

COUNCIL
COPY



Site Location

LOT AREA = 720 sq.m

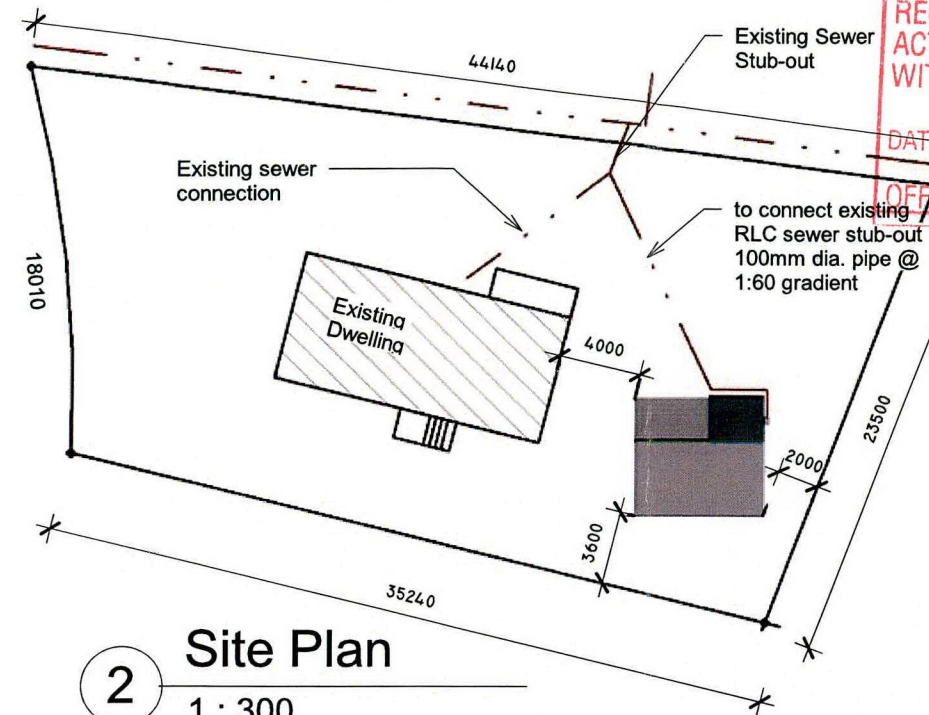
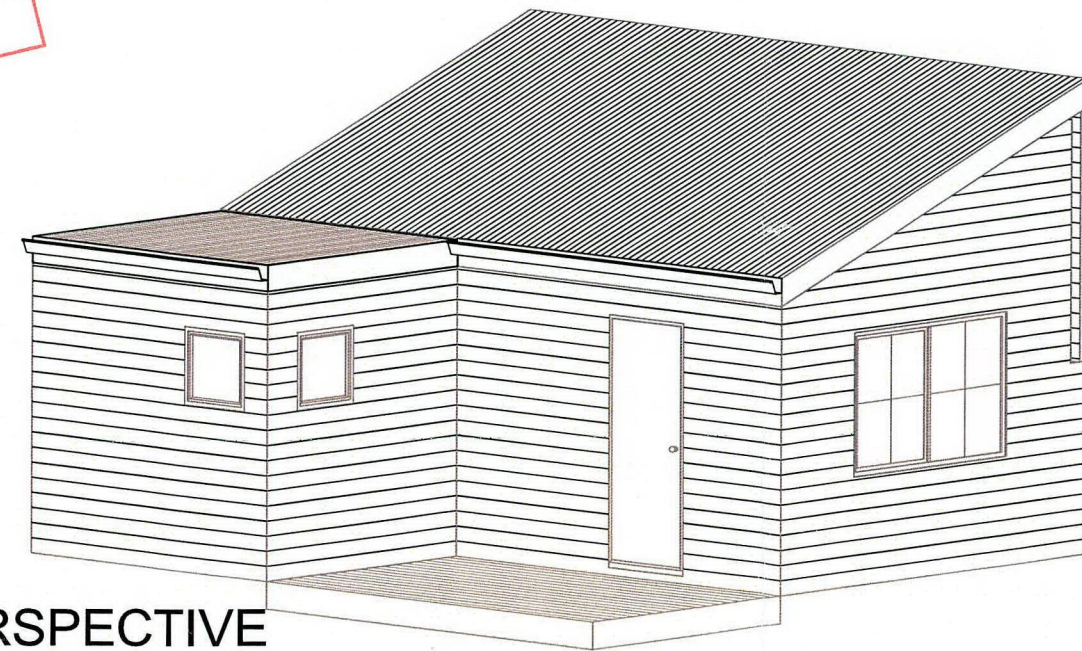
Building area = 104 + 28.04 = 132.04 sq.m

COVERED AREA = 18.33 %

Sheet List	
Sheet Number	Sheet Name
A100	Cover Page / Sheet List
A101	Existing and Proposed Floor Plan
A102	Elevations
A103	SECTION
A104	ELECTRICAL & ROOF PLAN
A105	BRACING ELEMENTS
A106	SCHEDULE OF DOORS & WINDOWS
P001	Plumbing Layout

SUPERSEDED AS
ADDITIONAL INFORMATION
PROVIDED DURING
BUILDING CONSENT
Full set PROCESS
Signed: *[Signature]* Date: *18/3/2020*

1 PERSPECTIVE



2 Site Plan
1 : 300

PLANS APPROVED SUBJECT TO ALL
REQUIREMENTS OF THE BUILDING
ACT 2004 BEING FULLY COMPLIED
WITH
DATE: *18/3/2020*
OFFICE: *BC*
SUPERSEDED

Status:
FOR CONSENT

Project: Garage Convert to
Sleepout
Address: 5 Beryl Place, Rotorua

Drawing: Cover Page / Sheet List
Drawn Scale: 1 : 300
Reduced Scale:

Drawn By: RE	Checked By: RE	Date: 22/03/18
CAD Filename:		Sheet No: Revision:
Project No. 109		A100



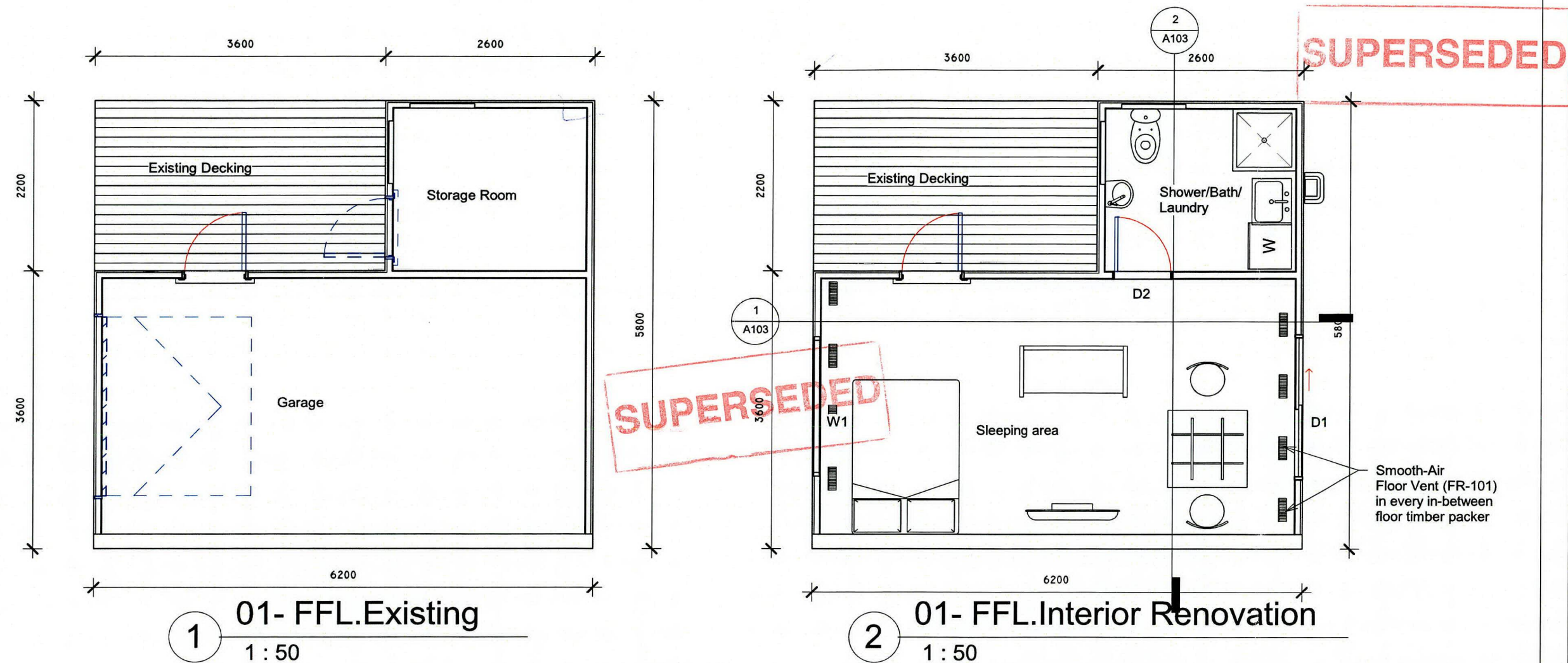
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Document Number: RDC-1087901

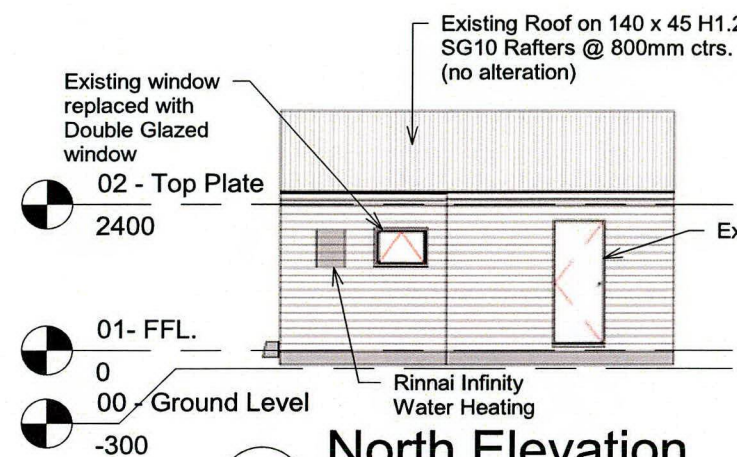
Date Registered: 18/12/2020

Document Set ID: 1744545

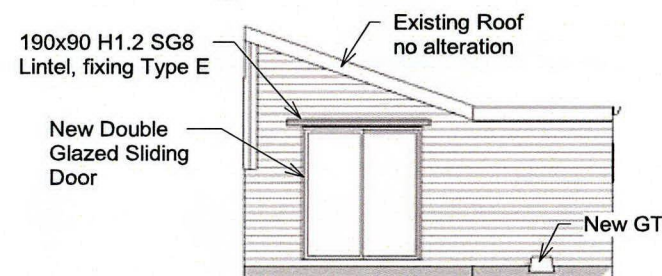
Version: 1, Version Date: 18/12/2020



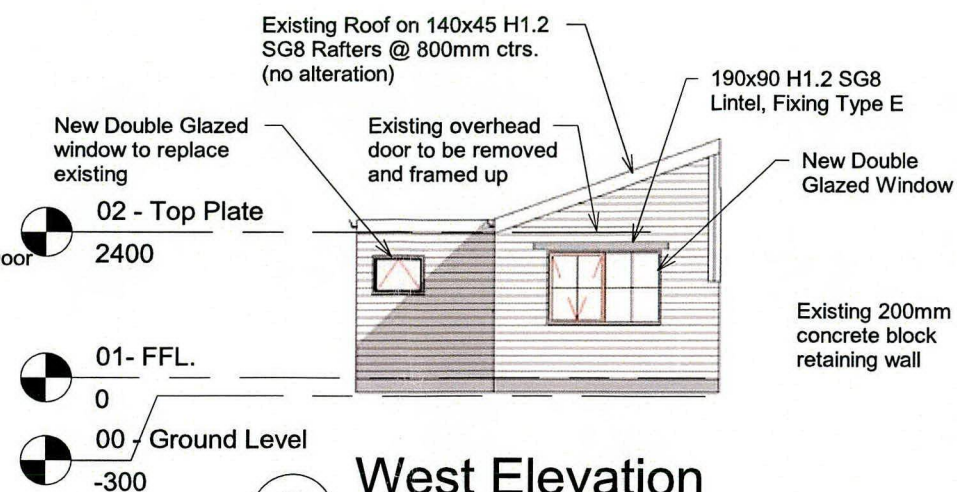
	Status: FOR CONSENT	Project: Garage Convert to Sleepout Address: 5 Beryl Place, Rotorua	Drawing: Existing and Proposed Floor Plan Drawn Scale: 1 : 50 Reduced Scale:	Drawn By: RE	Checked By: RE	Date: 22/03/18
				CAD Filename:		Sheet No: Revision:
				Project No. 109		A101



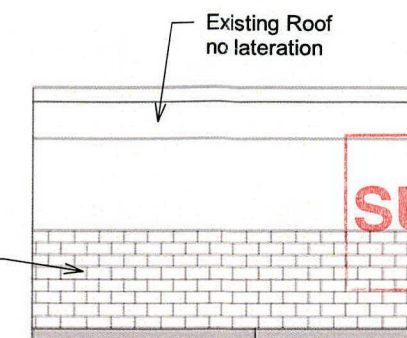
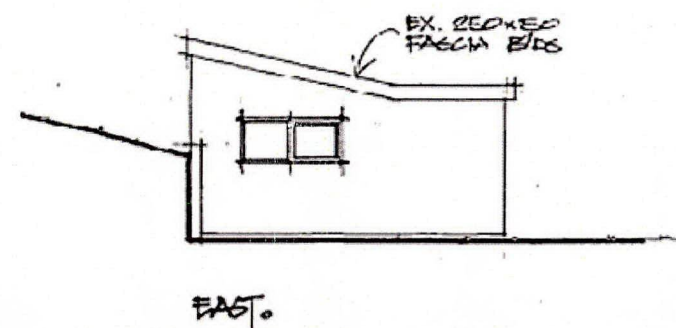
1 North Elevation
1 : 100



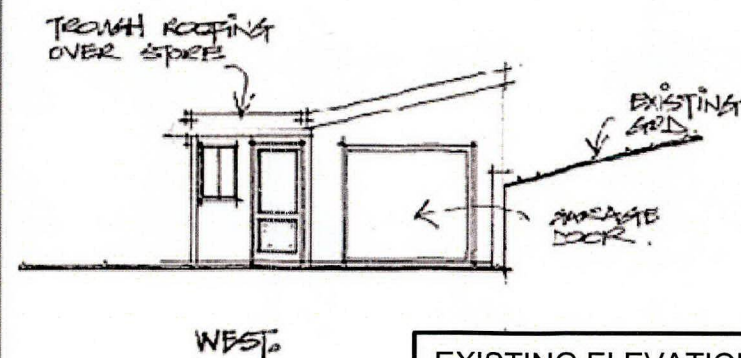
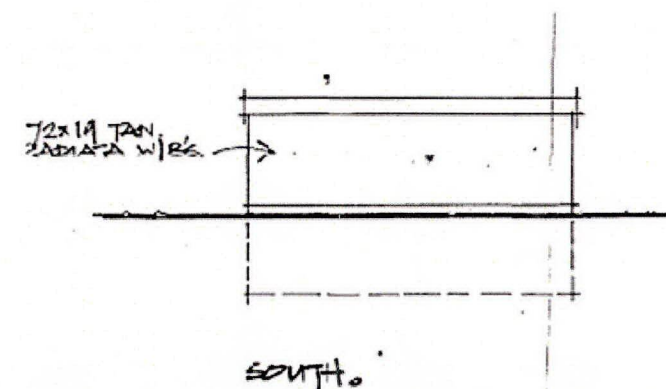
4 East Elevation
1 : 100



2 West Elevation
1 : 100



3 South Elevation
1 : 100



EXISTING ELEVATION

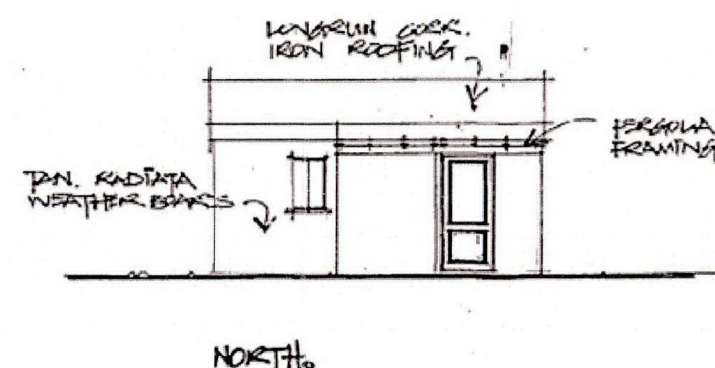


Table 2: Building envelope risk scores
Paragraph 3.1.2, Figure 1

WEST ELEVATION

Risk factor	Risk severity					Subtotals for each risk factor
	LOW	MEDIUM	HIGH	VERY HIGH (1)		
Wind zone (per NZS 3604)(1)	0	0	0	2	0	
Number of storeys	0	1	1	4	1	
Roof/wall intersection design	0	1	3	5	3	
Eaves width	0	1	2	5	2	
Envelope complexity	0	1	3	6	0	
Deck design	0	2	4	6	0	
Total risk score for use in Table 3:					6	

(Enter the appropriate risk severity score for each risk factor in the score columns. Transfer these figures across to the right-hand column. Finally, add up the figures in the right-hand column to get the total risk score.)

NOTE: (1) For buildings in Extra High wind zones, refer to Tables 1 and 3 for rigid underlay and drained cavity requirements.

Status:
FOR CONSENT

Project: Garage Convert to Sleepout
Address: 5 Beryl Place, Rotorua

Drawing: Elevations

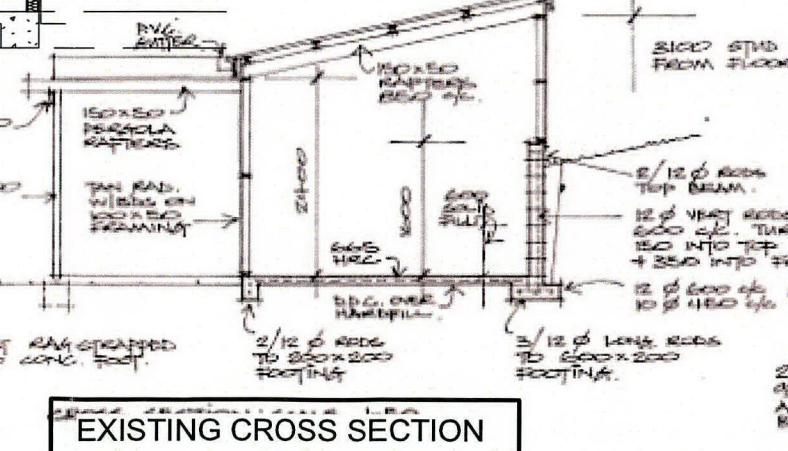
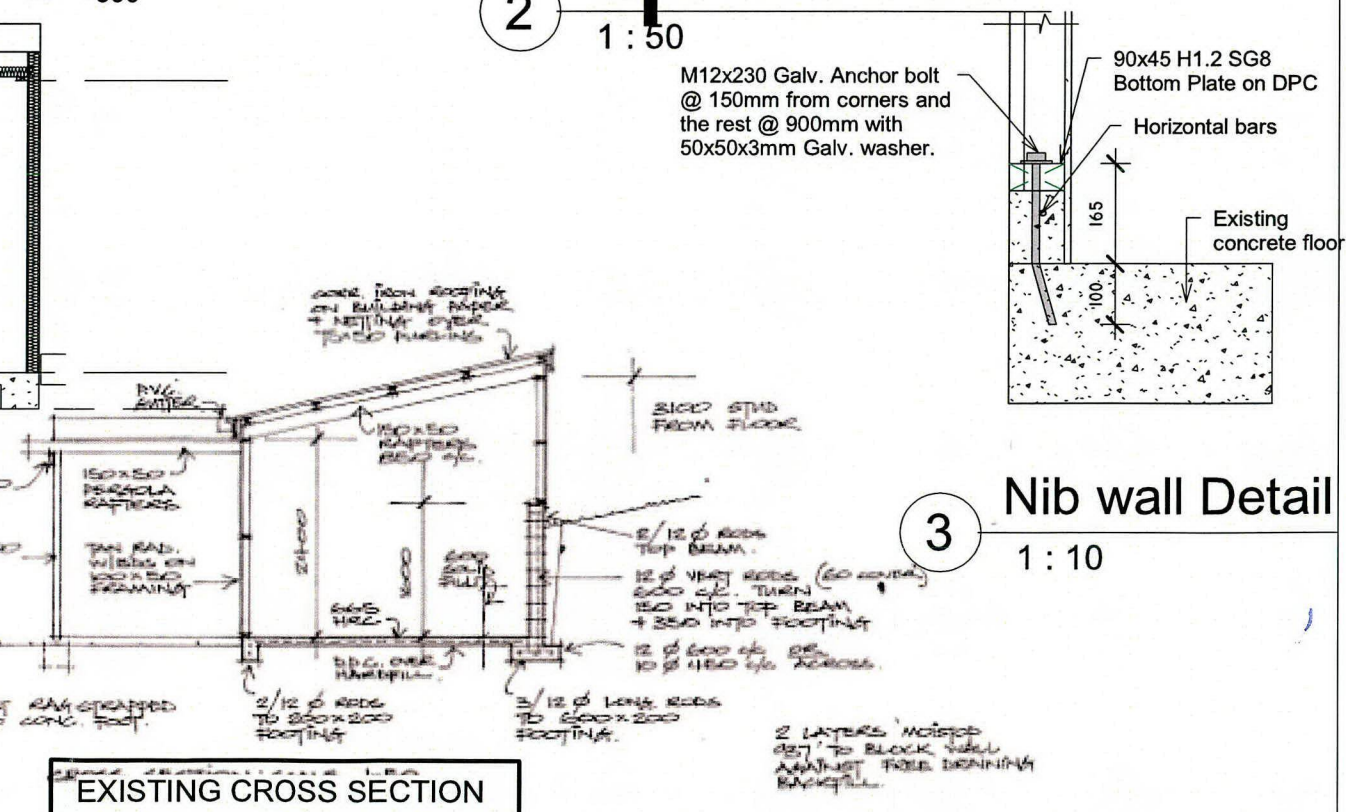
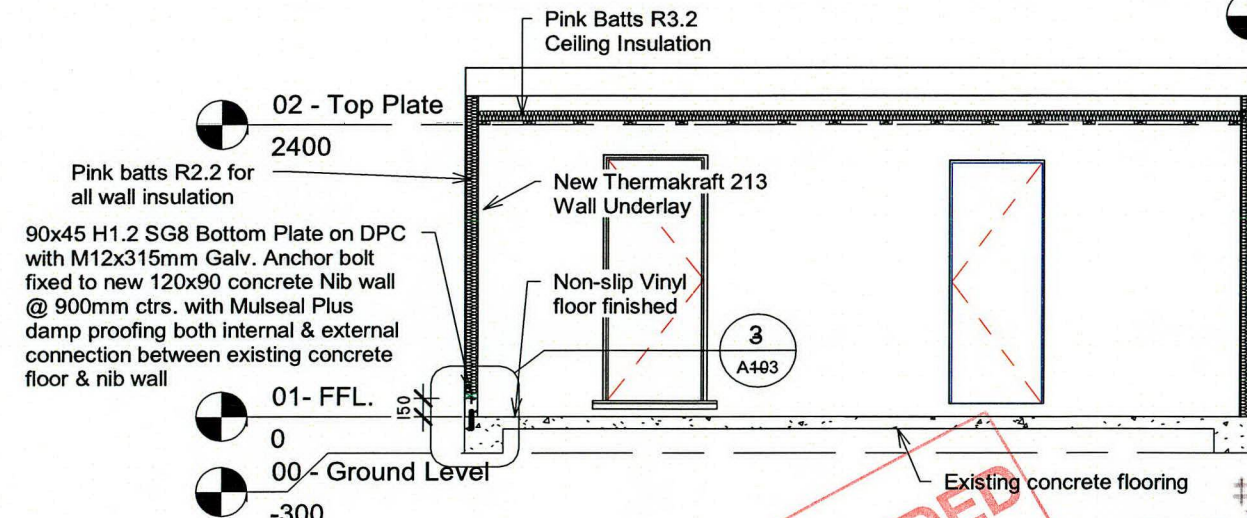
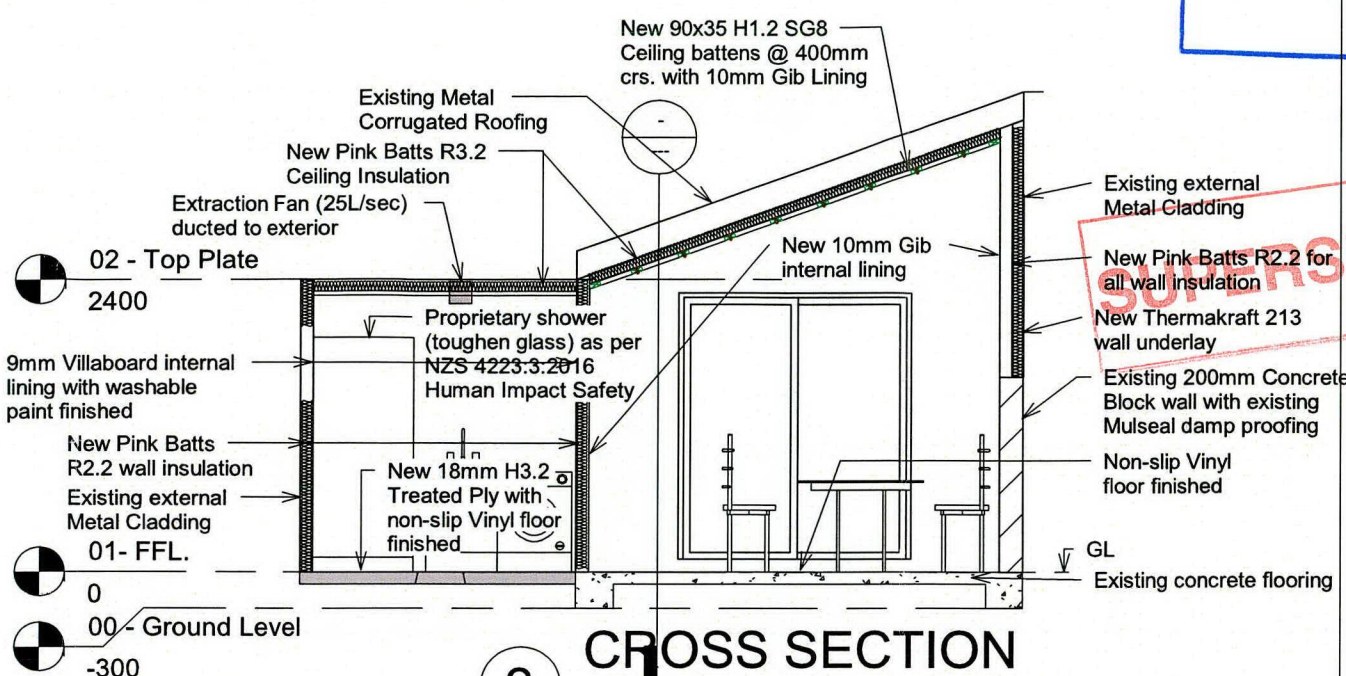
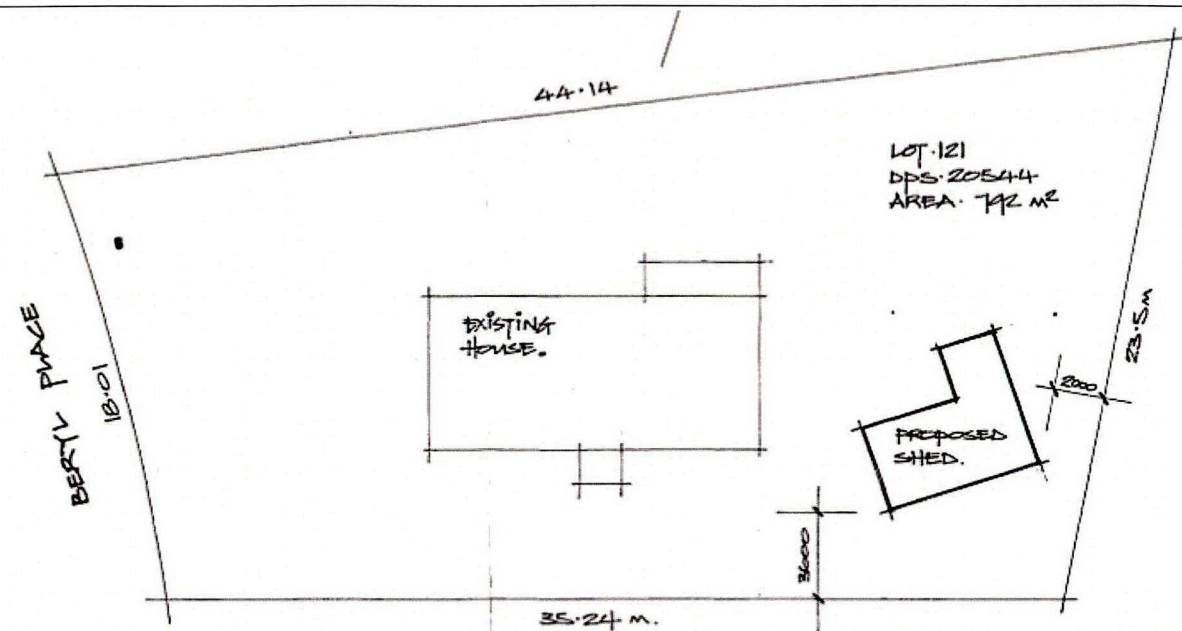
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Reduced Scale:

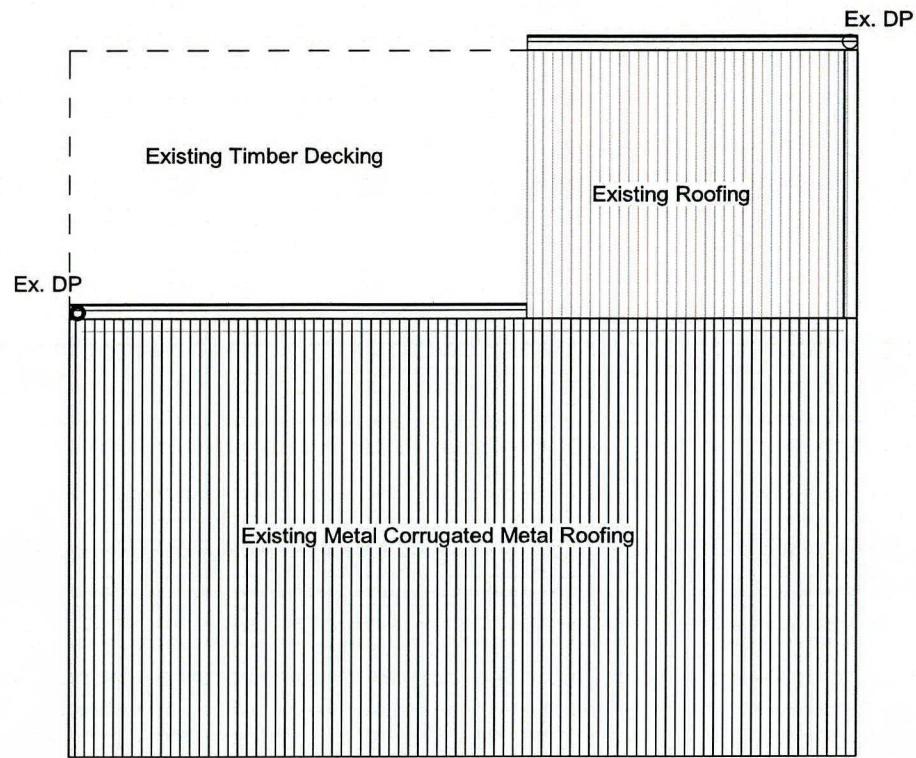
Drawn By: RE
Checked By: RE
Date: 22/03/18

CAD Filename: Sheet No: Revision:

Project No. 109
A102

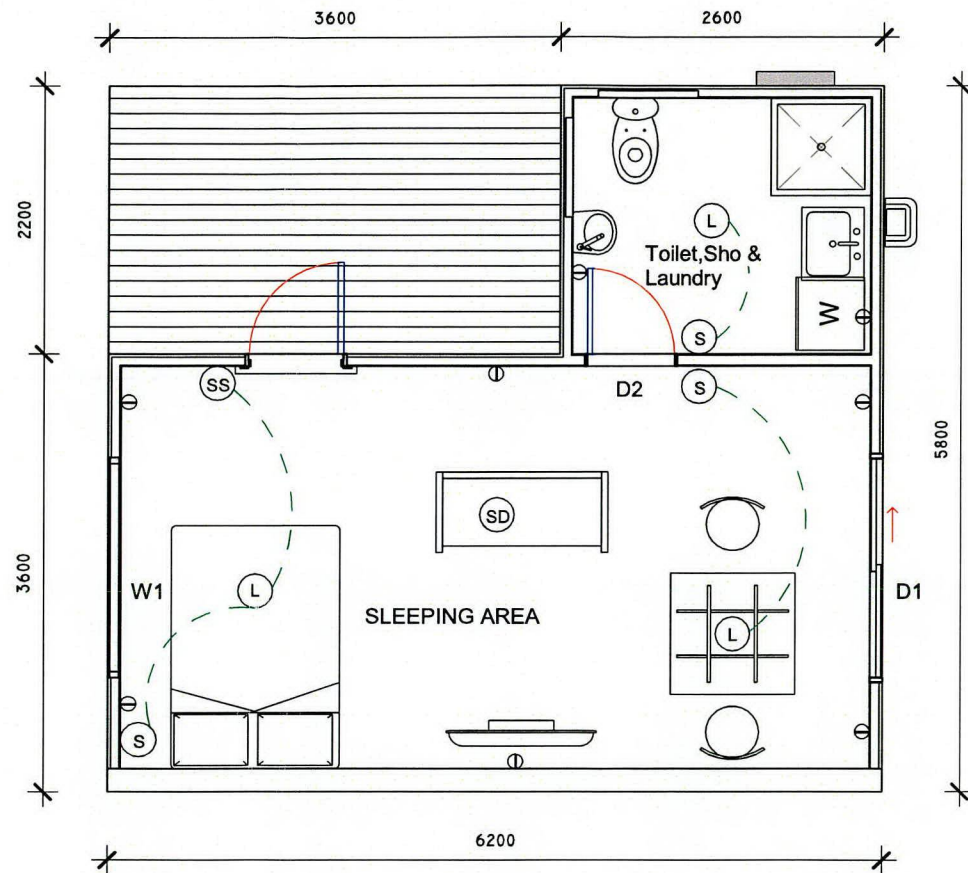


Status: FOR CONSENT	Project: Garage Convert to Sleepout Address: 5 Beryl Place, Rotorua	Drawing: SECTION Drawn Scale: As indicated Reduced Scale:	Drawn By: RE	Checked By: RE	Date: 09/19/19
			CAD Filename:		Sheet No: Revision:
			Project No. 109		A103



1 Roof Plan
1 : 50

SUPERSEDED



2 ELECTRICAL PLAN
1 : 50

LEGEND:

- (S) Single Switch
- (L) Drop Light
- (SS) Double Switch
- e Double Outlet
- (SD) Smoke Detector

Note:

Power Supply come from the main dwelling.

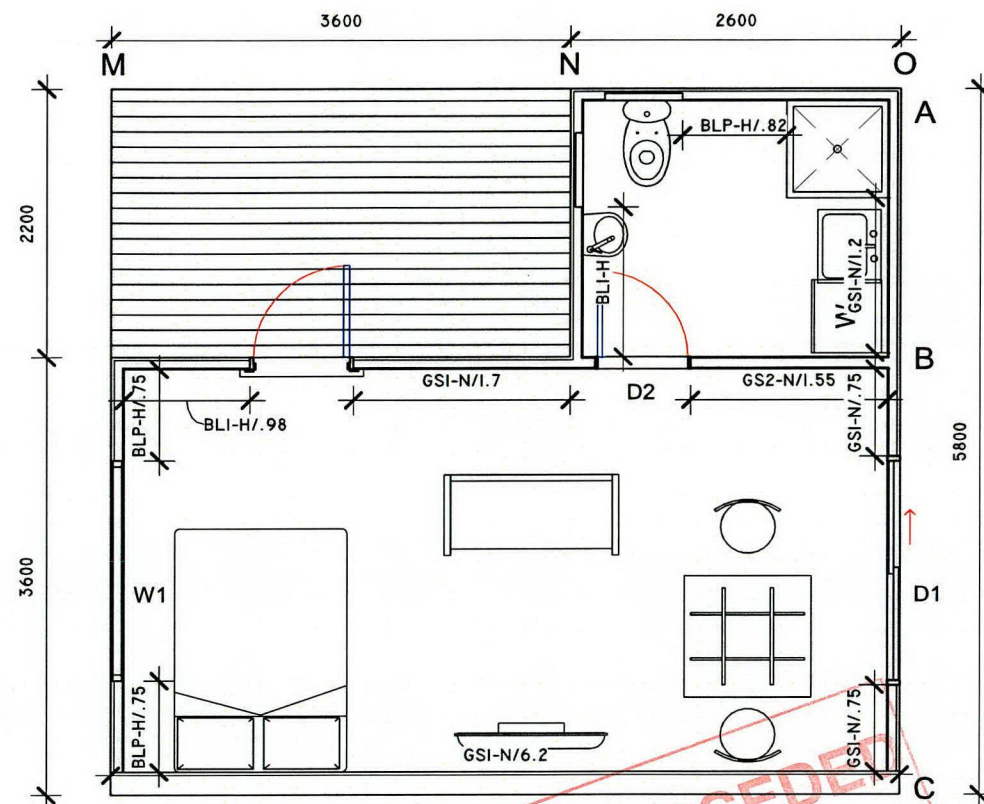
SUPERSEDED

	Status: FOR CONSENT	Project: Garage Convert to Sleepout Address: 5 Beryl Place, Rotorua	Drawing: ELECTRICAL & ROOF PLAN Drawn Scale: 1 : 50 Reduced Scale:	Drawn By: RE	Checked By: RE	Date: 05/04/18
				CAD Filename:		Sheet No: Revision:
				Project No. 109		A104

BC

80328

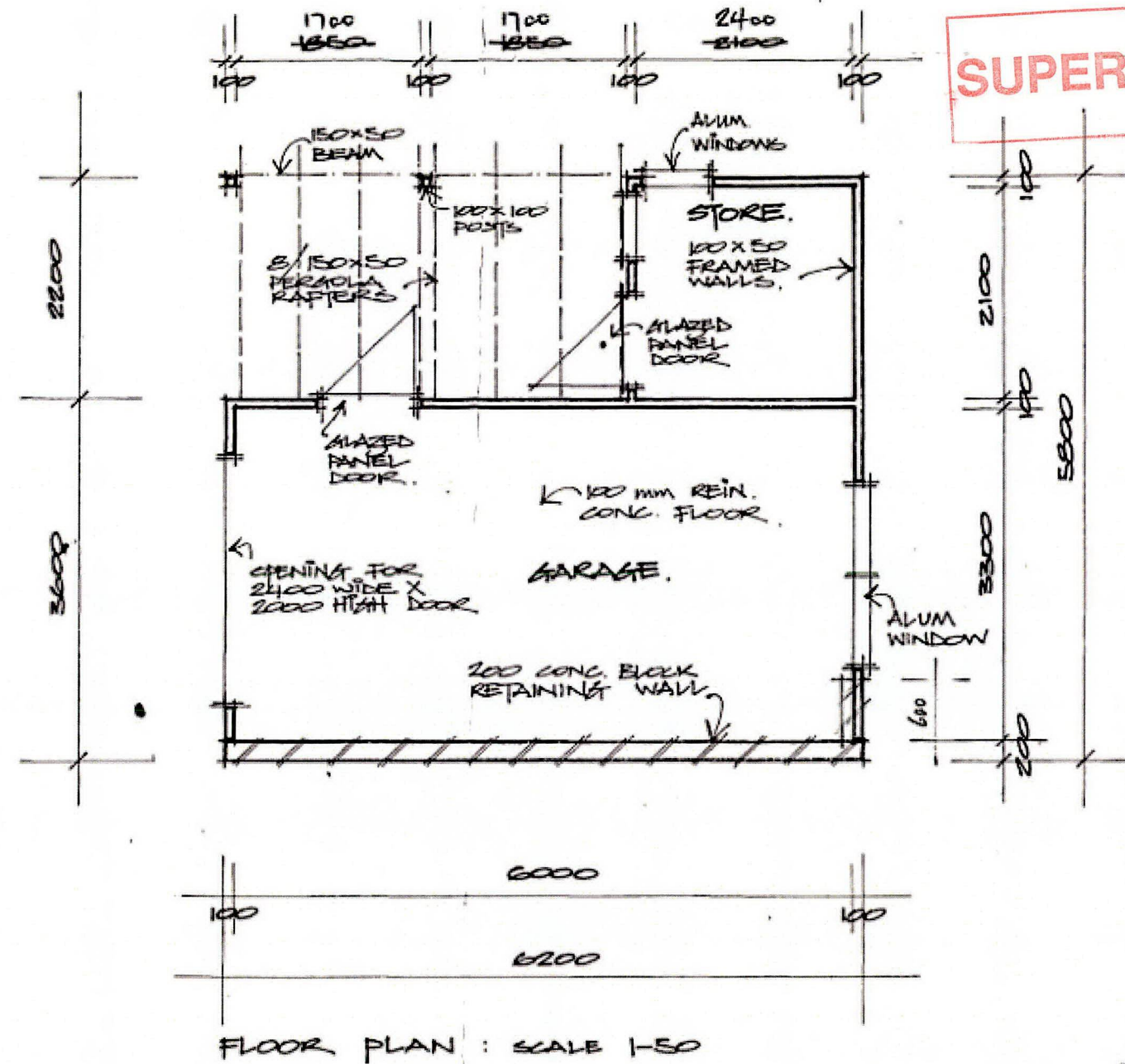
SUPERSEDED



1

BRACING ELEMENTS

1:50



FLOOR PLAN : SCALE 1:50

Status:

FOR CONSENT

Project:

Garage Convert to
Sleepout

Address:

5 Beryl Place, Rotorua

Drawing:

BRACING ELEMENTS

Drawn Scale:

1:50

Reduced Scale:

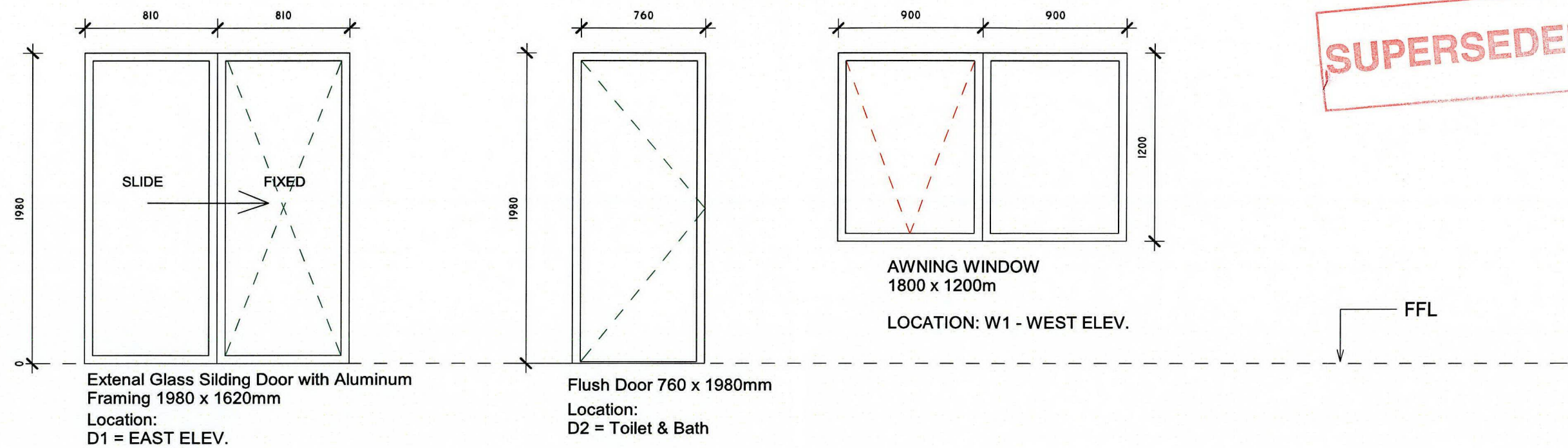
Drawn By:
REChecked By:
REDate:
05/04/18

CAD Filename:

Sheet No: Revision:

Project No.
109

A105

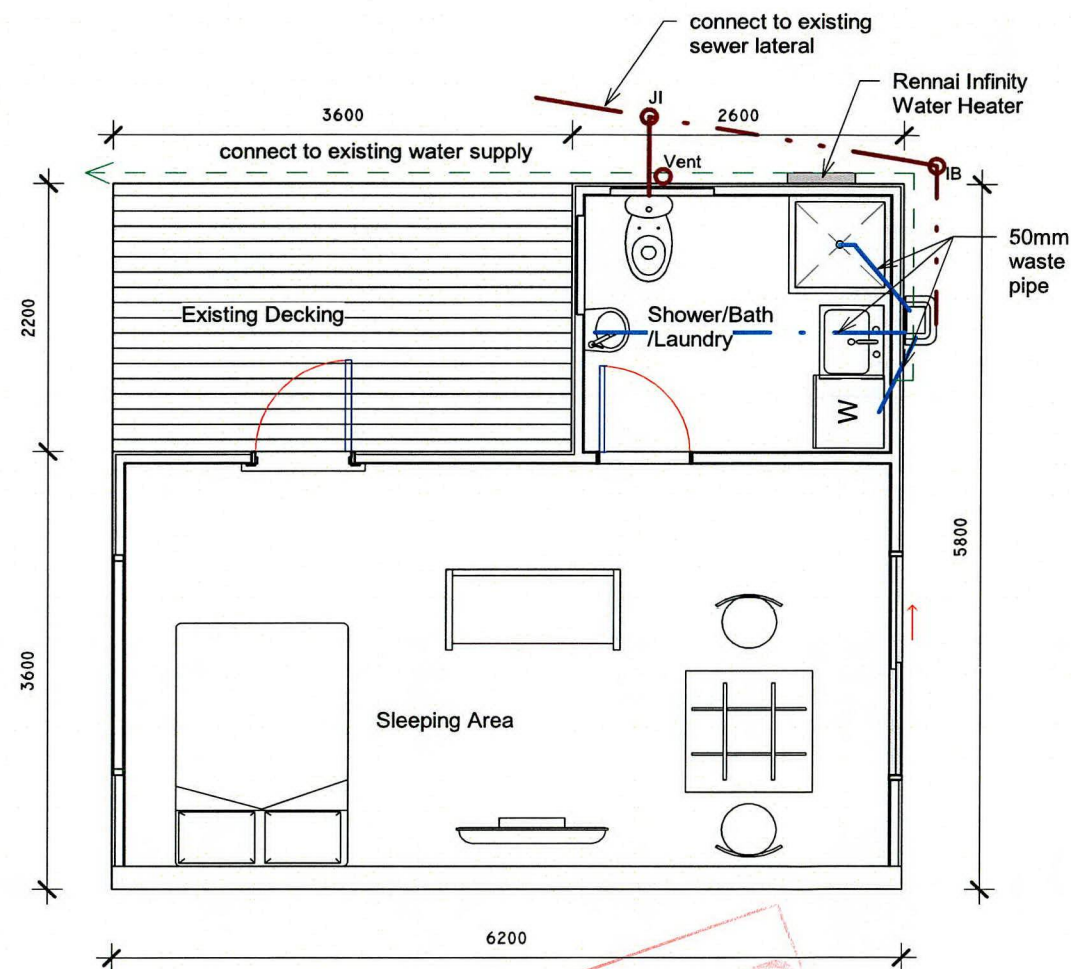


NOTE:
As per NZS 4223:3:2016
Human Impact Safety

SUPERSEDED

Schedule of Doors & Windows
1 : 25

	Status: FOR CONSENT	Project: Garage Convert to Sleepout Address: 5 Beryl Place, Rotorua	Drawing: SCHEDULE OF DOORS & WINDOWS Drawn Scale: 1 : 25 Reduced Scale:	Drawn By: RE	Checked By: RE	Date: 09/15/19
				CAD Filename:		Sheet No: Revision:
				Project No. 109		A106



1 Plumbing Layout
1:50

CONSTRUCTION NOTES:

Plumbing to ASNZ:3500.2.2 by qualified tradesman.
Contractor locate all services connection on site prior to earthworks confirm all boundary setbacks & restrictions comply with current regulations prior to commencement of foundations.
All waste pipes PVC. Sizes, fall, venting & discharge to be confirmed by NZ qualified plumber. Confirm positions of available services cabling etc. on site prior to any excavation.

DRAINAGE NOTES:

Trenches should be excavated to allow for the specified depth cover, overlay plus backfill, above the pipes.
MIN. COVER:
-Driveway and similar areas: 600mm (subject to traffic)
-Footpath, gardens: 500mm
Bedding materials are listed as per AS/NZS 3500.2.2

LEGEND:

AS/NZS 3500 ITEM:

- DN 100 PVC SS Pipe
- DN 100 min, water closets (ref specs)
- min 1:60 gradient
- min PVC fixture waste pipe sizes:
DN 40 basin, DNN 40 single head showers, baths, sinks, DN 50 multiple head showers, DN 65 barnch drians
- min 1:40 gradient.
- 20mm HWC vent drain (copper)
- DN 65 to all wastes discharging directly into drain under floor
- TVo 65mm uPVC terminal vent & cap to roof, weatherproofed by plumber with compatible flashing sealed to roof
- VTR Vent thru Roof

2 Plumbing Notes
1:10

	Status: FOR CONSENT	Project: Garage Convert to Sleepout Address: 5 Beryl Place, Rotorua	Drawing: Plumbing Layout	Drawn By:	Checked By:	Date:
				RE	RE	09/10/19
				CAD Filename:		Sheet No: Revision:
				Project No. 109		P001
Drawn Scale:		Reduced Scale:				
As indicated						

ALF Calculation Report

**COUNCIL
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NZ Building Code Compliance

In order to comply with the Energy Efficiency Clause H1 of the New Zealand Building Code a building has to have a BPI of less than 1.55 kWh/(m² . °C . month) in any location throughout New Zealand.

The current design's BPI is: 1.54 pass

The current building design complies with Clause H1 of the NZBC because it passes the BPI requirements. However, in order to comply with the NZBC it also must comply with Clause E3 Internal Moisture of the NZBC.

The acceptable solution of Clause E3 of the NZBC requires that R-values for walls, roofs and ceilings shall be no less than:

- For light timber frame wall or other framed wall constructions with cavities, 1.5.
- For single skin normal weight masonry based wall construction without a cavity, 0.6.
- For solid timber wall systems no less than 60 mm thick, 0.6.
- For roof and ceilings of any construction, 1.5.

SUPERSEDED

Project Description

Project: 5 BERYL PL

Current design: Untitled design 2

Date: 15 3 2020

Designed by: RONALD ESPELLARGA

Address:

Owner name: JOSEPHINE BORJA RAMAJO

Address: 5 BERYL PL, PUKEHANGI, ROTORUA 3015

City: ROTORUA

Phone: 0272130925

Lot No.: 2

DP No.: 82796



SUPERSEDED AS
ADDITIONAL INFORMATION
PROVIDED DURING
BUILDING CONSENT
PROCESS

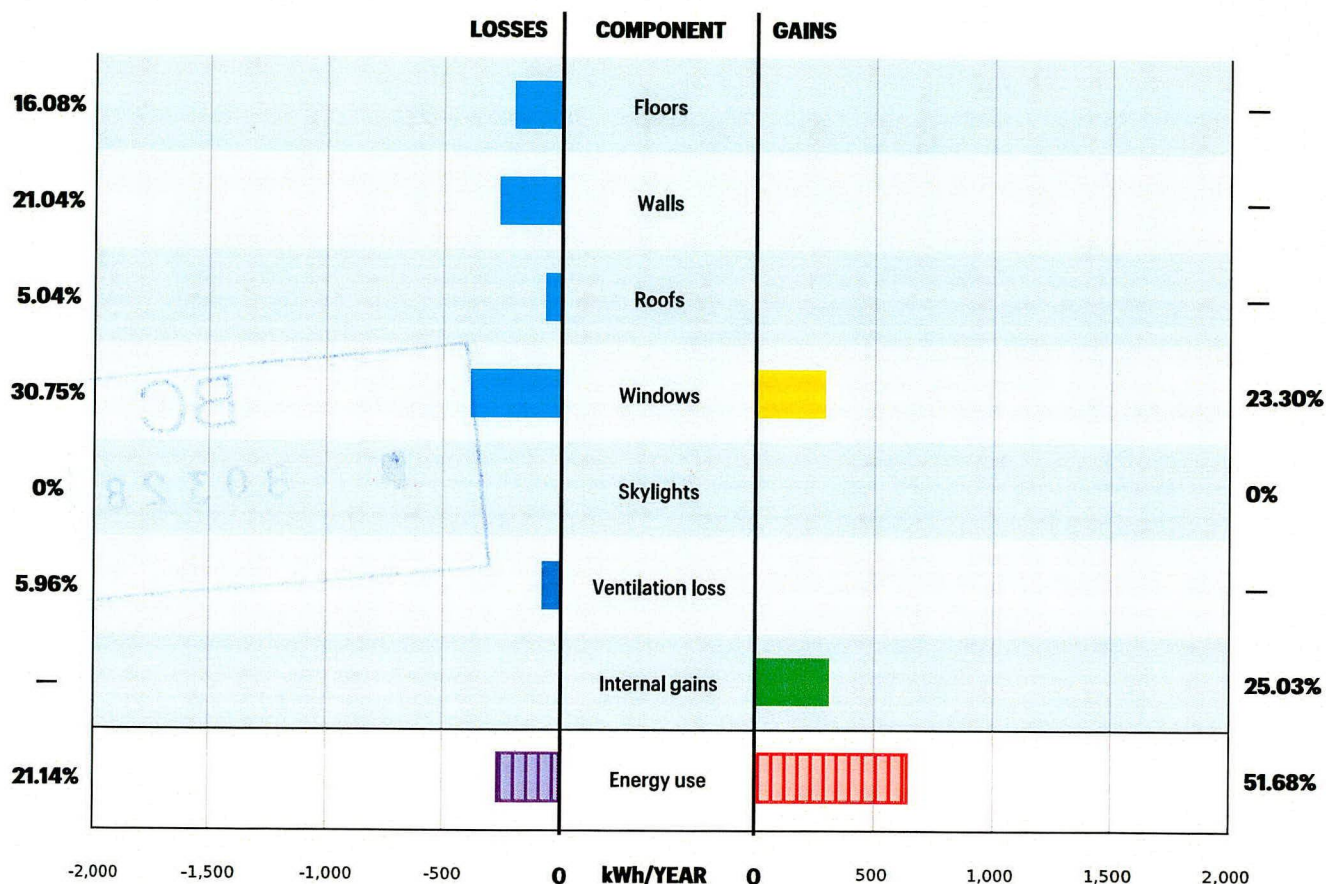
Signed..... Date.....

ALF Results Energy

The results in this section are calculated from the designer inputs including occupancy, and heating temperatures and schedules.

KEY:

- Conductive heat loss
- Ventilation loss
- Warm-up loss
- Solar gain
- Internal gains
- Heating required



The **warm-up loss** is the energy lost as the amount of additional heating required to bring the thermal mass back up to temperature. If you continually heat your home this will be zero.

The **heating required** will be the difference between all the losses for the building and its solar and internal gains.

Energy Heat Flows

The information in the table gives you an overview of all the heat flows in and out of the designed building, based on the heating temperatures, climate and schedule the designer has selected. It allows you to evaluate the importance of the thermal performance of individual building components – for example, of particular windows.

	Net Area	Loss		Gain		Useful Gain
	m ²	kWh/year	%	kWh/year	%	kWh/year
Slab floor	22.32	188.38	15.13	–	–	-188.38
Suspended floor	5.72	11.74	0.94	–	–	-11.74
Wall – Untitled wall 1 (6.2x2.4, N)	14.52	64.84	5.20	–	–	-64.84
Window – Window 1 (.6x.6, N)	0.36	22.08	1.77	33.65	11.60	11.57
Wall – Untitled wall 2 (5.8x2.6, E)	11.72	52.34	4.20	–	–	-52.34
Window – Untitled window 1 (1.6x2.1, E)	3.36	206.08	16.55	88.90	30.65	-117.17
Wall – Untitled wall 3 (6.2x3.2, S)	19.84	88.60	7.11	–	–	-88.60
Wall – Untitled wall 4 (5.8x2.6, W)	12.56	56.09	4.50	–	–	-56.09
Window – Untitled window 1 (1.8x1.2, W)	2.16	132.48	10.64	143.51	49.48	11.03
Window – Untitled window 2 (.6x.6, W)	0.36	22.08	1.77	23.91	8.24	1.83
Roof – Untitled roof 1 (3.6x6.2)	22.32	62.79	5.04	–	–	-62.79
Air Leakage	67.296	74.14	5.95	–	–	–
arm-up	–	263.08	21.13	–	–	–
Internal Gain	–	–	–	311.52	25.02	–

Energy Heat Flow summary

This is for the particular temperature setpoint and heating schedule you have selected.

Suspended Floor Loss: 11.74 kWh/year

Slab Floor Loss: 188.38 kWh/year

Wall Loss: 261.88 kWh/year

Window Loss: 382.72 kWh/year

Roof Loss: 62.79 kWh/year

Skylight Loss: 0 kWh/year

r Leakage: 74.14 kWh/year

Warm-up: 263.08 kWh/year

Total Load: 1244.76 kWh/year

Solar Gain: 290 kWh/year

Internal Gain: 311.52 kWh/year (2 occupants)

Total Gain: 601.52 kWh/year

Gain Load Ratio: 48.32 %

Effective Thermal Mass Density (per m² total floor area): 1.01 W/m² °C

Specific Heat Loss Density (per m² total floor area): 3.80 W/m² °C

Usefulness of Gains: 34.81 %

Useful Gains: 209.42 kWh/year

Required Heating Energy: 1035.34 kWh/year

SUPERSEDED

Modelling Assumptions

This section lists the modelling assumptions concerning the building design, climate and heating. These should match the details you entered into ALF.

Building Design

General:

Total Floor Area: 28.04 m²

Number of Occupants: 2

Floors:

SUSPENDED FLOOR:

Floor area: 5.72 m²

Perimeter Length: 9.6 m

Perimeter Height: .3 m

Subfloor R-value: 1 m²°C/W

Floor Covering R-value: 2.2 m²°C/W

Total Suspended Floor R-value: 4.48 m²°C/W

SLAB FLOOR:

Floor area: 22.32 m²

Perimeter Length: 24 m

Soil Conductivity: 1 W/m°C

Under Floor R-value: 1.3 m²°C/W

Slab and Ground R-value: 1.3 m²°C/W

Floor Covering R-value: .01 m²°C/W

Total Slab Floor R-value: 1.09 m²°C/W

Walls:

VERTICAL PROFILE METAL DIRECT-FIXED 90 MM FRAME – STUDS 600, DWANGS 800 (14%)

Name	Orientation	Length	Height	Net Area	Window Area	Insulation R-value	Construction R-value
		m	m	m ²	m ²	m ² · °C/W	m ² · °C/W
Wall – Untitled wall 1 (6.2x2.4, N)	N	6.2	2.4	14.52	0.36	2.2	2.06
Wall – Untitled wall 2 (5.8x2.6, E)	E	5.8	2.6	11.72	3.36	2.2	2.06
Wall – Untitled wall 3 (6.2x3.2, S)	S	6.2	3.2	19.84	0	2.2	2.06
Wall – Untitled wall 4 (5.8x2.6, W)	W	5.8	2.6	12.56	2.52	2.2	2.06

Roofs:

LOW SLOPE TROUGH SECTION WITH 140 MM JOISTS & BATTENS – RAFTERS AT 900 (5%)

Name	Length	Width	Net Area	Skylight Area	Insulation R-value	Construction R-value
	m	m	m ²	m ²	m ² · °C/W	m ² · °C/W
Roof – Untitled roof 1 (6.2x3.6)	6.2	3.6	22.32	0	3.2	3.27

Windows and skylights:

ALUMINIUM FRAME – SINGLE CLEAR

Name	Wall/Roof	Orientation	Width	Height	Net Area	Shading	R-value	SHGC
			m	m	m ²	%	m ² · °C/W	
Window – Window 1 (.6x.6)	Wall – Untitled wall 1 (6.2x2.4)		.6	.6	0.36	30	0.15	0.84
Window – Untitled window 1 (1.6x2.1)	Wall – Untitled wall 2 (5.8x2.6)		1.6	2.1	3.36	30	0.15	0.84
Window – Untitled window 1 (1.8x1.2)	Wall – Untitled wall 4 (5.8x2.6)		1.8	1.2	2.16	30	0.15	0.84
Window – Untitled window 2 (.6x.6)	Wall – Untitled wall 4 (5.8x2.6)		.6	.6	0.36	30	0.15	0.84

Air Leakage:

Basic Airtightness: Airtight: 1990-2005 Simple / 2005+ Complex

Chimneys for open fires: TBC

No. of flued heaters: TBC

Window Passive Vents: TBC

Retrofit airtightening: Timber-lined walls relined with plaster based sheets

Kitchen vents over hob: TBC

The location-independent Air Leakage Rate is: 0.2 ac/h

Site Exposure: Semi-sheltered - Surrounded by similar sized buildings

Wind Zone Factor: 0.14

Local Air Leakage Rate: 0.36 ac/h

House Volume: 67.29 m³

Thermal Mass:

Floor type	Area	Thermal Mass Density
	m ²	W/m ² °C
Untitled floor 1 – Suspended timber	5.72	2.03

Total Floor Area (used for Furniture and Ceiling): 28.04 m²

Total Thermal Mass: 9.03 kWh/°C

Effective Thermal Mass: 1.01 W/°C

Climate

Location: Rotorua Airport

Annual Loss Factor: 9.2

Annual Gain Factors:

N	NE	E	SE	S	SW	W	NW	H
159	73	45	45	45	46	113	179	113

Internal Gain Multiplier: 0.92

Wind Zone Factor: 0.14

NZS 4218:2009 Climate Zone: 2

Heating

Heating Schedule: Evening heating only (5pm-11pm)

Heating Level: 20°C

This copy of ALF 4.0 is registered to *Ronald Espellarga*.

Calculation Date: 15-01-2020, 02:40pm

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Demand Calculation Sheet

Job Details

Name: SLEEP-OUT
 Street and Number: 5 BERYL PLACE, PUKEHANGI
 Lot and DP Number: LOT 2 , DP 82796
 City/Town/District: ROTORUA
 Designer: Ronald Espellarga
 Company: Draftsman
 Date: Wednesday, 15 January 2020

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Building Specification

Number of Storeys: 1
 Floor Loading: 2 kPa
 Foundation Type: Slab

Single
 Cladding Weight: Light
 Roof Weight: Light
 Room in Roof Space: No
 Roof Pitch (degrees): 20
 Roof Height above Eaves (m): .15
 Building Height to Apex (m): 3.9
 Ground to Lower Floor (m): 0.1
 Average Stud Height (m): 2.4
 Building Length (m): 6.2
 Building Width (m): 3.6
 Building Plan Area (m²): 28.04

SUPERSEDED
 BC
 80328

SUPERSEDED AS
 ADDITIONAL INFORMATION
 PROVIDED DURING
 BUILDING CONSENT
 PROCESS

Signed: *L. Reid* Date: *18/3/2020*

Building Location

Wind Zone = Low

Wind Region: A
 Lee Zone: No
 Ground Texture: Urban
 Site Exposure: Sheltered
 Hill Ste Category: T1

Earthquake Zone 2

Soil Type: D & E (Deep to Very Soft)
 Annual Prob. of Exceedance: 1 in 2500 (x 1.8)

Bracing Units required for Wind

	Along	Across
Single Level	82	136

Bracing Units required for Earthquake

	Along & Across
Single Level	204

Single Level Along Resistance Sheet

Job Name: SLEEP-OUT

									Wind	EQ
									Demand	
									82	204
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	751 916%	674 330%
a	1	0.82		2.4	BLP-H	GIB®	121	123		
									121 OK	123 OK
b	1	1.55		2.4	GS1-N	GIB®	107	93		
	2	1.70		2.4	GS1-N	GIB®	117	102		
	3	0.98		2.4	GS1-N	GIB®	63	58		
									288 OK	253 OK
c	1	6.20		3.0	GS1-N	GIB®	342	298		
									342 OK	298 OK

SUPERSEDED

Single Level Across Resistance Sheet

Job Name: SLEEP-OUT

									Wind	EQ
									Demand	
									136	204
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	472 347%	431 211%
m	1	0.75		2.4	BL1-H	GIB®	80	76		
	2	0.75		2.4	BL1-H	GIB®	80	76		
									159 OK	153 OK
n	1	1.10		2.4	BL1-H	GIB®	135	114		
									135 OK	114 OK
o	1	1.27		2.4	GS1-N	GIB®	88	76		
	2	0.75		2.4	GS1-N	GIB®	45	44		
	3	0.75		2.4	GS1-N	GIB®	45	44		
									178 OK	165 OK

SUPERSEDED



Custom Wall Elements

Supplier	System	Min. Length m	Wind BUs/m	EQ BUs/m

SUPERSEDED