Far North District Council

Office Use Only
Application Number:

Private Bag 752, Memorial Ave
Kaikohe 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

APPLICATION FOR RESOURCE CONSENT OR FAST-TRACK RESOURCE CONSENT

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA))
(If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Form 9)

Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges – both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a Council Resource Consent representative to discuss this application prior to lodgement? Yes / No

2. Type of Consent being applied for (more than one circle can be ticked):

✓ Land Use O Fast Track Land Use* O Subdivision O Discharge

O Extension of time (s.125) O Change of conditions (s.127) O Change of Consent Notice (s.221(3))

O Consent under National Environmental Standard (e.g. Assessing and Managing Contaminants in Soil)

O Other (please specify) _____

***The fast track for simple land use consents is restricted to consents with a controlled activity status and requires you provide an electronic address for service.**

3. Would you like to opt out of the Fast Track Process?

Yes / No

4. Applicant Details:

Name/s: Robert W Mahalovich & Sharon M Hensley

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

Postal Address: (*or* alternative method of service under section 352 of the Act)

5. Address for Correspondence: *Name and address for service and correspondence (if using an Agent write their details here).*

Post Code:

Name/s: Robert W Mahalovich & Sharon Hensley

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

Postal Address: (*or* alternative method of service under section 352 of the Act)

All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.

6. Details of Property Owner/s and Occupier/s: *Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)*

Name/s: Mr Robert W Mahalovich & Sharon M Hensley

Property Address/:
Location 91 Okahu Road, Kaitaia 0410

7. Application Site Details:

Location and/or Property Street Address of the proposed activity:

Site Address/
Location: 91 Okahu Road, Kaitaia

Val Number: 00033-25700

Legal Description: Lot 11 Deposited Plan 46761

Certificate of Title: NA14D/466 (Note: FNDC has requested this and charged $42.00)

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site Visit Requirements:

Is there a locked gate or security system restricting access by Council staff? Yes / No

Is there a dog on the property? Yes / No

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

The gate is normally locked, but will be left unlocked if council staff, let us know when they are coming

We have 2 small Jack Russel Dogs, they bark but do not bite.

8. Description of the Proposal:

Please enter a brief description of the proposal here. Attach a detailed description of the proposed activity and drawings (to a recognized scale, e.g. 1:100) to illustrate your proposal. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Proposed to build additonal garage on the end of the existing house

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification

Yes/No

10. Other Consent required/being applied for under different legislation (more than one circle can be ticked):

X Building Consent (BC ref # if known)

EBC-2024-280/0

O Regional Council Consent (ref # if known)

O Other (please specify)

O National Environmental Standard

11. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

consent

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following (further information in regard to this NES is available on the Council's planning web pages):

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)

O yes X no O don't know

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle).

O yes X no O don't know

O Subdividing land

O Changing the use of a piece of land

O Disturbing, removing or sampling soil

O Removing or replacing a fuel storage system

12. Assessment of Environmental Effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as Written Approvals from adjoining property owners, or affected parties.

Please attach your AEE to this application.

13. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write all names in full)

Email:

Postal Address:

Phone Numbers:

[redacted]

Fees Information: An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

Declaration concerning Payment of Fees: I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: [redacted] please print)

Signature: [redacted] signature of bill payer – **mandatory**) Date: 12/10/2023

14. Important Information:

Note to applicant
You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.
You may apply for 2 or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application
Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement. A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:
Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

Declaration: The information I have supplied with this application is true and complete to the best of my knowledge.

Name: [redacted] (please print)

Signature: [redacted] (signature) Date: 12/10/2023

(A signature is not required if the application is made by electronic means)

Checklist (please tick if information is provided)

- ○ Payment (cheques payable to Far North District Council) No Account received yet
- ☑ A current Certificate of Title (Search Copy not more than 6 months old) FNDC obtained this for $42.00
- ○ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ☑ Applicant / Agent / Property Owner / Bill Payer details provided
- ☑ Location of property and description of proposal
- ☑ Assessment of Environmental Effects Attached
- ○ Written Approvals / correspondence from consulted parties Not required
- ○ Reports from technical experts (if required) N/A
- ☑ Copies of other relevant consents associated with this application Building Consent application attached
- ☑ Location and Site plans (land use) AND/OR Attached
- ○ Location and Scheme Plan (subdivision)
- ☑ Elevations / Floor plans Attached
- ○ Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

Only one copy of an application is required, but please note for copying and scanning purposes, documentation should be:

UNBOUND **SINGLE SIDED** **NO LARGER THAN A3 in SIZE**

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

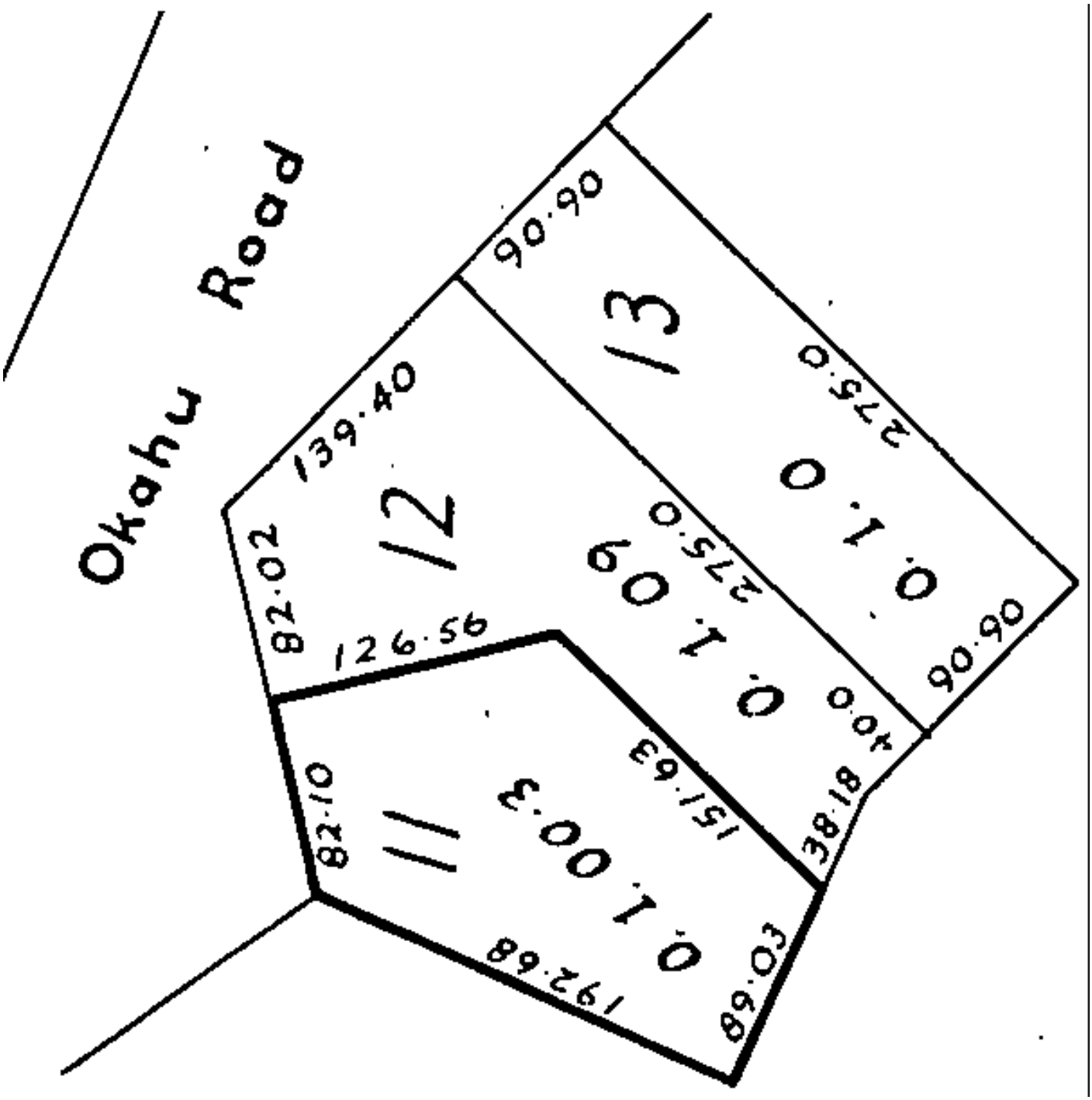
Identifier	**NA14D/466**
Land Registration District	**North Auckland**
Date Issued	06 June 1968

Prior References
NA1648/29

Estate	Fee Simple
Area	1019 square metres more or less
Legal Description	Lot 11 Deposited Plan 46761
Registered Owners	[redacted]

Interests

Saving and excepting all minerals within the meaning of the Land Act 1924 on or under the land and reserving always to Her Majesty the Queen and all persons lawfully entitled to work the said minerals a right of ingress egress and regress over the said land


Okahu Road
13
0.1.0
90.90
275.0
12
0.1.09
139.40
82.02
275.0
126.56
11
0.1.00.3
82.10
151.63
40.0
38.18
192.68
89.03
90.90

Application for Resource Consent

Mr Robert W Mahalovich & Sharon M Hensley

Assessment of Effects

1. Introduction

This Statement of effects provides an assessment of the actual and / or potential effects on the environment of the proposed development of additional Garage to the Existing House at 91 Okahu Road, Kaitaia 0410,

This statement of effects accompanies and forms part of the resource consent application.

1.1 Description of the Site.

The section of 91 Okahu Road, is 1019m2. The site is located, set back from the edge of the hill, on the Western side of the road, above the township of Kaitaia. The site is a slightly sloped property which falls gradually towards the rear of the property westward.

There is currently a 1970's Brick and weatherboard house located near the road boundary of the site. The rear of the building has a few hedging plants but is generally just clear lawn with no gardens. We have neighbors on either side of us, and the back boundary, borders a Farm.

1.2 Description of the Proposal

It is proposed to build an addition of a Garage on the rear of the existing dwelling. This activity is permitted by the plan.

The Building Coverage Rule states "any new building or alteration / addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 10% or 2400m2, whichever is the lesser, of the Gross site area. The requirement for the resource consent prior to building : is that 10% = 101.90m2, stated as 178m2. Please see attached plans

1.3 Consultation

Consultation has been undertaken with our surrounding neighbors. Neither of the neighbors on either side expressed any concern regarding the proposed addition.

2 Assessment of effects

- Reduced sunlight/daylight admission

The proposed development is at the rear of the existing building and the topography of the land sloping down at the rear, makes the proposed garage lower than that of our neighbors to the right and to the very rear of our neighbors section on the left, there is no adverse effect on any of the neighbors.

- Not in keeping with the design of the house

It is proposed to construct the addition out of the same style and width cladding as is currently on the existing Garage. The addition will be finished in the color matched cladding as the existing dwelling.

- Out of Character with the street.

Due to the slope of the land, and the current vegetation and fencing between us and our neighbor's the addition would not have any visible impact on either of our neighbor's. Due to the nature of the building materials proposed (i.e., similar to those of the existing house), the addition will not be a dominant feature on the landscape or out of character with other houses in the neighborhood.

- Reduces someone's privacy

No neighbor's privacy will be impacted by the proposed addition to the existing dwelling.

- Blocks someone's view

No one's view will be affected by the proposed addition.

- Compromises a known vegetative or built feature

The addition will be placed on existing concrete, and no existing vegetation in the area will be compromised.

Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

HE ARA TĀMATA
CREATING GREAT PLACES
Supporting our people

Private Bag 752, Kaikohe 0440, New Zealand
ask.us@fndc.govt.nz
0800 920 029
fndc.govt.nz

9 October 2023

Robert William Mahalovich and Sharon Mary Hensley
91 Okahu Road
Kaitaia 0410

Reference Number: EBC-2024-280/0
Property Address: 91 Okahu Road, Kaitaia 0481
Property ID # 3303657
Description: Alterations to dwelling

Dear Sir / Madam,

Further Information Request – Building

Work on your application has been suspended because further information is required to demonstrate compliance with the New Zealand Building Code. Processing of your application will resume on receipt of all of the information listed below:

As per discussion on 5/10/2023 please provide the following to allow for assessment:

X 1. Updated Form 2 completed correctly.
✓ 2. Site plan clearly showing existing structure and next – proposed structure, showing all changes.
✓ 3. Provide updated drawings showing detail of structural connection of proposed garage to existing dwelling, flashing at the junction between new and existing roofs, joining of cladding details, clearly mark details on drawings, showing locations.
✓ 4. Please show how compliance with E2 of proposed new bedroom is achieved (such as channel drain, as discussed).
✓ 5. On site plan show how compliance with E1 is achieved, such as stormwater management (connection from channel drain to stormwater system.
✓ 6. Show how compliance with H1 is achieved (insulation).
✓ 7. If garage is to stay as part of this consent, please provide studs sizes, spacing and fixings to comply with B1.

To reduce further processing costs and delays, please email ALL the listed information in one response to bsg@fndc.govt.nz.

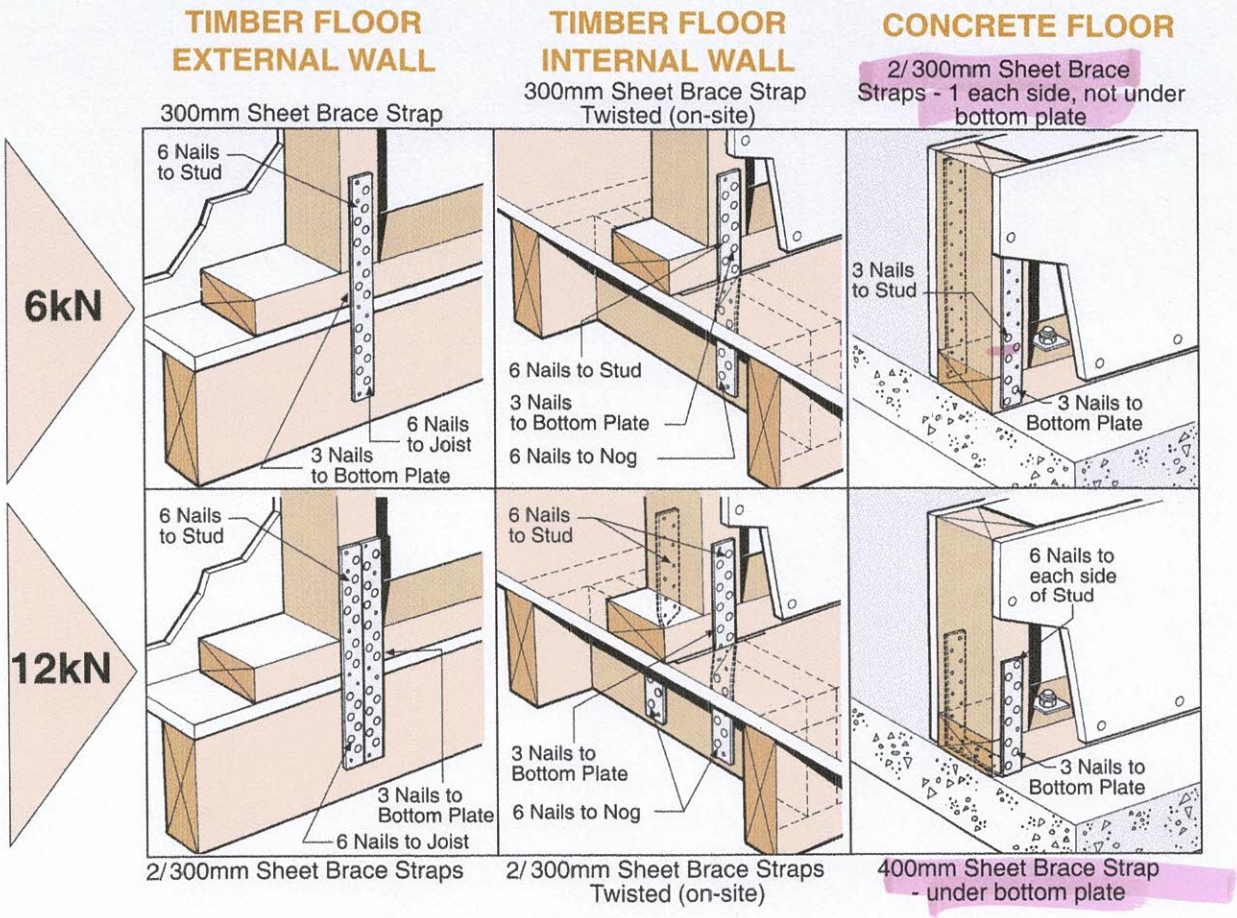
07/2011

LUMBERLOK®

SHEET BRACE STRAPS

- ★ Complies with Section 8 NZS 3604:2011
- ★ 6kN and 12kN fixings
- ★ 200, 300, 400 and 600mm length
- ★ Quick and easy to apply

USE STAINLESS STEEL OPTION IN EXTERIOR SITUATIONS



LUMBERLOK Sheet Brace Straps are available in 200, 300, 400 and 600mm lengths.
In addition to a bracing wall hold down, this product can be used for a multitude of 6kN fixings situations, as detailed in NZS 3604:2011.
0.91mm x 25mm G300 Z275 Galvanised Steel.
Nail using LUMBERLOK Product Nails 30mm x 3.15 diameter.
Also available in 0.9mm x 25mm Stainless Steel 304-2B.

Available from leading Builders Supply Merchants throughout New Zealand

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Phone: 09-274 7109
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PO Box 8387, Riccarton 8440
Phone: 03-348 8691
Fax: 03-348 0314

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MiTek®
MITEK® LUMBERLOK® BOWMAC®

BUILDING TRUST

PRODUCT DATA SHEET

SikaSwell®-1 Rapid NS

Non-swelling, fast curing joint mastic

PRODUCT DESCRIPTION

SikaSwell®-1 Rapid NS is a 1-part, fast curing, non-swelling adhesive with very high initial grab which bonds most common construction substrates. Used for adhering SikasSwell® Profiles within construction joints.

USES

Fixing / Adhering swellable profiles:
- SikaSwell® A Profiles
- SikaSwell® P Profiles

CHARACTERISTICS / ADVANTAGES

- Fast Curing
- Early handling after 20 min
- 1-part, easy and fast to apply
- Highly economical joint sealing solution
- Versatile solution for joints and details
- Permanently water resistant (wet & dry cycles)
- Good adhesion to various substrates

APPROVALS / STANDARDS

Tested alongside SikaSwell A-Profiles to Vattenfall test for hydrophilic waterstops. Report No. 2278-61

PRODUCT INFORMATION

Chemical Base	Silane terminated polymer	
Packaging	600 ml unipacs - 20 unipacs / box	
Appearance / Colour	Black	
Shelf Life	12 months from the date of production	
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to packaging	
Density	~1.50 kg/l	(ISO 1183-1)

TECHNICAL INFORMATION

Shore A Hardness	~55 (after 28 days)	(ISO 868)
Tensile Strength	~2,5 N/mm²	
Elongation at break	~350 %	
Service Temperature	–40 °C min. / +60 °C max.	

APPLICATION INFORMATION

Sag Flow	~1 mm (20 mm profile, 23 °C)	(ISO 7390)
Consumption	10mm bead delivers 6lm / 600ml Sausage	
Curing Rate	~4 mm/24 h (23 °C / 50 % r.h.)	(CQP 049-2)
Skin Time	~12 min (23 °C / 50 % r.h.)	(CQP 019-1)
Ambient Air Temperature	+5 °C min. / +35 °C max.	
Substrate Temperature	+5 °C min. / +35 °C max., min. 3 °C above dew point temperature	

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LIMITATIONS

SikaSwell®-1 Rapid NS should not be used on its own within joints or around pipe penetrations. Must be used in conjunction with SIkaSwell A profiles for joint sealing.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

All site work must be undertaken by suitably qualified personnel only.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must be sound, clean, dry or matt damp and free from all surface contaminants that could impair the adhesion of the sealant.

APPLICATION METHOD / TOOLS

Bonding Procedure After the necessary substrate preparation, prepare the end of the cartridge before or after inserting into the sealant gun then fit the nozzle. Apply in triangular beads, strips or spots at intervals of a few centimetres each. Use hand pressure only to fix the components to be bonded into position before skinning of the adhesive occurs. Incorrectly positioned components can easily be unbonded and repositioned during the first few minutes after application. If necessary, use temporary adhesive tapes, wedges, or supports to hold the assembled components together during the initial curing time.

Fresh, uncured adhesive remaining on the surface must be removed immediately.
Final strength will be reached after complete curing of SikaSwell®-1 Rapid NS, i.e. after 24 to 48 hours at +23 °C, depending on the environmental conditions and adhesive layer thickness.

IMPORTANT

Ensure good compaction during placement compact the fresh concrete well around the SikaSwell® to ensure a good dense concrete without voids or honeycombs.

SikaSwell®-1 Rapid NS WITH A SIKASWELL® PROFILE

Apply SikaSwell®-1 Rapid NS in a narrow bed (size of triangular section ~10 mm) onto the prepared substrate. Extrude enough material to level the roughness of the substrate.

1. Press the SikaSwell® A profile or SikaSwell® P profile firmly into the fresh applied SikaSwell®-1 Rapid NS. The profiles must be placed within maximum 20 minutes (at +23 °C / 50 % r.h.).
2. Ensure full and continuous contact between the SikaSwell®-1 Rapid NS and both the SikaSwell® profile and the substrate is achieved.
3. Allow SikaSwell®-1 Rapid NS to harden for 4 hours before placing concrete. For pouring height > 50 cm, SikaSwell®-1 Rapid NS must harden for at least 6 hours before placing concrete.
4. Protect the SikaSwell®-1 Rapid NS against water (for example rain) until the concrete is placed.
5. During placement compact the fresh concrete well around the SikaSwell® profile.

SikaSwell® profiles require a minimum of 75mm Reinforced concrete cover.

CLEANING OF TOOLS

Clean all tools and application equipment immediately after use with Sika® Thinner C. Hardened material can only be removed mechanically.

LOCAL RESTRICTIONS

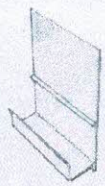
Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

SIKA LIMITED
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited

WINDOW ACCESSORIES (refer paragraph 2.6)

Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
Window Head Closer 61545WHT3		3.0m	For use at the head flashing level for cavity installation only. Comes in white as not required to be colour matched.	Installed at the head of the joinery prior to the instaltion of cavity batten.	n/a	Diagrams A, G and H Paragraphs 2.1.2 and 2.6.5
Window Base Scriber MVWCBFWHT3.6		3.6m	For use to close the gap at the base of windows to less than 5mm.	Installed onto the cut part of the board, covered once the joinery is installed.	n/a	Diagram F Paragraph 2.6.1.1
WANZ Support Bar Supplied by the window fabricator		3.6m	Aluminium support bars are for use at base of opening to support joinery.	Fixed in place prior to the installation of joinery.	n/a	Diagram A Paragraph 2.1.3 and 2.5.1.4

FINISHING TRIMS (refer paragraph 2.8)

Moulded End Plugs Insert Colour MVEP_ Rusticated or Traditional Insert Colour MVEPTRAD_		Per Unit	Palliside end plugs are available in both rusticated and traditional profiles to match selected Palliside colours.	n/a	Insert in to profile gaps with solvent cement after weatherboard joinery and all vertical trim caps have been installed.	Diagram K Paragraphs 2.8.1.4 and 2.9.1
Fastfix Fastener Insert Colour		50 Per Pack	Palliside fastfix fasteners are mainly used to hold a cut weatherboard above the head flashing in place and come in colours to match selected Palliside weatherboard.	n/a	Once weatherboard above joinery has been fixed in place.	Paragraph 2.6.6.3
Foam Soffit Mould Insert Colour FMBC8_3.6		3.6m	Palliside foam soffit mould is a 40mm x 18mm cornice moulding which can be used as a horizontal finish at soffit line. This trim is available to match the chosen Palliside colour.	n/a	Once top weatherboard has been installed.	Diagram I Paragraph 2.7.1.3

BRANZ H1/AS1 5th Edition Calculation Method Spreadsheet - Results

Version: 4 May 2023

Client	[redacted]
Project name	
Address	
Designer	
Date	
Territorial Authority	Far North District
When submitted	Before 2 November 2023
Climate Zone	1
Application	Housing

Proposed Building

Element		Area (m²)	Proposed Building Heat Loss (W/K)
Slab Floors		27.0	19.3
Other Floors		0.0	0.0
Roof		27.0	4.1
Skylights		0.0	0.0
Walls		50.4	22.9
Glazing (walls & doors)	(0.0% of total wall area)	0.0	0.0
Doors (opaque)		0.0	0.0
			Total 46.3

Reference Building

Element	Area (m²)	Reference Building Heat Loss (W/K)
Slab Floors	27.0	18.0
Other Floors	0.0	0.0
Total Roof (includes skylight area)	27.0	4.1
Walls (70% of total wall area)	35.3	17.6
Glazing allowance (30% of total wall area)	15.1	40.9
		Total 80.6

Comparison of proposed building against the reference building — **PASS**

	Element type	Description	Embed heating?	Area (m²)	Construction R-value (m².K/W)	Heat Loss (W/K)	Errors
1	Slab Floors	100mm concrete floor	No	27.0	1.4	19.3	
2	Roof	pitched truss roof with flat	No	27.0	6.6	4.1	
3	Walls	90mm timber	No	50.4	2.2	22.9	
4	Glazing (walls & doors)	sliding door		0.0	2.60	0.0	
5							
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26							

H1. Done.

WE'VE GOT YOUR INSULATION SOLUTIONS COVERED.

To find out more about our vision for better performing New Zealand homes, visit our H1 hub.
https://www.comfortech.co.nz/h1-hub/

COMFORTECH®
BUILDING PERFORMANCE SOLUTIONS

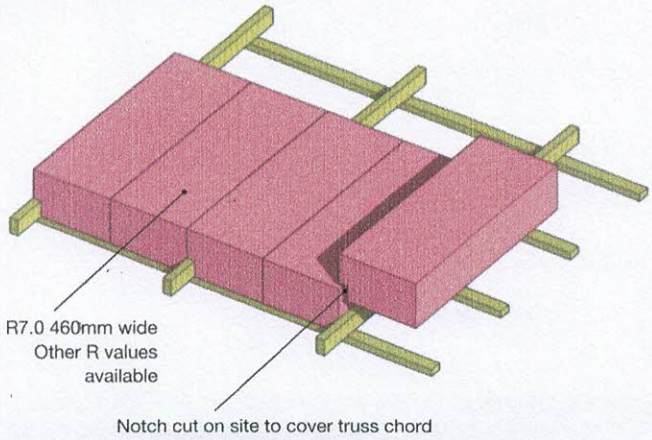
Single Layer Solution

Comfortech® have developed a single layer Pink® Superbatts® · R7.0 solution, at a new width of 460mm, segments can be notched and fitted between the truss chord to seal the thermal bridge.

For compliance using the:

- **Schedule method**
  Use Pink® Superbatts® R7.0
- **Calculation and Modelling methods**
  May determine a lower R-value is required. Comfortech® has a range of other R-values including Pink® Superbatts® R4.5, R5.0, R6.0 which will all be at the new width of 460mm

Single Layer solution

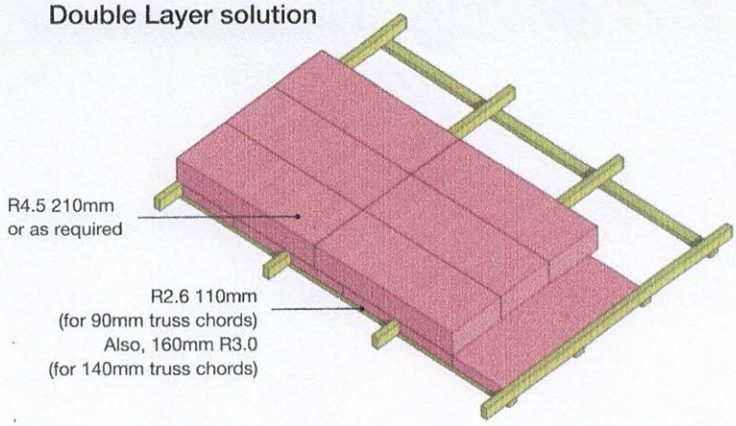


Double Layer Solution

The Comfortech® two layer solution uses a:

- First layer of Pink® Batts® insulation that is the combined height of the truss chord and the gap to the top of the ceiling batten. This layer would be either 110mm for a 90mm truss chord, or 160mm for a 140mm truss chord.
- Second layer of over-width (460mm wide) Pink® Superbatts® insulation. When the two layers are installed, the thermal bridge is completely closed, and the insulation performs as modelled

Double Layer solution



Insulation Guard for both solutions

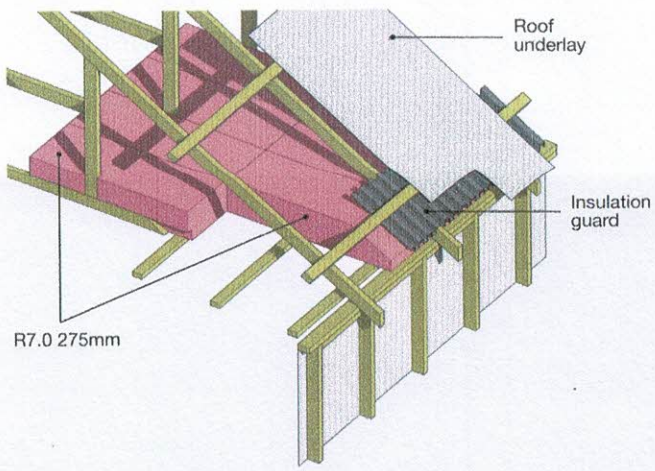
As roof insulation increases in thickness to meet the new building code, there is a greater differential in the surface temperature of the ceiling versus that of the top of the insulation. Warm air can escape the warm interior through leakage and entering the roof cavity will likely condense; creating condensation.

Under the new H1, the last 500mm of the perimeter of the roof insulation can be reduced to R3.3; this allows the insulation to carried out over the top plates of the wall, while reducing the barrier to air flow from the eave edges.

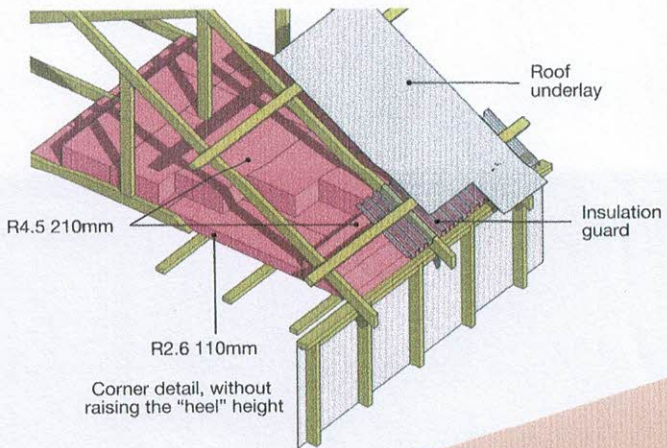
There is still a high risk of the insulation touching the underside of the roof underlay, preventing ventilation of the roof space and creating a condensation and mould risk. We recommend the installation of a insulation guard over the trusses, under the underlay, to maintain this critical ventilation pathway. Rather than the expense of a Raised Heel Truss, Comfortech® have solutions that can avoid unnecessary extra cost.

Note: It is important to note that the insulation guard needs to be installed before the roof goes on, not at the same time as the insulation installation

Single Layer solution with guard



Double Layer solution with guard



COMFORTECH
BUILDING PERFORMANCE SOLUTIONS

A more comfortable tomorrow with our new Pink® Superbatts® range of H1 solutions.

At Comfortech® our ambition is to create a more sustainable and comfortable future by enabling all Kiwis to live and work in warmer, healthier and more energy-efficient buildings.

We're meeting this commitment with our new Pink® Superbatts® range which have been designed specifically to meet the new H1 building code changes for insulation.

To find out more about our vision for better performing New Zealand homes, visit our H1 Hub at comfortech.co.nz

Our Pink® Superbatts® are at least 25mm wider than our standard Pink®Batts® ceiling range

H1 Ceiling Solutions	Product Code	Size (mm)	Nominal Stabilised Thickness (mm)	Nominal Total Area Per Bale (m^2)	Approx. Coverage Per Bale (m^2)	BRANZ Appraisal Number
*R2.6 Pink® Batts®	7160266	1220 x 432	110	9.5	10.0	238
*R3.0 Pink® Batts®	7160265	1220 x 432	160	8.4	8.9	238
R4.5 Pink® Superbatts®	7113145	1220 x 460	210	5.6	5.5	238
R5.0 Pink® Superbatts®	7113150	1220 x 460	225	4.5	4.4	238
R6.0 Pink® Superbatts®	7113160	1220 x 460	245	3.9	3.8	238
R7.0 Pink® Superbatts®	7113170	1220 x 460	275	3.4	3.3	238

*First layer of a double layer solution

H1 Skillion Solutions	Product Code	Size (mm)	Nominal Stabilised Thickness (mm)	Nominal Total Area Per Bale (m^2)	Approx. Coverage Per Bale (m^2)	BRANZ Appraisal Number
R1.0 Pink® Superbatts®	7113210	1220 x 580	40 max	17.0	17.6	767
R5.0 Pink® Superbatts®	7113250	1220 x 560	180 max	4.1	4.4	767
R6.0 Pink® Superbatts®	7113260	1220 x 560	230 max	4.1	4.4	767
R7.4 Pink® Superbatts®	7113274	1220 x 560	275 max	3.4	3.7	767

H1 Wall Solutions	Product Code	Size (mm)	Nominal Stabilised Thickness (mm)	Nominal Total Area Per Bale (m^2)	Approx. Coverage Per Bale (m^2)	BRANZ Appraisal Number
R2.6 Pink® Batts® Ultra® - Wall	7127126	1140 x 560	90	9.6	11.3	238
R2.6 Pink® Batts® Ultra® - Narrow Wall	7160244	1140 x 360	90	7.4	9.2	238
R2.8 Pink® Batts® Ultra® - Wall	7127128	1140 x 560	90	6.4	7.5	238
R2.8 Pink® Batts® Ultra® - Narrow Wall	7160247	1140 x 360	90	4.5	5.6	238
R3.2 Pink® Batts® Ultra® - Wall	7127132	1140 x 560	140	9.6	11.3	238
R3.2 Pink® Batts® Ultra® - Narrow Wall	7160245	1140 x 360	140	7	8.6	238
R3.6 Pink® Batts® Ultra® - Wall	7127136	1140 x 560	140	7	8.3	238
R4.0 Pink® Batts® Ultra® - Wall	7127140	1140 x 560	140	5.1	6	238
R4.0 Pink® Batts® Ultra® - Narrow Wall	7160246	1140 x 360	140	4.1	5	238
R4.3 Pink® Batts® Ultra® - Wall	7127143	1140 x 560	140	3.2	3.8	238

Pink® Batts® Underfloor Solutions	Product Code	Size (mm)	Nominal Stabilised Thickness (mm)	Nominal Total Area Per Bale (m^2)	Approx. Coverage Per Bale (m^2)	BRANZ Appraisal Number
R3.2 Pink® Batts® Snugfloor® Narrow	7131451	1220 x 480	110	8.8	8.2	632
R3.2 Pink® Batts® Snugfloor® Wide	7131601	1220 x 580	110	10.6	10.6	632
R3.2 Pink® Batts® Snugfloor® Narrow	7134832	1220 x 480	140	8.2	7.7	632
R3.2 Pink® Batts® Snugfloor® Wide	7135832	1220 x 580	140	8.5	8.5	632

pink® superbatts®

COMFORTECH
BUILDING PERFORMANCE SOLUTIONS

H1. Done.

WE'VE GOT YOUR INSULATION SOLUTIONS COVERED.

The new insulation changes for small and large buildings might seem daunting, but at Comfortech® we've got all your H1 solutions sorted.

MBIE has made changes to roof, window, wall and underfloor insulation requirements and issuing a new edition of H1/AS1 and H1/VM1 for small buildings.

*AS1/VM1 must be applied to all small buildings **and** to housing of **any** size. AS2/VM2 must be applied to all large buildings.*

The new R-values aim to reduce the energy needed for heating residential homes by approximately 40% over minimum previous status quo requirements.

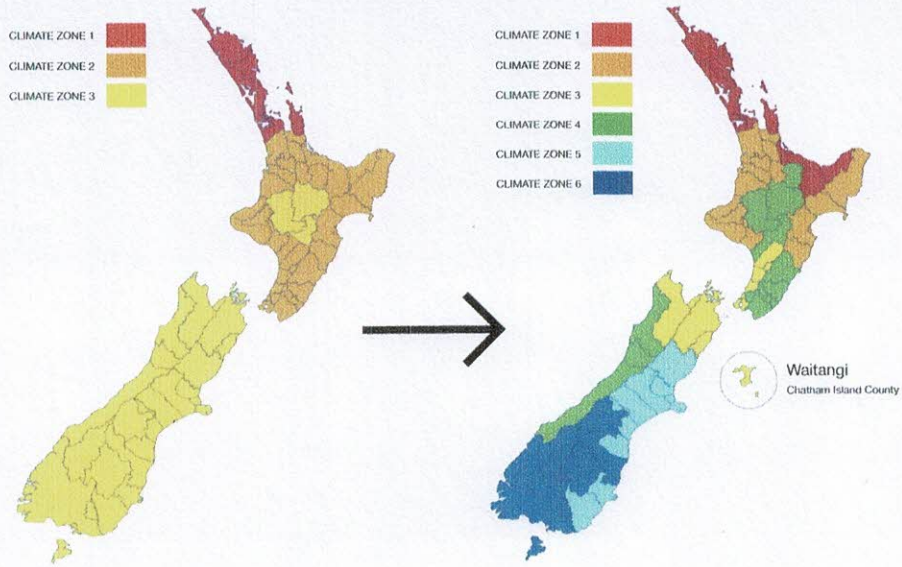
MBIE has also proceeded with changes to roof, window, wall and underfloor insulation requirements and issuing the new H1/AS2 and H1/VM2 for large buildings.

This aims to reduce the energy needed for heating and cooling 23% on average across new large buildings over previous minimum status quo requirements.

Our team at Comfortech® has designed solutions in partnership with the building industry that are flexible enough to cover a range of different building requirements.

Changes to climate zones

Previously New Zealand was divided into three climate zones. To better reflect regional climate differences those zones have now changed to six.



Construction R-values for all residential and small buildings (under 300m²)

There have been significant changes to construction R-values for houses and small buildings (under 300m²) with significant increases in ceiling R-values across the country.

Floors have now been broken out into concrete and raised timber floors, whilst walls have not changed significantly yet.

BUILDING ELEMENT	CLIMATE ZONE					
	1	2	3	4	5	6
ROOF	R6.6 (from 2.9 or 3.2)					
WINDOWS*	R0.37 (from R0.26)		R0.46		R0.50	
WALL	R2.0 (from R1.9)					
SLAB-ON-GROUND FLOORS	R1.5			R1.5	R1.6	R1.7
OTHER FLOORS	R2.5 (from R1.3)			R2.8	R3.0	

*The R-values for windows are being phased in, in stages, to the final values stated in the table above.

COMFORTECH
BUILDING PERFORMANCE SOLUTIONS

Memorandum from licensed building practitioner: Certificate of design work

Section 45 and section 30c, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING		
Street address:	91 OKAHU ROAD	
Suburb:		
Town/City:	KAITAIA	Postcode: 0441

THE OWNER(S)	
Name(s):	[redacted]
Mailing addres	
Suburb:	
Town/City:	
Phone numbe	

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK

I ROB SCOTT carried out/supervised the following design work that is restricted building work

PRIMARY STRUCTURE

Design work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**	**Reference to plans and specifications**
Tick ✓	If appropriate, provide details of the restricted building work	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Foundations and subfloor framing ✓		✓ Carried out ○ Supervised	photos supplied.
Walls ✓		✓ Carried out ○ Supervised	11
Roof ✓		✓ Carried out ○ Supervised	Design 1 T
Columns and beams ○		○ Carried out ○ Supervised	
Bracing ✓		✓ Carried out ○ Supervised	BRANZ 3604/2011
Other ○		○ Carried out ○ Supervised	

EXTERNAL MOISTURE MANAGEMENT SYSTEMS			
Design work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**	**Reference to plans and specifications**
Tick ✓	If appropriate, provide details of the restricted building work	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Damp proofing ○		○ Carried out ○ Supervised	
Roof cladding or roof cladding system ○		○ Carried out ○ Supervised	AS BUILT
Ventilation system (for example, subfloor or cavity) ○		○ Carried out ○ Supervised	11
Wall cladding or wall cladding system ✓		✓ Carried out ○ Supervised	PALLISIDE
Waterproofing ○		○ Carried out ○ Supervised	
Other ○		○ Carried out ○ Supervised	

FIRE SAFETY SYSTEMS			
Design work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**	**Reference to plans and specifications**
Tick ✓ if appropriate	If appropriate, provide details of the restricted building work	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Emergency warning systems ○ Evacuation and fire-service operation systems Suppression or control systems Other		○ Carried out ○ Supervised	

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.

WAIVERS AND MODIFICATIONS

Waivers or modifications of the Building Code are required. ◯ Yes ◯ No

If Yes, provide details of the waivers or modifications below:

Clause	**Waiver/modification required**
List relevant clause numbers of building code	Specify nature of waiver or modification of building code required

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise design work that is restricted building work.

Name: ROB SCOTT	LBP or Registration number: 118535

The practitioner is a: (✓) Design LBP ( ) Registered architect ( ) Chartered professional engineer

[redacted]

DECLARATION

I ROB SCOTT certify that the design work that is restricted building work identified on this form:

- Complies with the building code, or
- Complies with the building code subject to any waiver or modification of the building code recorded on this form

[redacted]

Signature: _____

Date: _____

Memorandum from licensed building practitioner:
Record of Building Work
Section 88, Building Act 2004

THE BUILDING		
Street address:	91 Okaho Rd	
Suburb:		
Town/City:	Kaitaia.	Postcode: 0410

THE PROJECT	
Building consent number:	Lot 11 DP 46761

THE OWNER(S)		
Name(s):	Robert Mahalovich & Sharon Hensley.	
Mailing address:	as above.	
Suburb:		PO Box/Private Bag:
Town/City:		Postcode:
[redacted]		

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick ✓	If necessary, describe the restricted building work	Tick ✓ whether you carried out the work or supervised someone else.
Foundations and subfloor framing ✓	Car Port. closed in afterwards.	✓ Carried out ✓ Supervised
Walls ✓		✓ Carried out ✓ Supervised

PRIMARY STRUCTURE		
Roof ☑		☑ Carried out ☑ Supervised
Columns and beams ☐		☐ Carried out ☐ Supervised
Bracing ☑		☑ Carried out ☑ Supervised
Other ☐		☐ Carried out ☐ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS		
Damp proofing ☑		☑ Carried out ☑ Supervised
Roof cladding or roof cladding system ☑		☑ Carried out ☑ Supervised
Ventilation system (for example, subfloor or cavity) ☐		☐ Carried out ☐ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS CONTINUED

Wall cladding or wall cladding system	✓		✓ Carried out ✓ Supervised
Waterproofing	○		○ Carried out ○ Supervised
Other	○		○ Carried out ○ Supervised

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.

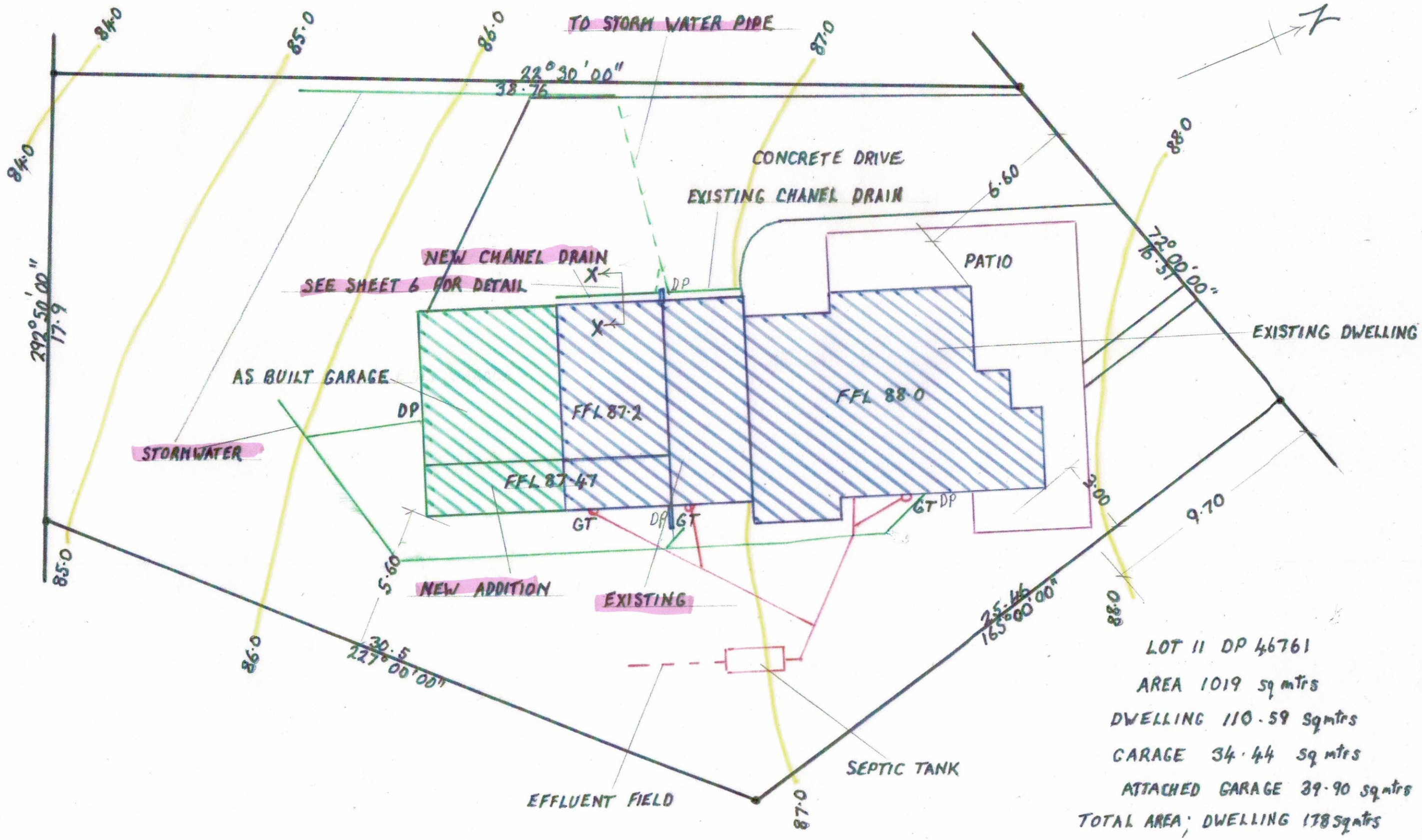
Name: BRUCE PETERSEN	LBP number: BP 115062
Class(es) licensed in: Carpentry S1	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below): Box 153 Awanui	
Street address/Registered office:	
Suburb:	Town/City:
PO Box/Private Bag:	Postcode:
[redacted]	

DECLARATION

I Bruce Petersen carried out or supervised the restricted building work recorded on this form.

Signature: [redacted] Date: 8/9/23.

WIND ZONE HIGH



LOT 11 DP 46761

AREA 1019 sq mtrs

DWELLING 110·59 Sqmtrs

CARAGE 34·44 sq mtrs

ATTACHED GARAGE 39·90 sq mtrs

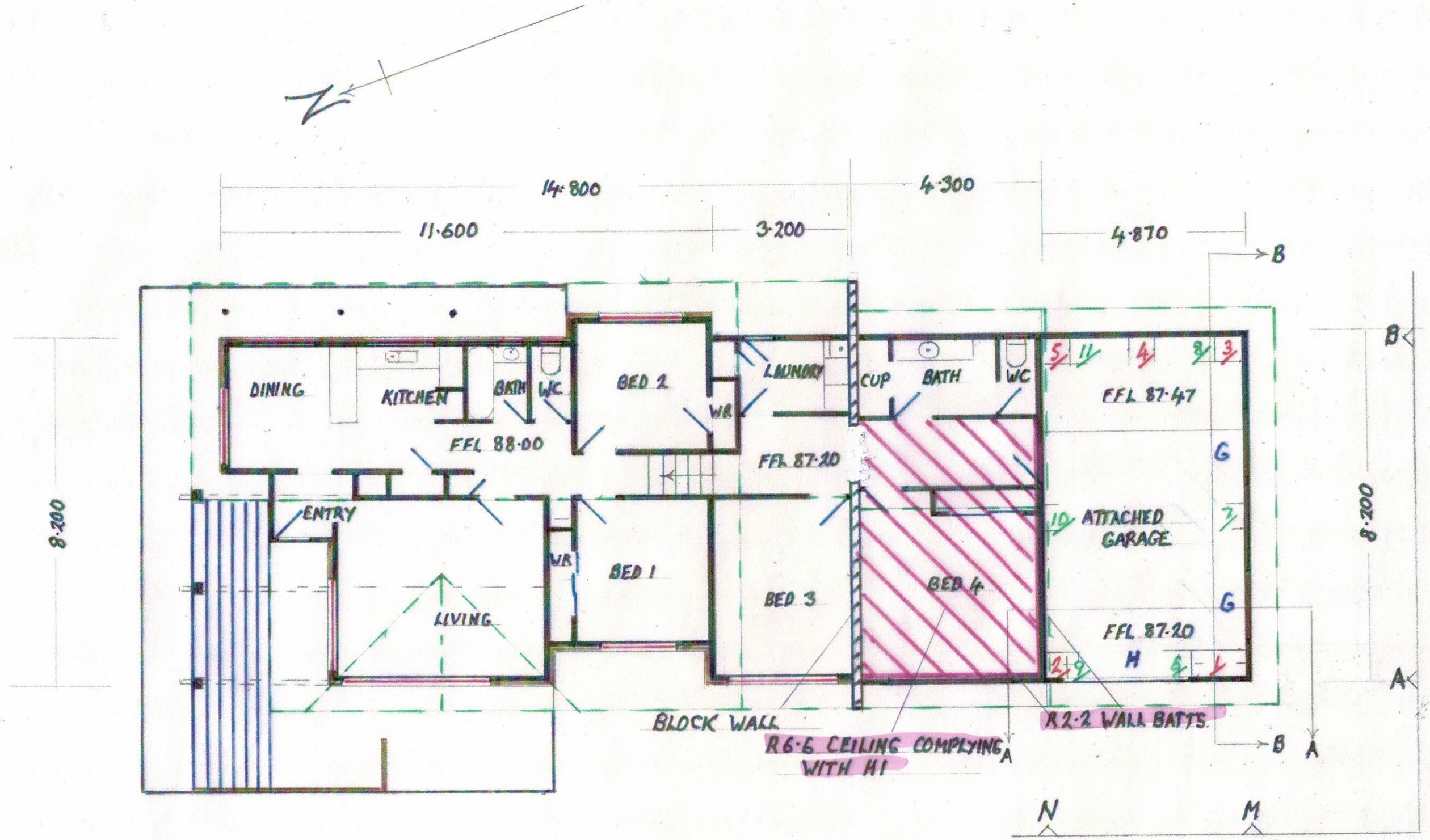
TOTAL AREA; DWELLING 178 Sqmtrs

DRIVEWAY & PATIO 150 sqmtrs

TOTAL IMPERMIABLE AREA; 328 sqmtrs 31 % OF SITE

TOP DESIGN & BUILD LBP 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	SITE PLAN			1
		DATE	01/04/2023	SCALE 1 - 150	of 6

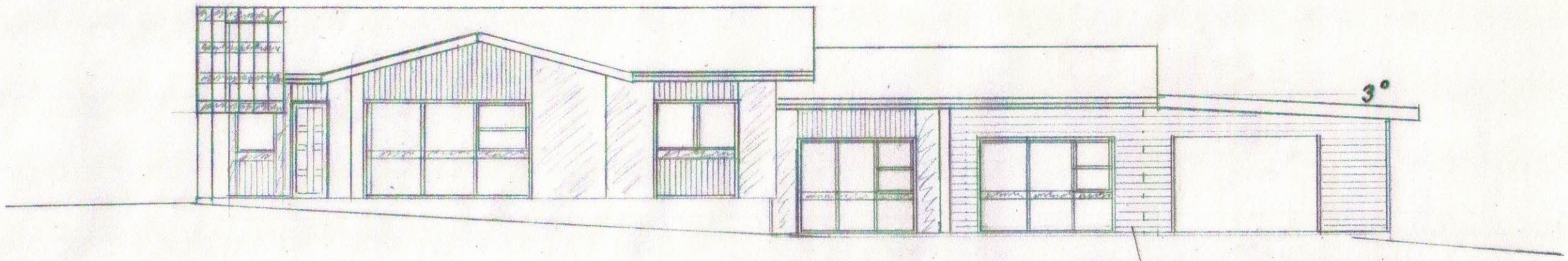
WIND ZONE HIGH



G H LINTEL FIXING SHEDULE

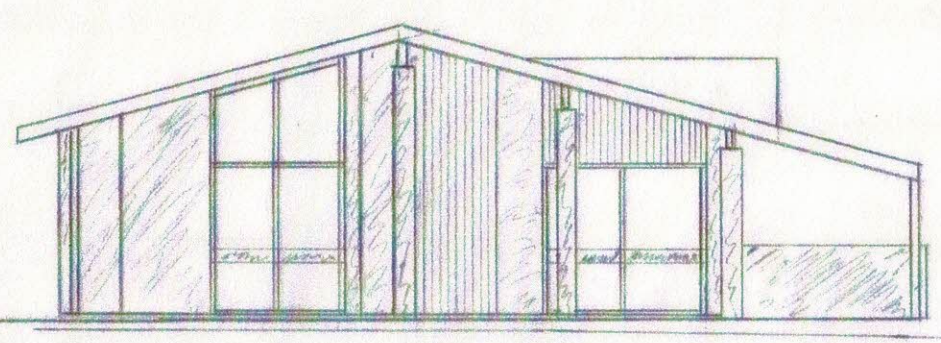
TOP DESIGN + BUILD LBP No 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	FLOOR PLAN			2
		DATE	01/04/2023	SCALE 1-100	of 5

WIND ZONE HIGH

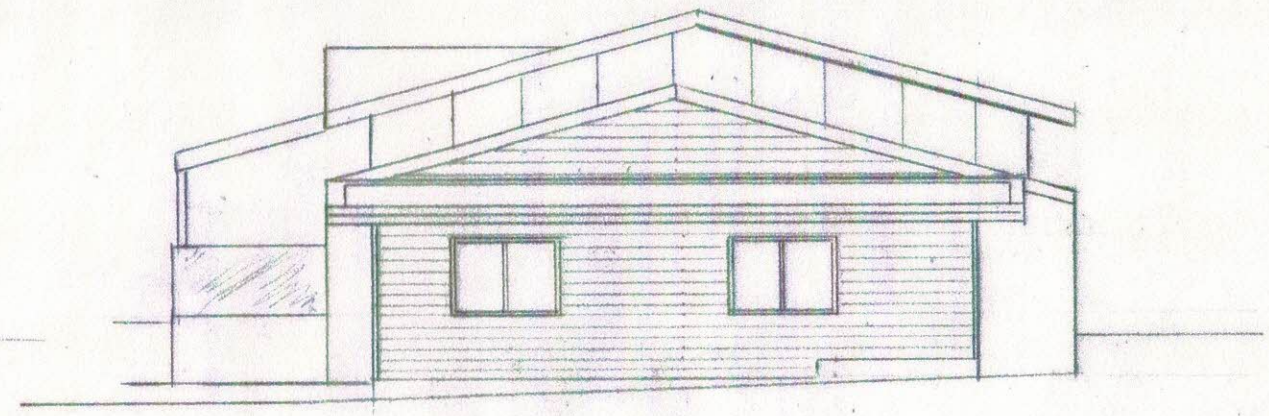


WEST ELEVATION

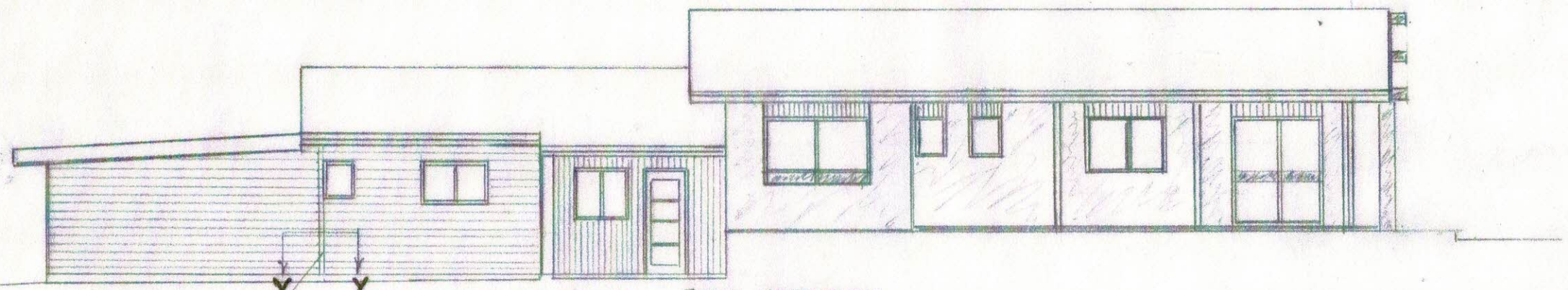
SHORT W/Bs REMOVED AND REPLACED WITH NEW ONES FROM DOOR TO DOOR



NORTH ELEVATION



SOUTH ELEVATION



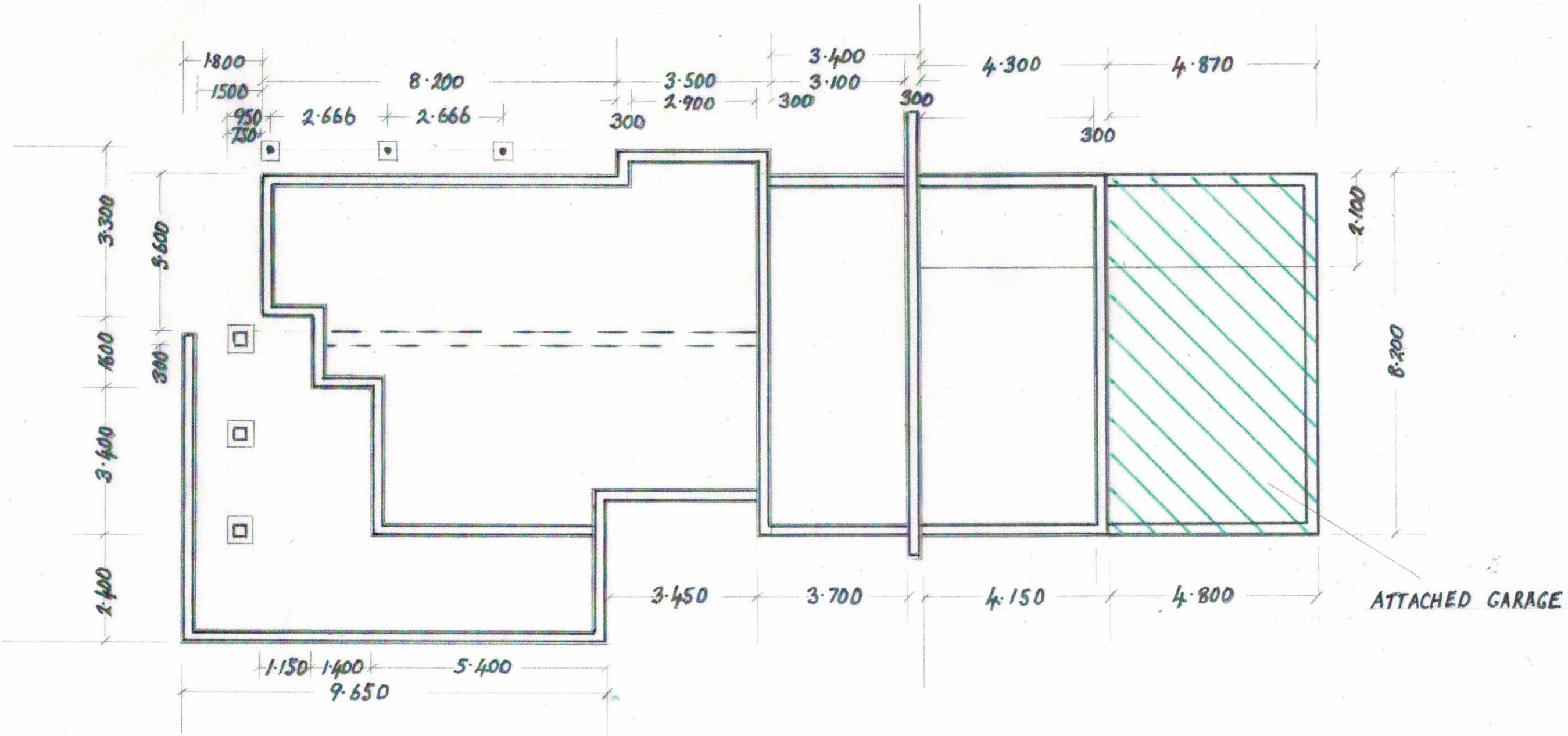
JOINT COVER BOARD SEE SHEET 6 FOR DETAIL

EAST ELEVATION

TOP DESIGN & BUILD LBP No 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	ELEVATIONS			3
		DATE	01/04/2023	SCALE 1 - 100	of 6

WIND ZONE HIGH

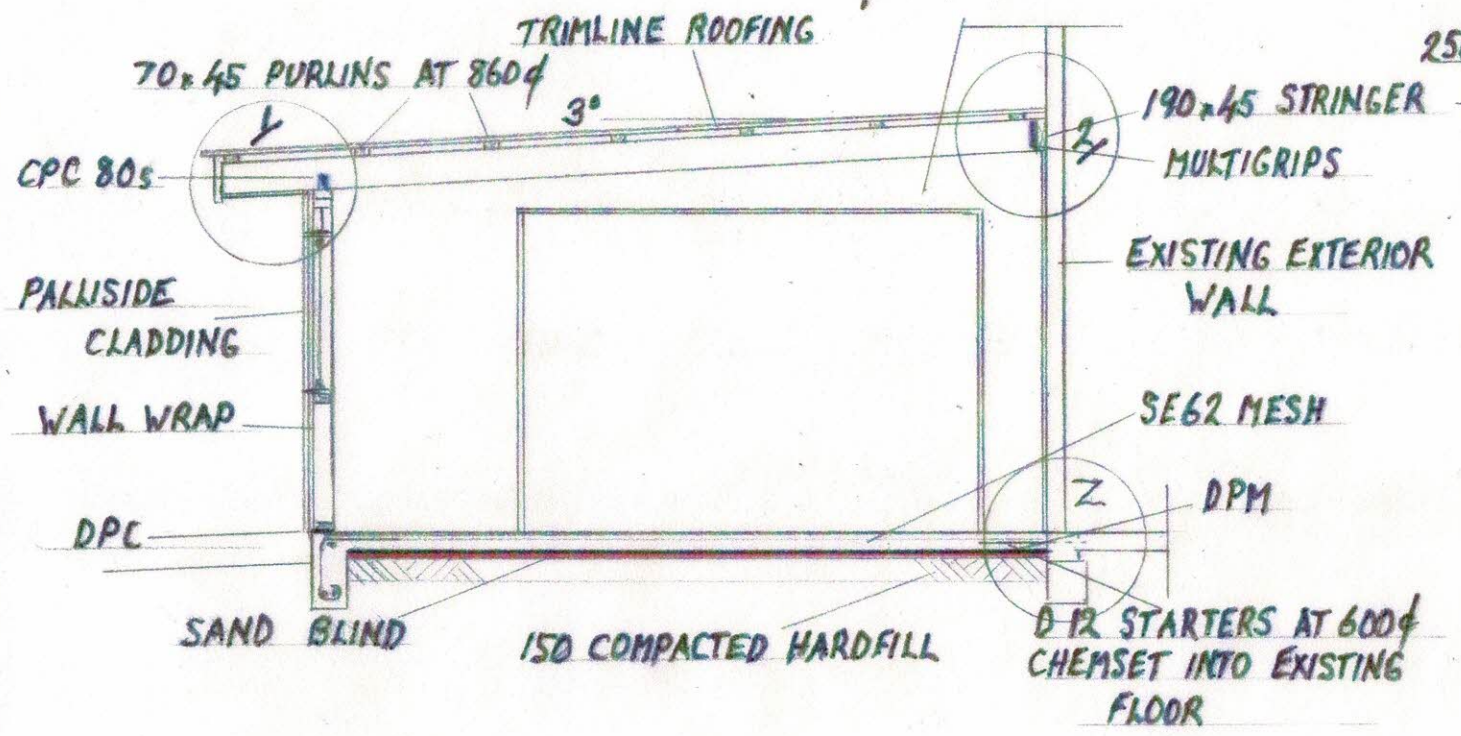
N



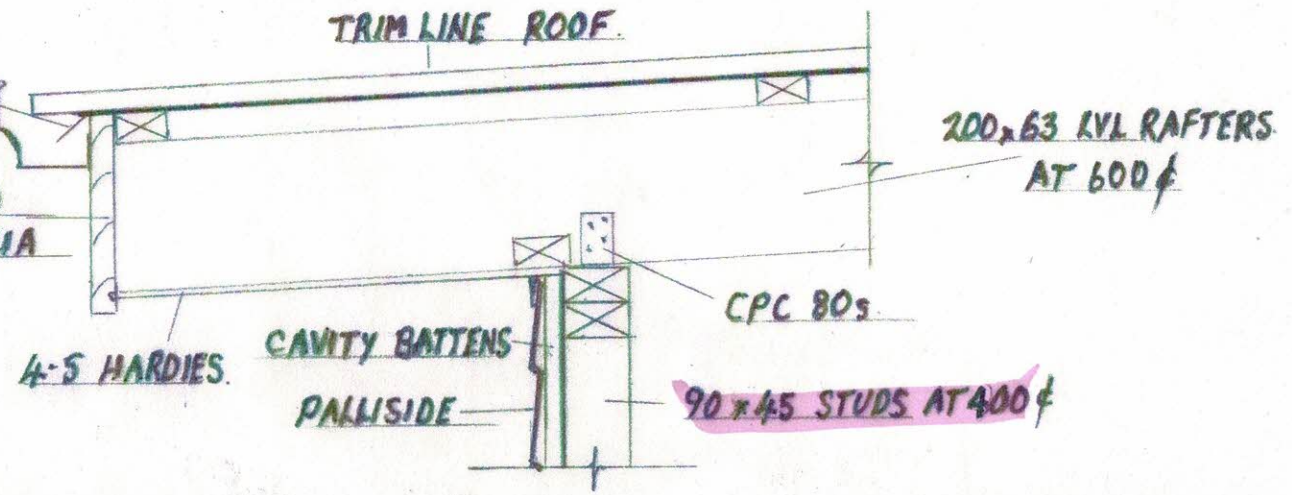
TOP DESIGN + BUILD LBP No 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	FOUNDATION PLAN		4
		DATE 01/04/2023	SCALE 1 - 100	of 6

WIND ZONE HIGH

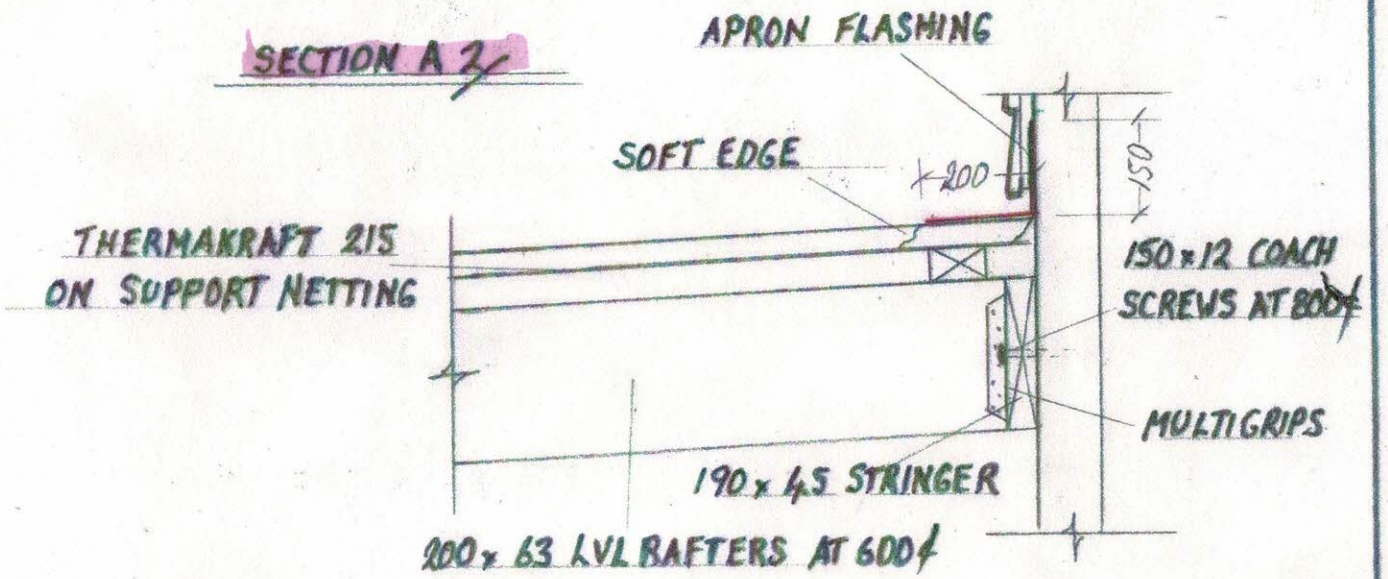
SECTION AA FROM SHEET 2



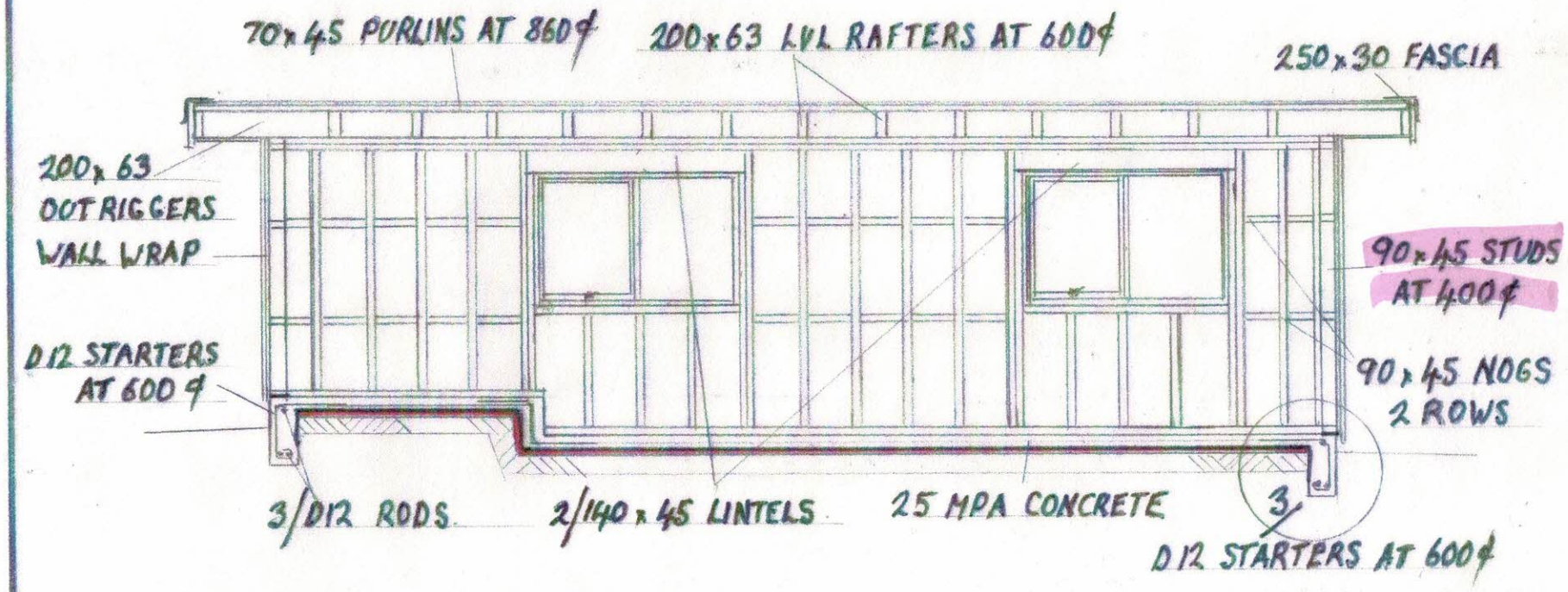
SECTION A 1



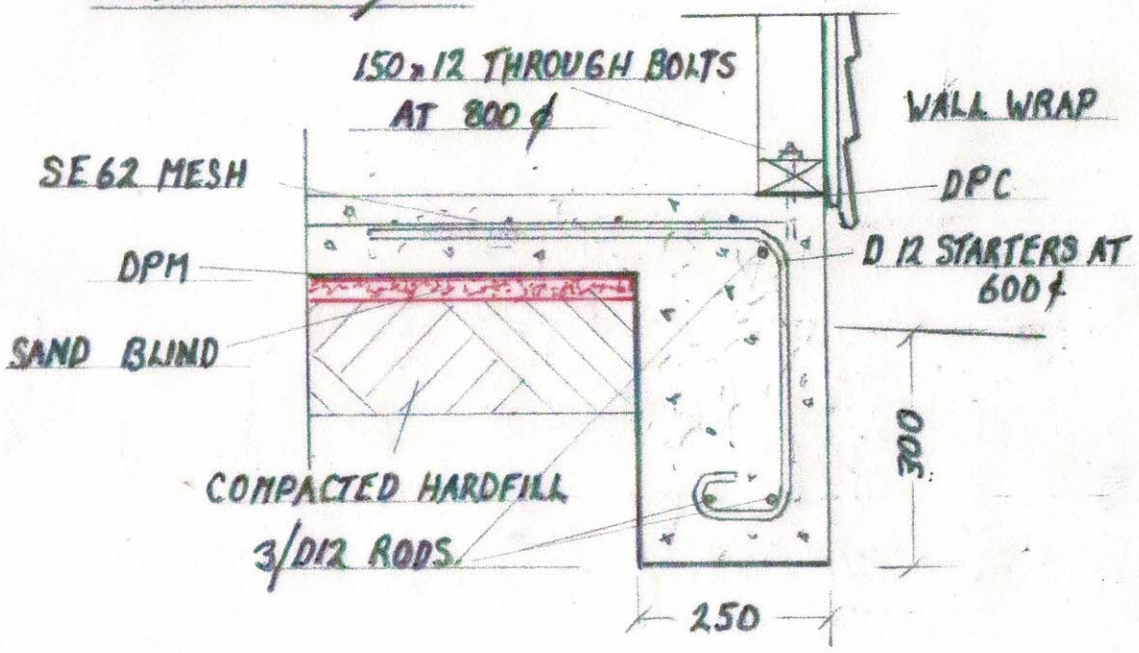
SECTION A 2



SECTION B B FROM SHEET 2

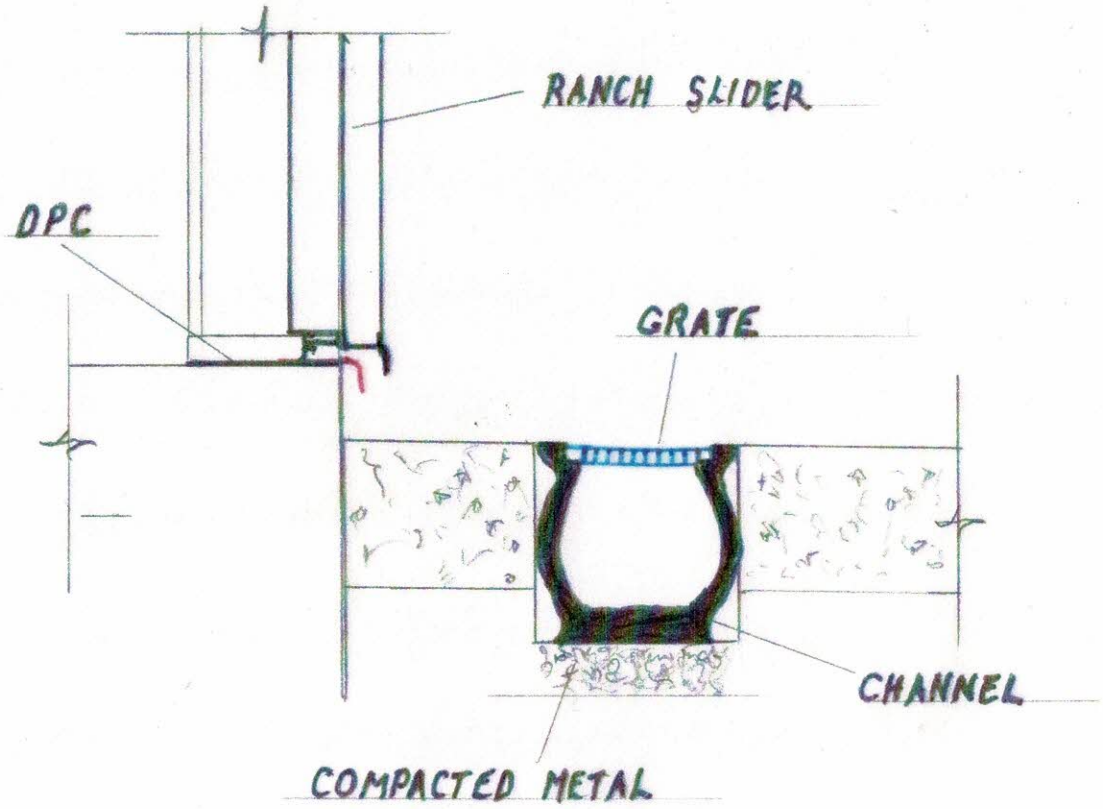


SECTION B 3

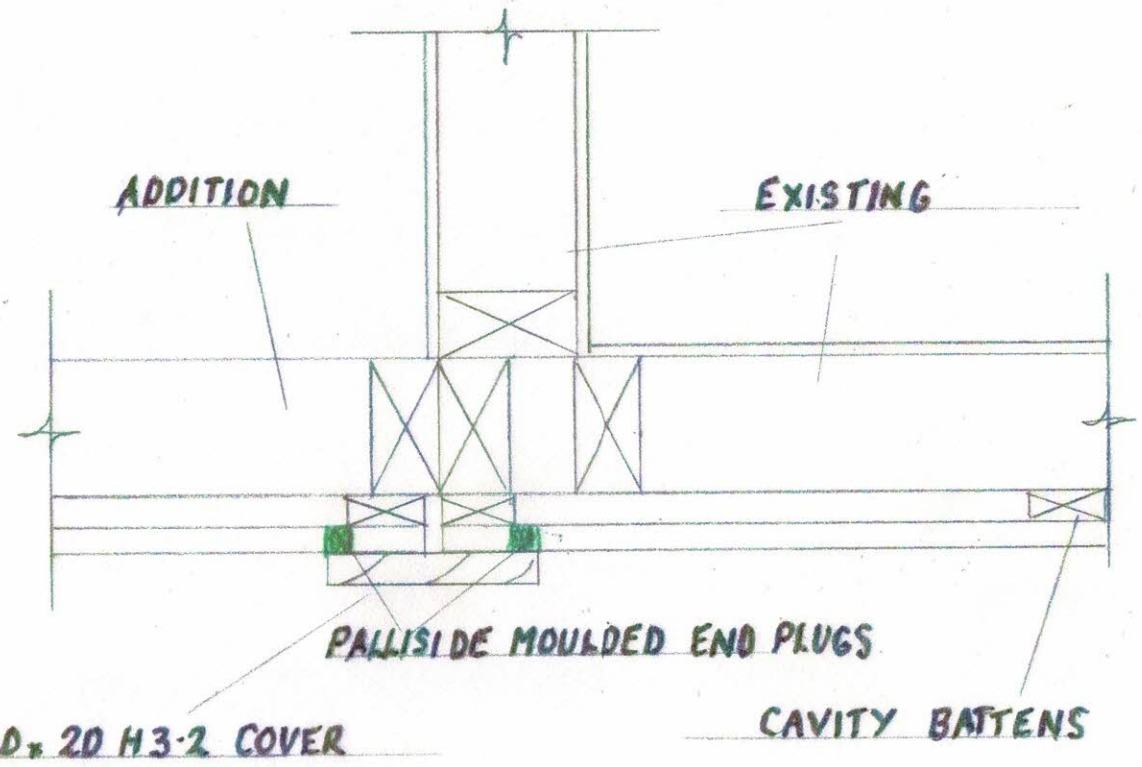


TOP DESIGN + BUILD LBP No 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	SECTIONS THROUGH			5
		DATE	01/04/2023	SCALES 1 - 50 1 - 10	of 6

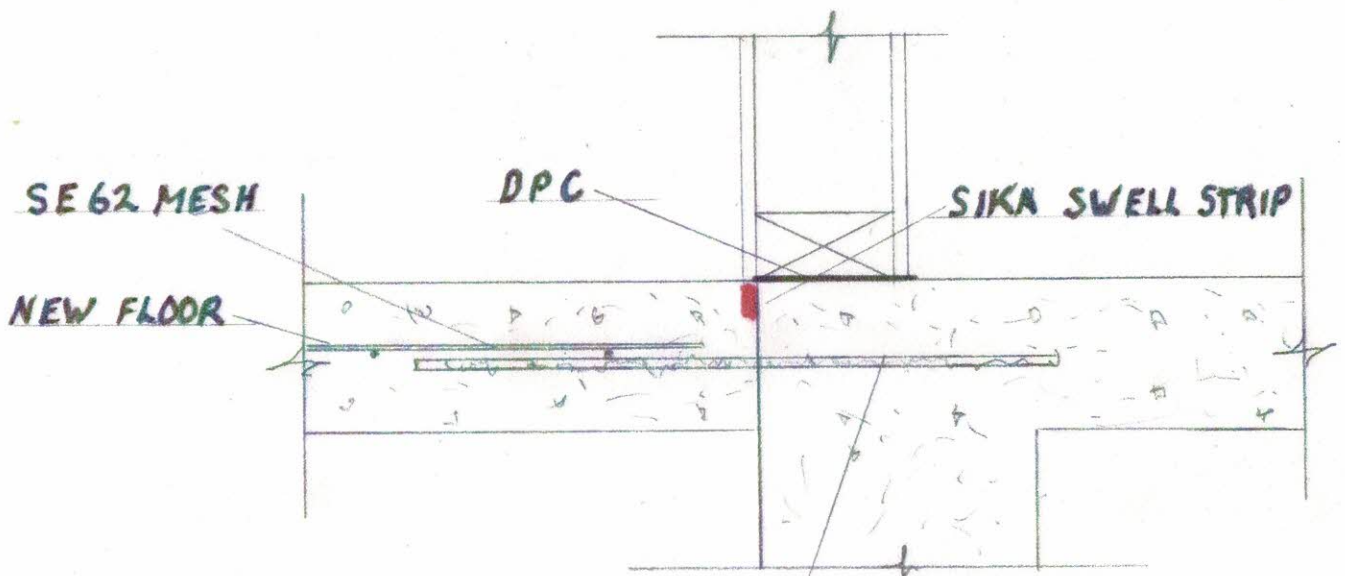
SECTION X X FROM SHEET 1



SECTION Y Y FROM SHEET 3



SECTION Z FROM SHEET 5



TOP DESIGN + BUILD LBP No 118535	AS BUILT PLAN OF ATTACHED GARAGE FOR SHARON HENSLEY 91 OKAHU ROAD KAITAIA	CONSTRUCTION DETAILS			6
		DATE	01/09/2023	SCALE 1 - 5	of 6

SPECIFICATIONS

FOR AS BUILT GARAGE

Sharon Hensley

91 OKAHU ROAD KAITAIA

Lot 11 DP 46761

AREA 1019 sq mtrs

DESIGN CERTIFICATE

Technical basis for structural design methodology contained in designIT for houses - New Zealand.

designIT for houses, New Zealand has been developed by experienced timber engineers to assist designers in selecting appropriate sizes of structural laminated veneer lumber products manufactured by Carter Holt Harvey LVL Limited (including hySPAN, hy90, hyONE and hyJOIST) and other generic stress grades of timber, to be used as structural elements for the construction of buildings that fall within the scope of NZS 3604.

The design methodology used for the software complies with the loading and general design requirements contained within AS/NZS 1170 and with timber structural design in accordance with NZS 3603:1993 including Amendment 4 (Verification method B1/VM1, 6.1).

designIT relies on the accurate input of span and loading information by the user. Where accurate inputs are submitted the product and/or stress grade and the size given will comply with the structural requirements of the New Zealand Building Code (NZBC), provided the installation is in accordance with the installation requirements provided by designIT and/or in product literature and/or NZS 3604, or specific engineering design, as appropriate.

Futurebuild LVL and SG8 components, when used and treated to the required treatment levels prescribed in NZS 3602 and NZS 3604, as modified by Acceptable Solution B2/AS1, will comply with the requirements of the NZBC (Acceptable Solution B2/AS1, 3.2).

References:
1. NZS 3603:1993 Timber Structures Standard.
2. NZS 3604:2011 Timber-framed buildings.
3. AS/NZS 1170:2002 Structural design actions, Parts 0 and 1.
4. AS/NZS 1170:2011 Structural design actions, Part 2: Wind actions.
5. AS/NZS 1170:2003 Structural design actions, Part 3: Snow and ice actions.
6. AS 1720.1:2010 Timber structures. Part 1: Design methods.
7. AS 1720.3:2016 Timber structures. Part 3: Design criteria for timber-framed residential buildings.

This Design Certificate, and any associated warranty/certification, is void where there has been substitution of alternate products not detailed within the Member Specification.

Version date: 27 February, 2023

For further information or advice contact:
Carter Holt Harvey LVL Limited,
173 Captain Springs Road, Onehunga. Auckland
Telephone: 0800 808 131
Email: designit@futurebuild.co.nz
Web: https://futurebuild.co.nz/

Specifier details:

Specifier:	[redacted]
Business name:	
Address:	
Email:	
Contact:	

Project and site details:

Project:	
Site address:	
Design wind zone	
Snow loading	

MEMBER DESIGN DETAILS

Member 1

1) Member code and description	R1 - Common rafters
2) Date prepared	12 June 2023
3) Serviceability criteria	AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	4.8 m - single span
Rafter spacing	600 mm
Roof mass	10 kg/m²
Overhang	600 mm

5) Member specification

Size, stress grade/product	Use 200 x 63 hySPAN
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + Ψ_LQ*	16.0 mm	3.4 mm (long term)	4.6
Live load - Ψ_sQ	19.2 mm	1.9 mm	10.3
Live load - Ψ_sQ	19.2 mm	3.6 mm	5.4
Wind load - W_s	32.0 mm	5.6 mm	5.7
Overhang			
Long term load - G + Ψ_LQ	10.0 mm	-3.5 mm (long term)	-
Live load - Ψ_sQ*	10.0 mm	2.9 mm	3.5
Wind load - W_s	0.0 mm	-5.5 mm	-

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-0.6
1.2G + 1.5Q	0.80	-2.4
1.2G + W_u + Ψ_cQ	1.00	-1.8
0.9G + W_u	1.00	2.1

8) Installation requirements

- Rafter overhang - 600 mm ok with birdsmouth notch not exceeding D/3 and minimum bearing at overhang support, 35 mm
- Minimum bearing - end supports, 30 mm.

Notes for interpretation of serviceability data

1. 'average deflection' is an engineering concept based upon a notional estimated load, notional member rigidity and, in some cases, an approximate model of material response to environmental conditions. These parameters are, 'standardised' in AS 1170 and AS 1720.

2. Deflection is the flexural response to load 'out-of-level' measurements of installations are not necessarily deflections and can incorporate 'initial out-of-straightness', whether intended or not. Furthermore, loads can be higher/lower than the notional estimate and in any comparison with measured levels, material variability needs to also be considered. AS 1720 gives the following basis for estimation of upper bound deflections for various materials.

No 1 Framing – visually graded to NZS 3631	Average + 100%
SG grades - mechanically graded to AS/NZS 1748	Average + 43%
GL grades for glulam to AS 1328	Average + 33%
LVL to AS/NZS 4357 (includes hySPAN and hyJOIST)	Average +18%

As can be seen, comparison of the 'average deflection' for different materials, even if calculated on the same basis, does not give the whole picture!

3. The limits referred are those specified in AS 1720.3 for the stated load case.

4. 'Rigidity ratio' expresses the rigidity of the specified beam relative to the rigidity of a notional beam just meeting the serviceability requirements detailed.

Notes for interpretation of reaction data

1. Duration of load factor 'k_1' for strength as per NZS 3603:1993
2. Negative (-) reactions relate to the 'gravity' or 'downwards' force on the support
3. Positive reactions relate to the 'upwards' forces or 'tie-down' requirement on the support
4. End reaction includes allowance for overhang/cantilever where one has been designed

Table 5.6 – Wind bracing demand for single or upper storey walls (BU/m)

Single or upper floor level to apex (H)	Roof height above eaves (h)	High Wind Zone	
(m)	(m)	Across	Along
3	0	35	35
	1	30	35
4	0	45	45
	1	40	45
	2	40	45
5	0	55	55
	1	50	55
	2	50	55
	3	60	55
6	1	60	65
	2	60	65
	3	75	65
	4	95	65
7	2	75	80
	3	85	80
	4	105	80
	5	135	80
8	3	95	90
	4	115	90
	5	145	90
	6	155	90
9	4	125	100
	5	155	100
	6	165	100
	7	180	100
10	5	165	110
	6	180	110
	7	190	110
	8	200	110

NOTE –		
(1) These figures relate to **High Wind Zone**.	Low	0.5
(2) In wind zones other than High, multiply the figure from the table by the appropriate factor given opposite.	Medium	0.7
	Very high	1.3
	Extra high	1.6

Table 5.10 - Bracing demand for various combinations of cladding for single and two-storey buildings on concrete slab-on-ground (2 kPa floor load, soil type D/E, earthquake zone 3) (see 5.3.1)

Roof cladding	Single or upper storey cladding	Lower storey cladding	Roof pitch degrees	Single storey walls	Lower storey walls	Upper storey walls
				BU/m²		
Light roof	Light	Light	0-25	6	15	9
			25-45	6	16	9
			45-60	7	17	10
		Medium	0-25	N/A	17	9
			25-45	N/A	18	10
			45-60	N/A	19	11
		Heavy	0-25	N/A	23	10
			25-45	N/A	23	11
			45-60	N/A	24	12
	Medium	Medium	0-25	6	20	10
			25-45	7	20	11
			45-60	8	21	12
		Heavy	0-25	N/A	25	11
			25-45	N/A	26	12
			45-60	N/A	27	13
	Heavy	Heavy	0-25	9	33	15
			25-45	9	33	16
			45-60	11	34	17
Heavy roof	Light	Light	0-25	10	19	13
			25-45	11	21	15
			45-60	15	24	19
		Medium	0-25	N/A	21	14
			25-45	N/A	23	16
			45-60	N/A	26	19
		Heavy	0-25	N/A	27	15
			25-45	N/A	29	17
			45-60	N/A	32	21
	Medium	Medium and Heavy	0-25	11	24	15
			25-45	12	26	17
			45-60	16	29	21
	Heavy	Heavy	0-25	13	37	20
			25-45	15	38	22
			45-60	18	42	26

Multiplication factors		EQ zone			
Soil class		1	2	3	4
A & B	Rock	0.3	0.5	0.6	0.9
C	Shallow	0.4	0.6	0.7	1.1
D & E	Deep to Very soft	0.5	0.8	1.0	1.5

NOTE – See 5.3.4 for additional bracing demand.

BRANZ

Bracing Calculation Sheets For Foundations and Walls

For use with NZS 3604:2011
October 2012

The enclosed calculation sheets A and B may be used to determine the wall and foundation bracing elements required to satisfy the requirements of NZS 3604: 2011 (including amendments) and may also be used to form part of the documentation required for a building consent application.

INSTRUCTIONS FOR SHEET A

NAME: Name of building consent applicant.
SITE ADDRESS; Street address of site including city, town or LOT and D.P. number

BOX 1

LOCATION of STOREY/BLOCK:	The subfloor/storey or part of the building for which the demand is being assessed. Note: a separate set of sheets needs to be completed for each storey and /or part.

BOX 2 WIND

	(Note: all table and figure references relate to those in NZS 3604;2011)
WIND ZONE:	Determine the "Wind zone" from the procedure in Table 5.1
BUILDING HEIGHT (H)	This is measured from the ridge to the lowest ground adjacent to the foundations. See Figure 5.3
ROOF HEIGHT (h):	Vertical dimension between the ridge and roof eaves. See Figure 5.3.
W:	Refer to Table 5.5 for subfloor and Tables 5.6 & 5.7 for walls to find "W"$_{across}$ and "W"$_{along}$. See Figure 5.3 for clarification of across and along directions. (Note that across ridge column of tables to be used for both directions if the roof is hipped.)

BOX 3 EARTHQUAKE

	(Note: all Clause references relate to clauses in NZS 3604:2011
EARTHQUAKE ZONE:	Refer to Figure 5.4.
WEIGHT OF ROOF CLADDINGS;	Refer to Clause 1.3 for definition of "light" and "heavy" roof claddings. Note that the weight of sarking should be included when determining roof weight.
ROOF PITCH:	For roofs with unequal pitches use the average pitch.
WEIGHT OF WALL CLADDINGS:	Refer to Clause 1.3 for definition of "light", "medium" and "heavy" wall claddings.
CONCRETE SLAB:	If the building is on a concrete slab-on-ground, use Table 5.10 for bracing demand.
PART STOREY in ROOF SPACE:	When up to 50% of the roof space is developed, add 4 Bracing Bu/m^2 to the values in Tables 5.8 to 5.10 (refer to Clause 5.3.4.3).
PART STOREY BASEMENT:	For a part storey in a basement (refer Clause 5.3.4.4) treat as 2 separate buildings, with sheet A & B for each storey of each. For the common wall add the demand calculated for each building.
CHIMNEY:	For a chimney relying on the building for support, refer to Clause 5.3.4.5.
WINGS/BLOCKS:	For a wing projecting more than 6m (see Clause 5.1.5) treat as a separate building with sheets A & B for each. For the common wall, add the demand calculated for each building.
DECK:	For bracing of decks, refer to Clause 7.4.2.
E:	Refer Table 5.8 for single storey, 5.9 for two-storey and 5.10 for slab-on-ground.

BOX 4 DIMENSIONS

ROOF or BUILDING LENGTH for wind across ridge (L)
ROOF or BUILDING WIDTH for wind along ridge (W)
GROSS FLOOR AREA (GFA)
} Refer to clause 5.2.6 determine whether roof or building dimensions are to be used.

BOX 5 CALCULATION

WIND BRACING DEMAND (ACROSS)	Multiply **"W$_{across}$"** (from Box 2) x **"L"** (from Box 4) to find the Bracing Units required to resist wind across the ridge. Transfer this value to the appropriate box halfway down column 7 of sheet B.
WIND BRACING DEMAND (ALONG):	Multiply **"W$_{along}$"** (from Box 2) x **"W"** (from Box 4) to find the Bracing Units required to resist wind along the ridge. Transfer this value to the appropriate box at bottom of column 7 of sheet B.
EARTHQUAKE BRACING DEMAND:	Multiply **"E"** (from Box 3) x **"GFA"** (from Box 4) to find the number of Bracing Units required to resist earthquake. The same amount is required in each direction. Transfer this value to the appropriate boxes of column 11 of sheet B.

On the floor plan for each storey mark extenal walls and bracing lines (refer to Clauses 5.4 & 5.5).
Identify the lines ACROSS with letters A, B, C, etc. and ALONG with letters M, N, O, etc.

INSTRUCTIONS FOR SHEET B

NOTE: The floor plan should show the bracing lines and position, length and type of wall bracing elements. This plan, together with the calculation sheets, MUST form part of the consent application.

Make sure that the "Bracing Demand" values are transferred from Sheet A to the appropriate ACROSS and ALONG sections in sheet B.

In the top box circle the location of the storey / block to which the assessment applies.

ACROSS This is for earthquakes or wind forces **ACROSS** the ridge.

STEP 1: Column 1 refers to bracing lines A, B etc.

In column 8 enter the "minimum bracing demand" for **each** bracing line, being the greatest applicable from the options below:

a) for external wall lines: 15 times the wall length in metres (refer Clause 5.4.2.3 for subfloor, and 5.5.6.1 for other levels).
b) for internal bracing lines: 100 BU's (refer Clause 5.5 for subfloor and 5.4.7 for other levels)
c) 50% of the total demand divided by the number of bracing lines (both along and across)
d) If the wall brace line supports a diaphragm, the greater of 100 BU's or 15 BU's per metre of diaphragm dimension at right angles to the wall being considered (refer Clause 5.6.2)
(for walls supporting 2 diaphragms, refer Clause 5.6.2b)

STEP 2: Starting with bracing line A, determine position of bracing elements and number these 1, 2, 3 etc. in column 2.

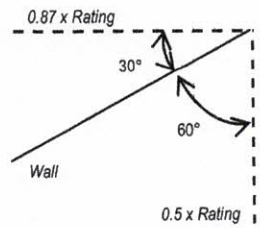
Select type of bracing element and enter in column 3. (For subfloor elements select from Table 5.11 or manufacturer's literature and for wall brace elements select from Table 8.1 or manufacturer's literature).
In column 4, enter the length of each wall element (leave blank for subfloor elements).
In columns 5 (wind) and 9 (earthquake) enter the bracing units per element (foundations) or per metre (walls).

For variations in wall height refer to Clause 8.3.1.4.

NOTE: **For walls at an angle to a bracing line multiply the rating by:**

angle off line:	factor
30°	0.87
45°	0.7
60°	0.5

(see clause 5.4.4 © for other angles)



STEP 3: Multiply the rating in column 5 by the length in column 4 to obtain the number of bracing units achieved – enter these in column 6. For subfloors simply transfer the rating per element in column 5 to column 6. Add the number of BU's achieved in the bracing line and enter in column 7.

Check that the number of BU's achieved in column 7 equals or exceeds the minimum demand in each wall or bracing line in column 8.

If this is not achieved for the bracing line either (1) add extra bracing elements or (2) change the bracing type to one with a greater BU/m or (3) extend the length of bracing elements.

STEP 4: Complete steps 2 & 3 for all other bracing lines.

Add the values in column 7 and enter this sum as the "Total Bracing Achieved" halfway down the sheet.

The "Total Bracing Achieved" must equal or exceed the number of BU's within the "Total Bracing Demand for Wind Across".

STEP 5: Repeat steps 3 & 4 for earthquake in columns 9, 10 and 11.

ALONG Repeat steps 1 to 5 for ALONG the ridge.

SHEET A

BRANZ

Name of Applicant: _____ **Site Address:**

City/Town or District: _____

Street and Number _____

Or Lot and D.P. Number: _____

Box 1

LOCATION OF STOREY / BLOCK BEING ASSESSED

FOUNDATION	SINGLE STOREY or UPPER STOREY	LOWER STOREY	LOCATION IN BUILDING
Use one sheet for each and circle the appropriate location			

Box 2 Wind Bracing Demand (Table 5.5 , 5.6 or 5.7)

Wind zone (Table 5.1) L / M / H / VH / EH

Building height to apex (H) 3.0 m

Roof height above eaves (H) .200 m

Note: Tables 5.5, 5.6, 5.7 relate to High wind zone.
In other wind zones, multiply the value by the appropriate factor.

	(value from tables)		(multiplication factor)			
W_{across} =	35	x	L 0.5 / M 0.7 / VH 1.3 / EH 1.6	=	35	Bu/m
W_{along} =	35	x	L 0.5 / M 0.7 / VH 1.3 / EH 1.6	=	35	Bu/m

Transfer to Box 5

Box 3 Earthquake Bracing Demand (Table 5.8, 5 9, 5.10)

Earthquake zone (Figure 5.4)	1 / 2 / 3 / 4	Concrete slab	(Table 5.10)	YES / NO
Weight of roof cladding	Light / Heavy	Part storey in roof space	(Cl. 5.3.4.3)	YES / NO
Roof pitch (degrees)	0-25 / 26-45 / 46-60	/ Part storey basement	(Cl. 5.3.4.4)	YES / NO
Weight of upper (or single) storey cladding	Light / medium / heavy	Chimney	(Cl. 5.3.4.5)	YES / NO
Weight of lower storey cladding	Light / medium / heavy	Wings / blocks	(Cl. 5.1.5)	YES / NO
Weight of subfloor cladding	Light / medium / heavy	Deck projecting more than 2 m	(Cl. 7.4.2.2)	YES / NO

(value from tables 5.8, 5.9, 5.10) (multiplication factor below)

E = 6 x 0.5 = 3 BU /m² Transfer to Box 5

NOTE: Tables 5.8, 5.9, 5.10 relate to soil type D/E in Earthquake zone 3, for multiplication factors for other soil types see below

Soil Class	Earthquake Zone 1	2	3	4
A & B Rock	0.3	0.5	0.6	0.9
C Shallow	0.4	0.6	0.7	1.1
D/E Deep / Soft	0.5	0.8	1.0	1.5

Box 4 Building plan dimensions (Figure 5.3)

Roof or building length for wind across ridge	(L)	=	4.8	m
Roof or building length for wind along ridge	(W)	=	8.2	m
Gross Floor Area	(GFA)	=	39.3	sq m

Transfer to Box 5

Box 5 Calculation of demand

		(Value)		(Box 4 Dimension)			
Wind Load Across	(from box 2)	= 35	x	4.8	=	168	BU
Wind Load Along	(from box 2)	= 35	x	8.2	=	287	BU
Earthquake Load (both directions)	(from Box 3)	= 3	x	39.3	=	118	BU

Transfer to Sheet B

SHEET B

BRANZ

LOCATION OF STOREY / BLOCK BEING ASSESSED

FOUNDATION	SINGLE STOREY or UPPER STOREY	LOWER STOREY	LOCATION IN BUILDING

Use one sheet for each storey / block and circle the appropriate location

ACROSS

1	2	3	4	5	6	7	8	9	10	11
					Wind				Earthquake	
Wall or Bracing Line	Bracing Element Identification	Bracing Type	Length of Element (m)	BU's/m (Wind)	BU's Achieved	Total for Bracing Line	Minimum Bracing Demand	BU's/m (Earthquake)	BU's Achieved	Total for Bracing Line
A	1	10mm TRI	1·200	105	126	189	84	125	150	225
	2	10mm TRI	600	105	63			125	75	
B	3	10mm TRI	·600	105	63	186	84	125	75	225
	4	10mm TRI	·600	105	63			125	75	
	5	10mm TRI	·600	105	63			125	75	
C										
D										
E										
				Total Bracing Achieved		375		Total Bracing Achieved		450
				Total Bracing Demand for Wind Across			168	Total Bracing Demand for Earthquake		118

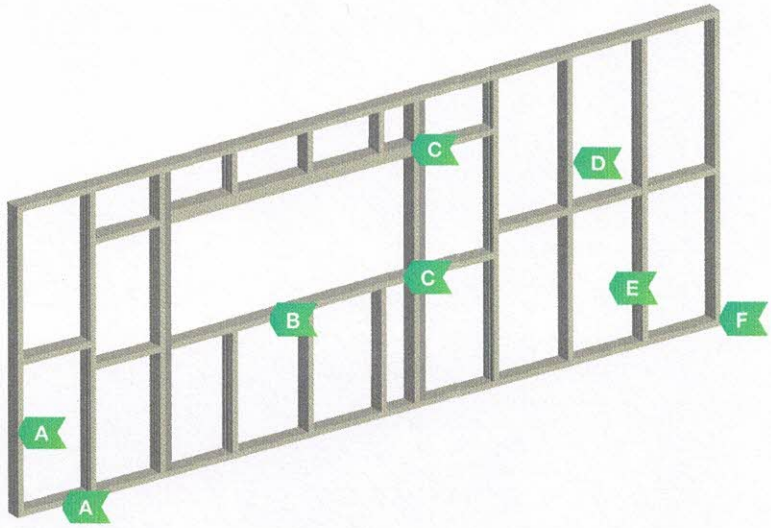
ALONG

1	2	3	4	5	6	7	8	9	10	11
					Wind				Earthquake	
Wall or Bracing Line	Bracing Element Identification	Bracing Type	Length of Element (m)	BU's/m (Wind)	BU's Achieved	Total for Bracing Line	Minimum Bracing Demand	BU's/m (Earthquake)	BU's Achieved	Total for Bracing Line
M	6	10mm TRI	·600	105	63	189	144	125	75	225
	7	10mm TRI	·600	105	63			125	75	
	8	10mm TRI	·600	105	63			125	75	
N	9	10mm TRI	·600	105	63	189	144	125	75	225
	10	10mm TRI	·600	105	63			125	75	
	11	10mm TRI	·600	105	63			125	75	
O										
P										
Q										
				Total Bracing Achieved		378		Total Bracing Achieved		450
				Total Bracing Demand for Wind Along			287	Total Bracing Demand for Earthquake		118

triboard
engineered panel

BRACING DETAILS

Framing as per NZS 3604



- **A** Edge and end nail spacing as per table below
- **B** Edge nail spacing around opening and along adjacent nogs
- **C** 6kN strap
- **D** Stud spacing at maximum 600mm centres
- **E** Board on one face (not fully shown for clarity)
- **F** 6 kN tiedown to floor at ends of wall

type of board	minimum wall length (mm)	nail* spacing (mm)	tiedowns (kN)	BU/m wind	BU/m e'quake
10mm Triboard	600	150	6	105	125
15mm Triboard	600	150	6	115	130
15mm Triboard	1200	75	12[2]	150	165

Notes

1. Fixing using gun fired brads is approved. Wind bracing rating is 55 BU/m.
2. 12kN tie down only to be used into concrete floor.
3. Nails* for fixing board to wall framing to be 40 x 2.8mm diameter galvanised flat head nails.
   *Gun fired nails (FRH) or screws (8ga) of equal or longer lengths are acceptable as an alternative.
4. Intermediate nogs are not necessary for 15mm Triboard.
5. The bracing units shown are for board fixed to only one side of the framing.
6. The bracing units shown are for a 2.4m high wall. For walls more than 2.4m high, the bracing units need to be reduced on a pro rata basis as per NZS 3604, e.g. for a 3m high wall, the bracing units (wind) for 9mm strandboard are $^{2.4}/_{3}$ x 100 = 80.
7. Fixing to intermediate framing is at 200mm centres.
8. Elastomeric wood panel adhesive in dabs at 200mm centres required. (Avoid glue and fixing in same location).

The above information has been developed from tests carried out in the Timber Laboratory of SCION, Rotorua over the period 31 October to 26 November 2008 and 20 May 2014. The testing was carried out in accordance with the P21 test method and the results were evaluated on 23 February 2012 and 20 May 2014 as per the P21 2010 test method.

Technical Support

Not all product use options can be described in this brochure. Additional end use and specifying information are available.

LUMBERLOK®

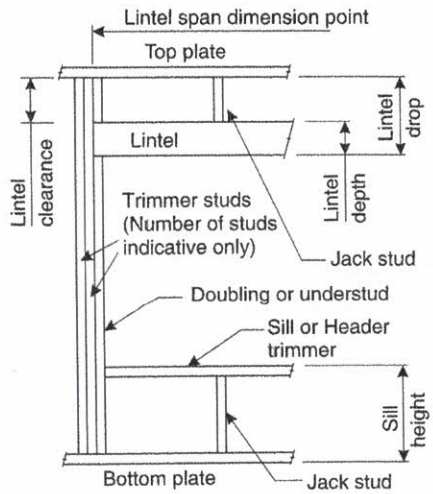
LINTEL FIXING SCHEDULE

ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12 NZS 3604:2011

NOTE:

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

DEFINITIONS



Lintel Supporting Girder Trusses

Roof Tributary Area	Light Roof Wind Zone			Heavy Roof Wind Zone		
	L, M, H	VH	EH	L, M, H	VH	EH
8.6m²	G	G	H	G	G	H
11.6m²	G	H	H	G	G	H
12.1m²	G	H	H	G	H	H
15.3m²	H	H	-	G	H	H
19.1m²	H	-	-	G	H	-
20.9m²	H	-	-	H	H	-
21.8m²	H	-	-	H	-	-
34.3m²	-	-	-	H	-	-

NOTES:

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

Lintel Span (m)	Loaded Dimension (m) (See Fig. 1.3 NZS 3604:2011)	Light Roof Wind Zone					Heavy Roof Wind Zone				
		L	M	H	VH	EH	L	M	H	VH	EH
1.0	2.0	E	E	E	F	F	E	E	E	E	F
	3.0	E	E	F	F	F	E	E	E	F	F
	4.0	E	F	F	F	G	E	E	F	F	F
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	E	F	F	G	G	E	E	F	F	G
1.2	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	F	F	G	G	H	E	E	F	G	G
1.5	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	F	F	F	G	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	F	F	G	G	H	E	E	F	G	G
	6.0	F	F	G	H	H	E	E	F	G	H
2.0	2.0	E	F	F	F	G	E	E	F	F	F
	3.0	E	F	F	G	G	E	E	F	F	G
	4.0	F	F	G	G	H	E	E	F	G	G
	5.0	F	F	G	H	H	E	E	F	G	H
	6.0	F	G	G	H	H	E	F	G	H	H
2.4	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	G	H	E	E	F	G	G
	4.0	F	F	G	H	H	E	E	F	G	H
	5.0	F	G	G	H	H	E	F	G	H	H
	6.0	F	G	H	H	-	E	F	G	H	H
3.0	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	G	H
	4.0	F	G	G	H	H	E	F	G	H	H
	5.0	F	G	H	H	-	E	F	G	H	H
	6.0	F	G	H	-	-	E	F	G	H	-
3.6	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	F	G	H	H	E	F	G	G	H
	4.0	F	G	H	H	-	E	F	G	H	H
	5.0	F	G	H	-	-	E	F	G	H	-
	6.0	G	H	H	-	-	E	F	H	-	-
4.2	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	H	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.5	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.4	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.8	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.2	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	H	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
5.1	2.0	F	F	G	H	H	E	F	G	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.5	F	G	H	-	-	E	F	G	H	-
	4.0	G	G	H	-	-	E	F	H	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	G	H	-	-
5.4	2.0	F	F	G	H	H	E	F	G	G	H
	2.8	F	G	H	H	-	E	F	G	H	H
	3.0	F	G	H	-	-	E	F	G	H	-
	4.0	G	H	H	-	-	E	F	H	-	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	G	H	-	-

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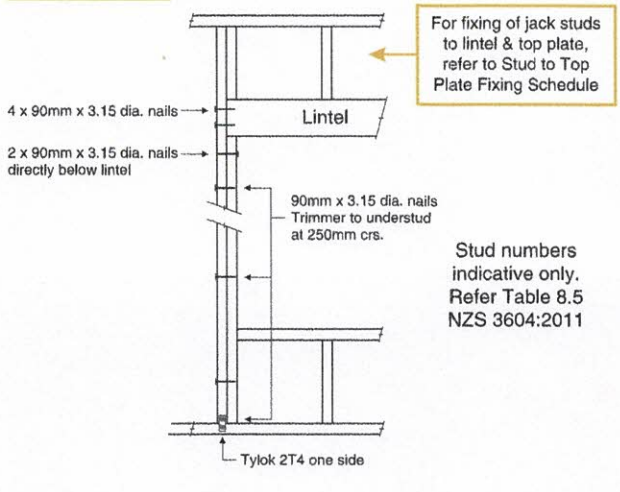
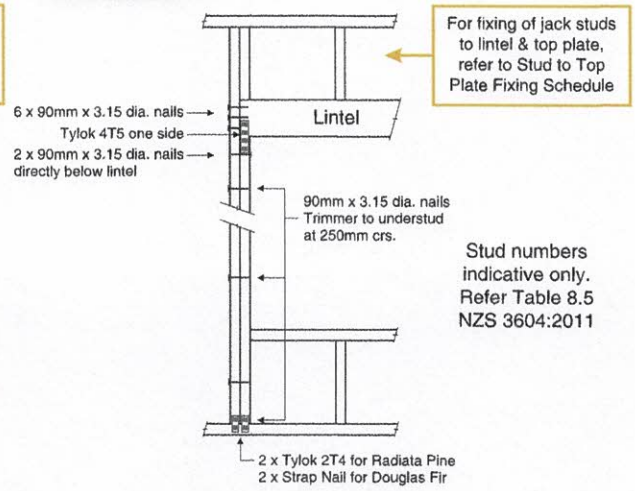
LINTEL FIXING OPTIONS

TYPE E 1.4kN



TYPE F 4.0kN



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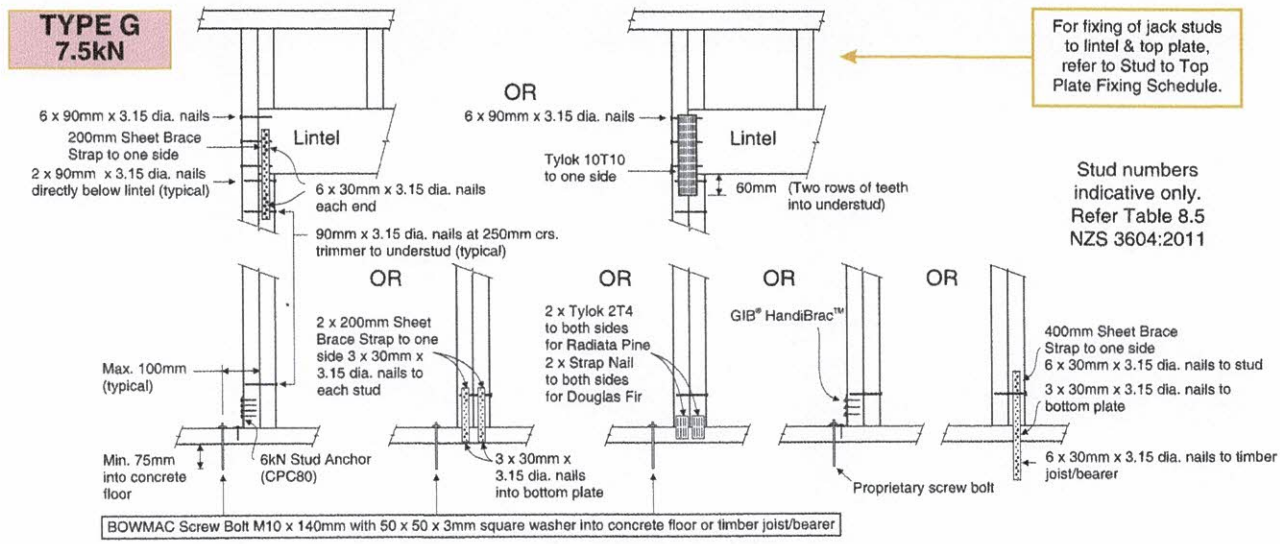

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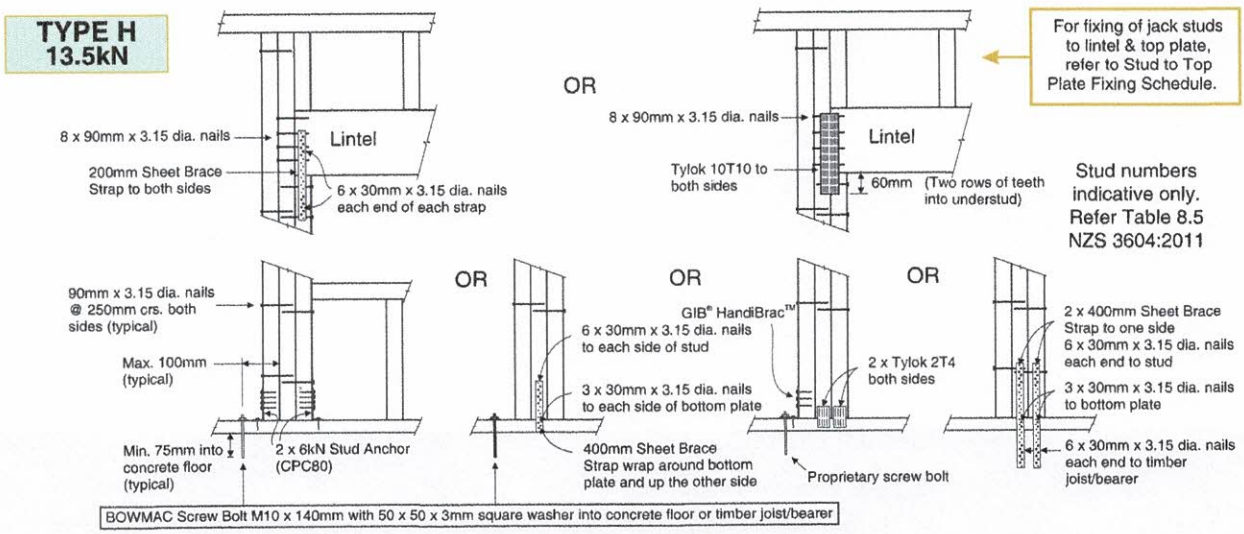

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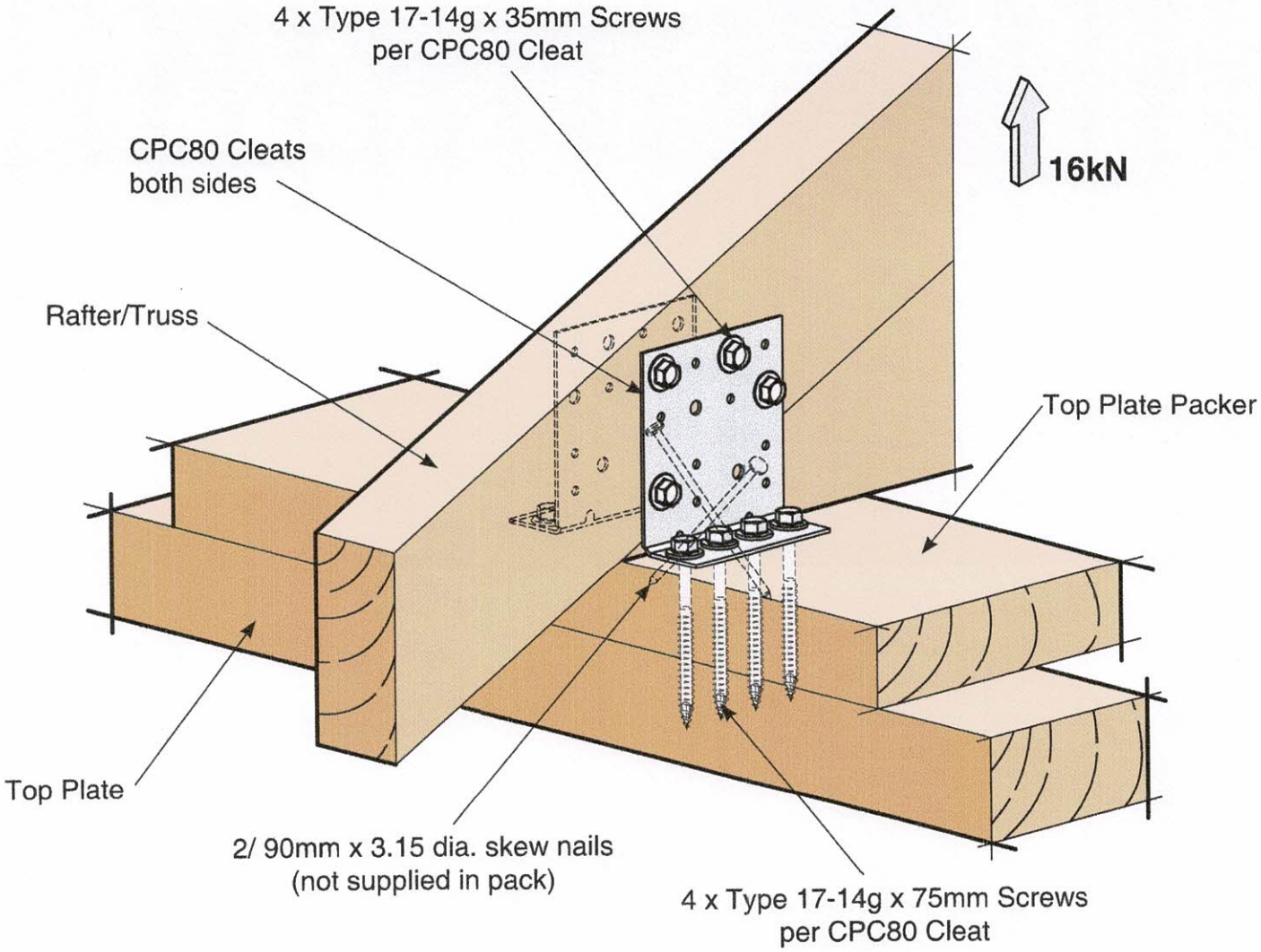
16kN TRUSS TO TOP PLATE FIXING

- ★ Complies with Table 10.15 NZS 3604:2011
- ★ Top mounted fixing allows additional face fixing if required



Code: **16KNTTP**
Material: **CPC80 1.55mm G300 Z275 Galvanised Steel**
Packed: **2 x CPC80 Cleats**
8 x Type 17-14g x 35mm Hex Head Galvanised Screws
8 x Type 17-14g x 75mm Hex Head Galvanised Screws

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PRODUCT DATA SHEET

Thermakraft
COVERTEK
403

Thermakraft
ONE WRAP SYSTEM
10 Products - One system
One warranty

Thermakraft™

COVERTEK 403

Non self-supporting roof and wall underlay

Kingspan Thermakraft Covertek 403 is a fire retardant, light weight roof and wall underlay designed as a means of managing condensation, water vapour transfer and water ingress. Primarily developed as a roof underlay, Covertek 403 can also be used on walls if you are after a one stop solution. It is not self-supporting as a roof underlay and is a more affordable option where a supporting component is to be installed in the building.

Covertek 403 comes in three roll sizes:

1350mm wide	18.6m long	25m² coverage*
1350mm wide	37m long	50m² coverage*
1350mm wide	55m long	75m² coverage*

* **Note:** m² is the roll size for actual coverage, allow for laps and joins.

CODEMARK GM-CM30069

BRANZ Appraised
Appraisal No.917 (2020)

Kingspan.

Covertek 403

Non self-supporting roof and wall underlay

Scope of Use

Roof Application

- Suitable with masonry tile, metal tile and profiled metal roof cladding.
- Can be used on roofs up to and including NZS 3604 'Extra High' wind zones.
- Covertek 403 requires underlay support (not self-supporting).
- Will provide temporary weather protection during construction (maximum 7 days for roof application), same day coverage recommended.

Wall Application

- Can be used with timber and steel framing, either directly fixed or in conjunction with an 18mm minimum drained cavity.
- With absorbent wall claddings (e.g. timber, brick or fibre cement) or non-absorbent wall claddings (e.g. metal or plastic).
- Is suitable for use in all Wind Zones of NZS 3604 up to, and including, 'Very High', when used as standalone flexible underlay, and 'Extra High' when used as a flexible underlay over a rigid wall underlay.
- Is suitable as an air barrier in unlined wall spaces.
- Will provide temporary weather protection during construction (maximum 42 days for wall application).

General

- Is fire retardant.
- Unaffected by LOSP or other solvent based treated timber. However, LOSP or other solvent based treated timber must have sufficient time for the solvent chemical to flash off in well ventilated area. Recommended minimum 7 days.
- Tear resistant and strong.

Limitations

- Cannot be exposed to the weather or UV for more than 7 days as a roof underlay and 42 days as a wall underlay.
- Can only be used as a Roof underlay on roofs of 10° pitch or greater.
- Must be used with underlay support products in roof application.
- Must not be used under translucent roof sheeting.

Compliance

Roof Application

- Covertek 403 can be used as a roof underlay within the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area.
- Refer BRANZ Appraisal No 917 (2020) and CodeMark certificate for full details.

Wall Application

- Covertek 403 can be used as a wall underlay within the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area
- Refer BRANZ Appraisal No 917 (2020) for full details.

Flammability Index

Covertek 403 Underlay has an AS 1530 Part 2 Flammability Index of not greater than 5 and therefore meets the requirements of NZBC Acceptable Solution C/AS2, Paragraph 4.17.8 b), for the surface finish requirements of suspended flexible fabric used as an underlay to exterior cladding that is exposed to view in occupied spaces.

Durability

Meets the Performance Requirements of NZBC Clauses B2, Durability (B2.3.1 (a) 50 years, B2.3.1 (b) 15 years and B2.3.2), and F2.3.1, providing:

- It is not damaged.
- Is installed in accordance with instructions.
- Is not left exposed for more than 7 days (roof) same day coverage recommended.
- Is installed by or under guidance of Licensed Building Practitioners.
- Is compatible with cladding system used.*

* **Note:** specifiers and product user must test for roof or wall cladding system compatibility with the underlay before installation.

Covertek 403

Non self-supporting roof and wall underlay

Property Performance

The following data represents the minimum pass rates required by the NZBC. This product tests well beyond the minimum standards. If you require actual performance results, please contact your local Kingspan Insulation representative.

NZBC E2/AS1 Table 23 (NZS2295) Roof Underlay Properties	Absorbency	Vapour Resistance	pH of Extract	Shrinkage	Water Resistance	Air Resistance
Property Performance Requirement	≥ 150gsm	≤ 7 MN.s/g	≥ 5.5 and ≤ 8	≤ 0.5%	≥ 100mm	≥ 0.1 MN.s/m3
Property Performance	Pass	Pass	Pass	Pass	Pass	Pass*

* **Note:** Can be used as an air barrier.

Control of Condensation

In climatic regions where condensation risks are high, such as cold or high humidity areas, care needs to be taken in specifying the correct design and installation to prevent moisture build-up in the roof cavities.

Factors which adversely affect the condensation risk in roofing systems include:

- Humid, and/or cold climatic regions.
- Warm/Skillion roof construction.
- Low roof cavity air volume and restricted air movement.
- Omitting Vapour Control Layers.
- Ceiling penetrations and entry of warm air into roof cavities.
- Occupancy activities which have high moisture loading on conditioned spaces.
- Low pitched roof.
- Bulk insulation.
- Building structures ability to naturally dry construction moisture.

Skillion and Warm Roof Construction are particularly sensitive to moisture accumulation and the design and installation of roof construction needs to take into account the higher condensation risks. Refer MRM Code of Practice for details.

For passive ventilation of the roof space, it is recommended that all roof underlays are terminated at the ridge, and if not it should be slit or slotted to allow for passive ventilation. (For further information refer to the NZ MRM Roofing Code of Practice).

Product Warranty

Standard Kingspan Insulation Warranty applies. Refer to Kingspan Insulation Warranty statement for further details. This is available online at **thermakraft.co.nz** or call **0800 806 595.**

CODEMARK GM-CM30069

BRANZ Appraised Appraisal No.917 (2020)

0800 806 595
www.thermakraft.co.nz

Thermakraft and Ausmesh products are brought to you by Kingspan Insulation NZ Limited.

Issue 6.0, September 2022

BRANZ Appraised
Appraisal No. 917 [2020]

THERMAKRAFT COVERTEK 403 ROOF AND WALL UNDERLAY

Appraisal No. 917 (2020)

This Appraisal replaces BRANZ Appraisal No. 917 (2016) and No. 918 (2016)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Thermakraft Covertek 403 Roof and Wall Underlay is a fire retardant, synthetic building underlay for use under roof and wall claddings. The product consists of a micro-porous, water-resistant film, laminated to two layers of non-woven spun-bonded polyolefin.

Scope

Roof Underlay

2.1 Thermakraft Covertek 403 has been appraised for use as a non self-supporting roof underlay on buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; or,
- the scope limitations of NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
- with masonry tile roof cladding; and,
- with metal tile and profiled metal roof cladding; and,
- situated in NZS 3604 and NASH Standard Part 2 Wind Zones up to, and including, Extra High.

Flexible Wall Underlay

2.2 Thermakraft Covertek 403 has also been appraised for use as a flexible wall underlay for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; or,
- the scope limitations of NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
- with direct fixed absorbent and non-absorbent wall claddings; or,
- with absorbent and non-absorbent wall claddings installed over an 18 mm minimum drained cavity; or,
- with masonry veneer in accordance with NZBC Acceptable Solution E2/AS1 for timber-framed buildings or to NASH Building Envelope Solutions for steel-framed buildings; and,
- situated in NZS 3604 and NASH Standard Part 2 Wind Zones up to, and including, Very High; or,
- situated in NZS 3604 and NASH Standard Part 2 Wind Zones up to, and including, Extra High when used over a rigid wall underlay in accordance with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions Paragraph 9.1.7.2.

Specific Design

2.3 Thermakraft Covertek 403 has also been appraised for use on buildings subject to specific weathertightness design. Building designers are responsible for the building design and for the incorporation of Thermakraft Covertek 403 into their design in accordance with the declared properties and the instructions of Thermakraft Limited.

Building Regulations

New Zealand Building (NZBC)

3.1 **In the opinion of BRANZ, Thermakraft Covertek 403 Roof and Wall Underlay, if used, designed, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet, or contribute to meeting the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1 (a), not less than 50 years, B2.3.1 (b), 15 years and B2.3.2. Thermakraft Covertek 403 Roof and Wall Underlay meets these requirements. See Paragraphs 9.1 and 9.2.

Clause C3 FIRE AFFECTING AREAS BEYOND THE FIRE SOURCE: Performance C3.4 (c). Thermakraft Covertek 403 Roof and Wall Underlay meets this requirement. See Paragraph 10.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. When used as part of the roof or wall cladding system, Thermakraft Covertek 403 Roof and Wall Underlay will contribute to meeting this requirement. See Paragraphs 12.1 and 12.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Thermakraft Covertek 403 Roof and Wall Underlay meets this requirement.

Technical Specification

4.1 Thermakraft Covertek 403 Roof and Wall Underlay is a synthetic building underlay for use under roof and wall claddings. The product consists of a micro-porous water-resistant film, laminated to two layers of non-woven spun-bonded polyolefin. Thermakraft Covertek 403 Roof and Wall Underlay is coloured white on the top and bottom faces.

4.2 The product is supplied in rolls 1.35 m wide x 18.6 m, 37.0 m and 55.0 m long. The product is printed with the Covertek 403 logo repeated along the length of the roll. The rolls are wrapped in clear polythene film.

Accessories

4.3 Accessories used with Thermakraft Covertek 403 Roof and Wall Underlay which are supplied by the installer are:

- **Fixings** - stainless steel staples, clouts, screws or proprietary underlay fixings, or other temporary fixings to attach the underlay to the framing.
- **Roof underlay support (timber frame)** - polypropylene strap, or minimum 0.9 mm diameter galvanised steel wire mesh where required to support the roof underlay in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 8.1.5.1. (Note: The mesh must be galvanised in accordance with AS/NZS 4534.)
- **Roof underlay support (steel frame)** - polypropylene strap, or minimum 0.9 mm diameter galvanised steel wire mesh where required to support the roof underlay in accordance with NASH Building Envelope Solutions, Paragraph 8.1.5.1. (Note: The mesh must be galvanised in accordance with AS/NZS 4534.)
- **Wall underlay restraint (timber frame)** – polypropylene strap, 75 mm galvanised mesh or galvanised wire, or vertical cavity battens where required to restrain the wall underlay in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.5.
- **Wall underlay restraint (steel frame)** – polypropylene strap, 75 mm galvanised mesh or galvanised wire, or vertical cavity battens where required to restrain the wall underlay in accordance with NASH Building Envelope Solutions, Paragraph 9.1.9.5.

- **Thermal break sheathing (steel framing)** – in accordance with NASH Building Envelope Solutions, Paragraph 11.4.3.2.

Handling and Storage

5.1 Handling and storage of the product, whether on-site or off-site, is under the control of the installer. The rolls must be protected from damage and weather. They must be stored on end, under cover, in clean, dry conditions and must not be crushed.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Thermakraft Covertek 403 Roof and Wall Underlay. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Thermakraft Covertek 403 Roof and Wall Underlay is intended for use as an alternative to conventional kraft paper underlays, which are fixed over timber or steel-framed roofs and walls. The underlay is intended to limit the entry of wind into the roof and wall cavities. For roofs the underlay assists in the moisture management of the roof cladding system and for walls it acts as a secondary barrier to wind-driven rain. Refer to Table 1 for material properties.

Table 1: Material Properties

NZBC E2/AS1 Table 23 Roof Underlay Properties	Roof Property Performance Requirement	Wall Property Performance Requirement	Results
Absorbency	≥ 150 g/m²	≥ 100 g/m²	Pass ≥ 150 g/m²
Vapour Resistance	≤ 7 MN s/g	≤ 7 MN s/g	Pass
Water Resistance	≥ 100 mm	≥ 20 mm	Pass ≥ 100 mm
pH of Extract	≥ 6.0 and ≤ 9.0	≥ 6.0 and ≤ 9.0	Pass
Shrinkage	≤ 0.5%	≤ 0.5%	Pass
Mechanical	Edge tear and tensile strength	Edge tear and tensile strength	**Edge tear (Average):** Machine direction = 217N Cross direction = 104 N **Tensile strength (Average):** Machine direction = 4.57 kN/m Cross direction = 2.63 kN/m
Air Barrier	Not applicable	Air resistance ≥ 0.1 MN s/m³	Pass. Thermakraft Covertek 403 can be used as an air barrier

7.2 The material also provides a degree of temporary weather protection during early construction. However, the product will not make the building weathertight and some wetting of the underlying structure is always possible before the cladding is installed. Hence, the entire building must be closed-in and made weatherproof before moisture sensitive materials such as internal linings and insulation materials are installed.

7.3 Thermakraft Covertek 403 Roof and Wall Underlay must not be exposed to the weather or ultraviolet (UV) light for a total of more than 7 days before being covered by the cladding when used as a roof underlay, or for more than 42 days when used a wall underlay.

Timber and Steel Framing

7.4 Timber and steel framing must be provided in accordance with the requirements of the NZBC and the cladding manufacturer.

Use as a Roof Underlay

7.5 Thermakraft Covertek 403 Roof and Wall Underlay is suitable for use under roof claddings on buildings as a roof underlay in accordance with NZBC Acceptable Solution E2/AS1 Table 23 for timber-framed buildings and NASH Building Envelope Solutions Table 23 for steel-framed buildings.

7.6 Thermakraft Covertek 403 Roof and Wall Underlay is suitable for use in residential and commercial roofs with roof pitches of minimum 10° and above and must be fully supported with a corrosion resistance roof underlay support. Thermakraft Covertek 403 can be installed vertically and horizontally and must span no more than 300 mm in one direction. *[Note: For roof pitches less than 10°, Thermakraft Limited recommends the use of Thermakraft Covertek 407. Refer to BRANZ Appraisal No. 651].*

7.7 Refer to Table 2 for a summary of the roof underlay support requirements.

Table 2: Roof Underlay Support Requirements

Roof Pitch	Span	Roof Underlay Support Required?	
		Horizontally Installed	Vertically Installed
10° or more	Greater than 300 mm	Yes	Yes
	300 mm or less	No	No

Use as a Wall Underlay

7.8 Thermakraft Covertek 403 Roof and Wall Underlay is suitable for use under wall claddings as a wall underlay in accordance with NZBC Acceptable Solution E2/AS1, Table 23 on timber-framed buildings and NASH Building Envelope Solutions Table 23 on steel-framed buildings, including non-absorbent wall claddings such as vinyl and metal-based weatherboards in direct fixed situations.

7.9 Thermakraft Covertek 403 Roof and Wall Underlay is suitable for use as an air barrier where walls are not lined, such as attic spaces at gable ends, in accordance with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, Paragraph 9.1.4 (c).

7.10 In cavity installations where the cavity battens are installed at greater than 450 mm centres, Thermakraft Covertek 403 Roof and Wall Underlay must be restrained between the battens to prevent the underlay bulging into the cavity space when bulk insulation is installed in the wall frame cavity. Refer to NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.5 for timber frame or NASH Building Envelope Solutions, Paragraph 9.1.9.5 for steel frame. Wall underlay restraint options include polypropylene strap, 75 mm galvanised mesh or galvanised wire, vertical cavity battens or thermal break sheathing (steel frame only).

Structure

8.1 Thermakraft Covertek 403 Roof and Wall Underlay is suitable for use in all Wind Zones of NZS 3604 and NASH Standard Part 2 up to, and including, Very High when used as a stand-alone flexible wall underlay, and all Wind Zones of NZS 3604 and NASH Standard Part 2 up to, and including, Extra High when used as an overlay for rigid wall underlays or as a roof underlay.

Durability

9.1 Thermakraft Covertek 403 Roof and Wall Underlay meets code compliance with NZBC Clause B2.3.1 (a), not less than 50 years for underlays used where the roof or wall cladding durability requirement or expected serviceable life is not less than 50 years, e.g. behind masonry roof tile cladding or masonry veneer. It also meets code compliance with NZBC Clause B2.3.1 (b), 15 years for underlays used where the roof or wall cladding durability requirement is 15 years.

Serviceable Life

9.2 Thermakraft Covertek 403 Roof and Wall Underlay is expected to have a serviceable life equal to that of the cladding. This is provided the cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant. In addition, the product must not be exposed to the weather or UV light for a total of more than 7 days when used as a roof underlay prior to installation of the roofing. When used as a wall underlay a total exposure of 42 days applies prior to installation of the wall cladding.

Control of Internal Fire and Smoke Spread

10.1 Thermakraft Covertek 403 Roof and Wall Underlay has an AS 1530 Part 2 flammability index of not greater than 5 and therefore meets the requirements of NZBC Acceptable Solutions C/AS1 and C/AS2, Paragraph 4.17.8 b), for the surface finish requirements of suspended flexible fabric used as an underlay to exterior cladding that is exposed to view in occupied spaces.

Prevention of Fire Occurring

11.1 Separation or protection must be provided to Thermakraft Covertek 403 Roof and Wall Underlay from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 and C/AS2 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

12.1 Thermakraft Covertek 403 Roof and Wall Underlay must only be used under claddings that meet the requirements of the NZBC, such as those covered by NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, or claddings covered by a valid BRANZ Appraisal.

12.2 Thermakraft Covertek 403 Roof and Wall Underlay, when installed in accordance with the Technical Literature and this Appraisal, will assist in the total cladding system's compliance with NZBC Clause E2.

Installation Information

Installation Skill Level Requirements

13.1 All design and building work must be carried out in accordance with the Technical Literature and this Appraisal by competent and experienced tradespersons conversant with underlays. Where the work involves Restricted Building Work (RBW) this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

Underlay Installation

General

14.1 Thermakraft Covertek 403 Roof and Wall Underlay must be fixed at maximum 300 mm centres to all framing members with large-head clouts 20 mm long, 6-8 mm stainless steel staples, self-drilling screws or proprietary underlay fixings. The membrane must be pulled taut over the framing before fixing.

14.2 When fixing the product in windy conditions, care must be taken due to the large sail area created.

14.3 Any damaged areas of Thermakraft Covertek 403 Roof and Wall Underlay, such as tears, holes or gaps around service penetrations, must be repaired. Damaged areas can be repaired by covering with new material lapping the damaged area by at least 150 mm and taping, or by taping small tears.

Roof Underlay

14.4 Thermakraft Covertek 403 Roof and Wall Underlay may be run horizontally or vertically. Refer to Table 2 for a summary of roof underlay support requirements. The roof underlay must extend from the ridge and overhang the fascia board by 20-25 mm.

14.5 Vertical laps must be no less than 150 mm wide. Horizontal laps must also be no less than 150 mm, with the direction of the lap ensuring that water is shed to the outer face of the underlay. End laps must be made over framing and be no less than 150 mm wide. To assist with achieving the correct lap dimension, Thermakraft Covertek 403 Roof and Wall Underlay has a 150 mm lap line printed continuously along the top face.

Wall Underlay

14.6 Thermakraft Covertek 403 Roof and Wall Underlay must be run horizontally and must extend from the upper-side of the top plate to the under-side of the bearers or wall plates supporting ground floor joists, or below bottom plates on concrete slabs. Horizontal laps must be no less than 150 mm wide, with the direction of the lap ensuring that water is shed to the outer face of the underlay. End laps must be made over framing and be no less than 150 mm wide.

14.7 Thermakraft Covertek 403 Roof and Wall Underlay should be run over openings and these left covered until windows and doors are ready to be installed. Openings are formed in the underlay by cutting on a 45 degree diagonal from each corner of the penetration. The flaps of the cut underlay must be folded inside the opening and stapled to the penetration framing. Excess underlay may be cut off flush with the internal face of the wall frame.

14.8 Thermakraft Covertek 403 Roof and Wall Underlay can be added as a second layer over head flashings in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.10.3 for timber framing or NASH Building Envelope Solutions Paragraph 9.1.11.3 for steel framing.

Inspections

14.9 The Technical Literature must be referred to during the inspection of Thermakraft Covertek 403 Roof and Wall Underlay installations.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

15.1 The following tests have been carried out on Thermakraft Covertek 403 Roof and Wall Underlay in accordance with NZBC Acceptable Solution E2/AS1, Table 23: tensile strength, edge-tear resistance and resistance to water vapour transmission in accordance with AS/NZS 4200.1, shrinkage in accordance with AS/NZS 4201.3, resistance to water penetration in accordance with AS/NZS 4201.4, surface water absorbency in accordance with AS/NZS 4201.6, pH of extract in accordance with AS/NZS 1301.421s and air resistance to BS 6538.3. A range of these tests were completed before and after Thermakraft Covertek 403 Roof and Wall Underlay was exposed to UV light.

15.2 The flammability index of Thermakraft Covertek 403 Roof and Wall Underlay has been evaluated in accordance with AS 1530.2.

Other Investigations

16.1 A durability opinion has been given by BRANZ technical experts.

16.2 An evaluation of the expected performance of Thermakraft Covertek 403 Roof and Wall Underlay in direct contact with metal roof cladding has been completed by BRANZ.

16.3 The practicability of installation of Thermakraft Covertek 403 Roof and Wall Underlay has been assessed by BRANZ and found to be satisfactory.

16.4 The Technical Literature, including installation instructions, has been examined by BRANZ and found to be satisfactory.

Quality

17.1 The manufacture of Thermakraft Covertek 403 Roof and Wall Underlay has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

17.2 The quality of supply to the market is the responsibility of Thermakraft Limited.

17.3 Building designers are responsible for the design of the building, and for the incorporation of the roof underlay into their design in accordance with the instructions of Thermakraft Limited.

17.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Thermakraft Limited.

Sources of Information

- AS 1530.2: 1993 Test for flammability of materials.
- AS/NZS 1301.421s: 1998 Determination of the pH value of aqueous extracts of paper, board and pulp - Cold extraction method.
- AS/NZS 4200.1: 1994 Pliable building membranes and underlays - Materials.
- AS/NZS 4201.3: 1994 Pliable building membranes and underlays - Methods of test – Shrinkage.
- AS/NZS 4201.4: 1994 Pliable building membranes and underlays - Methods of test – Resistance to water penetration.
- AS/NZS 4201.6: 1994 Pliable building membranes and underlays - Methods of test – Surface water absorbency.
- BS 6538.3: 1987 Method for determination of air permeance using the Garley apparatus.
- NASH Building Envelope Solutions: 2019 Light steel framed buildings.
- NASH Standard Part Two: 2019 Light steel framed buildings.
- NZS 2295: 2006 Pliable, permeable building underlays.
- NZS 3604: 2011 Timber-framed buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

BRANZ

In the opinion of BRANZ, Thermakraft Covertek 403 Roof and Wall Underlay is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Thermakraft Limited, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a] relates only to the product as described herein;
   b] must be read, considered and used in full together with the Technical Literature;
   c] does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d] is copyright of BRANZ.
2. Thermakraft Limited:
   a] continues to have the product reviewed by BRANZ;
   b] shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c] abides by the BRANZ Appraisals Services Terms and Conditions;
   d] warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a] the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
   b] the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c] any guarantee or warranty offered by Thermakraft Limited.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Thermakraft Limited or any third party.

For BRANZ

Chelydra Percy
Chief Executive
Date of Issue:
27 November 2020

Thermakraft™ COVERTEK 215

Versatile self-supporting synthetic roof underlay

Kingspan Thermakraft Covertek 215 is an economic, versatile lightweight roof underlay designed as a superior alternative to bituminous building paper when a fire-retardant underlay is NOT required. Covertek 215 is shrink-resistant and lightweight making it easy to handle and install.

Covertek 215 comes in two roll sizes:

CTE2151350025	1350mm wide	18.6m long	25m² coverage*
CTE2151350050	1350mm wide	37m long	50m² coverage*

* **Note:** m² is the roll size for actual coverage, allow for laps and joins.

BRANZ Appraised
Appraisal No.1229 [2023]

Kingspan

Covertek 215

Versatile self-supporting synthetic roof underlay

Scope of Use

- Suitable with masonry tile, metal tile or profiled metal roof cladding.
- Suitable for timber or steel framed buildings.
- Self-supporting in roof pitch application greater than or equal to 10 degrees (Refer to installation guide).
- Will provide temporary weather protection during construction (maximum 7 days), same day coverage recommended.
- Covertek 215 may be installed during adverse conditions (rain/snow) without affecting durability or performance.
- Suitable for use under dark coloured roofs.

General

- Covertek 215 is NOT fire retardant.
- Unaffected by LOSP or other solvent based treated timber. However, LOSP or other solvent based treated timber must have sufficient time for the solvent chemical to flash off in a well ventilated area. Recommended minimum 7 days.
- Tear resistant and strong.

Limitations

- Cannot be used as a wall underlay.
- Must NOT be exposed to the weather or UV for more than 7 days.
- Covertek 215 has an AS1530 Part 2 flammability index of greater than 5.

Compliance

Designed for use as a roof underlay within the following scope:

- The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to building height and floor plan area.
- Situated in NZS 3604 and NASH Standard Part 2 Wind Zones up to, and including, Extra High.
- Refer BRANZ Appraisal No 1229 for full details.

Durability

Contributes to meeting the Performance Requirements of NZBC Clauses B2, Durability (B2.3.1 (a) 50 years, B2.3.1 (b) 15 years and B2.3.2), E2 External Moisture E2.3.2), and F2 Hazardous Building Materials F2.3.1, providing:

- It is not damaged.
- Is installed in accordance with instructions.
- Is not left exposed for more than 7 days (roof), same day coverage recommended.
- Is installed by or under guidance of Licensed Building Practitioners.
- Is compatible with roofing system used.*

* (**Note:** specifiers and product users must test for roof cladding system compatibility with the underlay before installation.)

Control of Condensation

In climatic regions where condensation risks are high, such as cold or high humidity areas, care needs to be taken in specifying the correct design and installation to prevent moisture build-up in the roof cavities.

Factors which adversely affect the condensation risk in roofing systems include:

- Humid, and/or cold climatic regions.
- Warm/Skillion roof construction.
- Low roof cavity air volume and restricted air movement.
- Omitting Vapour Control Layers.
- Ceiling penetrations and entry of warm air into roof cavities.
- Occupancy activities which have high moisture loading on conditioned spaces.
- Low pitched roof.
- Bulk insulation.
- Building structures ability to naturally dry construction moisture.

Skillion and Warm Roof Construction are particularly sensitive to moisture accumulation and the design and installation of roof construction needs to take into account the higher condensation risks. Refer NZ Metal Roof and Wall Cladding Code of Practice for details.

For passive ventilation of the roof space, it is recommended that all roof underlays are terminated at the ridge, and if not it should be slit or slotted to allow for passive ventilation. (For further information refer to the NZ Metal Roof and Wall Cladding Code of Practice).

Product Warranty

Standard Kingspan Insulation Warranty applies. Refer to Kingspan Insulation Warranty statement for further details. This is available online at **thermakraft.co.nz** or call **0800 806 595.**

Covertek 215

Versatile self-supporting synthetic roof underlay

Property Performance

The following data represents the minimum pass rates required by the NZBC. This product tests well beyond the minimum standards. If you require actual performance results, please contact your local Kingspan Insulation representative.

NZBC E2/AS1 Table 23 (NZS2295) Roof Underlay Properties	Absorbency*	Vapour Resistance	pH of Extract	Shrinkage	Water Resistance
Property Performance Requirement	≥ 150gsm	≤ 7 MN.s/g	≥ 5.5 and ≤ 8	≤ 0.5%	≥ 100mm
Property Performance	Pass	Pass	Pass	Pass	Pass

* Absorbency test done by BRANZ using section 8 of Study Report SR228 (2010).

BRANZ Appraised
Appraisal No.1229 [2023]

0800 806 595
www.thermakraft.co.nz

Thermakraft and Ausmesh products are brought to you by Kingspan Insulation NZ Limited.

Issue 1.0, January 2023

BRANZ Appraised
Appraisal No. 1229 [2023]

THERMAKRAFT COVERTEK 215 ROOF UNDERLAY

Appraisal No. 1229 (2023)

BRANZ Appraisals

Technical Assessments of products for building and construction.

Kingspan. Thermakraft

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WFTAO

Product

1.1 Thermakraft Covertek 215 Roof Underlay is a non-fire-retardant, synthetic, self-supporting building underlay for use under roof claddings.

Scope

2.1 Thermakraft Covertek 215 Roof Underlay has been appraised for use as a roof underlay on buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; or,
- the scope limitations of NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
- with masonry tile roof cladding; and,
- with metal tile roof cladding; and,
- with profiled metal roof cladding; and,
- situated in NZS 3604 and NASH Standard Part 2 Wind Zones up to, and including, Extra High.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Thermakraft Covertek 215 Roof Underlay, if used, designed, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet, or contribute to meeting the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1 (a) not less than 50 years, B2.3.1 (b) 15 years and B2.3.2. Thermakraft Covertek 215 Roof Underlay meets these requirements. See Paragraphs 9.1 and 9.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. When used as part of the roof cladding system, Thermakraft Covertek 215 Roof Underlay contributes to meeting this requirement. See Paragraphs 12.1 and 12.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Thermakraft Covertek 215 Roof Underlay meets this requirement.

Technical Specification

4.1 Thermakraft Covertek 215 Roof Underlay is a synthetic building underlay for use under roof claddings. The product consists of a micro-porous, water-resistant film, laminated between two layers of non-woven spun-bonded polyolefin. Thermakraft Covertek 215 Roof Underlay is coloured white.

4.2 The product is supplied in rolls 1.35 m wide x 18.6 and 37 m long. The product is printed with the Thermakraft Covertek 215 logo repeated along the length of the roll. The rolls are wrapped in clear polythene film.

Accessories

4.3 Accessories used with Thermakraft Covertek 215 Roof Underlay which are supplied by the installer are:

- **Fixings** - stainless steel staples, clouts, screws or proprietary underlay fixings, or other temporary fixings to attach the roof underlay to the framing.

Handling and Storage

5.1 Handling and storage of the product, whether on-site or off-site, is under the control of the installer. The rolls must be protected from damage and weather. They must be stored on end, under cover, in clean, dry conditions and must not be crushed.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Installation Guide, Thermakraft™ Covertek 215, Issue 1.0, dated January 2023.
- Product Data Sheet, Thermakraft™ Covertek 215, Issue 1.0, dated January 2023.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Thermakraft Covertek 215 Roof Underlay is intended for use as an alternative to conventional kraft paper roof underlays, which are fixed over timber or steel-framed roofs in order to limit the entry of wind into the roof cavity, and to assist in the moisture management of the roof cladding system.

7.2 The material also provides a degree of temporary weather protection during early construction. However, the product will not make the roof weathertight and some wetting of the underlying structure is always possible before the roof cladding is installed. Hence, the entire building must be closed-in and made weatherproof before moisture sensitive materials such as ceiling linings and insulation materials are installed.

7.3 Thermakraft Covertek 215 Roof Underlay must not be exposed to the weather or ultraviolet (UV) light for a total of more than 7 days before being covered by the roof cladding.

7.4 Thermakraft Covertek 215 Roof Underlay is suitable for use under roof claddings on buildings as a roof underlay in accordance with NZBC Acceptable Solution E2/AS1, Table 23 for timber-framed buildings or NASH Building Envelope Solutions, Table 23 for steel-framed buildings. Refer to Table 1.

7.5 Thermakraft Covertek 215 Roof Underlay is suitable for use at roof pitches 3° and above. When used at pitches less than 10°, Thermakraft Covertek 215 Roof Underlay can be installed horizontally when spanning no greater than 1,200 mm in one direction, or it can be installed vertically when fully supported by a corrosion resistant material.

7.6 At pitches 10° and greater, Thermakraft Covertek 215 Roof Underlay can be installed vertically or horizontally and must span no greater that 1,200 mm in one direction.

7.7 At roof pitches less than 10° (minimum 3°), Thermakraft Covertek 215 Roof Underlay may be run horizontally, or vertically if installed over a roof underlay support.

Table 1: Material Properties

NZBC Acceptable Solution E2/AS1 Table 23 Roof Underlay Properties	Property Performance Requirement	Results
Absorbency	≥ 150 g/m²	Pass*
Vapour Resistance	≤ 7 MN s/g	Pass
Water Resistance	≥ 100 mm	Pass
pH of Extract	≥ 5.5 and ≤ 8	Pass
Shrinkage	≤ 0.5%	Pass
Mechanical	Edge tear and tensile strength	Edge tear [Average]: Machine direction = 249 N Cross direction = 155 N Tensile strength [Average]: Machine direction = 5.4 kN/m Cross direction = 3.5 kN/m

** Evaluated for roofs by testing to section 8 of BRANZ Study Report SR 228 [2010]*

7.8 Refer to Table 2 for a summary of the roof underlay support requirements.

Table 2: Roof Underlay Support Requirements

Roof Pitch	Span	Roof Underlay Support Required?	
		Horizontally Installed	Vertically Installed
10° or more	Greater than 1,200 mm	Yes	Yes
	1,200 mm or less	No	No
Less than 10° (minimum 3°)	Greater than 1,200 mm	Yes	Yes
	1,200 mm or less	No	Yes

Timber and Steel Framing

7.9 Timber and steel roof framing must be provided in accordance with the requirements of the NZBC and the roof cladding manufacturer.

Structure

8.1 Thermakraft Covertek 215 Roof Underlay is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High or NASH Standard Part 2 Wind Zones up to, and including, Extra High.

Durability

9.1 Thermakraft Covertek 215 Roof Underlay meets code compliance with NZBC Clause B2.3.1 [a] not less than 50 years for roof underlays used where the roof cladding durability requirement or expected serviceable life is not less than 50 years, e.g. behind masonry roof tile cladding, and code compliance with NZBC Clause B2.3.1 [b] 15 years for roof underlays used where the roof cladding durability requirement is 15 years.

Serviceable Life

9.2 Provided it is not exposed to the weather or UV light for a total of more than 7 days, and provided the roof cladding is maintained in accordance with the cladding manufacturer's instructions and the roof cladding remains weather resistant, Thermakraft Covertek 215 Roof Underlay is expected to have a serviceable life equal to that of the roof cladding.

Control of Internal Fire and Smoke Spread

10.1 Thermakraft Covertek 215 Roof Underlay has an AS 1530 Part 2 flammability index of greater than 5. For Risk Groups other than SH, Thermakraft Covertek 215 Roof Underlay must be enclosed by a suitable internal lining in occupied spaces (not exposed to view).

Prevention of Fire Occurring

11.1 Separation or protection must be provided to Thermakraft Covertek 215 Roof Underlay from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

12.1 Thermakraft Covertek 215 Roof Underlay must only be used under roof claddings that meet the requirements of the NZBC, such as those covered by NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, or roof claddings covered by a valid BRANZ Appraisal.

12.2 Thermakraft Covertek 215 Roof Underlay, when installed in accordance with the Technical Literature and this Appraisal, will assist in the total cladding system's compliance with NZBC Clause E2.

Installation Information

Installation Skill Level Requirement

13.1 All design and building work must be carried out in accordance with the Thermakraft Covertek 215 Roof Underlay Technical Literature and this Appraisal by competent and experienced tradespersons conversant with Thermakraft Covertek 215 Roof Underlay. Where the work involves Restricted Building Work (RBW) this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License class.

Underlay Installation

14.1 Thermakraft Covertek 215 Roof Underlay must be fixed at maximum 300 mm centres to all framing members with large-head clouts 20 mm long, 6-8 mm stainless steel staples, self-drilling screws or proprietary underlay fixings. The membrane must be pulled taut over the framing before fixing.

14.2 Thermakraft Covertek 215 Roof Underlay may be installed horizontally or vertically at roof pitches 3° and above (refer to Table 2 for further guidance). It must extend from the ridge and overhang the fascia board by 20-25 mm. Vertical laps must be no less than 150 mm wide. Horizontal laps must also be no less than 150 mm, with the direction of the lap ensuring that water is shed to the outer face of the underlay. End laps must be made over framing and be no less than 150 mm wide. To assist with achieving the correct lap dimension, Thermakraft Covertek 215 Roof Underlay has a 150 mm lap line printed continuously along the top face.

14.3 When fixing the product in windy conditions, care must be taken due to the large sail area created.

14.4 Any damaged areas of Thermakraft Covertek 215 Roof Underlay, such as tears, holes or gaps around service penetrations, must be repaired. Damaged areas can be repaired by covering with new material lapping the damaged area by at least 150 mm and taping, or by taping small tears.

Inspections

14.5 The Technical Literature must be referred to during the inspection of Thermakraft Covertek 215 Roof Underlay installations.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

15.1 The following tests have been carried out on Thermakraft Covertek 215 Roof Underlay in accordance with NZBC Acceptable Solution E2/AS1 and NASH Building Envelope Solutions Table 23: tensile strength, edge-tear resistance and resistance to water vapour transmission in accordance with AS/NZS 4200.1, shrinkage in accordance with AS/NZS 4201.3, resistance to water penetration in accordance with AS/NZS 4201.4, surface water absorbency in accordance with AS/NZS 4201.6 and pH of extract in accordance with AS/NZS 1301.421s. A range of these tests were completed before and after the underlay were exposed to UV light.

15.2 Testing was also completed to the Surface Water No-Drip Test method contained in BRANZ Study Report SR 228.

Other Investigations

16.1 A durability opinion has been given by BRANZ technical experts.

16.2 An evaluation of the expected performance of Thermakraft Covertek 215 Roof Underlay in direct contact with metal roof cladding has been completed by BRANZ.

16.3 The practicability of installation of Thermakraft Covertek 215 Roof Underlay has been assessed by BRANZ and found to be satisfactory.

16.4 The Technical Literature, including installation instructions, has been examined by BRANZ and found to be satisfactory.

Quality

17.1 The manufacture of Thermakraft Covertek 215 Roof Underlay has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

17.2 The quality of supply to the market is the responsibility of Kingspan Insulation NZ Limited.

17.3 Building designers are responsible for the design of the building, and for the incorporation of the roof underlay into their design in accordance with the instructions of Kingspan Insulation NZ Limited.

17.4 Quality of installation is the responsibility of the installer in accordance with the instructions of Kingspan Insulation NZ Limited.

Sources of Information

- AS/NZS 1301.421s:1998 Determination of the pH value of aqueous extracts of paper, board and pulp - cold extraction method.
- AS/NZS 4200.1:1994 Pliable building membranes and underlays - materials.
- AS/NZS 4201.3:1994 Pliable building membranes and underlays - Methods of test – Shrinkage.
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- AS/NZS 4201.6:1994 Pliable building membranes and underlays - Methods of test – Surface water absorbency.
- BRANZ Study Report SR 228 [2010] Study of the Moisture Management Properties of Roof Underlays.
- NASH Building Envelope Solutions:2019 Light steel-framed buildings.
- NASH Standard Part Two:2019 Light steel-framed buildings.
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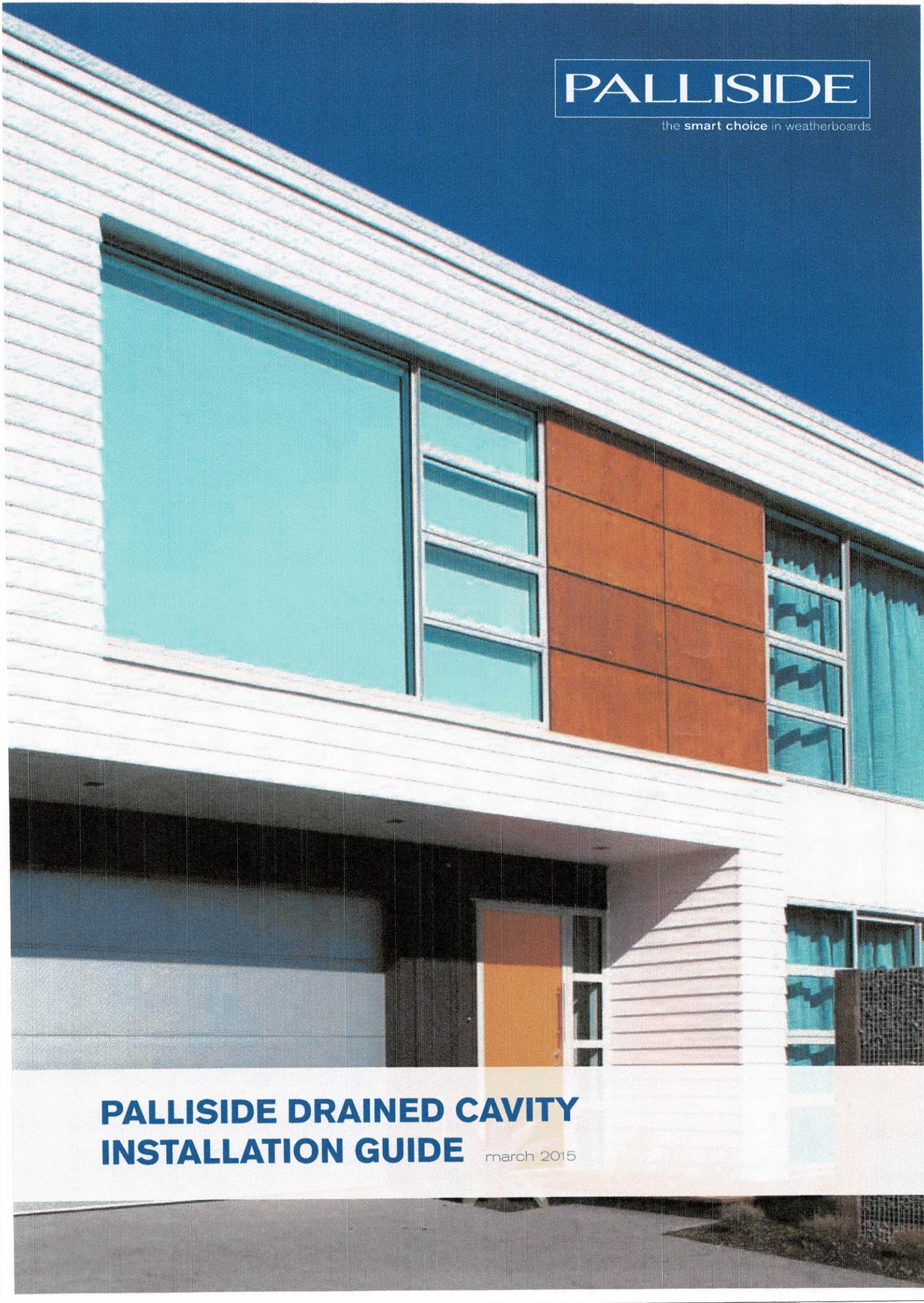
For BRANZ

[redacted]

Chelydra Percy
Chief Executive
Date of Issue:
18 January 2023

PALLISIDE

the **smart choice** in weatherboards



PALLISIDE DRAINED CAVITY INSTALLATION GUIDE

march 2015

PALLISIDE DRAINED CAVITY INSTALLATION GUIDE

march 2015

table of contents

CAD details, which support the information contained in this document, are available to be downloaded from the Palliside website **(www.palliside.co.nz/CAD).**
A table listing these details can also be found under Section 3 of the Palliside Technical Guide. Refer to the back of this document for Dynex Extrusions Ltd contact details.

INSTALLATION PREPARATION AND OVERVIEW

1.

1.1 Storage and Handling

Weatherboards must be laid flat in their original packaging (or otherwise covered) on bearers at 600mm centres. Do not lay other materials on top. Incorrect storage technique can result in buckling or distortion.

Weatherboards come in packs of four lengths. To remove weatherboards from the pack, cut through the full length of sleeve (outside boards in pack face inwards) and lift each weatherboard out.

Where possible it is recommended that two people carry out handling and fixing of Palliside.

Note:

When handling Palliside weatherboard and accessories, care should be taken to ensure hands are free from sunscreen residue, which if comes into contact with the board may leave a visible print or mark.

1.2 Temperature

Additional care should be taken when fixing Palliside at temperature extremes. Where possible installation should be carried out in a temperature range of between 10°C and 25°C.

In colder temperatures, care should also be taken when cutting and nailing the product. For example, it may be necessary to pre-drill the nail holes in each weatherboard.

1.3 Setting Out

The effective cover height of a Palliside weatherboard is 260mm nominal.[1]

To work out the actual cover height of each course of weatherboard, remove 2 lengths from the packet and place them together measuring from the bottom of the lower board to the base of the second and use this as a guide for board courses. Make up a storey rod using this cover height to use as a guide.

A storey rod can be a length of timber or other material with the cover height for each course of weatherboard marked out on the length. This can be used to work out where the weatherboard will finish at head flashing and soffit height, as well as helping ensure corner alignment is maintained throughout the installation.

1. Weatherboard cover heights do not vary significantly from batch to batch.

1.4 Tools Required

Palliside requires no special tools and can be cut and nailed like timber using a wide variety of standard building equipment including circular saws, jig saws and other power tools.

1.4.1 Cutting

Palliside weatherboards and trims can be cut using any of the following methods:

- **A standard hand saw or tenon saw.**
- **A circular saw or drop saw, using a fine-toothed blade (minimum 20 teeth).**
- **A jigsaw, multitool, or router (when cutting a straight horizontal line when the head flashing falls on part of the board profile, or for cutting utility holes, etc).**

1.4.2 Hole Forming

When cutting or drilling holes for utility pipes, standard hole-forming attachments can be used. Care should be taken not to force the jigsaw or drill too hard or quickly.

1.4.3 At the Base of Openings

Mark the board in place, remove and cut to suit using a jigsaw. An alternative to this is to cut down either side to the score line using a saw, use a utility knife to score along the length of the weatherboard and then snap the section out by hand.

1.4.4 At the Head of Joinery

For best results a router (or jigsaw with a guide) can be used when cutting head flashing detail into the weatherboard. Taper the cut to ensure the back of the board can not be easily seen.

Note:

Surfaces of circular saws must be free from burrs prior to working with Palliside and remember to always adopt standard safety precautions when using power tools to cut Palliside.

1.5 Fixings

Fixings for Palliside (timber frame)			
Type of Fixing	Installation Method Drained Cavity		
	Over Structurally Fixed Battens	Over Non-Structurally Fixed Battens	
Windzone	*Up to and Including VH*	*Up to and Including VH*	*EH and above*
Manual Nailing	The HDG 40mm x 2.5mm Palliside nail must be used (fixed at maximum 600mm centres). The Palliside nail has been specially designed with a smaller (5mm) head. 5 kg boxes of Palliside nails are available as part of the standard range of accessories.	60mm x 2.8mm HDG flat head nails must be used (fixed at maximum 600mm centres). Such nails can be sourced from your preferred Building Merchant.	60mm x 3.15mm **Annular Groove** type HDG flat head nails must be used (fixed at maximum 400mm centres). Such nails can be sourced from your preferred Building Merchant.
Impulse Driven Nails A nailing tool such as a Paslode finishing nailer can be used to fix Palliside weatherboards	Paslode ND50mm SS304 grade brads, or equivalent (2 per stud, skewed, at a maximum spacing of 600mm centres). *(ITW/Paslode product code B20054)*	Paslode ND60mm SS304 grade brads, or equivalent (2 per stud, skewed, at a maximum spacing of 600mm centres). *(ITW/Paslode product code B20054)*	n/a
Screws Palliside may be fixed using screws	8-gauge x 32mm SS304 grade countersunk square drive wood screws or equivalent. *(MSL/Fortness Code SFQX 832)*	8-gauge x 50mm SS304 grade countersunk square drive wood screws or equivalent. *(MSL/Fortress Code SFQX850)*	8-gauge x 65mm SS304 grade countersunk square drive wood screws or equivalent. *(MSL/Fortress Code SFQX865)*
Longer Length Boards For custom made lengths longer than 5.8m	The HDG 40mm x 2.8mm **Annular Groove** nail must be used (fixed at maximum 600mm centres).	The HDG 60mm x 2.8mm **Annular Groove** nail must be used (fixed at maximum 600mm centres).	60mm x 3.15mm **Annular Groove** type HDG flat head nails must be used (fixed at maximum 400mm centres). Such nails can be sourced from your preferred Building Merchant.

1.5.1 Summary on Fixings

1.5.1.1 Use of Standard Palliside Nails Over a Drained Cavity

The standard 40mm x 2.5mm Palliside nail can be used when nailing standard 5.8m length Palliside to a structural batten system on wind zones up to and including VH (refer to Palliside Technical Guide, paragraph 2.12.3).

1.5.1.2 Requirement for Stainless Steel in Sea Spray Zones

Coastal locations can be very corrosive to fasteners, especially locations within distances of up to 500m from the sea including harbours, or 100m from tidal estuaries and sheltered inlets, and otherwise as shown in NZS 3604 Figure 4.2. These coastal locations are defined in NZS 3604 as Zone D. However due to the unique hidden nailing system and anti-capillary groove, there is no requirement to use stainless steel nails when fixing Palliside in Zone D locations as specified in NZS 3604.

The specification of Class 4 fixings in accordance with AS 3566 must be used, or minimum SS304 stainless in the absence of a HDG option.

In these locations, any fixings that are to be exposed and not hidden by the weatherboard interlock; must be a minimum SS316 grade.

1.5.1.3 Microclimatic Conditions

Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert mildly corrosive atmosphere into aggressive environments for fasteners. The fixing of Palliside weatherboards in areas subject to microclimatic conditions requires specific design in accordance with NZS 3604 Paragraph 4.2.4.

1.5.1.4 Curved Walls

As covered in the Palliside Technical Guide (paragraph 2.10.2) when Palliside is to be installed to a curved wall, the weatherboard needs to be screwed in place using 8-gauge SS304 grade countersunk square drive screw (MSL/Fortress Code SFQX832) or equivalent.

1.5.1.5 Steel Frames

As steel framed construction is a specific design, the manufacturer of the steel frame should be consulted to ensure any fixing selected is suitable, however as a guide the minimum specification should be a self-drilling Class 4 countersunk square drive screw or equivalent. The screw shall be a minimum 6-gauge and have a minimum head width of 5.5mm. The length of the fixing must cater for the thickness of the cavity batten and any thermal break plus a minimum 10mm penetration through the frame.
Refer to the Palliside website (www.palliside.co.nz/steelframe).

INSTALLATION PROCEDURE

2.

Pre-line Checklist

- Has the correct type of building underlay been selected and installed correctly?
- Has flashing tape been applied to the base of the sill and to all corners of windows and door openings?
- Is the moisture content of the timber 18% or less?
- Is the timber frame straight and studs inline?

2.1 Installation of Cavity Battens

- **All vertical battens must be installed at a maximum 600mm centres.**
- **A continuous horizontal batten is permissible at the soffit only.**
- **Vertical battens on external corners should be offset slightly by 10mm to allow a continuous air gap behind the Palliside corner base flashing.**
- **Horizontal spacers are required to allow Palliside horizontal starting trims to be fixed at the required 300mm centres providing they are:**
    - A maximum 100mm in length.
    - Installed with a minimum slope of 5°.
    - Spaced at least 100mm away from any vertical batten or edge of window opening.

2.1.1 Consideration of Window Head Flashings

Due to the prefinished and modular nature of Palliside, the weatherboard system has been developed and tested using its own 2-part head flashing installed in front of the cavity, not behind (refer CAD detail DC01).

To validate this method the builder/cladding installer must first apply a window head closer flashing over the building underlay, taped in the same way as a conventional head flashing (and as shown in CAD detail DC39).

This method makes the installation of the weatherboard around the head flashing areas achievable particularly when the head flashing cut occurs part way up the board profile or when there is more than one window head along the length.

The head flashing must be installed to ensure that the back of the base piece engages the flexible lip of the window head closer between the cavity batten and itself.

Alternatively, the use of the more conventional aluminium one part head flashing is acceptable (installed to the back of the cavity and taped to the building underlay as shown in CAD detail DC38) though this option may result in additional joiners being needed at the head flashing level to enable the weatherboard to be fitted around the head flashing particularly where there is multiple windows along the length of the weatherboard.

2.1.2 Window Head Closer Flashing

The window head closer flashing is installed at the head of all openings (allowing for the head flashing to be installed in front of the cavity batten rather than behind), but is not required when conventional one part head flashings are to be used.

It needs to be cut and installed a minimum 50mm past the external face of the battens either side of the opening (the layout of battens should take this into consideration).

The back of the cavity closer flashing must be taped to the building underlay and battens installed above the cavity closer. Packers at 300mm centres should be installed to enable the head flashing to be fixed correctly.

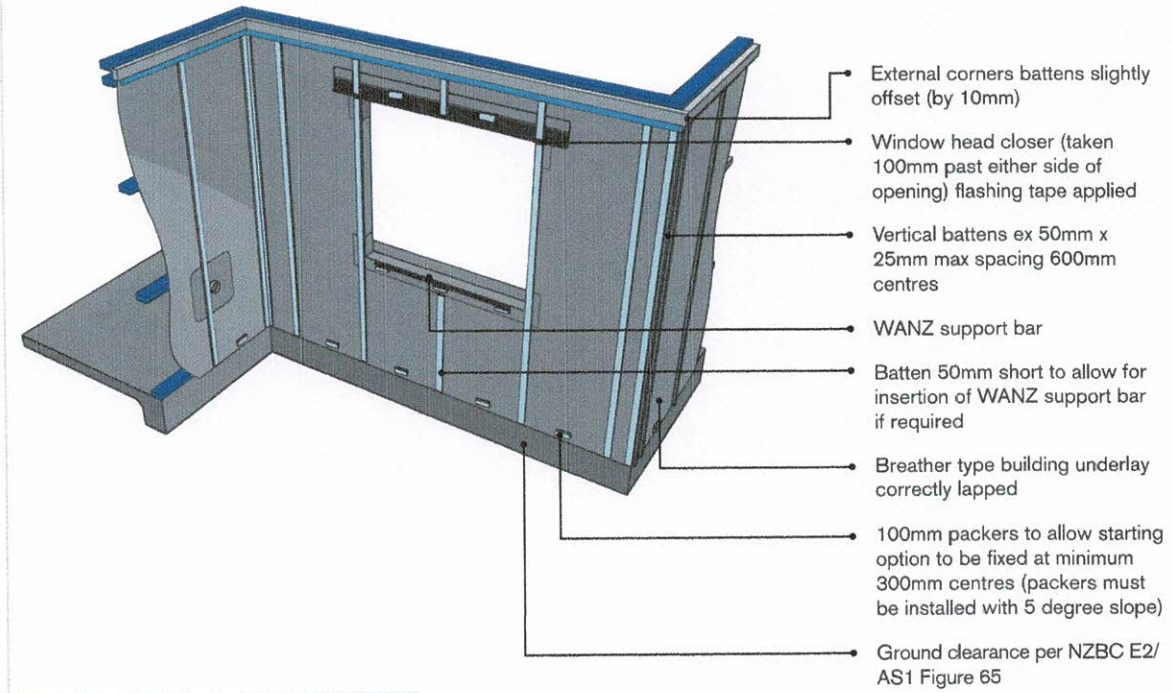


DIAGRAM A – Cavity Batten Layout

Structurally fixed batten equals MSG 8 framing grade H3.1 ex 50mm x 25mm fixed with 60mm x 2.8mm nails at 500mm centres (this allows for standard Palliside nails to be used instead of 60mm x 2.8mm).

2.1.3 WANZ Support Bars

The WANZ Support bar is installed at the base of openings to help improve the support of aluminium joinery.

The support bar is installed ensuring that it is maximum 100mm short of either side of the side of the opening.

2.2 Installation of Base Accessories (Starting Options)

Before the installation of weatherboards and joinery commences, all base accessories need to be fixed in place.

This should occur after the straightening of frame and installation of building underlay (and after the installation of cavity battens).

Base accessories include all starting pieces, all corner base pieces, and the two-part jointer base piece[1].

- **Fix all base accessories at 300mm centres.**
- **Use a chalk line and level to ensure that selected horizontal starting options are fixed level. This is particularly crucial with starter strip.**
- **Starting accessories should also be left slightly short of the selected corner option base pieces and vertical trims, not overlapped.**
- **Mitre trims where required.**

2.2.1 Starter Strip

Palliside starter strip should be installed so there is a minimum 50mm weatherboard overhang in accordance with the requirements of the New Zealand Building Code (refer Diagram B). **Palliside cavity vermin tray** should be attached to the starter strip prior to being installed to the battens. Alternatively, standard cavity base closures may be used instead of the cavity vermin tray.

- **Starter strip can be used when installing Palliside above joinery between brick veneer (refer CAD detail DC31)[2].**
- **This accessory cannot be used when starting with a part board, or along raked areas.**

2.2.2 Cavity Vermin Tray

The cavity vermin tray clips into the base of the starter strip or can be glued to the back of the desired starting option.

The cavity vermin tray meets the requirement of E2/AS1 which requires a minimum opening area of 1000mm² per lineal metre of wall and must be installed at the base of the cladding, and in accordance with NZBC Acceptable Solution E2/AS1, where a gap is greater than 4mm wide.

1. If the 2-part jointer option is selected.
2. CAD detail can be found on the Palliside website (www.palliside.co.nz/CAD).

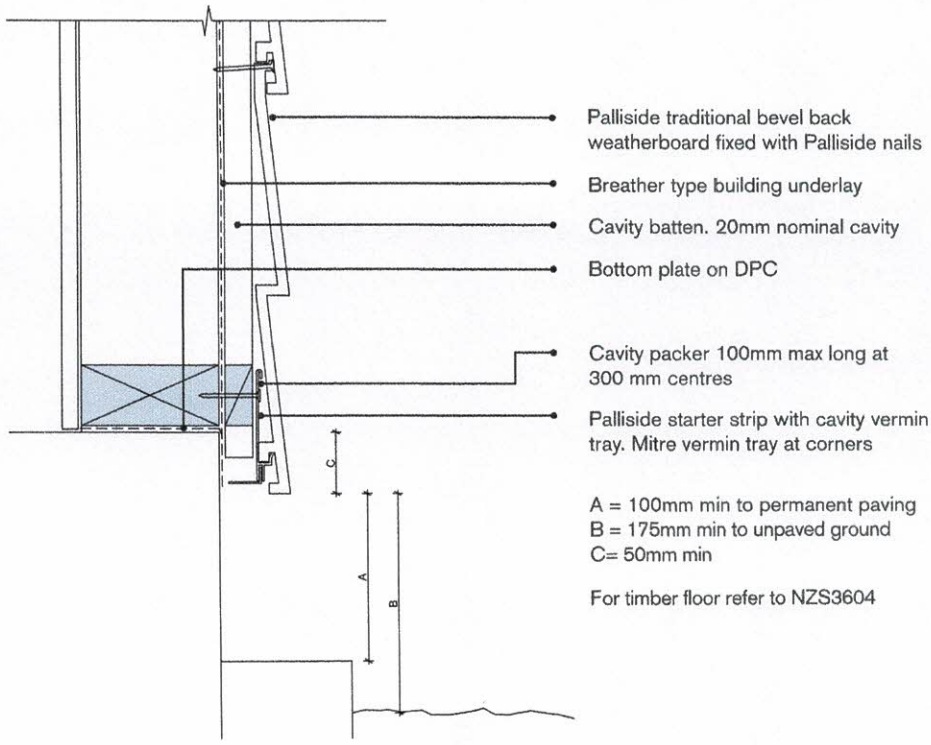


DIAGRAM B – Starter Strip

2.2.3 One Part Channel Trim

When can One Part Channel be used with the Rusticated Profile Weatherboard?

The one part channel can be used as a universal starting option, around the apron of top storeys that contain raked/sloped rooflines and/or different starting heights or as a vertical trim abutting another cladding.

When can One Part Channel be used with the Traditional Profile Weatherboard?

The one part channel can be used as a vertical trim abutting another cladding but is not ideally suited as a starting option for horizontal part board starts and raked/sloped rooflines[3].

When installed on a horizontal, 5mm drain holes must be drilled at maximum 600mm centres.

3. One part channel is suitable for use as an alternative to the Palliside window scriber when installing over a drained cavity. This trim assists with the location of the moulded end plugs installed into the weatherboard gaps.

2.2.4 2-Part Channel

When can 2-Part Channel be used with the Rusticated Profile Weatherboard?

The 2-part channel trim can be used as a universal finishing option for both gable ends and horizontal finishes where the weatherboard does not finish on a scallop, around the apron of top storeys that contain raked/sloped rooflines and/or different starting heights or as a vertical trim abutting another cladding[4].

When can 2-Part Channel be used with the Traditional Profile Weatherboard?

The 2-part channel trim can be used as a universal finishing option for both gable ends (but not horizontal finishes) around the apron of top storeys that contain raked/sloped rooflines and as a vertical trim abutting another cladding[4].

2.3 Corner Options

All base pieces of corner options must be installed **prior** to the installation of the weatherboard and must be fixed at 300mm centres.

It is permissible to join base pieces if required. (When joining a 2 piece option, stagger the base and cap join).

When installing over a drained cavity, vertical battens on corners should be offset slightly to allow airflow behind the base piece.

2.3.1 90° External Corner Soaker Option

When using the Palliside corner soaker option the correct shaped base piece must be installed prior to the installation of weatherboards (refer Diagram C.1).

Once the weatherboards have been installed to one wall, continue on the second wall clipping in place the corner soaker cap pieces (which match the shape of the Palliside board). Ensure that the soakers line up tidily. If there is difficulty fitting these in place or gaps are prevalent to one side, check to ensure that weatherboards are aligned correctly.

No solvent or sealant is required to hold these in place.

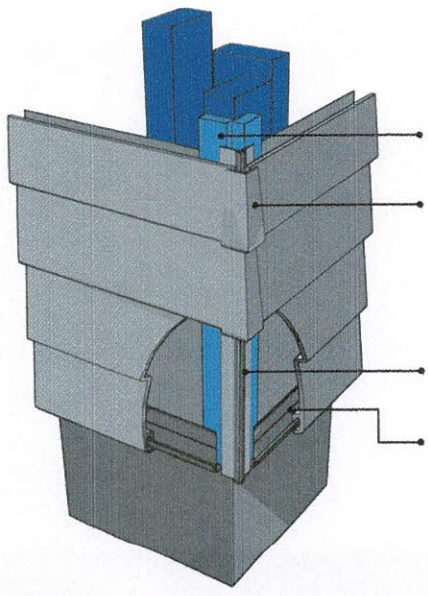


DIAGRAM C.1 – External Corner Soaker

4. Providing that the spine of the flashing is not visible.

2.3.2 90° and 135° Boxed Corners

2-Part Boxed 90° Internal Corner

This 2-part option provides a boxed finish for 90° internal corners.

The female base piece has specially designed location tabs (refer diagram C.2) and must be installed prior to the installation of weatherboards. Once the weatherboards have been installed the male cap piece is pushed in place. This cap features fins to aid the installation of the Palliside moulded end plugs that are inserted into the gaps using solvent cement.

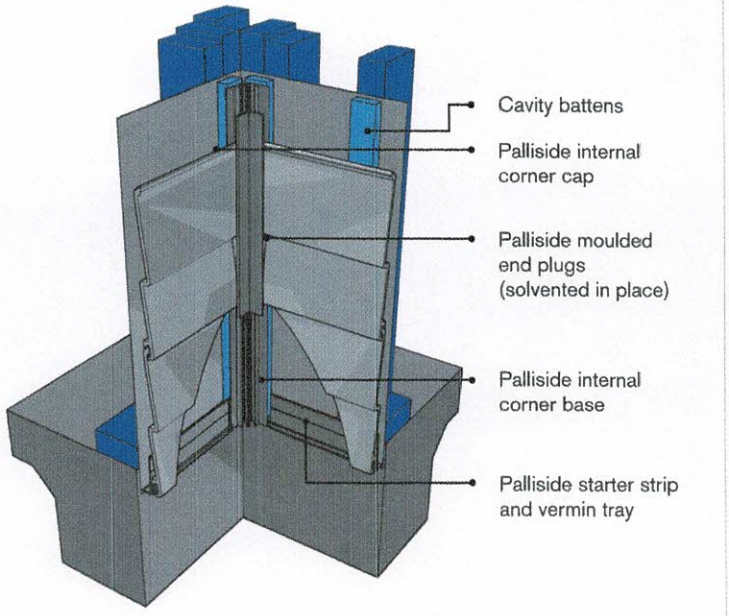


DIAGRAM C.2 – Internal Corner

2-Part Boxed 90° External Corner

When preferred there is an option available for a 90° boxed external corner finish. The female base piece is installed prior to the installation of weatherboards. Once the weatherboards have been installed, the colour matched male cap piece is pushed into place and allowance made for the fitting of Palliside moulded end plugs (refer CAD detail DC07)[5].

2-Part Boxed 135° Corner

The 135° corner can be used for either internal or external corners by reversing the base section, as is commonly required around bay windows. Care should be taken to avoid taking the weatherboards past the clearly marked witness lines of the selected base piece. The cap piece is then fixed in place and allowance made for the Palliside moulded end plugs to be inserted using solvent cement (refer CAD detail DC37)[5].

Note:

Refer 2.9.2 for instructions on using solvent cement.

2.3.3 Non-Standard Corners

A drawing is available showing how to provide custom made back flashings for non standard corners (refer CAD detail DC25)[5].

5. CAD details can be found on the Palliside website (www.palliside.co.nz/CAD).

2.3.4 Timber Boxed Corners

If preferred, timber corner facings may be used to enhance the character of design. A drawing is available demonstrating how to complete this option. A timber scriber can be cut to suit the traditional weatherboard profile or moulded end plugs can be used.

Timber facings should be screwed through the Palliside into the framing behind, sealed and painted to suit (refer CAD detail DC32)[5].

2.4 Jointing Options

2.4.1 Moulded Flat Soakers

Moulded flat soakers that match the shape of the chosen weatherboard profile can be used. When using this option the soakers can be installed off stud, providing that weatherboard joints are staggered (refer Diagram D.1).

When installing weatherboards a 5mm gap must be a left to cover minimal thermal movement. The flat soaker can be inserted later by carefully applying solvent cement to one side of the back of the flat soaker. (Push the soaker in place ensuring that that it engages correctly and that the spine of the soaker is hard against the weatherboard on the solvented side).

There is no base piece required for this option.

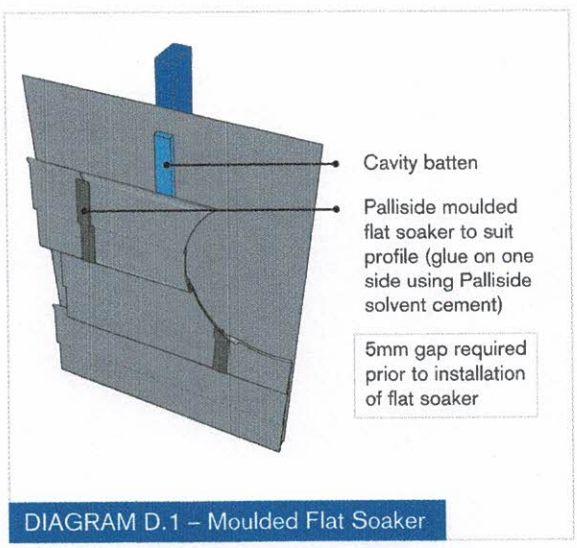


DIAGRAM D.1 – Moulded Flat Soaker

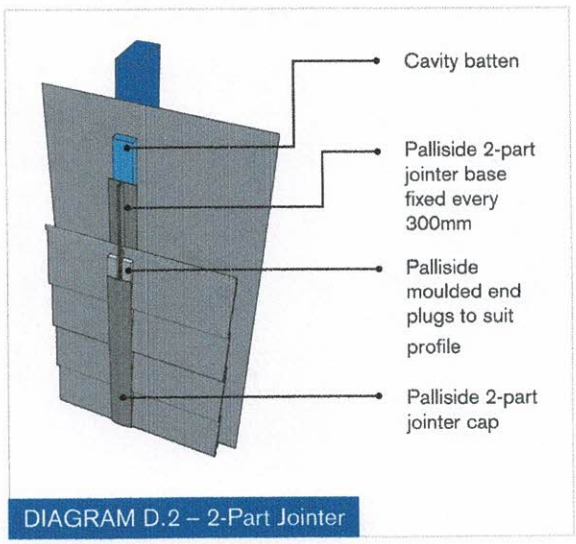


DIAGRAM D.2 – 2-Part Jointer

2.4.2 2-Part Jointer

The female base piece is installed prior to installation of weatherboards and must be fixed in place at maximum 300mm centres. When fixing the weatherboards, leave them 5mm short of the spine of the base piece. The cap is then fixed in place and allowance made for Palliside moulded end plugs to be inserted in place using solvent cement (refer Diagram D.2).

Where possible this jointing option can be strategically placed and covered by a downpipe, however whatever the case the base piece must be install over a stud.

2.5 Installation of Weatherboard

Once starting heights have been confirmed, building underlay correctly lapped and secured, cavity battens installed and base accessories fixed in place, it is time to commence the installation of weatherboards

When nailing Palliside, point the fixing slightly downward (this is to avoid splitting the top of the back part of the weatherboard, which leads to creeping out of level during installation) and nail from one end to the other or from the middle outwards.

Fix at maximum 600mm centres leaving a 5mm[6] gap between weatherboards when joining the boards.

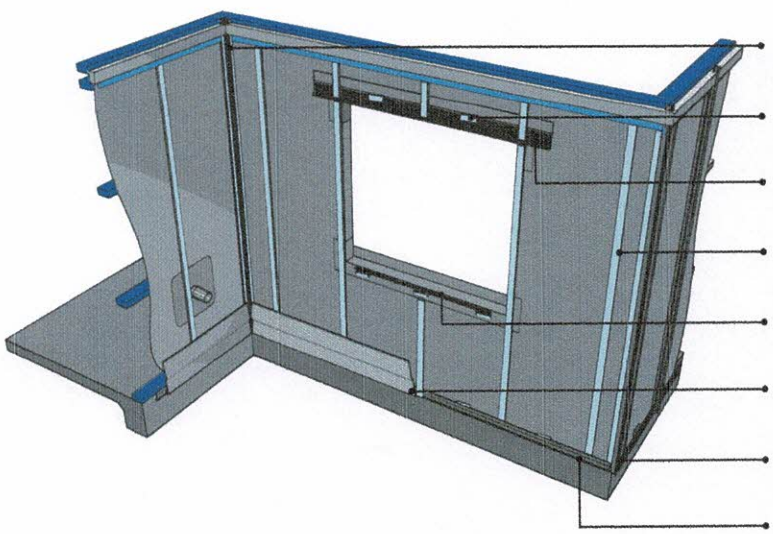


DIAGRAM E – Installation of Weatherboard

6. When using the flat soaker joining option.

Notes:

Ensure Palliside nails, are hit home firmly but not over nailed.

When using brads, use 2 per stud, skewed.

When using screws, ensure that the head of the screw is flush with the fixing groove to ensure the next weatherboard can overlap without interference.

Push into place the next course of boards correctly and continue fixing.

The locking procedure is designed tight to protect from water and dust. If difficulty is experienced interlocking the weatherboards, lay a timber off-cut on the upper edge of the board and gently tap into place with a hammer. Do not hit directly down on top of the weatherboard.

It is advisable to check that the courses of weatherboard remain level using a spirit level and/or storey rod.

2.5.1 Install Weatherboard to Sill Height

Carry out installation of weatherboard as described earlier to the base of the opening, cutting weatherboard around opening to suit (making sure that the cut of the weatherboard is no higher than the sill trimmer plate). Pack out weatherboard at sill trimmer. Fix the cut board at maximum 600mm centres. To ensure that the fixing will be covered place it within 10mm of the top of the cut board. The Palliside window base scriber can also be used to cover these fixings (refer paragraph 2.6.1).

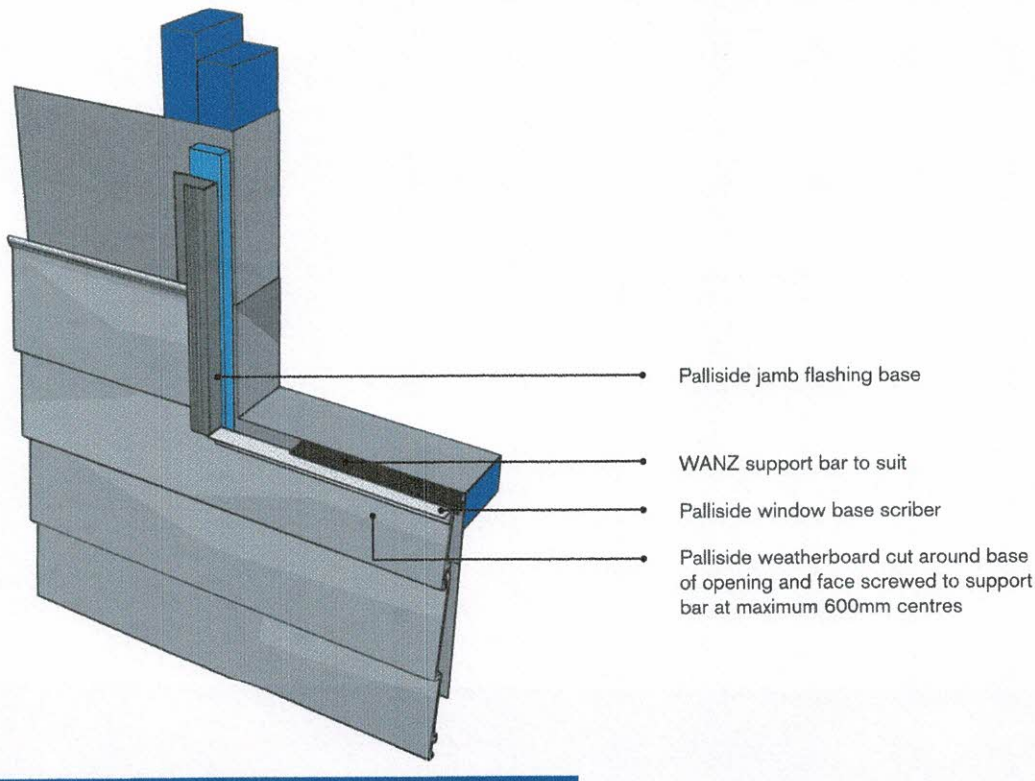


DIAGRAM F – Installation of Weatherboard to Sill Height

2.5.1.1 Packing Out Cut Weatherboards

When starting or finishing on a part board or where a part board finishes below joinery, timber packers should be used to pack out the weatherboard. Board off-cuts (6mm x 2) can often be used for packing out the Rusticated profile (18mm).

Any horizontal cut areas still need to be nailed in place at a maximum 600mm centres. Nail these areas so that the fixing is not visible (eg. covered by the joinery or trim). Fastfix fasteners can be used in some instances, particularly in holding the weatherboard and head flashing in place above windows.

2.5.1.2 Cut Traditional Board Start (Horizontal only)

Due to the tapered nature of the traditional weatherboard profile, starting part way up the face of the weatherboard may make the area unsuitable for using any of the standard starting trims discussed in this document. Therefore particular care needs to be taken with the weatherboard cut.

If desired, the 2-part channel trim can be used by modifying (reducing) the depth of both base and cap (allowing the cap to fit tighter to the base). Due to the modification, solvent cement may be required to glue the cap piece in place. Drain holes still need to be drilled to allow moisture to get out.

2.5.1.3 Installation of Weatherboard Below Doors and Ranch Sliders

Palliside weatherboard must be cut around and continued below doors and ranch sliders. The WANZ support bar also meets the requirement of vermin proofing in this application (refer CAD detail DC44)[7].

2.5.1.4 Use of WANZ Support Bars

When the WANZ support bars are used it is still a requirement to ensure the Palliside board cut is fixed. This can be achieved by using screws to fix the Palliside board cut into the base of the support bar. Packing is still required for this.

2.6 Installation of Window Flashings and Joinery

Ideally windows should not be installed into the openings until the weatherboard has been fixed to the sill height and the jamb base flashings fixed correctly in place.

All aluminium joinery should be compliant with the parameters outlined in the Palliside Technical Guide (paragraph 2.9.1).

2.6.1 Installation at Base of Opening (Sill)

There is no sill tray required when installing Palliside over a drained cavity; however the cut weatherboard below the opening must be fixed to the support bar/packer at maximum 600mm centres before installing joinery.

Depending on the gap in front of the weatherboard at the base of the joinery, some sort of vermin protection may be required.

7. CAD detail can be found on the Palliside website (www.palliside.co.nz/CAD).

2.6.1.1 Using the Palliside Window Base Scriber to Close the Gap Below Joinery

Cut the Palliside window base scriber the width of the opening and trim the front tear off strips as required to ensure that once installed, the gap between the back of the flange and the front lip of the scriber will be less than 5mm. To fix this in place, run a bead of solvent cement across the base of the scriber where it will make contact with the cut board before inserting.

2.6.2 Installation of Jamb Flashing Base and Joinery

The base of the vertical jamb flashing is ideally fixed in place either side of openings prior to the installation of joinery and weatherboards. This flashing is compatible for both Palliside profiles.

Cut the jamb flashing base to match the height of the opening. Fix this flashing in place so that the spine of the jamb flashing is flush against the side of the opening. Repeat this process for both sides. At this point measure the width of the joinery ensuring you will have a minimum flange cover of at least 10mm either side of the opening once the joinery is installed, as outlined in the Palliside Technical Guide (paragraph 2.9.1).

2.6.3 Installation of Joinery

Place joinery into the opening then pack and nail in place ensuring that the joinery is level.

While the joinery does not need to be centred it must be fixed so that:

- **A minimum 7.5mm gap is maintained between the joinery reveal and the opening (to allow for an airseal to be installed).**
- **There is at least 10mm flange cover over the jamb flashing base either side (the line on the face of the jamb flashing base nearest the spine indicates the minimum 10mm cover required) and 8mm at the sill.**
- **Do not remove any of the tear off tabs from the jamb flashing base at this stage.**

2.6.3.1 Windows Close Together

Where two windows closely adjoin each other it may be necessary to tack windows in place and remove at least one while the weatherboard is installed to the head flashing height.

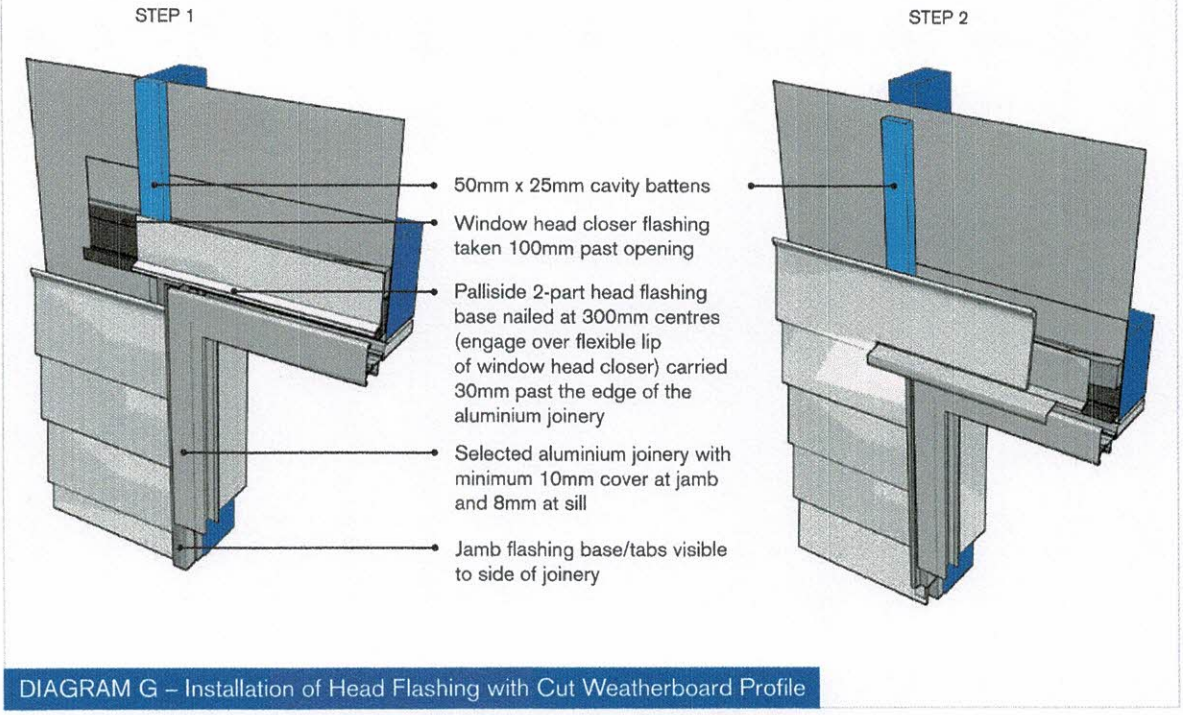


DIAGRAM G – Installation of Head Flashing with Cut Weatherboard Profile

2.6.4 Installation to Head of Window

Continue to install weatherboards either side of the opening up to the head flashing level.

2.6.5 Installation of Head Flashing

Cut the base and cap of 2-part head flashing and cut a minimum 60mm longer than the outside width of the aluminium joinery. Once installed, this will allow for around 18mm either side of the opening beyond the Palliside scriber (refer Diagram G).

Clip together and place the head flashing above the joinery so that the base engages the flexible lip of the cavity closer against the cavity battens behind, while the cap rests on the flange of the aluminium. Centre this in place. Nail through the base of the head flashing at 300mm centres. There is no need to tape the head flashing when it is placed in front of the cavity battens.

- **Where a cut board is used above the head flashing, nail packers (to suit) in place in front of the base piece of the head flashing evenly spaced at maximum 600mm centres.**
- **Apply sealant at either end of the head flashing to form a head flashing stop end.**
- **Remove the head flashing cap and insert cut weatherboard in place.**

2.6.6 Installation of Weatherboard Above Joinery

Measure where the head flashing is going to penetrate the face of the weatherboard. Cut the weatherboard out to suit, taking care to ensure that the horizontal cut for the head flashing is neatly finished and will allow the head flashing to sit tidily.

- Angle the head flashing cut so that the back of the board is not visible once installed.

2.6.6.1 Full Weatherboard Profile Above Joinery

If it works out that a full weatherboard profile can be placed above the head flashing it will be necessary to cut a slot into the weatherboard either side of the opening to allow for the head flashing to be fitted in place (refer Diagram H).

Then trim the nailing groove from a weatherboard off-cut (e.g. taken from the cut around the base of the opening) and nail this across the base of the head flashing, level with the nailing groove either side of the opening. Place the weatherboard in place and continue.

2.6.6.2 Slot to Side of Head Flashing

In instances where the base piece of the head flashing penetrates the cut weatherboard slightly, slope the cross-section of the cut on an angle to allow the base to sit nicely. Use sealant to provide additional protection in these areas.

2.6.6.3 Securing Weatherboard Above Head Flashing in Place

When the head flashing has been cut into the weatherboard profile it is necessary to hold the base of the weatherboard in place above the head flashing using Fastfix Fasteners, unless head flashing has been installed in accordance with paragraph 2.6.6.1.

To achieve this ensure that the weatherboard is correctly packed out and pre-drill 6mm holes at 600mm centres spaced evenly across the face of the opening. Hammer Fastfix fastener in place.

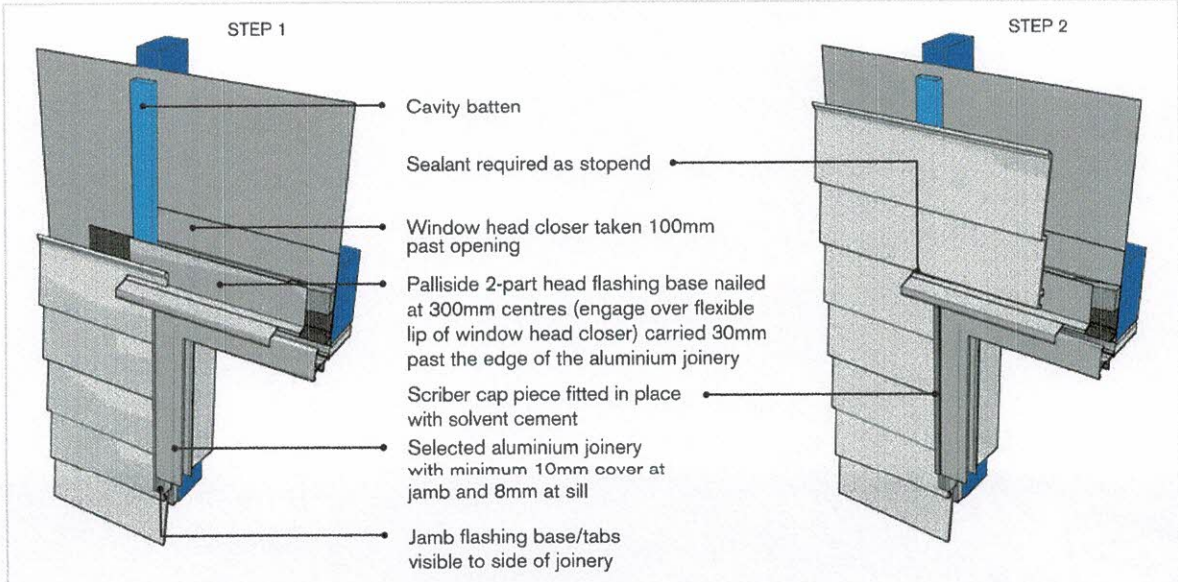


DIAGRAM H – Installation of Head Flashing with Full Weatherboard Profile

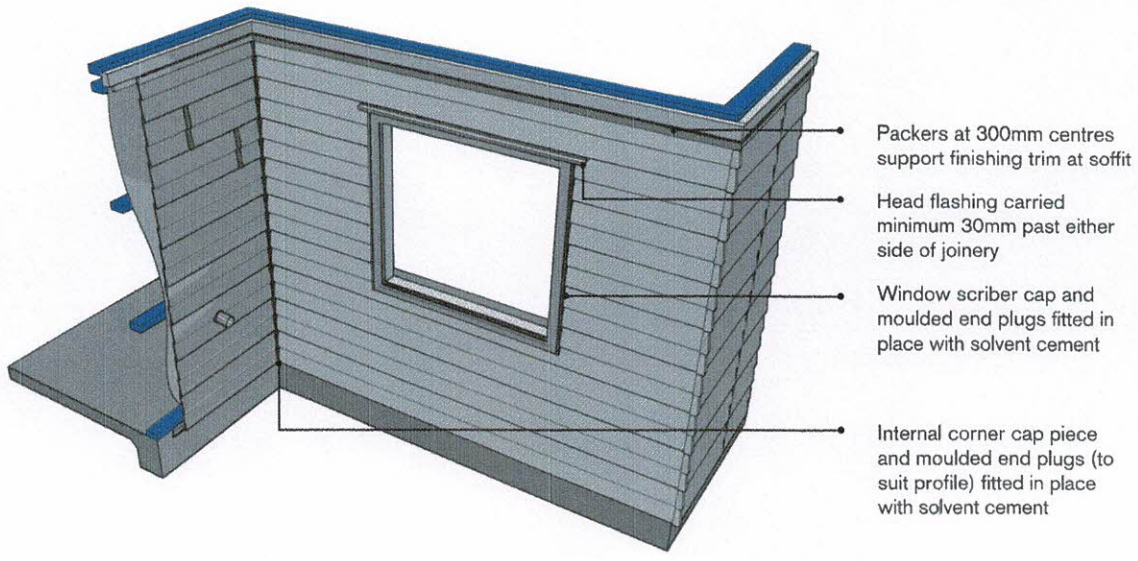


DIAGRAM I – Palliside Installation Above Head Flashing

2.7 Installation to Soffit

Carry out the installation of the weatherboard above the head flashing to soffit.

2.7.1 Soffit Finish

Trim and pack out weatherboard to suit soffit height (particularly horizontal soffit finishes). For best results reduce the spacing of these packers to 300mm centres.

2.7.1.1 Horizontal Soffit Finish

Palliside foam soffit mould is a 40mm x 18mm cornice moulding which can be used as a horizontal finish at soffit line. This trim is available in 3.6m lengths to match the chosen Palliside colour.

This accessory may be either face nailed using 40mm x 2.0mm HDG jolt-heads punched and covered with a dab of matching solvent applied to hide the fixing, or fixed using finishing brads (2 skewed) at 300mm centres.

When installing the Rusticated Profile the 2-part channel trim may also be suitable providing that the weatherboard does not finish in the scallop part of the profile.

2.7.1.2 Reverse Raking Soffit

When finishing Palliside to a reverse raking soffit, a flashing is required at the soffit/cladding junction (refer CAD detail DC22)[8]. This flashing needs to be fitted behind the soffit and in front of the Palliside board, after the Palliside has been installed.

8. CAD detail can be found on the Palliside website (www.palliside.co.nz/CAD).

2.7.1.3 Gable Ends and Rakes

There are a number of ways to finish Palliside at a gable end or along a rake.

2-Part Channel Trim

The base of the 2-part channel needs to be fixed in place prior to the installation of the top weatherboards. Before inserting the cap, insert a continuous strip of Polyethylene Foam (PEF) Rod or Inseal tape placed between the spine of the 2-part channel base and the weatherboard. This option works best with the rusticated weatherboard.

Foam Soffit Mould Option

Finish the Palliside so there is a 20mm gap between the board and the rake or gable end. Into this gap fix a continuous timber H3.1 20mm x 20mm packer ensuring it is supported at maximum 300mm centres and sits in front of the cavity. Nail the Palliside foam soffit mould in place through this at 300mm centres using HDG 40mm x 2.8mm jolt heads (or finishing nails with a minimum Class 4 type finish, 2 per fixing point, skewed). Punch the fixings in and cover with a small dab of colour matched solvent cement. This option is ideal for the traditional weatherboard (refer Diagram J).

- **For best results prepaint the packer in a colour similar to the Palliside before installing.**

H3.1 Timber scriber option

Another option to consider is to use an H3.1 timber mould to cut a finishing scriber. Once the scriber has been prepared and fixed in place through the Palliside, the gaps can be filled with sealant and the scriber painted.

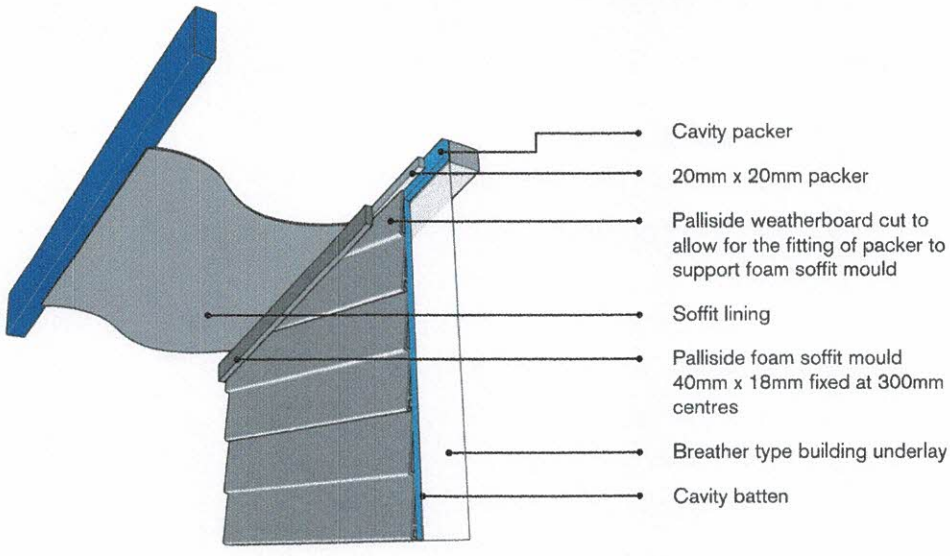


DIAGRAM J – Gable End Finish

2.8 Finishing

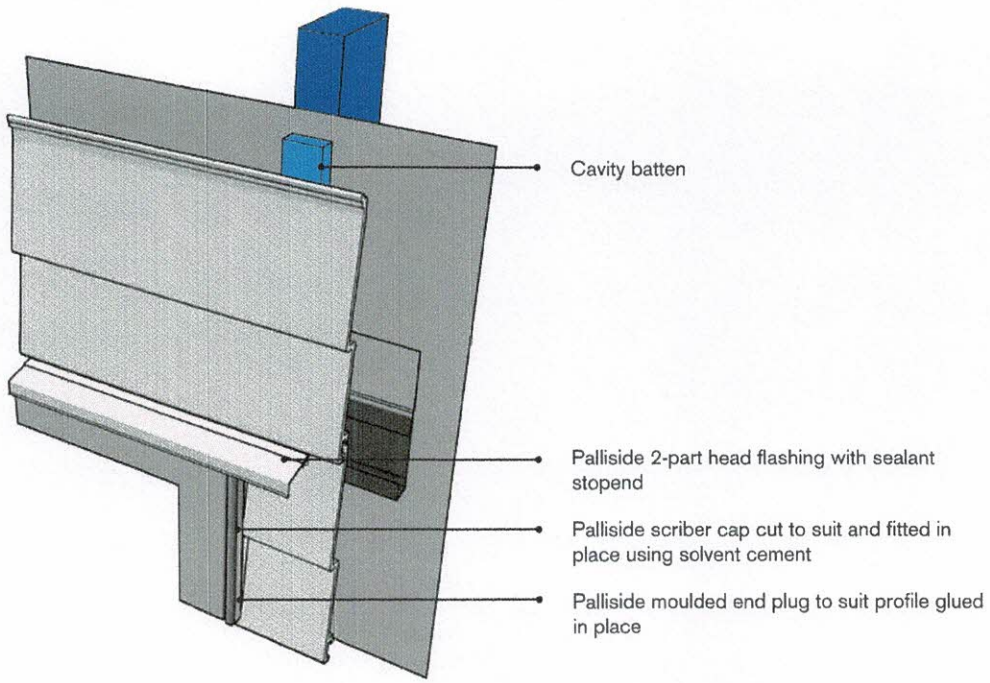


DIAGRAM K – Finishing

2.8.1 Openings

2.8.1.1 Prefit the Scriber Caps

Cut the scriber cap to suit the total height of the window allowing for a 15° taper to the top. This will allow for a tidy finish where the head flashing cap is inserted later.

Fit the scriber cap in place to the side of the window, making sure that the scriber abuts firmly to the side of the aluminium joinery. (It may be necessary to remove one of the tear-offs from the jamb flashing base to allow this to occur). The scriber cap will need to be held in place using solvent cement or sealant (refer paragrah 2.8.1.3).

2.8.1.2 Installation of Head Flashing Cap Piece

Install the cap of the head flashing in place so the front face is resting on the front of the scriber caps.

Apply sealant where the head flashing cap sits on top of the head of the aluminium joinery flange.

2.8.1.3 Sealing Scriber Caps in Place

Once the head flashing cap has been installed, remove the scriber cap and carefully apply a bead of solvent cement (or sealant) to the surface of the scriber where it intersects the base of the jamb flashing and re-insert in place (refer Diagram K).

2.8.1.4 Insertion of End Plugs

Install the Palliside moulded end plugs to the side of the windows by carefully applying solvent cement into the gaps of the weatherboard profile and inserting the end plug in place. The flexible leg located on the inside of the cap piece is designed to assist locating the end plugs flush with the outside of the scriber (refer Diagram K).

2.9 Continue the Installation Process on Remaining Walls

If the 90° external corner soaker option has been selected, Palliside corner soakers can be pushed (clipped) in place (using the rubber handle of a hammer or rubber mallet) after the installation of each course of boards. This helps keep track of board profile alignment.

2.9.1 Finishing of Corners and Trims

All other finishing trims including boxed corner caps, internal corner caps and flat soakers can be applied during the weatherboard installation process or later at the completion of the installation if preferred. End plugs can then be applied where applicable with solvent cement.

2.9.2 Solvent Cement and Sealant

Solvent cement is used for fixing Palliside end plugs and flat soakers in place.

- **When using solvent cement, care should be taken to avoid any solvent being placed on the parts of extruded uPVC accessories that are visible such as the caps of boxed corners and channel trims (this can lead to dimpling).**
- **Excess solvent should be removed straight away by using a damp rag. Do not wait for solvent to dry before doing this.**
- **Be aware that Palliside solvent cement takes time to adhere therefore apply solvent and wait approximately 2 minutes before installing end plugs or flat soakers.**
- **Apply solvent to gap where end plug is to be placed; do not apply solvent to the end plug itself.**
- **Apply solvent to one side of the flat soaker and push in place wiping away excess solvent.**

A range of MS based sealants matching the Palliside colours is available. These and other neutral cured or MS based sealants can be applied to Palliside in the following scenarios:

- **To form a flashing stop-end above joinery.**
- **Around the area where the head flashing penetrates the weatherboard to the sides of joinery.**
- **Installation of the jamb flashing scriber caps.**
- **Finishing around penetrations such as pipes, etc.**

Note:

The use of solvent cement or sealant should not substitute the use of sound weathertightness principles and/or tidy finishing.

2.9.3 Downpipes in matching Palliside Colours

80mm Round uPVC Downpipes ar available in colours to match Palliside, along with 95° bends and clips. These can be ordered with the rest of the Palliside components.

2.9.4 Installation of Airseals

As specified in the Palliside Technical Guide, paragraph 2.8.3, Windows, doors and other penetration openings shall be fitted with flexible air seals (that comply with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.6).

2.9.5 Specific Details

A range of CAD details are available for access from the product website (www.palliside.co.nz/CAD)

These include:

2.9.5.1 Pipe Penetrations

Ensure pipe penetrations are flashed correctly as shown in the CAD detail. Pipe flanges and/or sealant should be applied where required to provide additional protection (refer CAD detail DC20).

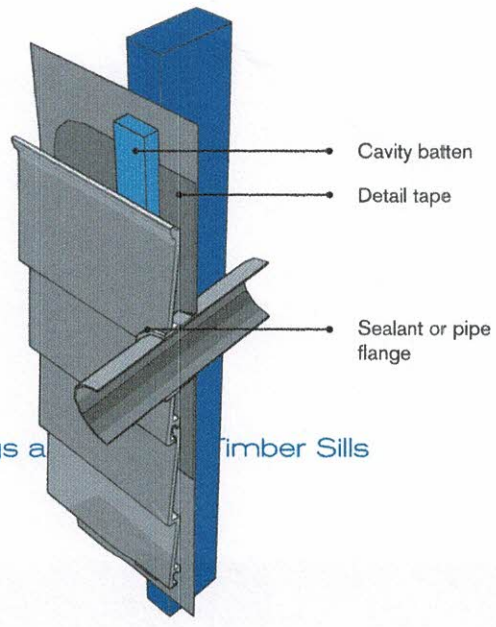


DIAGRAM M – Pipe Penetrations

2.9.5.2 Boxed Timber Corners, Timber Facings a imber Sills

Details are available covering the installation of timber corners and facings and may help add additional character to the home.

Facings are screwed in place through the Palliside weatherboards and may be finished using moulded Palliside end plugs to suit the chosen weatherboard or a traditional timber scriber. Once gaps have been filled/sealed, these can be painted either to match the Palliside or in a colour to suit (refer CAD details DC32-DC35).

2.9.5.3 Meter-box Head, Sill, and Jamb

Ensure that the installation of the meter-box is carried out in accordance with the appropriate details (refer CAD details DC13-15).

2.9.5.4 Non-Standard Corners and Customised Flashings

This detail covers the custom flashing of non-standard corners (refer CAD detail DC25).

2.9.5.5 Cladding Junction Details

When installing Palliside weatherboards in combination with brick veneer a range of junction details (internal corner, external corner, brick sill, inter-storey and vertical joint) are available. There is also a selection of common junctions available when finishing Palliside to profiled metal, proprietary plaster or plywood. In all instances we recommend you check with the supplier/producer of the other cladding to ensure they are happy with the method of transition chosen. These details provide a suggestive means of flashing between these claddings. Other methods may be considered and chosen providing that they demonstrate sound weathertightness principles. If in doubt speak with the designer, consult your local BCA or phone Dynex Extrusions Limited for guidance (refer CAD details DC25-30 and DC48-56).

2.9.5.6 Palliside Installed above Joinery Between Brick

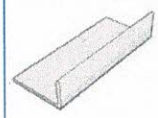
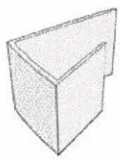
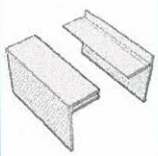
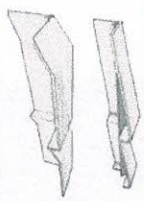
This detail sets out the method of installing Palliside weatherboard above joinery between brick veneer (refer CAD detail DC31).

2.9.5.7 Drained Cavity Inter-Storey Junction

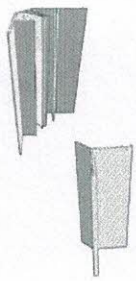
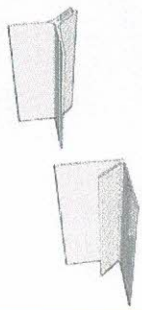
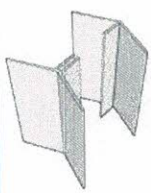
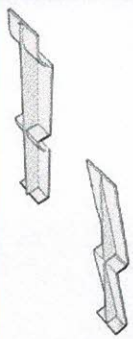
Refer to the Palliside Technical Guide, paragraph 2.12.6, to see whether there is a requirement for this junction (refer CAD detail DC42).

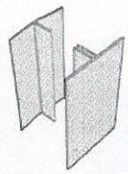
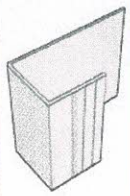
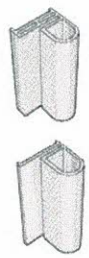
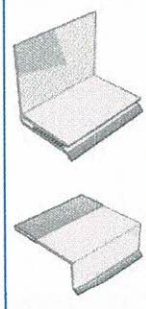
COMPONENT SELECTION GUIDE

3.

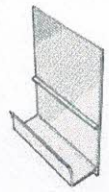
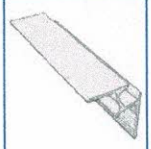
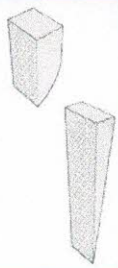
STARTING TRIMS (refer paragraph 2.1)						
Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
Starter strip MVSWHT3.6		3.6m	Required when installing a full board at the base of the application. Not required to be colour matched due to it being a non-visual base accessory.	Prior to installation of weatherboard.	n/a	Diagram B Paragraph 2.2.1
Cavity Vermin Tray MVCVT3.6		3.6m	Required when installing Palliside over drained cavity. Not required to be colour matched due to it generally being a non-visual base accessory.	Prior to installation of weatherboard.	n/a	Diagram B Paragraph 2.2.2
One Part Channel Trim Insert Colour MVCH__3.6		3.6m	Also referred to, as 'J' mould is available in colours to match selected Palliside weatherboard.	Prior to installation of weatherboard.	n/a	Paragraph 2.2.3
2-Part Channel Trim Insert Colour MV2CH__3.6		3.6m	2-part channel trim is available in colours to match selected Palliside weatherboard.	Prior to installation of weatherboard.	After weatherboard has been installed.	Paragraphs 2.2.4 and 2.7.1.3
Vent Strip 61917WHT3		3.0m	For use along rakes and and areas requiring vermin proofing.	Install before cavity battens.	n/a	Paragraph 2.2.1
CORNER OPTIONS (refer paragraph 2.3)						
External 90° Corner Soaker Option MVCB2.7 (Base)		2.7m	The corner soaker base can only be used in conjunction with the corner soakers and is not required to be colour matched due to it being a non-visual base accessory.	Prior to installation of weatherboard.	n/a	Diagram C.1 Paragraph 2.3.1
Insert Colour MVSC__ Rusticated or Traditional Insert Colour MVSCTRAD_		per unit	Moulded corner soakers come in double profile and are available in a colour and shape to match the weatherboards.	n/a	During installation of weatherboard to 2nd wall.	Diagram C.1 Paragraph 2.3.1

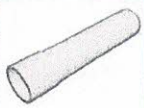
Colour Codes: CAL = Calico, RST = Riverstone, SAN = Sandstone, SLT = Slate, TEA = Tea, WH = White.

CORNER OPTIONS (refer paragraph 2.3)						
Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
Boxed 90° Internal Corner MVIBWHT3 (Base) Insert Colour MVIC__3 (Cap)		3.0m	This option provides a boxed corner finish for 90° internal corners. Only the Male cap piece is required to be colour matched as the base piece is non-visual.	Prior to installation of weatherboard.	After weatherboard has been installed.	Diagram C.2 Paragraph 2.3.2 (End plugs required)
Boxed 90° External Corner Insert Colour MVIE__3.6 (Nb. Female base is not colour matched)		3.6m	This option provides a boxed external corner finish for 90° external corners only. Each unit comprising a female base piece (in white only) and a male cap piece matching the selected Palliside colour. This corner can not be reversed.	Prior to installation of weatherboard.	After weatherboard has been installed.	Paragraph 2.3.2 (End plugs required)
2-Part Boxed 135° Corner Insert Colour MV135__2.7 Reversible to suit both external and internal option		2.7m	The 135° corner can be used for either internal or external corners by reversing the base section, as is commonly required around bay windows, and is available to match the selected Palliside colour.	Prior to installation of weatherboard.	After weatherboard has been installed.	Paragraph 2.3.2 (End plugs required)
JOINTING OPTIONS (refer paragraph 2.4)						
Moulded Flat Soaker Insert Colour MVSF__ Rusticated or Traditional Insert Colour MVSFTRAD_		per unit	Moulded flat soakers come in double profile and are available in a colour and shape to match the weatherboards. One side of the soaker is adhered using solvent cement.	n/a	During or after weatherboard has been installed.	Diagram D.1 Paragraph 2.4.1 Soakers can be joined between stud providing they are staggered.

JOINTING OPTIONS (refer paragraph 2.4)						
Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
2-Part Jointer Insert Colour MVJ__2.7 Base and Cap		2.7m	Vertical joints on stud can be made using the 2-part jointer that is available in colours to match selected Palliside weatherboard.	Prior to installation of weatherboard	After weatherboard has been installed.	Diagram D.2 Paragraph 2.4.2 Base must be fixed on stud (End plugs required)
WINDOW ACCESSORIES (refer paragraph 2.6)						
Window Jamb Flashing Base MVWJFB3.6		3.6m	The base of the vertical jamb flashing is fixed in place either side of openings prior to the installation of joinery and weatherboards. The jamb flashing is not required to be colour matched due to it being a non-visual base accessory. This flashing is compatible for both Palliside profiles.		n/a	Diagram F Paragraph 2.6.2
Window Scriber Cap Insert Colour MVWSCR_3.6 Rusticated or Traditional Insert Colour MVWSCRTRD_3.6		3.6m	The scriber cap is inserted into the jamb flashing base and available to match the selected Palliside colour. There is a different cap required to match each profile thickness and Palliside end plugs are still required to complete the installation.	n/a	After weatherboard windows and head flashing have been installed.	Diagram K Paragraphs 2.8.1.1 and 2.8.1.3 (End plugs required)
2-Part Head Flashing Insert Colour MV2Z_3.8B (uPVC Base) Insert Colour MV2ZAL_3.8 (Aluminum cap)		3.8m	The Palliside 2-part head flashing is designed to improve the ease of installation of the weatherboard above joinery and is available in matching Palliside colours. The base piece is uPVC. The cap piece is aluminium (powdercoated to the match the weatherboard colour).	Prior to the installation of the weatherboard above the inserted joinery.	Once the weatherboard above the opening has been installed and the scriber caps have been inserted in place.	Diagrams G, H and K Paragraphs 2.6.5 and 2.8.1.2 (must be used with Window Head Closer)

Colour Codes: CAL = Calico, RST = Riverstone, SAN = Sandstone, SLT = Slate, TEA = Tea, WH = White.

WINDOW ACCESSORIES (refer paragraph 2.6)						
Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
Window Head Closer 61545WHT3		3.0m	For use at the head flashing level for cavity installation only. Comes in white as not required to be colour matched.	Installed at the head of the joinery prior to the instaltion of cavity batten.	n/a	Diagrams A, G and H Paragraphs 2.1.2 and 2.6.5
Window Base Scriber MVWCBFWHT3.6		3.6m	For use to close the gap at the base of windows to less than 5mm.	Installed onto the cut part of the board, covered once the joinery is installed.	n/a	Diagram F Paragraph 2.6.1.1
WANZ Support Bar Supplied by the window fabricator		3.6m	Aluminium support bars are for use at base of opening to support joinery.	Fixed in place prior to the installation of joinery.	n/a	Diagram A Paragraph 2.1.3 and 2.5.1.4
FINISHING TRIMS (refer paragraph 2.8)						
Moulded End Plugs Insert Colour MVEP_ Rusticated or Traditional Insert Colour MVEPTRAD_		Per Unit	Palliside end plugs are available in both rusticated and traditional profiles to match selected Palliside colours.	n/a	Insert in to profile gaps with solvent cement after weatherboard joinery and all vertical trim caps have been installed.	Diagram K Paragraphs 2.8.1.4 and 2.9.1
Fastfix Fastener Insert Colour		50 Per Pack	Palliside fastfix fasteners are mainly used to hold a cut weatherboard above the head flashing in place and come in colours to match selected Palliside weatherboard.	n/a	Once weatherboard above joinery has been fixed in place.	Paragraph 2.6.6.3
Foam Soffit Mould Insert Colour FMBC8_3.6		3.6m	Palliside foam soffit mould is a 40mm x 18mm cornice moulding which can be used as a horizontal finish at soffit line. This trim is available to match the chosen Palliside colour.	n/a	Once top weatherboard has been installed.	Diagram I Paragraph 2.7.1.3

FINISHING TRIMS (refer paragraph 2.8)						
Item and Item Code	Picture	Length	Description	Installation of Base Piece	Installation of Cap Piece	Comments and references
Solvent Cement Insert Colour MCS_		180gm Tube	Available in matching Palliside colours to cement in place end plugs and flat soakers.	n/a	n/a	Paragraph 2.9.2
Palliside Nails PSIDENAILS		5kg Box	Palliside 40mm x 2.5mm nail.	n/a	n/a	
Sealant Insert Colour MSMSS_		375ml Canister	Available in matching Palliside colours for finishing around head flashing and other areas requiring attention to detail.	n/a	n/a	Paragraph 2.9.2
COLOURED DOWNPIPES (80mm Round)						
80mm Round Downpipe Insert Colour RP80_3		3.0m	Coloured downpipes are availableas part of the Palliside weatherboard system in matching colours (except white).	n/a	n/a	Paragraph 2.9.3
Downpipe Bend 95° Insert Colour RB280_		Per Unit	Coloured downpipe bends are availableas part of the Palliside weatherboard system in matching colours (except white).	n/a	n/a	Paragraph 2.9.3
Downpipe Clip Insert Colour RC80_		Per Unit	Coloured downpipes clips are availableas part of the Palliside weatherboard system in matching colours (except white).	n/a	n/a	Paragraph 2.9.3

Colour Codes: CAL = Calico, RST = Riverstone, SAN = Sandstone, SLT = Slate, TEA = Tea, WH = White.

Contact Details

For further information visit the website **(www.palliside.co.nz)**or alternatively contact:

DYNEX EXTRUSIONS LTD
PO BOX 19-133, Avondale 1746, Auckland, New Zealand.
Freephone 0800 439 639

PALLISIDE
the **smart choice** in weatherboards

DYNEX EXTRUSIONS LTD

an Aliaxis company

APPLICATION FOR PROJECT INFORMATION MEMORANDUM AND/OR BUILDING CONSENT (FORM 2)

Section 33 or 45, Building Act 2004

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HOW IT WORKS

All building work done in New Zealand must comply with the Building Code, and a building consent is often needed. Some building work is exempt from needing a consent. For more information go to www.building.govt.nz

Commercial and multi-unit building work will also need careful planning and may have additional requirements.

Your council can tell you about any district or regional plans that may require you to get resource consent or other permits.

WHEN YOU NEED A BUILDING CONSENT

The following list is a summary of building work that will need a consent, but you should always check with your local council to confirm.

- structural building - including additions, alterations, re-piling and some demolitions
- plumbing and drainage where an additional sanitary fixture is created
- relocating a building
- installing a wood burner
- retaining walls higher than 1.5 metres
- fences or walls higher than 2.5 metres, and all swimming pools and their associated fences
- decks, platforms or bridges more than 1.5 metres above ground level
- sheds greater than 30 m^2 in floor area (restrictions apply to sheds between 10 and 30 m^2.

You are breaking the law if you carry out building work that is not exempt and does not have a building consent. You may be fined up to $200,000 and, if work continues, a further fine of up to $20,000 for every day or part-day during which the offence continues.

Your council can also issue you a notice to fix for carrying out building work without consent, including instant fines of up to $1,000. They can remove the building work if it is dangerous or insanitary.

HOW TO APPLY

As a minimum, the documents listed below must be included in your application. Depending type of application, additional documents might be required or requested while the Council/Territorial Authority (TA)/Building Consent Authority (BCA) process your application.

- Proof of ownership
- Detailed drawings and plans
- Specifications.

HOW TO SUBMIT YOUR APPLICATION

Check with the Council/TA/BCA you are applying to for more information on how to submit your application. Electronic submissions may be available with the relevant Council/TA/BCA on the simpli.govt.nz website.

APPLICATION FOR PROJECT INFORMATION MEMORANDUM AND/OR BUILDING CONSENT (FORM 2)

Section 33 or 45, Building Act 2004

Official Use Only

1. WHAT ARE YOU APPLYING FOR?

- [x] Building Consent
- [ ] Amendment to Building Consent
- [ ] Project Information Memorandum (PIM) *complete only sections 1-6 and 10-12*
- [ ] Staged Building Consent - Stage number _____ of _____ expected number of stages.
- [ ] Building Consent for a National Multi-use Approval (MultiProof) - MultiProof Number EBC 2024-280/0

List PIM, building and resource consents related to this project (if any):	Consent Number	Description
		Garage and Bedroom

Have you discussed your application with the Council / BCA before making this application?	○ No ◉ Yes - provide details

Are you applying for Owner-Builder exemption to complete the Restricted Building Work? *If Yes, complete and attach the 'Statutory Declaration as to Owner Builder Status (Form2B)'.* *If No, complete and attach the 'Memorandum from Licensed Building Practitioner: Certificate of Design Work (form2A)'.*	◉ No ○ Yes

2. PROPERTY INFORMATION

Street address of the building: *For structures that do not have a street address, state the nearest street intersection and the distance and direction from that intersection*	
91 Okahu Road, Kaitaia 0410	
Legal description of the land where the building is located: *State legal description as at the date of application and, if the land is proposed to be subdivided, include details of relevant lot numbers and subdivision consent*	
Lot:	11
DP:	46761
Building Name:	
Level/ Unit number:	91 Okahu Rd, Kaitaia

Location of building within the site/block number:	
Current, lawfully established use: *Include the number of occupants per level and per use if more than 1. If the use was changed by the building work, state previous use*	House
Area: *Total floor area. Indicate area affected by the building work if less than the total area*	64 Garage & Bedroom m^2
Current number of levels:	1
Current number of levels below ground:	
Year first constructed: *Insert year. An approximate date is acceptable, e.g. the 1920s or 1960-1970*	1970

3. OWNER AND AGENT INFORMATION

Owner		Agent *If the application is made on behalf of the owner*	
Name of Owner: *Include title*	Mr Robert Mahalovich & Ms Sharon Hensley	**Name of Agent:**	
Contact person: *If not an individual*	Robert Mahalovich	**Contact person:** *If not an individual*	
Email:	[redacted]	**Relationship to owner:**	
Mobile:		**Email:**	
Alternative Phone:		**Mobile:**	
Street address:		**Alternative Phone:**	
		Street address:	
Mailing Address: *If different from street address*		**Mailing Address:** *If different from street address*	

The first point of contact:	☐ Agent	☑ Owner
Who should we contact for invoicing?	☐ Agent	☑ Owner
Payee name for invoicing:	Mr Robert Mahalovich	

4. WHO IS INVOLVED?

In addition to the Designer, Architect and Engineers, provide the details of all licensed building practitioners who will be involved in carrying out or supervising the restricted building work. If these details are unknown at the time of the application, they must be supplied before the work begins. If you have additional roles to add, please use the table in Appendix A.

Name:	Bruce Petersen			**Entity or Company:**	
Licensing class/ Role:	Site 1 & Carpentry			**LBP or Registration number:**	BP115062
Email:	brucepetersen@outlook.com				
Street Address:	Paparore Road RD Kaitaia			**Mailing Address:** *If different from street address*	
Contact numbers	**Mobile:**	021406703		**Other:**	

Name:		**Entity or Company:**	
Licensing class/ Role:		**LBP or Registration number:**	
Email:			
Street Address:		**Mailing Address:** *If different from street address*	
Contact numbers	**Mobile:**	**Other:**	

5. THE SPECIFICS OF THE SITE

What is the wind zone?
○Low ○Medium ◉High ○Very High ○Extra High ○Specific Design - Value _____
What is the exposure zone?
◉Low(B) ○Medium(C) ○High / Sea Spray(D)

	Yes	**No**
Are you building in a zone that requires a land-use Resource Consent?	◉	○
Does the site have any cultural or heritage significance, or is it a Marae?	○	◉
Does the proposed building work cover two or more allotments?	○	◉
Is it a sub-division?	○	◉
Is the subdivision of an existing site involved? If yes, provide details below. *If a subdivision is proposed and you have not yet received an s224 certificate, the application will also need to provide any relevant information stating legal description as at the date of application and, if a subdivision is proposed, include details of the relevant resource consent number and any proposed lot numbers.*	○	◉
Is the building work over or adjacent to any road or public place?	○	◉
Is there new or altered access for vehicles?	○	◉
Are there new or altered connections to public utilities?	○	◉
Are there public drains on the site?	○	◉
Does the building work involve the disposal of stormwater or wastewater?	◉	○
Is the building work over any existing drains or sewers or in close proximity to wells or water mains?	○	◉
Is the site subject to natural or created hazards such as erosion, subsidence, flooding, slips, cut and fill or contamination?	○	◉
Are there any alterations to land contours (e.g. earthworks)?	○	◉
Are there new or altered locations and/or external dimensions of buildings?	◉	○
Are there any other matters known to the applicant that may require authorisation from the Territorial Authority? *Provide details below*	○	◉

Details from any of the above questions:
Resource Consent has been applied for because "The Site is zoned Rural Living, under the District Plan" and under Rule: 8.7.5.1.13 Building Coverage, any new building or alteration/addition to existing building is a permitted activity if the to total Building Coverage of a site does not exceed 10% or 2400m2, which ever is lesser of the Gross site area. Reason: 10% = 101.90m2, stated as 178m2

6. DETAIL OF THE BUILDING WORK

What building work are you doing? *Select all that apply*	
Residential:	
☐ New detached dwelling ☐ New Multi-residential dwelling ☐ Plumbing works ☑ Major alterations/additions *(altering or attaching to the exterior of a building)*	☑ Minor alterations *(only internal work)* ☐ New or relocation of a solid fuel burner ☑ Garage / detached carport ☐ Other *(provide detail below)* _____
Commercial:	
☐ New commercial / industrial building ☐ Seismic strengthening ☐ Major alterations/additions *(altering or attaching to the exterior of a building)*	☐ Minor alterations *(only internal work)* ☐ Internal fit-out *(including plumbing and ventilation)* ☐ Other *(provide detail below)* _____

Short description of the building work: *E.g. 4 Bedroom dwelling with multiple cladding types and attached garage. Limited to 340 characters.*	We originally built a carport, which is 39m2, with no door. We no want to convert the carport into a Garage, and also do alterions on the existing Garage, to convert to a bedroom.		
Does the project include Restricted Building Work?	○ No ◉ Yes	**Proposed new total floor area:**	39 *m²*
Number of levels after building work:	1	**Number of levels below ground, after building work:**	
What is the intended life of the building?	◉ 50+ years ○ Limited life	**Intended life of the building if 50 years or less:**	*years*
Does the building work involve a swimming pool?	◉ No ○ Yes		
Proposed use: *Building code clause A1 classified uses*	◉ **Housing** ○ Detached dwellings ○ Multi-unit dwellings ○ Group dwellings ○ **Communal Residential** Community care unrestrained Community care restrained Community service ○ **Communal Non-Residential** Assembly Service Assembly care ○ **Commercial** ○ **Industrial** ○ **Outbuildings** ○ **Ancillary**		
The estimated value of the building work: *If an amendment, capture the original value of work. Capture the additional value in the next field.*	$ 30,000.00 *Inc GST*	**If an amendment to a consent, what is the additional value?**	$ *Inc GST*
Will the building work result in a change of use?	○ No ◉ Yes - If Yes, please provide details of the new use: We are wanting to change the existing Garage into a bedroom		

Will there be any recladding?	◉ No ○ Yes
Is this application related to a claim under the WHRS[1] or FAP[2] scheme? *[1]Weathertight Homes Resolution Service* *[2]Leaky Homes Financial Assistance Package*	◉ No ○ Yes - If Yes, please provide the WHRS / FAP reference number(s):

Is your building consent application of a type defined in Gazette Notice[1] and section 46 of the Building Act 2004? *Certain applications for building consent must be submitted to Fire and Emergency New Zealand's Fire Engineering Unit (FEU) for review. [1](New Zealand Gazette, 3 May 2012, Issue 49 page 1406)*	◉ No ○ Yes

7. SOLID FUEL BURNER INFORMATION

Does this application include the installation of a new or relocation of a solid fuel burner?

○ Yes ◉ No – Go to section 8

Make of the heater/burner:		**Model of the heater/burner:**	
Design:	○ Freestanding ○ Inbuild	**Type of fuel:**	
Wetback connection:	○ New ○ n/a ○ Existing	**Hearth construction type:**	
Hearth thickness:	*mm*	**Specify the fixings of the hearth:**	
What is the floor constructed of?	☐ n/a	**Specify air gap between hearth and floor:**	☐ n/a *mm*
Height of flue above roof ridge:	*mm*	**Will the installation require new penetration through the roof or exterior wall?** *If yes, specify the material the penetration will be made through*	○ No ○ Yes
Type of flue kit:			
Will the flue termination be more than 3m from any structure, including neighbours buildings?	○ No ○ Yes	**Distance from outer flue shield to framing timbers:**	*mm*
		Will the flue pass through more than one storey?	○ No ○ Yes

Will the proposed appliance need to be installed closer to combustible material than manufacturers recommendations?		○ No – continue to section 8 ○ Yes	
Distance hearth projects from the front of the heater:	*mm*	**Distance hearth projects from the side of the heater:**	*mm*
Distance from the centre of the chimney to the walls:	*mm*	**Distance from the back of the heater to the wall:**	*mm*
Is the heater installed on an angle to the walls?	○ No ○ Yes		
Provide method of wall protection if required:			

8. THE BUILDING WORK WILL COMPLY WITH THE BUILDING CODE AS FOLLOWS:

- You are required to indicate what code clause(s) your building work complies with.
- Unless otherwise noted below, your application will be assessed under Acceptable Solutions.
- If you are using another means of compliance, please provide details of the standard(s) that your building work complies with and the means of compliance in the space provided. Use a separate sheet of paper if necessary.
- If you do not provide all the necessary information to show how your application complies with the Building Code, it will be returned unprocessed.

☑ B1 - Structure	☐ B2 - Durability	
☐ C1 – Outbreak of fire	☐ C2 – Prevention of a fire occurring	☐ C3 Fire affecting areas beyond fire source
☐ C4 Movement to a place of safety	☐ C5 Access & safety for firefighting operations	☑ C6 Structural stability
☐ D1 Access routes	☐ D2 Mechanical installations for access	
☐ E1 Surface water	☐ E2 External moisture	☑ E3 Internal moisture
☐ F1 Hazardous agents on-site	☐ F2 Hazardous building materials	☐ F3 Hazardous substances and processes
☐ F4 Safety from falling	☐ F5 Construction & demolition hazards	☐ F6 Visibility in escape routes
☐ F7 Warning systems	☐ F8 Signs	☐ F9 Restricting access to residential pools
☐ G1 Personal hygiene	☐ G2 Laundering	☐ G3 Food preparation & prevention of contamination
☐ G4 Ventilation	☐ G5 Interior environment	☐ G6 Airborne & impact sound
☐ G7 Natural light	☐ G8 Artificial light	☐ G9 Electricity
☐ G10 Piped services	☐ G11 Gas as an energy source	☐ G12 Water supplies
☐ G13 Foul water	☐ G14 Industrial liquid waste	☐ G15 Solid waste
☐ H1 Energy efficiency		
☐ Backcountry Huts		

Provide details of all Verification Methods being used. *(Include relevant code clause and means of compliance)*

Structure and Moisture as per building code.

Provide details of all Alternative Solutions being used. *(Include relevant code clause and means of compliance or details of any waivers and modifications, including code clauses)*

9. COMPLIANCE SCHEDULE

Are there any specified systems in the building? *Residential cable cars are considered specified systems, see SS16*

○ Yes ◉ No – Go to section 10

You need to provide information on the specified systems contained on the compliance schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the building consent.

For more information on how to complete this section, see MBIE's Compliance Schedule Handbook

What is the existing compliance schedule number? *(if applicable)*	
Risk Group: *(for more information, see C/AS2)*	
Total occupancy numbers:	
Highest fire hazard category for building use *(insert number)*	

The following specified systems are contained on the compliance schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the building consent:

Specified System		Existing	Altered	Added / New	Removed	n/a	Performance Standards *Acceptable Solution, Verification Method, Standard or specific document*	Inspection *Inspection Procedures may be identified by a written description, or a reference to a Standard or other document*	Maintenance *Maintenance procedures may be identified by a written description, or a reference to a Standard or other document*	Reporting *Reporting procedures may be identified by a written description, or a reference to a Standard or other document*	Responsibility *List persons/ companies for the adjacent procedures*
SS1	Automatic system for fire suppression	○	○	○	○	◉					
SS2	Automatic or manual emergency warning systems for fire or other dangers	○	○	○	○	◉					

Specified System	Existing	Altered	Added / New	Removed	n/a	Performance Standards	Inspection	Maintenance	Reporting	Responsibility
SS3 Electromagnetic or automatic doors or windows										
SS3.1 Automatic doors	○	○	○	○	◉					
SS3.2 Access control doors	○	○	○	○	◉					
SS3.3 Interfaced fire or smoke doors or windows	○	○	○	○	◉					
SS4 Emergency lighting systems	○	○	○	○	◉					
SS5 Escape route pressurisation systems	○	○	○	○	◉					
SS6 Riser mains for use by fire services	○	○	○	○	◉					

Specified System	Existing	Altered	Added / New	Removed	n/a	Performance Standards	Inspection	Maintenance	Reporting	Responsibility
SS7 Automatic backflow preventers connected to a potable water supply	○	○	○	○	◉					
SS8 Lifts, escalators, travellators, or other systems for moving people or goods within buildings										
SS8.1 Passenger-carrying lifts	○	○	○	○	◉					
SS8.2 Service lifts	○	○	○	○	◉					
SS8.3 Escalators and moving walkways	○	○	○	○	◉					
SS9 Mechanical ventilation or air-conditioning systems	○	○	○	○	◉					
SS10 Building maintenance units providing access to exterior and interior walls of buildings	○	○	○	○	◉					
SS11 Laboratory fume cupboards	○	○	○	○	◉					

SS12 Audio loops or other assistive listening systems										
SS12.1 Audio loops	○	○	○	○	◉					
SS12.2 FM radio frequency and infrared beam transmission systems	○	○	○	○	◉					
SS13 Smoke control systems										
SS13.1 Mechanical smoke control	○	○	○	○	◉					
SS13.2 Natural smoke control	○	○	○	○	◉					
SS13.3 Smoke curtains	○	○	○	○	◉					
SS14 Emergency power systems for, or signs relating to, a system or feature specified in SS1-13										
SS14.1 Emergency power systems	○	○	○	○	◉					
SS14.2 Signs for systems	○	○	○	○	◉					

Specified System	Existing	Altered	Added / New	Removed	n/a	Performance Standards	Inspection	Maintenance	Reporting	Responsibility
SS15 Any or all of the following systems and features, so long as they form part of a building's means of escape from fire, and so long as those means also contain any or all of the systems or features specified in clauses 1 to 6, 9, and 13:										
SS15.1 Systems for communicating spoken information intended to facilitate evacuation; and	○	○	○	○	◉					
SS15.2 Final exits As defined by clause A2 of the building code	○	○	○	○	◉					
SS15.3 Fire separations	○	○	○	○	◉					
SS15.4 Signs for communicating information intended to facilitate evacuation	○	○	○	○	◉					
SS15.5 Smoke separations	○	○	○	○	◉					
SS16 Cable car *All buildings with a cable car, including single residential buildings, require a compliance schedule.*	○	○	○	○	◉					

10. HAVE YOU ATTACHED ALL THE REQUIRED DOCUMENTS?

Please include the following document as part of your application. Additional documents might be requested as part of the assessment of your application. Incomplete applications may be returned unprocessed.

Proof of ownership

- (•) Copy of Record of Title
- ( ) Copy of Lease Agreement
- ( ) Agreement for Sale & Purchase
- ( ) Other document showing the full name of the legal owner(s)

- [ ] **Project Information Memorandum (PIM)**
- [ ] **Certificate attached to PIM**
- [ ] **Development Contribution Notice**
- [x] **Plans, specifications and other supporting information** *(Include information on the compliance method, e.g. where the work deviates from an Acceptable Solution method.)*
- [x] **Memorandum from Licensed Building Practitioner – Certificate of Design Work (Form 2A)**
- [ ] **Statutory Declaration as to Owner Builder Status (Form 2B)**

11. APPLICATION FEES

The Council/ Building Consent Authority (BCA)/ Territorial Authority (TA) will charge a fee for your application and any subsequent work involved in processing your application. The fee will include statutory levies payable to BRANZ and the Ministry of Business, Innovation and Employment.

12. ACKNOWLEDGEMENTS

The information you have provided on this form is required so that your application or the building consent it relates to can be processed under the Building Act 2004. The Council, Territorial Authority (TA) or Building Consent Authority (BCA) collates statistics relating to building work and has a statutory obligation to provide information to third parties. The information is stored on a public register, which must be supplied to whoever requests the information. Under the Privacy Act 2020, you have the right to see and correct personal information the Council, TA and BCA hold about you.

In providing this information, you agree to your details being used for customer surveys carried out by the Council, TA or BCA.

All the information contained in the application is, to the best of my knowledge, true and correct.

I request that you issue a project information memorandum, project information memorandum and building consent, or building consent for the building work described in this application.

- [x] I understand that this application is to be assessed against Acceptable Solutions unless otherwise stated in section 8.
- [x] I understand that work must not commence until the building consent is issued and uplifted.
- [x] I understand that this application may only be made with the owner's approval.

Full name:	Robert William Mahalovich & Sharon Mary Hensley
Signature: *Digital signatures acceptable*	[redacted]
Date:	

Appendix A – List of those involved in the build

Complete if additional space is required for Section 4

Name:	Bruce Petersen		**Entity or Company:**	
Licensing class:	Carpentry & S1		**LBP or Registration number:**	BP 115062
Email:	brucepeterson@outlook.com			
Street Address:	Paparore Road, SH1, Awanui		**Mailing Address:** *If different from street address*	PO Box 153 Awanui
Contact numbers	**Mobile:**	021406703	**Other:**	

Name:	Jones Electrical		**Entity or Company:**	Kinetic Electrical
Licensing class:			**LBP or Registration number:**	E245800
Email:	fish.jones@kinetic-electric.co.nz			
Street Address:	7 Empire Street, Kaitaia Northland		**Mailing Address:** *If different from street address*	
Contact numbers	**Mobile:**	0273322380	**Other:**	

Name:			**Entity or Company:**	
Licensing class:			**LBP or Registration number:**	
Email:				
Street Address:			**Mailing Address:** *If different from street address*	
Contact numbers	**Mobile:**		**Other:**	

Name:			**Entity or Company:**	
Licensing class:			**LBP or Registration number:**	
Email:				
Street Address:			**Mailing Address:** *If different from street address*	
Contact numbers	**Mobile:**		**Other:**	