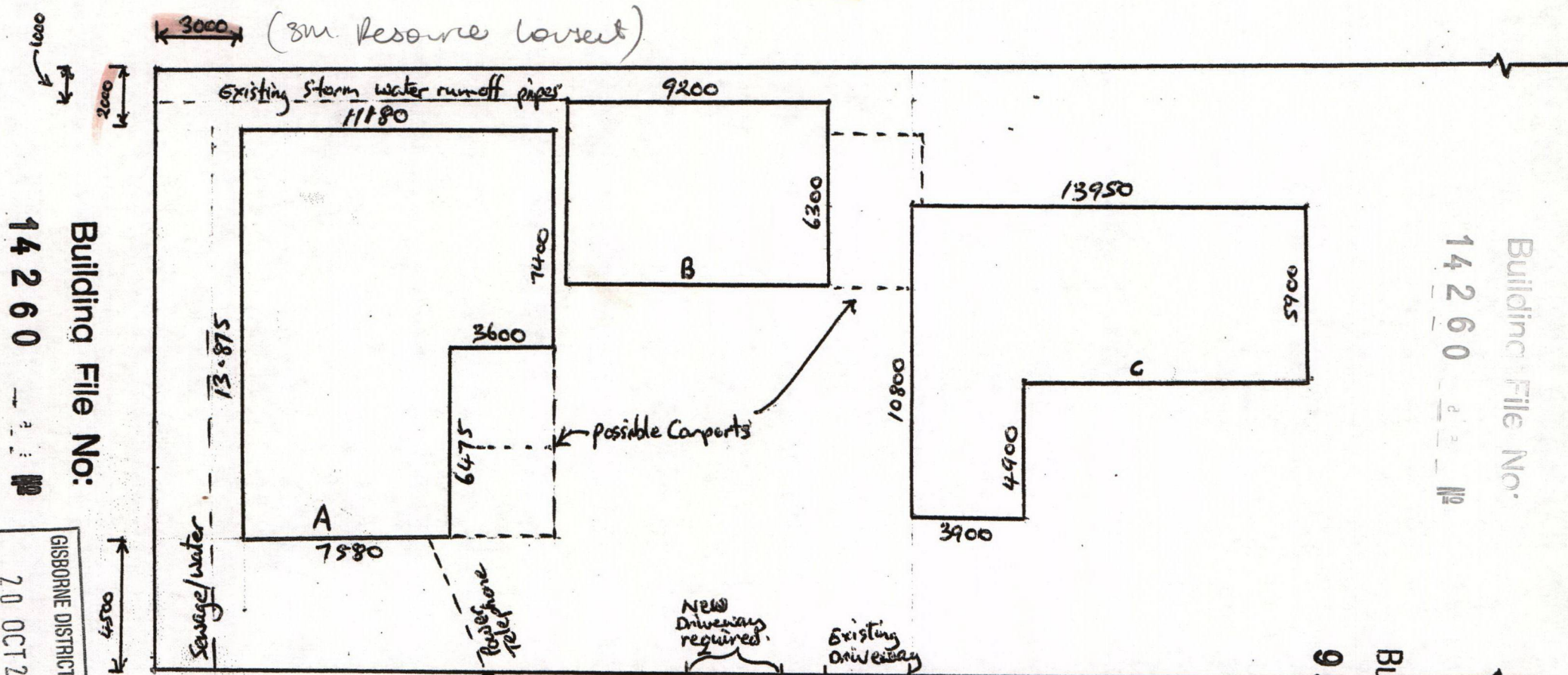
?

2100



Northern Boundary

Calculation of Total area covered by Buildings (old)



$$\begin{aligned} \text{Total area}^2 \text{ of section} &= 1012 \text{ m}^2 \\ \text{Area A} &= 131.8125 \text{ m}^2 \\ \text{Area B} &= 57.96 \text{ m}^2 \\ \text{Area C} &= 124.425 \text{ m}^2 \\ \text{Total A, B+C} &= 314.1975 \text{ m}^2 \\ \text{Section @ } 1012 \text{ m}^2 \times 35\% &= 354.2 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} A &= 13.875 \times 7580 = 105.1725 \\ &+ 3.600 \times 7.400 = 26.64 \\ &\quad \underline{131.8125 \text{ m}^2} \\ B &= 9.200 \times 6.300 = 57.96 \text{ m}^2 \\ C &= 10.800 \times 3.900 = 42.12 \\ &+ 5.900 \times 13.450 = 82.305 \\ &\quad \underline{124.425} \end{aligned}$$

Building File No:
14260

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20 OCT 2009
BUILDING CONSENTS

AMENDED DOCUMENT
Building
14 OCT 2009
A

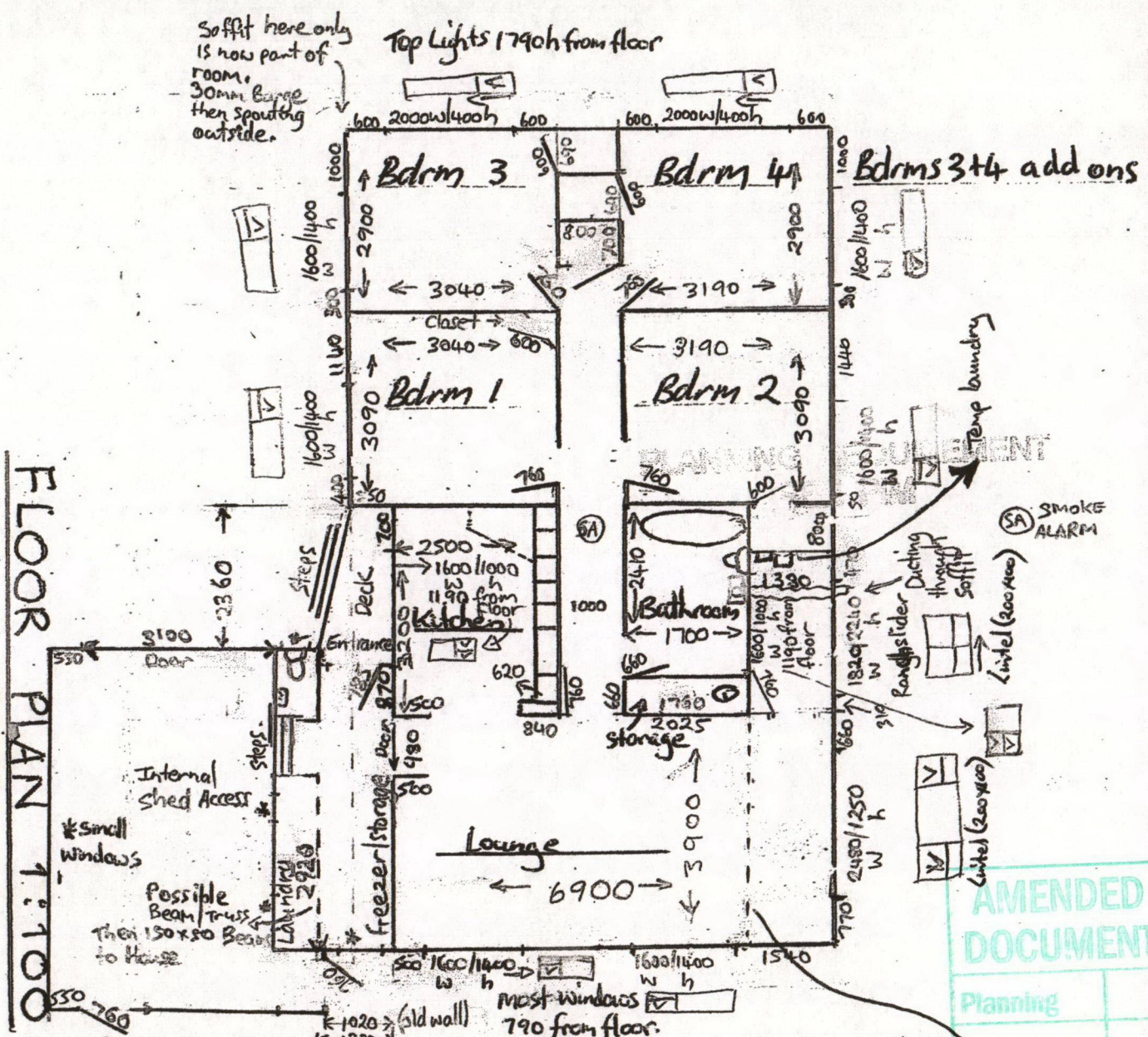
Building File No:
14260

Building Consent No:
9517

Building Consent No:
9517

FLOOR PLAN 1:100

(NECS)



Notes: ▷ Roof Extensions over Bdrms 3+4 to be consistent with existing trusses, structure + roofing (see attached).

▷ Walls surrounding Bdrms 3+4 to be consistent with internal framing. Use of steel angle bracing.

▷ Windows to be similar in appearance

▷ The outside deck to be enclosed into the lounge part of the house. A 200 x 100 Beam to support missing wall - hung to Trusses.

▷ Internal Garaging to house. New wall 1900 from house.

Beam Beam 1220 (@ 2920) from house. 150 x 50 @ 450t hangers from

Beam to house to support ceiling and roof joists.

Lintels ▷ All Door lintels to be 100 x 100 cm

All Window lintels to be 150 x 100 cm, except for small toilet windows @ 800 wide / 1000 high (100 x 100)

Batts ▷ Use 306 Pink Batts in Ceiling and Walls.

Outer Walls ▷ Building wrap - Top to Bottom.

Roof ▷ Trusses / Netting / Building roof paper / Iron decorative tile

Spouting ▷ As is on house P.V.C. white catchment to NW. Corner - Storm-water drain.

Gut ▷ 10mm - wet line near water areas (Standard) - Braceline in a very few areas but as is needed.

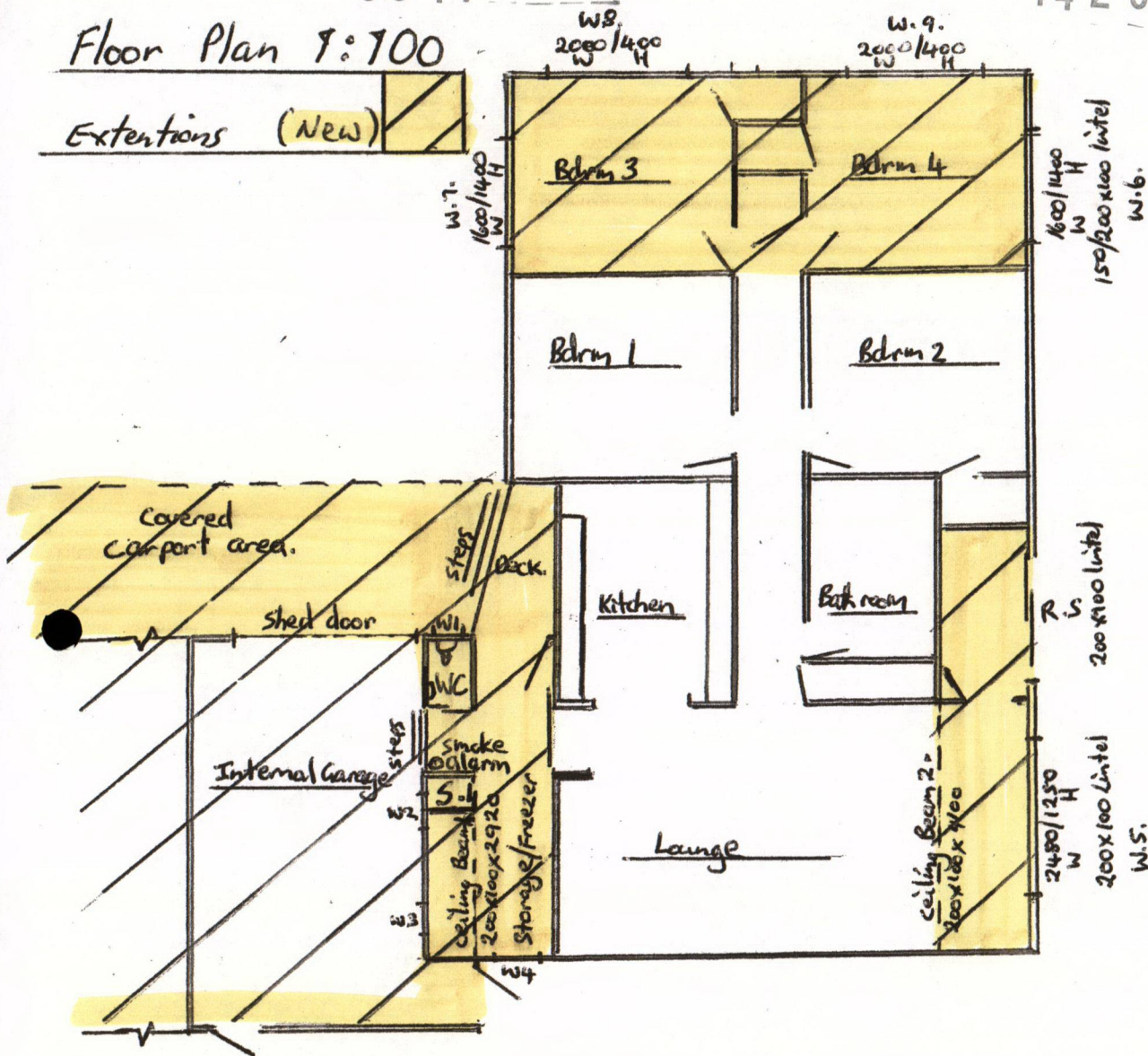
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9517

14260

Floor Plan 1:100

Extensions (New)



- Notes:
- ▷ Step down into internal garage. Existing garage + concrete floor. to be lined. Probable 100mm of concrete overlay to floor to bring level up.
 - ▷ Covered carport area to front for effect and all year around parking
 - ▷ Ceiling Beam 1. to support garage roof and ceiling joists.
 - ▷ Front entrance and storage area with W.C. as new additions.
 - ▷ Ceiling Beam 2. to support roof in extension - hang to internal rafters. New extension uses old verandah.
 - ▷ Ranch slider moved to exit of house (R.S.), 200x100x1920 lintel.
 - ▷ Window put into extension (W.5), 200x100x2580 lintel.
 - ▷ Windows W.1. - W.4. (1600h x 800w), 100x100x1000 lintels.
 - ▷ Windows W.6. - W.7. (1600w x 1400h). At least 2/150x50's lintels. Probably 2/200x50's lintels.
 - ▷ Windows W.8. - W.9. (2000w x 400h). At least 2/150x50's lintels. Probably 2/200x50's lintels.
 - ▷ Shower - Window vent/Auto expellair
Wetline/Acetone white

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BUILDING CONSENTS

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DOCUMENT

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Building

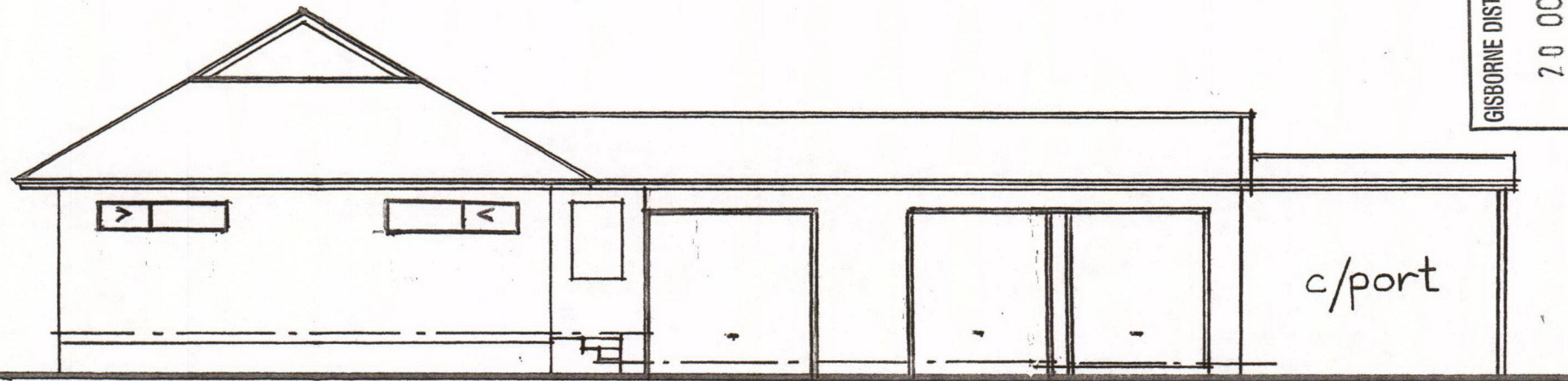
RS

Building Consent No:

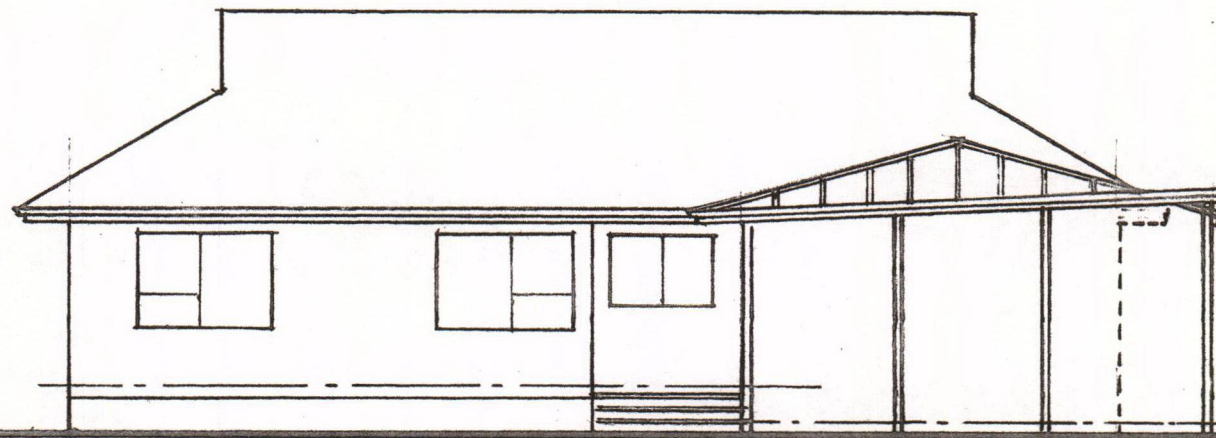
9517

Building File No:

14260



FRONT ELEVATION 1:100 (NEW)



SIDE ELEVATION

GISBORNE DISTRICT COUNCIL

20 OCT 2009

BUILDING CONSENTS

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	Planning				Building

Drawings do not include front carport - full length of shed.

Figure 36: Eaves and barge for metal tile
Paragraph 8.3.8

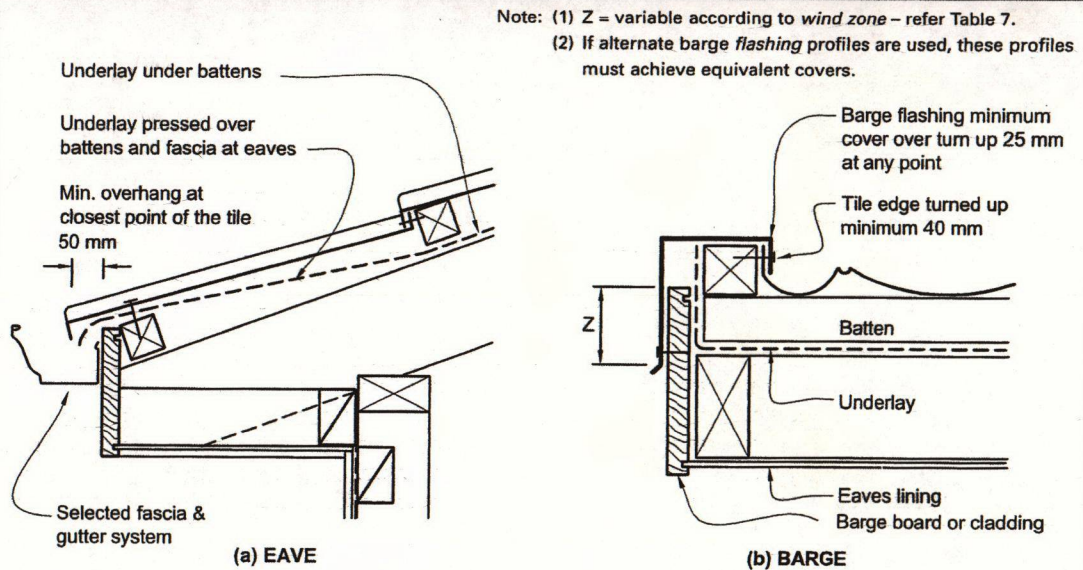
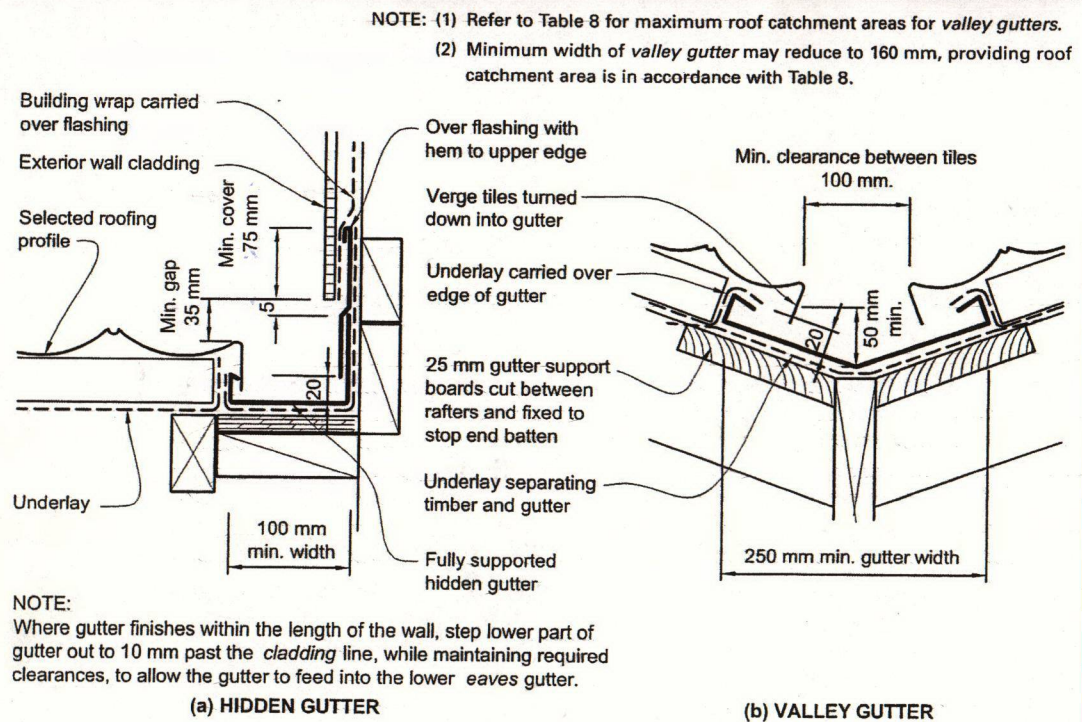


Figure 37: Hidden and valley gutter flashings for metal tile
Paragraphs 8.3.1 b) and 8.3.8



PRODUCER STATEMENT

AS BUILT

TRUSS DESIGN CRITERIA

Customer name : REG AKROYD

Building Consent No

9517

Site address :

Building File No

14260

DESIGN CRITERIA

Roofing - Longrun
Ceiling - Gib Board (10mm)
Top chord purlins - 900 mm
Bottom chord restraints - 600 mm
Standard truss spacing - 900 mm
Standard roof pitch - 19.30 deg

Design wind speed - 37 m/s (ultimate)
Internal pressure coefficient up - 0.2

The truss designs for this job have been determined using computer software provided by the Technical Division within Pryda Truss Systems. These designs are in accordance with sound and widely accepted engineering principles and comply with the following New Zealand Standards:-

AS/NZS1170.1:2002 Loading Code Part 1: Dead and live loads and
AS/NZS1170.2:2002 Loading Code Part 2: Wind loads
NZ3603 : 1993 Timber Design
AS1649 : 1974 Determination of Basic Working Loads for
Metal Fasteners for Timber

All trusses shall be manufactured in accordance with the fabrication specifications provided by Pryda, and installed, connected and braced in accordance with the recommendations given in - :

AS4440:2004 "Installation of nailplated timber roof trusses"
and any other supplementary details that may be provided.

Name

D McConachie

Position:

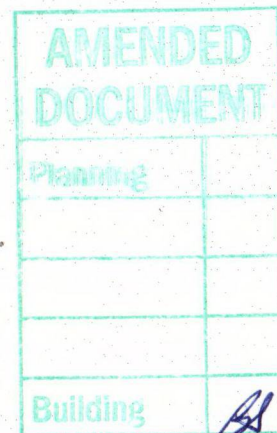
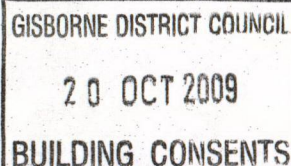
Detailer

Signed :

D McConachie

Date

30 APRIL 09



TRUSS REACTIONS REPORT

Job Ref: 1092

Client Details
REG AKROYD

Site Address

O/N : Date Reqd:

Truss Mark	Support at Joint	(1.35G) (kN)	Max.Reaction (1.2G+1.5Q2) (kN)	Uplift (0.9G+WuUp1) (kN)	Uplift fixing	Special bearing requirement
S1	1	1.2	2.6	-2.6	2/Z NAILS	
S1	5	1.2	2.6	-2.6	2/Z NAILS	
S2	1	1.0	2.4	-2.7	2/Z NAILS	
S2	5	1.0	2.4	-2.7	2/Z NAILS	

Note 1 :

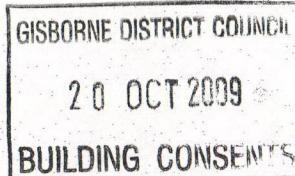
All supports for bearing have been checked for 90mm JD4 and are satisfactory unless the bearing width and/or joint group have been changed, or there is a reference to Note 2.

Fixing Summary :

All trusses not listed require a minimum of 2 Skew Nails
Z NAILS / 12 : Each side of truss

Legend :

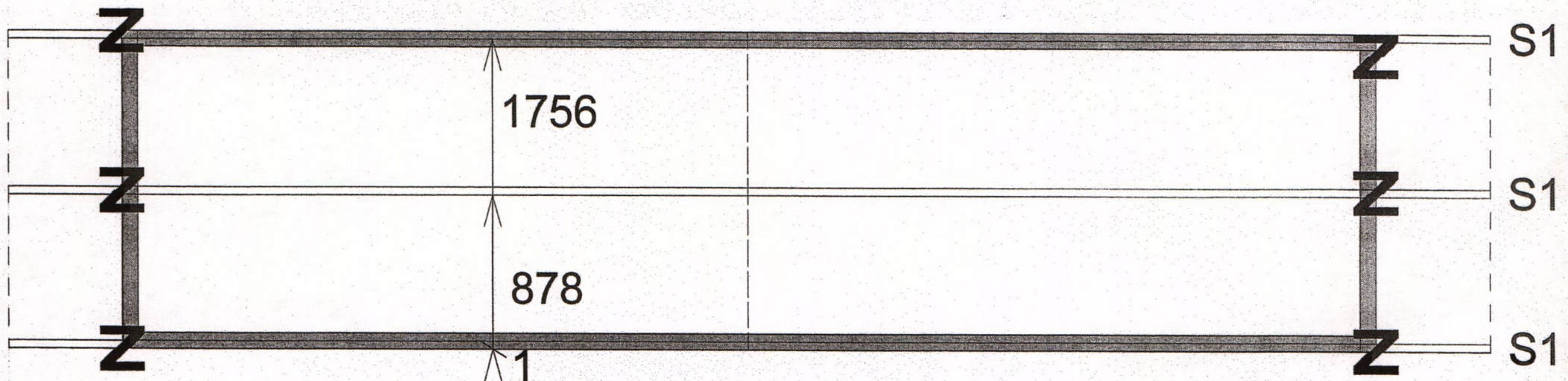
2/Z NAILS Double Z-nails



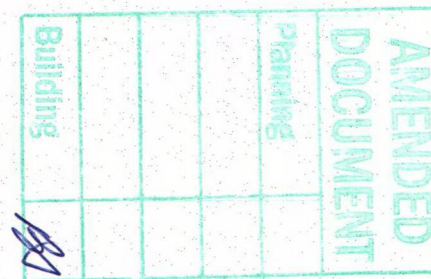
AMENDED DOCUMENT	
Planning	
Building	<i>AS</i>

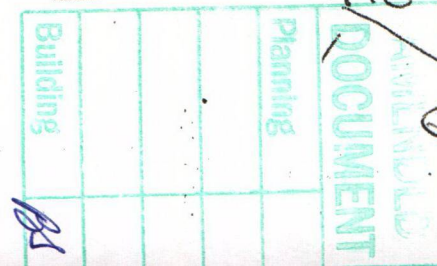
DO NOT NAIL HOME TRUSSES UNTIL ALL TRUSSES ARE IN POSITION.
TUMU BUILDING CENTRE TAKE NO RESPONSIBILITY FOR ANY
REMEDIAL ACTIONS TAKEN WITHOUT THEIR CONSENT.

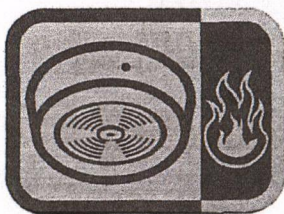
Z = 2 x Z NAILS



TRUSSES TO BE FIXED AND BRACED AS PER THE
PRYDA ROOF TRUSS INSTALLATION GUIDE,
pp 46 - 56 OF THE PRYDA BUILDERS GUIDE 08/09







BE AWARE!!!

DOMESTIC SMOKE ALARMS

The following amendments to the building regulations came into force on 24th April 2003;

Performance

F7.3.1 - A means of detection and warning must alert people to the emergency in *adequate* time for them to reach a *safe place*.

F7.3.2 - Appropriate means of detection and warning for fire must be provided within each *household unit*.

F7.3.3 - Appropriate means of warning for fire and other emergencies must be provided in *buildings* as necessary to satisfy the other performance requirements of this code.

Approved Document F7 Warning Systems

The above amendments to the Building Act and Building Code enable the Approved Document F7 to require the installation of an automatic smoke detection and alarm system where one is not already required by Table 4.1 of C/AS1. Further it is to obviate the requirement for a compliance schedule where domestic smoke alarms are required under Approved Document F7.

Smoke alarms may be battery powered and are not required to be interconnected. In addition they shall be provided with a hush facility having minimum duration of 60 seconds.

Smoke alarms shall have a test facility located on the smoke alarm (readily accessible to building occupants).

Smoke alarms shall be listed or approved by a recognized authority as complying with at least one of UL 217, ULC S531, AS 3786, BS 5446 part 1.

IN SUMMARY

Smoke alarms shall be located on the escape routes on all levels within the household unit. On levels containing the sleeping spaces, the smoke alarms shall be located either;

- a) In every sleeping space, OR
- b) Within 3 metres of every sleeping space door. In this case the smoke alarms must be audible to sleeping occupants on the other side of closed doors.

ALL new dwellings and any internal alterations/additions to existing dwellings will be affected by these new requirements. This will also include minor works such as new fires, wet area showers, ensuites, etc which will all trigger the requirement for smoke alarms throughout the entire household unit as described above.

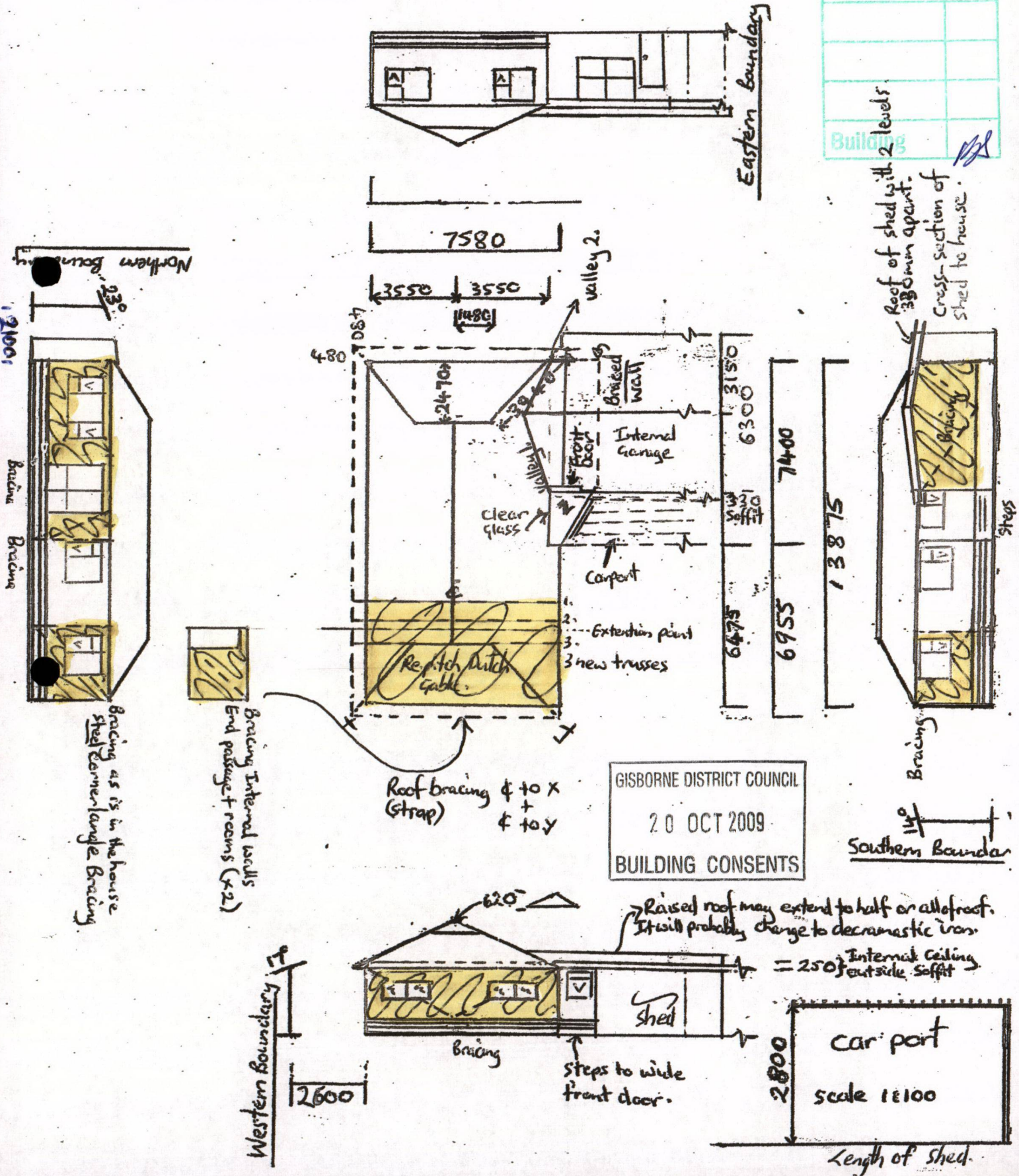
Bracing / Trusses.

(RR+SJ AKROYD)

(NEW/EXTENTIONS)

Scale 1:200

APPROVED DOCUMENT	
Planning	
Building	

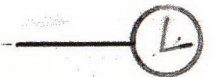
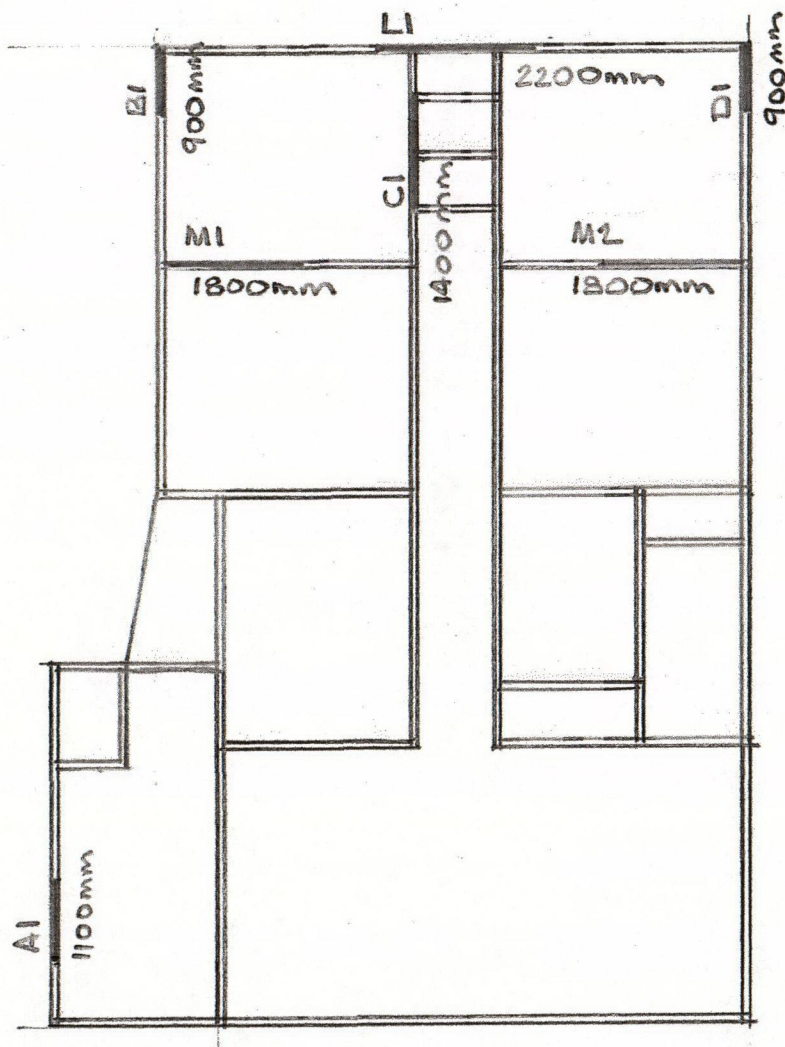


Building Consent No:

95 17 - - - - -

Building File No:

14 2 6 0 - - - - -



BRACING PLAN 1:100
(ADDITIONAL BU'S SHOWN)

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

AMENDED DOCUMENT	
Planning	
Building	AS

RtS Akroyd, 26 Endcliffe Rd. 0272 82 83 81

GIB® Wall Bracing Calculation Sheet A single storey V85A

GIB® EzyBrace™
GIB® Bracing Systems, 2006

Job Details

Name	Mr R Akroyd
Street and Number	21 Endcliffe Road
Lot and DP Number	
City/Town/District	Gisborne
Designer and date	R Akroyd 4-Oct-09
Company Name	Gnd Floor Plan (Proposed)

Building Specification

Location of Storey	single	▼	not applicable (single storey building)
Floor Loading	2 kPa	▼	
Foundation Type	subfloor	▼	
Building Height to Apex (m)	6	▼	
Roof Height above Eaves (m)	3	▼	
Stud Height (m)	2.4	▼	
Cladding Weight (top or single)	light	▼	
Cladding Weight (lower)	light	▼	
Cladding Weight (subfloor)	light	▼	
Roof Weight	light	▼	
Roof Pitch (degrees)	0-25	▼	
Room in Roof Space	no	▼	
Building Length (m)	13.2		
Building Width (m)	7.2		
Gross Building Plan Area (m2)	117.78		

Building Location

Wind Zone	High		Earthquake Zone	
Region	R1	▼	A	▼
Terrain	Inland	▼		
Exposure	Exposed	▼		
Topography	Moderate	▼		

Bracing Units required for Wind

per m	subfloor	walls
W along	114	78 BUs/m
W across	116	78 BUs/m
Totals	subfloor	walls
W along	821	562 BUs
W across	1531	1030 BUs

Bracing Units required for Earthquake

per m2	subfloor	walls
E	9.4	6.7 BUs/m2
Totals	subfloor	walls
E along	1107	789 BUs
E across	1107	789 BUs

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BRACING UNITS REQD. EQ.

SUBFLOOR ACROSS - $1107 - 690 = 417$
 ALONG - $1107 - 690 = 417$
 WALLS ACROSS - $789 - 492 = 288$
 ALONG - $789 - 492 = 288$

WIND

SUBFLOOR ACROSS - $1531 - 1183 = 348$
 ALONG - $821 - 821 = 0$
 WALLS ACROSS - $1030 - 796 = 234$
 ALONG - $562 - 562 = 0$

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

AMENDED DOCUMENT	
Planning	
Building	AA

GIB® Wall Bracing Calculation Sheet A**single storey**

V85A

GIB® EzyBrace™

GIB® Bracing Systems, 2006

Job Details

Name	Mr R Akroyd
Street and Number	21 Endcliffe Road
Lot and DP Number	
City/Town/District	Gisborne
Designer and date	R Akroyd 4-Oct-09
Company Name	Gnd Floor Plan (Existing)

Building Specification

Location of Storey	single	▼	not applicable (single storey building)
Floor Loading	2 kPa	▼	
Foundation Type	subfloor	▼	
Building Height to Apex (m)	6	▼	
Roof Height above Eaves (m)	3	▼	
Stud Height (m)	2.4	▼	
Cladding Weight (top or single)	light	▼	
Cladding Weight (lower)	light	▼	
Cladding Weight (subfloor)	light	▼	
Roof Weight	light	▼	
Roof Pitch (degrees)	0-25	▼	
Room in Roof Space	no	▼	
Building Length (m)	10.2		
Building Width (m)	7.2		
Gross Building Plan Area (m2)	73.44		

Building Location

Wind Zone	High	Earthquake Zone
Region	R1 ▼	A ▼
Terrain	Inland ▼	
Exposure	Exposed ▼	
Topography	Moderate ▼	

Bracing Units required for Wind

per m	subfloor	walls
W along	114	78 BUs/m
W across	116	78 BUs/m
Totals	subfloor	walls
W along	821	562 BUs
W across	1183	796 BUs

Bracing Units required for Earthquake

per m2	subfloor	walls
E	9.4	6.7 BUs/m2
Totals	subfloor	walls
E along	690	492 BUs
E across	690	492 BUs

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GISBORNE DISTRICT COUNCIL

20 OCT 2009

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Building

Building File No:

14 2 6 0

Building Consent No:

95 17

GIB® Subfloor Bracing Calculation Sheet B

single storey

V85A

GIB® EzyBrace™

Along		Bracing Elements provided				Wind	Earthq.
Bracing Line						8W	9EQ
1	2	3	4	5	6		
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved
a	line totals	a1	NZS3604	anchor pile	2	320	240
W	320	2					
EQ	240	3					
b	line totals	b1	NZS3604	anchor pile	1	160	120
W	160						
EQ	120	3					
c	line totals	c1	NZS3604	cantilever pile	2	140	60
W	140	2					
EQ	60	3					
d	line totals	1	NZS3604	anchor pile	1	160	120
W	160	2					
EQ	120	3					
e	line totals	1					
W		2					
EQ		3					
f	line totals	1					
W		2					
EQ		3					
g	line totals	1					
W		2					
EQ		3					
h	line totals	1					
W		2					
EQ		3					
i	line totals	1					
W		2					
EQ		3					
j	line totals	1					
W		2					
EQ		3					

Totals Achieved					Wind	Earthq.
					780	540

✓ OK
✓ OK

Totals Required (from Sheet A)					not enough	not enough
					-821	1107

ADDITIONAL
UNITS REQD.

0

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Planning

Building

GISBORNE DISTRICT COUNCIL

20 OCT 2009

BUILDING CONSENTS

BA

Building Consent No:

95 17

Building File No:

14 2 60

GIB® EzyBrace™

Across							
Bracing Line		Bracing Elements provided				Wind	Earthq.
1	2	3	4	5	6	8W	9EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved
m	line totals	m1	NZS3604	anchor pile	2	320	240
W	640	2	NZS3604	braced piles	2	320	240
EQ	480	3					
n	line totals	n1	NZS3604	cantilever pile	1	70	30
W	70	2					
EQ	30	3					
o	line totals	1					
W		2					
EQ		3					
p	line totals	1					
W		2					
EQ		3					
q	line totals	1					
W		2					
EQ		3					
r	line totals	1					
W		2					
EQ		3					
s	line totals	1					
W		2					
EQ		3					
t	line totals	1					
W		2					
EQ		3					
u	line totals	1					
W		2					
EQ		3					
v	line totals	1					
W		2					
EQ		3					
Totals Achieved						710	510
Totals Required (from Sheet A)						1531	1107

Wind Earthq.

710 510

not enough not enough

1531 1107

✓ OK
✓ OK

ADDITIONAL
UNITS READ

348 417
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Planning

Building

GISBORNE DISTRICT COUNCIL

20 OCT 2009

BUILDING CONSENTS

OK

GIB® Wall Bracing Calculation Sheet B single storey V85A

GIB® EzyBrace™ GIB® Bracing Systems, 2006

Along		Bracing Elements provided						Wind	Earthq.
Wall or Bracing Line								9W	10EQ
1	2	3	4	5	7	8	6		
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Element Length L (m)	Element Height H (m)	Angle to Bracing line (degrees)	BUs Achieved	BUs Achieved
A		A1	GIB®	BL1	1.1	2.4		138	127
		2							
line totals		3							
W	138	4							
EQ	127	5							
B		B1	GIB®	BL1	0.9	2.4		113	104
		2							
line totals		3							
W	113	4							
EQ	104	5							
C		C1	GIB®	GS2	1.4	2.4		98	84
		2							
line totals		3							
W	98	4							
EQ	84	5							
D		D1	GIB®	BL1	0.9	2.4		113	104
		2							
line totals		3							
W	113	4							
EQ	104	5							
E		1							
		2							
line totals		3							
W		4							
EQ		5							
F		1							
		2							
line totals		3							
W		4							
EQ		5							
G		1							
		2							
line totals		3							
W		4							
EQ		5							
H		1							
		2							
line totals		3							
W		4							
EQ		5							

Totals Achieved								Wind	Earthq.
								461	418

Totals Required (from Sheet A)								562	788
--------------------------------	--	--	--	--	--	--	--	-----	-----

AMENDED
DOCUMENT

Planning

Building

ADDITIONAL 0 288
UNITS REQD.

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

✓ OK
✓ OK

Building File No:

14 2 6 0 12

Building Consent No:

95 1 7

GIB® Wall Bracing Calculation Sheet B single storey V85A

GIB® EzyBrace™

GIB® Bracing Systems, 2006

Across									
Wall or Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	5	7	8	6	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Element Length L (m)	Element Height H (m)	Angle to Bracing line (degrees)	BUs Achieved	BUs Achieved
L		L1	GIB®	GS1a	2.2	2.4		143	121
		2							
line totals		3							
W	143	4							
EQ	121	5							
M		M1	GIB®	GS1a	1.8	2.4		117	99
		M2	GIB®	GS1a	1.8	2.4		117	99
line totals		3							
W	234	4							
EQ	198	5							
N		1							
		2							
line totals		3							
W		4							
EQ		5							
O		1							
		2							
line totals		3							
W		4							
EQ		5							
P		1							
		2							
line totals		3							
W		4							
EQ		5							
Q		1							
		2							
line totals		3							
W		4							
EQ		5							
R		1							
		2							
line totals		3							
W		4							
EQ		5							
S		1							
		2							
line totals		3							
W		4							
EQ		5							

								Wind	Earthq.
Totals Achieved								377	319
Totals Required (from Sheet A)								1030	788



ADDITIONAL 234 288
UNITS READ.

GISBORNE DISTRICT COUNCIL
20 OCT 2009
BUILDING CONSENTS

✓ OK
✓ OK

GIB® Bracing Systems, 2006

*For full construction details see literature
GIB® Bracing Systems, 2006*

Supplier	System	Minimum Length (m)	BUs W/m	BUs EQ/m
	none			
GIB®	GS1a	1.8	65	55
		2.4	75	65
GIB®	GS2	1.2	70	60
		1.8	80	70
		2.4	90	80
GIB®	BL1	0.4	120	115
		0.6	125	115
GIB®	BL1a	1.8	130	115
GIB®	BLP	0.6	145	135
		0.9	145	145
GIB®	BLG	0.6	145	130
		1.2	150	130
Custom	Custom	1	42	42
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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GISBORNE DISTRICT COUNCIL
70 OCT 2009
BUILDING CONSENTS

8.4 Profiled Metal

8.4.1 Limitations

This Acceptable Solution is limited to the following types of profiled metal roof *cladding*:

- a) Profiled as outlined in Paragraph 8.4.4,
- b) Without *valley gutters* that change direction in plan form,
- c) Not curved, and

COMMENT:

If curved profiled metal sheet is used, the radius of the curve may affect *durability*. *Specific weather-tightness design* is required, and manufacturers and the New Zealand Metal Roof and Wall Cladding Code of Practice should be consulted for recommendations.

- d) With sheets no more than 18 metres long.

8.4.2 General

Installation of profiled metal roof *cladding* shall be by trained installers, approved by the manufacturer or the NZ agent (in the case of imported *cladding*). In some cases, an exception to this requirement may be made for experienced builders if the:

- a) *Building* has a maximum floor plan area of 50 m²,
- b) Roof is simple gable, hip or lean-to design,
- c) Roof sheeting is either standard corrugated or low-ribbed *trapezoidal* profile, and
- d) Roof pitch is 15° minimum.

COMMENT:

It is recommended an installer has successfully completed, or demonstrated skill to the level of, an NZQA recognised course. The Roofing Industry Training Organisation offers such a qualification.

8.4.3 Materials

8.4.3.1 Choice of metal

Metal roof *cladding* shall be selected according to the exposure conditions as defined in:

- a) NZS 3604 Clause 4.2, and
- b) AS/NZS 2728.

The metal *cladding*, *flashings* and fixings shall be selected from Table 20 according to the *durability* required for the specific application.

COMMENT:

The exposure zone in which a *building* is located can affect the *durability* of metal roof *cladding*.

AS/NZS 2728 lists atmospheric classes derived from ISO 9223 for Australia and New Zealand. Exposure zones are defined in Clause 4.2 of NZS 3604, based on the likely exposure to wind-driven sea-salt or geothermal gases.

8.4.3.2 Steel

Materials for the manufacture of profiled galvanized steel roofing shall:

- a) Have *base metal thickness (BMT)* of 0.55 mm minimum,
- b) Be grade G550 with an applied protective metallic coating,
- c) Have a minimum protective metal coating of:
 - i) Aluminium-zinc AZ150 to AS 1397, or
 - ii) Zinc Z450 to AS 1397, or
 - iii) Zinc ZM275 for pre-painted roofing, and
- d) Where required for additional *durability*, a factory-applied finish complying with the *durability* requirements of AS/NZS 2728, Table 2.4.

COMMENT:

While galvanized metal roofing may be left unpainted in some environments, this may shorten its life, especially in areas where it is not washed naturally by the rain.

8.4.3.3 Aluminium

Aluminium for the manufacture of profiled aluminium roofing shall comply with AS/NZS 1734, and be a minimum:

- a) *Base metal thickness (BMT)* of 0.9 mm,
- b) Grade G5000 series, and
- c) Hardness H34.

For pre-painted aluminium, a factory-applied finish complying with *durability* requirements of AS/NZS 2728 shall be applied.

COMMENT:

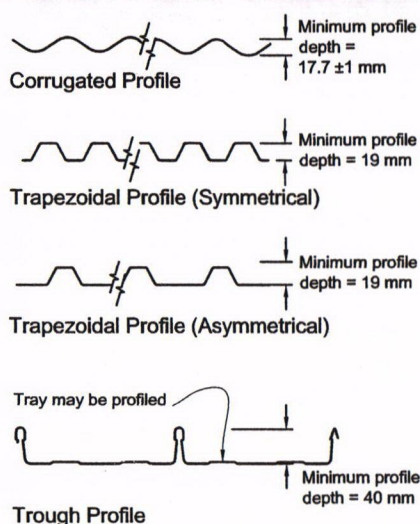
A deterioration in the appearance of the coating of the metal does not necessarily relate to a deterioration in the *weathertightness* of the roof *cladding*.

8.4.4 Profiles

Profiles covered in this Acceptable Solution are shown in Figure 38, and consist of:

- Corrugated** – curved with a crest height of 17.7 ± 1 mm,
- Trapezoidal** – symmetrical or asymmetrical, with a minimum crest height of 19 mm, and
- Trough profile** – with vertical ribs at a minimum height of 40 mm, and flat, or lightly profiled, pans between the ribs.

Figure 38: Profiled metal profiles
Paragraphs 8.4.4, 9.6.1 and 9.6.5, Table 3



8.4.5 Roof pitch

For roofs up to 10 metres, pitches shall be:

- Corrugated – not less than 10° (1:6), or 8° (1:7) if no end laps are present.
- Trapezoidal – not less than:
 - 4° (1:14) where the crest height is less than 27 mm, or
 - 3° (1:20) where the crest height is 27 mm or higher.

- Trough profile – not less than 3° (1:20).

For roofs over 10 metres, minimum pitches shall be increased by an additional 2° .

COMMENT:

Where manufacturers have more stringent requirements, these should be followed to optimise performance and to avoid invalidating guarantees.

8.4.6 Structure

The maximum spacing of *purlins* to comply with this Acceptable Solution is given in Table 11, Table 12 or Table 13.

COMMENT:

Purlin spacing will depend on the wind load, pitch and spanning capacity of the metal roofing. The spacing for the *purlin* closest to the edge of the roof is to be reduced over those in the centre of the roof to account for localised wind effects.

Additional support will be required around roof-mounted services such as air-conditioning in order to avoid roof distortion.

Table 11: Maximum spans – corrugated
Paragraph 8.4.6

Metal	BMT	Purlin spacing (unlimited access Type A roofs)	
		End mm	Internal mm
Steel	0.55 mm	700	1000
Aluminium	0.90 mm	500	800

Table 12: Maximum spans – trapezoidal
Paragraph 8.4.6

Metal	BMT	Purlin spacing (unlimited access Type A roofs)	
		End mm	Internal mm
Steel	0.55 mm	1000	1500
Aluminium	0.90 mm	800	1200

Table 13: Maximum spans – trough profile
Paragraph 8.4.6

Metal	BMT	Purlin spacing (unlimited access Type A roofs)	
		End mm	Internal mm
Steel	0.55 mm	700	1200
Aluminium	0.90 mm	600	900

8.4.7 Underlay

All profiled metal long-run roofing shall have a *roof underlay* installed.

Only bitumen-impregnated or fire-retardant paper-based *roof underlays* complying with Table 23 shall be used under metal roofing. See Paragraph 8.1.5 for installation details.

8.4.8 Fixings: corrugated and trapezoidal

Fixings for corrugated and *trapezoidal* profiles shall be either:

- A 3.8 mm minimum diameter spiral shank nail hot-dipped galvanized to AS/NZS 4680, or
- A minimum 12-gauge screw, as shown in Figure 39, which complies with Class 4 of AS 3566: Part 2.

8.4.8.1 Fixing requirements

Fixing patterns shall be as shown in Table 14 and Table 15, and fixings shall:

- Be fixed through crests,
- Penetrate *purlins* by a minimum of 35 mm,
- Include sealing washers of:
 - neoprene (having a carbon black content of 15% or less), or
 - EPDM, and
 - if sliding washers, shall be coated with PTFE.

COMMENT:

For additional guidance, refer to Figure 10.16 in NZS 3604 and to the New Zealand Metal Roof and Wall Cladding Code of Practice, Drawing 7.9A.

These spacing requirements for fixings are conservative, and a specific design may produce a more optimum spacing.

Figure 39: Corrugated fixings and sheet lap
Paragraph 8.4.8 b) and 9.6.6 e)

NOTE: Refer to Table 16 for expansion provisions.

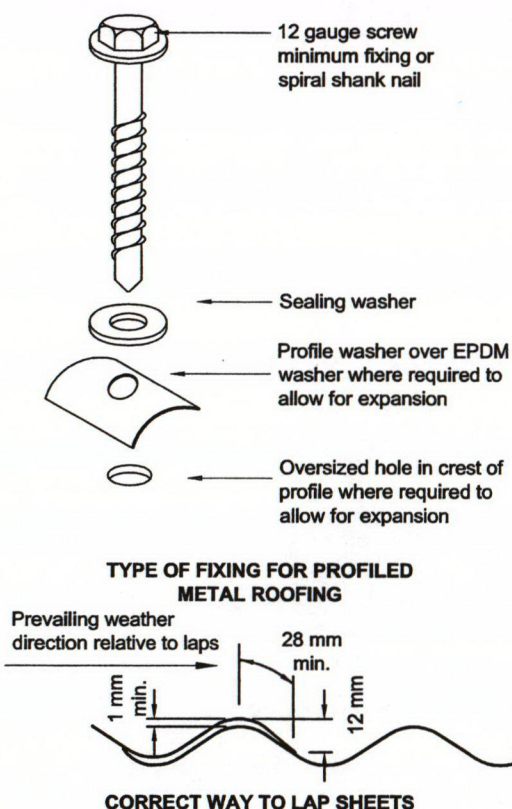


Table 14: Corrugated spacing of fixings
Paragraph 8.4.8.1

Profile	Ridge, hip, valley and gutter line. Periphery roof areas (refer Comment)	Remainder of roof
0.4 mm corrugate	Fix side laps and fix every second corrugation	Fix side laps, miss 2, hit 1, miss 2...

Table 15: Trapezoidal spacing of fixings
Paragraph 8.4.8.1

Profile	Ridge, hip, valley and gutter line. Periphery roof areas (refer Comment)	Remainder of roof
0.4 mm trapezoidal profile 5 rib	Fix every crest	Fix side laps, miss 1, hit 1... (i.e. alternate)
0.4 mm trapezoidal profile 6 rib	Fix every crest	Fix side laps, miss 1, hit 2, miss 1...

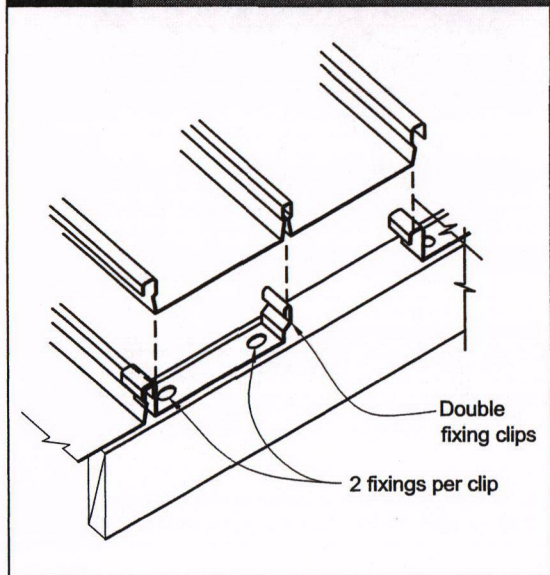
8.4.9 Fixings: trough profile

Clip fixings for *trough profile* shall be as shown in Figure 40, and shall:

- a) Have a minimum *BMT* of 1.2 mm,
- b) Be made from a grade of metal at least equal to that of the *cladding*, and
- c) Be a minimum width of 30 mm.

- b) Fixing the lower 50% with sealing washers fixed over sliding washers as shown in Figure 39, and:
 - i) using oversized holes, and
 - ii) positioning fixing in centre of hole.

Figure 40: Trough profile fixings
Paragraph 8.4.9

**8.4.9.1 Fixing requirements**

Every clip must be fastened with either:

- a) Two 2.8 mm x 50 mm spiral shank nails hot-dipped galvanized to AS/NZS 4680, or
- b) Two 10-gauge by 25 mm waferhead hot-dipped galvanized screws which comply with Class 4 of AS 3566: Part 2.

8.4.10 Allowance for expansion

Allowance shall be made for expansion of corrugated and *trapezoidal* roof *cladding* as shown in Table 16.

Where Table 16 requires sliding washers, allowance shall be made for expansion by:

- a) Fixing the top 50% (closest to the ridge) with conventional fixings, and

Table 16: Expansion provisions
Paragraph 8.4.10, Figure 39

Material	< 8 m	8-12 m	12-18 m	>18 m
Steel	NSR	Sliding washers	Sliding washers	SD
Aluminium	Oversized holes	Sliding washers	SD	SD

SD – Requires specific weathertightness design
NSR – No special requirements

8.4.11 Flashing requirements

The roofing shall be flashed at all boundaries, except at the discharge to a gutter.

- a) At the bottom edge of a cover *flashing* to corrugated roofing, dress *soft edge flashing* down over corrugate profile and finish 5 mm from the troughs as shown in Figure 41. Check the compatibility of the *soft edge* material against Table 21 and Table 22.
- b) At the bottom edge of cover *flashing* to *trapezoidal* or *trough profiles*, notch the *flashing* over the ribs and finish 5 mm from the pans as shown in Figure 42.
- c) Materials for *flashings* shall be compatible with the roof *cladding* material as per Table 21 and Table 22, and shall be in accordance with Paragraph 4.3.
- d) Provide expansion joints in accordance with Paragraph 4.5.2 for:
 - i) coated steel *flashings* 12 m or more in length, and
 - ii) aluminium *flashings* 8 m or more in length.

8.4.11.1 Fixing flashings

- a) When fixing *flashings* to the structure, use screws as for roofing (see Paragraph 8.4.8).

b) When fixing flashings to other flashings or to roofing use:

- i) for galvanized steel, 4 mm diameter monel metal or stainless steel rivets, where compatible as per Table 21, or
- ii) for aluminium-zinc coated steel, 4 mm diameter aluminium rivets.

COMMENT:

The use of stainless steel fixings is not recommended by steel manufacturers for use with coated steel, as they are considered to cause deterioration in severe marine and industrial environments.

c) Flashing joins, including expansion joints where required, shall be in accordance with Paragraph 4.5.2 and as shown in Figure 6.

d) Where end-laps are required in flashings, form these as shown in Figure 6 and, before joining the two parts, apply an 8 mm diameter bead of neutral cure sealant complying with:

- i) Type F, Class 20LM or 25LM of ISO 11600, or
- ii) low modulus Type II Class A of Federal Specification TT-S-00230C.

Figure 41: Corrugated soft edge flashing
Paragraph 8.4.11 a)

NOTE: Apron flashing cover varies according to wind zone – refer Table 7.

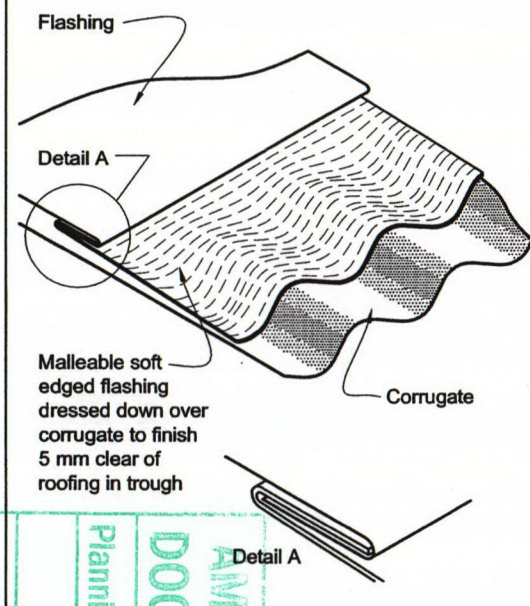
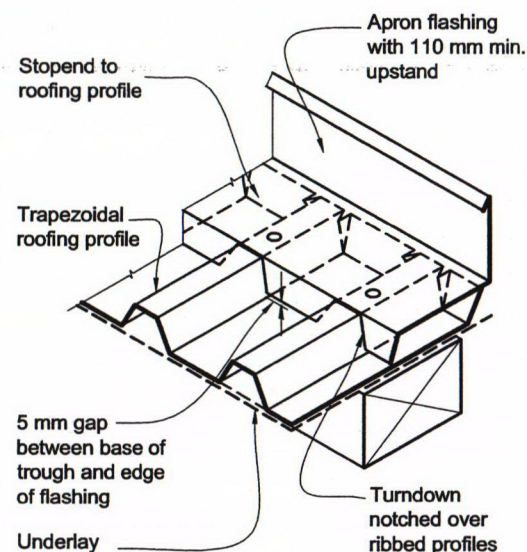


Figure 42: Trapezoidal notched flashing
Paragraph 8.4.11 b)

NOTE: Apron flashing cover varies according to wind zone – refer Table 7.



8.4.12 Flashing details

The roof shall be flashed at all boundaries, except at the discharge to the gutter using details shown below:

a) Ridge to hip as shown in Figure 43,

COMMENT:

Preformed caps are only suitable for a small range of roof types. Caps formed on site are commonly used – refer to the New Zealand Metal Roof and Wall Cladding Code of Practice for additional guidance.

b) Apron flashing and change in pitch as shown in Figure 44,

c) Eaves and roof/wall ridge as shown in Figure 45,

d) Ridge and hip as shown in Figure 46,

COMMENT:

Note the preformed cap in Figure 46 is only suitable for a small range of lower pitch roofs.

Flashings that are site-painted will fade at a different rate from flashings manufactured from the same factory-coated material as the roofing.

e) Barge flashings as shown in Figure 47,

f) Apron flashing – parallel flashing to profile as shown in Figure 48.

Figure 43: Corrugated – ridge to hip
Paragraph 8.4.12 a)

NOTE: Apron flashing cover varies according to wind zone – refer Table 7.

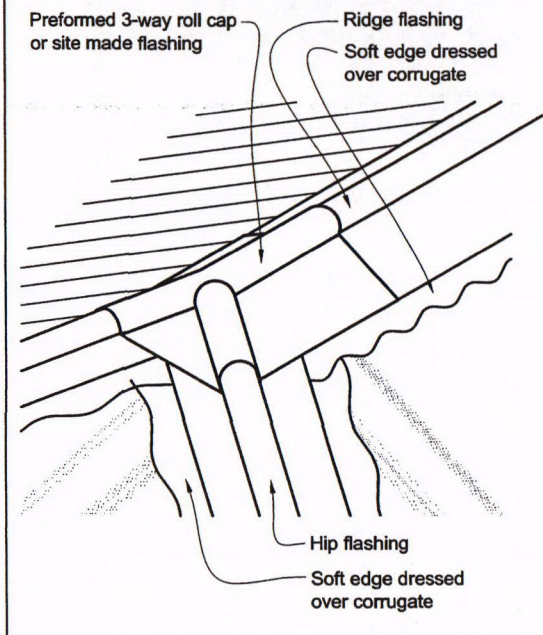


Figure 44: Apron flashing and change in pitch for profiled metal
Paragraphs 4.6.1.3 and 8.4.12 b)

NOTE: X = variable according to wind zone – refer Table 7.

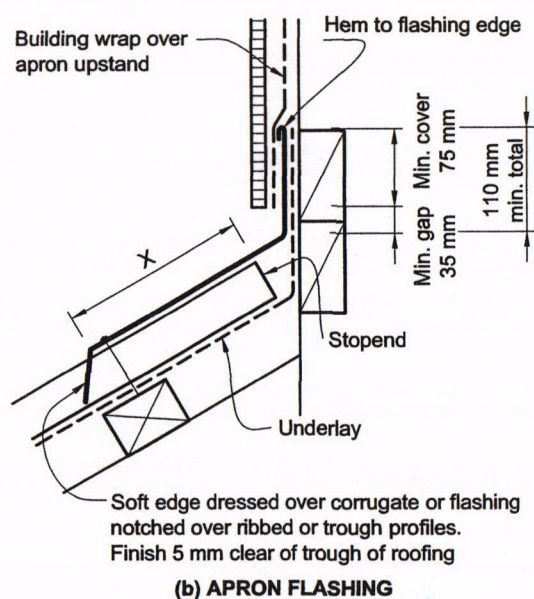
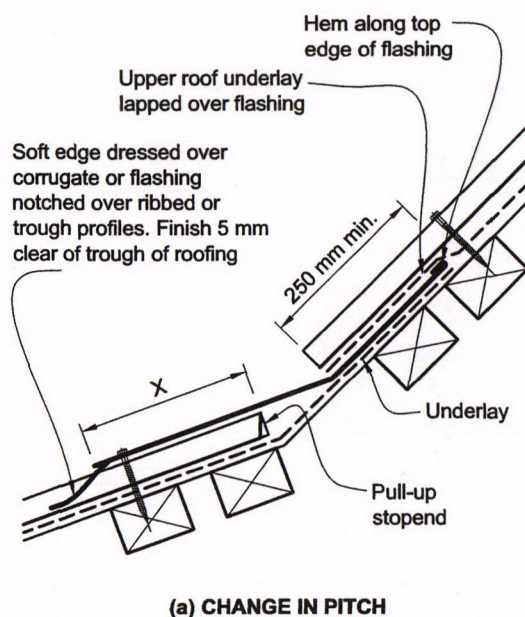


Figure 45: Eaves and roof/wall ridge for profiled metal
Paragraph 8.4.12 c)

NOTE: (1) Situation 2 – Flashings table – refer Table 7.
(2) X = variable according to wind zone – refer Table 7.
(3) Z = variable according to wind zone – refer Table 7.

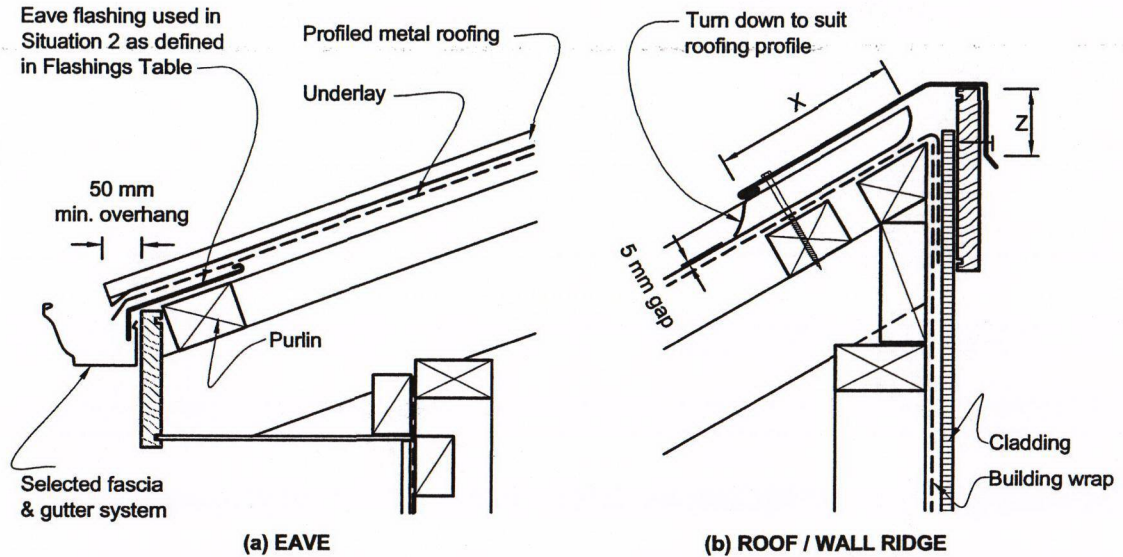
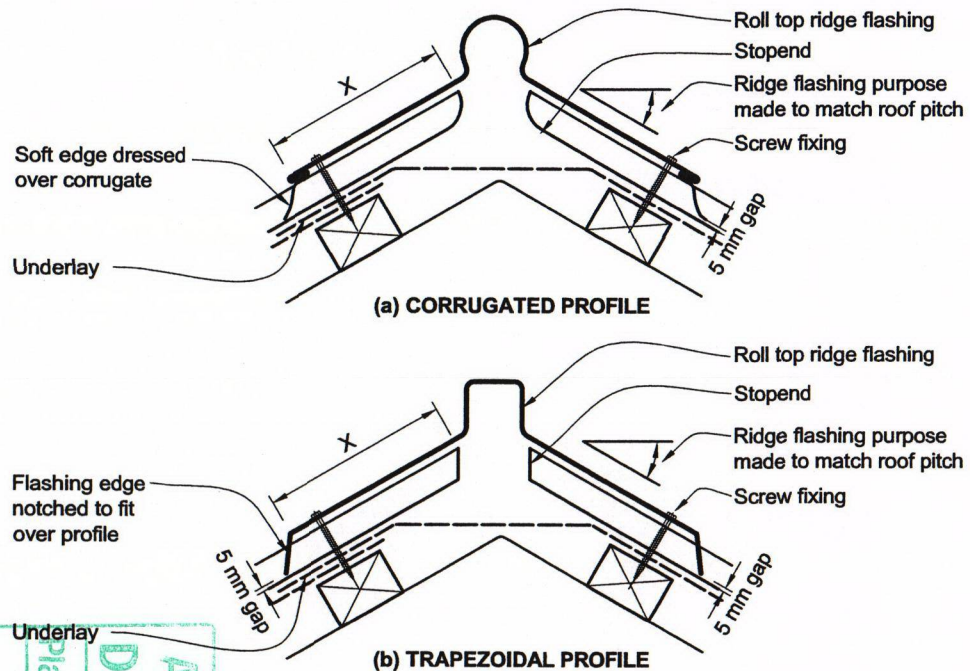


Figure 46: Ridge and hip flashings for profiled metal
Paragraphs 4.6.1.2 and 8.4.12 d)

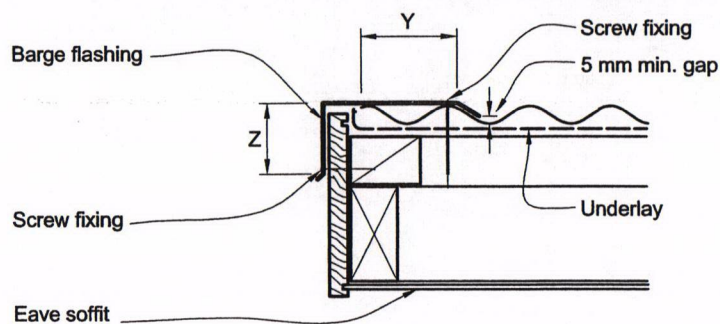
NOTE: X = variable according to wind zone – refer Table 7.



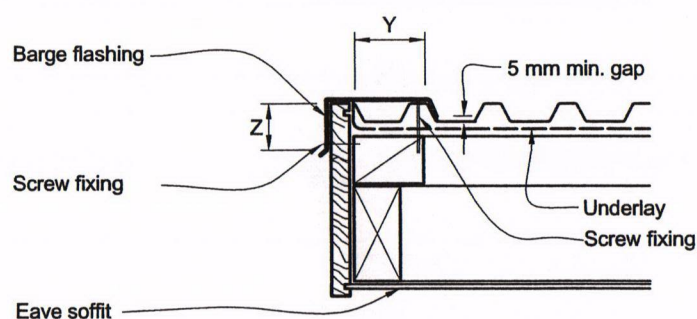
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Figure 47: Barge flashings for profiled metal
Paragraphs 4.6.1.5 and 8.4.12 e)

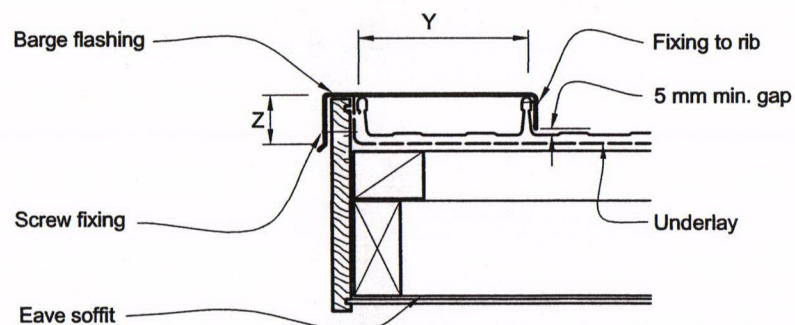
NOTE: (1) Y = variable according to wind zone – refer Table 7.
(2) Z = variable according to wind zone – refer Table 7.



(a) CORrugATED PROFILE



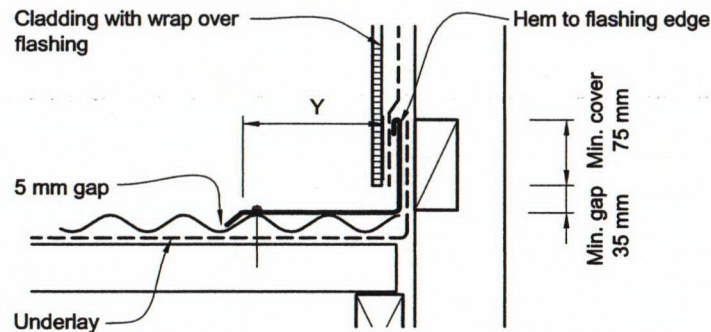
(b) TRAPEZOIDAL PROFILE



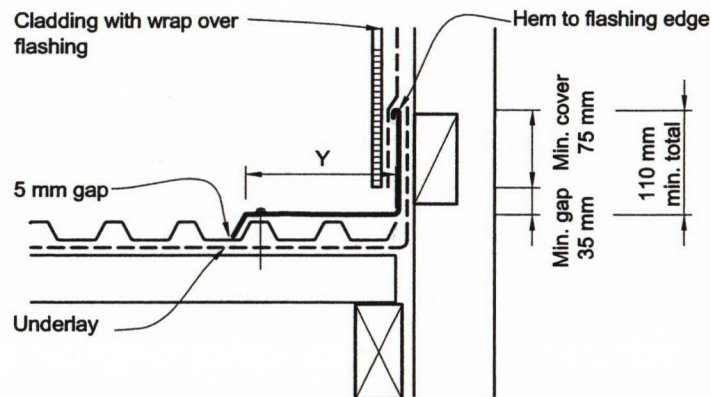
(c) TROUGH PROFILE

Figure 48: Parallel apron flashings for profiled metal
Paragraph 8.4.12 f)

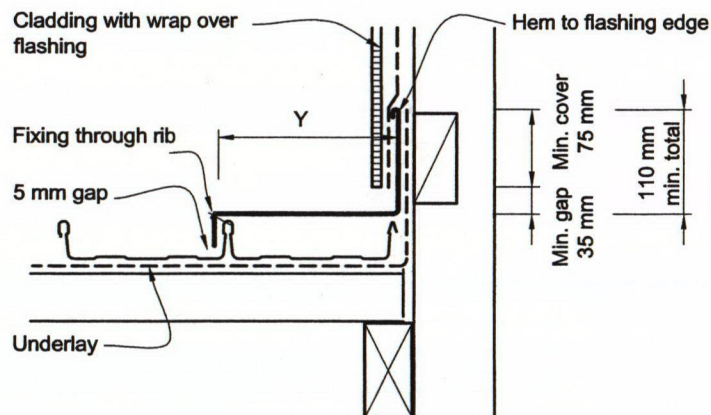
NOTE: Y = to cover minimum of two crests – refer Table 7.



(a) CORrugATED PROFILE



(b) TRAPEZOIDAL PROFILE



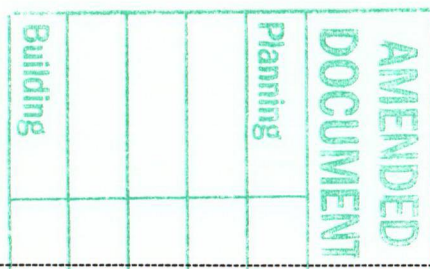
(c) TROUGH PROFILE

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8.4.13 Stopends

The top ends of profiled metal roof *cladding* shall have *stopends* as shown in Figure 49.

Folded *stopends*, as shown in Figure 49, shall be provided for *trapezoidal* and *trough profile* metal roof *cladding*, where:

- The roof pitch is less than 25°, or
- The *building* is in a high/very high *wind zone*.

For other situations, *stopends* shall be provided by pulling up the *cladding* to the maximum allowable, without tearing the metal.

8.4.14 Turn-downs at gutters

The ends of *trapezoidal* and *trough profile* roofing shall be turned down at gutters, where the roof pitch is less than 10°.

The turn-down shall be 30° from the plane of the sheet.

COMMENT:

Specific tools are available and should be used to turn up or turn down ends. Care should be taken to ensure the sheet does not split.

Refer to the New Zealand Metal Roof and Wall Cladding Code of Practice, Section 7.1.3 for guidance on methods.

8.4.15 Profile closure

Crests of *trapezoidal* metal roof *cladding* shall be closed at the *eaves* with a fixing through the centre of each crest.

COMMENT:

Refer to the New Zealand Metal Roof and Wall Cladding Code of Practice for guidance.

Preformed compressible seals shall not be used at the *eaves*.

8.4.16 Internal, valley and hidden gutters

Internal, *valley* and *hidden gutters* shall be in accordance with Paragraph 8.1.6.1.

8.4.16.1 Hidden gutters

Hidden gutters shall be as shown in Figure 50.

8.4.16.2 Valley gutters

Valley gutters shall be in accordance with Paragraph 8.1.6.2. Sizes in relation to catchment areas shall be as shown in Table 8, and gutters shall be formed as shown in Figure 51.

COMMENT:

Refer to the New Zealand Metal Roof and Wall Cladding Code of Practice, Sections 8.4.4 and 8.4.5 for additional guidance on sizing, materials and fixing.

8.4.16.3 Internal gutters

Internal gutters shall be in accordance with Paragraph 8.1.6.3, and shall be as shown in Figure 52.

Figure 49: Profiled metal stopends
Paragraph 8.4.13, Figure 7

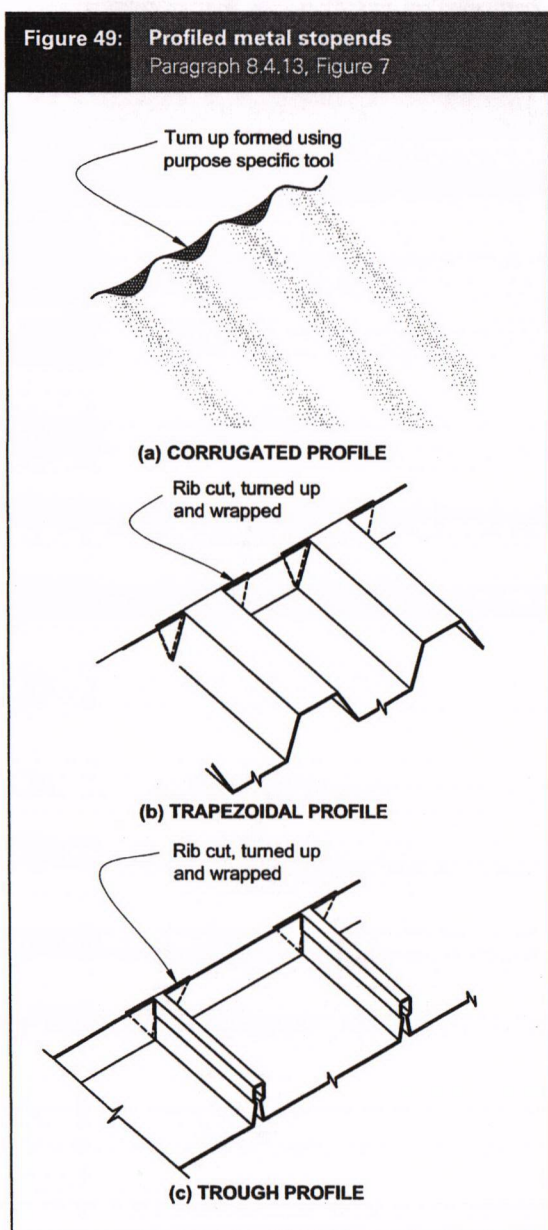
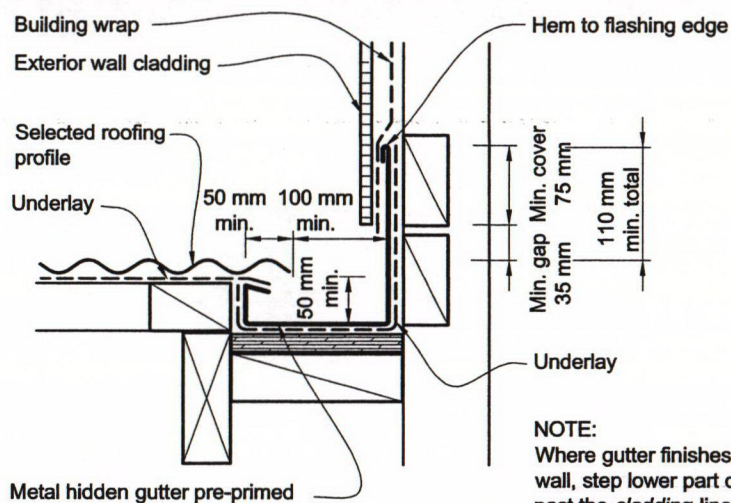


Figure 50: Hidden gutter for profiled metal
Paragraph 8.4.16.1



NOTE:

Where gutter finishes within the length of the wall, step lower part of gutter out to 10 mm past the *cladding* line, while maintaining required clearances, to allow the gutter to feed into the lower *eaves* gutter.

Figure 51: Valley gutters for profiled metal
Paragraph 8.4.16.2

NOTE: (1) Refer to Table 8 for maximum roof catchment areas for *valley gutters*.
(2) Minimum width of *valley gutter* may reduce to 160 mm, providing roof catchment area is in accordance with Table 8.

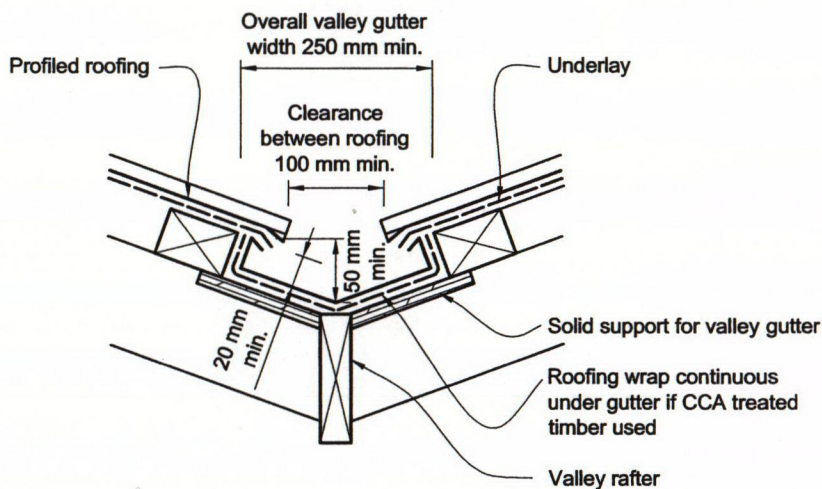
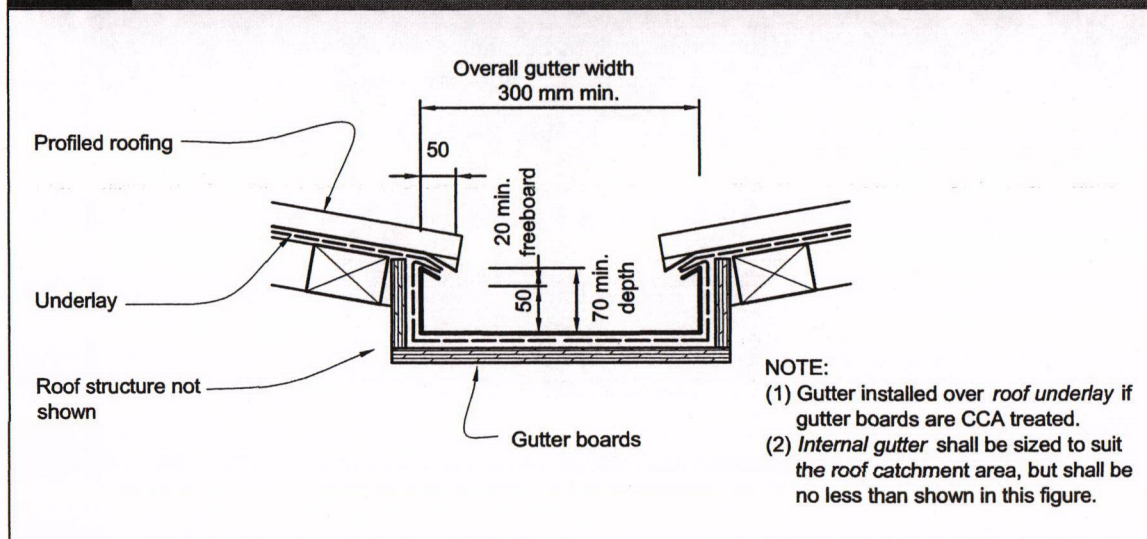


Figure 52: internal gutter for profiled metal
Paragraph 8.4.16.3



8.4.17 Roof penetrations

The maximum length of profiled roof *cladding* above penetrations shall be as shown in Table 17.

The edge of roofing penetrations over 200 mm wide shall be supported in either direction with additional *framing* as shown in Figure 21.

Roof penetrations shall be flashed as follows:

- Pipe penetrations up to 60 mm shall be flashed using an *EPDM boot flashing* as shown in Figure 53,
- Pipe penetrations up to 200 mm shall be flashed using a *soaker flashing* and *EPDM boot flashing* as shown in Figure 54,

- Rectangular penetrations up to 1200 mm wide shall be flashed using a *soaker type flashing* as shown in Figure 55.

COMMENT:

Penetrations on lower pitched roofs, larger penetrations, or needing cricket *flashings* will require *specific weathertightness design* to suit the particular circumstances.

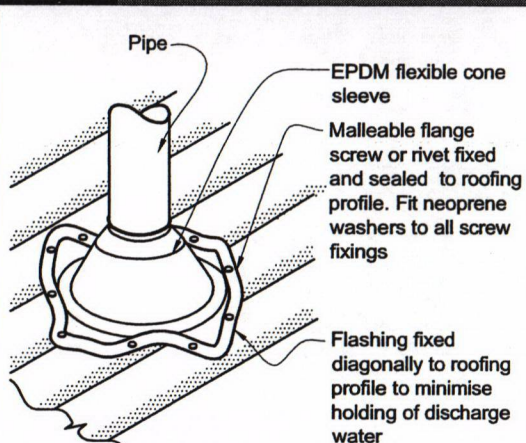
The New Zealand Metal Roof and Wall Cladding Code of Practice should be consulted for guidance.

Table 17: Catchment areas for profiled metal
Paragraphs 8.1.7 b), 8.4.17 and 9.1.3.4, Table 9, Figure 22

Penetration width	Maximum roof length above penetration in metres		
	Corrugated	Trapezoidal	Trough profile
800 to 1200 mm	4 m	8 m	16 m
600 to 800 mm	6 m	12 m	18 m (refer Note)
400 to 600 mm	8 m	16 m	18 m (refer Note)
0 to 400 mm	12 m	18 m (refer Note)	18 m (refer Note)

NOTE: Limited to 18 m as per the limitations of this Acceptable Solution.

Figure 53: Flashing for small pipes
Paragraphs 8.3.10, 8.4.17 a), 9.6.8.5 and 9.6.9.6



NOTE:

- (1) Max. roof pitch for this flashing 45°, minimum pitch 10°.
- (2) For pipes up to 60 mm diameter.

Figure 54: Soaker flashing for pipe penetrations
Paragraphs 8.3.10 and 8.4.17 b)

- NOTE:** (1) X = variable according to *wind zone* – refer Table 7.
 (2) Y = to cover minimum of two crests – refer Table 7.
 (3) Suitable for pipes from 60 mm to 200 mm diameter.
 (4) Suitable only for roof pitches of 10° or higher.

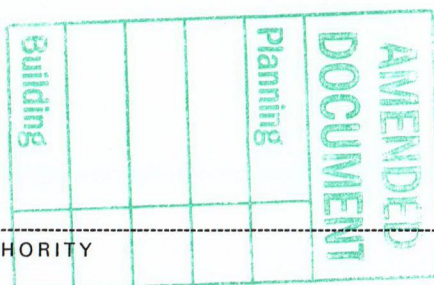
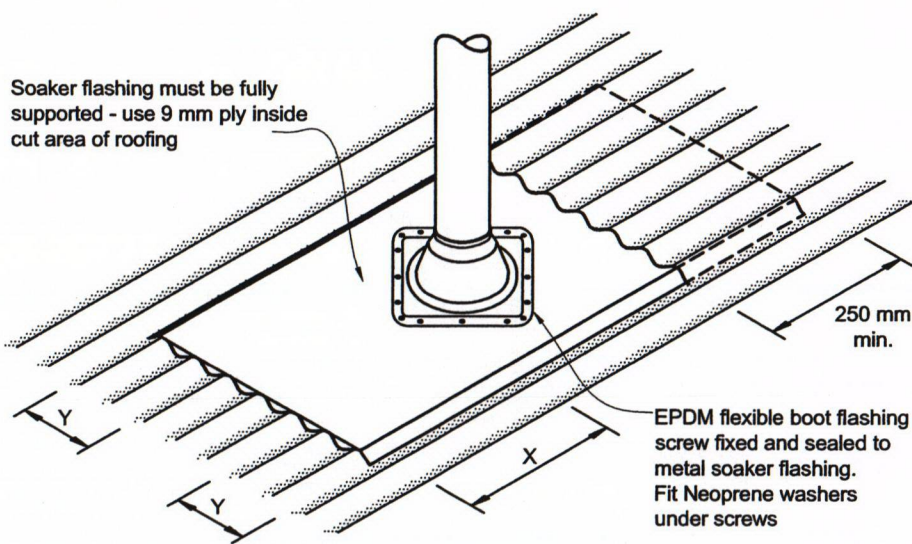
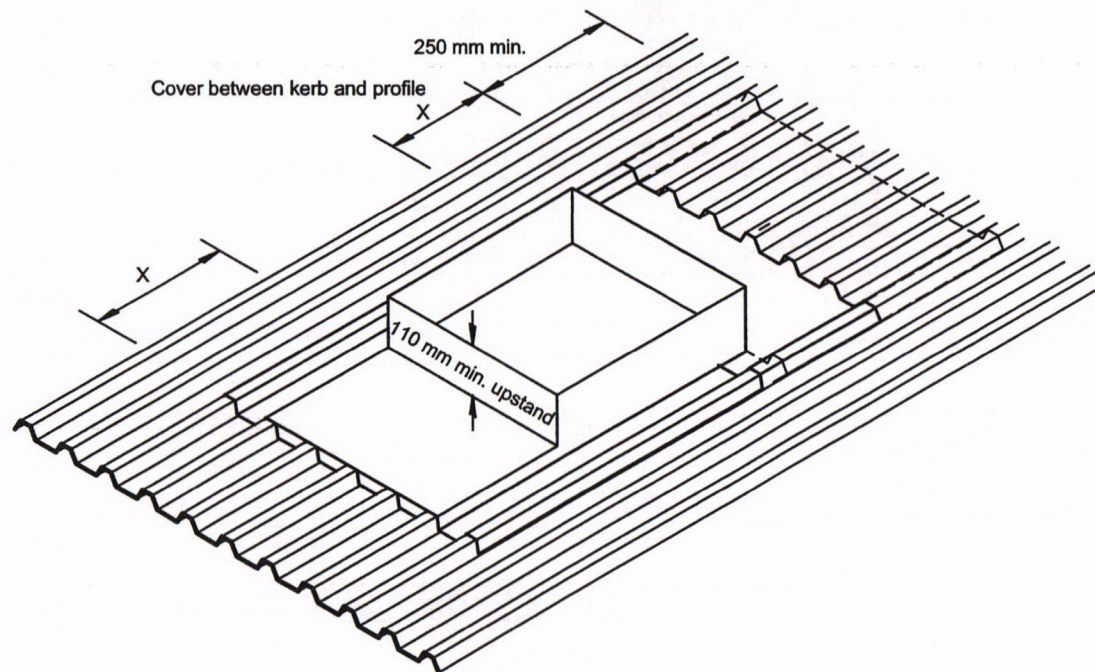


Figure 55: Soaker flashing for other penetrations
Paragraph 8.4.17 c)

NOTE: (1) X = variable according to *wind zone* – refer Table 7.
(2) Suitable for penetrations up to 1200 mm wide.
(3) Suitable only for roof pitches of 10° or higher.



9.4 Timber Weatherboards

Timber weatherboard *claddings* shall be either *direct fixed* to *framing* over a *building wrap* or fixed over a *drained cavity* as described in Paragraph 9.1.8.

Based on the *risk score* for an *external wall* calculated as per Paragraph 3.1, the weatherboard *cladding* may require the inclusion of a *drained cavity*.

9.4.1 Limitations

9.4.1.1 Weatherboard profiles

This Acceptable Solution is limited to the following types of timber weatherboards:

- a) Horizontal bevel-back,
- b) Horizontal rebated bevel-back,
- c) Horizontal rusticated,
- d) Vertical shiplap, and
- e) Vertical board and batten.

Profiles shall be as given in NZS 3617 or BRANZ Bulletin 411.

9.4.1.2 Vertical weatherboards

This Acceptable Solution is limited to the use of *direct fixed* vertical weatherboards in risk categories as shown in Table 3.

COMMENT:

Vertical weatherboards are not used over cavities because of the need for horizontal battens, which would interfere with a *drained cavity*.

Vertical weatherboards are therefore limited to low risk applications.

9.4.1.3 Horizontal weatherboards

Horizontal weatherboards shall be either *direct fixed* or fixed over a *drained cavity*, according to the risk categories as shown in Table 3.

9.4.2 Materials

Timber weatherboard *cladding* shall include the following features:

- a) *Building wrap* or rigid sheathing complying with Table 23, and
- b) Timber selection and treatment of weatherboards in accordance with NZS 3602.

9.4.3 Installation

A *building wrap*, complying with Table 23 shall be installed behind:

- a) All *direct fixed* timber weatherboards, or
- b) *Cavity battens* for timber weatherboards installed over a *drained cavity*.

9.4.3.1 Fixings

Fixings shall comply with Table 24.

In sea-spray zones (as described in Section 4 of NZS 3604), all fixings shall be of Type 316 stainless steel.

Timber weatherboards shall be drilled for nailing at all joints and ends. All cut ends of painted weatherboards shall be primed.

9.4.4 Horizontal weatherboards

9.4.4.1 Horizontal laps

Laps shall be:

- a) 32 mm for non-rebated bevel-back boards, or
- b) 25 mm horizontal lap for rebated bevel-back and rusticated boards, with a minimum gap of 2 mm at the overlap between boards.

9.4.4.2 Joints

Joints shall be made only over supports and have:

- a) Corrosion-resistant soakers fitted, complying with Paragraph 4.3.2 to Paragraph 4.3.6, or
- b) Scarf or splay joints.

9.4.4.3 Fixings

Boards shall be fixed through the *building wrap* to the *framing* in accordance with Table 24.



9.4.4.4 External corners

External corners shall be weatherproofed by one of the following methods:

- a) For rusticated and bevel-back weatherboards, corner boxes with:
 - i) scribes for bevel-back weatherboards, as shown in Figure 78, or
 - ii) plugs or scribes for rusticated weatherboards, as shown in Figure 78,
- b) For bevel-back weatherboards:
 - i) mitred joints with back *flashing* as shown in Figure 78, or
 - ii) corrosion-resistant soakers complying with Paragraph 4.3.2 to Paragraph 4.3.6, and as shown in Figure 77.

COMMENT:

The external corner with soakers for *direct fixed* bevel-back weatherboards is similar to that shown for the *cavity wall* in Figure 77.

9.4.4.5 Internal corners

Internal corners shall be made *weathertight* as shown in Figure 79.

A corrosion-resistant *flashing* shall be fitted behind *direct fixed* weatherboards at all internal corners as shown in Figure 79.

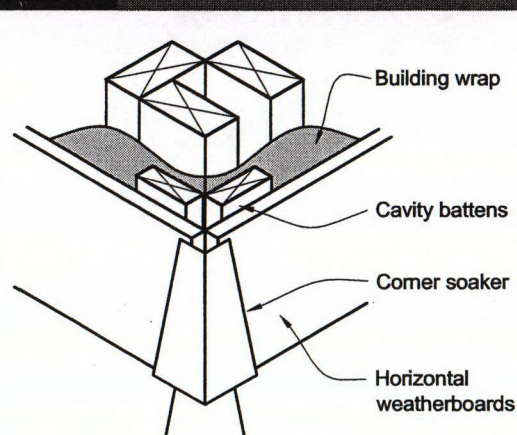
Building Consent No:

95 17

Building File No:

14 2 6 0 №

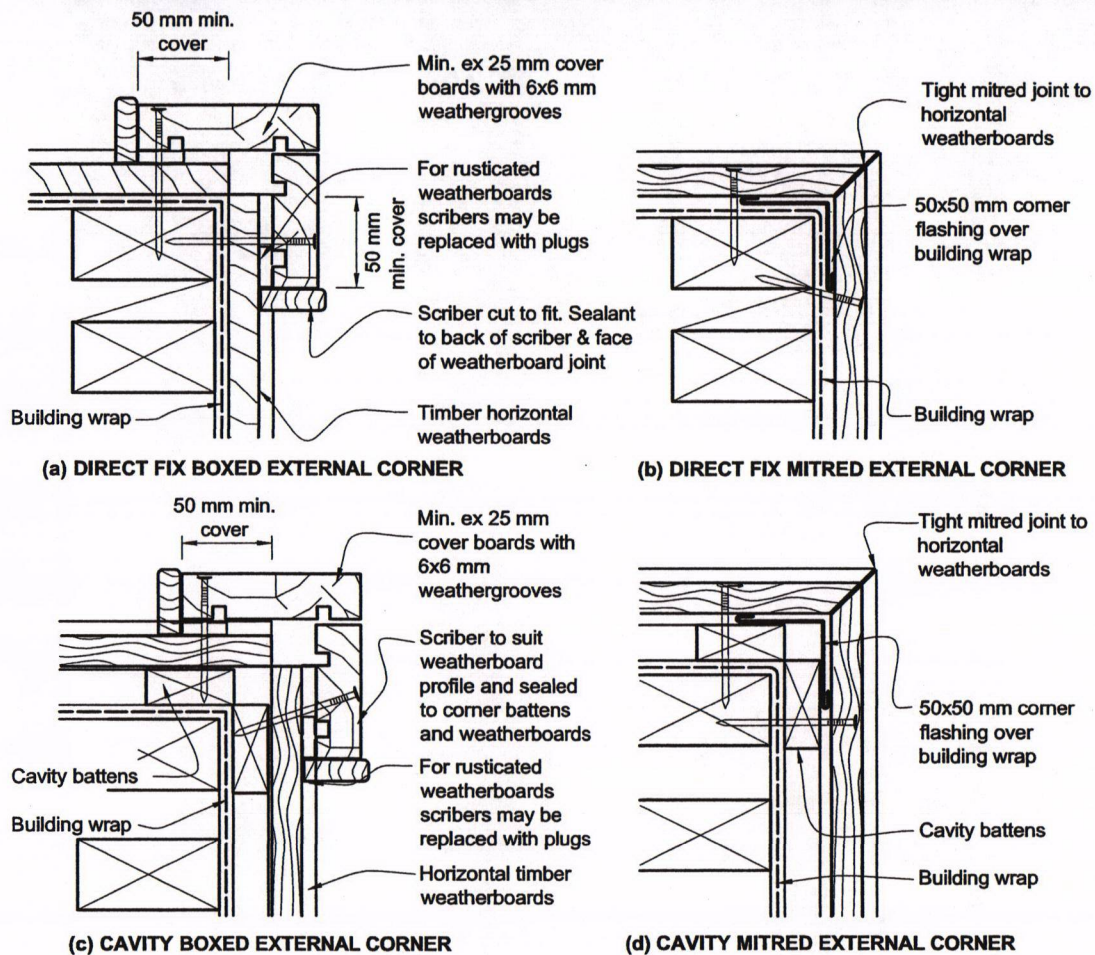
Figure 77: Corner soakers for bevel-back weatherboards
Paragraph 9.4.4.4 b)



NOTE: External corner detail with soaker is similar for direct fix weatherboards.

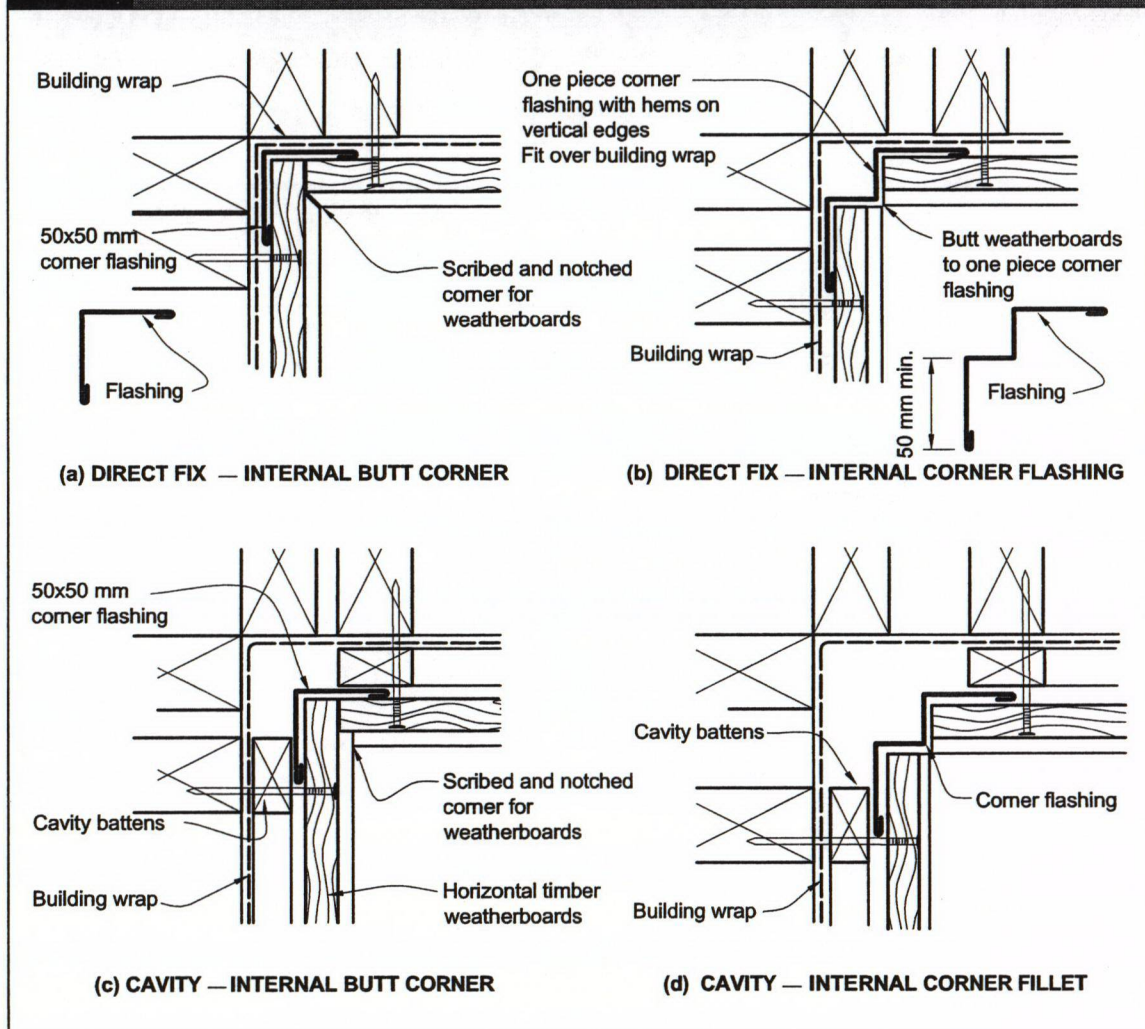
AMENDED DOCUMENT	
Planning	
Subjecting	

Figure 78: External corners for horizontal weatherboards
Paragraphs 9.4.4.4 a) and b)



NOTE: Corner battens shall be sized to provide 50 mm minimum cover over cladding.

Figure 79: Internal corners for horizontal weatherboards
Paragraph 9.4.4.5



9.4.5 Vertical weatherboards

Vertical shiplap and board and batten weatherboards shall be in continuous lengths over a storey height.

9.4.5.1 Laps

- Vertical shiplap weatherboards shall be fitted with a minimum gap of 2 mm at the overlap between boards.
- Board and batten weatherboards shall:
 - be fitted with a 5 mm to 8 mm gap between boards, and
 - have weather grooves to boards and battens aligned.

9.4.5.2 Fixings

Vertical weatherboards shall be fixed to *dwangs* in accordance with Table 24.

9.4.5.3 Corners

a) External corners

External corners shall be weatherproofed by the use of corner facings as shown in Figure 80.

b) Internal corners

A corrosion-resistant corner *flashing*, as per Table 7, shall be fitted behind the weatherboards at all internal corners.

9.4.6 Windows in direct fixed weatherboards

Window details for:

- Direct fixed* bevel-back weatherboards are shown in Figure 81,
- Direct fixed* rusticated weatherboards are shown in Figure 82,
- Vertical shiplap weatherboards are shown in Figure 83,
- Vertical board and batten weatherboards are shown in Figure 84.

9.4.7 Windows in cavity walls

Window details for bevel-back weatherboards on a *drained cavity* shall be as shown in Figure 85.

Window details for rusticated weatherboards on a *drained cavity* are shown in Figure 86.

COMMENT:

The junctions around windows are critical, and it is important that responsibility is taken for the *weathertightness* of the window as installed within exterior walls.

Care should be taken to ensure that this responsibility is clearly defined and assigned. One way is to clearly specify that the window manufacturer shall be responsible for the supply and installation of *flashings* and frames into openings.

Figure 80: External corners for vertical weatherboards
Paragraph 9.4.5.3 a)

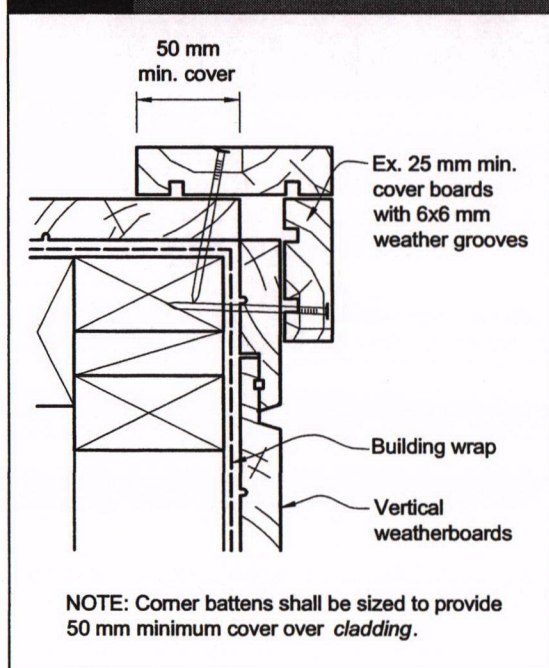


Figure 81: Windows for direct fixed bevel-back weatherboards
Paragraphs 9.1.6 and 9.4.6 a)

- GENERAL:** (a) Refer Figure 72 for wrapping of framed opening prior to window installation.
(b) Sliding and bi-fold windows will require specific design.
(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.

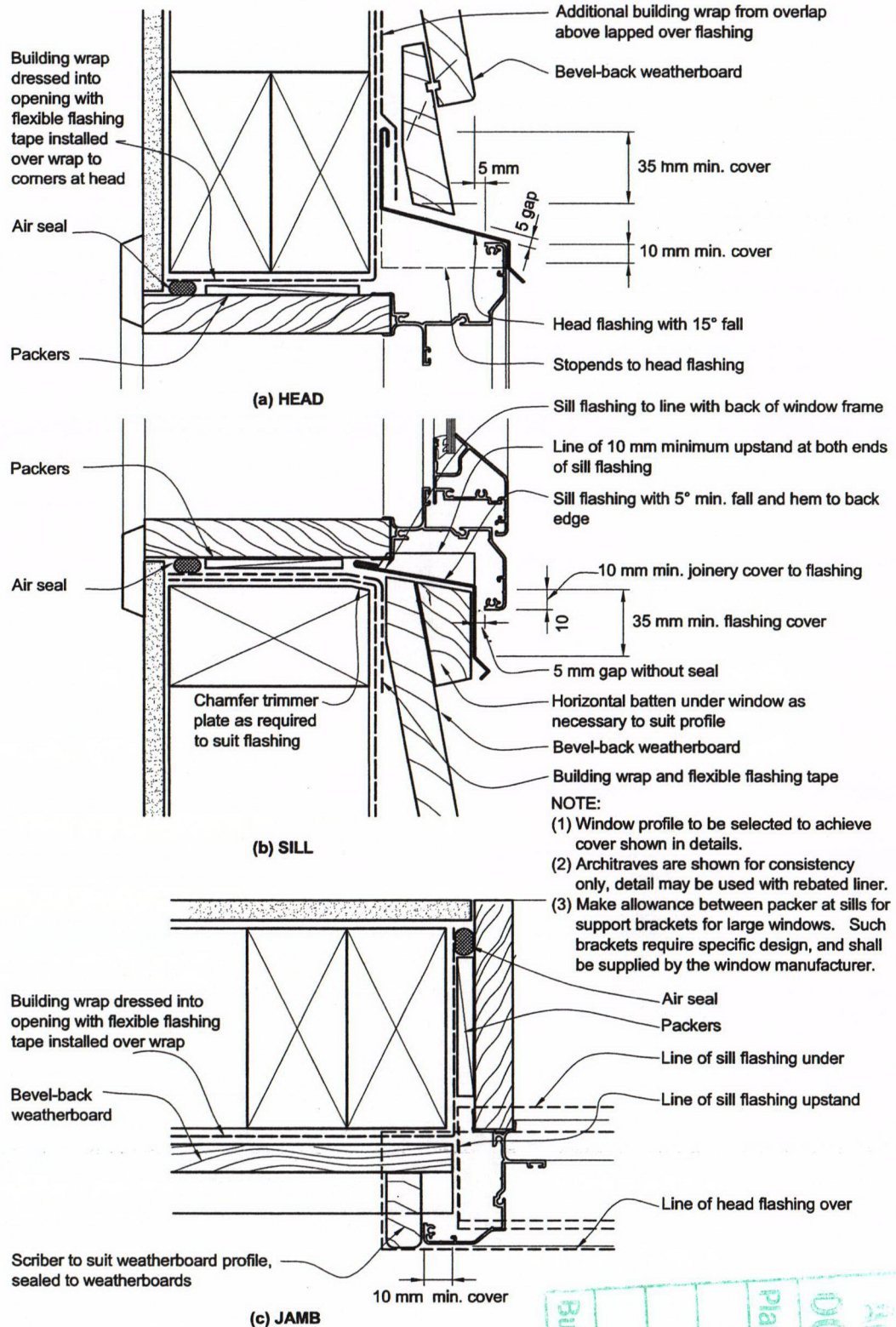


Figure 82: Windows for direct fixed rusticated weatherboards
Paragraph 9.4.6.b)

- GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.
(b) Sliding and bi-fold windows will require specific design.
(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.

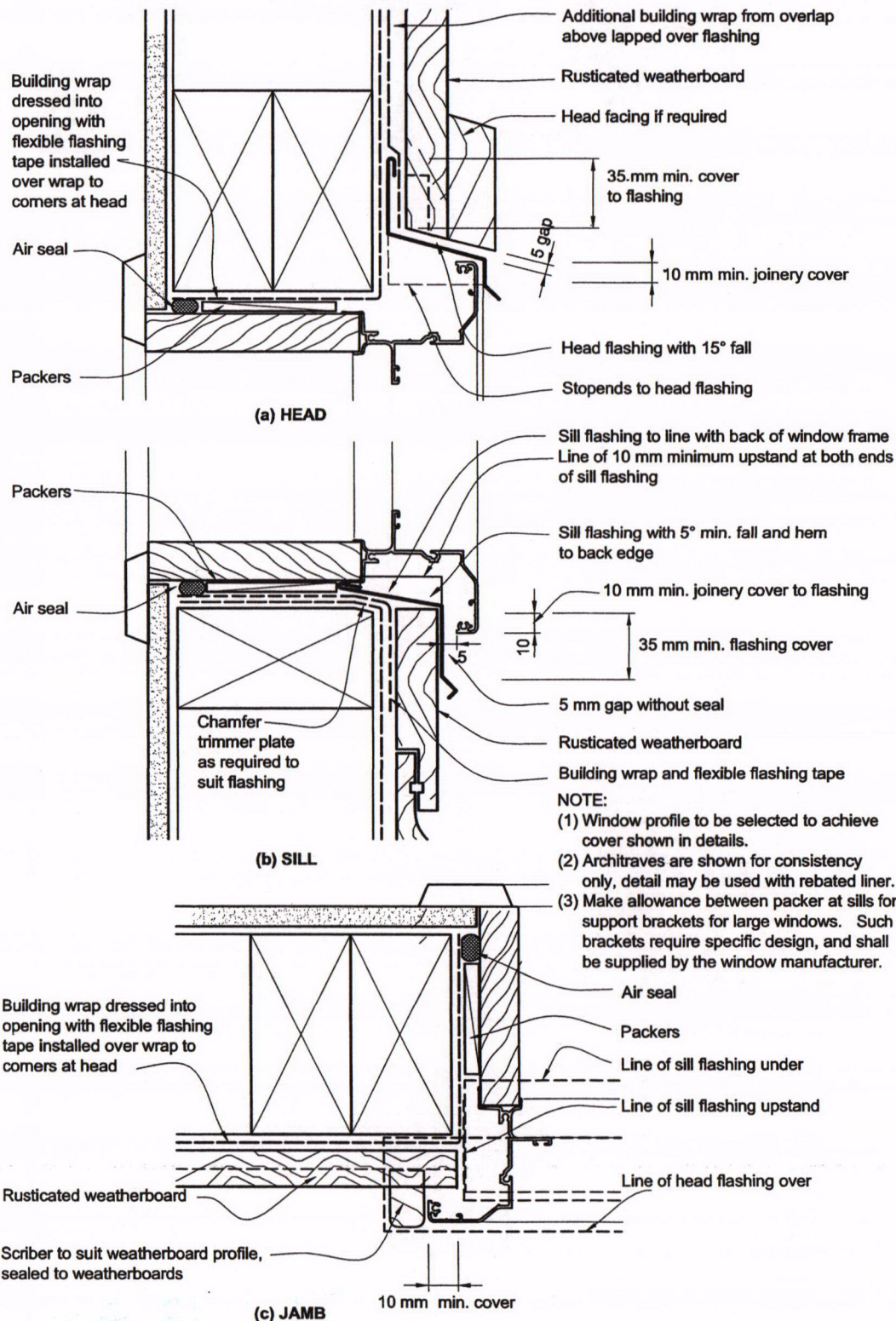


Figure 83: Windows for direct fixed vertical shiplap weatherboards
Paragraph 9.4.6.c)

GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.
(b) Sliding and bi-fold windows will require specific design.
(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.

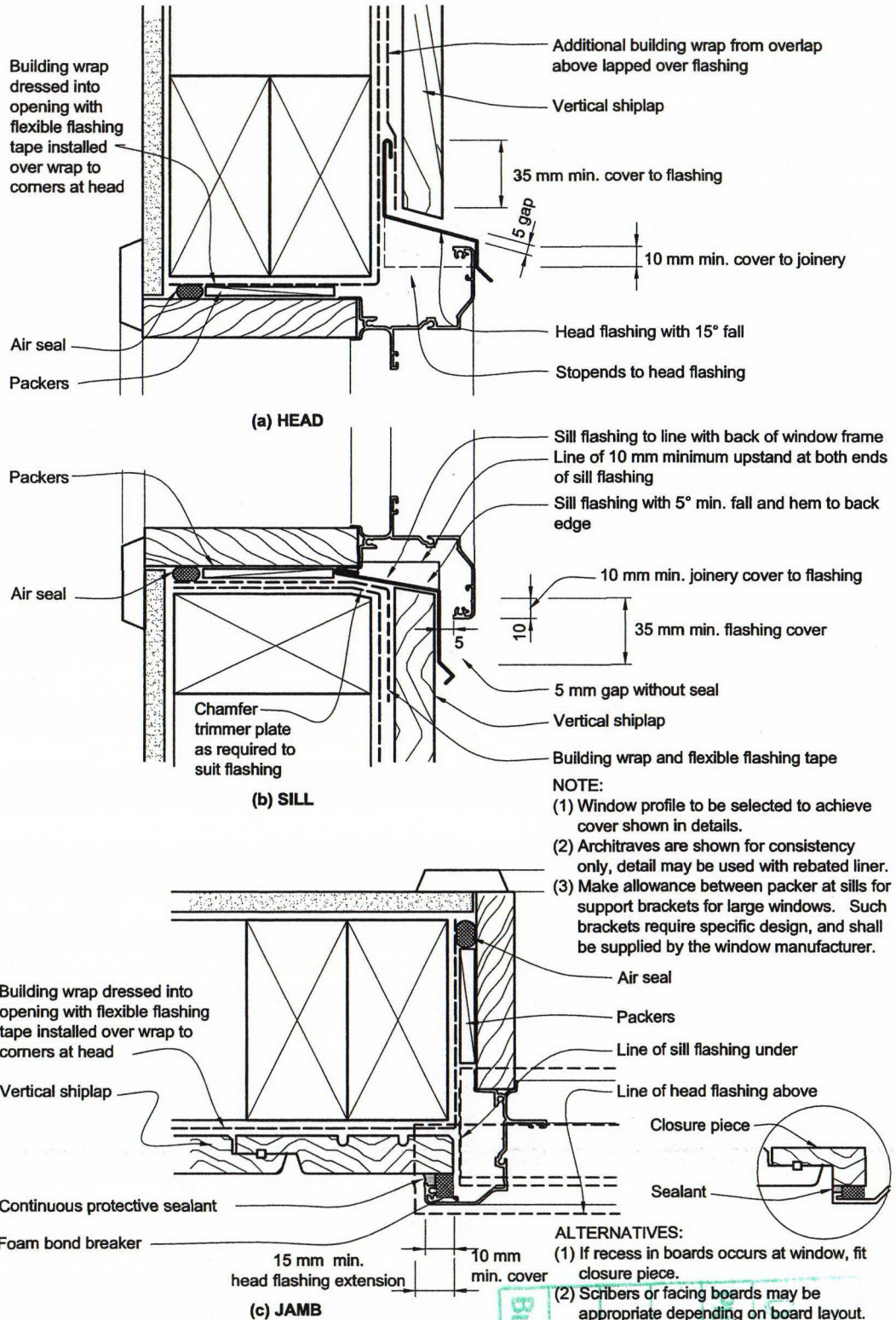


Figure 84: Windows for direct fixed board and batten weatherboards

Paragraph 9.4.6.d)

GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.

(b) Sliding and bi-fold windows will require specific design.

(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.

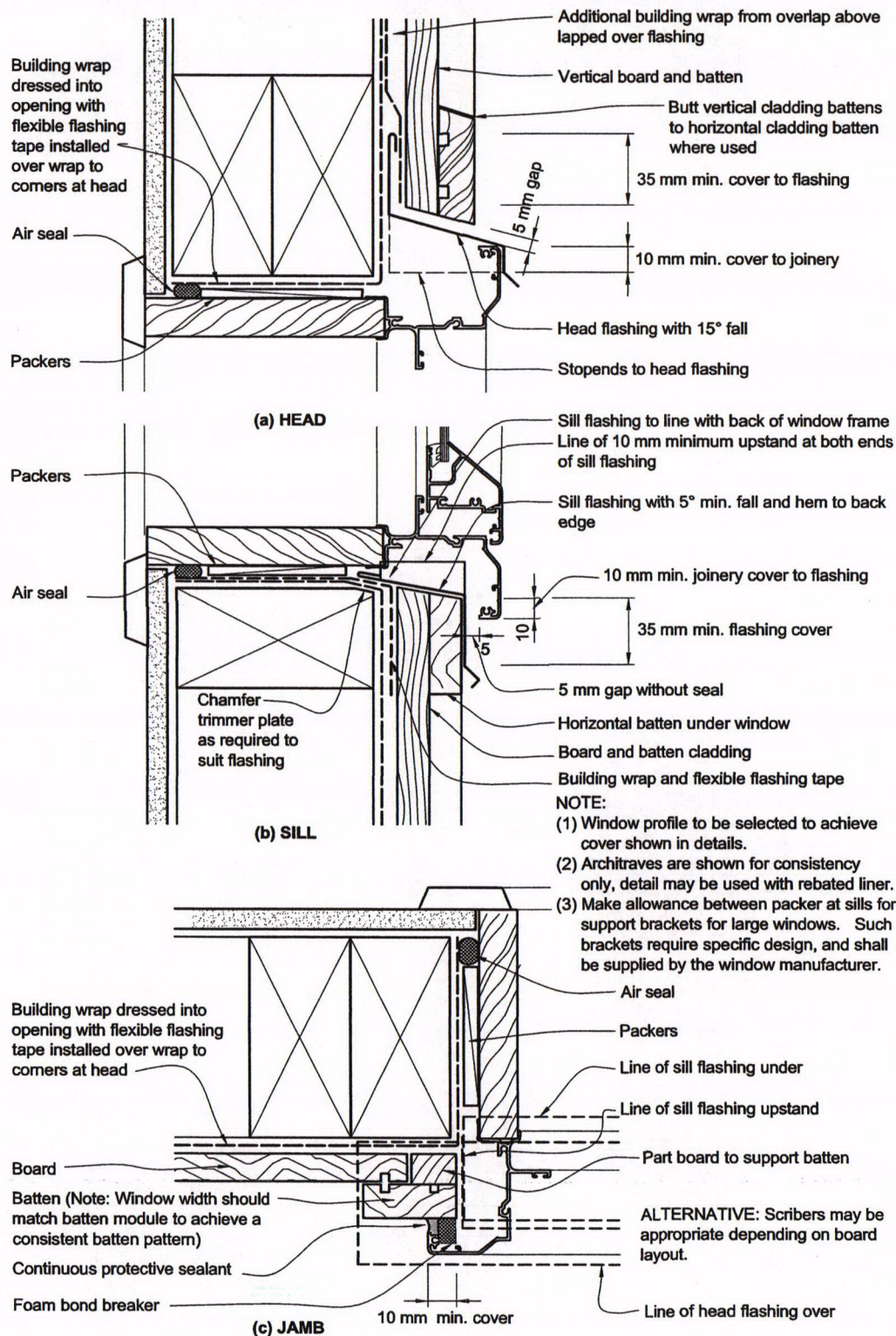


Figure 85: Windows for bevel-back weatherboards on cavity
Paragraph 9.4.7

GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.

(b) Sliding and bi-fold windows will require specific design.

(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.

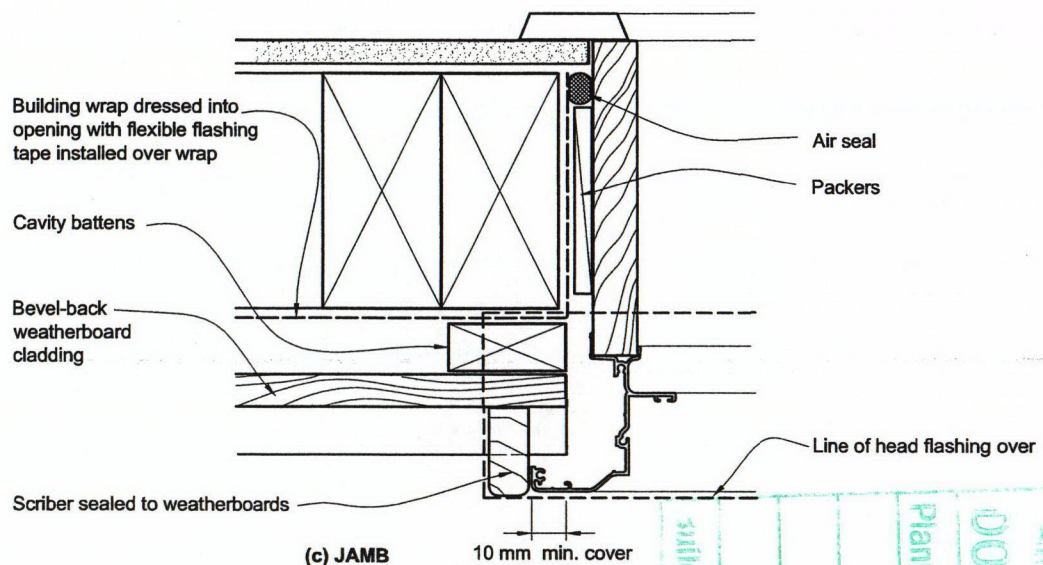
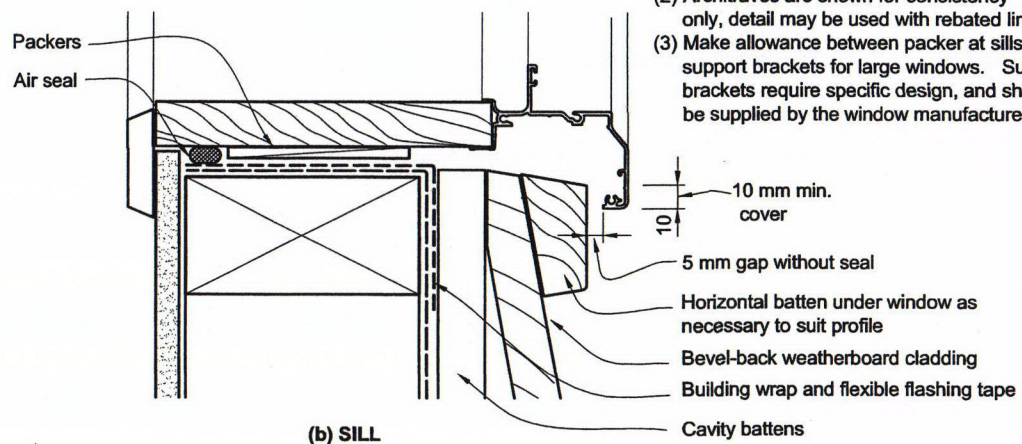
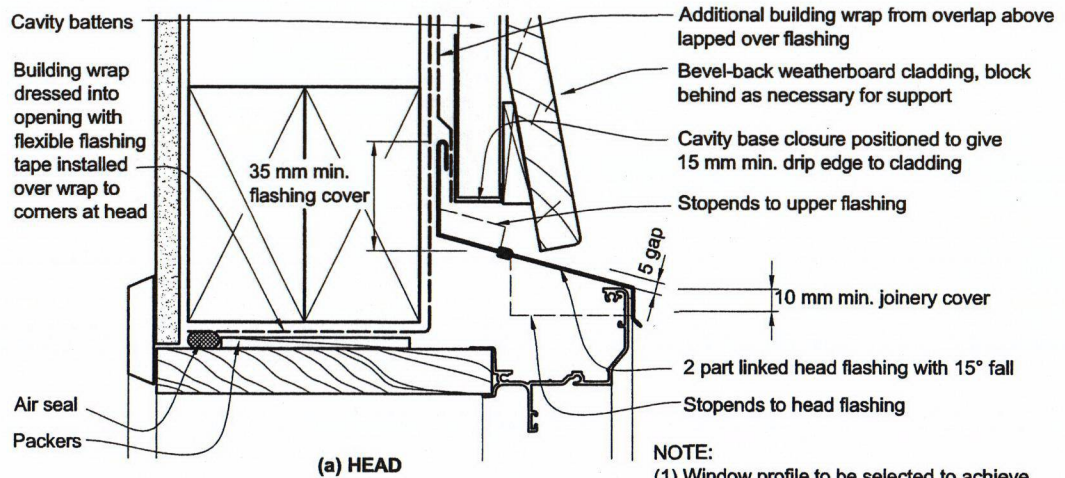
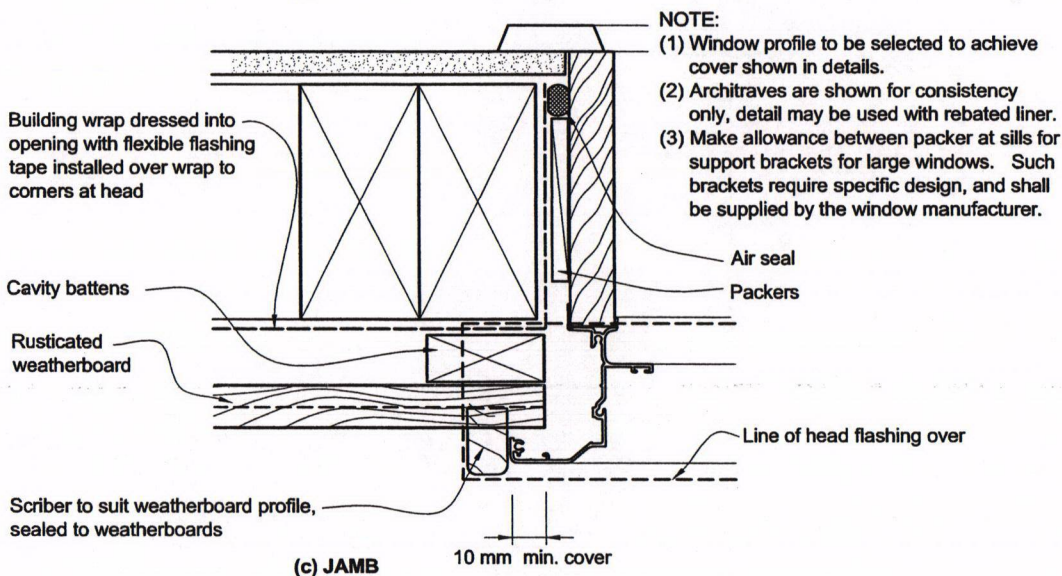
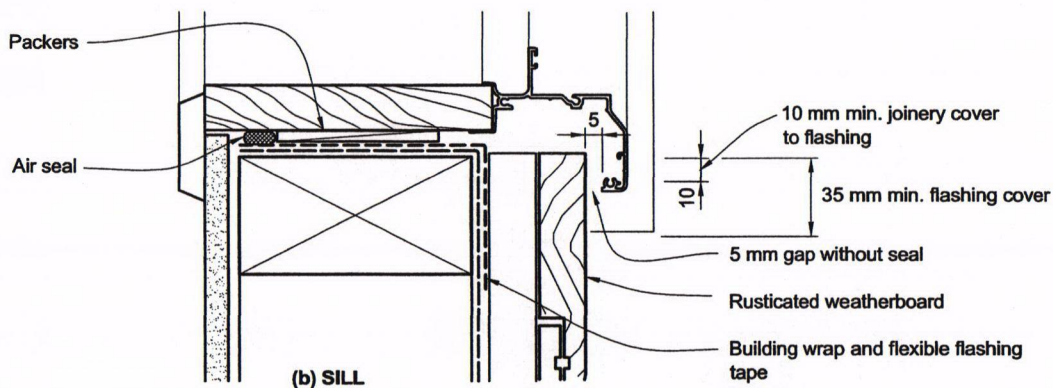
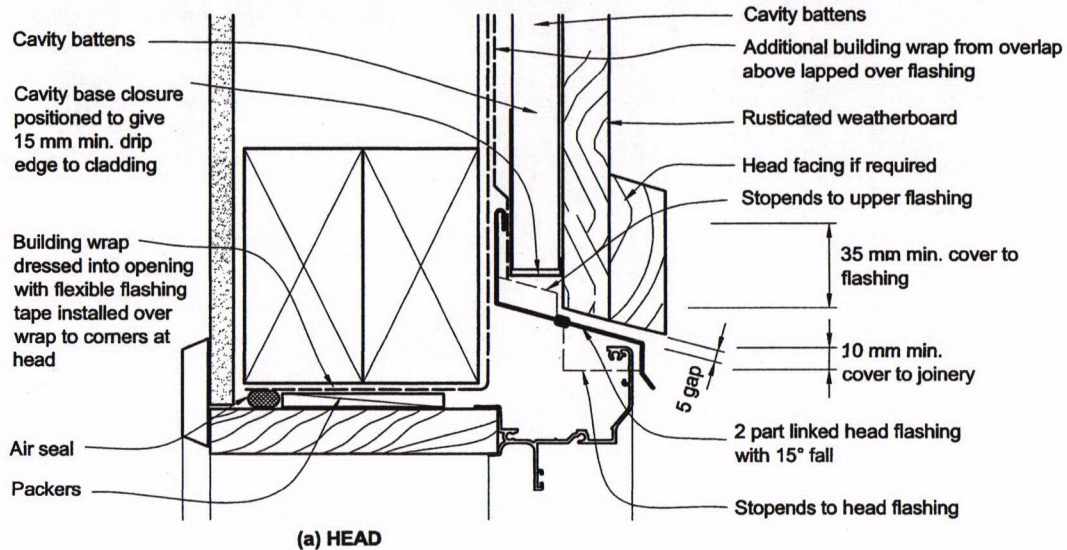


Figure 86: Windows for rusticated weatherboards on cavity
Paragraph 9.4.7

GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.

(b) Sliding and bi-fold windows will require specific design.

(c) A minimum of 8 mm effective cover at sills shall be permitted where necessary to allow for tolerances.



Proposed House for Relocation



North facing - West facing



PLANNING REQUIREMENT
SEE PIM
West facing



North facing



North facing



South facing - East facing



South facing

Building Consent No: 95 17 _____ 24 JUL 2004
 Building File No: 14 2 6 0 _____

REG AND SANDRA AKROYD

SITE: 21 ENDCLIFFE ROAD, KAITI, GISBORNE

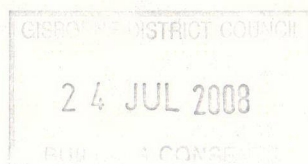
FOUNDATION INVESTIGATION REPORT FOR RELOCATABLE DWELLING

Building Consent No:

95 1 7

Building File No:

14 2 6 0



Project Reference: 9151
By 1 July 2008

1 GENERAL

Site setting and conditions:

Flat site, surrounded by single storey buildings within an established residential area, see Figure 1 below.



Figure 1: Location

Proposed Building:

Single storey light timber framed existing building (some 7.6m x 14m) with light tin roof to be moved to new relocation and undergo extensions (some 3.6m x 7.4m) and renovations, see figure 2 below.

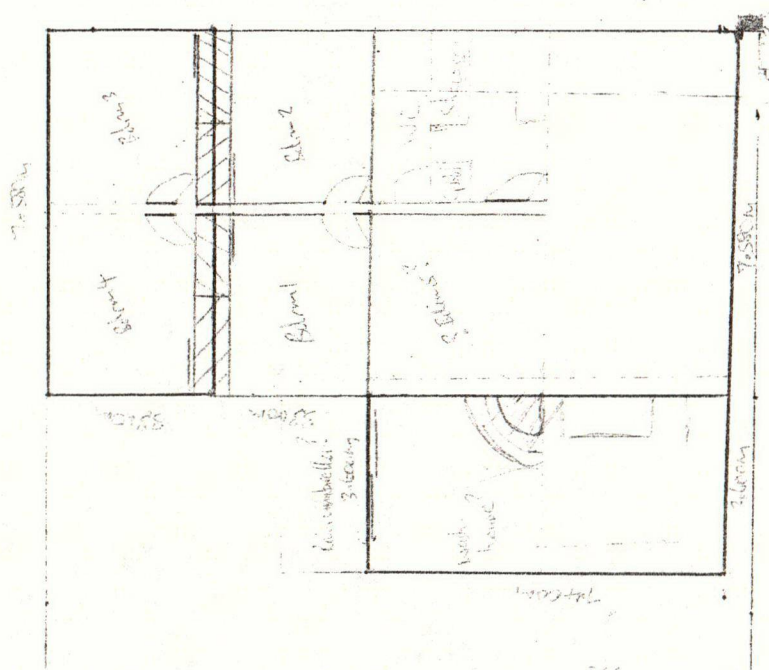


Figure 2: Sketch of existing building to be relocated with extension added.

24 JUL 2008

BUILDING CODE

2 INVESTIGATION

Investigation Purpose:

To investigate the nature and strength distribution of soils beneath the site to determine depth to "good ground", available bearing capacity, and foundation recommendations.

Investigations and tests carried out:

- Walkover assessment of site.
- 5 handaugered boreholes to 2m depth.
- Measurements of undrained shear strength.

Site and Investigation

Locations:



Figure 3: Subsoil test locations

3 FOUNDATION RECOMMENDATIONS

Foundation

recommendations:

We recommend cast in situ piles in accordance with NZS 3604/AS 2870 taken down to a minimum 0.5m depth.

At the recommended depth an allowable bearing capacity of 100kPa is expected to be available.

Settlements are expected to be less than 25mm, and differential settlements are expected to be within design tolerances.

4 LIMITATIONS

This report has been prepared exclusively for our client with respect to the particular brief given to us. Information, opinions and recommendations contained in it can not be used for any other purpose or by any other entity without our review and written consent. Land Development & Exploration Ltd accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

Opinions given in this report are based on visual methods, and subsurface investigations at discrete locations. The nature and continuity of the subsurface materials are inferred and it must be appreciated that actual conditions could vary from that described herein.



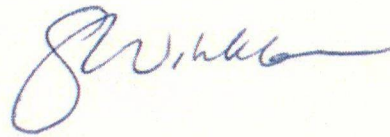
During the excavation and construction the site should be examined by a Geotechnical Engineer or Engineering Geologist who is competent to judge whether the exposed subsurface materials are consistent with the conditions inferred in this report and to ensure that no organic or deleterious materials are present at the base of the foundations. We should be contacted immediately if variations are encountered. It is possible that further investigation or modification of the design is required.

Yours faithfully

LAND DEVELOPMENT & EXPLORATION LTD



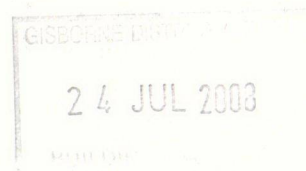
Peter Rycroft
Engineering Geologist




Georg Winkler
Geological & Geotechnical Engineer
MIPENZ (Geotechnical) CPEng

Bore Log attached

\\\\sbs\\documents\\LDE Projects\\9100 to 9199\\9151 Akroyd Endcliffe Road\\9151 pnr 080708 LDE foundation report simplified.doc



<div>  <div> <div>Client : Reg and Sandra Akroyd</div> <div>Project: Proposed relocation of existing dwelling and alterations, 21 Endcliffe Road, Gisborne</div> </div> </div>				LDE Project No.: 9151	
				Investigation Date: 8th July 2008	
				Testing by: P. Rycroft	
				Checked by: B. Wellington	
TS1				TS2	
Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description	Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description
0.00		Topsoil: SILT, organic	0.00		Fill: SAND
0.05			0.05		
0.10			0.10		
0.15			0.15		
0.20	92		0.20		Topsoil: SILT, organic
0.25			0.25		
0.30			0.30	70	
0.35			0.35		
0.40		Alluvium: SILT, clayey	0.40		
0.45			0.45		
0.50	106		0.50		Alluvium: SILT, clayey, some sand pockets
0.55			0.55		
0.60			0.60		
0.65			0.65		becoming CLAY, some mottling
0.70	157		0.70	70	
0.75			0.75		
0.80			0.80		becoming CLAY, some mottling
0.85			0.85		
0.90	164		0.90	70	
0.95			0.95		
1.00		becoming CLAY, some mottling	1.00		
1.05			1.05		
1.10	161		1.10	70	
1.15			1.15		
1.20		inflows	1.20		
1.25			1.25		
1.30	103 ▼ waterlevel on completion		1.30	70	
1.35			1.35		
1.40			1.40		
1.45			1.45		
1.50	72		1.50	70	
1.55			1.55		
1.60			1.60		
1.65			1.65		
1.70			1.70		
1.75			1.75		
1.80			1.80		
1.85			1.85		
1.90			1.90		
1.95			1.95		
2.00		End, Wet	2.00		End, Dry
2.05			2.05		
2.10			2.10		
2.15			2.15		
2.20			2.20		
2.25			2.25		
2.30			2.30		
2.35			2.35		
2.40			2.40		
2.45			2.45		
2.50			2.50		
2.55			2.55		
2.60			2.60		
2.65			2.65		
2.70			2.70		
2.75			2.75		
2.80			2.80		
2.85			2.85		
2.90			2.90		
2.95			2.95		
TS3				TS4	
Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description	Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description
0.00		Topsoil/Fill: SILT minor sand, organic	0.00		Topsoil/Fill: SILT some sand, organic
0.05			0.05		
0.10			0.10		
0.15			0.15		
0.20			0.20		
0.25			0.25		
0.30			0.30		
0.35			0.35		
0.40			0.40	92	
0.45		Alluvium: SILT, minor sand	0.45		Alluvium: SILT, some sand
0.50			0.50		
0.55			0.55		
0.60			0.60	97	
0.65			0.65		
0.70			0.70		becoming CLAY, some mottling
0.75			0.75		
0.80			0.80	115	
0.85			0.85		
0.90			0.90		
0.95			0.95		
1.00			1.00	159	
1.05			1.05		
1.10			1.10		
1.15			1.15		
1.20			1.20	113	
1.25			1.25		
1.30			1.30		
1.35			1.35		
1.40			1.40		
1.45			1.45	89	
1.50			1.50		
1.55			1.55		
1.60			1.60		
1.65			1.65		
1.70			1.70		
1.75			1.75		
1.80			1.80		
1.85			1.85		
1.90			1.90		
1.95			1.95		
2.00		End, Dry	2.00		End, Dry
2.05			2.05		
2.10			2.10		
2.15			2.15		
2.20			2.20		
2.25			2.25		
2.30			2.30		
2.35			2.35		
2.40			2.40		
2.45			2.45		
2.50			2.50		
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2.60			2.60		
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2.70			2.70		
2.75			2.75		
2.80			2.80		
2.85			2.85		
2.90			2.90		
2.95			2.95		
TS5				TS6	
Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description	Depth (m)	Graphic Blows/50mm Shear strength (kPa)	Soil Description
0.00		Topsoil/Fill: SILT some sand, organic	0.00		
0.05			0.05		
0.10			0.10		
0.15			0.15		
0.20			0.20		
0.25			0.25		
0.30			0.30		
0.35			0.35		
0.40			0.40		
0.45			0.45		Alluvium: SILT, some sand
0.50	86		0.50		
0.55			0.55		
0.60			0.60		
0.65			0.65		
0.70			0.70	149	
0.75			0.75		
0.80			0.80		becoming CLAY, some mottling
0.85			0.85		
0.90			0.90	144	
0.95			0.95		
1.00			1.00		
1.05			1.05		
1.10			1.10	103	
1.15			1.15		
1.20			1.20		
1.25			1.25		
1.30			1.30	89	
1.35			1.35		
1.40			1.40		
1.45			1.45		
1.50			1.50	84	
1.55			1.55		
1.60			1.60		
1.65			1.65		
1.70			1.70		
1.75			1.75		
1.80			1.80		
1.85			1.85		
1.90			1.90		
1.95			1.95		
2.00		End, Dry	2.00		End, Dry
2.05			2.05		
2.10			2.10		
2.15			2.15		
2.20			2.20		
2.25			2.25		
2.30			2.30		
2.35			2.35		
2.40			2.40		
2.45			2.45		
2.50			2.50		
2.55			2.55		
2.60			2.60		
2.65			2.65		
2.70			2.70		
2.75			2.75		
2.80			2.80		
2.85			2.85		
2.90			2.90		
2.95			2.95		

PLANNING REQUIREMENT
SEE PIM

Building File No:
14 2 6 0

Building Consent No:
95 17

GISBORNE DISTRICT COUNCIL
24 JUL 2008
BUILDING CONSENTS

PLANNING REQUIREMENT
Foundation Calculations
SEE PIM

		Kpa		M		Kn/m	
Dead Load	Roof		0.30 x		7.58	2.00	3.79
	Walls		0.30 x		2.40		0.72
	Floor		0.30 x		1.94	2.00	0.97
							2.15 Kn/m
Piles			1.24 x		2.15		2.66
Perimeter	mm	M	KN/m				
	0.125	0.125	0.90	5.00			0.07
+ footing	0.45	0.45	0.20	24.00			0.97
							3.71 Kn/m
Dead Load =							5.85

Roof	0.50	7.58	2.00	3.79	1.90	
Floor	1.50	1.94	2.00	0.97	1.46	
						3.35 Kn/m
	3.35	1.24		4.15	Kn/pile	

	Kn/m			
Applied Soil Bearing =	13.67	0.45	0.45	67.51 Kpa

Scala Results 6 Blows per 300mm

Soil Bearing 300 KPa ultimate

Soil; Bearing Capacity = 150KPa (worst case)

Loading Safety Factor = 150.00 divided by 67.51

2.22

Summary:-

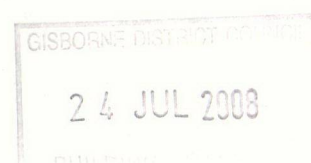
0.125 x 0.125 x 0.9m H5 tanapiles on 450mm x 450mm x 200mm thick footing at 650mm depth min is OK

0.450mm dia Eziyaka pad is acceptable

Anchor piles & cantilever piles to be concreted up to ground level

(refer to Foundation Plan for Anchor pile and Cantilever pile locations)

Warren Edlin



12kN PILE FIXING

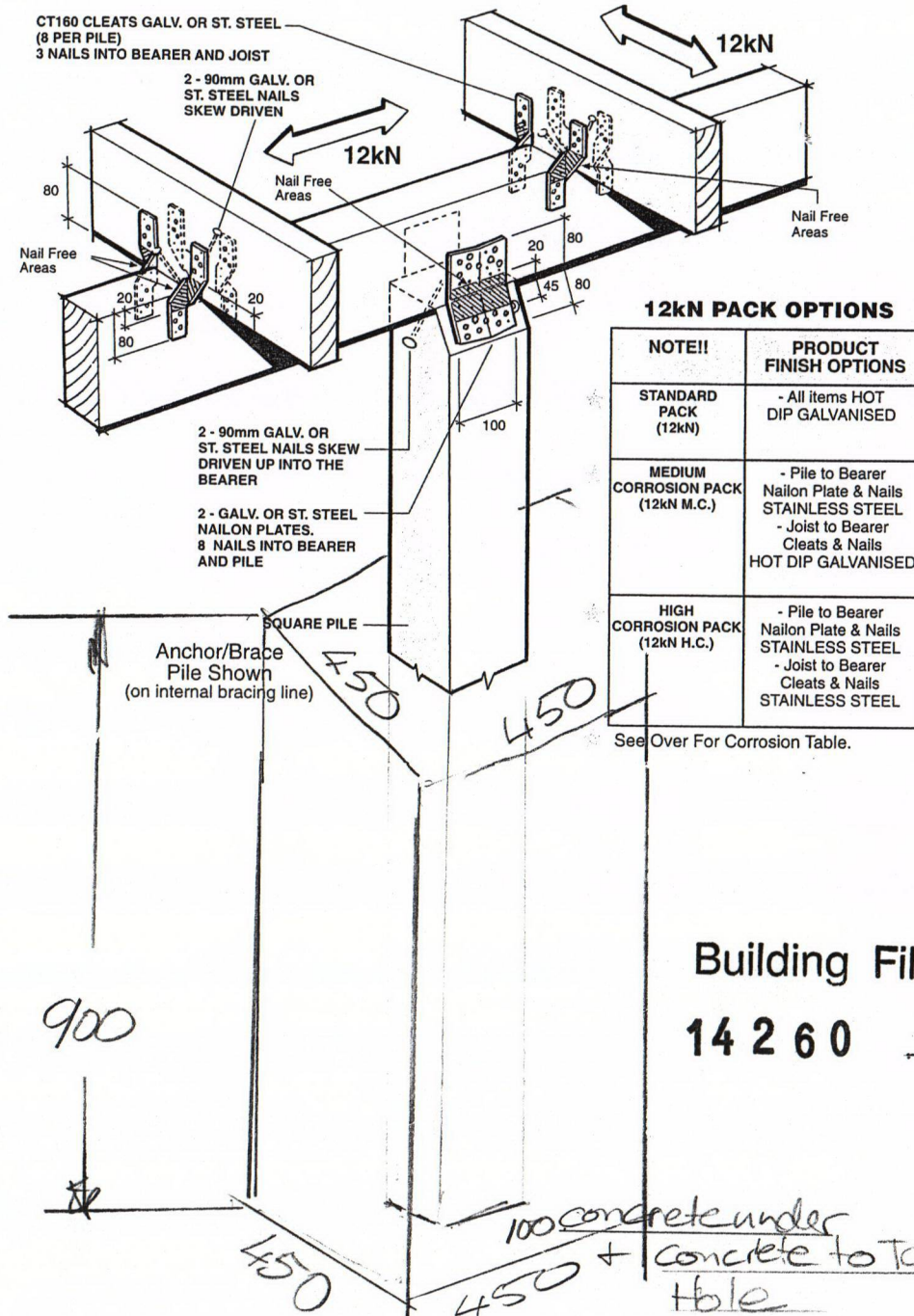
For Braced Piles or Anchor Piles

01

The 12kN Pile Fixing must be installed in accordance with this brochure
Auckland University Tested. Test Ref. 4613

All subfloor construction must be in accordance with NZS3604: 1999
NZS3604 requires lines of lateral support to floor joists within 300mm of
bearer or bracing lines, refer to Reference 7.1.2

Suitable for bearers and joists up to 150mm deep. Maximum joist depth to
width ratio 3:1 and maximum bearer depth to width ratio 1.5:1



Building File No:

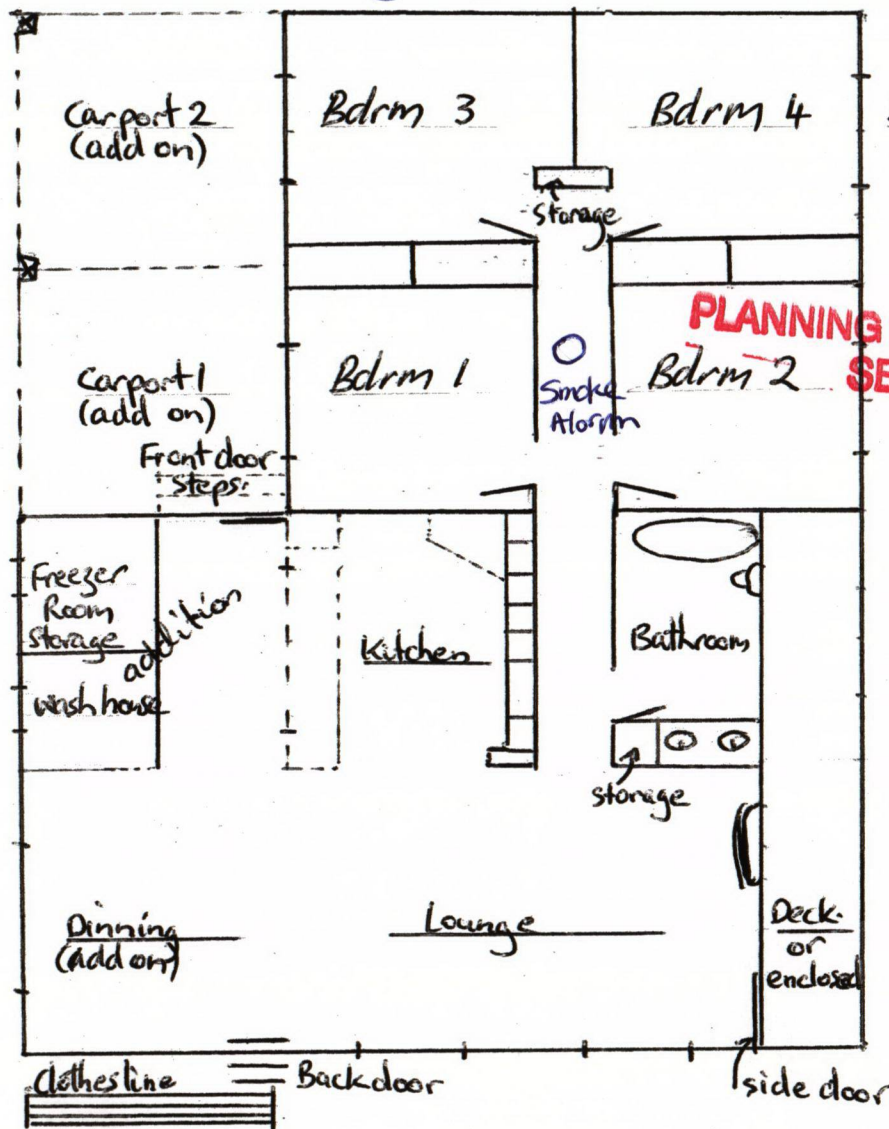
14 2 6 0

Building Consent No:

95 1 7

(old).

FLOOR PLAN 1:100



- Notes:
1. Roof Extensions over Bdrms 3+4 to be consistent with existing trusses, structure + roofing.
 2. Walls surrounding Bdrms 3+4 to be consistent with internal framing.
 3. Windows to be similar in appearance.
 4. The outside deck may be enclosed into the lounge part of the house.
 5. The Kitchen may move towards the North and Sun.
 6. The Dining room may become the wash-house area. and vice-versa.
 7. The New additions give us 'ideas but not totally concrete'.
 8. Carports are probable.

Building Consent No:

95 17

Building File No:

14 2 6 0

GISBORNE DISTRICT COUNCIL

24 JUL 2003