PALMERSTON NORTH CITY COUNCIL. 312/28

BUILDING APPLICATION FORM.

11. 11. 1958.

To The City Engineer,
PALMERSTON NORTH.

Sir,

I hereby apply for permission to ~~erect~~ ~~alter~~ ~~convert~~ ~~reinstate~~ a dwelling

at ~~Ruahine Rd P.N.~~ 28 Leeds St. (House No. and Street) for Maori Affairs Dept. (Owner) on behalf of W. RUWHIA.

of Maori affairs Dept. P.N. (Owner's address) according to Plans and Specifications deposited herewith.

Particulars of Land - Lot No. 51 Section No. D.P. 18319 PT

Frontage 90.15 Links By Depth of 236.62 Links Area 34.12 P.

Particulars of Building - Foundations ~~Continuous conc~~ Walls W/Board

Roof ~~Corrug. Galv. Iron~~ Area of Ground Floor 816 sq.feet.

Number of Storeys 1 Area of Outbuildings ..... sq. ft.

Name of Plumber H. D. Burgess

Estimated Value of Work

Building £1866: 2 : 0

Plumbing & Drainage £256: 0 : 0

£2122. 2. 0

Yours faithfully,
H. R. JONES & CO., LTD.
per [illegible] Builder.

R. 106
Building

Postal Address Aorangi Street
Feilding

W

Renewed

St. 61A.

For Office Use Only:

PALMERSTON NORTH CITY COUNCIL - CITY ENGINEER'S DEPT.

APPROVAL FOR ISSUE OF BUILDING PERMIT.

Date of Application: 13/11/58

Application for: Erection of 4 Roomed Dwelling

Owner: Maoris Affairs Dept. Lot No: 51 Section 556 D.P. 19172

Builder: H.R. Jones & Co Ltd. Locality: 28 Leads St.

Plumber: . . . . . .

	Not Applicable:	Satisfactory Provision Made:	Date:	Amount of Fee Where Applicable:
Building Inspector:				
1. Values on Application ...			13/11/58	£9-0.0
2. Builders Footway Deposit ...				H-00
3. Material of Construction ...				
4. Builders & Owner's name and address				
5. Ground levels and foundations				
6. Requirements for public buildings, factories etc.				
7. Description & use of building on application				
8. General construction - Dwlgs. etc.				
9. Chimneys, heating appliances, flues etc.				
10. Temporary hoardings on footpath				
O.K. Building Inspector:		A.H. Rhoades		
Health Inspector:				
11. Sewer Connection requirements & Fees				5.0
12. Plumbing & drainage requirements & fees.				£2-10-0
13. Proportion of water and sanitary rates				4-16-3
14. Stormwater drainage requirements & fees.				
15. Water connection requirements & fees				
16. Health & Food Acts & Regulations etc.				
17. Storage of Dangerous Goods, fuel oil etc.				£29-11-3
18. General Requirements ...				Nil
19. Value on Application ...				
O.K. Sanitary Inspector:		A.L. Dunnell	13/11/58	
Designing Engineer:				
20. Structural Calculations ...				
O.K. Designing Engineer:				
Town Planning;				
21. Zoning land use, coverage, siting, height.		✓	13-11-58	
22. Proposed roads		✓		
23. Road Widenings &B.L. restrictions		✓		
24. Proposed reserves		✓		
25. General Requirements (easements etc):				
O.K. Town Planner:		D. Evans		

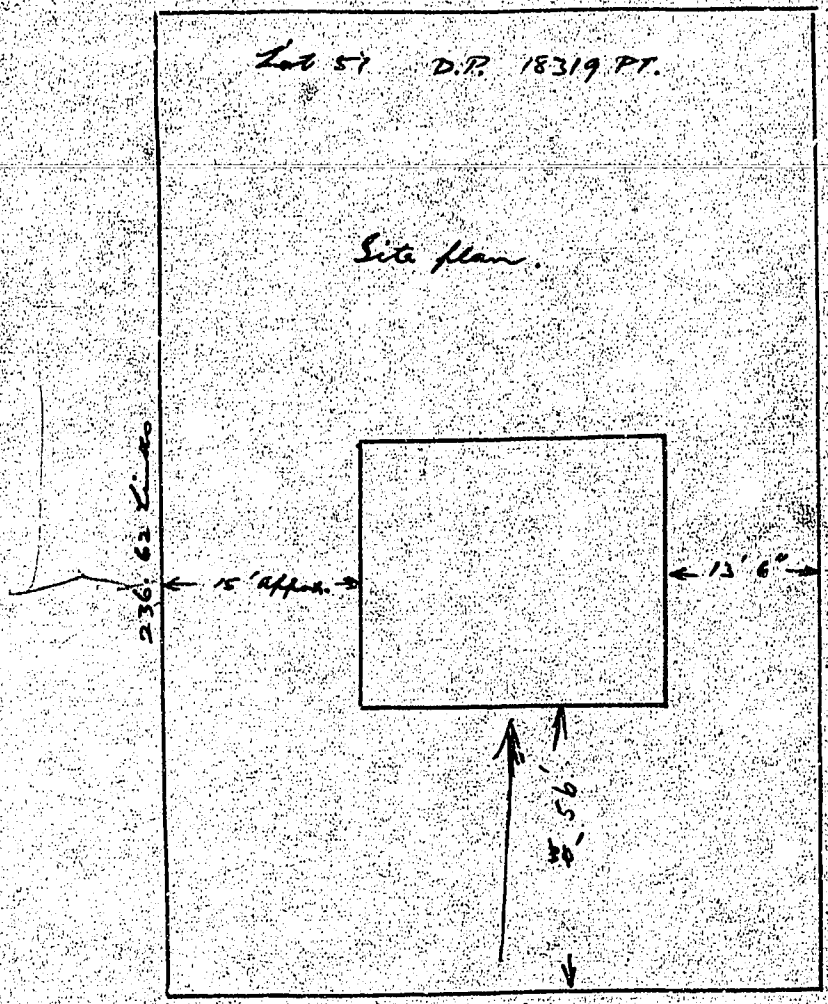
Permit may be issued subject to the following conditions

Gengral Notes: Note soak-pits are not permitted for stormwater disposal.

Waiheke Residence

Builder H. R. JONES & CO. LTD.

Building.



PALMERSTON NORTH CITY CORPORATION

BUILDING APPLICATION FORM
[Please Print]

312/28

TO THE CITY ENGINEER 16/1/1990.

I hereby apply for permission to ERECT A 6.000 WIDE X 9.000 LONG DOUBLE GARAGE WORKSHOP at 28 LEEDS ST PALM NTH.

in accordance with plans/specifications deposited.

FOR: MR C. MURRAY of AS ABOVE

APPLICANT: QUIN CUSTOM BUILDINGS (P.N.) LTD Phone No: 89685

SIGNATURE: D Quin ADDRESS:

PARTICULARS OF LAND - LOT NO: 51 DP: 19172 FLOOR AREA: 54.0 m²

PLUMBER:

DRAINLAYER:

BUILDER: QUIN CUSTOM BUILDINGS (P.N.) LTD.

Address: P.O. BOX 750 PALMERSTON NORTH

PHONES: 89-685 — 67-649

ARCH/ENG:

ESTIMATED VALUE OF WORK:		
Building	$	6800-00.
Plumbing	$	
Drainage	$	200.00
TOTAL:	$	7000.00
GST Included	$	7875.00

FOR OFFICE USE ONLY

Dep. Plans: 2 Specs: Calcs: Insp. Area: John

Permit No: G077670 Date Issued: 29-1-90

Val. No. 51-415-00

	OUT	IN
TOWN PLANNING	16/1	17/1
P INSPECTOR	17/1	19/1
BUILDING INSPECTOR	19/1	25/1
N.Z. FIRE SERVICE		
STRUCTURAL ENGINEER		
FIRE INSPECTOR		
STREET MAINTENANCE	17/1	18/1
VALUATION		
HEALTH INSPECTOR		
TRAFFIC		
Letter to ARCHITECT/BUILDER		
CATCHMENT BOARD		

ITEM		AMOUNT $
Building Permit		225.00
B/R Levy		
Plumbing/Drainage		20.00
Planning Fee		8.00
Prop. Refuse Rate		
Res. Contribution		
Vehicle Crossing		Existing
Water Service		
Sewer		
Stormwater		
Catchment Bd. Levy		
Sub Total	$	253.00
G.S.T.	$	31.65
TOTAL FEE	$	284.65

PALMERSTON NORTH CITY COUNCIL

BUILDING PERMIT REQUIREMENTS

16.1 1990

PROPOSED Erect garage/Workshop AT 28 Leeds Street

FOR Mr C. Murray PHONE 89685

BUILDER Quin Custom Bldgs PLUMBER _____ DRAINLAYER _____

LOT NO 51 D.P. 19172 FLOOR AREA _____ GST _____

BUILDING 6,800

PLUMBING _____

DRAINAGE 200

TOTAL PRICE $ 7,000

CITY PLANNING OK S. Clunies 17/1/90

PLUMBING & DRAINAGE INSPECTOR

S/W drainage required - to be laid to an approved outlet by a Registered Draynlayer

EXP for 18/1/90

FEES	
B/P	225.00
B/R	
P/D	20.00
T/P	8.00
RATES	
RES/C	
V/XING	Existing
WATER	
SEWER	
S/W	
C/B	
SUB TOTAL	253.00
GST	31.65
TOTAL FEE	284.65

DESIGN ENGINEER _____

BUILDING INSPECTOR

Lot boundary to be determined by survey Peg.
Remove all vegetable matter from the area covered by the floor slab.
The floor slab is to be not less than 100 mm above ground level with the foundations not less than 200 mm below ground level.

25/1/90.

I / WE (Owner/Builder) D. Mack
accept the above conditions.

BUILDING INSPECTOR'S FIELD SHEET

AUTHORITY — Stats. No. G 077670

No.

Inspector: M. John. File No.

Receipt No. 5766 Date Permit Issued 29/1/90

OWNER

Name

Mailing Address

BUILDER

Name

Mailing Address Box 750 P.O.

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE

Street No. Harakeke

Street Name

Town/District

Riding

LEGAL DESCRIPTION

Valuation Roll No. 51-415-00

Lot 51 D.P. 19172

Section Block

Survey District

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

Fenced garage

FLOOR AREA

Whole Sq. Metres

DWELLING UNITS

Number Erected

ESTIMATED VALUES $

Building	
Plumbing	
Drainage	
G.S.T.	
TOTAL	7975-

NATURE OF PERMIT (TICK BOX)

- ☐ NEW BUILDING – exclude domestic garages and domestic outbuildings
- ☐ FOUNDATIONS ONLY
- ☐ ALTERED, REPAIRED, EXTENDED, CONVERTED, RESITED – include installation of heating appliances
- ☐ NEW CONSTRUCTION OTHER THAN BUILDINGS – include demolitions
- ☑ DOMESTIC GARAGES AND DOMESTIC OUTBUILDINGS

FEES APPLICABLE

Building Permit	$	Water Connection	$
Street Damage Deposit	$		$
Building Research Levy	$		$
Plumbing	$		$
Drainage	$		$
Sewer Connection	$		$
Vehicle Crossing Levy	$	G.S.T.	$
M.S. Plumbing	$	TOTAL:	$ 2x11.15

Receipt No. 5766

Date of Payment 29/1/90

Authorised Officer

Special Conditions:

1 door window. Sunlead D.J IV

completed

Date Inspected	REMARKS (e.g. stage reached with work)
	Boxing ~~100~~ above ground level 1:D:2 reinforcing rod. Beams and piles ok

(CONTINUED OVER)

PALMERSTON NORTH CITY COUNCIL

PALMERSTON NORTH CITY COUNCIL

Application for ☑ PIM 12874

L13/28 ☑ Building Consent 12875.

OWNER DETAILS

Name: Nichelle & Neil Hughes

Mailing Address: 5 Peter Hall Drive
Palmerston North.

CONTACT

Name: Nichelle & Neil Hughes

Phone: 3561535 Fax:

PROJECT LOCATION

Street Address: 52 Tyne St to be moved to 28 Leeds St

Legal Description *(as shown on Certificate of Title)*

Valuation Roll Number:

Lot: 6 D.P. 18916

Section

PROJECT INFORMATION

New Building ☑ Alteration ☐ Demolition ☑

Being Stage ..... of an intended .....stages

Estimated Value (inclusive of GST) $ 69,000

Intended Uses: Rental Property ~~+ Garage~~

Floor Area (of New Building Work) 117 Square metres

Intended Life:

Indefinite but not less than 50 years ☑ Specified as ..... years

FOR COUNCIL USE

PIM PIB BC B2

Receipt Number: 888980

Received: 31 / 10 / 96

TEMPORARY VEHICLE ACCESS TO SITE

PROPOSED METHOD OF ACCESS

JH, Application + site plan show garage as well as relocated dwelling but no plans supplied for it Kim. 31/10/96.

(Please tick one)

1. Planks across footpath and berm [ ]
2. Metal across footpath and berm [ ]
3. Plates across footpath and berm [ ]
4. Other ..... [ ]

Applicant is responsible for any footpath, grass berm ... activities. Any damage to footpaths, berms, etc. will be repaired by the Council and charged to the applica... ate all damage themselves to Council standards. Approval will be required for any repairs from the Roa... uncil Streetworks Officer.)

☐ PLEASE SUBMIT ALL SUPPORTING DOCUMENTS IN DUPLICATE.

Name: Nichelle Hughes Position: Owners

Signature: N Hughes Date: 29 / 10 / 96

NOTES TO APPLICANTS

1. The information in this application will be held by the Palmerston North City Council
2. The information contained in this application will be held on a "public register" as defined by the Privacy Act 1993 and will be available for inspection and copying by members of the public in terms of the requirements of the Building Act 1991.
3. It is a mandatory requirement of the Building Act 1991 that the information required in this application be provided and the application cannot proceed unless all relevant information is provided.
4. You have a right of access to and, if necessary, correction of the information supplied in this application.

PART B: PROJECT DETAILS

The project involves the following matters *(Cross each applicable box, if any, and attach relevant information to the duplicate):*

- ☐ Location in relation to legal boundaries, and external dimensions of new, relocated or altered buildings
- ☐ New provision to be made for vehicular access, including parking
- ☐ Provisions to be made in building over or adjacent to any road or public place
- ☐ New provisions to be made for disposing of stormwater and wastewater
- ☐ Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or watermains
- ☑ New connections to public utilities
- ☐ Provisions to be made in any demolition work for the protection of the public, suppression of dust, disposal of debris, disconnecton from public utilities, and suppression of noise
- ☐ Any cultural heritage significance of the building or building site, including whether it is on a marae

PART C: BUILDING DETAILS

(Complete Part C in all cases)

The application is accompanied by *(Cross each applicable box and attach relevant information to the duplicate):*

- ☐ The drawings, specifications, and other documents according to which the building is proposed to be constructed to comply with the provisions of the building code, with supporting documents, if any, including:
  - ☐ Building Certificates
  - ☐ Producer Statements
  - ☐ References to accreditation certificates issued by the Building Industry Authority
  - ☐ References to determinations issued by the Building Industry Authority
- ☐ Proposed procedures, if any, for inspection during construction

PART D: Key Personnel

(Complete Part D as far as possible in all cases. Give names,addresses, and telephone numbers. Give relevant registration numbers if known.)

Designer(s): .....

Building Certifier(s): .....

Builder(s): Knox Sanding (3298805)

Registered Drainlayer: .....

Registered Plumber: .....

Registered Gasfitter: .....

Registered Electrician: Knox Bilkey (3547359)

Other: .....

PROJECT INFORMATION MEMORANDUM AND / OR BUILDING CONSENT APPLICATION

The Building Act 1991

8 Sept 04

PALMERSTON NORTH CITY COUNCIL

GARAGE.

36 M.

36 x $300 = $10,800 ———

SEE B.I. NOTES 11/11/46.

Project Information Memorandum No:12874
Section 31, Building Act 1991

Name: MRS NICHELLE FRANCES HUGHES
Mailing Address: 5 PETER HALL DRIVE, PALMERSTON NORTH

Contact: NEIL JOSEPH HUGHES
Phone:
Fax: (06) 354-1535

The project is for New Building
Intended Use(s): TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $69,000.00

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council's charges for this Project Memorandum are: $175.50

Receipt number: 888980 Date: 31Oct96 Amount: $175.50
Total: $175.50

1: This Project Information Memorandum is:

- Confirmation that the proposed building work may be undertaken, subject to any requirements of the Building Consent - Attached.

2: Information relating to other authorisations under any Act (other than the Building Act 1991) which must be obtained from Council in relation to the proposed project.

- Pockets of soft ground is known to exist in the general area. An Engineers report on the bearing capicity of the ground may be required before completion of the foundation excavations.

- New services required, quote application form enclosed please fill in & return to us.

- Special conditions on Schedule "B" and section 3.21 of the Palmerston

THIS IS NOT A PIM: 12874

North Building By-Law must be adhered to as per attached details.
- 3.0 metre dish vehicle crossing to Council standards is required on completion of building.
- Vehicle crossing application form attached to be completed and returned before building activities start to Palmerston North City Council, Private Bag 11034, Street Works Officer.
(Section 335 Local Government Acy)

- The Plumbers Gasfitters and Drainlayers Act 1976 requires that only Registered Drainlayers may undertake drainage work and that only Craftsman Plumbers may undertake plumbing work.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

Palmerston North City Council

DOCUMENT REPORT

E=N=D==O=F==R=E=P=O=R=T=====E=N=D==O=F==R=E=P=O=R=T=E=N=D==O=F==R=E=P=O=R=T=====

Building Consent No:12875
Section 35, Building Act 1991

Name: MRS NICHELLE FRANCES HUGHES
Mailing Address: 5 PETER HALL DRIVE, PALMERSTON NORTH

Contact: NEIL JOSEPH HUGHES
Phone:
Fax: (06) 354-1535

The project is for New Building
Intended Use(s): TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $69,000.00

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council's charges for this Building Consent are: $779.60
Included in these charges - BRANZ Levy: $69.00 BIA Levy : $44.85

Receipt number: 888980 Date: 31Oct96 Amount: $779.60
Total: $779.60

- Where any building work is to be undertaken to which this Building Consent relates, and is not shown IN DETAIL on the approved plans and specifications, such building work is to be completed to acceptable building standards and to the requirements of the New Zealand Building Code 1992.

- Your Building Consent Issue Fee has incorporated all Mandatory inspection costs.

If inspections are requested and the job is not ready or they are not Mandatory inspections, they will incurr an additional fee of $76.50 per inspection.

THIS IS NOT A BUILDING CONSENT: 12875

Palmerston North City Council

DOCUMENT REPORT

E=N=D==O=F==R=E=P=O=R=T====E=N=D==O=F==R=E=P=O=R=T=E=N=D==O=F==R=E=P=O=R=T=====

1: This Building Consent is issued subject to the following conditions:-

- Repair or replace any damaged or rotten sob floor timbers.
- Provide approved base ventilation and an access panel, through the new base boards.

- Adhere to conditions set out in Project Infromation Memorandum.

Notice that building work is ready for inspection shall be given to the Palmerston North City Council at least 1 (one) working day in advance.

Upon completion of all the building work necessary to comply with the Building Code, the owner is required to apply to the Palmerston North City Council for a Code Compliance Certificate using the Building Work Completion Advice form provided.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

PALMERSTON NORTH CITY COUNCIL

PLUMBING AND DRAINAGE INSPECTION SHEET

LOCATION 28 Leeds. BEING LOT _____ DP _____

OWNER Nichelle Hughes BUILDER _____

DRAINLAYER ACP PLUMBER _____

The installation of:

FITTING	BASEMENT	GROUND FLOOR	FIRST FLOOR	ABOVE FIRST
BATH				
BASIN				
SHOWER				
SINK				
TUB				
W.C.				
URINAL STALL				
H.W. CYLINDER				
TOTAL				

TYPE OF BUILDING Relocate.

BUILDING CONSENT NO. 12875

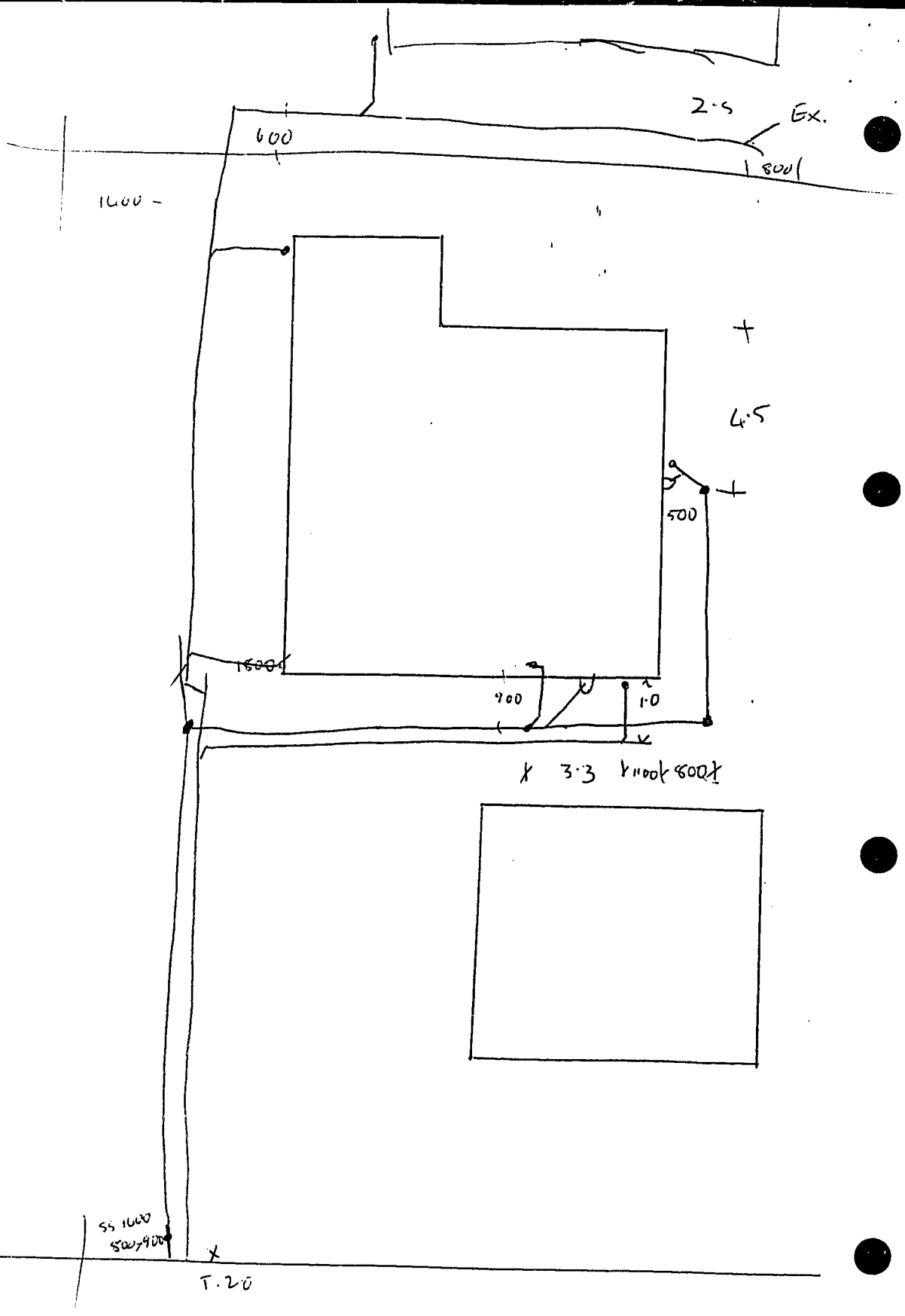
CONSTRUCTION OF:

SEWER	STORMWATER

MISCELLANEOUS WORK : New Services

DATE	COMMENTS
18-12-96	Drains installed, stormwater laid to rear house all OK.

Plan drawn.


2·5
Ex.
600
800
1600
4·5
500
1600
400
1·0
3·3
T.20

PALMERSTON NORTH CITY COUNCIL

Field Inspection Sheet
Building Consent No:12875
Related PIM No: 12874
Issued: 18Nov96 Area: TH

Owner Details

Name: MRS NICHELLE FRANCES HUGHES
Mailing Address: 5 PETER HALL DRIVE, PALMERSTON NORTH

Contact: NEIL JOSEPH HUGHES
Phone: Fax: (06) 354-1535

Project Information

The project is for New Building
Intended Use(s): TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $69,000.00

Project Location

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

DATE INSPECTED	REMARKS (Eg: stage reached with work)
18.11.96	Bearing + siting checked, siting ok. Bearing soft, engineers report requested.
18.11.96	Engineer specified 450x450 ordinary piles + anchors as per 3604 (1990). piles ok. Anchor pile connections to be done by owner
20/2/97	Garage floor insp. 2 D12 rods with D.P.C. laid & sealed. Bearing ok.
19/3/97.	Bottom plate fixed with lumberlok plate tie downs, at 1m crs. Rafter "Z" ties and dragon ties in place. Spouting and down pipe connected to drain. All building work complete.
30-6-97.	Engineer report regarding the pile requirements provided. 12 Nos fixing at 1 m brace lines off.

PALMERSTON NORTH CITY COUNCIL

CODE COMPLIANCE CERTIFICATE No:3207
Section 43(3), Building Act 1991

Owner Details

Name: MRS NICHELLE FRANCES HUGHES
Mailing Address: 5 PETER HALL DRIVE, PALMERSTON NORTH

Contact: NEIL JOSEPH HUGHES
Phone: Fax: (06) 354-1535

Project Information

The project is for Additions/Alterations
Intended Use(s): TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $69,000.00

Project Location

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council Charges

Council's charges for this CODE COMPLIANCE CERTIFICATE :

This is a final code compliance certificate issued in respect of all of the building work under the above building consent

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed: R a Walker Date: 31/5/97

TELEPHONE: (06) 356-3137
FACSIMILE: (06) 359-1294

P O BOX 868
PALMERSTON NORTH

PAYNE SEWELL LIMITED
CONSULTING ENGINEERS
SURVEYORS - PLANNERS

FILE: 1755118

TIME: 10:05

DATE: 27/6/97

FAX NO: NIL

TO: PNCC.

TOTAL NO OF PAGES: 4
(INCL THIS COVERSHEET)

ATTENTION: John Huthley

FROM: Steve Pilkington

TRANSMITTED BY: SP

PLEASE ADVISE OUR FAX OPERATOR AS SOON AS POSSIBLE IF ALL PAGES ARE NOT RECEIVED

28 Leeds St Palm Nth

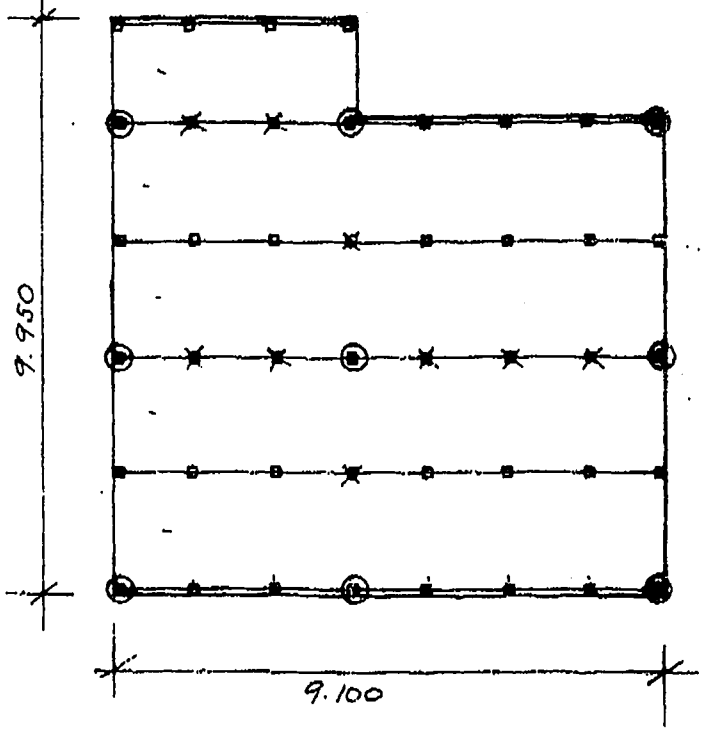
Foundations for Britton

Received 30/6/97

□ ordinary pile
✕ cantilever "
◉ Anchor "

— ANCHOR PILES 350 Ø x 900 DEEP

— OTHER PILES - 450 SQ x 300 DEEP PADS



bearers 100 X 75
joists 125 X 50

Foundation Plan.

SCALE 1:100	DRAWN. C		1.
DATE 10/96	APPROVED		

CLIENT BRITTONS

SUBJECT 28 LEEDS ST FOUNDATIONS

FILE No. | DATE 18/11/96 | PAGE 1 | OF | BY | CKD

PAYNE SEWELL LIMITED
CONSULTING ENGINEERS
SURVEYORS • PLANNERS

PILE LOADS

LOADS Roof Gtoker = $\frac{9.1}{2}$ × 2m

= 9.1 kN

Q = 0.25 KR = $\frac{9.1}{2}$ × 2

= 2.3 kN

Wall G = 0.5KR = 2.4m × 2m

= 2.4 kN

Floor G = 0.5KR = 2m × 1.3m

= 1.3 kN

Q = 1.5KR = 2m × 1.3m

= 3.9 kN

ULG 1.6Q = 1.2(9.1 + 2.4 + 1.3) + 1.6(3.9)

= 21.6 kN

CHECK 350 Ø ANCHOR PILE = 2m DEEP USING PILE FORMULA.

$\frac{d}{D} = \frac{90}{350} = 2.6$.

$\phi = 30°$

CLIENT

SUBJECT

FILE No. | DATE 18/11/96 | PAGE 2 OF | BY | CKD

PAYNE SEWELL LIMITED
CONSULTING ENGINEERS SURVEYORS • PLANNERS

N_q = 40

P_o = 17·09 m

= 15·3 ICE

Q_p = $A_p \times 15·3$ = 612 KN

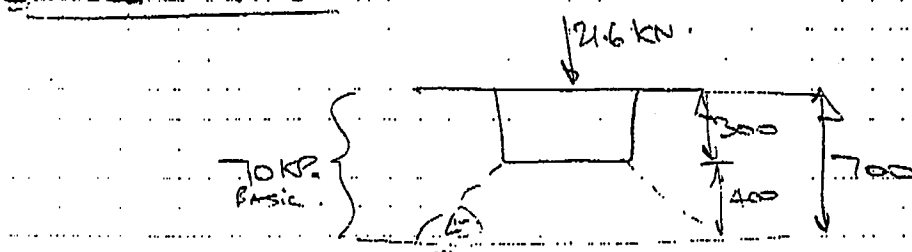
A_p = $\pi \times 0·35^2$

= 0·096 m²

ϕQ_u = 0·5 × 0·7 × 0·096 × 612

= 21 KN ⇒ OK SINCE CONSERVATIVE ESTIMATE OF LOAD

⇒ USE 350 ϕ × 900 DEEP ANCHOR PILES



PILE SIZE REQUIRED @ SURFACE.

$\sqrt{\frac{21.6}{105}}$ = 0·45 m = 450 ICE

CHECK BEARING @ 700 deep

EFFECTIVE PAD SIZE = (450 + 400 + 400)²

= 1·56 m²

CLIENT

SUBJECT

FILE No.	DATE 18/11/96	PAGE 3 OF	BY SP	CKD

PAYNE SEWELL LIMITED
CONSULTING ENGINEERS
SURVEYORS • PLANNERS

-> REQD BEARING PRESSURE

$$\text{PROD.} = \frac{21.6}{1.5}$$

$$= 14.4 \text{ KE} \quad \therefore \text{OK}$$

USE 450 SQ PADS
3m DEEP

Copy for building envelope

IC60571
L 13-28-PLN

4 November 1996

The Principal Planner
PALMERSTON NORTH CITY COUNCIL

APPLICATION FOR A RESOURCE CONSENT TO RELOCATE A DWELLING FROM 52 TYNE STREET, PALMERSTON NORTH TO 28 LEEDS STREET, PALMERSTON NORTH AND MINIMUM NETT SITE AREA REDUCTION MADE PURSUANT TO SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

The Applicant	Neil and Nichelle Hughes
The Site	28 Leeds Street, Palmerston North, being Lot 51, DP 19172

1. THE APPLICATION

N and N Hughes have applied to Council to relocate a dwelling from 52 Tyne Street, Palmerston North to 28 Leeds Street, Palmerston North.

The subject property is zoned Residential in both the Palmerston North City Transitional District Plan and the Proposed District Plan. Each Plan provides for relocation of dwellings in the Residential Zone as a Controlled Activity.

2. THE RESOURCE MANAGEMENT ACT

Section 88 of the Resource Management Act 1991 enables any person to make an application for a Resource Consent to carry out a Controlled Activity.

Section 94(c) of the said Act provides that an application need not be notified if:

i) The activity to which the application relates is a Controlled Activity; and

ii) Written approval has been obtained from every person who, in the opinion of the consent authority, may be adversely affected by the granting of the resource consent unless, in the authority's opinion, it is unreasonable in the circumstances to require the obtaining of every such approval.

In this application, Council has concluded that no person is adversely affected, therefore no consents are required nor need it be notified.

Section 104 of the Resource Management Act 1991, sets out those matters which Council needs to take account of when considering such an application. The relevant matters are as follows:

a. Any actual and potential effects on the environment of allowing the activity.

b. Any relevant objectives, policies, rules or other provisions of a plan or proposed plan.

Section 105(1)(a) of the Resource Management Act 1991 provides that:

> After considering an application for a resource consent for a controlled activity, a consent authority shall grant the consent, but may impose conditions under Section 108.

3. THE DISTRICT PLANS

Ordinance 02.24.1 of the Transitional District Plan states that Council must consider that:

1. The design and external appearance of the dwelling is compatible with those buildings situated adjacent to, or in the vicinity of, the site.

2. The buildings are structurally sound and where evidence of borer infestation exists, the buildings are to be treated to the satisfaction of the Chief Building Inspector.

3. All bulk and location requirements for the site are complied with.

4. All work associated with the reinstatement of the buildings shall be completed within a period of six months from the date of issue of the building consent or longer such periods as the Council may require. Council may require that such reinstatement be supported by a bond.

Rule 10.10.1(1) of the Proposed District Plan is relevant to performance standard requirements:-

> In determining what conditions to impose, if any, Council will, in addition to the City View and Residential Zone objectives and policies, assess any application in terms of the following further policies.

(a) To ensure that the external appearance and structural soundness of the building is compatible with the existing amenity values and ambience of the surrounding area.

(b) To assess the appropriateness and necessity for a financial contribution to ensure all necessary works are completed.

4. CONSIDERATION

(A) Relocate

Lot 51 DP 19172 is a 863 m^2 parcel of land at 28 Leeds Street. The 'relocate' will be positioned on a notional front site of 345.6 m^2. (The existing dwelling at this address is located towards the rear of the lot.)

The notional site is more or less flat and clear of any buildings.

Dwellings nearby were built in the late 1950's, have either stucco or weatherboard exteriors and corrugated iron roofs. Large sections, the siting of dwellings, together with wide grass berms give the impression of spaciousness when looking up and down the street.

John Hutley, Building Inspector, Palmerston North City Council, inspected the relocate on 1 November 1996 at 52 Tyne Street, Palmerston North.

The timber floored dwelling has a concrete tile hip roof, is clad with unpainted 'Duroc' sidings and has timber exterior joinery. There is a front and back porch; and internal chimney (to be removed prior to the shift).

Some 'Duroc' sidings near the back door porch have been damaged. The exterior joinery has paint flaking and requires spot priming and finish coat painting.

The dwelling is of a type built by the Government for rental and is typical of the designs used at the time.

Overall the dwelling is in reasonable condition.

The 'relocate' is older than existing dwellings nearby in Leeds Street, of a different style and constructed of different materials. Although set back nine metres from the street it will be wholly visible from the street although a 6 x 6 metre garage is to be built in the front yard.

The proposal is consistent with the relevant Transitional and Proposed District Plan objectives and policies relating to relocated dwellings. The dwelling can be made to comply with the residential ordinances/ rules of the Plans except for the minimum nett site area - see (B) following.

Section 108(1)(b) of the Resource Management Act 1991 states that a resource consent may include a condition requiring that a bond be given in respect of the performance of any one or more conditions of the consent.

It is usual practice for the Council to impose a cash bond to ensure that the required reinstatement work will be completed within six months of the dwelling being relocated. In this case it is suggested that the bond be $1,000.00 to cover the work required.

(B) Minimum Nett Site Area

The Proposed District Plan requires a minimum nett site area of 350 m^2 for each dwelling unit. Where site density is reduced by not more than 28%, any application received can be considered as a Restricted Discretionary Activity under that plan.

At this time, there have been submissions lodged with Council regarding the minimum nett site area in the Proposed Plan and, as such, the provisions of the Transitional Plan carry more weight.

In this case, the nett site area is 345.6 m^2 which meets the requirements of the Transitional Plan, i.e. 250 m^2.

5. RECOMMENDATION

That Council grant consent to the application by N and N Hughes to relocate a dwelling from 52 Tyne Street, Palmerston North to 28 Leeds Street, Palmerston North, pursuant to Sections 104 and 105 of the Resource Management Act 1991 on the grounds that:

(1) Both the Transitional and Proposed District Plans provide for the relocation of dwellings in the residential zone as a controlled activity.

(2) Under Section 105(1)(a) of the Resource Management Act 1991 a consent authority, after considering an application for a resource consent for a controlled activity, shall grant the consent.

(3) The dwelling can be made to comply with the residential ordinances of the Transitional Plan and the residential rules of the Proposed Plan except for the minimum nett site area in respect to the latter.

(4) The nett site area meets the requirements of the Transitional Plan which currently carries more weight.

(5) No person is adversely affected.

and subject to the following conditions:

(1) That the dwelling be sited in accordance with the plan supplied and subsequently amended in order to comply with separation distance requirements.

(2) That a cash bond of $1,000.00 be paid to ensure reinstatement work on the dwelling is completed within six months of the dwelling being relocated. This money must be paid prior to the issuing of the building consent.

(3) That the reinstatement work include the following:

(a) Make good all exterior cladding, roofing, spouting, downpipes, etc. To include repair of any damage caused by uplifting, transporting and positioning the dwelling.

(b) Repair or replace any damaged or missing 'Duroc' sidings.

(c) Repair floor, walls, ceiling and roof from the area where the chimney has been removed.

(d) All exterior surfaces requiring painting are to be painted or repainted.

(e) New front and back porches and steps.

(f) Install ventilated baseboards (or approved vented base sheathing) with an access door and paint.

I W Cain
PLANNING OFFICER (ENFORCEMENT)

DECISION: Approved

Pursuant to the powers delegated to the Principal Planner by the Palmerston North City Council at its meeting on 29 October 1991, this Resource Consent application is granted subject to the above conditions, imposed pursuant under Section 108 of the Resource Management Act 1991.

Dated this 6th day of November 1996.

J S Hodson
PRINCIPAL PLANNER

Private Bag 11034
The Square
Palmerston North
NEW ZEALAND

Telephone 0-6-356 8199
Facsimile 0-6-351 4489

PALMERSTON NORTH
CITY COUNCIL

Regulatory Services

IC605572
L13-28-PLN

7 November 1996

N and N Hughes
5 Peter Hall Drive
PALMERSTON NORTH

Dear Sir and Madam

APPLICATION FOR A RESOURCE CONSENT TO RELOCATE A DWELLING FROM 52 TYNE STREET, PALMERSTON NORTH TO 28 LEEDS STREET, PALMERSTON NORTH AND MINIMUM NETT SITE AREA REDUCTION MADE PURSUANT TO SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

I am writing to advise that Council, under delegated powers, approved the above application. A copy of the report is *attached.*

I would draw your attention to the conditions contained within the recommendation. Please note that the bond of $1,000 must be paid prior to the building consent being issued.

If you are not satisfied with the decision or any of the conditions of consent, you have the right of objection pursuant to Section 357 of the Resource Management Act 1991. Objections should be in writing, and received by Council **no later than 15 days after the conditions of consent have been notified to you.**

Any appeal against a decision must be made in accordance with Sections 120 and 121 of the Resource Management Act 1991.

You should note that pursuant to Section 125 of the Resource Management Act 1991, all resource consents will lapse unless the activity commences within two years of the date of the consent.

Yours faithfully

I W Cain
PLANNING OFFICER (ENFORCEMENT)

PD

Palmerston North City Council

DOCUMENT REPORT

PIM 12619 } Relocated Dwg to Bittons Yard issued 17/10/96
BC 12620 }

Application Type: PIM Project Information Memorandum

Application: 12874 TO RELOCATE DWELLING FROM 52 TYNE STREET &
Situation: 28 LEEDS STREET ~~ERECT GARA~~
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES 5 PETER PALMERST
Builder: HUGHES, NEIL JOSEPH 5 PETER PALMERST

Code: PIM Project Information Memorandum
Scale: P/E New, Adds & Alts, Relocates, (with new services)
Project: N New Building Value of work:
Building: Main building Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	30/10/96	31/10/96	15/11/96		

DAYS		Construction	Estim	Actual
Since Received:	0			
Until Due:	11	Start:		
To Complete:	14	End:		
Float:	75			

Document List

	Description	Folder
1 Check Answer:	Plumbers Act	
2 Check Answer:	New Services Required - Quote Application	
3 Check Answer:		
4 Check Answer:	Enclosed Please Fill in & Return	
5 Check Answer:		
6 Check Answer:	EZ Dfm	
7 Check Answer:	13/11/96	
8 Check Answer:		
9 Check Answer:		

WTH

Palmerston North City Council

DOCUMENT REPORT

PJM 12619 } Relocated Dwg to Bottons Yard issued 17/10/96
BC 12620 }

Application Type: PIM Project Information Memorandum

Application: 12874 TO RELOCATE DWELLING FROM 52 TYNE STREET & ~~ERECT GARA~~
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES 5 PETER PALMERST
Builder: HUGHES, NEIL JOSEPH 5 PETER PALMERST

Code: PIM Project Information Memorandum
Scale: P/E New, Adds & Alts, Relocates, (with new services)
Project: N New Building Value of work:
Building: Main building Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	30/10/96	31/10/96	15/11/96		

DAYS

Since Received: 0
Until Due: 11
To Complete: 14
Float: 75

Construction Estim Actual
Start:
End:

Document List

Description Folder

1 Check Answer: Pockets of ~~soft~~ ground are known
2 Check Answer: to exist in the general area. An
3 Check Answer: Engineers report on the bearing capacity
4 Check Answer: of the ground may be required before
5 Check Answer: completion of the foundation excavations.
6 Check Answer:
7 Check Answer: 11/11/96.
8 Check Answer:
9 Check Answer:

Note! N.F. HUGHES CONTACTED BY PHONE 11.15 AM. — 11/11/96 REGARDING PLANS ETC. FOR THE GARAGE. THE GARAGE IS NOT PROCEEDING AT THIS TIME.

Plumbing & Drainage
Plan
for 28 Leeds St
as requested yesterday.

Neil & Nichelle Hughes

Ph 3541535

FOUNDATION BRACING CALCULATION SHEET

LEEDS ST

Job No.
Owner M & N. HUGHES.
City/town P. Nth.
Lot No
Date 22/10/96

BUILDING STOREY TYPE: (One) Two Three
ROOF WEIGHT: Light (Heavy)
Av.ROOF PITCH: (0°-60°) 0°-25° 25°-45° 45°-60°
TYPE OF CLADDING: (Light) Heavy
BUILDING HEIGHT: Total 5.9m.
FLOOR PLAN: Lenght BL=_____m x Width BW _____m
AREA GPA = 82 m²
ROOF PLAN: Lenght RL=_____m x Width RW =_____m
AREA GRA = 104 m²
WIND ZONE(W) Low (Medium) High V.High
EARTHQUAKE ZONE (E) Table 2.3 (A) B C
Type of Foundation Table 4.1
Square Timber Pile
Round Timber Pile
Driven Timber Pile- Concrete Embedded
Other _____

RATING OF BRACING ELEMENTS (Table 4.8)

TYPE	DESCRIPTION	RATING B.Us
10 & 14	Anchor/Brace	E=70 W=160
12	Shallow Cant.	E=12 W=30
13	Deep Cant.	E=30 W=70

BRACING CALCULATIONS:

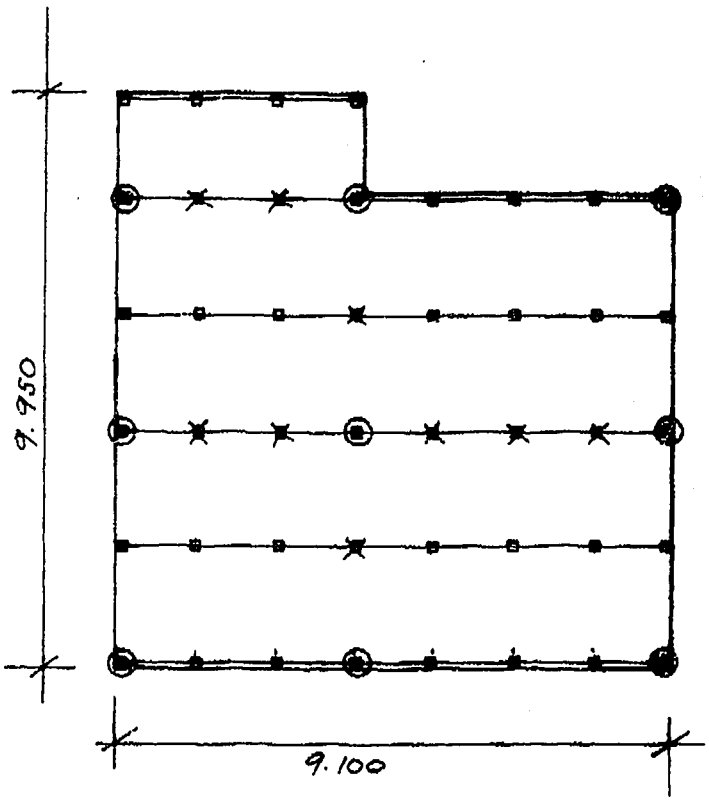
Heavy Roof. E GPA 104 m² X T.4.7A 7 B.Us = 728 B.Us

W BL 9.1 m x T.4.7B 83 B.Us= 755 B.Us

W BW 9.95 m x T.4.7B 91 B.Us= 905 B.Us

No.Anchor/ Brace Piles	No. Deep Cant. Piles	No.Shallow Cant. Piles
E 630/70 BU=9	_____/30 BU=	108/12 BU=9 — 738 Bus.
W 1440/160 BU=9	_____/70 BU=	270/30 BU=9 — 1710 Bus.
W _____/160 BU=	_____/70 BU=	_____/30 BU=

□ ordinary pile
✕ cantilever "
◉ Anchor "



bearers 100 x 75
joists 125 x 50

Foundation Plan.	SCALE. 1:100	DRAWN. C		1.
	DATE: 10/96	APPROVED.		

TP

Palmerston North City Council

PIM 12619 BC 12620 3 Relocated Dwg to Britton's Yard issued 17/10/96

DOCUMENT REPORT

Application Type: PIM Project Information Memorandum

Application: 12874 TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARA
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES 5 PETER PALMERST

Builder: HUGHES, NEIL JOSEPH 5 PETER PALMERST

Code: PIM Project Information Memorandum
Scale: P/E New, Adds & Alts, Relocates, (with new services)
Project: N New Building Value of work:
Building: Main building Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	30/10/96	31/10/96	15/11/96		

	DAYS		Construction	
			Estim	Actual
Since Received:	0	Start:		
Until Due:	11	End:		
To Complete:	14			
Float:	75			

Document List
Folder

Description

1 Check Answer: O.K. Planning. TAS. 15/11/96

2 Check Answer:

3 Check Answer:

4 Check Answer:

5 Check Answer:

6 Check Answer:

7 Check Answer:

8 Check Answer:

9 Check Answer:

almerston North City Council

Streets DOCUMENT REPORT

Application Type: BC Building Consent

Application: 12875 TO RELOCATE DWELLING FROM 52 TYNE STREET & ~~ERECT GARA~~
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES

5 PETER
PALMERST
5 PETER
PALMERST

Builder: HUGHES, NEIL JOSEPH

Code: BC Building Consent
Scale: B2 Serviced O/Bs, Sleepouts, Relocates, New Conservatory
Project: N New Building
Building: Main building
Value of work:
Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	31/10/96	31/10/96	15/11/96		

DAYS
Since Received: 0
Until Due: 11
To Complete: 8
Float: 52

Construction
Estim Actual
Start:
End:

Description Document List
Folder

1 Check Answer:
2 Check Answer:
3 Check Answer:
4 Check Answer:
5 Check Answer:
6 Check Answer:

Adhere To Conditions Set Out In Project Information Memorandum.

14/11/96

Palmerston North City Council

WJ PT

DOCUMENT REPORT

Application Type: BC Building Consent

Application: 12875 TO RELOCATE DWELLING FROM 52 TYNE STREET & ~~ERECT GARA~~
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES

5 PETER
PALMERST

Builder: HUGHES, NEIL JOSEPH

5 PETER
PALMERST

Code: BC Building Consent
Scale: B2 Serviced O/Bs, Sleepouts, Relocates, New Conservatory
Project: N New Building
Building: Main building
Value of work:
Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing	Date: 31/10/96	31/10/96	15/11/96		

	DAYS
Since Received:	0
Until Due:	11
To Complete:	8
Float:	52

Construction	Estim	Actual
Start:		
End:		

Description ---------- Document List ---------
Folder

1

Check Answer: 1. Repair or replace any damaged

2

Check Answer: or rotten sub floor timbers.

3

Check Answer: ~~2. Provide a 150x50mm tanalised~~

4

Check Answer: ~~treated perimeter runner, complete~~

5

Check Answer: ~~with metal flashing and galv. bolted~~

6

Check Answer: ~~to the perimeter piles to support~~
~~the bottom edge of the exterior wall~~
plaster.

3/ Provide ~~an~~ approved base ventilation and an access panel through the new base boards.

11/11/96

Palmerston North City Council

PD

DOCUMENT REPORT

Application Type: BC Building Consent

Application: 12875 TO RELOCATE DWELLING FROM 52 TYNE STREET ~~& ERECT GARA~~
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES

5 PETER
PALMERST

Builder: HUGHES, NEIL JOSEPH

5 PETER
PALMERST

Code: BC Building Consent
Scale: B2 Serviced O/Bs, Sleepouts, Relocates, New Conservatory
Project: N New Building
Building: Main building
Value of work:
Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	31/10/96	31/10/96	15/11/96		

	DAYS		Construction	
			Estim	Actual
Since Received:	0			
Until Due:	11			
To Complete:	8	Start:		
Float:	52	End:		

Description --- Document List --- Folder

1 Check Answer:

2 Check Answer:

3 Check Answer:

4 Check Answer:

5 Check Answer:

6 Check Answer:

16-11-96

Palmerston North City Council

Streets

PIM 12619 } Relocated Dwg to Bilton's Yard issued 17/10/96
BC 12620 }

DOCUMENT REPORT

Application Type: PIM Project Information Memorandum

Application: 12874 TO RELOCATE DWELLING FROM 52 TYNE STREET. & ~~ERECT GARA~~
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES 5 PETER PALMERST
Builder: HUGHES, NEIL JOSEPH 5 PETER PALMERST

Code: PIM Project Information Memorandum
Scale: P/E New, Adds & Alts, Relocates, (with new services)
Project: N New Building Value of work:
Building: Main building Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	30/10/96	31/10/96	15/11/96		

	DAYS		Construction Estim	Actual
Since Received:	0	Start:		
Until Due:	11	End:		
To Complete:	14			
Float:	75			

Description — Document List Folder

1 Check Answer:

2 Check Answer:

RELOCATES

3 Check Answer:

4 Check Answer:

Special Conditions on Schedule 'B' and section 3.21 of the Palmerston North Building By-Law must be adhered to as per attached details.

5 Check Answer:

6 Check Answer:

7 Check Answer:

ROADING

8 Check Answer:

9 Check Answer:

3.0 metre dish vehicle crossing to Council standards is required on completion of building.

3m Dish V/C
3.7m Dom

Vehicle crossing application form attached to be completed and returned before building activities start to the Palmerston North City Council, Private Bag 11034, Street Works Officer.

(Section 335 Local Government Act)

14/11/96

Palmerston North City Council

TP

DOCUMENT REPORT

Application Type: BC Building Consent

Application: 12875 TO RELOCATE DWELLING FROM 52 TYNE STREET & ERECT GARA
Situation: 28 LEEDS STREET
PALMERSTON NORTH

Legal Descr: LOT 51 DP 19172
Applicant: HUGHES, NICHELLE FRANCES 5 PETER PALMERST

Builder: HUGHES, NEIL JOSEPH 5 PETER PALMERST

Code: BC Building Consent
Scale: B2 Serviced O/Bs, Sleepouts, Relocates, New Conservatory
Project: N New Building Value of work:
Building: Main building Purpose: TO

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	31/10/96	31/10/96	15/11/96		

	DAYS
Since Received:	0
Until Due:	11
To Complete:	8
Float:	52

Construction	Estim	Actual
Start:		
End:		

Document List
Folder

	Description	
1	Check Answer:	O.K Plumbing
2	Check Answer:	
3	Check Answer:	
4	Check Answer:	
5	Check Answer:	15/11/96.
6	Check Answer:	

PALMERSTON NORTH CITY COUNCIL

Application for ☐ PIM 13838

L13/28 ☑ Building Consent 13839

OWNER DETAILS

Name: Neil + Nichelle Hughes

Mailing Address: c/- 54 Chippendale Crescent
Palmerston North

CONTACT

Name: Megan Walker

Phone: 3562980 Fax: (06) 3562980

PROJECT LOCATION

Street Address: 28 Leeds Street
Palmerston North

Legal Description *(as shown on Certificate of Title)*

Valuation Roll Number: 14510/415.00

Lot: 51 D.P. 19172

Section 0.0863

PROJECT INFORMATION

New Building ☑ Alteration ☐ Demolition ☐

Being Stage ..... of an intended .....stages

Estimated Value (inclusive of GST) $ 7,400-00

Intended Uses: Vehicle Cover. Garage

Floor Area (of New Building Work) 36 Square metres

Intended Life:

Indefinite but not less than 50 years ☑ Specified as ..... years

FOR COUNCIL USE

PIM PIC. BC B1.

Receipt Number:
12136/92703

Received:
27/1/97.

TEMPORARY VEHICLE ACCESS TO SITE

PROPOSED METHOD OF ACCESS		(Please tick one)
1.	Planks across footpath and berm	[ ]
2.	Metal across footpath and berm	[ ]
3.	Plates across footpath and berm	[ ]
4.	Other	[ ]

Applicant is responsible for any footpath, grass berm and services damage due to building activities. Any damage to footpaths, berms, etc. will be repaired by the Council and charged to the applicant. Alternatively, applicants may reinstate all damage themselves to Council standards. Approval will be required for any repairs from the Roading and Transport Unit. (Refer to Council Streetworks Officer.)

☑ PLEASE SUBMIT ALL SUPPORTING DOCUMENTS IN DUPLICATE.

Name: Megan Walker Position: Skyline Garages (1996) Manager.

Signature: MWalker Date: 28/1/97.

NOTES TO APPLICANTS

1. The information in this application will be held by the Palmerston North City Council
2. The information contained in this application will be held on a "public register" as defined by the Privacy Act 1993 and will be available for inspection and copying by members of the public in terms of the requirements of the Building Act 1991.
3. It is a mandatory requirement of the Building Act 1991 that the information required in this application be provided and the application cannot proceed unless all relevant information is provided.
4. You have a right of access to and, if necessary, correction of the information supplied in this application.

25×

Building Consent No:13839
Section 35, Building Act 1991

Name: NEIL JOSEPH HUGHES
Mailing Address: C/-54 CHIPPENDALE CRESCENT, PALMERSTON NORTH

Contact: MEGAN LEANNE WALKER

The project is for Minor Work
Intended Use(s): ERECT A 6.0 X 6.0 DOUBLE AGRAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $7,400.00

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council's charges for this Building Consent are: $54.00

Receipt number: 927031 Date: 28Jan97 Amount: $256.50
Total: $256.50

- Where any building work is to be undertaken to which this Building Consent relates, and is not shown IN DETAIL on the approved plans and specifications, such building work is to be completed to acceptable building standards and to the requirements of the New Zealand Building Code 1992.

- Your Building Consent Issue Fee has incorporated all Mandatory inspection costs.

  If inspections are requested and the job is not ready or they are not Mandatory inspections, they will incurr an additional fee of $76.50 per inspection.

TH , IS NOT A BUILDING CONSENT: 13839

1: This Building Consent is issued subject to the following conditions:-

- The owners attention is drawn to the requirements of the Plumbers, Gasfitters and Drainlayers Registration Act 1976. Only Registered Drainlayers may carry out drainlaying work and only Craftsman Plumbers may undertake sanitary plumbing work.

- The floor is to have shrinkage control joints at 4 metre centers.

- Foundation concrete is to be emersion vibrated during placing.

- All foundation steel is to be in place, held off the bottom of the trench with acceptable bar chairs, and is to be complete for the foundation inspection.

- The top of the floor slab is to be not less than 100 mm above finished ground level.

2: IT SHALL BE A CONDITION OF THE BUILDING CONSENT THAT THE OWNER AND/OR THE PERSON CARRYING OUT THE BUILDING WORK ENSURE THAT THE FOLLOWING INSPECTIONS ARE CARRIED OUT BY PALMERSTON NORTH CITY COUNCIL OFFICERS:-

Completion.

All inspections must be notified to the Palmerston North City Council Inspectors at least 24 (Twenty Four) hours prior to the required inspection.

These inspections are MANDATORY, failure to notify the Palmerston North City Council of any of the required inspections will result in a Notice to Rectify being issued.

Completion.

All inspections must be notified to the Palmerston North City Council Inspectors at least 24 (Twenty Four) hours prior to the required inspection.

These inspections are MANDATORY, failure to notify the Palmerston North City Council of any of the required inspections will result in a Notice to Rectify being issued.

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Completion.

All inspections must be notified to the Palmerston North City Council Inspectors at least 24 (Twenty Four) hours prior to the required inspection.

These inspections are MANDATORY, failure to notify the Palmerston North City Council of any of the required inspections will result in a Notice to Rectify being issued.

Notice that building work is ready for inspection shall be given to the Palmerston North City Council at least 1 (one) working day in advance.

Upon completion of all the building work necessary to comply with the Building Code, the owner is required to apply to the Palmerston North City Council for a Code Compliance Certificate using the Building Work Completion Advice form provided.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

Project Information Memorandum No:13838
Section 31, Building Act 1991

Name: NEIL JOSEPH HUGHES
Mailing Address: C/-54 CHIPPENDALE CRESCENT, PALMERSTON NORTH

Contact: MEGAN LEANNE WALKER

The project is for Minor Work
Intended Use(s): ERECT A 6.0 X 6.0 DOUBLE AGRAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $7,400.00

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council's charges for this Project Memorandum are: $72.00

Receipt number:	927031	Date: 28Jan97	Amount:	$72.00
			Total:	$72.00

1: This Project Information Memorandum is:

- Confirmation that the proposed building work may be undertaken, subject to any requirements of the Building Consent - Attached.

2: The following information relating to special features or characteristics of the land concerned that are likely to be relevant to the design or construction of the proposed building work have been identified from Councils records.

- 6.0 metre dish vehicle crossing to Council standards is required on completion of building.

Existing concrete footpath has been damaged when relocating dwelling onto property and will require replacing at total cost to owner when constructing vehicle crossing.

THIS IS NOT A PIM: 13838

Vehicle crossing application form attached to be completed and returned before building activities start to the Palmerston North City Council, Private Bag 11034, Street Works Officer.

(Section 335 Local Government Act)

3: Information relating to other authorisations under any Act (other than the Building Act 1991) which must be obtained from Council in relation to the proposed project.

- The Plumbers Gasfitters and Drainlayers Act 1976 requires that only Registered Drainlayers may undertake drainage work and that only Craftsman Plumbers may undertake plumbing work.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

Advice of Completion of Building Work

Section 43 (1), Building Act 1991

Under Building Consent No: 13839

From:

FILE REF: L13-28A-GEN

OWNER DETAILS

Name: NJ + NF Hughes

Mailing Address: 5 Peter Hall Drive
Palmerston North.

Contact: Nichelle.

Phone: 3541535 Fax:

PROJECT LOCATION

Street Address: 28-A Leeds Street.
Palmerston North.

Legal Description: *(as shown on Certificate of Title)*

Valuation Roll Number:

Lot: 51 D.P. 19172 Section

(Cross each applicable box and attach relevant documents)

REC
18 MAR 1997 PNCC

You are hereby advised that:

- [x] All
- [ ] Part only (as specified in the attached particulars)

the building work under the above Building Consent is believed to have been completed to the extent required by that Building Consent

You are requested to issue:

- [ ] A final
- [ ] An interim

Code Compliance Certificate accordingly (except where a Code Compliance Certificate has been issued by a Building Certifier as stated below).

The attached particulars include:

Building Certificates

A Code Compliance Certificate issued by a Building Certifier

Producer Statements

Signed by or for and on behalf of the owner:

Name: Skyline Garages (1996) Position: Manager.

Signature: (Megan Walker) Date: 11 / 3 / 97

Note: Upon completion of this project, this form must be completed and returned to the Palmerston North City Council Building Services Section. This will enable a final inspection to be performed and a Code Compliance Certificate to be issued.

25 ×

PALMERSTON NORTH CITY COUNCIL

CODE COMPLIANCE CERTIFICATE No:6608
Section 43(3), Building Act 1991

Owner Details

Name: NEIL JOSEPH HUGHES
Mailing Address: C/-54 CHIPPENDALE CRESCENT, PALMERSTON NORTH

Contact: MEGAN LEANNE WALKER

Project Information

The project is for Minor Work
Intended Use(s): ERECT A 6.0 X 6.0 DOUBLE AGRAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $7,400.00

Project Location

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
Assessment No: 14510/415.00
Legal: LOT 51 DP 19172

Council Charges

Council's charges for this CODE COMPLIANCE CERTIFICATE :

This is a final code compliance certificate issued in respect of all of the building work under the above building consent

Signed for and on behalf of the Council:

Name: K.D. ROBERTSON SENIOR BUILDING OFFICER

Signed:..... Date: 6/5/99

Print & Design/PNCC/477/03.99

25x

PALMERSTON NORTH CITY COUNCIL

Field Inspection Sheet
Building Consent No:13839

Owner Details

Name: NEIL JOSEPH HUGHES
Mailing Address: C/-54 CHIPPENDALE CRESCENT, PALMERSTON NORTH

~~Contact: MEGAN LEANNE WALKER~~

Project Information

The project is for Minor Work
Intended Use(s): ERECT A 6.0 X 6.0 DOUBLE AGRAGE
~~Intended life: Indefinite but not less than 50 years~~

Project Location

Street Address: 28 LEEDS STREET, PALMERSTON NORTH
~~Assessment No: 14510/415.00~~
Legal: LOT 51 DP 19172

DATE INSPECTED	REMARKS (Eg: stage reached with work)
28/2/97	Foundation insp. 1 D12 rod. Boxing 100mm above ground level. Polythene laid and sealed. Bearing solid.
5-5-97	Final - Top plate, truss and bottom plate fixings OK windows doors flashed Ground levels OK Stormwater connected.

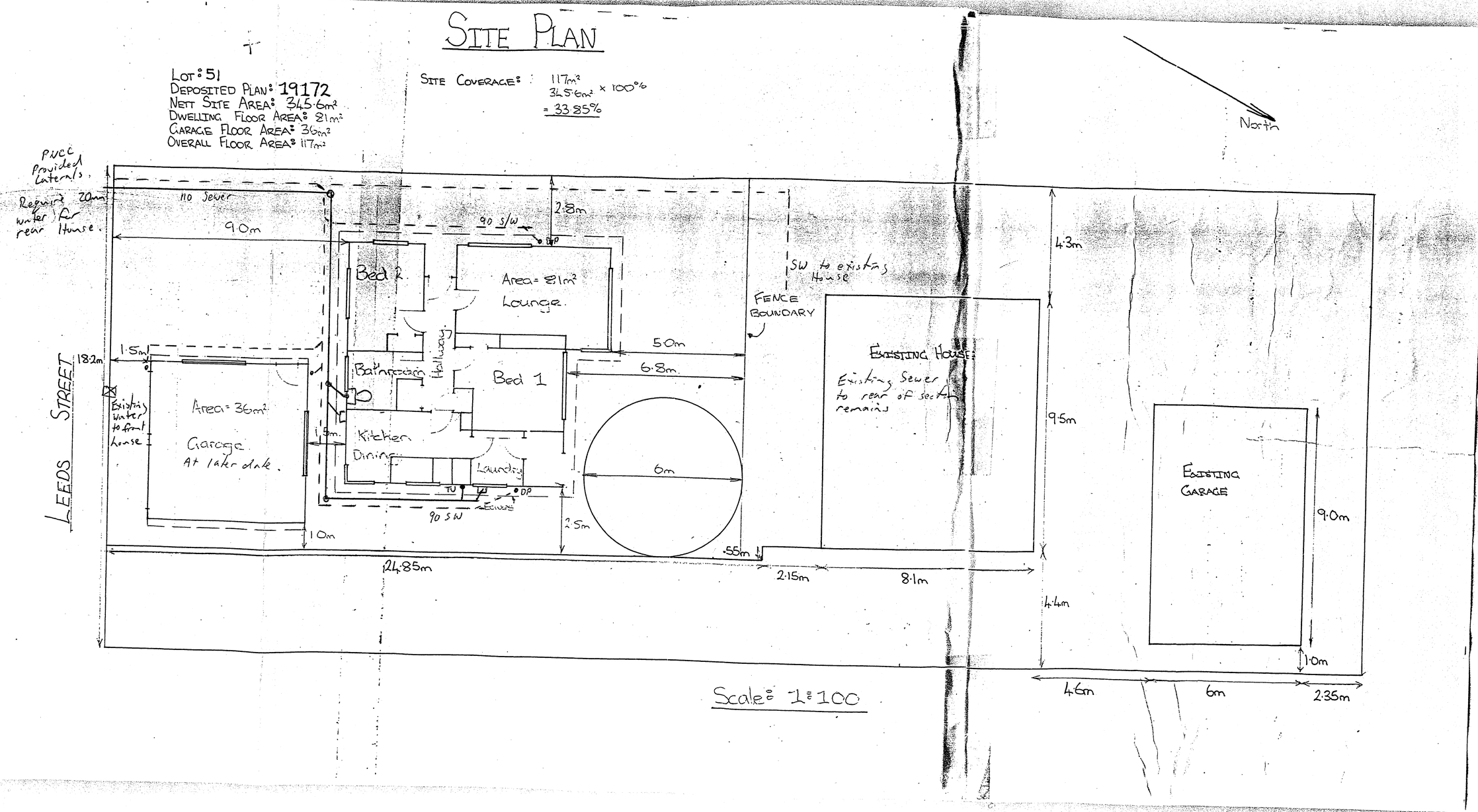
25×

L13/28

SITE PLAN

LOT: 51
DEPOSITED PLAN: 19172
NETT SITE AREA: 345.6m²
DWELLING FLOOR AREA: 81m²
GARAGE FLOOR AREA: 36m²
OVERALL FLOOR AREA: 117m²

SITE COVERAGE: $\frac{117m^2}{345.6m^2} \times 100\% = 33.85\%$



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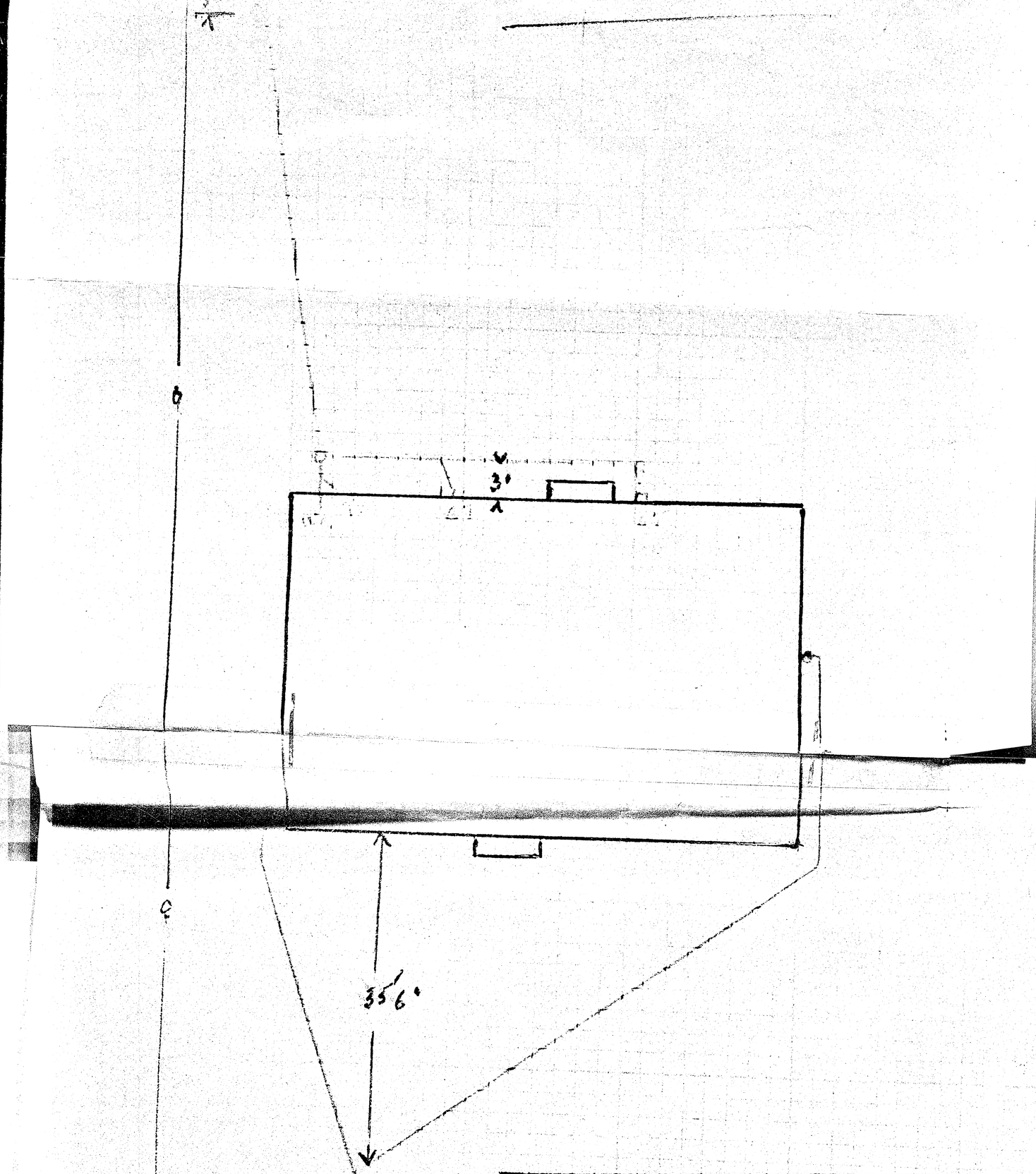
Manawatu Microfilm Services



DRAINAGE PLAN	OFFICE USE
STREET	PLAN NO.
LOT NO.	DATE DEPOSITED
BUILDER R. Jones	PERMIT NO. 668
OWNER Maori Affairs	INSPECTED BY R.E.S.
DRAINLAYER Builder	DATE COMPLETED 24/2/59

L13 3128

<- Leads ->

Manawatu Microfilm Services

SITE PLAN

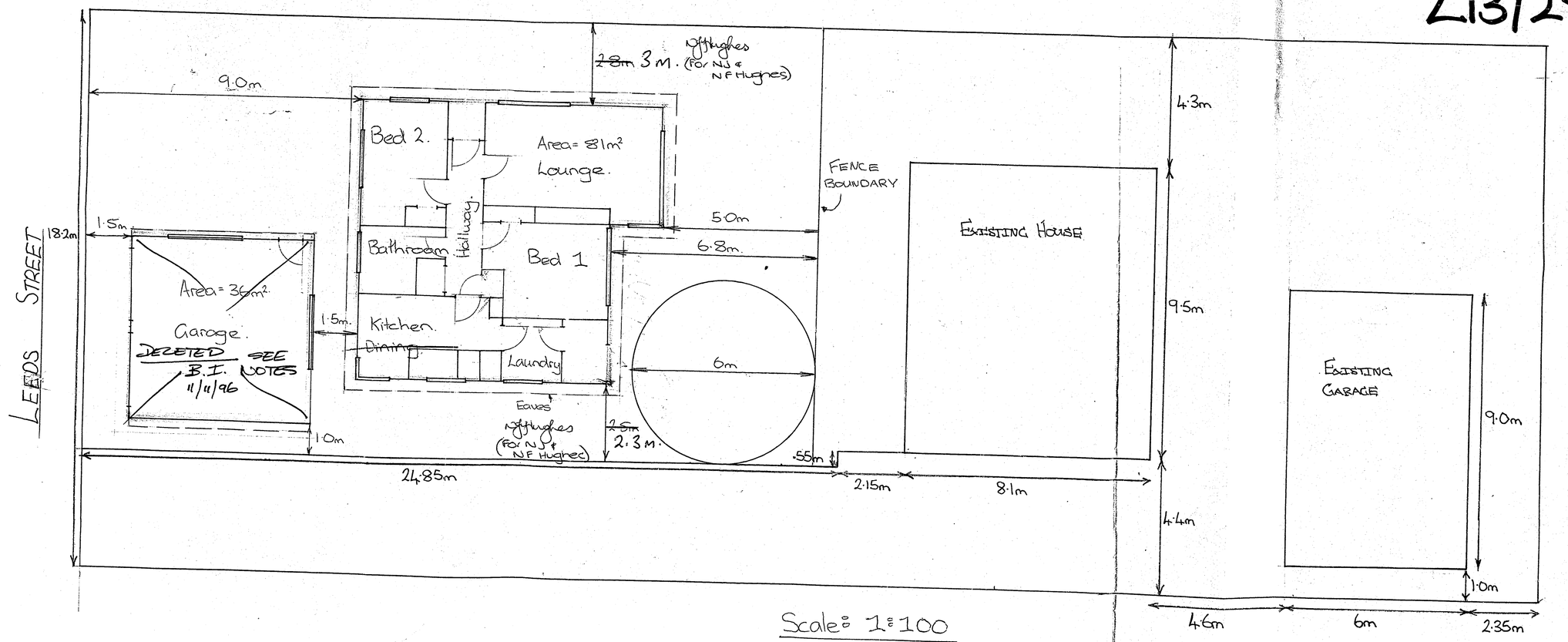
Proposed Dwelling
NJ & NF Hughes

LOT: 51
DEPOSITED PLAN: 19172
NETT SITE AREA: 345·6m²
DWELLING FLOOR AREA: 81m²
GARAGE FLOOR AREA: 36m²
OVERALL FLOOR AREA: 117m²

SITE COVERAGE: 117m² / 345·6m² × 100% = 33·85%

North.

L13/28



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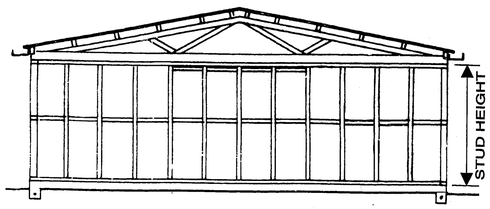
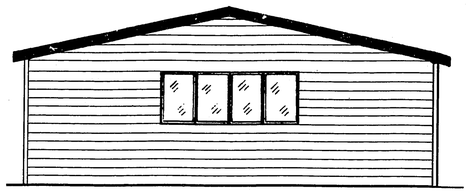
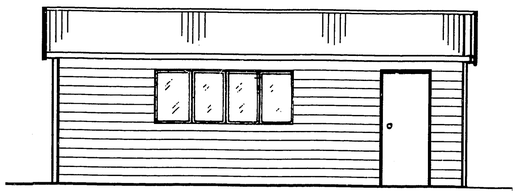
Manawatu Microfilm Services



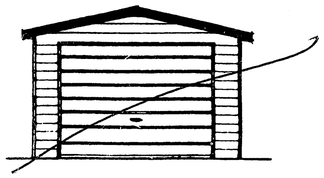
TYPICAL SECTION



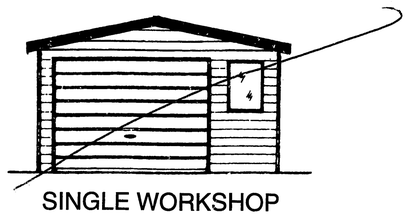
TYPICAL REAR VIEW



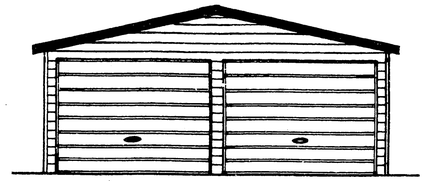
TYPICAL SIDE VIEW



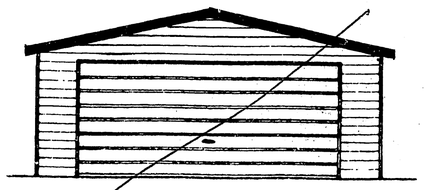
SINGLE



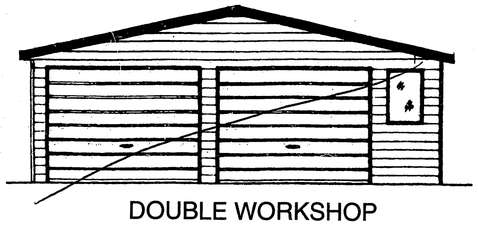
SINGLE WORKSHOP



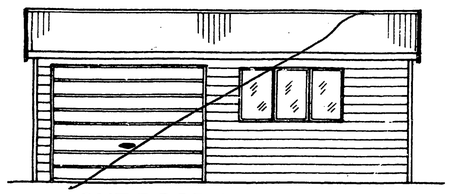
DOUBLE



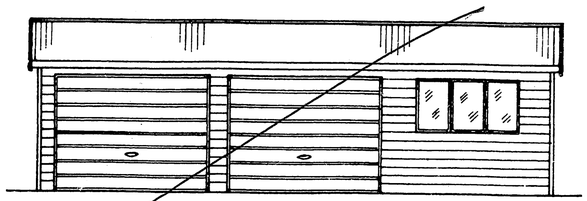
DOUBLE (4.5m DOOR)



DOUBLE WORKSHOP

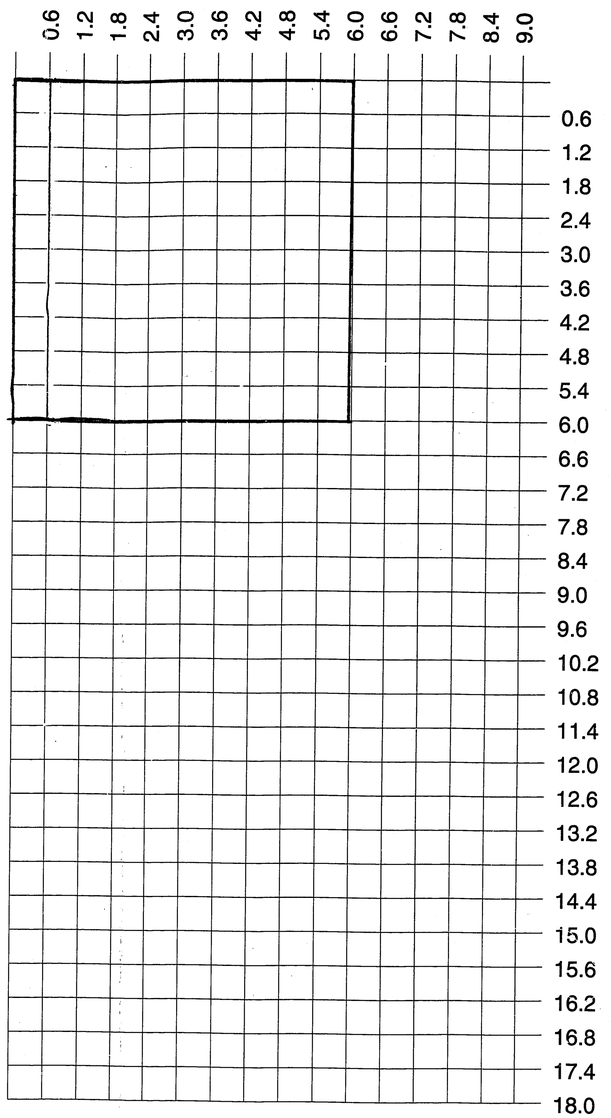


ONE DOOR SIDE ENTRY

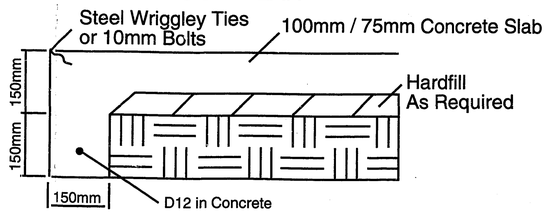


TWO DOOR SIDE ENTRY

NOTE: CONTRACTORS MUST VERIFY ALL DIMENSIONS BEFORE COMMENCING ANY WORK



FLOOR PLAN



CONCRETE FOOTING DETAIL
FOR LEVEL SITE

SKYLINE GARAGE

SPECIFICATIONS

FOUNDATIONS: As per detail, or 200 x 200 concrete piles @ 1200 max. centres under studs.

DAMPCOURSE: 2 ply d.p.c. under all bottom plates.

FRAMING: All timber is boric treated Laser frame. All framing is housed, i.e. studs checked into plates and nogs checked into studs.
Studs 90 x 35 Laser frame @ 600 centres. Top & bottom plates & nogs are 90 x 35 Laser frame.

WALL BRACES:
- [x] For sheet metal weatherboards refer to "Bracing resistance of Skyline Buildings Ltd wall systems." established by Auckland Uniservices Ltd.
- [ ] Galvanised steel angle braces.

ROOF TRUSSES: Design series: Gang nail - 4260 and CH 2722
Trusses up to 6m wide spaced @ 2400 centres (Max.)
Trusses over 6m wide spaced @ 1800 centres (Max.)

ROOF PITCH: (12.5°) 15° 20° 25° 30°

PURLINS: 90 x 45 Laser frame @ 1100 centres max.

TRUSS STIFFENERS: 90 x 35 Laser frame on edge, up to 6m Garage width - 1 Row, over 6m Garage width - 2 rows

SIDE ENTRY DOOR BEAM: 2650 opening - 2 x 140 x 45.
2950 opening - 2 x 180 x 45.
4530 opening - Flitch Beam.

DRAGON TIES: 75 x 35 Laser frame on flat @ 45° angle over top - plates at each corner up to 7.2m garage length, over 7.2m length additional dragon ties at either side of centre truss.

SPOUTING: .55 (24 GA) Zincalume steel gutters fixed to two sides of building.

DOWNPIPES: .40 (26 GA) 65 x 50 Zincalume steel, 1 off per gutter.

RIDGING: .40 (26 GA) Zincalume steel.

ROOFING: .40 (26 GA) Zincalume steel long run ribbed roofing.

DOORS: Side door - Timber frame, Zincalume steel clad each side.
Main doors - .40 (26 GA) Zincalume steel overdoors or Galv. steel roller doors.

EXTERIOR SHEATHING:
- [ ] .40 (26 GA) Zincalume steel weatherboards, 113mm profile. Color Cote / Colour Steel
- [x] .40 (26 GA) Zincalume steel weatherboards, 155mm profile. Color Cote / Colour Steel
- [ ] Ultra•Clad .40 (26 GA) Zincalume steel weatherboards. Color Cote / Colour Steel
- [ ] Hardiplank weatherboard.

NOTES:
On Color Cote / Colour Steel / Hardiplank Buildings.
Zincalume Steel components referred to in spouting, exterior sheathing, doors and ridging are made of Zincalume Steel with baked on silicone polyester paint, known as 'COLOR STEEL' or 'COLOR COTE' (Trade Terms).

FOR: Neil + Nichelle Hughes
AT: 28-A Keeds Street, Palmerston North

43/28

DESIGN MARK

SKYLINE

DISTRIBUTOR: S. R. WALKER CONSTRUCTION
84 CHIPPENDALE CRESCENT
PALMERSTON NORTH

DATE: 27/1/97

SCALE: 1:100

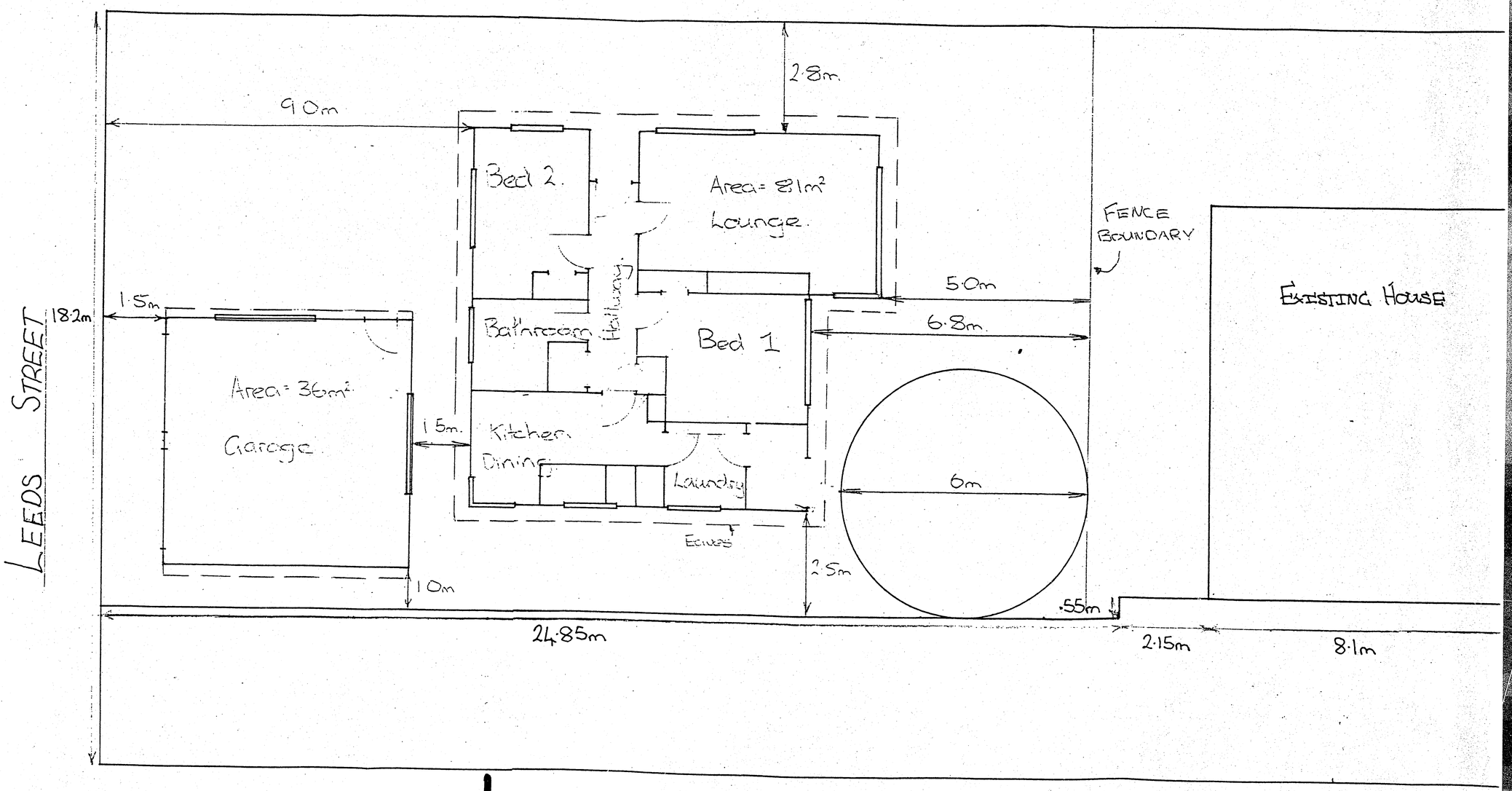
SHEET 1

Manawatu Microfilm Services

SITE PLAN

LOT: 51
DEPOSITED PLAN: 19172
NETT SITE AREA: 345.6m²
DWELLING FLOOR AREA: 81m²
GARAGE FLOOR AREA: 36m²
OVERALL FLOOR AREA: 117m²

SITE COVERAGE: 117m² / 345.6m² × 100%
= 33.85%

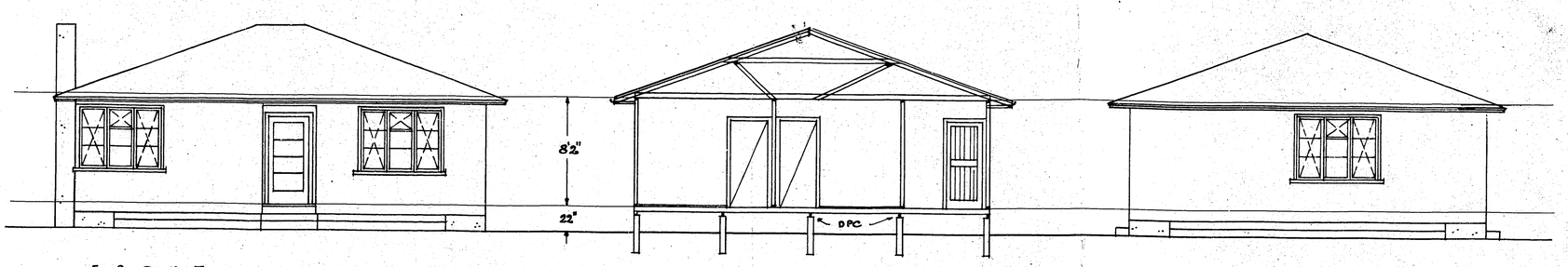


L13/28

Scale: 1:100

Manawatu Microfilm Services

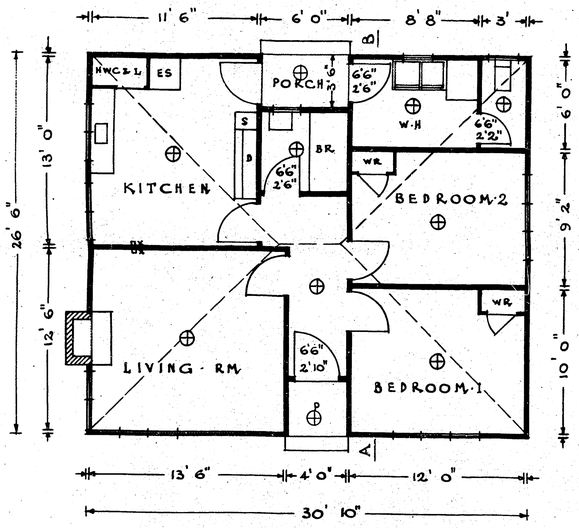
·1957·

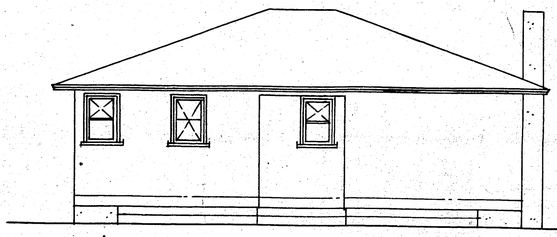


·FRONT · ELEVATION·

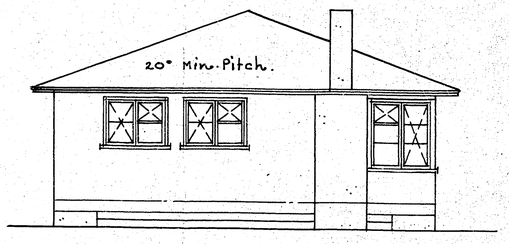
·SECTION·A·B·

·SIDE · ELEVATION·

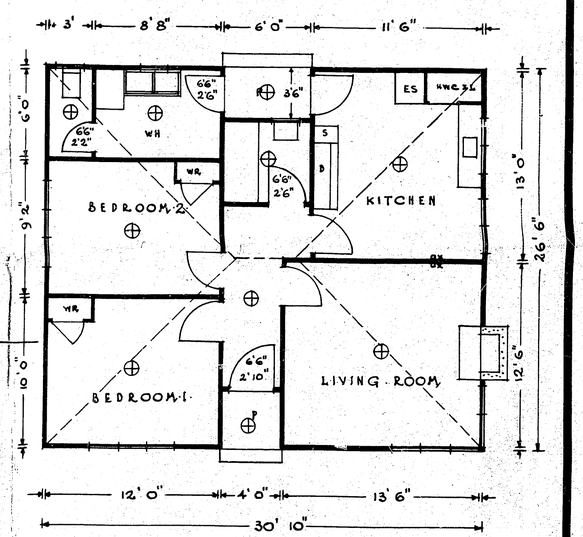




·BACK · ELEVATION·



·SIDE · ELEVATION·



·PLAN · REVERSED·

Foundation: Contin. concrete.

Exterior Sheathing: W/Bd.

Roof: Corrug. Galv. Iron.

PLUMBING & DRAINAGE

PERMITS TO BE LIFTED BY PLUMBER AND DRAINLAYER BEFORE WORK COMMENCED

312/28

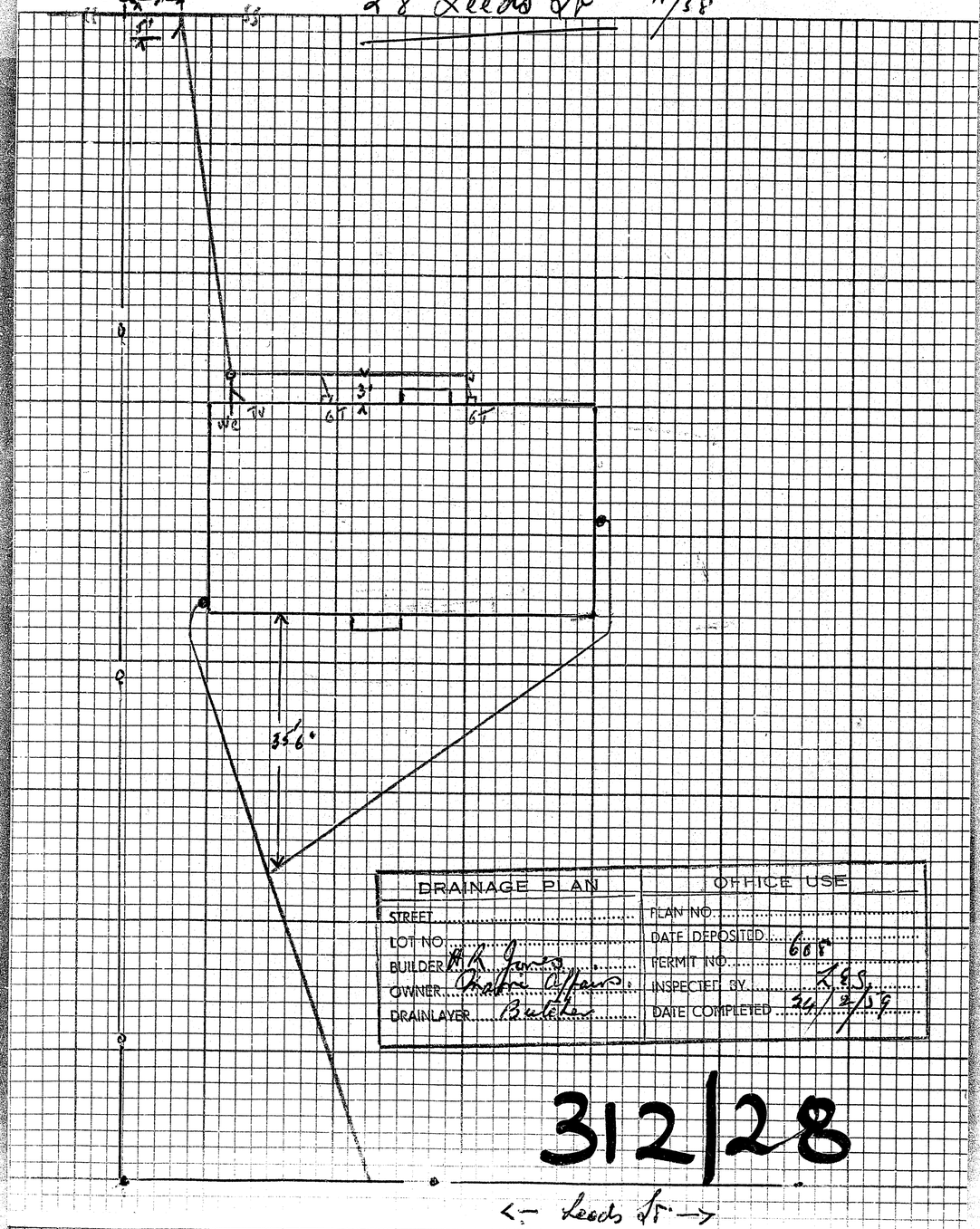
AREA	JOB·Nº 40/54
816 s'	DRAWN RCH

·DEPARTMENT · OF · MAORI · AFFAIRS·

·STANDARD · PLANS·

2/5

28 Leeds St 11/58.

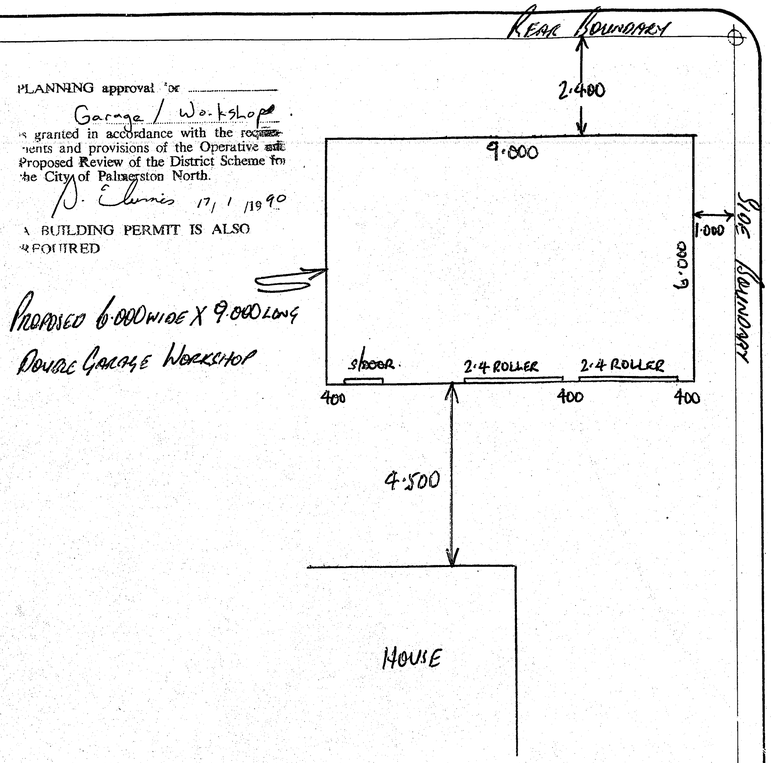


DRAINAGE PLAN		OFFICE USE	
STREET		PLAN NO.	
LOT NO.		DATE DEPOSITED	6.6.58
BUILDER	W. K. Jones	PERMIT NO.	
OWNER	Walter Myers	INSPECTED BY	L.G.S.
DRAINLAYER	Butler	DATE COMPLETED	24/2/59

312/28

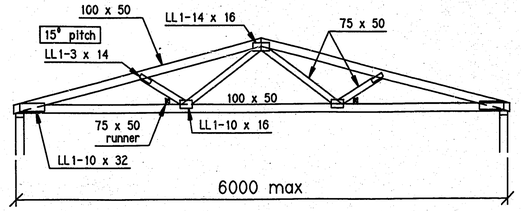
3 INCHES 0 1 2 3 4 5 6 MICROBOX 4

PLANNING approval for
Garage / Workshop
is granted in accordance with the requirements and provisions of the Operative and Proposed Review of the District Scheme for the City of Palmerston North.
N. Ellmers 17/1/1990
A BUILDING PERMIT IS ALSO REQUIRED

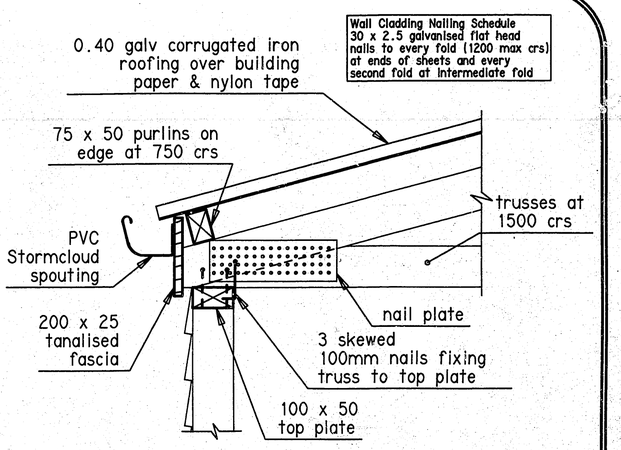


site plan. lot..... D.P..... At 28 LEEDS ST PALM NTH.

Trusses from Lumberlok truss design book, standard design pitched commercial trusses 100 R 42 on drawing number 8350



truss detail

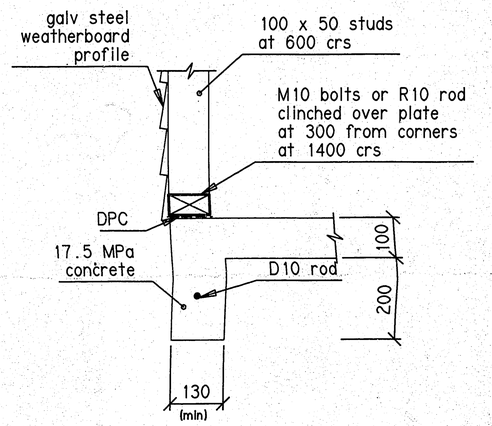


Wall Cladding Nailing Schedule
30 x 2.5 galvanised flat head nails to every fold (1200 max crs) at ends of sheets and every second fold at intermediate fold

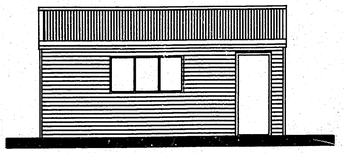
eaves detail

notes

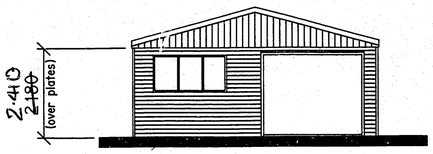
studs:	100 x 50 at 600 maximum crs.
plates:	100 x 50 fixed down at 1400 maximum centres 300 from corners with M10 bolts or R10 rod clinched over.
dwangs:	100 x 50 - 1 row only
d.p.c.:	Malthoid
foundations:	200 x 130 min. reinf'd with 1-D10 rod
floor:	100mm thick concrete
trusses:	Lumberlok type 100 R 42 at 1500 crs
purlins:	75 x 50 at 750 max crs.
roofing:	0.40 corrugated galvanised iron over building paper & nylon tape.
wall cladding:	galvanised weatherboards
spouting:	PVC Stormcloud
framing:	pinus radiata treated
design:	to NZS 3603.
construction:	generally to NZS 3604
workmanship:	generally to NZS 3604.



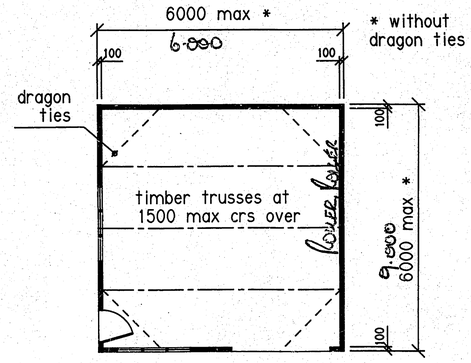
foundation concrete



side elevation



front elevation



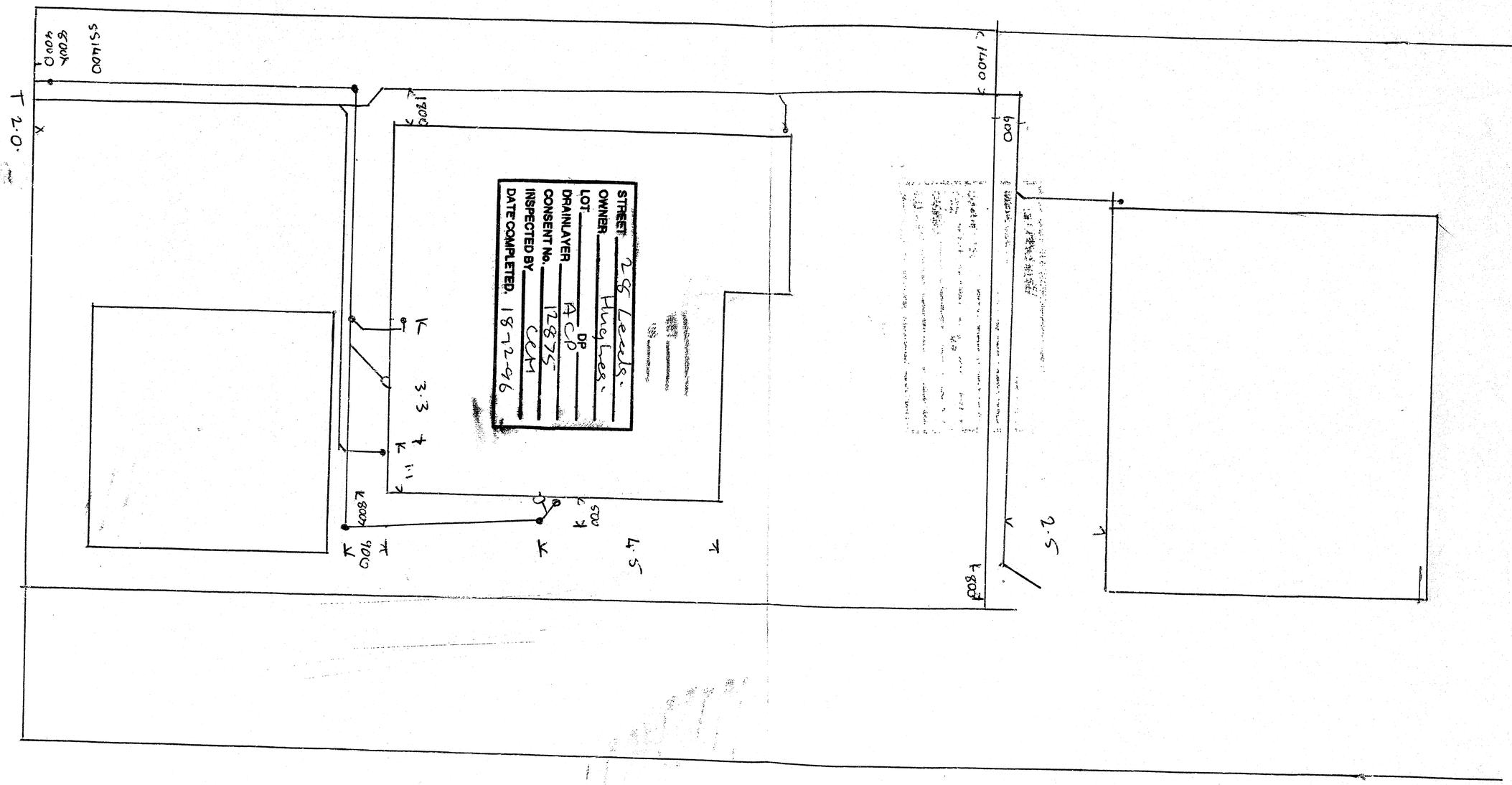
floor plan

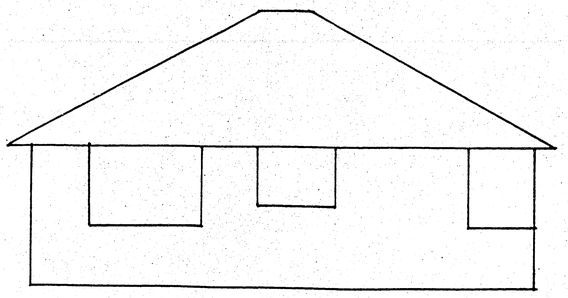
312/28

QUIN CUSTOM BUILDINGS ltd

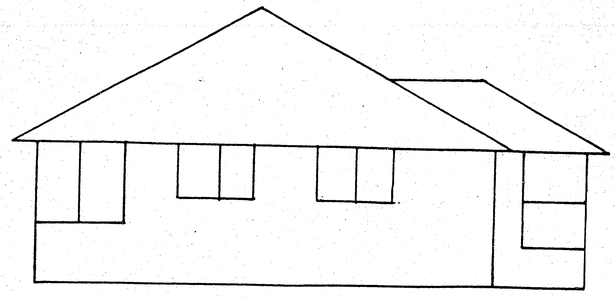
Ormond Stock Associates Ltd
3369 S1

L13/28


SS1400
600K
400 D
T 2.0
1700
1400
600
K 3.3 + 1.1
K 600 T
K 600 T
K 600 T

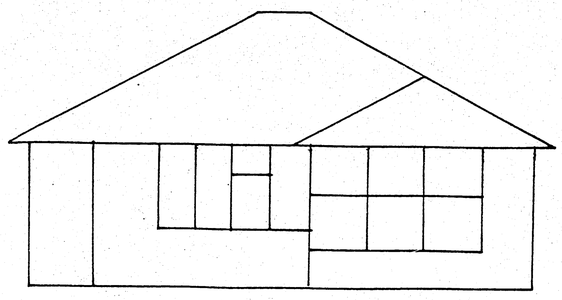


FRONT ELEVATION.

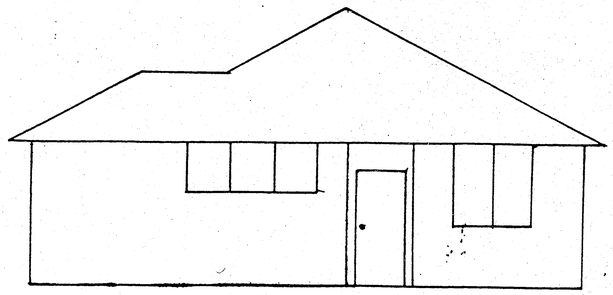


RIGHT ELEVATION.

L13/28



BACK ELEVATION



LEFT ELEVATION

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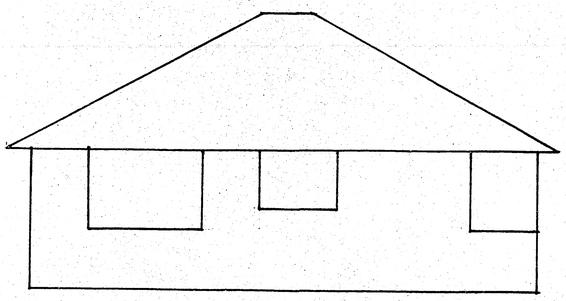
Manawatu Microfilm Services



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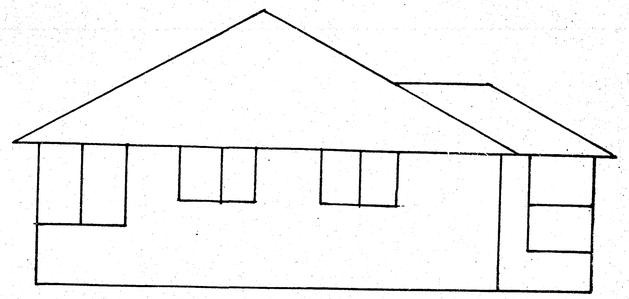
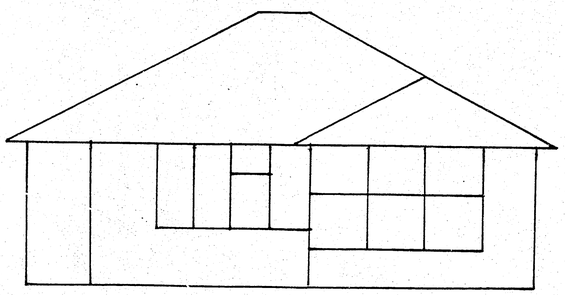
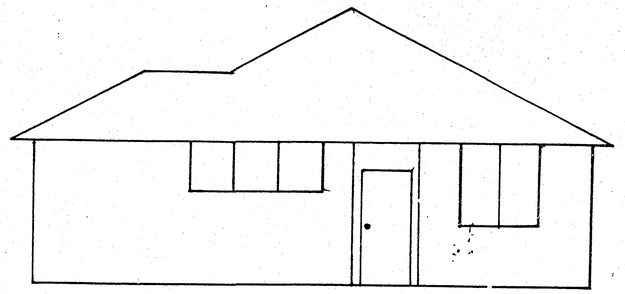


RIGHT ELEVATION.

L13/28



BACK ELEVATION



LEFT ELEVATION

Scale: 1:100

Manawatu Microfilm Services

APPLICATION FOR CODE COMPLIANCE CERTIFICATE (Form 6)

Section 92, Building Act 2004.

1. What is the Building Consent? *Complete this field*

Building consent number:	180201
Issued by:(name of building consent authority)	Palmerston North City Council

2. Who owns the building? *Complete all fields, using N/A if a field is not applicable*

Owner name:	Candice Langvad Foster-Heke			Title: e.g. Mr, Mrs, Ms, Dr	Ms
Contact person:	Candice				
Owner mailing address:	28 Leeds Street Palmerston North				
Street address / registered office:	28 Leeds Street Palmerston North				
Owner email address:					
Owner contact number:					
Are you using an Agent?	✓	Yes		No	*If Yes, please also complete the following*
Who is the first point of contact for further correspondence?			✓	Agent	Owner
Agent name:	Chris Long				
Agent email:	Chris@longbuildingsolutions.co.nz				
Agent contact number:	027 467 0740				
Agent mailing address:	PO Box 12107 Inner city, Palmerston North 4414				
Relationship to owner:	Agent / head contractor.				

3. When was the building work completed? *Complete this field*

All building work to be carried out under the building consent specified on this form was completed on:	*dd /mm / yyyy*
	30/08/2018

4. Who completed the building work? *Complete all fields on each line. You will need to complete one line for each building practitioner. Use a separate sheet if necessary.*

The licensed building practitioner(s) who carried out/supervised the restricted building work is/are:			
Name:	Licensing class:	LBP or registration number:	Work carried out / supervised:

Name:	Licensing class:	LBP or registration number:	Work carried out / supervised:
Tradespeople who carried out building work other than restricted building work are as follows:			
Name:	Address:	Contact number:	Registration number:
Michael Hansen	22 Lockhart ave	021 629 669	N/A
Chris Long	445 Tremaine Ave	027 467 0740	N/A
Please list specified systems installed in the building or use N/A if this section is not applicable.		✓	N/A
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:			

5. Declaration

☐ I understand that this application may *only* be made with the owner's approval. *Please tick to indicate your agreement.*

I request that you issue a code compliance certificate for this work under section 95 of the Building Act 2004. The code compliance certificate should be sent to:							
	Owner	✓	Agent		Owner address as per Section 2	✓	Agent address as per Section 2
Name:	michael hansen						
Signature:							
Date:	30/08/2018						

You can add a digital signature to this document, either using Adobe or your existing digital signature.

Once you have filled out the form, including signatures, please save the application to your computer. You can then submit the application with supporting documentation to your local Council.

If you are unsure about what information to include in your application, a guidance document is available (**click here**).

6. Have you attached all required documents?

You are required to provide all the necessary documents to support your application. This includes (but is not limited to) the following sections:

- *Memorandum of Licensed Building Practitioners – Record of Work (for each type of building work completed)*
- *Certificates relating to energy work*
- *Evidence that specified systems are capable of performing to the performance standards set out in the building consent (if changed from the building consent)*
- *Other documents from personnel who carried out the work.*

Refer to your building consent approval letter for a full list of documents required to support your Code Compliance Certificate application.

Form 5

Building Consent - 180201

Section 51, Building Act 2004

The Building

Street address of building: 28 Leeds Street Milson Palmerston North Manawatu-Wanganui 4414

Legal description of land where building is located: Lot 1 DP 347091

Building name:

Location of building within site/block number: 28 Leeds Street Milson Palmerston North Manawatu-Wanganui 4414

Level/unit number:

The Owner

Name of owner: CANDICE BROOKE LANGVAD FORSTER-HEKE

Contact person: Candice

Mailing address: 28 LEEDS STREET, MILSON, PALMERSTON NORTH 4414 4414

Street address/registered office: 28 LEEDS STREET, MILSON, PALMERSTON NORTH 4414

Phone number: Landline: Mobile: 0064 0210 2350307

Facsimile number:

Email address:

First point of contact for communications with the council/building consent authority: MICHAEL OWEN HANSEN; Mailing Address: 22 LOCKHART AVENUE

MILSON

PALMERSTON NORTH 4414 4414; Mobile: 0064 021 629669; Email: michael.hansen@slingshot.co.nz

Building work

The following building work is authorised by this building consent:

Convert existing double garage and workshop into double garage and sleepout

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

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

Conditions

This building consent is subject to the following conditions:

Section 90 - Inspections by Building Consent Authorities

(1) Every building consent is subject to the condition that agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspectâ€”

(a) land on which building work is being or is proposed to be carried out; and

(b) building work that has been or is being carried out on or off the building site; and

(c) any building.

(2) The provisions (if any) that are endorsed on a building consent in relation to inspection during the carrying out of building work must be taken to include the provisions of this section.

(3) In this section, inspection means the taking of all reasonable steps to ensure that building work is being carried out in accordance with a building consent.

Inspections

The following inspections are required:

- Wastepipes (Underslab)
- Preline Plumbing
- Preline Building
- Post Line
- Drainage
- P+D Final
- Building Final

Documents Required

- Form 6 - Application for Code Compliance Certificate
- E1 - Stormwater Drainage As-built Plans
- G10 & G11 - Energy Works Certificate for Piped Services and Gas as an Energy Supply.
- G13 - Drainage As-builts, Drainlayer Details (name, company, license number, contact details) and Pipework Test Verification
- As-Built Documents

Compliance Schedule

A compliance schedule is not required for the building.

Attachments

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

No documents have been specified.

Bryan Clark

Team Leader, Building Services

On behalf of: Palmerston North City Council

Granted Date: 12 April 2018

Advisory Notes

Site Safety: Please ensure all appropriate site safety measures are provided throughout the contract works to comply with NZ Building Code Clause F5 and all Occupational Safety and Health requirements.

Electrical Energy Works Certificate: The Building Consent Authority places full reliance of the issue of Energy Work Certificates to verify that the installation and completion of electrical services comply with the provisions of New Zealand Building Code Clauses G9. Code Compliance Certificate will not be issued unless the Energy Works Certificates identifies compliance with this specific code clause and confirms compliance with this building consent.

Site Stormwater: NZ Building Code Clause E1 - All site stormwater must be contained and discharged to an approved outfall.

Plumbing: NZ Building Code Clause G13/AS1 or AS/NZS3500 - As per the plans and specifications, the potable water pipe work is polybutylene, with the under floor plumbing to AS/NZS3500.2

Tempered Hot Water: NZ Building Code G12/AS1 - Hot water being delivered to any new or altered personal hygiene fixture must be tempered in accordance with NZBC G12 Section 6.14

Plumbers Act: The Plumbers, Gasfitters and Drainlayers Act 2006 requires that only Certifying Drainlayers may undertake drainage work and that only Certifying Plumbers may undertake plumbing work.

Energy Works Certificate: The Building Consent Authority places full reliance on the issue of Energy Work Certificates to verify compliance of the installation and completion of piped services, the gas supply system, and gas appliances with the provisions of New Zealand Building Code Clauses G10 and G11. Code Compliance Certificate will not be issued unless the Energy Works Certificates identify compliance with these specific code Clauses and confirm compliance with this building consent.

NOTE: ADDITIONAL INSPECTIONS OR PROCESSING OF FURTHER INFORMATION MAY INCUR ADDITIONAL COSTS AT THE TIME OF CODE COMPLIANCE CERTIFICATE ISSUE.

Form 5
Building consent - 180201

Section 51, Building Act 2004

The building

Street address of building:	28 Leeds Street Milson Palmerston North Manawatu-Wanganui 4414
Legal description of land where building is located:	Lot 1 DP 347091
Building name:	
Location of building within site/block number:	28 Leeds Street Milson Palmerston North Manawatu-Wanganui 4414
Level/unit number:	

The owner

Name of owner:	CANDICE BROOKE LANGVAD FORSTER-HEKE
Contact person:	Candice
Mailing address:	28 LEEDS STREET MILSON PALMERSTON NORTH 4414 4414
Street address/registered office:	28 LEEDS STREET MILSON PALMERSTON NORTH 4414
Phone number:	Landline: Mobile: 0064 0210 2350307
Daytime:	No information provided
After hours:	No information provided
Facsimile number:	
Email address:	
Website:	No information provided

First point of contact for communications with the building consent authority:
MICHAEL OWEN HANSEN; Mailing Address: 22 LOCKHART AVENUE
MILSON
PALMERSTON NORTH 4414 4414; Mobile: 0064 021 629669; Email: michael.hansen@slingshot.co.nz

Building work

The following building work is authorised by this building consent:
Convert existing double garage and workshop into double garage and sleepout

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction,

alteration, demolition, or removal would be in breach of any other Act.

Conditions
This building consent is subject to the following conditions:

There are no conditions associated with this consent.

Section 90 - Inspections by Building Consent Authorities
(1) Every building consent is subject to the condition that agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspectâ€”
(a) land on which building work is being or is proposed to be carried out; and
(b) building work that has been or is being carried out on or off the building site; and
(c) any building.

(2) The provisions (if any) that are endorsed on a building consent in relation to inspection during the carrying out of building work must be taken to include the provisions of this section.

(3) In this section, inspection means the taking of all reasonable steps to ensure that building work is being carried out in accordance with a building consent.

Section 71 - 73
As the building is on land subject to a natural hazard specifically (erosion / falling debris / subsidence / inundation / slippage), the Building Consent Authority will on issue of the building consent, notify the consent to the Registrar-General of Land in accordance with under Section 73 of the Building Act 2004.

Section 90 - Inspections by Building Consent Authorities
(1) Every building consent is subject to the condition that agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspectâ€”
(a) land on which building work is being or is proposed to be carried out; and
(b) building work that has been or is being carried out on or off the building site; and
(c) any building.

(2) The provisions (if any) that are endorsed on a building consent in relation to inspection during the carrying out of building work must be taken to include the provisions of this section.

(3) In this section, inspection means the taking of all reasonable steps to ensure that building work is being carried out in accordance with a building consent.

Compliance schedule

A compliance schedule is not required for the building.

Inspections

The following inspections are required:

- Wastepipes
- Preline Building
- Drainage
- Building Final
- Preline Plumbing
- Post Line
- P+D final

Documents required

Drainage

- E1: Stormwater drain leakage test and as-built plans
- G13: As-builts, drainlayer details, pipework test

P+D final

- G10 & G11: Energy works certificate

Building Final

- Form 6a - LBP record of building work
- Form 6 - CCC application
- E2: Wall cladding - Product & installer warranties
- E2: Roof cladding - Product & installer warranties
- G4: Mechanical vent - Commissioning & construction monitoring (PS3 / PS4)
- As-built documents

Copies of all site reports/records must be provided to the Building Consent Authority as work proceeds for their
records, please forward these to info@pncc.govt.nz referencing the building consent number.

Attachments

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

- Advice notes / Endorsements

Signature: Bryan Clark
Position: Team Leader, Building Services
On behalf of: Palmerston North City Council
Issue Date: 17 April 2018

Advisory Notes

There are no advice notes associated with this consent.

Hazardous Materials: As with any construction project there is a likelihood that some materials used may potentially emit quantities of gas, liquid, radiation or solid particles i.e. glues, paints, dust or particles from insulation etc. that could be harmful. Please ensure spaces remain well ventilated and clean to mitigate potential build-up or concentration of these.

Site Safety: Please ensure all appropriate site safety measures are provided throughout the contract works to comply with NZ Building Code Clause F5 and all Occupational Safety and Health requirements.

Location Test Certification: As the residential gas cylinders stored on site exceed 100kg, a copy of the Location Test Certificate (issued by an Environmental Protection Authority (EPA) approved HSNO test certifier) will be required to accompany the application for Code Compliance Certificate.

Electrical Energy Works Certificate: The Building Consent Authority places full reliance of the issue of Energy Work Certificates to verify that the installation and completion of electrical services comply with the provisions of New Zealand Building Code Clauses G9. Code Compliance Certificate will not be issued unless the Energy Works Certificates identifies compliance with this specific code clause and confirms compliance with this building consent.

Site Stormwater: NZ Building Code Clause E1 - All site stormwater must be contained and discharged to an approved outfall.

Plumbing: NZ Building Code Clause G13/AS1 or AS/NZS3500 - As per the plans and specifications, the potable water pipe work is _____, with the under floor plumbing to _____.

Tempered Hot Water: NZ Building Code G12/AS1 - Hot water being delivered to any new or altered personal hygiene fixture must be tempered in accordance with NZBC G12 Section 6.14

Plumbers Act: The Plumbers, Gasfitters and Drainlayers Act 2006 requires that only Certifying Drainlayers may undertake drainage work and that only Certifying Plumbers may undertake plumbing work.

RESTRICTED BUILDING WORK
Building Act 2004, Section 87 and 88

Before Restricted Building Work commences under a building consent, it is the owners' responsibility to provide written notice on the appropriate form, of the name of every Licensed Building Practitioner who is engaged to carry out or supervise the Restricted Building Work.

The following licence classes have been identified as requiring Licensed Building Practitioners to undertake the work under this building consent:

Carpentry
External Plastering
Bricklaying
Blocklaying
Foundation
Roofing Work

Each Licensed Building Practitioner who carries out (other than as an owner-builder) or supervises restricted building work under a building consent must, on completion of the restricted building work, provide the owner and the territorial authority for the district in which the restricted building work is situated with a record of work, in the prescribed form, stating what restricted building work the licensed building practitioner carried out or supervised.

Energy Works Certificate: The Building Consent Authority places full reliance on the issue of Energy Work Certificates to verify compliance of the installation and completion of piped services, the gas supply system, and gas appliances with the provisions of New Zealand Building Code Clauses G10 and G11. Code Compliance Certificate will not be issued unless the Energy Works Certificates identify compliance with these specific code Clauses and confirm compliance with this building consent.

Pressure Test Certificate: Upon completion of the building work the Plumber shall provide a Pressure Test Certificate to the owner to submit with their documentation for Code Compliance Certificate application.

Note: Additional inspections or processing of further information may incur additional costs at the time of code compliance certificate issue.

Reviewed By NP. 5/04/2018 National Processing Ltd

PNCC - Approved Building Consent Document - BC 180201 - Pg 1 of 76 - Approved 10/04/2018 - dymondm

Candice Langvad Foster-Heke.

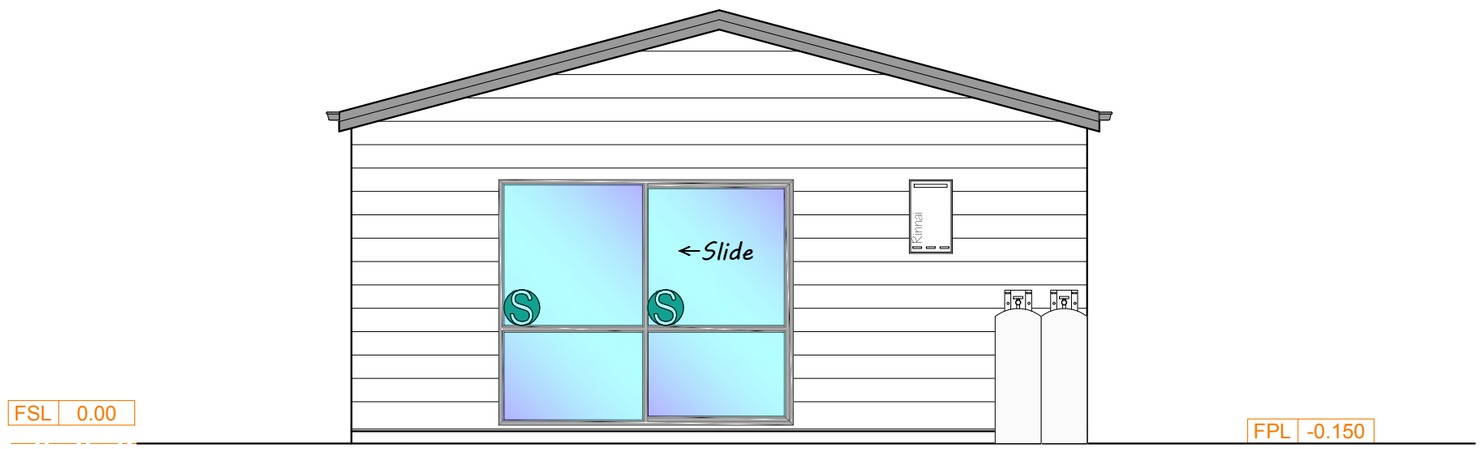
Proposed Alterations.

28 Leeds Street, Palmerston North.

A3 Documentation

A01 Site plan
A02 Existing floor plan
A03 Proposed floor plan & Elevations
A04 Drainage plan & Foundation plan
A05 Bracing plan
A06 Section Z-Z
A07 Window flashing details
A08 Window flashing details (2)
A09 plumbing & wet area details
A10 Acrylic shower details

LBS Long Building Solutions



Reviewed By NP. 5/04/2018 National Processing Ltd
PNCC - Approved Building Consent Document - BC 180201 - Pg 2 of 76 - Approved 10/04/2018 - dymondm

Notes:

North point.

N

Legal Description.

Lot:	1
DP:	347091

Address.

28 Leeds Street, Palmerston North.

Site area calculations.

Site area:	530m²
Nett site area:	420m²
Allowable coverage:	40 %
Allowable coverage:	168.00m²
Existing coverage area:	130m²
Additional coverage area:	0.00m²
Total coverage:	30.95 %
Total coverage:	130.000m²

All dimensions have been taken from the foundation line to the boundary line at right angles unless stated otherwise.

Where shown, adjacent properties and boundaries are shown for illustrative purpose only. Before work commences builder to locate all boundary pegs, check all boundary lengths and building set back distances with the plans. If an inconsistency is found or pegs cannot be located a licensed cadastral surveyor should re-peg the site to ensure an accurate set out.

During construction of this project the builder in charge of the site shall carry out a site hazard evaluation. If at any stage a specific hazard to the public presents itself, builder shall ensure safety to the public by erecting site fences to prevent public access, in keeping with section F5 of the New Zealand Building Code, safety of life and property must be strictly observed.

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS
Long Building Solutions

Proposed Alterations.

Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:200

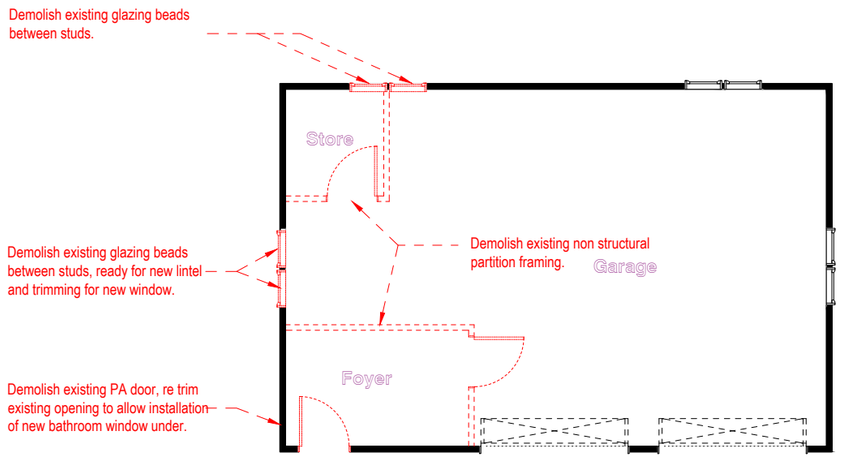
Sheet name: Site plan

Generated: 13 / 03 / 2018 8:41:40 pm

Sheet number: A01

Reviewed By NP. 5/04/2018 National Processing Ltd

PNCC - Approved Building Consent Document - BC 180201 - Pg 3 of 76 - Approved 10/04/2018 - dymondm



Notes:	
Areas.	
Existing area:	130 m^2
Site conditions:	
Wind zone:	Medium
Earthquake zone:	3
Corrosion zone:	B
Snow loading:	N1
Site elevation:	< 400m

Existing floor plan has been generated with as built measurements obtained via site measure and / or from council records, site measurements have been taken over linings.

For the purposes of being able to generate an as-built plan.
Internal linings have been assumed: 10mm thick Existing framing has been assumed: 90mm thick

Any critical dimensions will need to be confirmed on site when relevant wall linings have been removed etc.

	Indicates existing framing.
	Indicates wall or item for demolition

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS Long Building Solutions

Proposed Alterations.

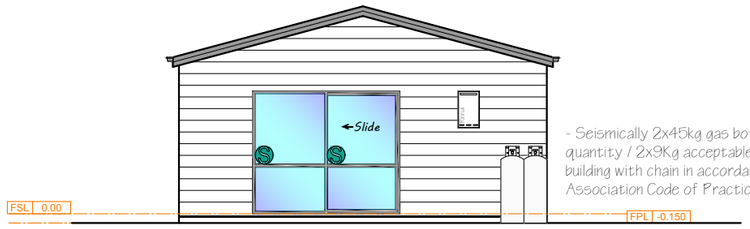
Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:100
Sheet name:		Generated:	
Existing floor plan Demolition plan		13 / 03 / 2018 8:41:43 pm	
		Sheet number:	
		A02	

Reviewed By NP. 5/04/2018 National Processing Ltd

PNCC - Approved Building Consent Document - BC 180201 - Pg 4 of 76 - Approved 10/04/2018 - dymondm



- Seismically 2x45kg gas bottles (Maximum quantity / 2x9Kg acceptable.) restrained to the building with chain in accordance with the LPG Association Code of Practice.

-Single glazed aluminium slider.
-Glazing thickness within all IGU's to comply with NZS:4223.

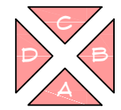
ELEVATION D
SCALE 1:100

-Matching profile Steel weatherboard infills remanining area.

-Single glazed aluminium window under existing lintel.
-Glazing thickness to comply with NZS:4223.

ELEVATION A
SCALE 1:100

Notes:

Elevation Key.	North point.
	

Areas.	
Existing area:	130 m²
Additional coverage area:	0.00 m²
Site conditions:	
Wind zone:	Medium
Earthquake zone:	3
Corrosion zone:	B
Snow loading:	N1
Site elevation:	< 400m

Building wrap to all exterior walls: Thermakraft 215 (or competitor's equivalent), openings to be trimmed with Thermakraft Aluband flashing tape (or competitor's equivalent), refer details for further information.

internal sleep out walls lined internally with 10mm Gib board,stopped to a F4 paint quality finish:
Gib Standard to non wet areas.
Gib Aqualine to wet areas.
Gib Braceline as per bracing plan.

Any window size on this plan is unit size NOT the trim size and is in the format of: HEIGHT x WIDTH.
All door sizes on this plan are Door leaf sizes: opening size = Door leaf size + 58mm

Ensuite shower:	Acrylic

with glass screens in accordance with NZS 4223. Floor linings to all wet areas to be tile unless otherwise stated.

Access routes:

Any intended access way to the building to be constructed of either profiled timber decking with the profile laid perpendicular to the access, or concrete with a broom finish (Class 5 -6) or wood float finish (Class U2). Alternatively, any other material with a tested wet slip co-efficient of not less than 0.4 when tested against D1/AS1 NZBC.

Notes:

No infringement/s in terms of height recession, if applicable worse case recession plane has been shown on elevations.

Where no window schedule has been provided, refer to elevations for window style and bracing plan for trim sizes.

Risk matrix has been calculated on the worst case and will apply to all elevations.

Risk Matrix:	L	M	H	VH	EH		Score
Wind zone	0	0	1	2	2		0
Number of storeys	0	1	2	4	-		0
Roof/wall intersection design	0	1	3	5	-		0
Eaves width	0	1	2	5	-		5
Envelope complexity	0	1	3	6	-		0
Deck design	0	2	4	6	-		0
						Total:	5

Legend:

FSL	Finished Slab Level.
FPL	Finshed Paved Level.
FGL	Finshed Unpaved Ground Level
S	Window pane to be glazed with safety glass in accordance with NZS 4223.3 2016

Lighting & ventilation schedule

Room name	Room area	10% Light requirement	Light achieved	5% Ventilation required	Ventilation achieved
Bedroom 1	12.29	1.23	4.8	0.61	2.24
Ensuite	4.77	0.48	0.49	0.24	0.49

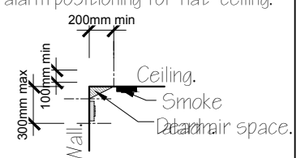
Note: Kitchen / Living / Dining are open plan.

Indicates area where 10% light area is not a requirement.

Legend:

SD — Indicates Type 1 Domestic Smoke alarm, either hard wired or 10yr battery operated. Smoke alarm to be installed on the ceiling and have hush button. Position so test button is readily accessible for monthly testing.

Smoke alarm positioning for flat ceiling.

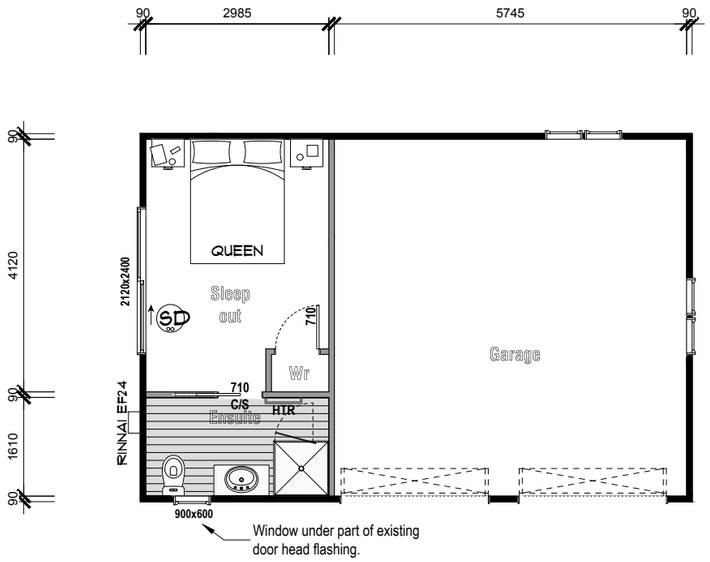


Wall mount is acceptable only when ceiling mount is unavailable, wall mount zone between 100mm & 300mm from ceiling.
Note: Exposed beams or other projections in ceiling plane shall be treated as a walls.

Existing framing remains.

Interior non load bearing walls:
2400 COSmm frame height.
- 90x45 SG8 H1.2 Studs @ 600mm c/c
with dwangs @ 800mm c/c

Floor finished in 100% impervious type vinyl plank flooring.



5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS Long Building Solutions

Proposed Alterations.

Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:100
Sheet name:		Generated:	
Proposed floor plan Elevations		13 / 03 / 2018 8:41:51 pm	
		Sheet number:	
		A03	

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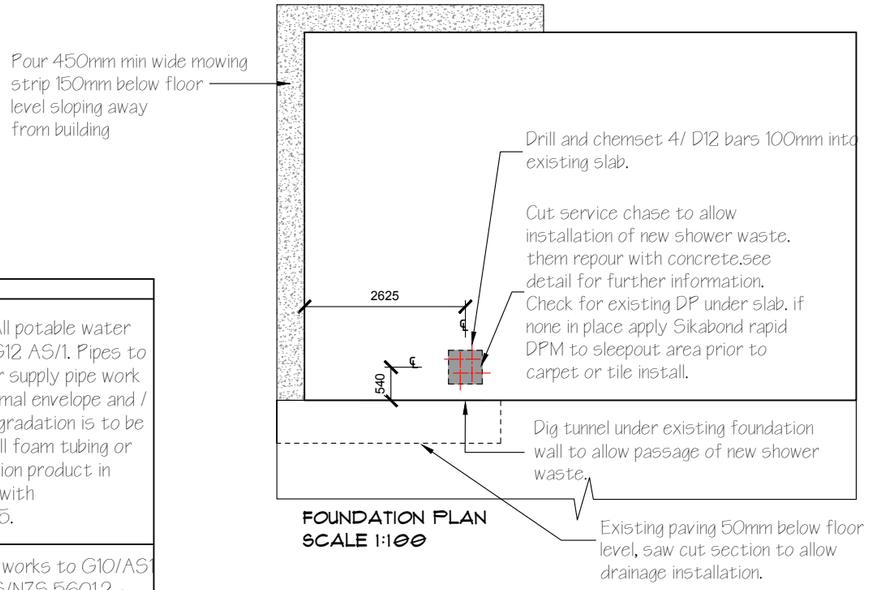
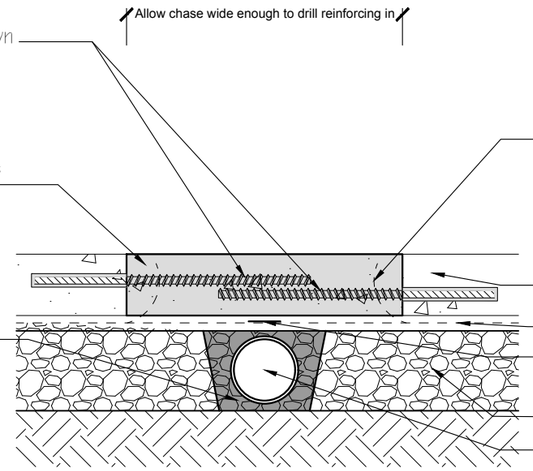


FOUNDATION PLAN
SCALE 1:100

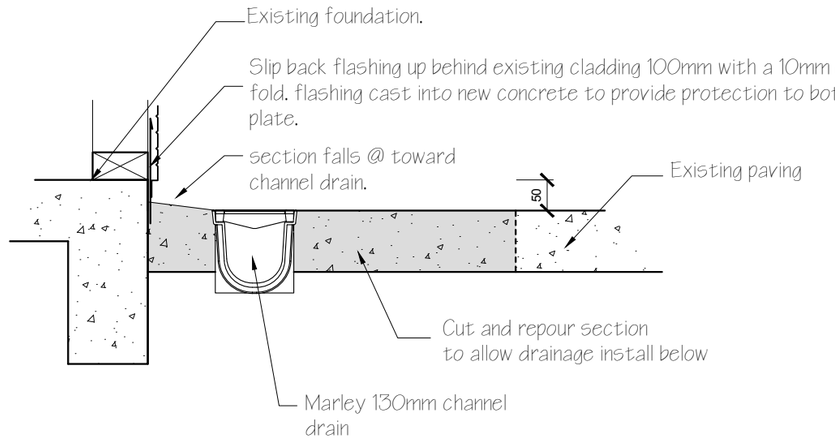
D12 rods 450mm long min @ 600mm c/c chemset one end 150mm into existing slab. Starters placed in the centre of the slab joint, shown offset for clarity, stagger bars 300mm to allow both sides to occur in the middle of the slab.

Shaded portion of slab indicates new 17 MPa concrete infill where concrete has been removed to allow for new pipework. Depth to match existing. Take care not to damage existing DPM when cutting original slab.

Shade indicates existing hard fill removed to allow pipe work to be laid and reinstated once pipe work is in place.

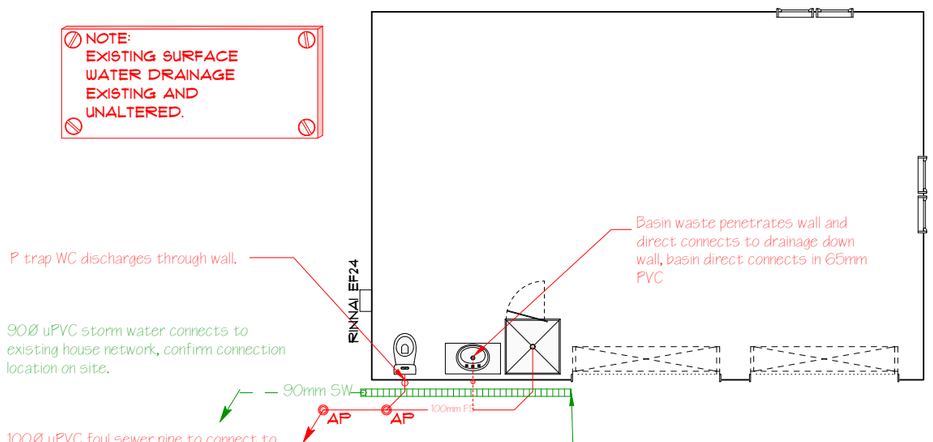


Slab chase detail
Scale 1:10



Threshold detail
Scale 1:10

NOTE:
EXISTING SURFACE WATER DRAINAGE EXISTING AND UNALTERED.



DRAINAGE PLAN
SCALE 1:100

Install 130mm wide x 150mm deep Marley channel grate 50mm below existing floor
(to match existing paving 150mm off sleep out foundation re pour 100mm strip with a 1:4 slope into channel drain. As alternative solution to E2 / AS1. Designer views this as the most reasonable and practicable way of achieving as close to compliance as possible. Existing garage has had a FFL of 50mm since 1990 and suffers no degradation to date. See detail on sheet for further information.

Notes:

Potable water supply: All potable water supply pipes installed to G12 AS/1. Pipes to be polybutylene. All water supply pipe work outside the buildings thermal envelope and / or subject to UV light degradation is to be insulated with closed cell foam tubing or other another insulation product in accordance with NZS 4305.

Gas fitting: All gas fitting works to G10/AS1 or AS/NZS5601.1 & AS/NZS 5601.2 - Suitably qualified gas fitter to complete works and provide energy works certificate on completion.

Rinnai Infinity continuous flow EF24 water heating unit, installed in factory recess kit. To be set to a maximum temperature of 55°C to all sanitary fixtures.

Plumbing & Drainage: All plumbing drainage works on this plan are to G13/AS3 via AS/NZS 3500.2. suitably qualified drain layer to complete works and provide as built plan on completion.

All pipe sizes mentioned below are minimum call sizes, they may be up sized for convenience or economic reasons.

Pipe type:	Call size	Fall
Fixture to gully (PVC)	40mm	1:40
Gully to main drain (PVC)	100mm	1:60
WC to main drain (PVC)	100mm	1:40
Non soil fixture to main drain (PVC)	65mm	1:60
Main drain (PVC)	100mm	1:60
Terminal vent unless otherwise stated:	80mm	-

Where successive pipes pass though a foundation wall, (e.g. into a gully) pipes to be separated by a minimum of 25mm.

Legend:

FS	Foul Sewer. (or Sanitary Sewer)
AAV	Air Admittance Valve.
TV	Terminal Vent.
GT	Gully Trap.
ORG	Over Flow Relief Gully.
AP	Access Point, inspection bend.
RE	Rodding eye brought to surface.

Nominal potable water pipe diametres - Rinnai Infinity - Mains pressure

Notes:
(1) if supplied by separate pipe from storage water heater to a single out let.
(2) This table is based on maximum pipe lengths of 20 Metres.
(3) 2m maximum length from water heater outlet to tempering valve.
(4) 15mm if dedicated line to shower.
(5) 10mm if dedicated line to shower.

	Mains Pressure
Pipes to Shower	20mm (5) (15mm Optional)(1)
Pipes to sink/laundry (2)	20mm
Pipes to bath (2)	15mm
Pipes to basins (2)	10mm

In a household unit the developed length of the pipe-run from the water heater to the kitchen sink outlet shall be minimized, to the sizes noted below.

Nominal Pipe size (mm)	10mm	15mm	20mm
length (m)	25m	12m	7m

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS Long Building Solutions

Proposed Alterations.

Candice Langvad Foster-Heke.

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Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:100
Sheet name:		Generated:	
Foundation plan Drainage plan		04 / 04 / 2018 7:11:21 pm	
		Sheet number:	
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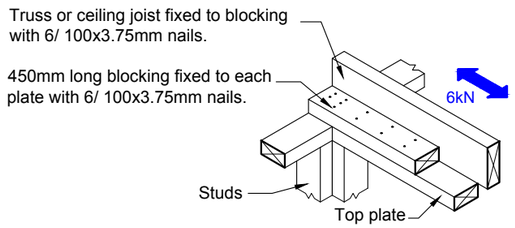


6kN single T junction connection through a roof framing.
(up to 125 bracing units in wall)
Scale 1:20

Supplementary bracing along

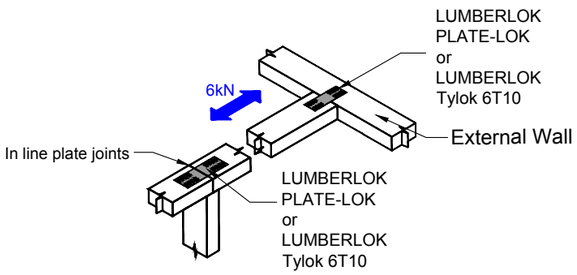
Line	A			BU W	BU EQ
Single sided walls lost	0	m		0	0
Double sided walls lost	0	m		0	0
Total	0	m	Demand:	0	0
Bracing added:					
A1	2.8	m	GS1-N	193	168
B1	0.9	m	GS2-nom	45	45
Total				238	213
Percentage of demand met (%)				238.00	213.00

Supplementary bracing across

Line	A			BU W	BU EQ
Single sided walls lost	0	m		0	0
Double sided walls lost	0	m		0	0
Total	0	m	Demand:	0	0
Bracing added:					
M1	1.1	m	GS1-N	74	66
N1	0.6	m	GS1-N	34	35
Total				108	101
Percentage of demand met (%)				108.00	101.00

These new braces more than compensate for the existing walls removed / walls added.

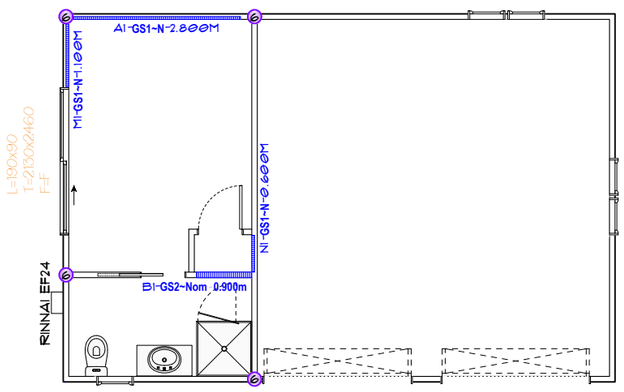
New bracing to be installed in accordance with Gib Bracing Systems August 2016.

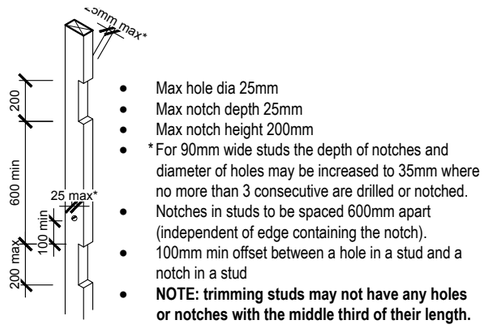


6kN Single T junction top plate connection.
(100 to 125 BUs in wall)
Scale 1:20

A Line length: 3.2m
Minimum BUs: 47 BUs
(or 100 BUs minimum.)

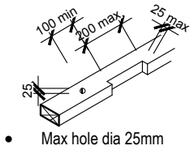
B Line length: 3.2m
Minimum BUs: 47 BUs
(or 100 BUs minimum.)





- Max hole dia 25mm
- Max notch depth 25mm
- Max notch height 200mm
- *For 90mm wide studs the depth of notches and diameter of holes may be increased to 35mm where no more than 3 consecutive are drilled or notched.
- Notches in studs to be spaced 600mm apart (independent of edge containing the notch).
- 100mm min offset between a hole in a stud and a notch in a stud
- **NOTE: trimming studs may not have any holes or notches with the middle third of their length.**

Permitted holes and notches in un strengthened studs
Scale 1:30



- Max hole dia 25mm
- Max notch depth 25mm
- Max notch length 200mm
- 100mm min offset between a hole in a plate and a notch in a plate
- If the above is not complied with, strengthening with 8.7.5.1 of the NZS3604 must be installed

Permitted holes and notches in top plates not requiring strengthening
Scale 1:30

Notes:

Building braced to Gib Bracing Systems August 2016.

Braces shall be installed on the side of the wall indicated on the plan with the below symbol, braces to be installed to manufacturer's installation specifications, refer to A4 documentation for installation specifications.

Each wall containing bracing shall be connected at top plate level, either directly, or through a framing member, to external wall/s at right angles to the braces. Top plate connection capacity along the line shall be as follows:

1) Walls containing between 1 & 125 bracing units require connection to one external with a 6kN connection.

2) Walls containing between 126 & 250 bracing units require connection to two external walls with a 6kN connection.

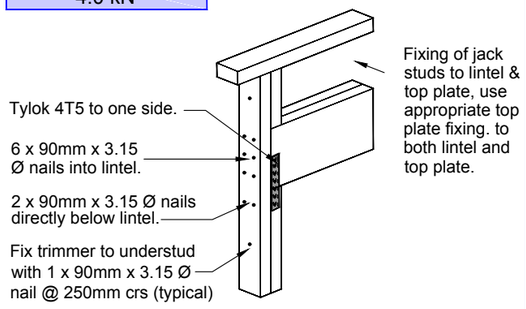
3) Walls containing between more than 250 bracing units require connection to two externals walls each having a kN rating of not less than 2.4kN per 100 bracing units in the wall.

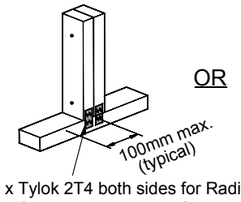
Legend:

Indicates brace location.

6 / 12 Indicates kN capacity required at top plate to external wall junction (or additional framing member to external wall junction.) Ensure any joints to top plate or framing member in the same line have a 6kN capacity joint minimum.

Lintel fixing TYPE F 4.0 kN





OR Base connection to any higher kN rated fixing type.

2 x Tylok 2T4 both sides for Radiata Pine
2 x Strap Nail both sides for Douglas Fir

Specified	Permitted Alternative Gib Plasterboard Products.						
	Gib Standard	Gib Ultraline	Gib Braceline/ Noiseline	Gib Aqualine	Gib Toughline	Gib Fyreline 10mm	Gib Fyreline 13mm- 19mm
Gib Standard		OK	OK	OK	OK	NOTE 1 & 3	NOTE 2
Gib Braceline/ Noiseline.	X	X		NOTE 2	OK	X	NOTE 1,2 & 3

Note 1 The fastener type and length must be as required for relevant FRR system using perimeter fixing pattern illustrated for the relevant bracing specification.
Note 2 The element must be 900mm or longer. Decrease perimeter fastener centres to 100mm. The bracing corner fastening pattern as illustrated for the relevant specification applies to all four corners of the element. Panel hold down fixings are required.
Note 3 Traditional wall framing layouts (See figure 1 - Gib Bracing Systems August 2016) where a Fire Resistance Rating (FRR) is required.

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Proposed Alterations.

Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:100
Sheet name:		Generated:	
Bracing plan		13 / 03 / 2018 8:42:00 pm	
		Sheet number:	
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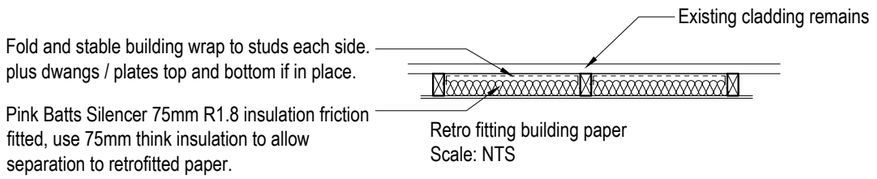
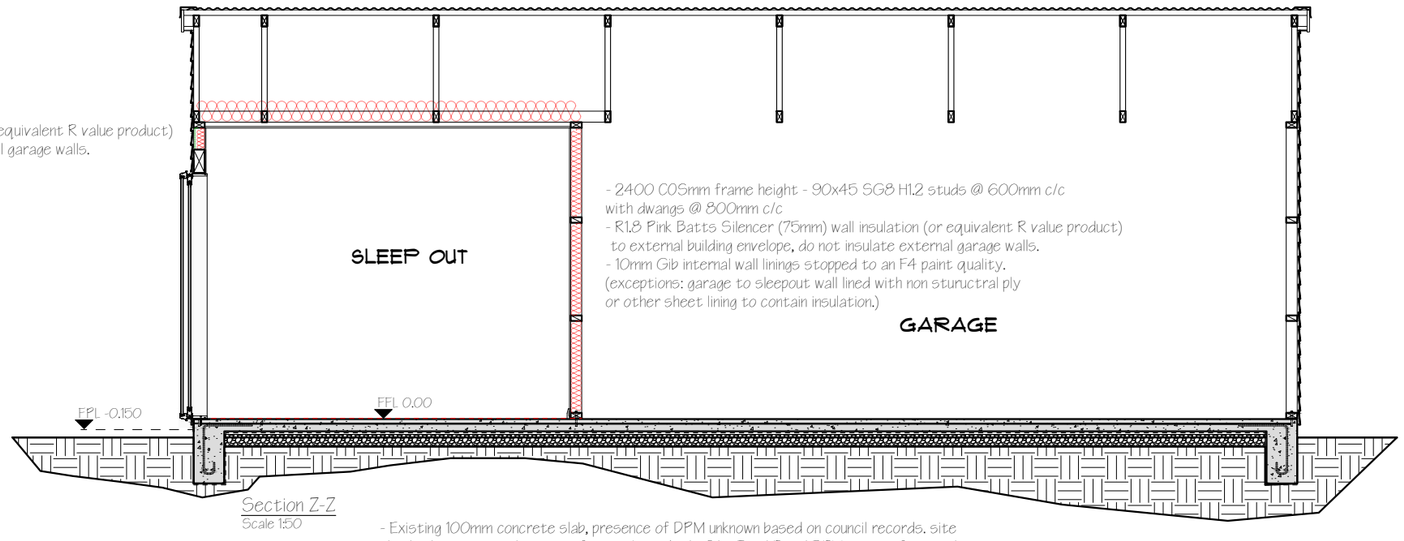


-R3.2 Pink Batts (or equivalent R value product) to ceiling space (do not insulate over garage).
-90x45 SG8 H1.2 blocking @ 900mm c/c cut between existing trusses (@1400mm c/c) fixed with 3/90x3.15 mm dia end nails per crossing. shortens span of ceiling battens running installed running perpendicular.
-70x35 H1.2 merchant grade ceiling battens @ 600mm c/c, fixed with 2 90x3.15 dia gun nails.
-13mm Gib board ceiling linings Stopped to an F4 paint quality finish.

-Existing steel weatherbaord.
- Retro fit Thermakraft 215 neatly inbetween studs and dwangs neatly dressed and folded and stapled around studs prior to installation of insulation.
- R1.8 Pink Batts Silencer (75mm) wall insulation (or equivalent R value product) to external building envelope, do not insulate external garage walls.



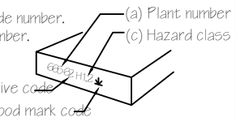
Section Z-Z
Scale 1:50

- 2400 COSmm frame height - 90x45 SG8 H1.2 studs @ 600mm c/c with dwangs @ 800mm c/c
- R1.8 Pink Batts Silencer (75mm) wall insulation (or equivalent R value product) to external building envelope, do not insulate external garage walls.
- 10mm Gib internal wall linings stopped to an F4 paint quality. (exceptions: garage to sleepout wall lined with non stuructral ply or other sheet lining to contain insulation.)

- Existing 100mm concrete slab, presence of DPM unknown based on council records. site check when service chase cut if non inplace, Apply Sika Bond Rapid DPM to manufacturer's recommendation to sleep out floor area prior to carpet or vinyl install.

Timber Preservatives and Identifying Timber:

The sequence of the information in the brand shall be:
(a) plant number.
(b) preservative code number.
(c) hazard class number.



Timber Preservatives Note:
Where H3.1, H3.2, H4 or H5 timber treatment is required, CCA (Copper Chromium Arsenic) preservative code 01 must only be used. Galvanised fixings can be used with CCA treated timber.

If alternative preservatives such as ACQ (Alkaline Copper Quaternary) preservative code 90 or CA (Copper Azole) preservative code 58 are instead used, Stainless Steel 304 or 316 fixings must always be used to timbers with these alternative preservatives and NOT galvanised steel fixings.

Timber framing treatment levels:
Treatment levels to comply with NZBC clause B2/AS1 Durability, NZS3602:2003 Timber and Wood-based Products for Use in Building and NZS3640:2003 Chemical Preservation of Round and Sawn Timber. This table is a summary of the minimum treatment level requirements only. Higher levels may be used in any situation.

Building element	Treatment
- Roof framing, trusses and ceiling joists. - Interior wall framing. - Interior exposed beams radiata pine. - Exterior wall framing.	H1.2
- Enclosed framing within skillion roofs - Exterior wall framing and parapets - Lower interior load bearing wall framing or enclosed beam and post under an exterior wall. - Subfloor framing - Enclosed framing within flat or low pitch roofs. (<10°)	H1.2
- Cladding cavity battens (caution: LOSP cavity battens must not be in contact with butyl rubber/EPDM membranes e.g. enclosed decks)	H3.1
- Framing for enclosed decks, balconies and balustrades, - Enclosed post and beam or wall trimming studs and lintels under enclosed decks, - Exposed decking and external above ground post and beams, stairs and balustrades.	H3.2
- Piles and posts in ground	H5

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LBS Long Building Solutions

Proposed Alterations.

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Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	1:50
Sheet name:		Generated:	
Cross Section Z-Z		13 / 03 / 2018 8:42:04 pm	
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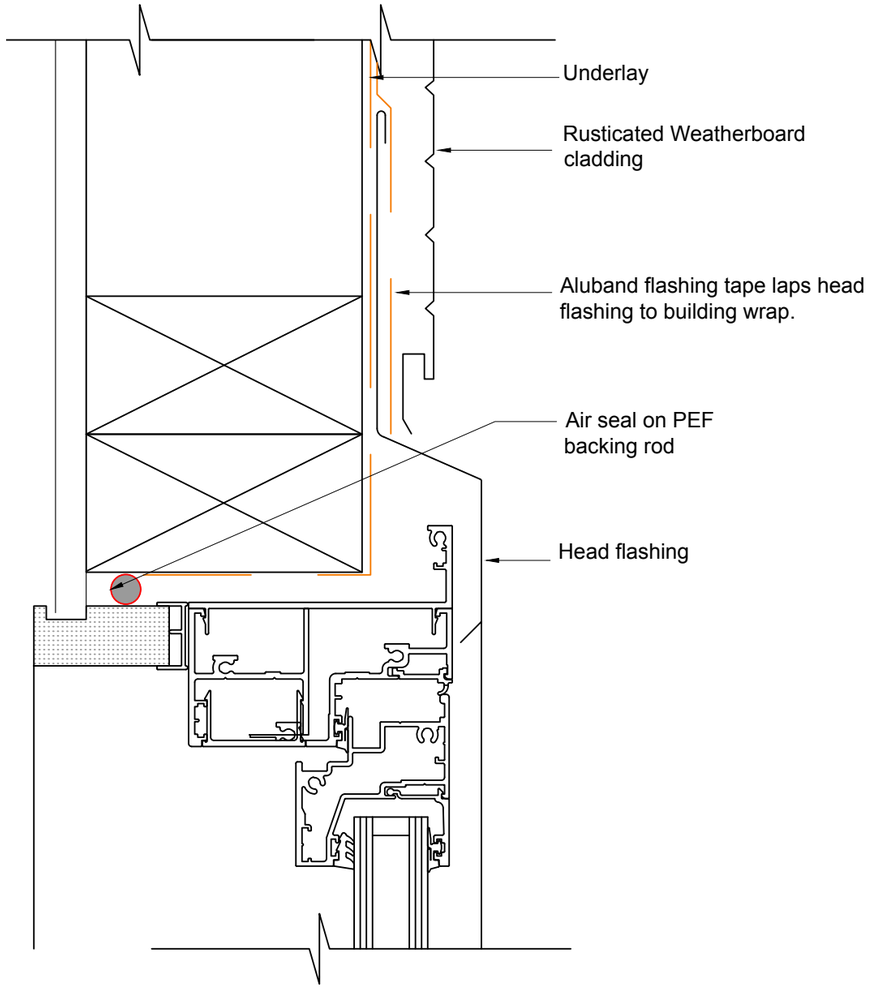
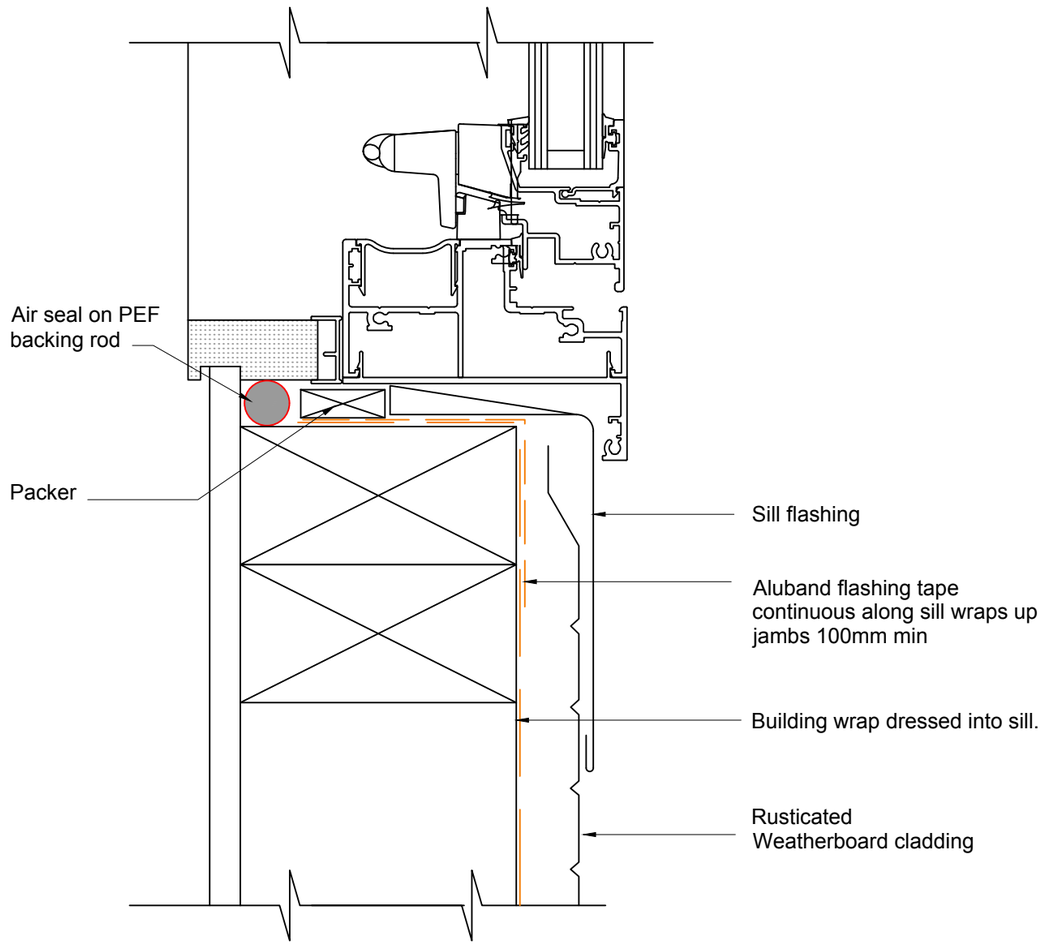


Window Head
Scale 1:2



Window Sill
Scale 1:2

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

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Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	A/S
Sheet name:		Generated:	
Window flashing details		13 / 03 / 2018 8:42:08 pm	
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		A07	

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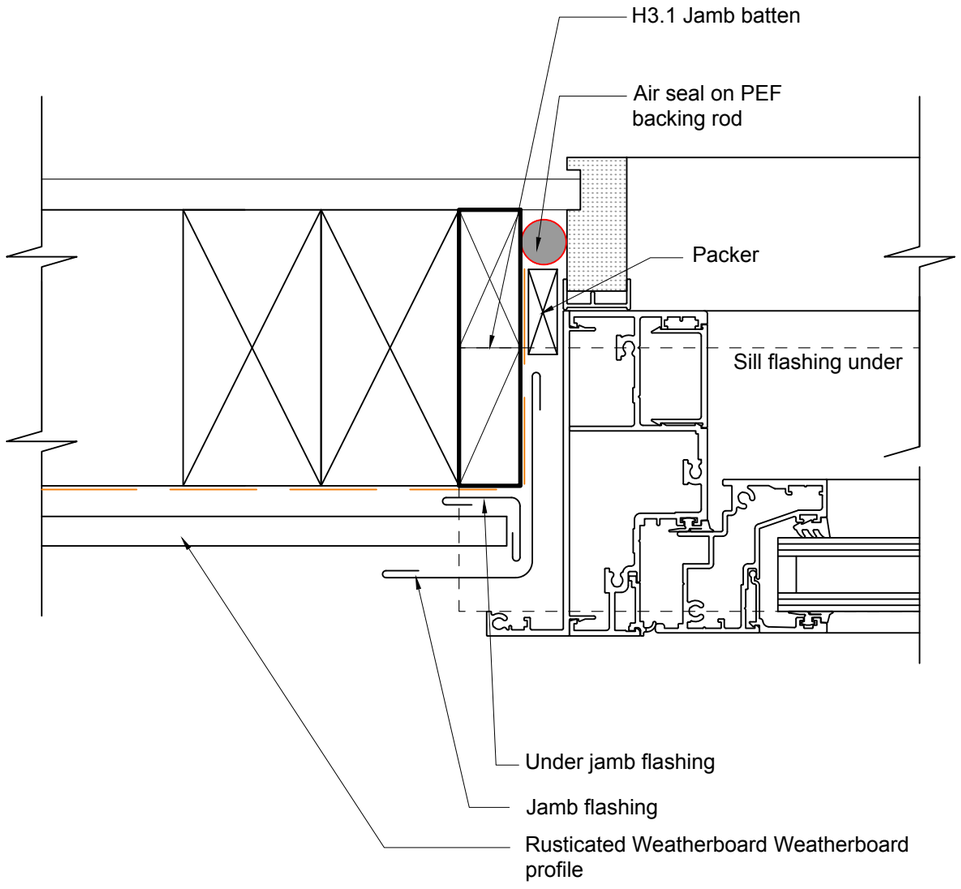
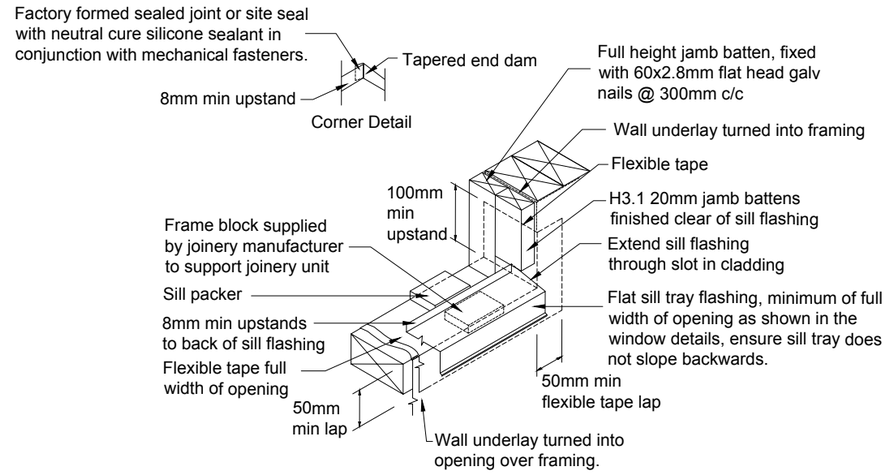
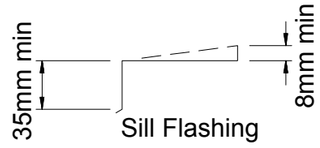
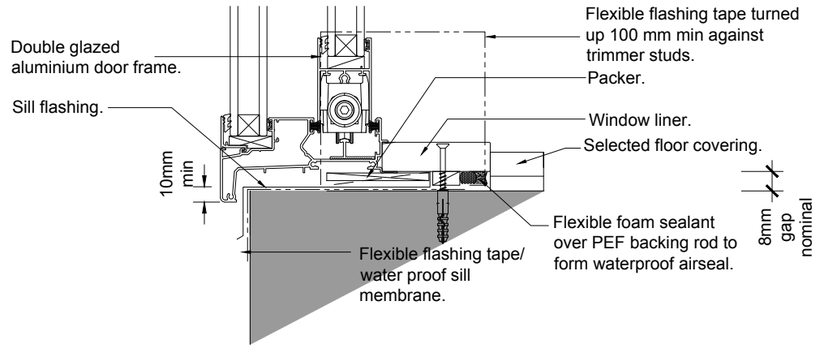


Window Jamb
Scale 1:2

Note:
1) Sill flashing shall extend back past the condensation channel of the window.
2) Cladding Omitted for clarity.







Door sill flashing detail
Scale 1:4

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

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Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	A/S
Sheet name:		Generated:	
Window flashing details (2)		13 / 03 / 2018 8:42:11 pm	
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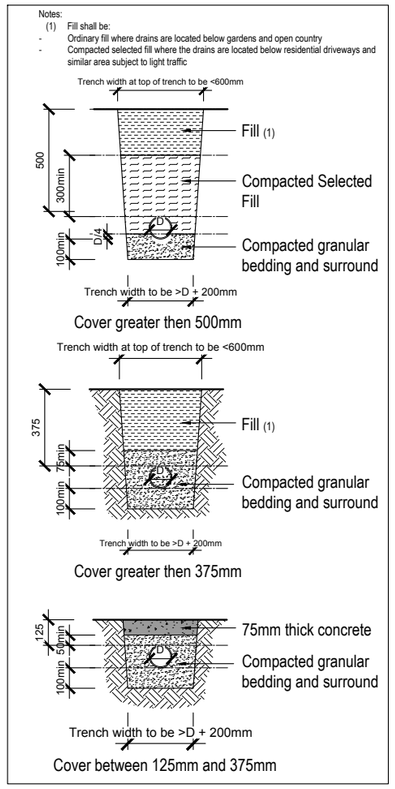
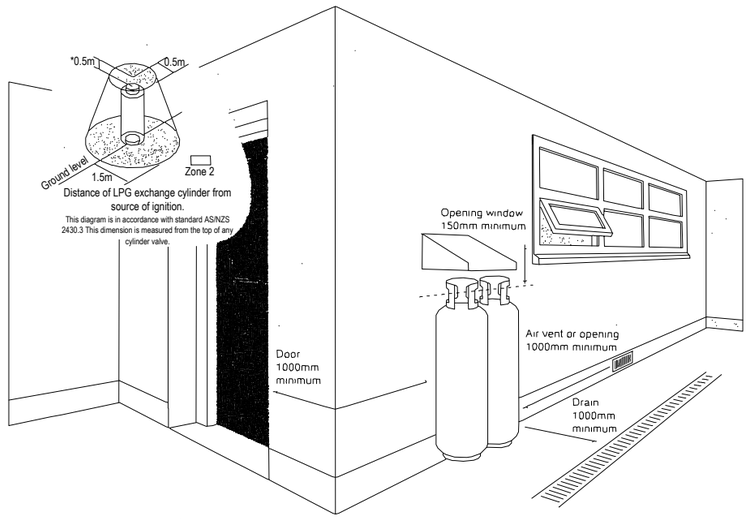
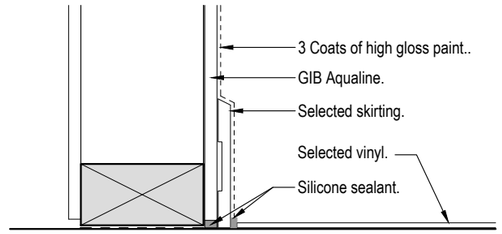


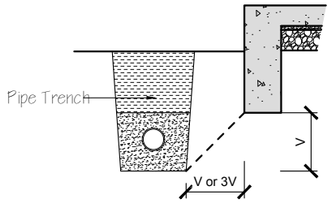
Drainage Bedding and Backfilling
Scale 1:30



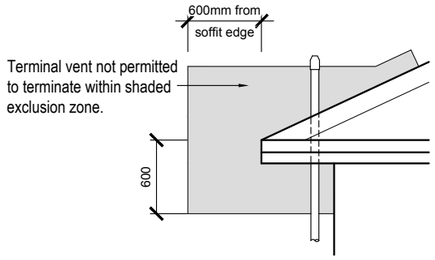
Gas cylinder location
Scale NTS



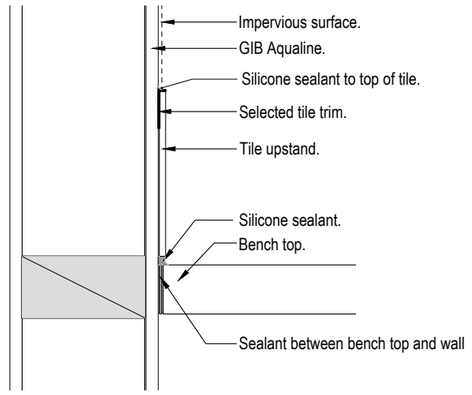
Vinyl floor to painted wall junction. (Wet areas.)
Scale: 1:5



Minimum horizontal distance between trench and foundation w. be:
"V" if drain will be left open for less than 48 hours.
OR
"3V" if trench to be left open for longer than 48 hours.
Distance of Pipe trench to building foundation detail
Scale 1:30



Terminal vent location detail
Scale 1:50



Bench to wall junction. (Wet areas.)
Scale: 1:5

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS Long Building Solutions

Proposed Alterations.

Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	A/S
Sheet name:		Generated:	
Plumbing & wet area details		13 / 03 / 2018 8:42:13 pm	
		Sheet number:	
		A09	

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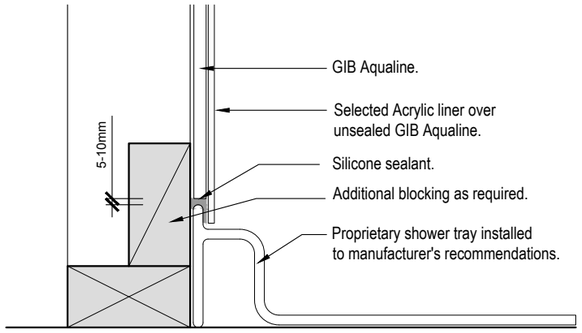
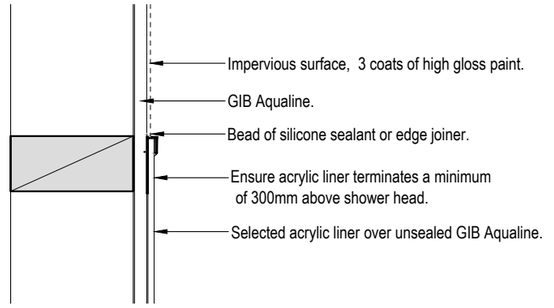
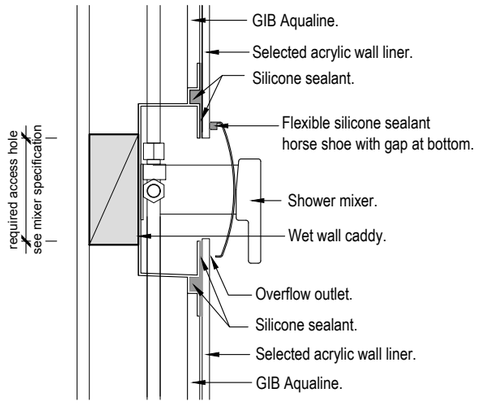


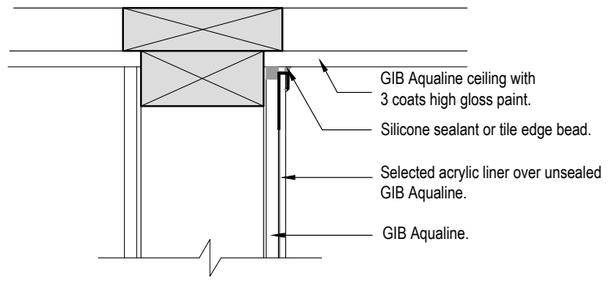
Acrylic shower base to acrylic liner junction.
Scale: 1:5



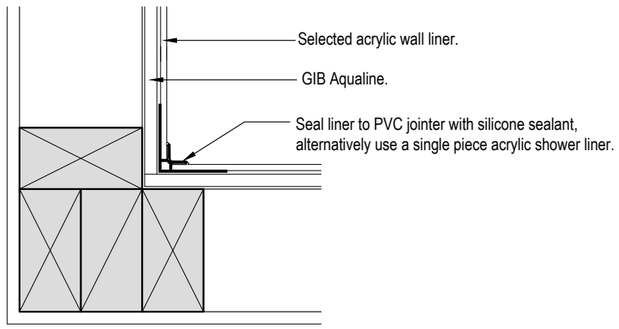
Acrylic shower liner top junction to wall.
Scale: 1:5



Wet wall caddy with acrylic liner.
Scale: 1:5

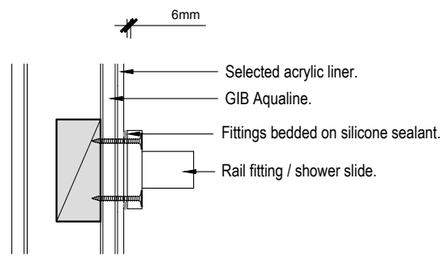


Acrylic liner wall to ceiling junction.
Scale: 1:5



* Note: Nogs are required behind horizontal plasterboard sheet joints in shower areas.

Acrylic shower internal corner junction.
Scale: 1:5



Rail / Slide fixing detail.
Scale: 1:5

5 10 15 20 25 30 35 40 45 50 55 60 65 70 80 90 100 Original Scale: Drawing is to scale stated on sheet if scale bar measures 100mm

LBS Long Building Solutions

Proposed Alterations.

Candice Langvad Foster-Heke.

28 Leeds Street, Palmerston North.

Issue:	Job Number:	Rev:	Scale:
Consent	1807	1	A/S
Sheet name:		Generated:	
Acrylic shower details		13 / 03 / 2018 8:42:17 pm	
		Sheet number:	
		A10	

Design Navigator H1 Compliance Report

Project Summary

H1 Report created by:	
Project Name:	28 Leeds
Client:	
Lot No:	
Comment:	
Project Id:	10053
Report Date:	09/03/2018

Compliance Result

This report shows compliance of the design with Clause H1 Fourth edition Amendment 3 from January 2017 and the R-value targets of Clause E3 Second edition Amendment 6 from January 2017.

This building complies with H1 via the following methods:

- the Calculation Method in NZS4218:2009

H1 Compliance Details

NZS4218:2009 Calculation Method Compliance

The use of the Calculation Method is permitted .

In order to comply the Actual Heat Loss must be the same or smaller than the Reference Heat Loss AND all component R-values must be the same or larger than 50% of the R-values in the '50% Rule' table below. This design **complies** with the NZS4218:2009 Calculation Method.

HeatLoss:

Reference building	Proposed building
114	98

Minimum R-values ("50% rule"):

	Permitted Minimum	Proposed Minimum	
Floor:	0.65	1.6	✓
Non-solid Walls:	0.95	1.75	✓
Roof:	1.45	3.16	✓

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The Reference building has the following areas and R-values.

					Non-solid	Solid Timber	Other Solid
					100.0	0.0%	0.0%
Floor:	Area:	54	m²	R-values:	1.3	1.3	1.5
Walls excl. glazing:	Area:	30.2	m²	R-values:	1.9	1.2	1
Glazing (up to 30%):	Area:	13	m²	R-values:	0.26	0.26	0.26
Glazing (surplus of 30%):	Area:	0	m²	R-values:	0.4	0.34	0.31
Roof:	Area:	19	m²	R-values:	2.9	3.5	3.5
Heat Loss:					114	122	121

For mixed constructions the heat loss of the reference building is calculated as the sum of the heat losses for each type of wall construction multiplied by the fraction of the wall area of each type. This approach is based on clause 4.2.6 of NZS4218:2009.
There are no skylights in the reference building. The reference building roof area is the sum of the proposed building roof and skylight areas.

Compliance with Clause E3

This building complies with the R-value targets in NZBC Clause E3 .

Component	Minimum R-value	Project R-value
Framed wall constructions with cavities	1.5	1.75
Single skin masonry wall without a cavity	0.6	
Solid timber wall no less than 60 mm thick	0.6	
Roof or ceilings	1.5	3.16

Design Details

Building Dimensions

Floor Area	54	m²
Gross Wall Area	43.2	m²
Net Wall Area	37.6	m²
Wall (North) Area	7.2	m²
Wall (East, South and West) Area	30.4	m²
Gross Roof Area	19	m²
Net Roof Area	19	m²
Glazing Area	5.6	m²
Window (North) Area	0	m²
Window (East, South and West) Area	5.6	m²
Skylight Area	0	m²

Glazing Areas

Total Vertical Glazing Percentage	12.9	%
East, South and West Window Percentage	15.5	%
Total over 30%	no	
East, South and West over 30%	no	
Total over 50%	no	
max. Skylight Area for Schedule Method	1.5	m²
Skylights over Schedule Method Limit	no	
Decorative Glazing	5.6	m²
Decorative Glazing over 3m²	yes	

Information required for BPI calculation

Living Floor Area	19	m² Note: This includes also internal floors.
Average Room Height	2.4	m
Thermal Mass Level	Light weight	Suspended timber floor with timber framed walls or a heavily carpeted slab floor with timber framed walls.

Climate

Location	Palmerston Nth.
Climate Zone	2

Heat Loss Details

	ID	Orient.	Width	Height	Gross Area	Net Area	R-value*	Heat Loss	Shad. Coeff.**	Solid Wall***
Floors										
Floor 1	slab				54.0	54.0	1.60	33.8		
Walls										
Wall 1	North	N	3.0	2.4	7.2	7.2	1.75	4.1		C
Wall 2	South	S	3.0	2.4	7.2	6.7	1.75	3.8		C
Window 2-1			0.6	0.9		0.5	0.15	3.6	0.00	
Wall 3	East	E	6.0	2.4	14.4	14.4	1.76	8.2		C
Wall 4	West	W	6.0	2.4	14.4	9.4	1.75	5.3		C
Window 4-1			2.4	2.1		5.0	0.15	33.6	0.00	
Roofs										
Roof 1	roof				19.0	19.0	3.16	6.0		
Total Heat Loss								98.4		

* Any concrete slab-on-ground floor regardless of its dimensions can be assumed to have an R-value of at least R-1.3 (H1/AS1 2.1.5).
** The Shading Coefficient is only required for BPI calculations.
*** C: Cavity Construction (any construction that is not solid), T: Solid Timber, S: Other Solid Construction (Note that the use of solid timber and other solid construction types is discretional, i.e. solid timber walls and other solid walls can be treated as if they are non-solid (NZS4218:2009 section 4.1.3.).)

Floor Construction Details

Name: Slab — 1.60 m²°C/W

Type: Floor: Slab Floor

internal surface 0.09

Flooring : none (Example: polished surface of a concrete floor)

R-value: 0.00

Slab Insulation

Slab floor area [m²]: 54

Perimeter length [m]: 18

External wall thickness [mm]: 90

Soil conductivity [W/m °C]: 1.2

Underslab insulation: none — Insulation :

Piles Footings: Number: — Penetration Diameter:

Slab edge insulation: none — Insulation :

Wall Construction Details

Name: Steel WB

1.75 m²°C/W

Type: Wall: Timber Frame (direct fixed cladding)

external surface 0.03

Cladding : Metal weatherboard (corr. iron)
R-value: 0.08

Air Barrier : Building paper
R-value: 0.01

Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm

Wall Frame Area: 14.4%

Framing :
R-value: 0.75

Cavity Area: 85.6%

Pink®Batts® BIB R1.8 1.8

still Airgap: none
R-value: 0.00

Wall Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

Name: internal garage

1.76 m²°C/W

Type: Wall: Timber Frame (direct fixed cladding)

external surface 0.03

Cladding : Gypsum plasterboard 10mm into still air (garage, etc.)
R-value: 0.10

Air Barrier : none
R-value: 0.00

Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm

Wall Frame Area: 14.4%

Framing :
R-value: 0.75

Cavity Area: 85.6%

Pink®Batts® BIB R1.8 1.8

still Airgap: none
R-value: 0.00

Wall Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

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Roof Construction Details

Name: roof

3.16 m²°C/W

Type: Roof: Timber framed Roof, direct fixed or battened flat Ceiling

external surface 0.03

Roofing : Corrugate iron with building paper
R-value: 0.01

Insulation :

Timber Frame & Cavity : 90mm rafters or joists @ 1200mm, battens covered with insulation

Roof Frame Area: 3.8%	*Cavity Area: 96.3%*
Roof space (still air) 0.11	Roof space (still air) 0.11
Framing : *R-value: 0.75*	Insulation : 3.2

Roof Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

Non-IC-rated recessed downlights

Ceiling Area [m²]: 18 Number of downlights: 0 Clearance from lamp holder side [m]: 0

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GIB® plasterboard linings

When fixing part sheets of GIB® plasterboard, a minimum sheet width of 300mm applies for bracing elements. Horizontal fixing is recommended. If fixing vertically, full height sheets shall be used where possible. Where sheet end butt joints are unavoidable they must be formed over nogs or over the studs and fastened at 200mm centres. Alternatively, and preferably, sheet end butt joints may be back-blocked.

When a GIB® Bracing element has been designated for a section of wall, BU ratings cannot be increased by incorporating additional proprietary bracing elements within that same section of wall.

LIMITATIONS

- GIB® plasterboard must be stacked flat and protected from the weather.
- GIB® plasterboard must be handled as a finishing material.
- GIB® plasterboard in use must not be exposed to liquid water or be installed in situations where extended exposure to humidities above 90% RH can reasonably be expected.
- GIB EzyBrace® Systems must not be used in showers or behind baths.
- It is highly recommended not to install GIB® plasterboard in any situation where external claddings are not in place or the property is not adequately protected from the elements.
- If GIB® plasterboard is installed under these conditions, the risk of surface defects such as joint peaking or cracking is greatly increased.

GIB EzyBrace® Systems in water-splash areas

When GIB® plasterboard is installed in locations likely to be frequently exposed to liquid water it must have an impervious finish. Examples are adhesive fixed acrylic shower linings or ceramic tiles over an approved waterproof membrane over GIB Aqualine®. The NZBC requires 15 years durability in these situations. Bracing elements are required to have a durability of 50 years. Bracing elements are not to be located in shower cubicles or behind baths because of durability requirements, the likelihood of renovation, and practical issues associated with fixing bracing elements to perimeter framing members. Otherwise GIB EzyBrace® Systems can be used in water-splash areas as defined by NZBC Clause E3, provided these are maintained impervious for the life of the building.

For futher design details refer to the current GIB Aqualine® Wet Area Systems literature.

Renovation

When relining walls during the process of renovation, ensure that bracing elements are reinstated (check the building plans).

Openings in bracing elements

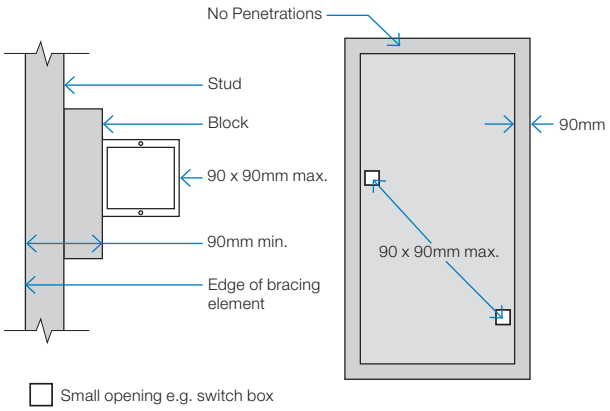
SMALL OPENINGS

Small openings (e.g. power outlets) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the braced element. A block may need to be provided alongside the perimeter stud as shown below.

LARGE OPENINGS

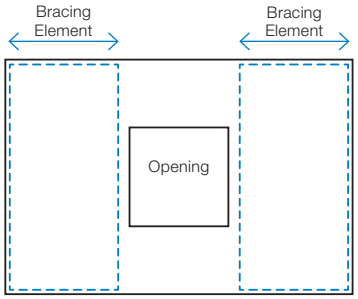
Openings above 90 x 90mm such as switch boards, recessed cabinets and TV's etc. should be placed outside of the bracing element or locate bracing on the other side of the wall framing.

FIGURE 10: SMALL OPENINGS IN BRACING ELEMENTS



GEB001

FIGURE 11: LARGE OPENINGS AND BRACING ELEMENTS



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Timber framing

General framing requirements such as grade, spacings and installation shall comply with the provisions of NZS 3604:2011. To achieve the published bracing performance the minimum actual framing dimensions are 90 x 45mm for external walls and 70 x 45mm for internal walls.

As a minimum the use of Kiln Dried Stress Graded timber for all wall, roof and mid-floor framing members is recommended.

GIBFix® Framing System (alternative layout)

Practices recommended as part of the GIBFix® Framing System aim to increase timber framing efficiencies, reduce reliance on unnecessary framing at wall junctions and minimise surface imperfections that commonly arise from constructing plasterboard junctions over multiple timber members. GIBFix® Angles fixed to a single timber framing member are introduced to tie together plasterboard junctions, improving seismic resilience and decrease the risk of future defects due to timber movement. The GIBFix® Framing System can be used in conjunction with the GIB EzyBrace® System.

Note: GIBFix® Angles and 32mm x 7g GIB® Grabber® Dual Thread Screws may also be used in traditional wall framing layouts and in GIB EzyBrace® Systems.

When the GIBFix® Framing System is used a minimum of 2 equally spaced nogs for walls between 2.4m and 3m in height are required at corners and wall junctions.

When used in GIB EzyBrace® systems GIBFix® Angles must run from top to bottom on all applicable studs. If 2 GIBFix® Angles are required on a stud they must be overlapped by a minimum of 300mm with 2/32mm 7g GIB® Grabber® Dual Thread Screws penetrating through both GIBFix® Angles.

For full specification details refer to GIBFix® Framing System literature available at gib.co.nz/gibfix.

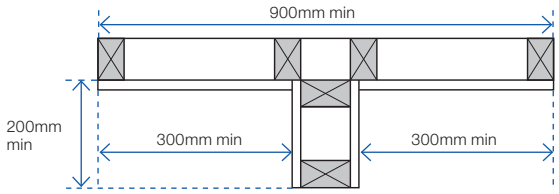
Guidelines for intersection walls

GIB® Bracing Elements may have intersecting walls with a minimum length of 200mm. Fasteners are required around the perimeter of the bracing element. Vertical joints at T-junctions shall be fixed and jointed as specified for intermediate sheet joints. The bracing element length must be no less than 900mm.

Where a Wall Bracing Element is interrupted by a T-junction the element is deemed to be continuous for the whole length (900mm minimum in the example illustrated).

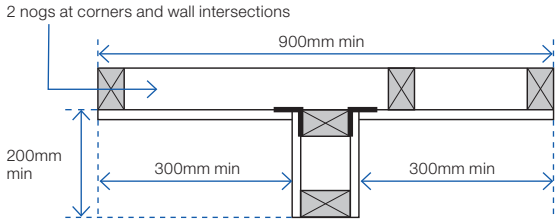
When fixing part sheets of GIB® plasterboard to the side of a T-junction, a minimum width of 300mm applies for bracing elements. See figures 12 and 13.

FIGURE 12: WALL INTERSECTION (TRADITIONAL WALL FRAMING)



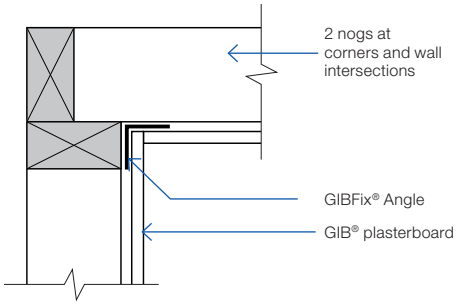
GEB002

FIGURE 13: WALL INTERSECTION (GIBFIX® FRAMING SYSTEM)



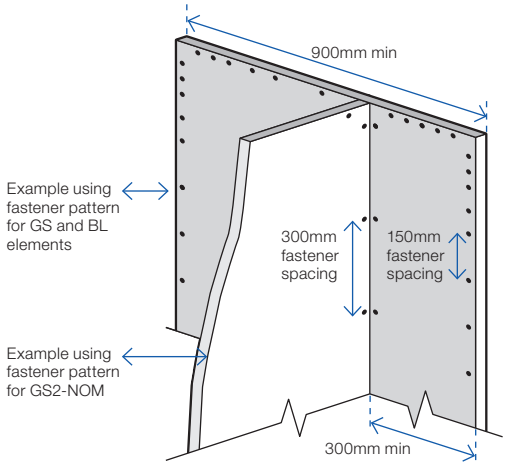
GEB003

FIGURE 14: CORNER INTERSECTION (GIBFIX® FRAMING SYSTEM)



GFS001

FIGURE 15: WALL INTERSECTION FASTENER PLACEMENT



Junction

Min 32mm x 6g GIB® Grabber® High Thread or 32mm x 7g GIB® Grabber® Dual Thread Screws @ 300mm ctrs each side.

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Top plate connections

For top plate connections refer to NZS3604:2011 section 8.7.3.

Parapets and gable end walls

Bracing elements must be fixed from top plate to bottom plate. Fixing to a row of nogs is not acceptable unless either:

A continuous member such as an ex 90 x 45mm ribbon plate is fixed across the studs just above a row of nogs at the ceiling line, as shown in figure 16.

or

GIBFix® Angle as shown in figure 17. The angle is fixed to a row of nogs with 30 x 2.5mm galv flat head nails or 32mm x 7g GIB® Grabber® Dual Thread Screws at 300mm centres.

Bottom plate fixing

TIMBER FLOOR

For elements with an 'N' specification use 2/100 x 3.75mm hand or 3/90 x 3.15mm power-driven nails at 600mm centres.

In addition, for elements with an 'H' specification, use GIB HandiBrac® panel hold-down fixings at each end of the bracing element, see p.16.

CONCRETE FLOOR — EXTERNAL WALL BRACING ELEMENTS

For bracing elements with an 'N' specification fix external wall plates in accordance with NZS 3604:2011.

Use GIB HandiBrac® panel hold-down fixings at each end of bracing elements with an 'H' specification and minimum intermediate fixings as required by NZS 3604:2011.

CONCRETE FLOOR — INTERNAL WALL BRACING ELEMENTS

For bracing elements with an 'N' specification fix plates in accordance with NZS 3604:2011 or use 75 x 3.8mm shot-fired fasteners with 16mm discs spaced at 150 and 300mm from end-studs and 600mm centres thereafter.

For bracing elements with an 'H' specification use GIB HandiBrac® panel hold-down fixings at each end of the element and minimum intermediate fixings as required by NZS 3604:2011.

FIGURE 16: PARAPETS AND GABLE ENDS WITH RIBBON PLATE

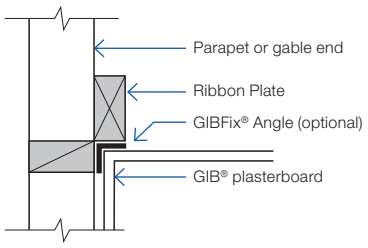
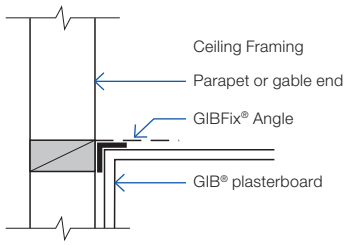


FIGURE 17: PARAPETS AND GABLE ENDS WITH GIBFIX® ANGLE



GFS003

BOTTOM PLATE FIXINGS FOR GIB® BRACING ELEMENTS

Brace type	Concrete slabs		Timber floors
	External wall	Internal wall	External and Internal walls
GS1-N	As per NZS 3604:2011. No specific additional fastening required.	As per NZS 3604:2011. Alternatively use 75 x 3.8mm shot-fired fasteners with 16mm discs, 150mm and 300mm from each end of the bracing element and at 600mm thereafter.	Pairs of 100 x 3.75mm flat head hand driven nails or 3/90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011.
GS2-N	Not applicable.		
GS2-NOM			
GSP-H BL1-H BLP-H	Intermediate fastenings to comply with NZS 3604:2011 In addition: GIB HandiBrac® fixings or metal wrap-around strap fixings and bolt as illustrated on p.15 and 16.		Pairs of 100 x 3.75mm flat head hand driven nails or 3/90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011. In addition: GIB HandiBrac® fixings or metal wrap-around strap fixings and bolt as illustrated on p.15 and 16.
BLG-H	Not applicable	As for GSP-H, BL1-H, BLP-H on concrete slab as illustrated on p.15 and 16.	

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GIB EzyBrace® Systems specification GS1-N

Specification code	Minimum length (m)	Lining requirement
GS1-N	0.4	Any 10mm or 13mm GIB® Standard plasterboard to one side only

WALL FRAMING

Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or three power driven 90 x 3.15mm nails at 600mm centres.

Concrete floor

Internal Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and 600mm centres thereafter.

External Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for external wall bottom plate fixing.

WALL LINING

- Any 10mm or 13mm GIB® plasterboard lining.
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING

Fasteners

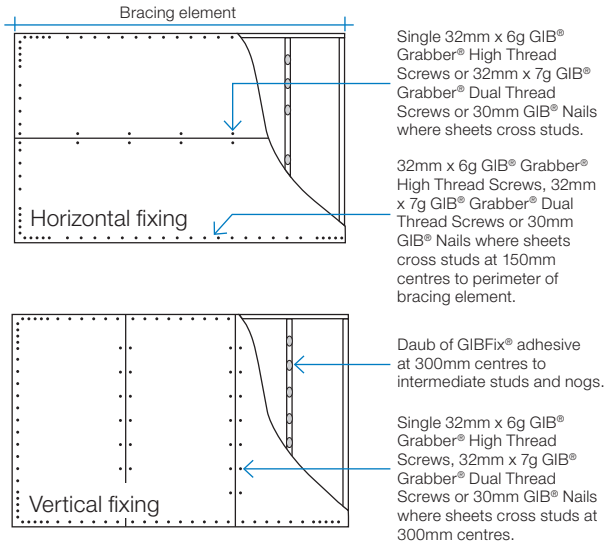
32mm x 6g GIB® Grabber® High Thread Screws, 32mm x 7g GIB® Grabber® Dual Thread Screws or 30mm GIB® Nails. If using the GIBFix® Angle use only 32mm x 7g GIB® Grabber® Dual Thread Screws.

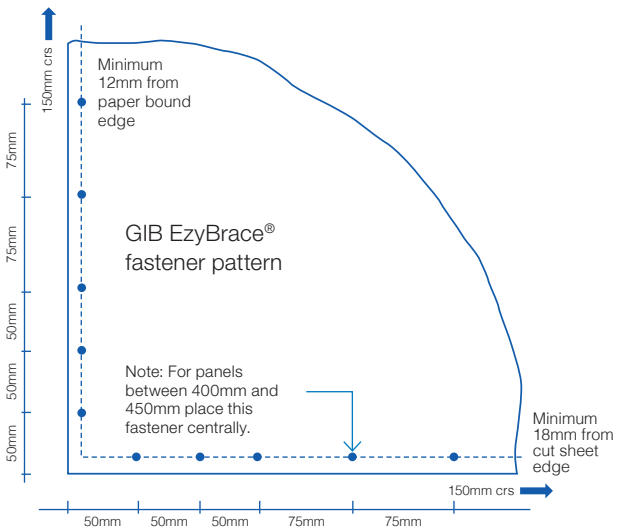
Fastener centres

50,100,150, 225, 300mm maximum from each corner and 150mm thereafter around the perimeter of the bracing element. For vertically fixed sheets place fasteners at 300mm maximum centres to intermediate sheet joints. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.





Unless stated all fastener spacings are maximums.

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

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GIB EzyBrace® Systems specification GS2-NOM

Specification code	Minimum length (m)	Lining requirement
GS2-NOM	0.4	Any 10mm or 13mm GIB® Standard plasterboard fixed to each side of the wall framing

WALL FRAMING

Wall framing to comply with;

- NZBC B1 — Structure B1/AS1 Clause 3 Timber (NZS 3604:2011).
- NZBC B2 — Durability B2/AS1 Clause 3.2 Timber (NZS 3602).

Framing dimensions and height as determined by NZS 3604:2011 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber floor

Pairs of hand driven 100mm x 3.75mm nails at 600mm centres; or three power driven 90mm x 3.15mm nails at 600mm centres.

Concrete floor

Internal Wall Bracing Lines: In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75mm x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and then 600mm centres thereafter.

WALL LINING

- A layer of 10mm or 13mm GIB® plasterboard to each side of the wall.
- Sheets can be fixed vertically or horizontally.
- Sheet joints shall be touch fitted.
- Use full length sheets where possible.

PERMITTED ALTERNATIVES

For permitted GIB® plasterboard alternatives refer to p. 5 in GIB EzyBrace® Systems literature.

FASTENING THE LINING

Fasteners

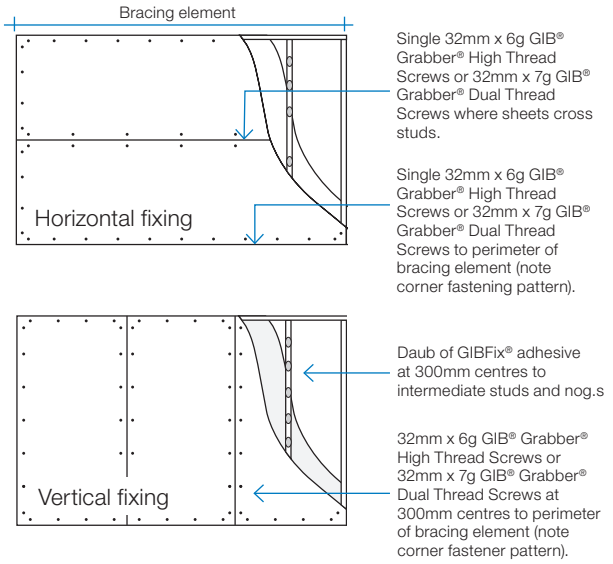
32mm x 6g GIB® Grabber® High Thread Screws or 32mm x 7g GIB® Grabber® Dual Thread Screws. If using the GIBFix® Angle use 32mm x 7g GIB® Grabber® Dual Thread Screws.

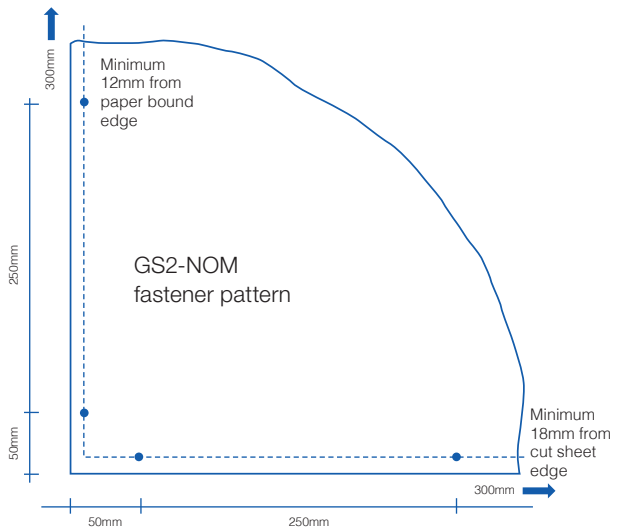
Fastener centres

50, 300mm from each corner and 300mm maximum thereafter around the perimeter of the bracing element. For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud. Use daubs of GIBFix® adhesive at 300mm maximum centres to intermediate studs. Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

Joint strength is important in delivering bracing system performance. All fastener heads stopped and all sheet joints GIB® Joint Tape reinforced and stopped in accordance with the GIB® Site Guide.





Unless stated all fastener spacings are maximums.

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems

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GS2-NOM ADHESIVE FIXING OPTION AT DOOR JAMBS

As an alternative to using screw fixings, a continuous 6-10mm bead of solvent based GIBFix® All-Bond can be applied along the full height studs immediately adjacent to an internal door opening and at the door lintel or head trimmer. The lining is then bedded into the adhesive and installed into the rebated jamb, as shown in figure 38.

This solvent based adhesive option may only be used with GS2-NOM specification and is designed to reduce popping of fasteners around door openings on internal walls.

FIGURE 37: SCREW FIX FOR OPENINGS

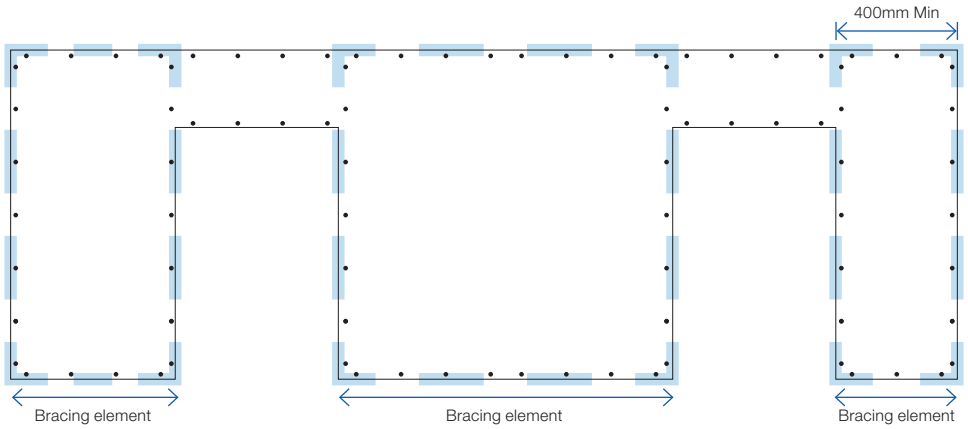
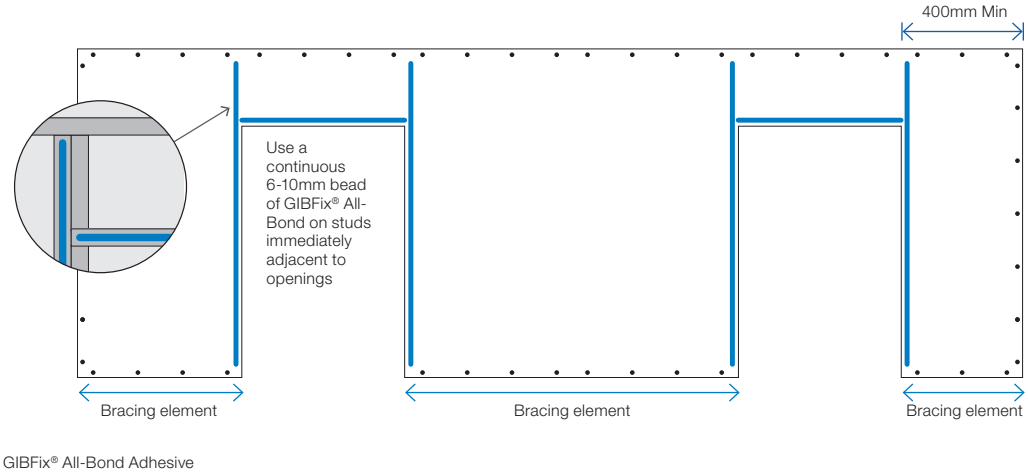
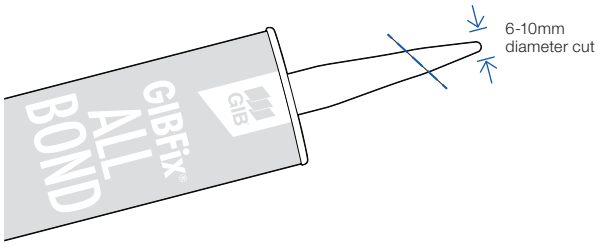


FIGURE 38: SCREW AND ADHESIVE FIX FOR OPENINGS



ADHESIVE NOZZLE APERTURE



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Length of GIB EzyBrace® elements ('N' Type)

The length of GIB EzyBrace® elements with an 'N' extension (requiring standard NZS3604:2011 plate connections) can be taken as the full frame length measured from the outside of the end-stud to the opening face as illustrated in figures 29-32.

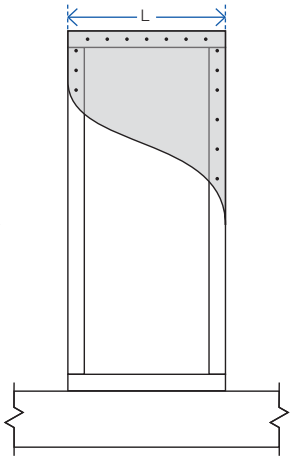
'N' type GIB EzyBrace® elements are identified by GIB® specification numbers GS1-N, GS2-N and GS2-NOM

The dimension 'L' shall not be less than 400mm.

Perimeter bracing fixing for linings of both 'H' and 'N' type elements is along the top and bottom plates, end stud, and doubling stud immediately adjacent to the opening.

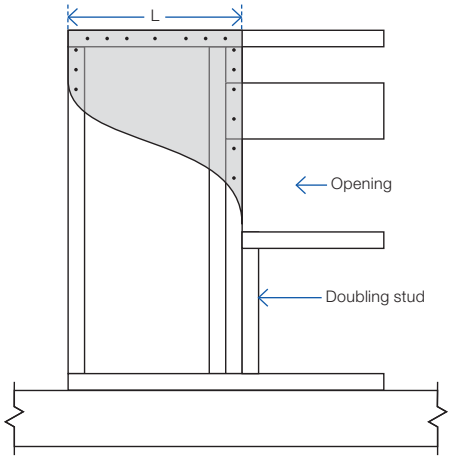
Fastener spacings and diagram scales shown in Figures 29–32 are indicative only. Refer to p.23–30 for construction details.

FIGURE 29: GS BRACING ELEMENTS (OPTION A)



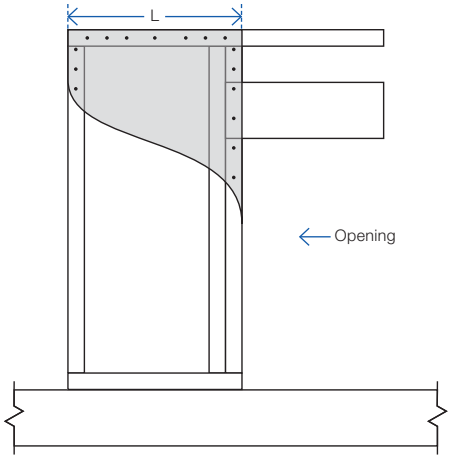
GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 30: GS BRACING ELEMENTS (OPTION B)



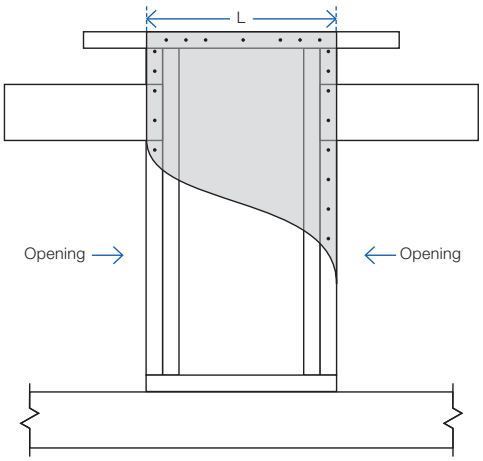
GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 31: GS BRACING ELEMENTS (OPTION C)



GS1-N, GS2-N elements
'L' indicates the length of the bracing element

FIGURE 32: GS BRACING ELEMENTS (OPTION D)



GS1-N, GS2-N elements
'L' indicates the length of the bracing element

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Length of GIB EzyBrace® elements ('H' Type)

GIB EzyBrace® elements with an 'H' extension (requiring special panel hold-down fixings) can be used when the dimension 'L' as illustrated in figures 33–36 is 400mm or more.

'H' type GIB EzyBrace® elements are identified by GIB® specification numbers GSP-H, BL1-H, BLG-H and BLP-H.

The length of an 'H' type element is not only determined by the sheet material, but also by the placement of the hold-down fixings.

Hold-down fixings cannot be placed closer together than what is shown for the standard panel in figure 33.

Hold-down fixings can be placed under windows provided sill trimming studs beneath the opening are connected to the bracing element using 8/90mm gun nails, as illustrated in figure 34.

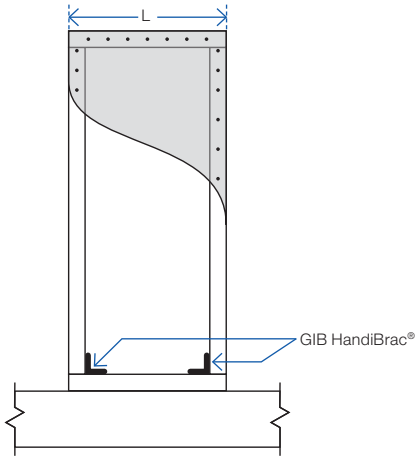
Spike doubling stud to trimming stud using a minimum of 2/90mm gun nails at 600mm centres. Lintel straps (where required for wind uplift) should be checked in and be located away from the bracing element fasteners.

Perimeter bracing fixing for linings of both 'H' and 'N' type elements is along the top and bottom plates, end stud, and doubling stud immediately adjacent to the opening as indicated in figures 34-36.

When using bracing straps, installed in accordance with p.17, fix the strap to the same framing member as shown for the GIB Handibrac® below, and install the adjacent anchor bolt in the same position as the GIB HandiBrac® bolt.

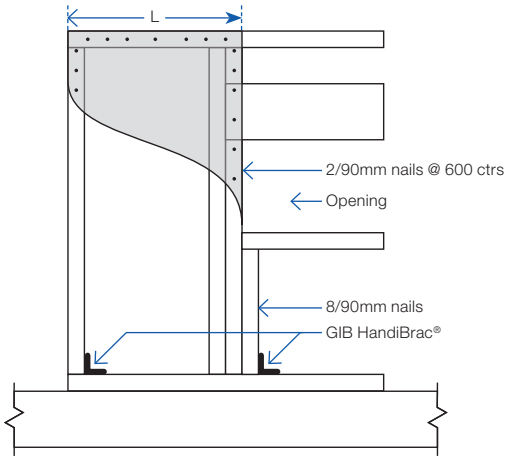
Fastener spacings and diagram scales shown in figures 33–36 are indicative only. Refer to p.23–30 for construction details.

FIGURE 33: BL BRACING ELEMENTS (OPTION A)



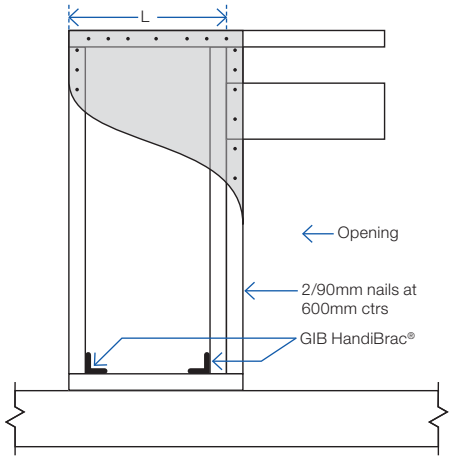
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 34: BL BRACING ELEMENTS (OPTION B)



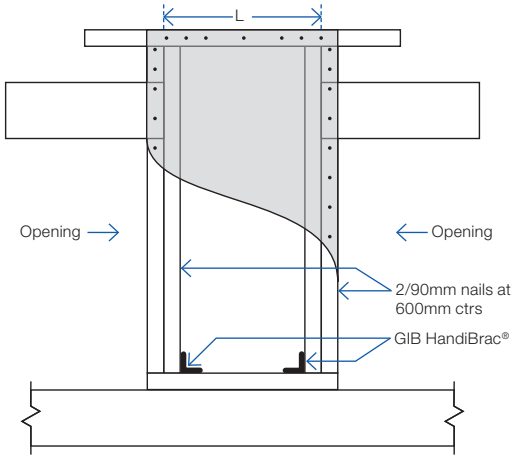
'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 35: BL BRACING ELEMENTS (OPTION C)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

FIGURE 36: BL BRACING ELEMENTS (OPTION D)



'H' type elements with specific hold downs
'L' indicates the length of the bracing element

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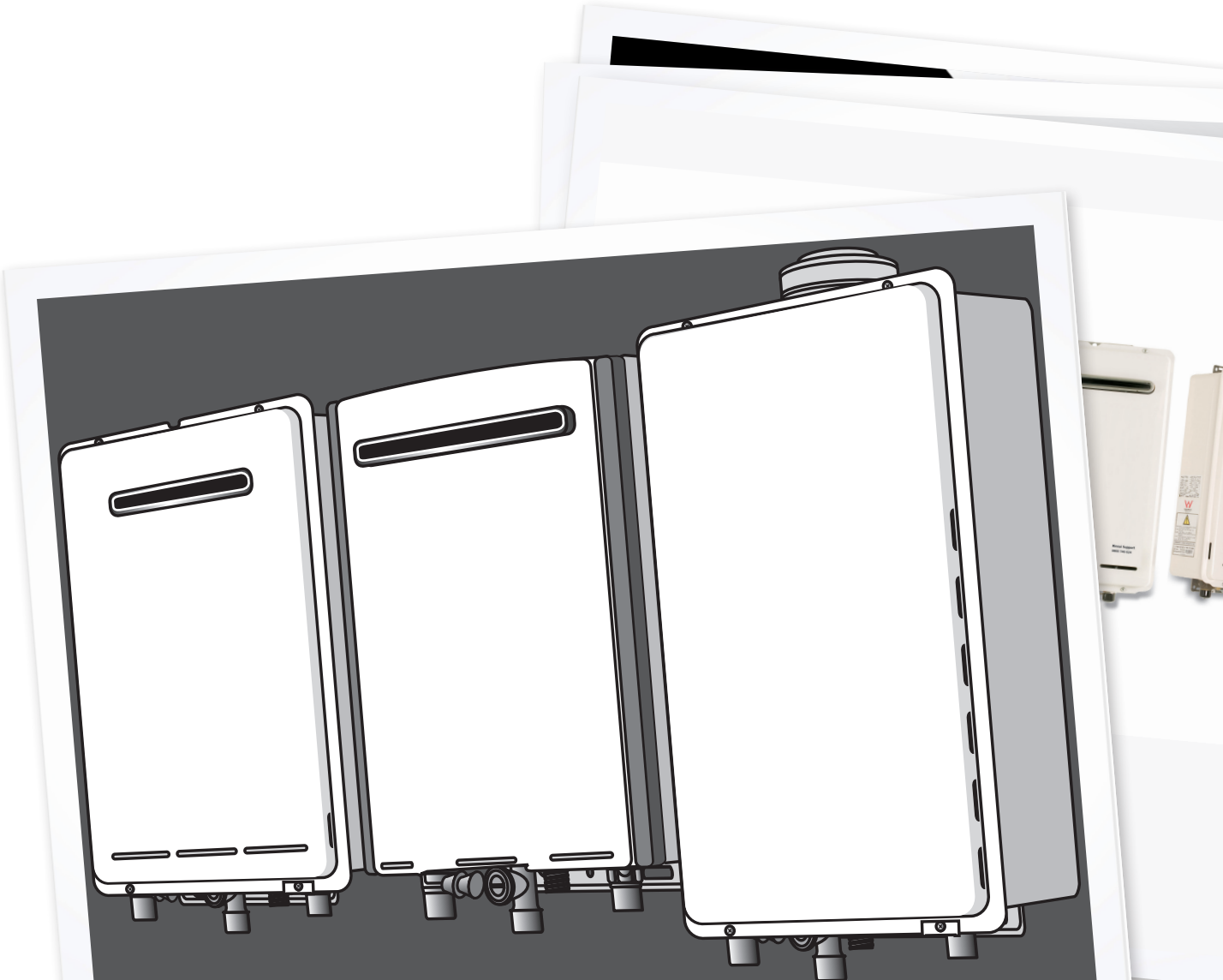
Rinnai

Installation guide

Continuous flow water heaters

Models: VT16-26, HD200, HDi200, HD250, EF24, EF250, EFi250



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Important:

This appliance must be installed in accordance with:

- Manufacturer's installation instructions
- Current AS/NZS3000, AS/NZS3500, AS/NZS 5601.1 and G12/AS1
- Local regulations and municipal building codes

For use with Natural Gas or Universal LPG as indicated on the appliance.

Not suitable as a spa or swimming pool heater.

Rinnai continuous flow internal water heaters ('i' models) must be installed with an approved Rinnai flue system.

Appliance must be installed, commissioned and serviced by an authorised person, being in New Zealand a licensed gasfitter, in accordance with these instructions and all applicable local rules and regulations.

Warning
Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

For more information about buying, using, and servicing of Rinnai appliances call: 0800 RINNAI (0800 746 624)

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Before installation

Check for damage

Unpack the appliance and flue components (if applicable) and check for damage. DO NOT install any damaged items.

Check components and gas type

Check all components have been supplied and that you have the correct gas type.

Read these instructions before starting

Read these instructions to get an overview of the steps required before starting the installation. Failure to follow these instructions could cause a malfunction of the appliance. This could result in serious injury and property damage.

Solar installations

For Rinnai continuous flow water heaters used in solar installations, refer 'Recommended Solar System Layout'.

EF models are heavy

The Rinnai Infinity EF models are 32 kg. Please use care when lifting and seek assistance if required.

Applicable models

These installation instructions apply to the following Rinnai continuous flow water heaters.

Rinnai Infinity VT16	External	REU-VR1620WG	**Model number** Note: The model number is written on the data plate on the left hand side of the appliance.
Rinnai Infinity VT20	External	REU-VR2024WG	
Rinnai Infinity VT24	External	REU-VR2426WG	
Rinnai Infinity VT26	External	REU-VR2626WG	
Rinnai Infinity HD200	External	REU-VRM2632WC	
Rinnai Infinity HDi200	Internal	REU-VR2632FFUC	
Rinnai Infinity HD250	External	REU-VR3237WG	
Rinnai Infinity EF24	External	REU-K2430WG	
Rinnai Infinity EF250	External	REU-KM3237WD	
Rinnai Infinity EFi250	Internal	REU-KM3237FFUD	

i = internal—these must be installed with an approved Rinnai flue system

For nominated gas consumption, gas pressures, and gas types please refer to the data plate on the left hand side of the appliance.

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Appliance location

Installation in environments free from corrosive compounds

Air surrounding the water heater, venting and vent termination(s) is used for combustion and must be free from compounds that cause corrosion of internal components. These include corrosive compounds that are found in aerosol sprays, detergents, bleaches, cleaning solvents, oil based paints/varnishes, and refrigerants. Therefore Rinnai recommends outdoor models be used for these locations where possible. The water heater, venting and vent termination(s) should not be installed in any areas where the air may contain these corrosive compounds. Chemicals that are corrosive in nature should not be stored or used near the water heater or vent termination.

Damage and repair due to corrosive compounds in the air is not covered by warranty.

If it is necessary for a water heater to be located in areas which may contain corrosive compounds, Rinnai strongly recommends the following:

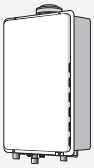
Indoor (internal) water heaters

- DO NOT install in areas where contaminated air is present.
- Consider, before installation, where air has the ability to travel within the building.
- Where possible, install the heater in a sealed closet so that it is free of contaminated indoor air.

Outdoor (external) water heaters and vent terminations of indoor (internal) water heaters

- Install as far away as possible from exhaust vent hoods
- Install as far away as possible from air inlet vents—corrosive fumes may be released through these vents when air is not being run through them

Internal models



Internal models are designed for indoor installations only. They may be installed in an enclosure if the requirements of AS/NZS 5601.1 are satisfied. An enclosure is defined as a compartment, enclosed area or partitioned off space primarily used for the installation of the appliance. If installed in an enclosure either internally or externally, the location should be ventilated to allow gas to dissipate.

They must be mounted on a vertical structure with the water and gas connections on the underside pointing downwards. For appliances installed in roof spaces or elevated structures, specific requirements apply. Refer to AS/NZS 5601.1 for details.

Catch pan

CAUTION

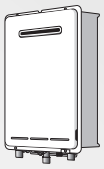
It is important that a suitably drained catch pan is fitted where damage could be caused by discharge from the water heater. Provision must be made for safe disposal of any leaking water to an external location.

This appliance MUST be used with the appropriate Rinnai flue system.

This appliance must be located so that the flue terminal exits the building at a suitable point, refer 'Minimum Clearances Required for Flue Terminals', in AS/NZS 5601.1 Fig 6.2.

Manufacturer's instructions for model REU-KM3237FFUD (EFi250); for reference j, gas appliances over 200 MJ/h input, use ≥ 300 mm.

External models



External models are designed for outdoor installations only. They must be located in an above ground open-air situation with natural ventilation, without stagnant areas, and where gas leakage and products of combustion are rapidly dispersed by wind and natural convection.

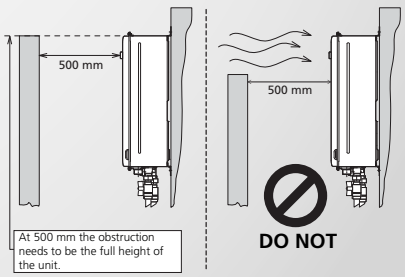
They must be mounted on a vertical structure with the water and gas connections on the underside pointing downwards. For appliances installed on elevated structures or under floors specific requirements apply. Refer to AS/NZS 5601.1 Fig 6.2 for details.

This appliance must be located so that the flue terminal exits the building at a suitable point, refer 'Minimum Clearances Required for Flue Terminals', AS/NZS 5601.1 Fig 6.2.

Manufacturer's instructions for model REU-KM3237WD (EF250); for reference j, gas appliances over 200 MJ/h input, use ≥ 300 mm.

Horizontal obstructions

AS/NZS 5601 stipulates a minimum horizontal clearance of 500 mm between a building structure and obstruction facing the terminal. At 500 mm the obstruction needs to be the full height of the unit (as shown), and not a partial obstruction. A partial obstruction of less than 1 m could result in wind pushing flue gases back into the flue terminal.



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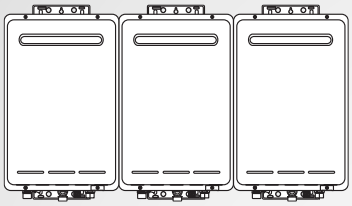
When multiple units of the same model are installed on the same vertical face, with the flue terminals at the same height, they can be installed next to each other (as shown).



All models

This appliance must be placed as close as possible to the most frequently used hot water outlet or outlets to minimise the delay for hot water delivery.

For installations where the distance between the water heater and the outlets is considerable, a flow and return system can be used to minimise the waiting time for hot water delivery. Alternatively, multiple appliances can be strategically placed to serve different outlets. Contact Rinnai for further information.

An AC 230 V, 10 Amp, earthed power point must be provided adjacent to the appliance. For outdoor installations, this power point must be weatherproof. It must be clear of the gas and water connections to the appliance and also the flue exhaust and water pressure relief valve. The power cord of the appliance is 1.5 m long.

All appliances must be installed to ensure access can be gained without hazard or undue difficulty for inspection, repair, renewal or operational purposes. Sufficient clearances shall allow access to and removal of all serviceable components.

Appliances should not be mounted higher than 3.5 m above the ground or floor level unless the customer can arrange permanent and safe access or can provide another means of access such as scissor or boom lifts.

Clearances from combustible materials

The appliance can be mounted directly against the wall or structure. There is no need to use non-combustible sheeting or leave an air gap between the appliance back panel and the wall or structure for the purposes of meeting the temperature hazard requirements of AS/NZS 5601.

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General installation information

Catch pan

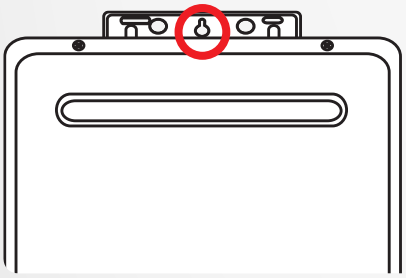
It is important a suitably drained catch pan is fitted (especially for internal units) where damage could be caused by discharge from the water heater. Provision must be made for safe disposal of any leaking water to an external location.

Mounting the appliance

Refer 'Connections and Fittings' for individual appliance weights. The wall or structure on which these units are to be mounted must be capable of supporting these weights and the associated pipe work.

Ensure suitable fixing screws or bolts are used to secure the units to the walls, in accordance with AS/NZS 5601.1. Wooden plugs shall not be used.

The top bracket has a keyhole slot (circled below) so the appliance can be positioned by hanging it on one screw while the other screws are secured.



Circuit diagrams

Refer to commissioning sheet supplied with the appliance (inside front cover of appliance).

Pipe sizing

Refer 'Connections and Fittings' for appliance gas consumption. If the gas pipe sizing is insufficient the customer will not get the full performance benefit. Gas pipe sizing must consider the gas input to this appliance as well as all the other gas appliances in the premises. The gas meter and regulator must be specified for this gas rate.

An approved sizing chart such as the one in AS/NZS 5601.1, or proprietary system manufacturer guide should be used.

Water pipe sizing and layout should be performed in accordance with AS/NZS 3500. All hot water pipe work should be insulated to optimise performance and energy efficiency.

Water supply

Refer 'Connections and Fittings' for applicable water pressures. Approved pressure limiting valves may be required if the stated maximum rated water supply pressures are exceeded. To achieve the rated flow, the stated minimum water supply pressures must be supplied. The water heaters will operate at lower pressures but will not achieve the rated flow.

Water chemistry and impurity limits are stated in our detailed warranty statement. Most metropolitan water supplies fall within these requirements. If you are unsure about the quality of the water, please contact Rinnai and we will provide you with the details of an authorised agency who are able to test your water for compliance to Rinnai standards. If sludge or foreign matter is present in the water supply, a suitable filter or strainer should be incorporated in the water supply to the water heater.

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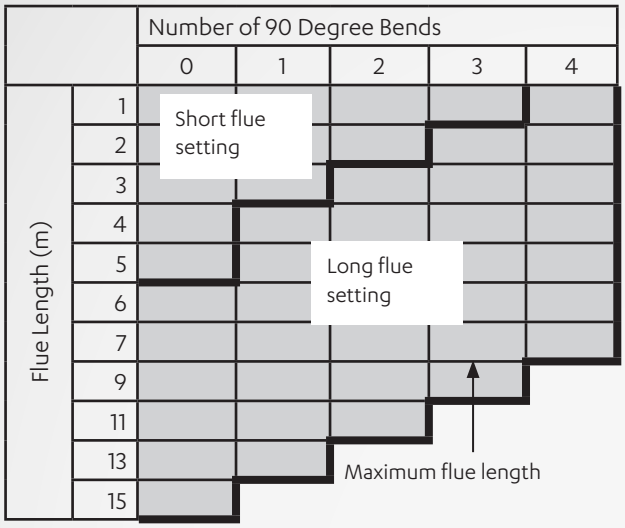
Flued (internal) water heaters

This water heater must be fitted with the appropriate Rinnai flue system.

The chart below highlights the maximum flue length and number of bends. It also shows the difference between a short and long flue—this is important if changing settings (DIP switches).



Refer to separate Rinnai flue guide for further details.

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Water delivery temperature

Local regulations and/or requirements of AS/NZS3500.4 must be considered regarding the temperature limitations of hot water supplied to areas used primarily for personal hygiene. The temperature of these areas may be limited to 55 °C or less.

If the appliance is to deliver water primarily for the purposes of personal hygiene in an early childhood centre, school, nursing home or similar facility as defined in AS/NZ3500.4 a Temperature Limiting Device (TLD), such as a Tempering Valve may be required (even if the appliance is set to 55 °C or less). For these types of applications contact Rinnai.

Requirements for Rinnai continuous flow units installed without controllers

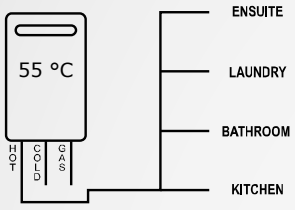

Diagram 1 - 55 °C Appliance

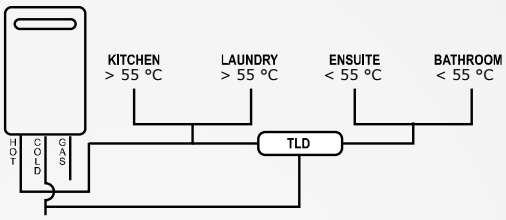

Diagram 2 - Not a 55 °C Appliance
(TLD = Temperature Limiting Device)

When the continuous flow unit is set to deliver water at a temperature higher than 55 °C, it will be necessary to fit a Temperature Limiting Device for delivery to areas used for the purposes of personal hygiene.

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Connections and fittings

Models	Gas consumption MJ/h	Water Supply kPa		Weight kg	Fittings			Condensate
		Min.	Max.		Hot	Cold	Gas	
VT16 external REU-VR1620WG	125	120	1000	15	R½ (15 mm)	R½ (15 mm)	R¾ (20 mm)	N/A
VT20 external REU-VR2024WG	160	160	1000	16	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
VT24 external REU-VR2426WG	188	180	1000	17	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
VT26 external REU-VR2626WG	199	180	1000	17	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
HD200 external REU-VRM2632WC	199	140	1000	21	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
HDi200 internal REU-VR2632FFUG	195	140	1000	21	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
HD250 external REU-VR3237WG	249	200	1000	29	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	N/A
EF24 external REU-K2430WG	162	240	1000	27	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)
EF250 external REU-KM3237WD	211	240	1000	32	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)
EFI250 internal REU-KM3237FFUD	211	240	1000	32	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)

Service connection points

These dimensions are NOT an indication of the pipe sizes required.

An approved full flow isolation valve and disconnection union MUST be fitted to the cold water inlet. A non-return valve is not required unless required by local regulations.

Isolation valves must be fitted so the appliance can be removed.

Purge gas and cold water supply lines to remove air and swarf before final connection of the appliance. Swarf in the gas or water supplies may cause damage.

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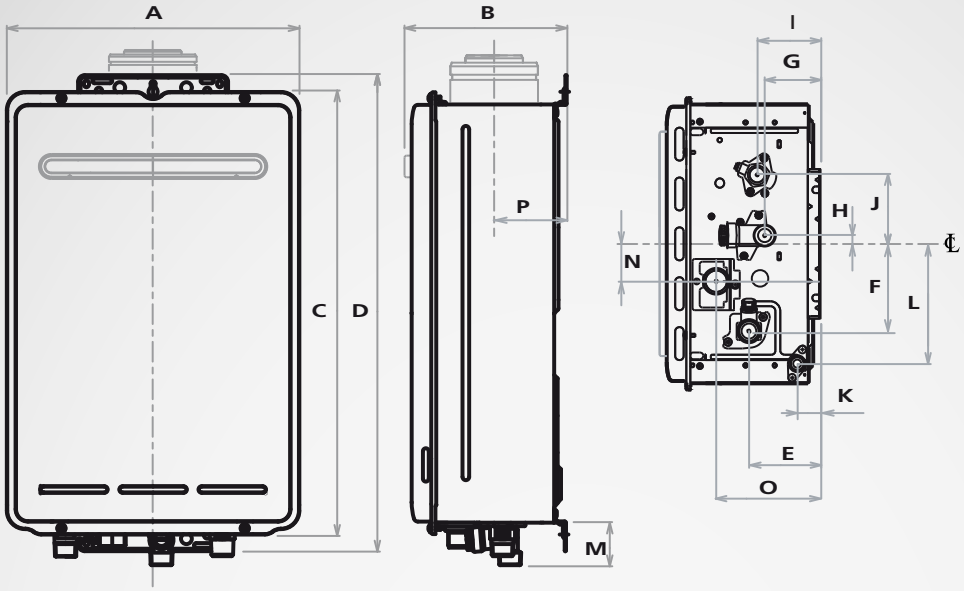
Dimensions: VT and HD models



Dimensions table (mm)		VT16 external (REU-VR1620WG)	VT20 external (REU-VR2024WG)	VT24 external (REU-VR2426WG)	VT26 external (REU-VR2626WG)	HD200 external (REU-VRM2632WC)	HDi200 internal (REU-VR2632FFUG)	HD250 external (REU-VR3237WG)
A	Width	350	350	350	350	350	350	470
B	Depth	194	194	194	194	250	235~275	244
C	Height - unit	530	530	530	530	600	600	600
D	Height - including brackets	571	571	571	571	636	641	644
E	Hot water outlet (from wall)	87	87	87	87	95	91~131	115
F	Hot water outlet (from centre)	105	105	105	105	110	110	61
G	Cold water inlet (from wall)	68	68	68	68	74	70~110	99
H	Cold water inlet (from centre)	10	10	10	10	27*	27*	52
I	Gas connection (from wall)	77	77	77	77	103	99~139	61
J	Gas connection (from centre)	83	83	83	83	89	89	110
K	Condensate outlet (from wall)	-	-	-	-	-	-	-
L	Condensate outlet (from centre)	-	-	-	-	-	-	-
M	Gas: Length gas connection (from base)	40	40	40	40	41	41	41
	Cold: Length of cold water inlet (from base)	50	50	50	50	51	51	51
	Hot: Length of hot water outlet (from base)	39	39	39	39	42	42	42
N	Electrical connection (from centre)	45	45	45	45	21**	21**	2**
O	Electrical connection (from wall)	128	128	128	128	160	160~200	100
P	Flue spigot centre line (from wall)	-	-	-	-	-	95~135	-

* This measurement is to the left of the centre line ** This measurement is to the right of the centre line

HDi200, height of flue spigot from base of unit approx. 85 mm

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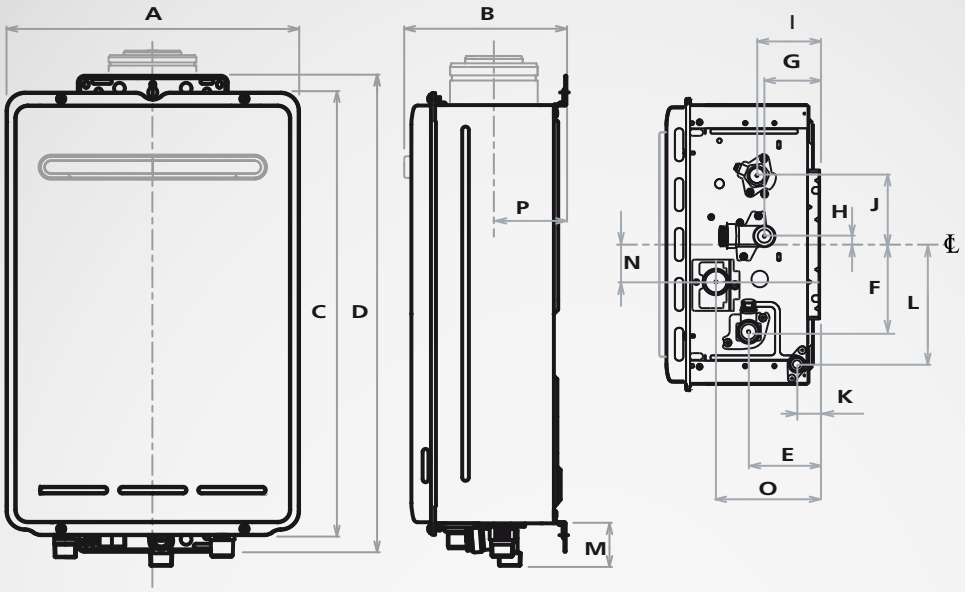
Dimensions: EF models



Dimensions table (mm)		EF24 external (REU-K2430WG)	EF250 external (REU-KM3237WD)	EFi250 internal (REU-KM3237FFUD)
A	Width	350	470	470
B	Depth	277	283.1	257~307
C	Height - unit	600	654	654
D	Height - including brackets	644	721.6	721.6
E	Hot water outlet (from wall)	164.5	100	100~140
F	Hot water outlet (from centre)	100	100	100
G	Cold water inlet (from wall)	83	64.6	64.6~104
H	Cold water inlet (from centre)	53*	27.2	27.7
I	Gas connection (from wall)	70.5	89	89~129
J	Gas connection (from centre)	25	103.2	103.2
K	Condensate outlet (from wall)	33	122.6	122.6
L	Condensate outlet (from centre)	132	195	195
M	Gas: Length gas connection (from base)	51	40.2	40.2
	Cold: Length of cold water inlet (from base)	62	50.2	50.2
	Hot: Length of hot water outlet (from base)	41	41.2	41.2
	Condensate connection length (from base)	24	22.4	22.4
N	Electrical connection (from centre)	10**	49	49
O	Electrical connection (from wall)	175	200	200~240
P	Flue spigot centre line (from wall)	-	-	155~195

* This measurement is to the left of the centre line

** This measurement is to the right of the centre line

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EF250 models: Earthing the unit

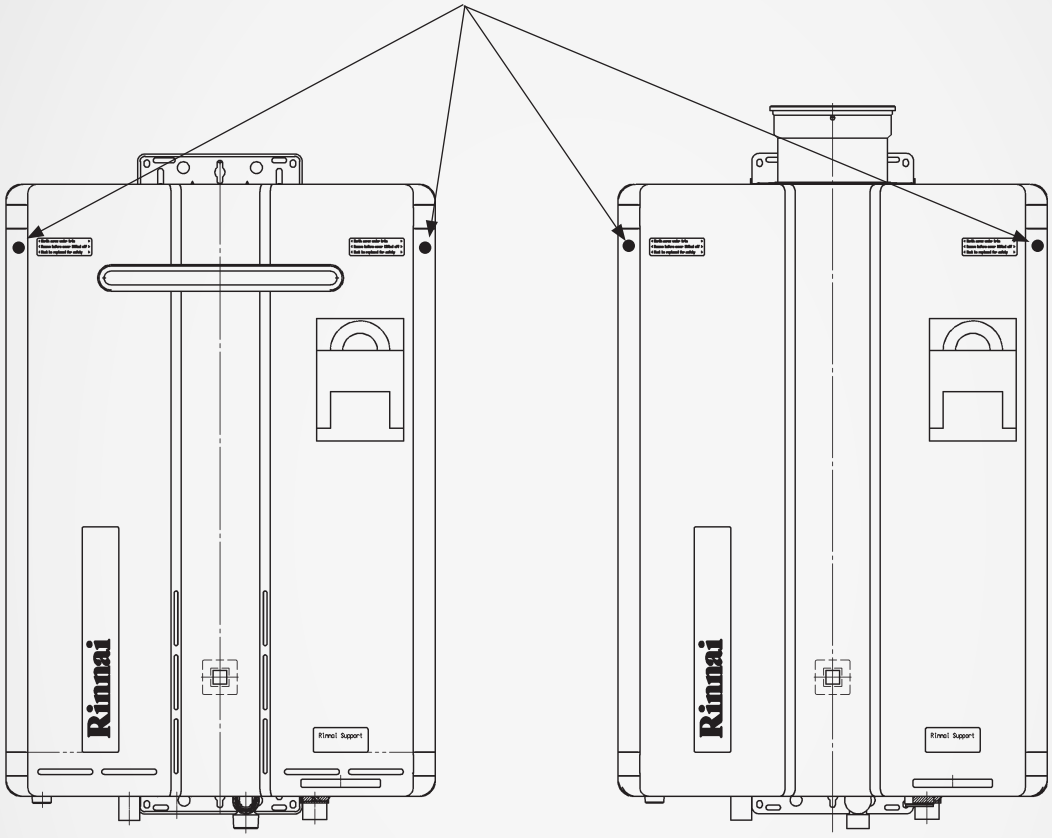
Removing the cover and earthing the unit

For the Rinnai condensing continuous flow water heaters (EF250 & EFi250), the earthing screws are located under the side trim, refer image below. First remove the trim and then the earthing screws before lifting off the cover.

WARNING

For safe operation of the appliance the earthing screws MUST be replaced.

Earthing screws located under side trim



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EF models: Condensate drain

The Rinnai Infinity EF water heaters generate condensate continuously at a rate of up to five litres per hour as a by-product of a highly efficient gas burner. Condensate must be drained via a pipe to a suitable discharge point.

As condensate is a by-product of gas combustion it is mildly acidic. For this reason copper tube and fittings MUST NOT be used as it will corrode. Instead Rinnai recommend plastic pipes and fittings.

Important considerations for the condensate drain pipe

Content of AS3500.4.2003 section 5.12 'Temperature/Pressure Relief and Expansion Control Valve Drain Lines' has been used as a guide in preparing these considerations.

A. Water heater drain outlet connection, ½ " (15 mm) BSP male.

B. PE ½ "BSP (15 mm) female to barbed ignition system connector (13-19 mm) or equivalent plastic fitting.

C. Drain pipe and fittings to match (B).

D. Continuous fall of at least 2° from water heater to discharge point, length and bends in accordance with 'Maximum length and changes of direction greater than 45°'.

E. Suitable points of discharge are deemed to be sewers or pits. DO NOT discharge onto electrical connections, earth stakes, copper pipes, concrete paths, or into a pond.

Maximum length and changes of direction greater than 45°

Length and changes of direction				
Max. length (m)	9	8	7	6
Max. changes of direction (> 45°)	3	4	5	6

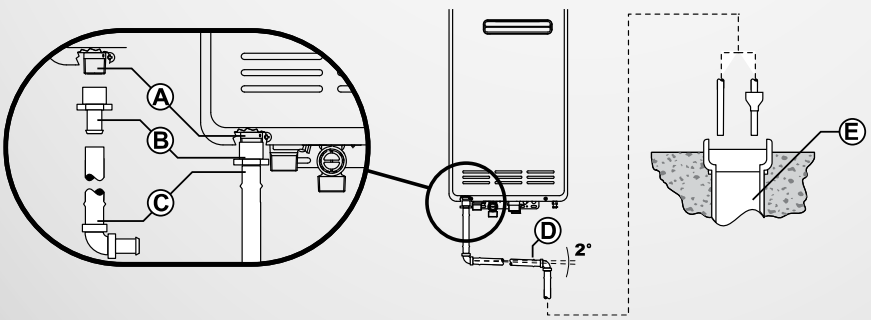
Installation of a condensate drain

Point of discharge from each drain line shall be located so the release of condensate does not cause a nuisance, is readily discernible and incurs no risk of building damage. There shall be no tap, valve or other restrictions in any line. Each line shall fall continuously from the valve to the approved point of discharge.

Drain lines shall not discharge into a storage water heater safe tray. The end of the condensate drain line shall be:

- Not lower than 200 mm, or higher than 300 mm above an unpaved surface; or
- Not lower than 75 mm, or higher than 300 mm above a gravel pit, and not less than 100 mm in diameter in a paved surface.

Where discharging over a tundish or gully trap, drain lines shall have an air gap of a size at least twice the diameter of a drain line.



Joining of condensate drain lines

Condensate drain lines from multiple water heaters may be joined together provided they conform with the installation requirements stated on this page.

Common stack discharge

Where individual heaters are installed in a multistory building, the condensate drain lines may discharge into a common stack subject to the following:

- Drained to a tundish having a discharge line that is not less than the common stack, directly connected to a fixture trap, and installed in a connection with any adjacent soil or waste stack.
- Discharge point of the common stack is readily visible and does not cause any nuisance.
- Common stack is vented by extending the pipe upwards, above the roof level.

Tundish drain lines

The drain line from any tundish shall be not less than DN 20 or less than one size larger than that of the largest drain line discharging into the tundish. Tundish drain lines shall comply with the installation requirements above.

Areas subject to freezing

In areas where water pipes are prone to freezing, the drain pipe from any valve shall be insulated and not exceed 300 mm in length. It shall discharge into a tundish through an air gap of not less than 75 mm and not exceed more than 150 mm measured from the outlet of the drain pipe to the rim of the tundish.

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Controllers - general information

Water controllers are available as an optional extra. Universal (Compact), Deluxe, and Wireless controllers can be used together.

Maximum number of controllers

A maximum of four water controllers can be fitted with the following limitations:

- Max. of one Kitchen Deluxe controller (MV-100V)
- Max. of two Bathroom Deluxe controllers (BC-100V)

Only one controller can be set to deliver 55 °C, this cannot be a Bathroom Deluxe controller.

This next section refers to wired controllers. For details on wireless controllers refer to separate instructions.

Important

Others manufacturers' controllers are not compatible with Rinnai Infinity continuous flow water heaters.

Installation of controllers

Do not install controllers:

- near a heat source such as, a cook top, stove or oven—heat, steam, smoke, or hot oil may cause damage
- in direct sunlight
- outdoors unless protection from dust ingress and sunlight are provided
- against a metal wall unless in accordance with AS3000

Positioning

Controllers must be installed in shaded and clean locations. They should be fitted out of reach of children (suggested height 1.5 m). The Compact and Bathroom Deluxe Controllers are water resistant, however, durability is improved when positioned outside the shower recess or at least 400 mm above the highest part of a sink, basin or bath.

Water controller cables

Water controllers operate at extra low voltage (12 Volts DC) which is supplied from the water heater. Controllers come with 15 m of electrical cable. The appliance end of the controller cables are fitted with spade terminals.

Extension cabling is available as an accessory from Rinnai. Alternatively, a two core sheathed (double insulated) flex with a minimum cross sectional area of 0.5 mm^2 may be used.

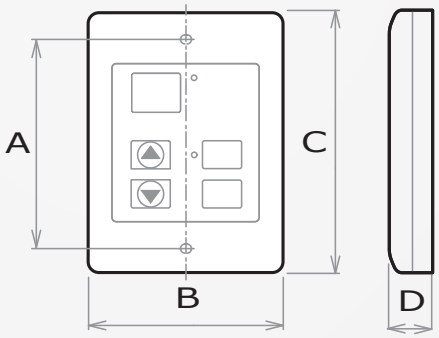
Maximum individual cable runs:

One controller	= 100 m
Two controllers	= 50 m*
Three plus controllers	= 20 m*

* per controller

Water controller cables are not polarity sensitive.

Dimensions



Dim.	Description	Compact (MC-91)	Kitchen Deluxe (MC-100V)	Bathroom Deluxe (BC-100V)
A	Distance between mounting holes	83	83	181
B	Width	90	120	195
C	Height	120	120	97
D	Depth	20	20	22

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Controllers - Universal (Compact)

Fitting the Universal (Compact) controller

1. Determine the most suitable position for the controller.

2. Drill three holes as shown (Fig. 1 and Fig. 2) for securing screws and one to provide cable access.

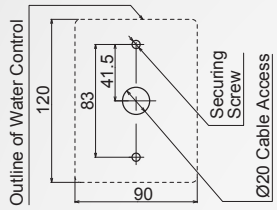


Fig.1

3. When running cable through the access hole ensure the connector and the end of the cable is located nearest to the controller (Fig. 2).

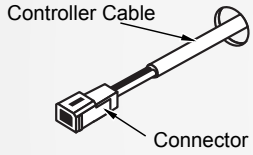


Fig.2

4. Carefully remove the face plate from the controller using the screwdriver (Fig. 3).

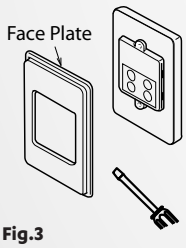


Fig.3

5. Fix the controller to the wall using appropriate fittings as shown (Fig. 4).

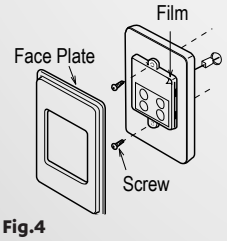


Fig.4

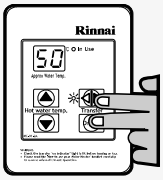
6. Remove protective plastic from the controller face as shown (Fig. 4) and replace the face plate.

Optional programming of the Universal controller

Step one

Are four controllers connected? If NO—refer to step two. If YES, activate the fourth controller as follows.

1. For the controller in the kitchen only, press and hold the 'Transfer' and 'On/Off' buttons simultaneously until a beep is heard (approximately five seconds).



2. Check display on all four controllers is displaying a temperature when switched on. If any controller displays two dashes, repeat above step.

Step two

1. For the controller in the kitchen only, press and hold the 'Transfer' and 'On/Off' buttons simultaneously until a beep is heard (approximately five seconds).

2. When the controller fitted in the kitchen is switched on it will be possible to select temperatures higher than 50 °C (at this controller). If not repeat above step.

If the kitchen controller is swapped repeat the programming procedure.

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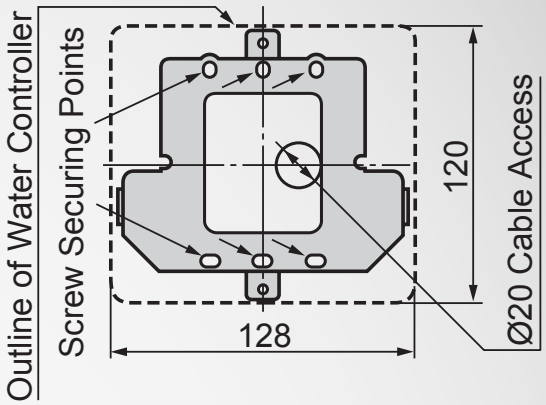
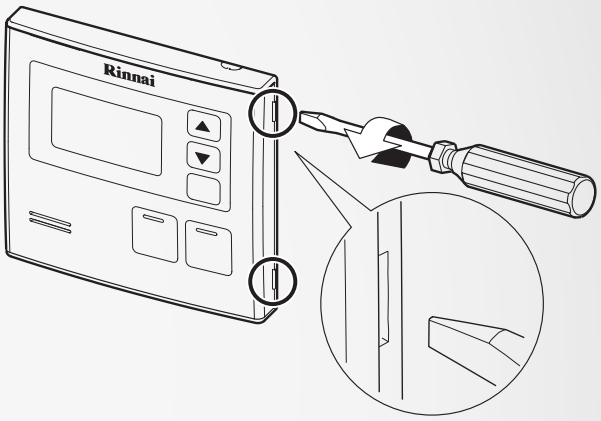
Controllers - Kitchen Deluxe

Installation

1. Determine the most suitable position for the controller.
2. Use the wall mounting bracket as a template to mark and drill three holes, locating the cable access hole as shown.
3. Fix the mounting bracket to the wall using the appropriate fixings.
4. Run the water controller cable through the hole in the wall.
5. Carefully remove the face plate from the controller using a screwdriver as shown.
6. Connect the controller cable to the kitchen water controller. At this point cables from other controllers (if fitted) may also be connected to the kitchen water terminals, eliminating the need for multiple cable runs directly to the water heater. Feed excess cable lengths into the wall cavity to avoid pinching of cables between the wall and the water controllers.
7. Fasten water controllers to wall mounting bracket. Avoid the use of impact drills and over-tightening of fixings as this may damage the controllers.
8. Remove the protective plastic from the controller face and replace the face plate.





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Controllers - Bathroom Deluxe

Installation

1. Determine the most suitable position for the controller.
2. Mark and drill three holes, locating the cable access hole as shown (Fig.1).
3. When running a cable through the access hole ensure the connector end of the cable is located nearest to the controller (Fig.2).
4. Affix the double sided self-adhesive seal to the back of the controller (Fig.3).
5. Carefully remove the face plate from the controller. Do this by placing your thumbs on the front digital display while hooking your fingers behind the top plate and gently push down as shown (Fig.4). Do not use a screwdriver as this may damage the controller.
6. Connect the cable to the bathroom controller. Feed excess cable lengths into the wall cavity to avoid pinching of cables between the wall and the controller.
7. Fix bathroom controller to the wall using appropriate fixings. Avoid the use of impact drills and over-tightening of fixings as this may damage the controller.
8. Remove the protective plastic from the controller face and replace the face plate.

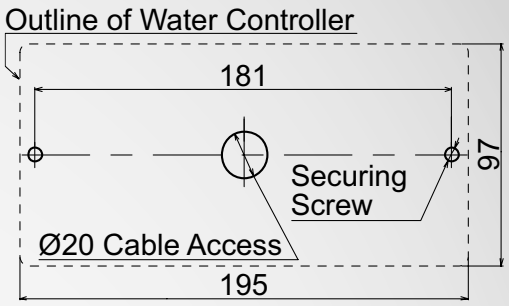

Fig.1

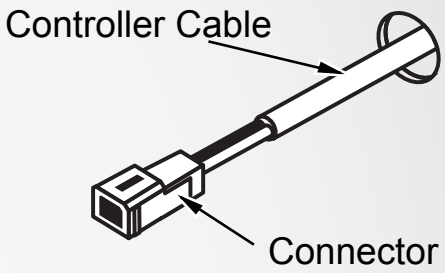

Fig.2

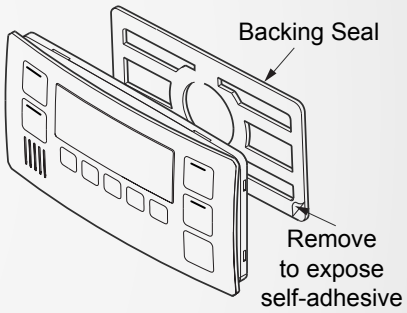

Fig.3

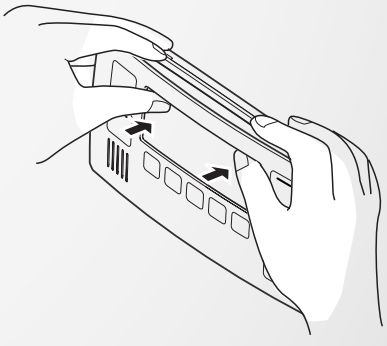

Fig.4

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Controllers - communication cables

Communication cables connect the water heater to the water controllers and operate at an extra low voltage (12 Volts DC) which is supplied from the water heater. Communication cables are supplied with the water controllers (15 m) and are fitted with spade terminals for connection to the water heater.

Up to two cables can be connected to the cable connector at the water heater. Extension cables are available from Rinnai. Alternatively two core sheathed (double insulated) flex with a minimum cross sectional area of 0.5 mm^2 may be used (refer maximum individual cable lengths on p. 15).

CAUTION Do not attempt to connect cables to the cable connector at the water heater unless the electric power supply to the water heater is switched off otherwise damage to electrical components may occur.

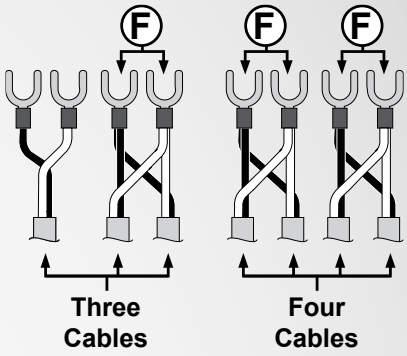
To connect up to two cables to the cable connector

1. Turn off power supply and unplug water heater from the power point.
2. Remove retaining screw of the cable connector at the base of the appliance.
3. Swing the cable connector door open. Thread the cable through the weather seal of the cable access hole (B) in the direction shown allowing sufficient cable length so the cable sheath can be secured with the cable clamp (C) supplied with the transceiver.
4. Loosen screw terminals (D) and (E) and connect cable spade connectors to these terminals and re-tighten. Polarity is not important, either wire colour can be connected to either terminal.
5. Return the cable connector to the original position taking care not to damage cable wires in the process and replace the retaining screw.

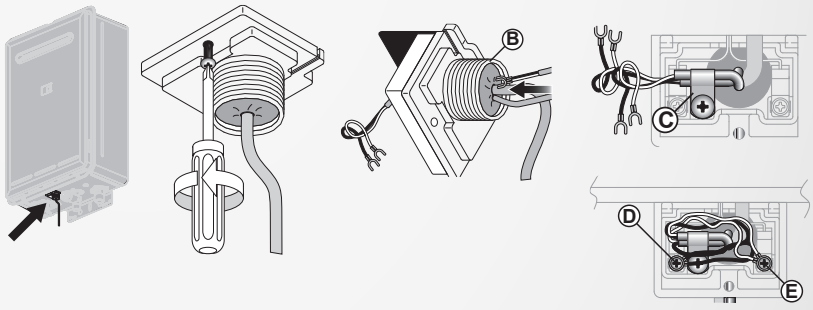
Connecting three to four controllers

1. Repeat steps 1-3 for connecting up to two controllers.
2. To connect three to four controllers, separate all the cables to be fitted into pairs. Cut off the existing spade connectors from each pair and re-terminate each pair into a new spade connector (F) so there are only two sets of spade connectors. Four spade connectors in total to be terminated.
3. Repeat steps 4 and 5 for connecting up to two controllers.

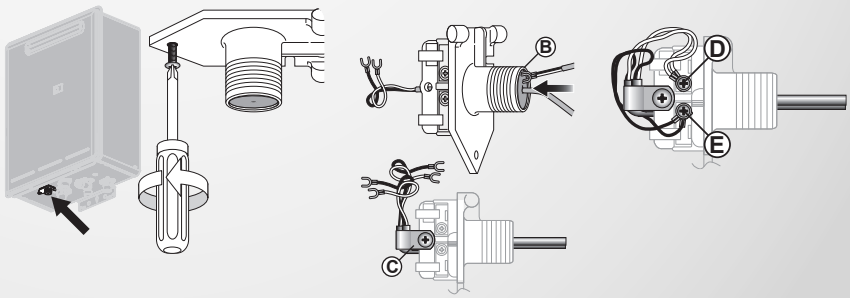
Spade connectors are available from your local electrical supplier.



Cable connector for VT26, VT24, VT20, and VT16



Cable connector for HD250, HD200, HDi200, and EF models



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Commissioning

WARNING The appliance operation must be tested after installation. Ensure building occupants do not have access to the hot water outlets during this procedure.

Testing

1. Before final connection of the water heater, purge the gas and hot and cold water supply lines. Swarf in the gas or water supplies may cause damage.
2. Turn on the gas and water supplies and test for leaks (gas and water) near the unit.
3. Isolate gas supply. Remove test point screw located on the gas inlet and attach pressure gauge.
4. Turn the power on at the power point socket and turn on the gas.
5. If water controllers are fitted ensure they are on. Select the maximum delivery temperature and open all available hot water taps including the shower. If water controllers are not fitted, open all available hot water taps.
6. Operate all other gas appliances at their maximum gas rate.
7. With all gas appliances operating on maximum, the pressure should read between 1.0-3.5 kPa (NG) or 2.75-3.5 kPa (LPG). If the pressure is lower, the gas supply is inadequate and the appliance will not operate to specification. It is the responsibility of the installer to check the gas meter, service regulator and pipe work for correct operation and sizing. The gas regulator on the appliance is electronically controlled and factory preset. Under normal circumstances it does not need adjustment during installation.
8. Close all hot water outlets.
9. Inspect and clean the strainer located on the cold water inlet connection. This may need to be repeated to ensure the strainer remains clear, especially on new installations.
10. If water controllers are fitted, it is necessary to test their operation through the complete range of functions (refer operation guide).
11. Confirm hot water delivery temperatures using a thermometer. If controllers are fitted, ensure temperatures exceeding 55 °C cannot be selected on bathroom controllers.
12. After testing is completed, explain to the customer how to operate the water heater and water controllers (if fitted). Ensure your details are entered in the customer operation guide (Installer details).

Gas pressure setting

The gas regulator on the appliance is electronically controlled and factory preset. Under normal circumstances it does not need adjustment during installation. Make adjustments only if the unit is not operating correctly and all other causes for incorrect operation have been eliminated. Instructions for gas pressure setting are in the instruction pocket located inside the appliance front cover.

Commissioning checklist

Commission the unit in accordance with the Commissioning Checklist supplied with the appliance (inside front cover of appliance). Ensure you leave the completed checklist with the customer.

If the appliance can not be adjusted to perform correctly call 0800 RINNAI (0800 746 624) for assistance.

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Recommended solar system layout

Rinnai continuous flow water heaters configured for solar systems produce hot water at 75 °C and are not suitable for use with water controllers. The household water supply MUST be protected by a suitable tempering valve.

Installation

Rinnai continuous flow water heaters in solar installations are only suitable as gas boosters in solar hot water systems. These models produce water at higher than normal temperatures and must be connected to the hot water supply by use of a suitable tempering valve.

Install a Rinnai continuous flow water heater using a flow diversion valve as shown. Remember 'B to Boiler' when setting up the flow diversion valve.

The water heater must be set to 75 °C (refer dip switch settings on following pages).

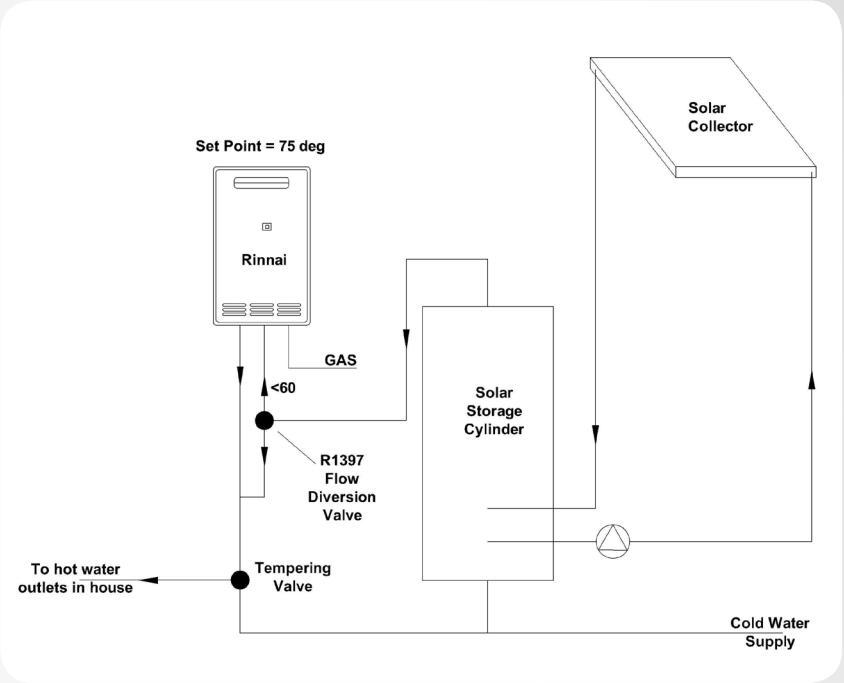
Rinnai water controllers cannot be used with Rinnai Infinity solar units as the hot water does not always pass through the Rinnai Infinity, and the Rinnai Infinity dip switch setting of 75 °C is unable to be adjusted.

System configuration to protect for Legionella

If the system is configured according to the details above it will meet the requirements of the Acceptable Solution G12/AS2 for protection against Legionella. Section 3.5.2 states:

b) the instantaneous water heater must heat all water passing through it to not less than 70 °C.

Recommended system layout using a Rinnai Continuous Flow water Heater and Flow Diversion Valve



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DIP switch settings

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DIP switch settings - important

DIP switch settings must only be changed by a licensed gasfitter. They have been provided as there may be a requirement to change the temperature of the water delivered from the water heater.

WARNING Care must be taken when changing the temperature settings as the DIP switches are small and can be easily switched or bumped into the wrong position. Please use this information carefully and fully check the operation of the water heater before leaving site including the temperature of the water delivered.

The cover of the water heater will need to be removed to carry out this operation. As this will expose live mains voltage wiring **please disconnect the power supply before removing the front cover**.

We wish to draw your attention to the requirements of the New Zealand Building Code and compliance document G12. This requires that water delivered to sanitary fixtures be no more than 55 °C. Increasing the water heater set temperature will therefore require that you protect all sanitary fixtures to which the appliance is plumbed with suitable tempering valves or similar.

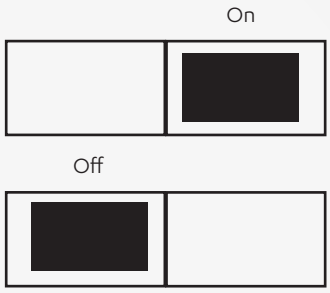
Rinnai will accept no liability for issues arising out of the use of this DIP switch information.

If you have any doubts about the performance of the water heater please contact Rinnai by phoning 0800 TO RINNAI (0800 86 746 624).

The setting of water temperatures in domestic model Infinity units (white cases) to greater than 55 °C (with the exception of units set to 75 °C in domestic solar installations) will reduce the warranty period. Refer to warranty information in the Operation Guide for further information.

The following pages detail DIP switch settings for the specific Rinnai continuous flow water heaters listed. They ARE NOT applicable for older models.

Legend for DIP switch settings
(black indicates position of switch)



Short and long flues

Reference to what is a short and long flue can be found on page 8.

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DIP switch settings

Applicable models and REU numbers

Rinnai Infinity VT16	External	REU-VR1620WG
Rinnai Infinity VT20	External	REU-VR2024WG
Rinnai Infinity VT24	External	REU-VR2426WG
Rinnai Infinity VT26	External	REU-VR2626WG
Rinnai Infinity EF24	External	REU-K2430WG

DIP switch 1: Upper SW (8P)

SW No.	Note						
1		Off					
2	Fixed temperature (with controllers)	Off	Fixed temperature			On	With controllers
3 4 5	Temperature settings	See Chart A					
6		Off					
7	Gas pressure	Off	Normal	On	Forced min.	On	Forced max.
8		Off		Off		On	

Chart A: Temperature settings

DIP. SW.1-SW No. (8P)			SW No. 2 = Off (fixed temperature)	SW No. 2 = On (with controllers)	
3	4	5	No controllers (fixed temp.)	No controllers (fixed temp.)	With controllers (max. set temp.)
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	On	not to be used	40	40
On	On	On	not to be used	55	75

DIP switch 2: Lower SW (4P)

SW No.	Note				
1	Gas type	Off	LPG	On	NG
2,3,4	Model settings	See Chart B			

Chart B: Model settings

DIP. SW.2-SW No. (4P)			Model (REU-number)
2	3	4	
Off	Off	Off	VT26 (VR2626WG) and EF24 (K2430WG)
Off	On	Off	VT24 (VR2426WG)
Off	Off	On	VT20 (VR2024WG)
Off	On	On	VT16 (VR1620WG)

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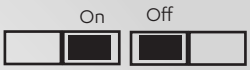
DIP switch settings



Applicable models and REU numbers

Rinnai Infinity HD200	External	REU-VRM2632WC
Rinnai Infinity HDi200	Internal	REU-VR2632FFUG
Rinnai Infinity HD250	External	REU-VR3237WG

DIP switch 1: Upper SW (8P)

SW No.	Note							
1		Off						
2	Fixed temperature (with controllers)	Off	Fixed temperature			On	With controllers	
3 4 5	Temperature settings	See Chart A						
6		Off						
7	Gas pressure	Off	Normal	On	Forced min.	On	Forced max.	
8		Off		Off		On		

Chart A: Temperature settings

DIP. SW.1-SW No. (8P)			SW No. 2 = Off (fixed temperature	SW No. 2 = On (with controllers)	
3	4	5	No controllers (fixed temp.)	No controllers (fixed temp.)	With controllers (max. set temp.)
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	On	85, 95[1]	40	40
On	On	On	85	55	75

[1] 95 °C setting only available for HD250 model

DIP switch 2: Lower SW (4P)

SW No.	Note				
1	Gas type	Off	LPG	On	NG
2,3,4	Model settings	See Chart B			
5,6	Not in use	Off			

Chart B: Model settings

DIP. SW.2-SW No. (4P)			Model (REU-number)
2	3	4	
Off	Off	Off	HD250 (VR3237WG)
Off	Off	On	HD200 (VRM2632WC)
Off	On	On	HDi200 (VR2632FFUG)

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DIP switch settings

Applicable models and REU numbers

Rinnai Infinity EF250	External	REU-KM3237WD
Rinnai Infinity EFi250	Internal	REU-KM3237FFUD

DIP switch 1: Upper SW (8P)

SW No.	Note							
1	Flue settings	Off	EF250 Ext & EFi250 Int long flue (p. 8)			On	EFi250 Internal short flue (p. 8)	
2	Fixed temperature (with controllers)	Off	Fixed temperature			On	With controllers	
3 4 5	Temperature settings	See Chart A						
6	Not in use	Factory setting is 'Off'						
7	Gas pressure	Off	Normal	On	Forced min.	On	Forced max.	
8		Off		Off		On		

Chart A: Temperature settings

DIP. SW.1-SW No. (8P)			SW No. 2 = Off (fixed temperature)	SW No. 2 = On (with controllers)	
3	4	5	No controllers (fixed temp.)	No controllers (fixed temp.)	With controllers (max. set temp.)
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	On	95	40	40
On	On	On	85	55	75

DIP switch 2: Lower SW (4P)

SW No.	Note				
1	Gas type settings	Off	LPG	On	NG
2		Off		Off	
3	Type settings	Off	External	Off	Internal
4		Off		On	
5	Automatic return	Off	Inactive	On	Active
6	External device	Off	S-BMS	On	AH

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Experience our innovation

Rinnai.co.nz | 0800 746 624

http://www.youtube.com/rinnainz

Installation Manual

070 00012 33049 5

U298-1272(00)

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Thermakraft

CI/SfB	
JUNE 2010	

THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY

APPLICATION AND INSTALLATION

Product Description

THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY is specifically designed for use in Domestic and Commercial type buildings.

THERMAKRAFT 215 is a breathable, absorbent bituminous wall and roofing underlay.

THERMAKRAFT 215 will provide the following functions:

- Reduce wind entry into the cavity, thereby assisting the performance of thermal insulation.
- Highly water vapour permeable, thereby allowing excess water vapour which might otherwise condense in the structure, to escape.
- Provides a temporary protection against wind, dust, rain and other weathering elements until the external cladding is applied.

Applications

THERMAKRAFT 215 is suitable as a wall and roofing underlay where Fire Retardancy is **NOT** required, and with all cladding types.

THERMAKRAFT 215 is self supporting to 1200mm rafter/purlin spacing.

THERMAKRAFT 215 can be used as an Air Barrier.

THERMAKRAFT 215 must not be left exposed to the elements for more than 7 days. Cladding on the same day is recommended. If Fire Retardancy (FI <5) is required, use Thermakraft COVERTEK407.

Installation Roofing

THERMAKRAFT 215 may be run vertically over purlins with a 150mm lap if roof pitch >8 degrees. Fix securely to purlins with 8mm staples or 20mm clouts. The membrane should be firmly laid to avoid excessive dishing between purlins.

THERMAKRAFT 215 may be run horizontally across rafter/trusses with a 150mm lap for roof pitches above 3 degrees. Fix securely with 8mm staples or 20mm clouts.

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.

Storage

THERMAKRAFT 215 should be stood on end in dry conditions. Protect from the weather and direct sunlight.

Roll Dimensions

1250mm x 40.0m = 50m²	20kg	
1250mm x 20.0m = 25m²	10kg	(2 per pack)
1450mm x 34.5m = 50m²	20kg	

For more information regarding Thermakraft COVERTEK407 FIRE RETARDANT SELF SUPPORTING ABSORBENT BREATHABLE SYNTHETIC NON WOVEN ROOFING UNDERLAY refer to the "DESIGNER and USER GUIDELINES" - Direct and Cavity Fix, or contact **Thermakraft Customer Services** on **0800 806 595.**

E. & O. E.

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Cl/SfB

JUNE 2010

Thermakraft

THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY

TECHNICAL SPECIFICATIONS

Technical Data

THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY complies with the requirements of NZBC E2/AS1 Table 23.

Nominal Grammage 400g/m2

NZBC E2/AS1 TABLE 23 AS A WALL UNDERLAY REQUIREMENTS		
NZBC E2/AS1 TABLE 23 WALL UNDERLAY PROPERTIES	PROPERTY PERFORMANCE REQUIREMENTS	PROPERTY PERFORMANCE
Absorbency	≥100 gsm	Pass
Vapour Resistance	≤7 MN.s/g	Pass
pH of Extract	≥6 and ≤9	Pass
Shrinkage	≤0.5%	Pass
Water Resistance	≥100mm	Pass
Air Barrier	≥0.1 MN.s/m^3	Pass
Duty		Heavy

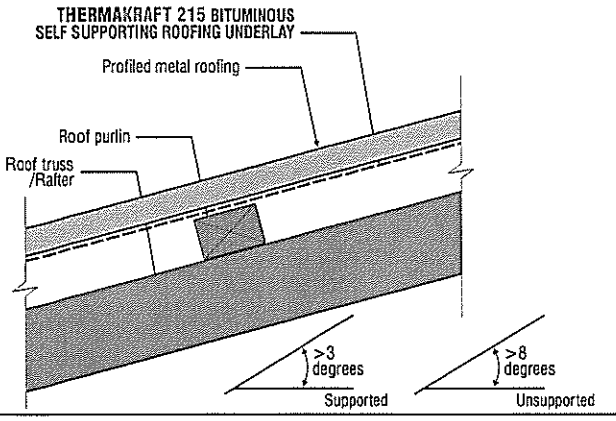
NZS2295:2206 Classification		
Flammability Index		**Non Fire Retardant**
Wind Zone	R2	Up to Very High
NZS2295:2006 Classification	R2	Self Supporting

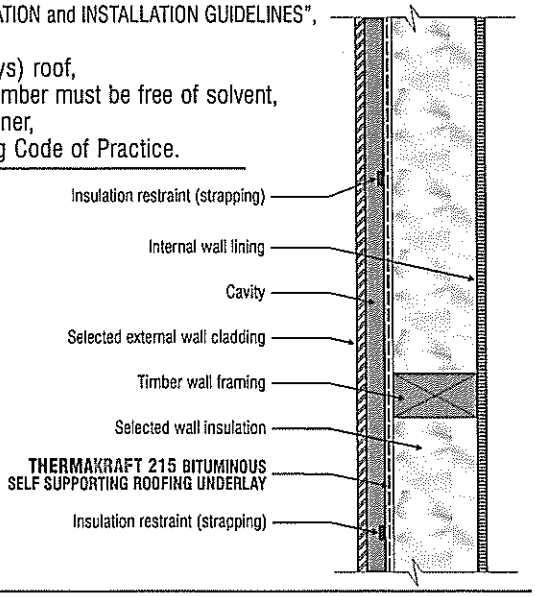
Durability/Limitations

For **THERMAKRAFT 215** to meet the Performance Requirements of NZBC Clause B2, Durability B2.3.1(a) 50 years and B2.3.1(b) 15 years, E2 External Moisture,

THERMAKRAFT 215:

- must be installed in accordance to the "APPLICATION and INSTALLATION GUIDELINES",
- run length no greater than 10 metres,
- is not left exposed for more than (7 days) roof,
- when used on LOSP treated timber, the timber must be free of solvent,
- installed by a licensed building practitioner,
- installed in accordance with the Roofing Code of Practice.





The recommendations contained in Thermakraft's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to any conditions contained in the Warranty. All product dimensions and performance claims are subject to any variation caused by normal manufacturing process and tolerances. Furthermore, as the successful performance of the relevant system depends on numerous factors outside the control of Thermakraft (for example quality of workmanship and design), Thermakraft shall not be liable for the recommendations in that literature and the performance of the Product, including its suitability for any purpose or ability to satisfy the relevant provisions of the Building Code, regulations and standards.

Thermakraft Industries (NZ) Ltd

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E. & O. E.

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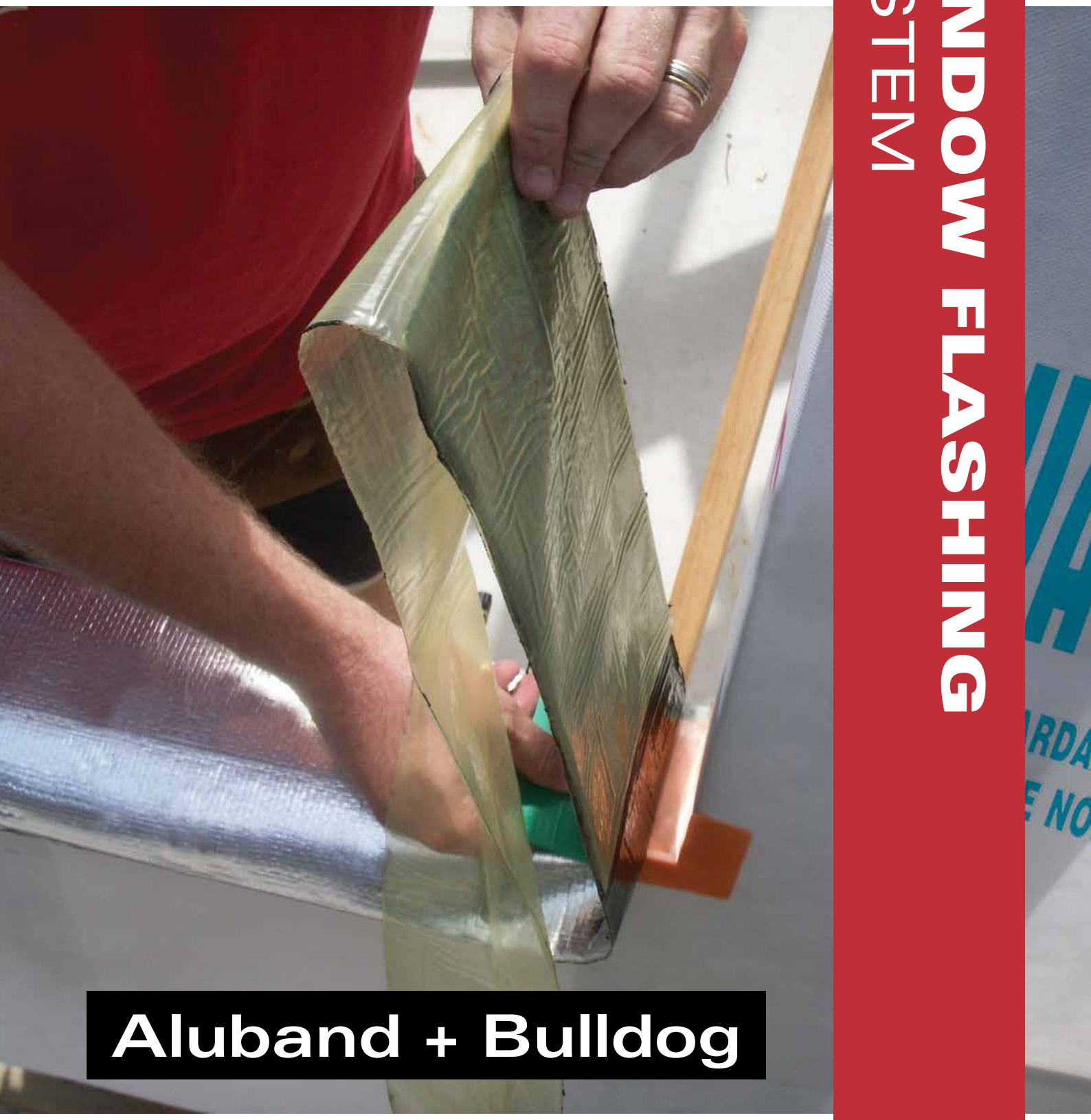
Thermakraft™

WINDOW FLASHING SYSTEM



Aluband + Bulldog

FLEXIBLE FLASHING TAPES

WATER RESISTANT //

WIND RESILIENT

BRANZ Appraised
Appraisal No.878 [2014]

BRANZ Appraised
Appraisal No.803 [2013]

ACCESSORIES
This is a Thermakraft accessories product

THERMAKRAFT WINDOW FLASHING SYSTEM

Thermakraft offers two Window Sill Flashing Tapes, Aluband™ and Bulldog™. Both offer exceptional performance ensuring protection from moisture damage in the window opening. Both Aluband and Bulldog are part of the Thermakraft Window Sealing Warranty System when combined with Thermakraft underlay.

Aluband is a premium tape with the benefits of heavier bituminous adhesive and a foil backing offering high strength bond and excellent abrasion resistance. Aluband can be exposed to the elements for up to 42 days. BRANZ 878 [2014].

Bulldog is a cost effective solution and has the advantage of a lower profile with a metalised foil backing. Bulldog is ideal for use in tight applications where a low profile is desirable. Bulldog can be left exposed for up to 42 days (BRANZ 803).

ADVANTAGES

Thermakraft Window Sealing Systems are used around framed joinery openings as a secondary weather barrier and are suitable for use in all Wind Zones of NZS 3604 up to, and including "Extra High".

KEY FEATURES

- Adheres to most clean dust free building elements
- Quick, simple and easy to use
- No primer required (under normal situations)

APPLICATION

1) Cut the wall underlay/air barrier at a 45° angle away from each corner. Fold flaps tightly into the window or door opening and fix with staples on the back faces of the framing.

2) Fix the Thermakraft Corner Moulded Piece to the bottom corners by way of staples or clouts to the two jambs. **Always ensure that Aluband/Bulldog is applied to surfaces that are clean and free of dust, contaminates, solvents, oils or waxes. Note the following:** 150mm wide tape is used for 100mm wide window or door framing, and the 200mm wide tape is used for 140mm to 150mm wide reveals. (With steel framed houses use Double Sided Tape to attach the Thermakraft Aluband Corner Moulded Piece to metal framing).

3) Measure 200mm up both jambs, add 400mm to the length of the window sill and cut to suit that measurement.

4) First remove the release film from the tape; align the back edge of the tape with the inside edge of the sill.

5) Using the Thermakraft Tool, firmly press the tape onto the wall underlay to ensure good adhesion and ensure the tape is fitted tightly into the jamb to sill corners.

6) At the sill/jamb corners cut the tape from the external edge of the frame outwards. Fold flaps back onto the wall underlay/air barrier and press tape firmly for good adhesion.

7) Proceed to fit the Window Flashing Tape to the top corners of the frame (200mm across lintel x 200mm down jamb).

8) For window or door lintel to jamb junction, apply a butterfly using the 75mm wide x 100mm long Aluband/Bulldog. Fix at a 45° angle to the jamb with an overlap at the corner of 3mm.

Thermakraft Window Flashing System - a polymeric faced, modified bituminous self-adhesive tape.

Thermakraft Aluband Corner Moulded Piece - made from inert polyethylene (orange). Used in conjunction with **Aluband/Bulldog** and building underlay.

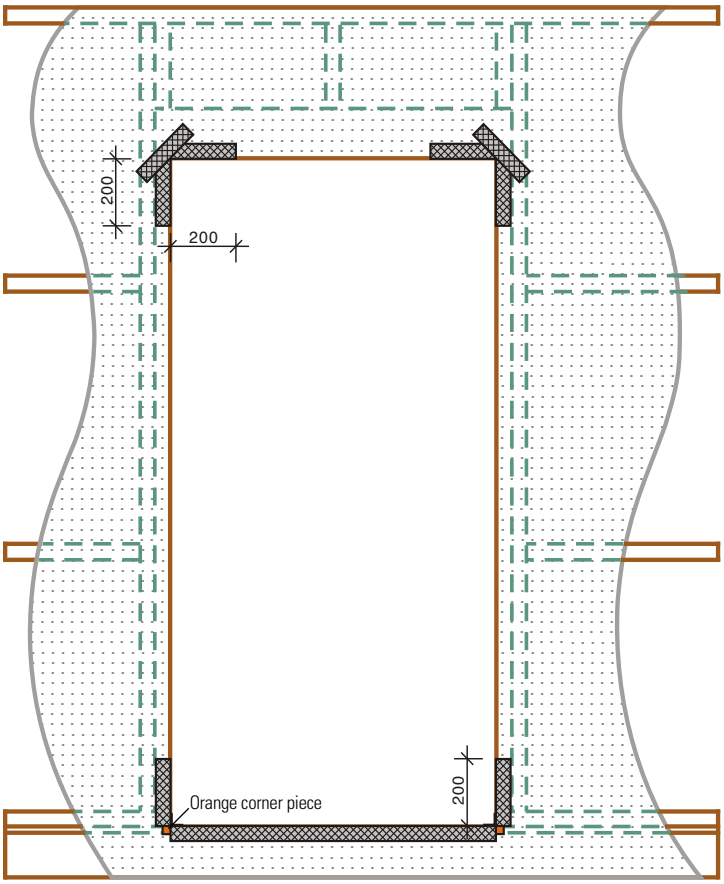
Thermakraft Tool - used to ensure proper adhesion of the tape to the building underlay.

9) **Door frames are to be treated similarly to window openings. The sill may be either a timber or a concrete floor.**

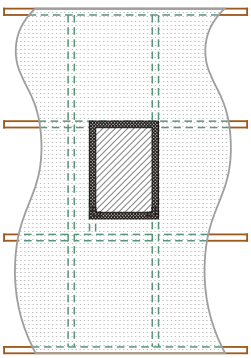
Window and door frames

A) Staple orange corner piece to the bottom corner sill. Place tape 200mm up the jambs and across the full width of the sill opening. Align tape with the back of the frame opening.

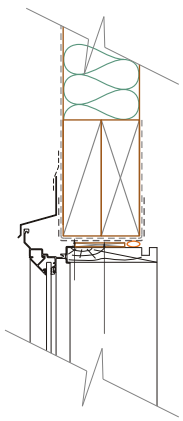
B) At the top corner place tape 200mm down the jamb and 200mm across the lintel. Place a strip of 75mm tape across the top corner.



10) Meter boxes with built-in flanges to be taped with Window Flashing Tape along each flange to the building underlay.



11) Window Flashing Tape is used to seal the up stand of the window head flashing to the building underlay. **(Refer to the cladding manufacturer's details).**



IMPORTANT INFORMATION

To assist the adhesion of window flashing tapes Thermakraft suggests the following two options this is particularly relevant in the following conditions:

- In temperatures below 5°C
- When adhering to non-woven surfaces such as Covertek™
- When the tape has been lifted or moved after initial application

Application of Heat:

- Press the window sill tape into position in the usual manner
- Apply a gentle heat, using a heat gun on low heat to the top of the window sill tape
- Once the adhesive starts to soften use the Thermakraft tool or a roller to firmly press the tape into the wall underlay ensuring good adhesion
- Take care not to damage the foil face lining

Application of Spray Adhesive:

- Before installing the window sill flashing tape apply a light coating of suitable solvent based spray adhesive (not water based)
- Allow spray adhesive to flash dry. When dry to the touch apply the window sill flashing in the normal manner
- Take care once applied not to disturb the tape until fully cured

Adhesives and Solvents:

After the installation of Aluband/Bulldog, ensure that the edges do not come into contact with solvent based sealants or adhesives. Solvents in these products can adversely affect the adhesion or dissolve the bituminous adhesive and cause it to run. If the application of solvent based adhesives or sealants are necessary, cover the edges with Thermakraft F150 pure foil tape or equivalent foil tape to form a barrier.

LOSP Treated Timber:

Aluband/Bulldog should not be applied directly on to the timber, or indirectly on to a timber sheathed in underlay that has been freshly LOSP treated. Always allow the solvent to fully flash off prior to wrapping in underlay and applying Aluband/Bulldog.

Surface Preparation:

Always ensure that Aluband/Bulldog is applied to surfaces that are clean and free of dust, contaminates, solvents, oils or waxes.

Exposure Time:

Aluband/Bulldog must not be left exposed to the elements for more than 42 days.

TECHNICAL INFORMATION

	ALUBAND (BRANZ 878)	**BULLDOG** (BRANZ 803)
Code / Dimensions / Pack Quantity:	ALU075025 / 75mm x 25m / 12 ALU150010 / 150mm x 10m / 6 ALU150025 / 150mm x 25m / 6 ALU200025 / 200mm x 25m / 4	TKBG07525 / 75mm x 25m / 12 TKBG15025 / 150mm x 25m / 6 TKBG20025 / 200mm x 25m / 4
Temperature Range (°C):	Application 5 - 30	Application 5 - 30
Thickness (µm):	1000	625

Thermakraft Window Sealing Flashing Tapes can be used as a flexible flashing system around window and door joinery openings on timber framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- with wall cladding systems complying with NZBC Acceptable Solution E2/AS1; or a valid BRANZ appraisal that specifies a felxable flashing system; and,
- with wall underlays compatible with the flashing tape; and,
- situated in NZS3604 Wind Zones up to, and including 'Extra High'.

Thermakraft Window Sealing Flashing Tapes can be used as a flexible flashing system around window and door joinery openings on steel framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1 with regards to building height and floor plan area and,
- constructed with steel framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and
- with wall cladding systems covered by a valid BRANZ appraisal; and,
- with wall underlays compatible with the flashing tape; and,
- situated in NZS3604 Wind Zones up to, and including 'Extra High'.

Thermakraft Window Sealing Flashing Tapes meet 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, and F2 Hazardous Building Materials.

Thermakraft Window Sealing Flashing Tapes are expected to have a serviceable life equal to that of the cladding, when installed in accordance with this application and installation sheet, provided they are not exposed to the weather or ultra-violet (UV) for a total number of no more than 42 days, or are damaged on installation.

Thermakraft Window Sealing Flashing Tapes are designed to work on all kraft based building underlays that meet the requirements of NZBC E2/AS1 Table 23, and on all Thermakraft BRANZ appraised wall underlays.

Thermakraft Window Sealing Flashing Tapes should be installed when temperatures are above 5°C.

The recommendations contained in Thermakraft's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to any conditions contained in the Warranty. All product dimensions and performance claims are subject to any variation caused by normal manufacturing process and tolerances. Furthermore, as the successful performance of the relevant system depends on numerous factors outside the control of Thermakraft (for example quality of workmanship and design), Thermakraft shall not be liable for the recommendations in that literature and the performance of the Product, including its suitability for any purpose or ability to satisfy the relevant provisions of the Building Code, regulations and standards. Literature subject to change without notification. Latest documentation can be found on the website.

Cl/SfB			
SEPTEMBER 2014			

Thermakraft's large and varied range of products are available through all leading hardware stores, building supplies, timber merchants and roll formers throughout New Zealand.

Thermakraft™

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Construction

SikaBond®- Rapid DPM

Solvent Free Reaction Curing Resin Primer and Damp Proof Membrane for Cement Based Substrates

Product Description

SikaBond® - Rapid DPM is a single part moisture curing reaction polyurethane.

Uses

For Priming, Consolidating and Sealing of:

- Absorbent and Non-absorbent sub-floors, consolidating weak cement screed and isolation of old adhesive residues.
- Can be used as a Damp Proof Membrane on sub-floors not under hydrostatic pressure.
- Can be used over underfloor heating. (Max 3% moisture CM Method, 4.5% Tramex).

Characteristics / Advantages

- 1-part, ready to use.
- Rapid drying (approx 45 minutes at 50% Rh & 20°C).
- Compatible with all SikaBond® wood floor adhesives.
- Especially suited to refurbishment projects where old adhesive residues are present.
- Suitable for underfloor heating.
- Applied by roller or squeegee.

Product Data

Form

Density	1.16g/cm^3
Colour	Brown
Flash Point	Closed cup >130°C, Open cup >150°C
Packaging	5 Ltr Plastic bottle

Storage

Storage Conditions / Shelf Life	Approximately 12 months from date of production if stored in tightly closed undamaged original sealed containers, in dry conditions and protected from direct sunlight at temperatures between +5℃ and +25℃.

Technical Data

Chemical Base	1-part reaction cure synthetic Resin
Density	~ 1.16 kg/l
Skinning- / Laying Time	~ 10 - 20 minutes (+20°C / 50% r.h.)
Curing Rate	Approximately 45 minutes at 20°C & 50% Rh
Sag Flow	Consistency: Spreads easily when applied using brush, squeegee or short/medium pile roller
Service Temperature	Up to + 35°C

System Information

Application Details

Consumption	As a surface conditioner/primer: Apply 1 coat at a minimum consumption of 100 – 200 grams/m^2 (85-170 ml/m^2) As an isolator for old adhesive residues: Apply 1 coat at a minimum consumption of 100 – 200 grams/m^2 (85-170 ml/m^2) As a Damp Proof Membrane: (tested in accordance with ASTM E 96) Apply 2 – 3 coats at 100 – 250 grams/m^2 (85-215 ml/m^2). Allow each coat to fully cure. Total consumption should be no less than 400 grams/m^2 (340 ml/m^2).
Substrate Quality	Clean, homogeneous, even, free from grease, dust and loose particles. Paint, cement laitance and other poorly adhering particles must be removed. Maximum moisture content must not exceed 4% CM method (6% Tramex) 3% CM (4.5% Tramex) in the case of underfloor heating. Standard construction rules must be observed.
Substrate Preparation	Concrete / cement screed: Must be clean, contaminant free and thoroughly cleaned with industrial vacuum cleaner. Anhydrite screed / Anhydrite flowable screed: Must be ground and thoroughly cleaned with industrial vacuum. Unknown substrates: Tests are recommended for compatibility and adhesion.

Application Conditions / Limitations

Substrate Temperature	During laying and until SikaBond®- Rapid DPM has fully cured substrate temperature must be at least + 10°C and in the case of underfloor heating < + 20°C. For Substrate temperatures the standard construction rules are relevant
Ambient Temperature	Room temperature above +10°C. Relative air humidity < 75%. For ambient temperatures the standard construction rules are relevant.
Substrate Moisture Content	Maximum substrate moisture content : - 4% CM for cement screed (ca. 6% Tramex / Gravimetric weight percent) - 0.5% CM for anhydrite screed - 3 - 12% CM for magnesia flooring (proportion of organic parts) Maximum substrate moisture content in case of underfloor heating: - 3% CM for cement screed (ca. 4.5% Tramex / Gravimetric weight percent) - 0.3% CM for anhydrite screed - 3 - 12% CM for magnesia flooring (proportion of organic parts) For moisture content and quality of substrates the guidelines of the wood floor manufacturer as well as standard construction rules must be observed. Please Note: Most wood floor manufacturers state a maximum substrate moisture content of 2% CM (ca.2.5% Tramex).
Relative Air Humidity	Between 40% and 75%

Application Instructions

When applying more than one coat of SikaBond® Rapid DPM, the 2nd coat should be applied 90° to the 1st. Ensure that a continuous uniform coat is achieved using a medium pile roller, brush or rubber squeegee. When used as a damp proof membrane the finished surface must provide a continuous defect free layer with a 'shiny' appearance. When using multiple coats, allow each coat to fully dry between applications.

Application Method	Application	Required Coats
	Damp Proof Membrane	Minimum 2 x
	Substrate consolidator	Minimum 1 x
	Isolate old adhesive residues	Minimum 1 x
	Damp proof membrane + Consolidator	Minimum 3 x

Cleaning of Tools	Clean all tools and application equipment with Thinner C immediately after use. Hardened / cured material can only be mechanically removed.

Construction

Notes on Application / Limitations	SikaBond®- Rapid DPM is only to be used in well ventilated areas. In areas such as basements, or other areas without a functional damp proof membrane preventing hydrostatic water vapour pressure, SikaBond® Rapid DPM must only be installed after the application of Sikafloor® 81 EpoCem. For detailed instructions consult the Product Data Sheets or contact our Technical Department. Do not use in conjunction with any other materials other than those recommended by Sika Limited. Some concrete surface sealers can negatively influence the adhesion of SikaBond®- Rapid DPM. Pre-application trials are recommended. For further information or assistance please contact Sika Technical Department. Installation on magnesite or on isolating bituminous layers is not recommended. Ensure adequate air ventilation during application and curing.
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.
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.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.
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.

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ISO 14001 ISO 9001

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SPECIFICATION

28 Leeds Street

Project Specification
28 Leeds Street, Palmerston North, New Zealand
Project Ref: 1806
Printed: 05 March 2018

LBS
Long Building Solutions

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1220 PROJECT

1. GENERAL

This general section describes the project including:

- A description of the work
- Site description, features and restrictions
- Design parameters for design by contractor

1.1 READ ALL SECTIONS TOGETHER

Read all general sections together with all other sections.

Description of the work

1.2 SCOPE OF THE WORK

install new ensuite into existing garage.

Site

Site environment - Wind

1.3 WIND DESIGN PARAMETERS - NON SPECIFIC DESIGN

The design wind pressures are to NZS 3604, Table 5.4 Determination of wind zone, up to and including Extra High Wind Zone.

Building wind zone Medium 37 m/s

Site environment - Durability

1.4 EXPOSURE ZONE

The exposure zone is to NZS 3604, Section 4 Durability, 4.2 Exposure zones and NZBC E2/AS1.

The site zone is: B (Low Risk)

Site environment - Seismic

1.5 EARTHQUAKE ZONE - NON SPECIFIC DESIGN

The zone is to NZS 3604, Section 5 Bracing design, 5.3 Earthquake bracing demand.

The earthquake zone is: 3

1234 DOCUMENTATION

1. GENERAL

Building Consent Authority documentation

1.1 BUILDING CONSENT

Obtain the building consent forms and documents from the owner and keep them on site. Liaise with the BCA for all notices to be given and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.

1.2 BUILDING CONSENT COMPLIANCE

It is an offence under the Building Act 2004

- to carry out any work not in accordance with the building consent.
- to carry out Restricted Building Work by anyone other than a Licensed Building Practitioner licensed for that type of work.

The resolution of matters concerning building code compliance to be referred to the contract administrator for a direction and then if required to the BCA for consent.

Where any alteration is requested by the territorial authority or any other authority, do not undertake such alteration until the matter has been referred to the contract administrator for direction.

1.3 PROJECT PERSONNEL

Provide names and contact details of the contractor's key personnel and tradespersons who are involved with the project. Review the list once a month and reissue it if changes have been made.

Compliance information

1.4 DOCUMENTATION REQUIRED ON COMPLETION

As soon as practicable after completion of the building work, provide in writing the following information and documentation to the client and the relevant territorial authority.

Information and documentation relating to:

- The identity of the building contractor and the subcontractors who carried out the work.
- Maintenance requirements for any products incorporated in the building.

If applicable also provide any guarantee or insurance obtained by the building contractor in relation to the building work.

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Substitutions

1.5 ACCEPTABLE PRODUCT/MATERIAL SUPPLIERS

Where a product or material supplier is named in SELECTIONS, the product/material must be provided by the named supplier. Where more than one named supplier, any one of the named suppliers will be acceptable.

1.6 PROPOSED SUBSTITUTIONS

A substitution may be proposed where specified products are not reasonably available. A substitution may also be proposed by the contractor where the contractor considers a proposed substitution to be an alternative to the specified product. Except where a specified product is not available, the contract administrator is not bound to accept any substitutions. Where branded work sections are included in this specification, substitution of those products or systems will not be allowed.

Variations to issued Building Consent

1.7 CONTRACTOR VARIATION TO BUILDING CONSENT

Where the contractor has sought acceptance of a substitution or a variation which is for the contractor's own convenience and the substitution or variation requires an amendment to the Building Consent, the contractor must apply for and obtain the required amendment.

The contractor must:

- Obtain approval for substitutions from the contract administrator.
- Prepare and provide to the BCA all documentation required for the variation.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

1.8 PRINCIPALS VARIATION TO BUILDING CONSENT

Where the principal is proposing a substitution or a variation which requires an amendment to the Building Consent, the contractor must provide to the principal information that the contractor has that is required for the amendment.

The principal will:

- Prepare and provide to the BCA all documentation required for the amendment.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

Manufacturer's documents

1.9 MANUFACTURER'S AND SUPPLIER'S INSTALLATION REQUIREMENTS

Manufacturers and supplier's requirements, instructions, specifications or details means those issued by them for their particular material, product or component and are the latest edition.

1.10 CONTRACTOR TO OBTAIN CURRENT DOCUMENTATION

Where manufacturer's installation, application and execution requirements are referred to in this specification, the Contractor must ensure they are fully aware of this documentation. Whenever necessary obtain and keep on site the relevant latest version of such documentation and make it available to workers carrying out that part of the work.

1.11 DOCUMENTATION PROVIDED FOR BUILDING CONSENT

Documentation including manufacturer's installation instructions, specification data sheets, producer statements, BRANZ and similar appraisals may be included in the issued Building Consent. These documents have been provided only to demonstrate compliance with the NZBC.

Branded work sections

1.12 BRANDED WORK SECTIONS

Branded sections may be included in this specification relating to specific products and systems to be installed as part of the contract works. Where branded sections are included, substitutions to the branded products and systems will not be allowed.

1.13 CROSS REFERENCED WORK SECTIONS

If any related work is cross referenced to a generic work section, but only the equivalent branded section is included in the specification, use that branded section. Confirm with the contract administrator if there is any doubt.

1270 CONSTRUCTION

1. GENERAL

This GENERAL section relates to common requirements for construction issues including: -

- Quality assurance
- Noise and nuisance
- Set out
- Common execution requirements

- Common materials requirements
- Supply of spare materials
- Common requirements for samples and tests
- Final presentation and cleaning
- Commissioning

Quality control and assurance

1.1 QUALITY ASSURANCE

Carry out and record regular checks of material quality and accuracy, including:

- Concrete quality and finish.
- Dimensional accuracy of structural column locations (following completion of foundations).
- All perimeter columns and frames for plumb.
- Levels of all floors relative to the site datum.
- Framing timber moisture content.

Where any material, quality or dimension falls outside specified or required tolerances, obtain written direction from the contract administrator. Where building consent approval is affected, confirm remedial action with the Building Consent Authority.

Provide all materials, plant, attendances, supervision, inspections and programming to ensure the required quality standards are met by all project personnel.

Noise and nuisance

1.2 LIMIT CONSTRUCTION NOISE

Minimise the effects of noise generation by including in the planning of the work such factors as placing of plant, programming the sequence of operations and other management functions. Limit construction noise to comply with the requirements of NZS 6803, the requirements of the Resource Management Act sections 326, 327 and 328 and the Health and Safety in Employment Regulations clause 11.

1.3 ACCEPTABLE NOISE LEVELS

Refer to NZS 6803 Tables 2 and NZS 6803, tables 3 for the upper limits of construction work noise in residential and industrial areas over the various time periods, particularly 0730 to 1800 hours. Note also the allowed adjustments and exemptions in NZS 6803, 6. Do not exceed these limits.

1.4 DAMAGE AND NUISANCE

Take all precautions to prevent damage and nuisance from water, fire, smoke, dust, rubbish and all other causes resulting from the construction works.

1.5 CHECK DIMENSIONS

Check all dimensions both on drawings and site, particularly the correlation between components and work in place. Take all dimensions on drawings to be between structural elements before linings or finishes, unless clearly stated otherwise.

1.6 TOLERANCES

All work to be level, plumb, and true to line and face. Unless otherwise specified in specific work sections of this specification, tolerances for structural work shall comply with the following:

Concrete construction:	To NZS 3109 Concrete construction Clause 3.9 Tolerances for reinforcement Table 5.1 Tolerance for precast components Table 5.2 Tolerance for in situ construction To NZS 3114 Concrete surface finishes
Timber framing:	To NZS 3604 Timber-framed buildings Clause 2.2 Tolerances Table 2.1 Timber framing tolerances

Refer to work sections for tolerance requirements for finishes.

Execution

1.7 EXAMINE PREVIOUS WORK

Before commencing any part of the work carefully examine the previous work on which it may depend. Report in writing to the contract administrator defects that may affect the quality of the proposed work and obtain instructions. Commencing work on any part means that previous work is accepted as being satisfactory for work of the required standard.

1.8 WORKER QUALIFICATIONS

All work to be level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.

1.9 MINIMISE DELAYS DUE TO WEATHER

Use appropriate techniques and methods to prevent damage and minimise delays due to weather.

Materials

1.10 NEW PRODUCTS AND MATERIALS
Materials and products to be new unless stated otherwise, of the specified standard, and complying with all cited documents.

1.11 COMPATIBILITY OF MATERIALS AND FINISHES
Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.

1.12 STORING PRODUCTS AND MATERIALS
Take delivery of and store products, materials and components in accordance with codes of practice and the product manufacturer's or supplier's stated requirements. Maintain the proper condition of any protective packaging, wrappings or supports during delivery, unloading and storage.

1.13 HANDLING PRODUCTS AND MATERIALS
Handle products, materials and components in accordance with codes of practice and the manufacturer's or supplier's stated guidelines. Avoid distortion and any contact with potentially damaging surfaces or conditions.

1.14 SUBSTRATE CONDITIONS
Ensure substrate conditions are within the manufacturer's or supplier's stated guidelines both before and during the installation of any material, product or system. Obtain written instructions on the necessary action to rectify unsatisfactory conditions.

1.15 INSTALLING PRODUCTS AND MATERIALS
Install in accordance with the manufacturer's or supplier's technical literature. Ensure that all installers are familiar with the required substrate conditions and the manufacturer's or supplier's specified preparation, fixing and finishing techniques.

1.16 COMPLY WITH STANDARDS
Comply with the relevant and/or cited Standard for any material or component. Obtain certificates of compliance when requested by the contract administrator.

1.17 CONDITION OF MATERIALS AND COMPONENTS
To be in perfect condition when incorporated into the work.

1.18 INCOMPATIBLE MATERIALS AND METALS
Separate incompatible materials and metals with separation layers, sleeves or gaskets of plastic film, bituminous felt or mastic or paint coatings, installed so that none are visible on exposed surfaces.

Spares

1.19 SPARES
Collect, protect and store safely all spare materials required under the contract. Give the contract administrator an inventory of all spares.

Final presentation and cleaning

1.20 REMOVE TEMPORARY PROTECTION
Remove all temporary markings, coverings, labels and protective wrappings unless instructed otherwise.

1.21 REPLACE DAMAGED MATERIALS
Replace all materials or component damaged during the works to the standard of and integral with the original.

1.22 COMPLETE ALL SERVICES
Ensure all services are complete and operational, with all temporary labelling removed, required labelling fixed and service instructions provided.

1.23 CLEANING BY CONTRACTOR
Clear the contract works of all construction materials, waste, dirt and debris. Clean the contract works including:

- Wipe all surfaces to remove construction dust
- Clean out service ducts and accessible concealed spaces
- Clean out all gutters and rainwater heads
- Wipe dust from both sides of glass. Take particular care when removing paint or cementitious materials to not damage the glass.
- Remove adhesive residue left by labels and other temporary protection/markings
- Clean out the interior of all cabinetry
- Wash down external concrete including driveways and concrete masonry. Take care when waterblasting to not cause damage to the surface or allow water to enter the building.

- Remove rubbish and building material from the area immediately adjacent to the contract works

Commissioning

1.24 MOVING PARTS
Adjust, ease and lubricate all doors, windows, drawers, hardware, appliances, controls and all moving parts to give easy and efficient operation.

1.25 SECURITY AT COMPLETION
Remove any temporary lock cylinders and complete final keying prior to handing over keys to the principal on completion of the works. Leave the works secure with all accesses locked. Account for all keys/cards/codes and hand to the principal along with an itemised schedule, retaining a duplicate schedule signed by the principal as a receipt.

3101 CONCRETE WORK - BASIC

1. GENERAL
This section relates to formwork, reinforcement, concrete mixes and the placing of concrete.

Requirements

1.1 QUALIFICATIONS
Workers to be experienced, competent trades people familiar with the materials and techniques specified.

2. PRODUCTS

2.1 NORMAL CONCRETE
Normal concrete 20 MPa grade, (refer to SELECTIONS), maximum aggregate size 19mm ready-mixed to NZS 3104. Provide delivery dockets listing mix and despatch details.

2.2 REINFORCEMENT
Bars to AS/NZS 4671. Grade 300E deformed, other than for ties, stirrups and spirals, unless shown otherwise on the drawings. Welded reinforcing mesh Class E to AS/NZS 4671, and 500E mesh to AS/NZS 4671 as modified by NZS B1/VM1.

2.3 TYING WIRE
Mild drawn steel wire not less than 1.2mm diameter.

2.4 DAMP-PROOF MEMBRANE
0.25mm minimum polyethylene to NZS 3604, 7.5.4, Damp-proof membrane.

3. EXECUTION

3.1 HANDLE AND STORE
Handle and store reinforcing steel and accessories without damage or contamination. Store on timber fillets on hard ground in a secure area clear of any building operation. Lay steel fabric flat.

Ensure reinforcement is clean and remains clean so that at the time of placing concrete it is free of all loose mill scale, loose rust and any other contamination that may reduce bonding capacity.

3.2 CUT AND BEND REINFORCEMENT
Cut and bend bars using proper bending tools to avoid notching and to the requirements of NZS 3109: 3.3 Hooks and bends. Minimum radii of reinforcement bends to NZS 3109, table 3.1, Minimum radii of reinforcement bends. Do not rebend bars. Where rebending is approved, use a purpose built tool, proper preparation and preheating.

3.3 ADJUSTMENTS
Use a purpose built tool for on site bending and to deal with minor adjustments to steel reinforcement.

3.4 TOLERANCES, BENDING
To NZS 3109, 3.9, Tolerances for reinforcement.

3.5 SECURE REINFORCEMENT
Secure reinforcement adequately with tying wire and place, support and secure against displacement when concreting. Bend tying wire back well clear of the formwork. Spacing as dimensioned, or if not shown, to the clear distance minimums in NZS 3109, 3.6, Spacing of reinforcement.

3.6 LAPPED SPLICES
Length of laps where not dimensioned on the drawings in accordance with the SELECTIONS. Provide laps only where indicated on the drawings. Tie all lapping bars to each other. Plain bars lapped splices must be hooked.

Welded wire mesh laps to NZS 3101, lap one mesh square plus 50mm minimum (do not count bar extension beyond the outermost wire).

3.7 REINFORCEMENT COVER TO NZS 3604 OR NZS 4229

For in-situ concrete, foundations and interior slabs on ground, to NZS 3604 or NZS 4229, the reinforcement and welded mesh cover to be:

Location, cover to	NZS 3604	NZS 4229
Footing, to earth	75mm	75mm
Footing, to DPM	75mm	50mm
Foundation, to edge	75mm	75mm
Slab, to slab top	30mm	30mm
Slab, to slab edge	50mm to 75mm	50mm to 75mm

3.8 CASTING IN

Build in all grounds, bolts and fixings for wall plates and bracing elements, holding down bolts, pipes, sleeves and fixings as required by all trades and as shown on the drawings, prior to pouring the concrete.

Do not use grounds exceeding 100mm in length. Location and form of conduits to be approved in writing by the Contract Administrator. Minimum cover 40mm. Do not encase aluminium items in concrete. Do not paint steel embedded items more than 25mm into the concrete encasement. Cut back form ties to specified cover and fill the cavities with mortar.

Form all pockets, chases and flashing grooves as required by all trades and as shown on the drawings.

Wrap all pipes embedded in concrete with tape to break the bond and to accommodate expansion. Do not embed pipes for conveying liquids exceeding a temperature of 50°C in concrete.

3.9 PRE-PLACEMENT INSPECTION

Do not place concrete until all excavations, boxing and reinforcing have been inspected and passed by the Building Consent Authority.

3.10 SURFACE FINISHES

To NZS 3114, 105, Specification of finishes, as scheduled or as denoted on the drawings.

3.11 CONCRETE SURFACE TOLERANCES

To NZS 3114, 104, Surface tolerances and NZS 3114, 105, Specification of finishes, with the suggested tolerances becoming the required tolerances.

3.12 COMPACTION

Use power operated vibrators on foundations, vertical constructions and beams.

3.13 SURFACE DEFECTS

Make good surface defects immediately after forms are stripped. Make good hollows or bony areas with 1:2 mortar or plaster, finished to the same tolerances as the parent concrete. Fill any tie rod holes with 1:2 mortar.

3.14 CURING OF CONCRETE

Keep damp for not less than seven days. Ensure curing of slabs commences as soon as possible after final finishing, by the use of continuous water sprays, or ponding. Alternately, apply a curing membrane. Ensure any membrane used will not affect subsequent applied finishes.

3.15 CLEAN OUT

Clean out saw cuts. Fill with cement grout where the floor will be covered with carpet or vinyl.

3.16 REMOVE

Remove all unused materials and all concrete and reinforcing debris from the site.

3820 CARPENTRY

1. GENERAL

This section relates to the supply and erection of timber framing, as a framed structure, or as partitioning. It includes prefabricated timber and engineered wood.

1.1 DIMENSIONS

All timber sizes except for battens are actual minimum dried sizes.

2. PRODUCTS

2.1 TIMBER FRAMING, TREATED
Species, grade and in service moisture content to NZS 3602, NZBC B2/AS1 and treatment to NZS 3640, NZBC B2/AS1. Structural grade (SG) to NZS 3604, NZS 3622 with properties to NZS 3603.

Components

2.2 NAILS
Type to NZS 3604, section 4, **Durability**, and of the size and number for each particular types of joint as laid down in the nailing schedules of NZS 3604, sections 6-10.

2.3 CORROSION RISKS
For interior timber, treated with copper-based timber preservatives (H3.2 or higher), use a minimum of hot-dipped galvanized steel fixings and fasteners.

For exterior timber, timber in damp areas and timber subject to occasional wetting, use only stainless steel (or equivalent) fixings and connectors, when the timber is treated with; Copper Azole (CuAz, Preservative code 58), Alkaline Copper Quaternary (ACQ, Preservative code 90), Micronise Copper Azole (code 88) or Micronised Copper Quaternary (code 89).

3. EXECUTION

3.1 EXECUTION GENERALLY
To NZS 3604 except as varied in this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.2 SEPARATION
Separate all timber framing timbers from concrete, masonry and brick by: -
- a full length bituminous damp-proof membrane overlapping timber by at least 6mm; or
- a 12mm minimum free draining air space

3.3 ATTENDANCE
Provide and fix blocks, nogs, openings and other items as required by other trades.

3.4 MOISTURE CONTENT
Maximum allowable equilibrium moisture content (EMC) for non air-conditioned or centrally heated buildings for framing to which linings are attached.

Framing at erection:	24% maximum
Framing at enclosure:	20% maximum
Framing at lining:	16% maximum

3.5 SET-OUT
Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

3.6 FRAMING WALLS
Frame to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, section 8, **Walls**.

3.7 FRAMING CEILINGS
Frame to required loading and bracing complete with runners and battens set out to support ceiling lining. All fabricated and fastened to NZS 3604, section 13, **Ceilings**. Trim for openings in ceilings and hatches to NZS 3604 section 13.3, **Openings in ceilings**. Provide blocking for water tanks located in the ceiling space to NZS 3604, section 13.4, **Water tanks in roof space**.

3.8 DPC TO TIMBER
Refer to 4161 UNDERLAYS, FOIL AND DPC section.

4161 UNDERLAYS, FOIL AND DPC

1. GENERAL
This section relates to the application of:
- DPC/DPM
- wall underlays includes Kraft based and synthetic wall underlays
- roofing underlays includes kraft based and synthetic roof underlays
- foils
- accessories

Requirements

1.1 INSTALLATION SKILL LEVELS
Installers to be familiar with the manufacturer's technical literature and the NZMRM CoP NZ metal roof and wall cladding Code of Practice.

2. PRODUCTS

Materials

DPC

2.1 POLYETHYLENE DPC
Polyethylene film to AS/NZS 2904 and to the appropriate test methods set out in AS/NZS 4347.0. Thickness 500 microns minimum, manufactured for use as a damp-proof course and concealed flashings to doors and windows.

DPM

2.2 DAMP PROOF MEMBRANE - CONCRETE FLOOR
Polyethylene sheet with minimum thickness of 0.25mm to NZS 3604, 7.5.6, Polyethelene (polythene) sheet damp-proof membranes.

3. EXECUTION

Conditions

3.1 GENERAL REQUIREMENTS
To NZBC E2/AS1 Table 23 Properties of Roof Underlays and Wall Underlays; and manufacturers technical literature.
Note: Care should be taken not to expose the underlay to continuous wet and windy conditions.

3.2 STORAGE
Store wall and roofing underlays and accessory materials, under conditions that ensure no deterioration or damage. Store rolls in an upright position on a smooth floor and protected from sunlight, UV radiation and moisture.

3.3 INSPECTION
Before starting work, check that the framing will allow work of the required standard. Carry out remedial work identified before laying underlay.

Application - DPC

3.4 POLYETHYLENE DPC TO TIMBER
Lay polyethylene DPC under treated and untreated timber, including LOSP treated timber, of all timber framed walls on concrete and concrete masonry, in a single layer with 50mm overlaps at joints to provide a waterproof barrier.

3.5 DPC BETWEEN DISSIMILAR MATERIALS
Lay DPC between dissimilar materials where required.

Completion

3.6 CLEAN UP
Clean up as the work proceeds.

3.7 LEAVE
Leave work to the standard required by following procedures.

3.8 REMOVE
Remove debris, unused materials and elements from the site.

7420 SANITARY SYSTEMS

1. GENERAL
This section relates to above ground gravity flow sanitary systems;
- for foul water
- from sanitary fixtures to first underground drain connection
- including system wastes, floor wastes, floor waste gullies, traps, vents and valves
- with associated components and accessories to make the system work

1.1 DOCUMENTS
Documents referred to in this section are:

NZBC G1/AS1	Personal hygiene
NZBC G13/AS1	Foul water - Sanitary plumbing
NZBC G13/AS3	Plumbing and drainage
AS 2887	Plastic waste fittings

AS/NZS 1260 PVC-U pipes and fittings for drain, waste and vent applications
AS/NZS 2032 Installation of PVC pipe systems
AS/NZS 3500.2:2003 Plumbing and drainage - Sanitary plumbing and drainage
Plumbers, Gasfitters and Drainlayers Act 2006

1.2 QUALIFICATIONS
Carry out all work under the direct supervision of a certifying plumber under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 PVC-U WASTE, DISCHARGE AND VENT PIPES
PVC-U pipe to AS/NZS 1260 complete with fittings brand-matched to the pipe manufacturer's requirements.

2.2 EXPOSED PIPES AND TRAPS
Chrome plate on copper pipes and associated copper and brass fittings.
White polybutylene or PVC, including all associated fittings.

3. EXECUTION

3.1 EXECUTION GENERALLY - AS/NZS 3500.2
Carry out this work and complete all tests to NZBC G1/AS1: 2.0, 3.0 and AS/NZS 3500.2:2003, as modified by NZBC G13/AS3.

3.2 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

3.3 INSTALL TRAPS, WASTE AND VENT PIPES - AS/NZS 3500.2
Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to AS/NZS 3500.2:2003, as modified by NZBC G13/AS3, and AS/NZS 2032. Discharge wastes into the drainage system stack, soil pipe, or gully trap as shown. Bird proof mesh to all roof vents and vermin proof mesh to all untrapped waste pipes.

3.4 PENETRATIONS
At penetrations through constructions provide and fit collars and escutcheon plates to match pipework.

3.5 TEST
Test soil and waste disposal systems to ensure no leakage exists and leave in proper working order.

3.6 CLEAN UP
Remove labels and clean fittings. Remove unused materials from the site.

7430 DRAINAGE

1. GENERAL
This section relates to the supply and laying of gravity foul water (sewage), stormwater and groundwater drainage.

1.1 AS BUILT DOCUMENTS
Supply a 1:100 scale as-built drawing of drains and fittings to the territorial authority and to the owner on completion.

1.2 QUALIFICATIONS
Drainlayers to be experienced, competent and familiar with the materials and techniques specified.
Carry out all work under the direct supervision of a certifying drainlayer under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 CONCRETE
17.5 MPa prescribed mix to NZS 3104.

2.2 REINFORCEMENT
Plain round and/or deformed steel bars, Grade 300 to AS/NZS 4671.

2.3 PVC-U PIPES
PVC-U pipes bends, junctions, fittings and joints to AS/NZS 1254 and AS/NZS 1260.
Underground PVC-U pipe to be Classified as follows:

Classification	Use
SN4 - SN6	Domestic & light load areas
SN8 - SN10	Commercial & Industrial medium load areas
SN16	Public roads & high load areas

2.4 GULLY TRAPS - AS/NZS 3500.2
Gully traps complete with grating to AS/NZS 3500.2, 4.6 Gullies, as modified by NZBC G13/AS3.

2.5 TRENCH BACKFILLING MATERIAL - AS/NZS 3500.2
Bedding & surround: Crushed rock or gravel screenings of nominal size of 7 - 10 mm.
Backfill material: Excavated material from the trench (free from rock, hard matter and organic material) containing no soil lumps larger than 75 mm.

3. EXECUTION

3.1 EXCAVATE
Excavate for drains to a firm even base with correct gradients set in straight runs.
Trenches running parallel, below and close to foundations of buildings to NZS 3604 or NZS 4229 to be separated to:
- NZBC E1/AS1, 3.9.7, **Proximity of Trench to Building**, for stormwater and subsoil drains.
- NZBC G13/AS2, 5.6, **Proximity of Trench to Building**, for foul water drains.

3.2 MANUFACTURER'S REQUIREMENTS
All drainage installations to the pipe and fitting manufacturer's requirements.

3.3 DRAINAGE GENERALLY - AS/NZS 3500.2 & NZBC E1/AS1
Carry out drainage work and tests to AS/NZS 3500.2, as modified by NZBC G13/AS3 (foul water), NZBC E1/AS1 (stormwater). Lay uPVC pipe systems to relevant sections of AS/NZS 2032, NZS 2566.1 and AS/NZS 2566.2. Lay polyethylene pipes and fittings to relevant sections of AS/NZS 2033 and NZS 2566.1.

3.4 LAY FOUL WATER DRAINS
Lay drains in straight runs to correct gradients, to discharge into the network utility operator's sewer. Set inspection fittings on a concrete base.

3.5 INSTALL GULLY TRAPS
Set on concrete 50mm above the surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

3.6 CONCRETE ENCASEMENT
Concrete encase shallow drains and drains under driveways, on a 100mm deep 17.5 MPa concrete bed reinforced with three 10mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100mm 17.5 MPa concrete.

3.7 FIELD TEST
Field test drains for watertightness (PVC-U to AS/NZS 2032 or AS/NZS 2566. 2 Appendix N) to the satisfaction of the territorial authority inspector.

3.8 PLACING & COMPACTING TRENCH BACKFILLING MATERIAL FOR PVC-U PIPE
Place and rake in bedding material so as to support the pipe once laid.
Embedment material shall be placed uniformly along and around the pipe to ensure uniform density of side support and overlay with no distortion, dislodgment or damage to the pipeline. Following placement, the embedment material shall be compacted in layers to uniformly support the pipe. Trench fill material shall be placed on the pipe embedment and compacted to fill the trench, with care taken to avoid impact loading of the pipe.

8990 SELECTIONS

1. GENERAL

1.1 GENERAL
The following selections are to be read in conjunction with the related work sections, where they are available.

2. PRIMARY STRUCTURE

2.1 CONCRETE
DAMP-PROOF MEMBRANE
Brand/type: 250 Micron

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REINFORCEMENT LAPS

Where reinforcement laps are not shown on the drawings, lap as follows:

Bar diameter	Grade 300E deformed
12mm	500mm

NORMAL CONCRETE

Normal concrete: 17.5 Mpa for slab and foundations

2.2 INTERIOR TIMBERS

INTERIOR FRAMING

Member	Species	Grade	Treatment
Non structural walls:	Radiata pine	SG8	H1.2

INTERIOR FINISHING TIMBERS

Member	Species	Grade
Architraves:	Radiata pine	Dressing
Skirtings:	Radiata pine	Dressing
Cornices:	Radiata pine	Dressing

3. ENCLOSURE

3.1 DPC & UNDERLAYS

DPC

Location:	Refer details
Brand / type:	Thermakraft Polyethylene - Supercourse 500

DPM

Location:	Under slab
Brand / type:	250 Micron polyethylene DPM
Jointing tape:	PVC