



**GREAT LAKE TAUPŌ**

Taupō District Council

## Property File

**Property File No:** REF210809622

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*The information provided does not constitute a Land Information Memorandum or any similar document.*

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PIM Application - A1138884



## Form 2 APPLICATION FOR PROJECT INFORMATION MEMORANDUM AND/OR BUILDING CONSENT Section 33 or 45, Building Act 2004

1. THE BUILDING [If not applicable put N/A in the space]		OFFICE USE ONLY:
Street address of building: <b>20 Matipo Street; Taupo</b>		File No. _____
[If no street address – details of nearest Intersection] _____		Consent/PIM Number: _____
Legal description of land where building is located:	Lot 2 _____ DP 389398 _____	Compliance Schedule No: _____
Site area: 452m <sup>2</sup> _____ Sec _____	Block _____	Date received: _____
Building name: _____	Valuation No: _____	Vetted _____
Location of building within site/block number: [Include nearest street access] _____		Complete/Incomplete/Exempt _____
Number of levels: [Above & below ground] <b>Ground Only</b> _____ Level/Unit No: _____		Name _____
Floor area: 135.6 (sq m) [Indicate area affected by the building work]		Date _____
Current, lawfully established, use: Dwelling _____ Year First Constructed: _____		Signature _____
[Add no. of occupants per level and per use if more than 1] 6 _____		Restricted Building Work? Yes <input type="checkbox"/> No <input type="checkbox"/>

2. OWNER	3. AGENT [Only required if application is being made on behalf of the owner]
Name of Owner: <b>Habitat for Humanity</b>	Name of Agent: _____
Contact person: <b>Nic Greene Central Regional Manager</b>	Contact person: _____
Mailing address: <b>29 Bryant Road, Hamilton</b>	Mailing address: _____
Street address/registered office: <b>29 Bryant Road, Hamilton</b>	Street address/registered office: _____
Phone No: _____ Landline: <b>07 8490284 ext 202</b>	Phone No: _____ Landline: _____
Mobile: <b>027 224 8450</b> Daytime: <b>07 8490284</b>	Mobile: _____ Daytime: _____
After hours: _____ Facsimile: _____	After hours: _____ Facsimile: _____
Email: <b>gm@habitatcnl.org.nz</b>	Email: _____
<b>THE FOLLOWING EVIDENCE OF OWNERSHIP IS ATTACHED:</b>	
<input checked="" type="checkbox"/> Certificate of Title	<input type="checkbox"/> Lease Agreement
<input type="checkbox"/> Agreement for Sale and Purchase	<input type="checkbox"/> Other document
Website _____	Relationship to owner: [State details of the authorisation from the owner to make the application on the owner's behalf] _____

FIRST POINT OF CONTACT for communications with the Council / Building Consent Authority: **Owner**

Or: (if different to above details) Name: **Borland Architecture Ltd** Email: **info@borlandarchitecture.co.nz**

Mailing Address: **P.O. Box 1272 Hamilton** Phone: **07 847 6017** Facsimile: **07 847 017**

To be completed in lieu of Authorisation Letter

**Habitat for Humanity** as the owner of the above property, authorise **Borland Architecture Ltd** to act as our first contact only.

Signature **REFER TO COVERING LETTER** Date **10/07/2013**



**Habitat**  
for Humanity®  
Central North Island

29 Bryant Road, Te Rapa  
Hamilton 3200, New Zealand

P: 07 849 0284  
F: 07 849 7715  
M: 0272248450

E: [ngreene@habitat.org.nz](mailto:ngreene@habitat.org.nz)

Date 10-07-2013

**AGENT AUTHORISATION FOR CONSENT APPLICATION AT 20 MATIPO ST. TAUPO**

To whom it may concern

This letter is to authorise Borland Architecture to act on Behalf of Habitat for Humanity (Central North Island) for the purposes of gaining building consent for our upcoming project.

If you have any questions about this authorisation please contact me at the details above.

Regards,

**Nic Greene**  
General Manager  
Habitat for Humanity (CNI)

Building Homes, Building Hope.

[www.habitat.org.nz](http://www.habitat.org.nz)

4. APPLICATION (This may include)

I request that you issue a (for the building work described in this application)

- Project Information Memorandum (PIM)  
**X** Project Information Memorandum (PIM) and Building Consent  
 Building Consent The existing PIM No [if applicable] is: \_\_\_\_\_  
 Amendment to an existing Building Consent. The existing BC No is: \_\_\_\_\_

State the reference number if this application involves a National Multiple Use Approval: \_\_\_\_\_

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If you do not want information contained in this application to be made available for purposes of marketing please tick the box

The signature is that of the  Owner OR the  Agent on behalf of and with the approval of the Owner

5. THE PROJECT

DESCRIPTION OF BUILDING WORK: (Provide sufficient information below to enable scope of work to be fully understood)

**New Dwelling** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Current use of building: \_\_\_\_\_ [e.g. home, implement shed, office]

Will the building work result in a change of use of the building?  Yes  No If Yes, provide details of the new use of the building:  
 \_\_\_\_\_

Intended life of the building if less than 50 years: \_\_\_\_\_ [Years]

List Building Consents previously issued for this project (if any): \_\_\_\_\_

Estimated value of the building work on which the building levy will be calculated (including goods and services tax):

**\$190,000** \_\_\_\_\_ [State estimated value as defined in section 7 of the Building Act 2004]

6. RESTRICTED BUILDING WORK [resident of building work affecting structure or weather tightness] OR CONTACTS

Will the building work include any restricted work?  Yes  No  
 If Yes, provide the following details of all licensed building practitioners who will be involved in carrying out or supervising the restricted building work (if these details are unknown at the time of the application, they must be supplied before the building work begins):

Note: Continue on another page if necessary

DESIGNER:

Name: **Murray Borland** \_\_\_\_\_  
 Address: **P.O. Box 1272 Hamilton** \_\_\_\_\_  
 Email: **info@borlandarchitecture.co.nz** \_\_\_\_\_  
 Telephone: **07 847 6017** \_\_\_\_\_ LSP No: **114766** \_\_\_\_\_  
 License Class: **Registered and DESIGN 3**

ENGINEER:

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Reg No: \_\_\_\_\_  
 License Class: **DESIGN**

BUILDER:

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ LBP No: \_\_\_\_\_  
 License Class: **CARPENTRY**

BRICK / BLOCK LAYER:

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Reg No: \_\_\_\_\_  
 License Class: **BLOCKLAYING**

<b>ROOFER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: ROOFING or CARPENTRY (delete one)	<b>EXTERNAL PLASTERER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: EXTERNAL PLASTERING
<b>FOUNDATIONS / FLOORS:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: FOUNDATIONS or CARPENTRY (delete one)	<b>GAS FITTER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____
<b>PLUMBER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____	<b>DRAIN LAYER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____
<b>LICENSED BUILDING PRACTITIONER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: _____	<b>LICENSED BUILDING PRACTITIONER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: _____

**PROJECT INFORMATION MEMORANDUM** : [fill in this section if the application is for a building consent only]

The following matters are involved in the project: [Tick the matters relevant to the project]

- Subdivision
- Alterations to land contours [e.g. digging out the site for a building platform]
- New or altered connections to public utilities [e.g. Council sewer, stormwater or water mains]
- New or altered locations and/or external dimensions of buildings
- New or altered access for vehicles
- Building work over or adjacent to any road or public place
- Disposal of stormwater and wastewater
- Building work over any existing drains or sewers or in close proximity to wells or water mains
- Other matters known to the applicant that may require authorisations from the Territorial Authority: [Specify]

The following plans and specifications are attached to this application:  
Refer to schedule \_\_\_\_\_

Building Code Clause <i>Tick relevant clauses</i>	Acceptable Solution & NZS 4121 Accessible Design	Verification Method	Alternative Solution [Supporting documents listed below]	Waiver/Modification [Supporting documents listed below]	Proposed Inspections
X B1 Structure	<input type="checkbox"/> AS1NZS1170 <input type="checkbox"/> B1/AS1 X NZS3604 <input type="checkbox"/> NZS4229 <input type="checkbox"/> Other	<input type="checkbox"/> B1/VM1 <input type="checkbox"/> Other	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
x B2 Durability	x B2/AS1	<input type="checkbox"/> B2/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> C1-4 Fire Clauses <input type="checkbox"/> C1-6 Fire Safety Clauses	<input type="checkbox"/> C/AS1 <input type="checkbox"/> C/AS2 <input type="checkbox"/> C/AS3 <input type="checkbox"/> C/AS4 <input type="checkbox"/> C/AS5 <input type="checkbox"/> C/AS6 <input type="checkbox"/> C/AS7 <input type="checkbox"/> C/VM1	<input type="checkbox"/> C/VM1 <input type="checkbox"/> C/VM2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> D1 Access routes	<input type="checkbox"/> D1/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> D2 Mechanical installation for access	<input type="checkbox"/> D2/AS1 <input type="checkbox"/> D2/AS2 <input type="checkbox"/> D2/AS3 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> E1 Surface water	<input type="checkbox"/> E1/AS1 <input type="checkbox"/> AS3500	<input type="checkbox"/> E1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x E2 External moisture	x E2/AS1 <input type="checkbox"/> E2/AS2 <input type="checkbox"/> SED <input type="checkbox"/> E2/AS3	<input type="checkbox"/> E2/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> E3 Internal moisture	<input type="checkbox"/> E3/AS1 <input type="checkbox"/> Other		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F1 Hazardous agents on site	<input type="checkbox"/> F1/AS1	<input type="checkbox"/> F1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F2 Hazardous building materials	<input type="checkbox"/> F2/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F3 Hazardous substances and processes	<input type="checkbox"/> F3/AS1	<input type="checkbox"/> F3/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F4 Safety from falling	<input type="checkbox"/> F4/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F5 Construction and demolition hazards	<input type="checkbox"/> F5/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F6 Visibility in escape routes	<input type="checkbox"/> F6/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F7 Warning systems	<input type="checkbox"/> F7/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____

Building Code Clause <i>Tick relevant clauses</i>	Acceptable Solution & NZS 4121 Accessible Design	Verification Method	Alternative Solution [Supporting documents listed below]	Waiver/Modification [Supporting documents listed below]	Proposed Inspections
<input type="checkbox"/> F8 Signs	<input type="checkbox"/> F8/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G1 Personal hygiene	x G1/AS1 x NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G2 Laundering	<input type="checkbox"/> G2/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G3 Food preparation and prevention of contamination	<input type="checkbox"/> G3/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G4 Ventilation	<input type="checkbox"/> G4/AS1	<input type="checkbox"/> G4/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G5 Interior environment	<input type="checkbox"/> G5/AS1	<input type="checkbox"/> G5/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G6 Airborne impact sound	<input type="checkbox"/> G6/AS1	<input type="checkbox"/> G6/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G7 Natural light	<input type="checkbox"/> G7/AS1	<input type="checkbox"/> G7/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G8 Artificial light	<input type="checkbox"/> G8/AS1	<input type="checkbox"/> G8/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G9 Electricity	x G9/AS1	<input type="checkbox"/> G9/VM1	<input type="checkbox"/>	<input type="checkbox"/>	By certification only
x G10 Piped services	<input type="checkbox"/> G10/AS1	<input type="checkbox"/> G10/VM1	<input type="checkbox"/>	<input type="checkbox"/>	By certification only
<input type="checkbox"/> G11 Gas as an energy source	<input type="checkbox"/> G11/AS1		<input type="checkbox"/>	<input type="checkbox"/>	By certification only
x G12 Water supplies	x G12/AS1 <input type="checkbox"/> G12/AS2	<input type="checkbox"/> G12/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
x G13 Foul water	x G13/AS1 <input type="checkbox"/> G13/AS2 <input type="checkbox"/> AS3500 <input type="checkbox"/> G13/AS3	<input type="checkbox"/> G13/VM1 <input type="checkbox"/> G13/VM4	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G14 Industrial liquid waste	<input type="checkbox"/> G14/AS1	<input type="checkbox"/> G14/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G15 Solid waste	<input type="checkbox"/> G15/AS1		<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
x H1 Energy efficiency	<input type="checkbox"/> H1/AS1	<input type="checkbox"/> H1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____



8. WAIVER MODIFICATION TO NZ BUILDING CODE REQUIRED FOR FOLLOWING PARTS OF CODE:

Supporting documentation attached as follows (please list):

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9. COMPLIANCE SCHEDULE

The specified systems for the building are as follows: [specified systems are defined in regulations]

Any system installed from below to be accompanied by procedures for inspection and routine maintenance. [Council to vet and verify in first column.]		COUNCIL	Applicant to complete				
			Existing	New	Altered	Added	Removed
There are no specified systems in the building <input type="checkbox"/>							
Specified Systems Prescribed by Building Act 2004 Compliance Schedule Handbook 25 May 2007							
ss1	Automatic systems for fire suppression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss2	Automatic or manual emergency warning systems for fire or other dangers (other than a warning system for fire that is entirely within a household unit and services only that unit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss3	Electromagnetic or automatic doors and windows						
	ss3/1 Automatic doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss3/2 Access controlled doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss3/3 Interfaced fire or smoke doors or windows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss4	Emergency lighting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss5	Escape route pressurisation systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss6	Riser mains for use by fire services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss7	Automatic back-flow preventers connected to a potable water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss8	Lifts, escalators, travelators, or other systems for moving people or goods within buildings						
	ss8/1 Passenger carrying lifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss8/2 Services lifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss8/3 Escalators and moving walks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss9	ss9/1 Mechanical ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss9/2 Air conditioning systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss10	Building maintenance units providing access to exterior and interior walls of buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss11	Laboratory fume cupboards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss12	Audio loops or other assistive listening systems						
	ss12/1 Audio loops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss12/2 FM radio frequency systems and infrared beam transmission systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss13	Smoke control systems						
	ss13/1 Mechanical smoke control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss13/2 Natural smoke control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss13/3 Smoke curtains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss14	Emergency power systems for a system or feature specified in any of specified systems 1-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss14/1 Emergency power systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss14/2 Signs in relation to any specified systems 1-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# COUNCIL USE ONLY

## ESTIMATED TOTAL VALUE OF WORK

\$ \_\_\_\_\_ GST inclusive      Project floor area \_\_\_\_\_ m<sup>2</sup>

## FEE PAYABLE

Project Information Memorandum      \$ \_\_\_\_\_  
 Building Administration              \$ \_\_\_\_\_  
 Technical Processing fee              \$ \_\_\_\_\_  
 Inspection fee                              \$ \_\_\_\_\_  
 Certificate of Title                      \$ \_\_\_\_\_  
 Other    \$ \_\_\_\_\_  
**LODGEMENT FEE**                          \$ \_\_\_\_\_  
 Technical Processing fee              \$ \_\_\_\_\_  
 Inspection fee                              \$ \_\_\_\_\_  
 Industry Levy (DBH)                    \$ \_\_\_\_\_  
 Industry Levy (BRANZ)                \$ \_\_\_\_\_  
 BCA Levy                                    \$ \_\_\_\_\_  
 Vetting                                        \$ \_\_\_\_\_  
 Producer Statements                  \$ \_\_\_\_\_  
 Compliance Schedules                \$ \_\_\_\_\_  
 Vehicle Crossing                        \$ \_\_\_\_\_  
 Street Damage                            \$ \_\_\_\_\_  
 Water Connection                        \$ \_\_\_\_\_  
 Sewer Connection                        \$ \_\_\_\_\_  
 Peer Review                                \$ \_\_\_\_\_  
 N Z F S                                        \$ \_\_\_\_\_  
 Development Contribution            \$ \_\_\_\_\_  
 \_\_\_\_\_ \$ \_\_\_\_\_  
 \_\_\_\_\_ \$ \_\_\_\_\_  
**TOTAL BALANCE PAYABLE**            \$ \_\_\_\_\_

Granted by \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Issued by \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Lodgement deposit                      \$ \_\_\_\_\_  
 Date paid                                    \_\_\_\_\_  
 Receipt No.                                \_\_\_\_\_  
 Consent fee balance                    \$ \_\_\_\_\_  
 Date paid                                    \_\_\_\_\_  
 Receipt No.                                \_\_\_\_\_

Please complete

Forward any refunds or further invoices to:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Certificate of Title (supplied by applicant) - A1138887



**COMPUTER FREEHOLD REGISTER  
UNDER LAND TRANSFER ACT 1952**



Search Copy

  
R.W. Muir  
Registrar-General  
of Land

**Identifier** 357793  
**Land Registration District** South Auckland  
**Date Issued** 21 December 2007

**Prior References**  
SA1001/237

---

**Estate** Fee Simple  
**Area** 452 square metres more or less  
**Legal Description** Lot 2 Deposited Plan 389398

**Proprietors**  
Habitat for Humanity (Central North Island) Limited

---

**Interests**

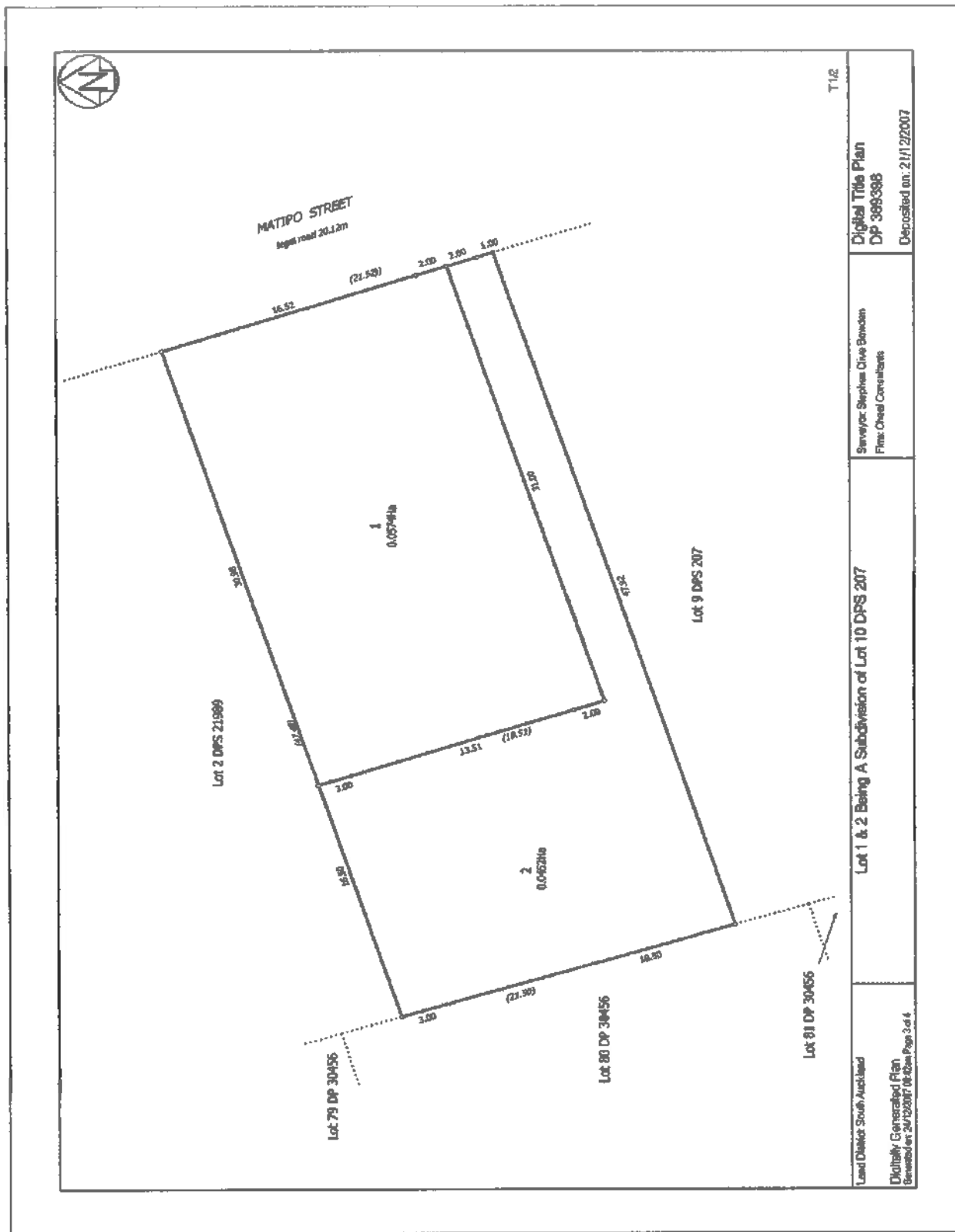
Saving and excepting all minerals within the meaning of the Land Act 1924 on or under the land and reserving always to Her Majesty the Queen and all persons lawfully entitled to work the said minerals a right of ingress, egress and regress over the said land

Subject to a right of way and drainage (stormwater) over part marked B and a sewage easement over part marked C on DP 389398 created by Easement Instrument 7667008.3 - 21.12.2007 at 9:00 am

Appurtenant hereto is a right of way and drainage (stormwater) easement created by Easement Instrument 7667008.3 - 21.12.2007 at 9:00 am

The easements created by Easement Instrument 7667008.3 are subject to Section 243 (a) Resource Management Act 1991

9167271.3 Encumbrance to Taupo District Council - 21.9.2012 at 1:04 pm



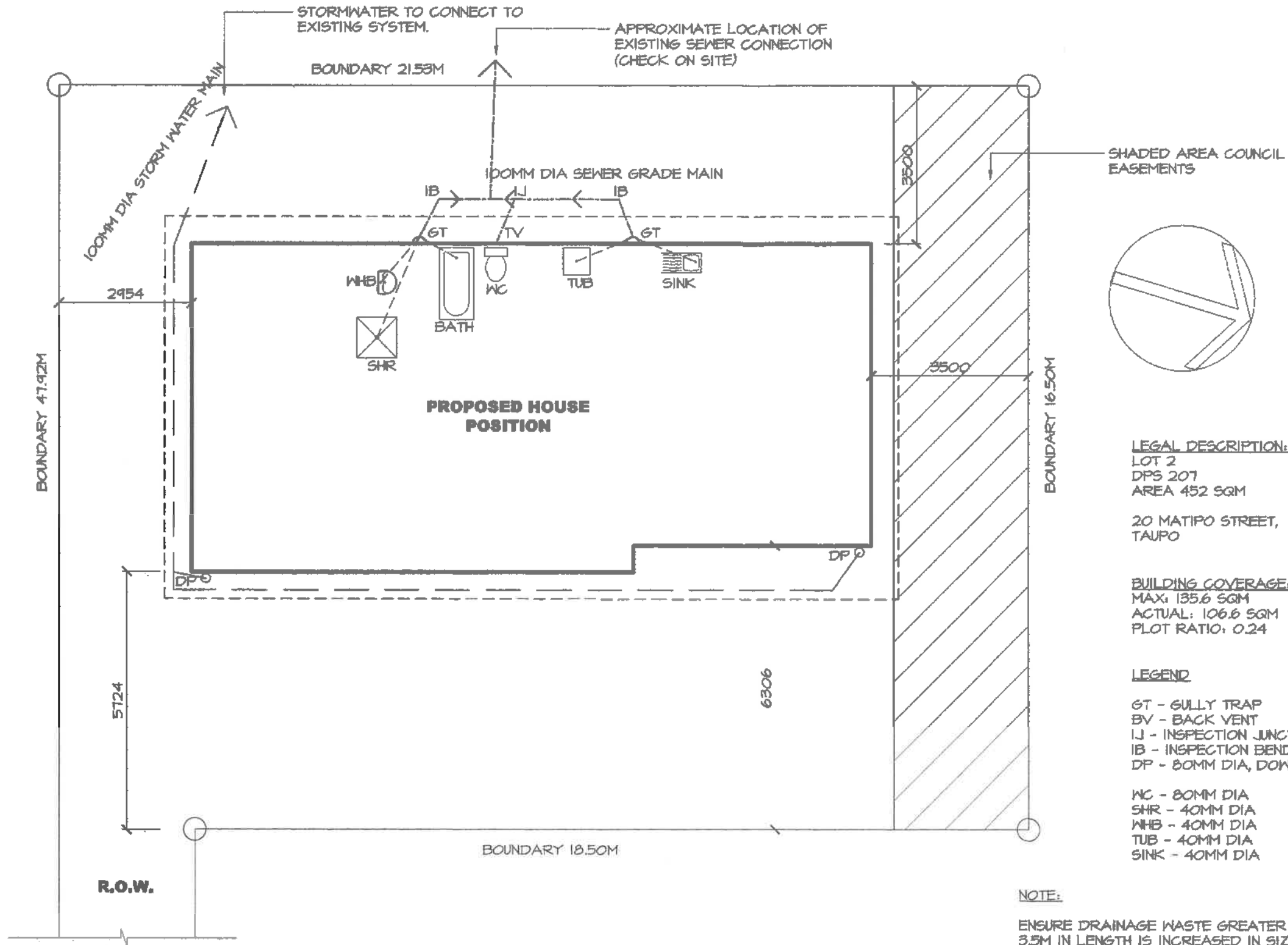
T1/2

Land District South-Auckland	Surveyor Stephen Clive Bannister Firm: Cheryl Consultants	Digital Title Plan DP 369398B Deposited on: 21/12/2007
Lot 1 & 2 Being A Subdivision of Lot 10 DFS 207		
Digitally Generated Plan Generated on: 26/12/2007 16:42:06 Page 3 of 4		



PIM Plans - A1138889





**LEGAL DESCRIPTION:**  
 LOT 2  
 DPS 207  
 AREA 452 SQM

20 MATIPO STREET,  
 TAUPO

**BUILDING COVERAGE:**  
 MAX: 135.6 SQM  
 ACTUAL: 106.6 SQM  
 PLOT RATIO: 0.24

**LEGEND**

GT - GULLY TRAP  
 BV - BACK VENT  
 IJ - INSPECTION JUNCTION  
 IB - INSPECTION BEND  
 DP - 80MM DIA, DOWNPIPE

WC - 80MM DIA  
 SHR - 40MM DIA  
 WHB - 40MM DIA  
 TUB - 40MM DIA  
 SINK - 40MM DIA

**NOTE:**  
 ENSURE DRAINAGE WASTE GREATER THAN 3.5M IN LENGTH IS INCREASED IN SIZE TO 65MM DIA WASTE.  
 ALL SANITARY DRAINAGE TO COMPLY WITH AS/NZS 3500:2 2003

**site + drainage layout**  
 SCALE 1:100

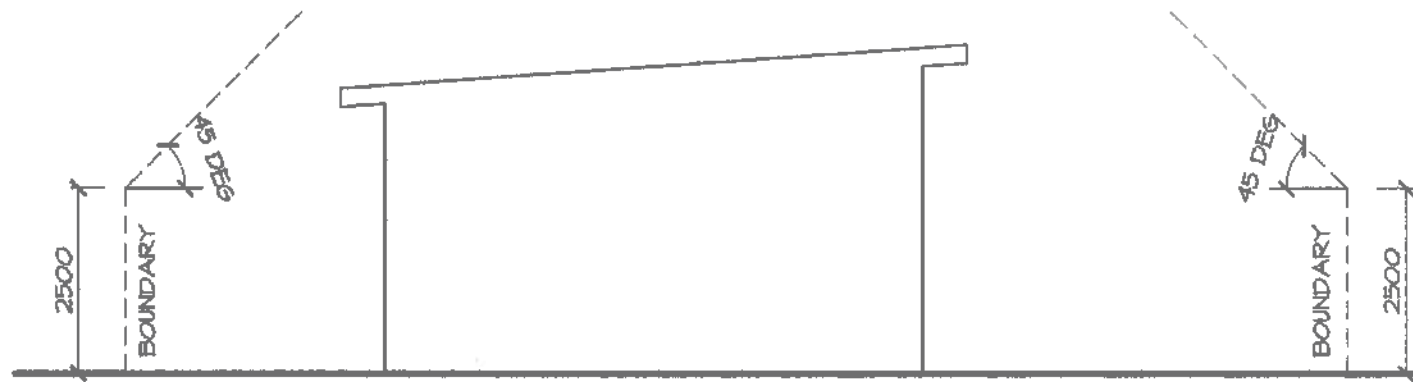
NB: IT IS THE RESPONSIBILITY OF THE DRAINLAYER TO ESTABLISH POSITION OF ALL EXISTING PIPE (STORMWATER AND SEWER) BEFORE ANY CONSTRUCTION IS COMMENCED AND TO POSITION PIPEWORK BASED ON EXISTING DRAINAGE

**ARCHITECTURE**  
 MURRAY BORLAND ARCHITECTURE LTD  
 Commercial & Residential Architecture  
 Commercial & Industrial Interior Design  
 Interior Planning, Consultant Designer  
 ph. (07) 847 8017 fax (07) 847 0178  
 9 Slaper Avenue, Hamilton, New Zealand  
 P.O. Box 1272 Hamilton New Zealand

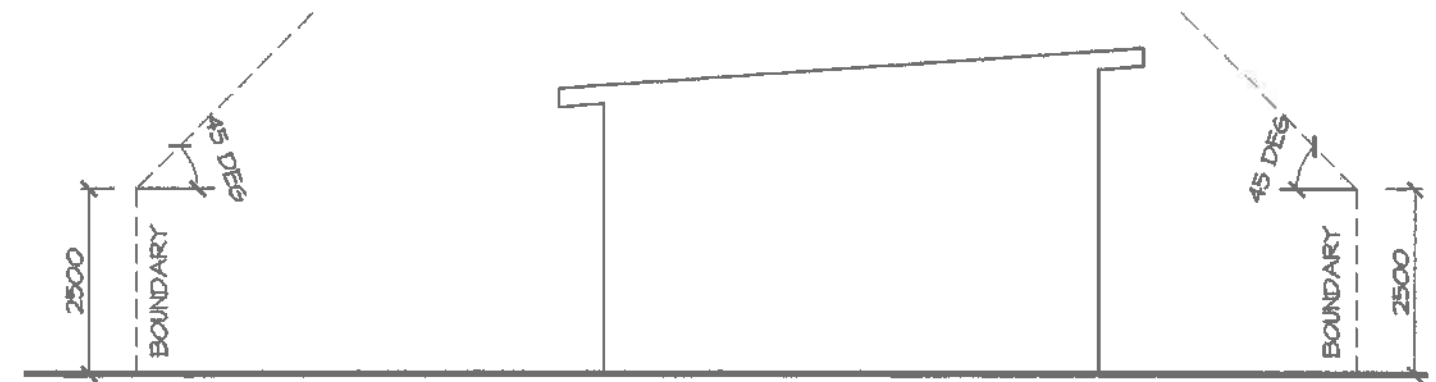
proposed house location  
 for habitat for humanity  
 at 20 Matipo St, Taupo

site and drainage layout

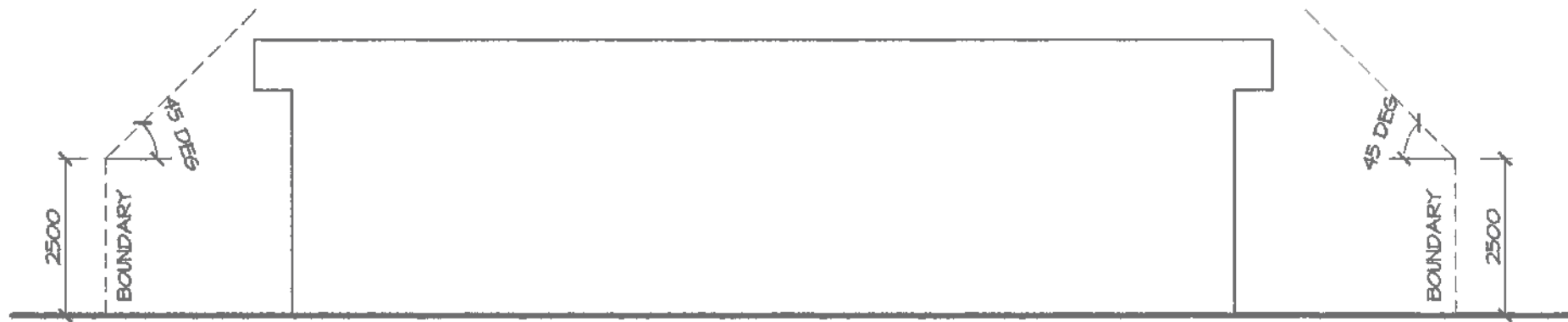
DESIGNER mpb	DRAWN cjd
DATE July 2013	SCALE 100 = A3
JOB No. 213015	SHEET A01



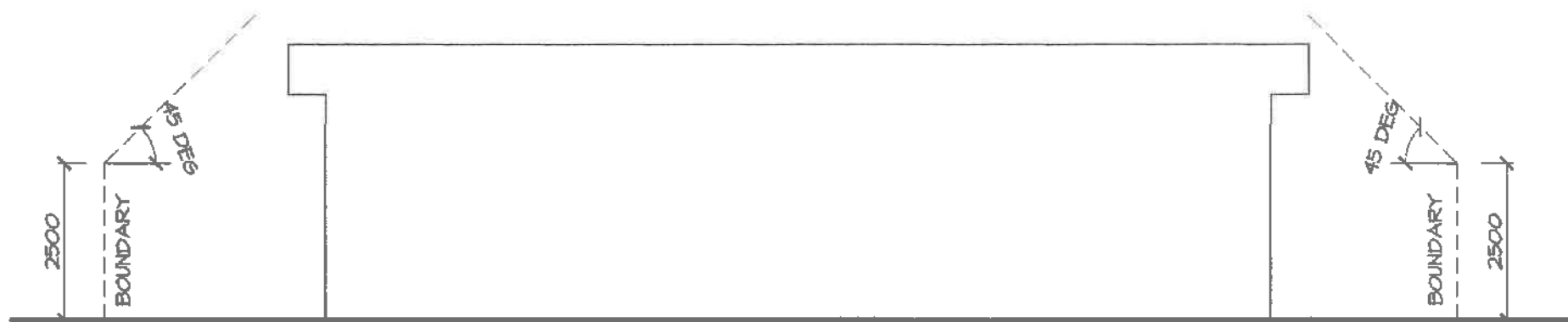
**south elevation**  
SCALE 1:100



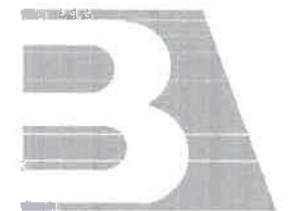
**north elevation**  
SCALE 1:100



**east elevation**  
SCALE 1:100



**west elevation**  
SCALE 1:100



**ARCHITECTURE**  
MURRAY BORLAND ARCHITECTURE LTD  
Commercial & Residential Architecture  
Commercial & Industrial Interior Design  
Interior Planning, Consultant Designer  
ph. (07) 847 6017 fax (07) 847 0176  
9 Sloper Avenue, Hamilton, New Zealand  
P.O. Box 1272 Hamilton New Zealand

All drawings in relation to this project.

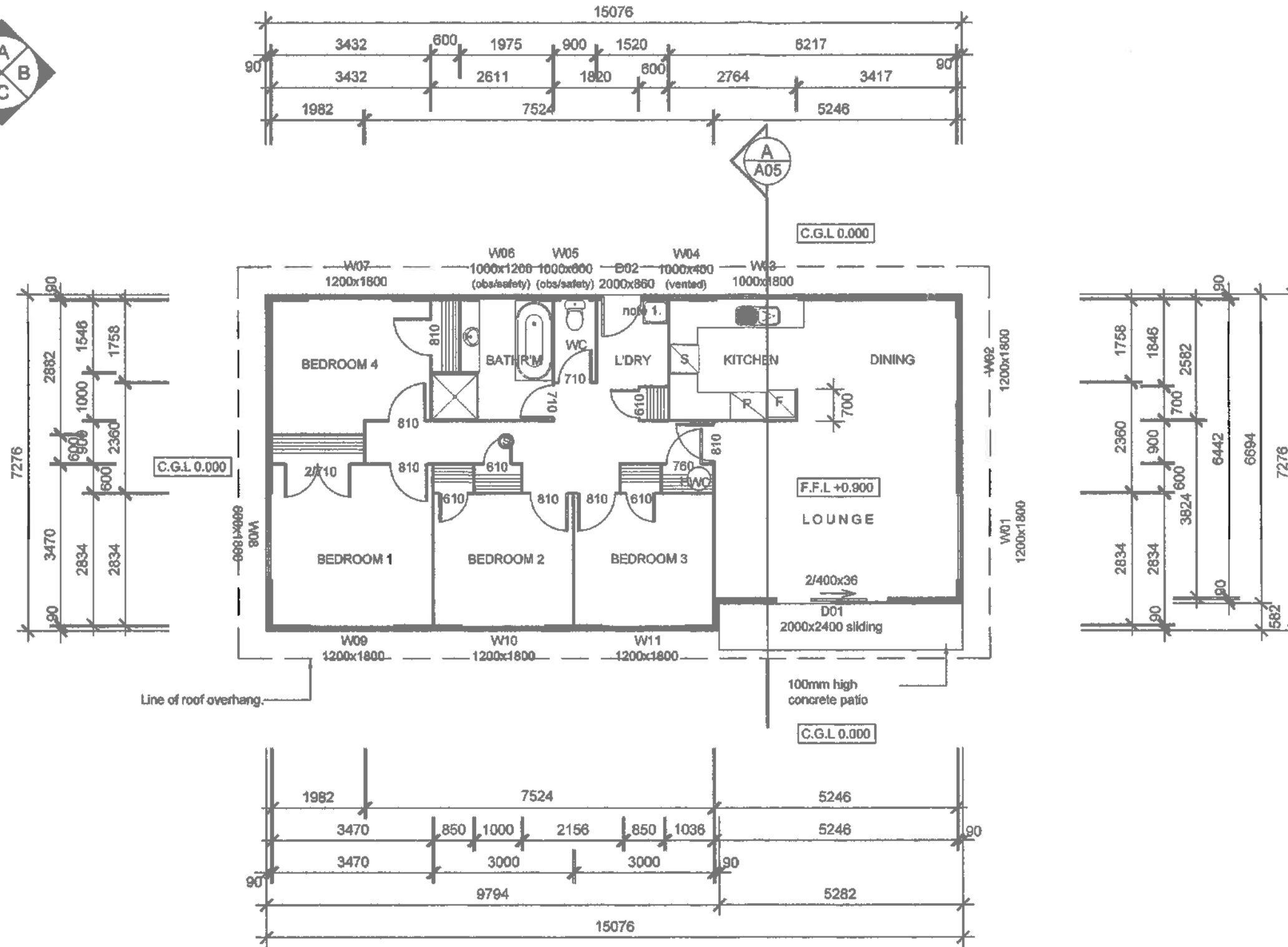
1. do not scale.
2. contractor shall verify and be responsible for all levels and dimensions on site, site measures.
3. designers to be notified of any variation between site dimensions and those on plans.
4. all work to be carried out in accordance with all local body regulations.
5. This drawing is intellectual property and has copyright © to the designer M. P. Borland and cannot be copied or reproduced in any form.

proposed house location  
for habitat for humanity  
at 20 Matipo St, Taupo

TITLE

site and drainage layout

DESIGNER mpb	DRAWN cjd
DATE July 2013	SCALE 1:100 • A3
JOB No. 213015	ISSUE A02



**FLOOR PLAN**

Scale 1:100 on A3

FLOOR AREA: 106.6m<sup>2</sup>

**FRAMING NOTES:**

LOW wind zone.

All timber grades to be SG8 unless otherwise specified.

**Wall Framing:**

2/45 x 45 H1.2 battens @ .600 ctrs (all walls).

**Wall Framing/Top plate fixing:**

All wall framing fixed to 90 x 45 H1.2 top plate with - 2/90 x 3.15 end nails.

**Bottom plate fixing:**

90 x 45 H3.2 bottom plate on DPC fixed with proprietary post-fixed bottom plate anchors within 150mm of each end of the plate and spaced @ .900 ctrs maximum.

**GENERAL NOTES:**

All included works to comply with NZS3804:2011 & the New Zealand Building Code.

1. Secure hot water cylinder for earthquake.
2. Contractor to allow for multiple stud layouts under any loadbearing points as per NZS 3604:2011.
3. Dimensions shown for windows over frame.
4. Dimensions shown for doors are over leaf.
5. Triboard lintels are only noted if a separate lintel is required.

**ALUMINIUM JOINERY NOTES:**

1. All new joinery to be double glazed.
2. Joiner to check all openings on site prior to manufacture.
3. All bathroom windows and glass shelving to be safety glass.

**INSULATION NOTES:**

Ceiling (trussed roof) - R3.2 Batts  
 Exterior walls - R2.2 Batts  
 (see specification for insulation calculations).

**KEY:**

- C.O.S - check on site.
- C.G.L - clear ground level.
- F.F.L - finished floor level.
- Ⓢ - hush button smoke alarm as NZBC F7.

**LEGEND:**

- 36mm Triboard
- 2/45x45 H1.2 battens @ .600 c/c.



DRAWING TITLE	
CONTRACT FOR: HABITAT FOR HUMANITY	
Drawn: C.D.	Scale: AS SHOWN @ A3
Date: 03/07/2013	

1. HOMEOWNER CONTRACTOR SHALL OBTAIN AND VERIFY ALL RIGHTS, EASES AND INTERESTS ON SITE PRIOR TO CONSTRUCTION COMMENCEMENT.
2. HOMEOWNER CONTRACTOR TO OBTAIN AND VERIFY ALL SERVICES, PUBLIC UTILITIES AND SERVICES ON SITE PRIOR TO CONSTRUCTION.
3. THE DRAWING SHALL BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ALL RELEVANT DOCUMENTS.
4. CONTRACTOR SHALL NOT SCALE OFF DIMENSIONS.
5. ALL DIMENSIONS NOT SPECIFIED OTHERWISE SHALL COMPLY WITH RELEVANT NZS AND ALL APPLICABLE STANDARDS.
6. RIGHTS TO STRUCTURE, ENGINEERING OR ARCHITECTURE FOR ALL TO INCLUDE: ELEC, MECH, PLUMBING, CONCRETE FLOORS AND STRUCTURAL BRACING CALCULATIONS, EXISTING DIMENSIONS, DIMENSIONS AND SPECIFICATIONS OVER THESE ALL WORKS COVERED.
7. IN THE EVENT THAT ANY UNFITNESS OR SOFT SPOTS ARE ENCOUNTERED A REGISTERED STRUCTURAL ENGINEER SHALL BE CONTACTED FOR PLAT-UP DIRECTIONS.
8. FOUNDATION CONSTRUCTION CONTRACTORS ARE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF FOUNDATIONS AND SHALL BE CONTACTED BEFORE COMMENCEMENT.
9. HOMEOWNER CONTRACTOR SHALL VERIFY AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS ACCORDING TO RELEVANT STANDARDS TO INCLUDE A COMPLIANCE WITH THE BUILDING ACT.
10. USE TYPE 305 OR 305E GALVANIZED STEEL PROTECTED FINISHES IN ALL EXPOSED AREAS AS PER TABLE 4.1 RELEVANT NZS.
11. ALL AREAS PRIOR TO INSTALLATION SHALL BE CLEANED AND TO COMPLY WITH CLASS 3.0 FLOORING.
12. IT IS THE RESPONSIBILITY OF THE HOME CONTRACTOR TO OBTAIN NECESSARY PERMITS AND APPROVALS FOR ANY CHANGES THAT OCCUR THAT VARY FROM THE PLAN.
13. THESE DRAWINGS ARE COPYRIGHT TO HABITAT FOR HUMANITY AND ARE NOT TO BE COPIED OR REPRODUCED IN ANY FORM OR MANNER.
14. ALL DIMENSIONS SHOWN SHALL BE CONFIRMED FOR ANY LOAD BEARING POINTS ON THE PROJECT PRIOR TO SET OUT.

ISSUE	AMENDMENT	DATE	Drawn:	Check:
			A03	A
			213015	

Diagonally opposing pair of Lumberlok 8kN tensioned steel strip roof plane braces.

Double glazed powder coated aluminium joinery. Refer to manufacturers specifications & details.

0.40BMT Diamond Styline roofing.

1/4 round PVC gutter over H3.1 paint finish timber

0.56BMT colorsteel barge flashing with birdsmouth kick out to form drip edge over H3.1 paint finish timber barge board.

James Hardies 4.5mm Hardiflex lining.

F.F.L + 0,900

F.F.L + 0,900

C.G.L 0,000

C.G.L 0,000

W09  
1200x1800

W10  
1200x1800

W11  
1200x1800

D01  
2000x2400

james hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

W08  
600x1800

james hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

**ELEVATION A**

Scale 1:100 on A3

**ELEVATION B**

Scale 1:100 on A3

**ALUMINIUM JOINERY NOTES:**

1. All new joinery to be double glazed.
2. Joiner to check all openings on site prior to manufacture.
3. All bathroom windows and glass shelving to be safety glass.
4. Laundry window (W04) to be vented.

NOTE: See Specification for Risk Matrix Tables.

stud height  
2450  
joinery head height  
2000

W03  
1000x1800

W04  
1000x400  
(vented)

D02  
2000x800

W05  
1000x600  
(obs/safety)

W06  
1000x1200  
(obs/safety)

W07  
1200x1800

james hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

Paint finish James Hardie Weatherboards cladding with PVC box corners.

F.F.L + 0,900

C.G.L 0,000

**ELEVATION C**

Scale 1:100 on A3

F.F.L + 0,900

C.G.L 0,000

W01  
1200x1800

W02  
1200x1800

james hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

Double glazed powder coated aluminium joinery. Refer to manufacturers specifications & details.

**ELEVATION D**

Scale 1:100 on A3

James Hardies 4.5mm Hardiflex lining.



DRAWING TITLE:	
CONTRACT FOR:	HABITAT FOR HUMANITY
Drawn:	G.D
Scale:	AS SHOWN @ A3
Date:	03/07/2013

1. NOMINATED CONTRACTOR SHALL CHECK AND VERIFY ALL PERMITS, EASEMENTS AND SERVICES ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SERVICES FROM THE LOCAL COUNCIL.
2. THE DRAWING SHALL BE USED IN CONNECTION WITH THE PROJECT SPECIFICATIONS AND ALL RELATED DOCUMENTS.
3. CONTRACTOR SHALL ACCEPT RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED TO THEM BY THE CLIENT AND ALL OTHERS.
4. ALL CONSTRUCTION NOT SPECIFICALLY MENTIONED IN THIS DRAWING SHALL BE AS PER ALL APPLICABLE STANDARDS AND REGULATIONS.
5. REFER TO ALL APPLICABLE STANDARDS AND REGULATIONS FOR ALL ELECTRICAL, PLUMBING, MECHANICAL, STRUCTURAL, FINISHES AND STRUCTURAL BRACING.
6. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
7. IN THE EVENT THAT ANY UNPAVED OR SOFT GROUND IS ENCOUNTERED A REGISTERED ENGINEER MUST BE CONTACTED FOR PLAT-ING SOLUTIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SERVICES FROM THE LOCAL COUNCIL.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SERVICES FROM THE LOCAL COUNCIL.
10. USE TYPE 300 OR 350 STEEL STRIP PROTECTED PILING IN ALL EXPOSED AREAS AS PER TABLE A HESB0000011.
11. NOT ALL DIMENSIONS TO BE SHOWN AS PER THIS DRAWING ARE TO COMPLY WITH CLASS 3 AND 4.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL DIMENSIONS AND TO REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
13. THIS DRAWING IS APPROVED FOR HABITAT FOR HUMANITY AND IS NOT TO BE COPIED OR REPRODUCED IN ANY FORM OR MANNER.
14. ALL DIMENSIONS MUST BE CONFIRMED FOR ANY LAND SURVEY POINTS ON THE FOUNDATION MARK TO BE USED.

ISSUE	AMENDMENT	DATE	Drawn	Checked
			A04	A
			213015	

New PIM/CIM Checklist for Development Contributions - A1138895

	<b>DEVELOPMENT CONTRIBUTION ASSESSMENT - SECTION 36 OF BUILDING ACT 2004</b>
	<b>PROJECT INFORMATION MEMORANDUM</b>
<b><u>TO</u></b>	Technical Support Officer
<b><u>FROM</u></b>	Environmental Consents Officer
<b><u>SUBJECT</u></b>	PIM Number: <b>BC 130523</b>

Development Contribution required  YES / NO (delete one)

**Comments:**

New dwelling on a vacant residential lot. Credit on site for one dwelling. Site is fully serviced.

**Assessed:** Kim Smillie

**Date:** 29 July 2013

**Reviewed:**

**Date:**

New PIM/CIM Checklist for Planning - A1138897

# ENVIRONMENTAL PLANNING ASSESSMENT SECTION 37 OF THE BUILDING ACT

PIM/BC Number: BC 130523

Date:

Completed By:

**APPLICANT NAME:**

**ADDRESS/LEGAL DESCRIPTION:**

**DESCRIPTION OF ACTIVITY:**

DP ENVIRONMENT:

MAPARA VALLEY?

SRA?

## DISTRICT PLAN REQUIREMENTS

PERFORMANCE STANDARDS					PARKING LOADING & ACCESS REQUIREMENTS				
COMPLIANCE					COMPLIANCE				
(If FI is required then please detail below)	Y	N	NA	FI	(If FI is required then please detail below)	Y	N	NA	FI
Max Building Height	Y				Number of parks sufficient for the activities undertaken on site	Y			
Daylighting	Y				Parks provided – onsite, have manoeuvring space, appropriate layout, marked and sealed	Y			
Building Coverage	Y				Are parks in access or front yard	Y			
Total Coverage	Y				Is reversal onto streets required	Y			
Plot Ratio	Y				Loading Spaces (e.g. Industrial/School etc)	Y			
Min Building Setback	Y				Sight distance – check this (depends on road type and speed)	Y			
Max Vehicle Movements	Y				Separation between Xing and Intersections Main Road (depends on road type and speed)	Y			
Max Signage	Y				Separation between two crossings (NIL) one crossing per allotment & max width 6m	Y			
Max Earthworks	Y				Min formed carriage way is wide enough (depends on # of users)	Y			
Stormwater	Y								
Max Noise	Y								

## SPECIFIC ENVIRONMENT REQUIRMENTS

TOWN CENTRE ENVIRONMENT ONLY					RURAL ENVIRONMENT ONLY				
COMPLIANCE					COMPLIANCE				
	Y	N	NA	FI		Y	N	NA	FI
3m Landscaping Strip					Rural Effects Area Radius				
Shop Frontage					Nominal Allotments				
Verandahs					Planted Tree Vegetation				
Vehicle Crossings (no new)					Water Supply (Ash Filter)				

Notes:



## DISTRICT WIDE REQUIREMENTS

	COMPLIANCE		IF NO PLEASE SELECT OR DETAIL BELOW	FI/RC
	Y	N		
Hot Ground	Y		FI: Provide hot ground test to ID temp above ambient RC: If greater than 10 degrees above ambient then Resource Consent is required	
Flood Hazard	Y		Resource consent required	
Fault Hazard Lines	Y		FI: ID fault hazard line in relation to building RC: Required for being within 20m of fault line	
High Voltage Power Lines	Y		FI: ID power lines on site and setback from these RD: Required for being within 20m of power lines	
Foreshore Protection	Y		FI: Provide confirmation sufficient setback from foreshore protection area RC: Within setback, Resource Consent required	
Notable/ Amenity Tree	Y			
Landscape/Natural Values (OLMA/LAMA)	Y			
Hazardous Substances (Contaminated Sites)	Y			
Network Utilities (Powerlines, Masts etc)	Y			
Landslide Hazard Area	Y			
Surface of the Water	Y			
Archaeological or Historical Site (see Sch 7)	Y			
Geothermal Residential Rule	Y			
Check Cultural Values Map	Y			

OTHER MATTERS:	Y	N	Comments
Existing Consents - Check Financial Conditions	Y		
Subsidence Geothermal Hazard Map	Y		
EW – Discharges to/ withdrawal from Land/Air/Water	Y		
EW Consent (Wastewater)	Y		
Certificate of Title – Check Consent Notices etc	Y		
Designated Site - Outline Plan Waiver – a simple application is necessary, Outline Plan - a more detailed application is required	Y		OPW Required Y/N OP Required Y/N

OK to process: Yes

Roger is inspecting property for overland flow path.

Project Information Memorandum - A1143010



**GREAT LAKE TAUPŌ**  
Taupō District Council

## PROJECT INFORMATION MEMORANDUM

Section 34, Building Act 2004

**BC No:** 130523

*This Project Information Memorandum is not a building consent to build. It is confirmation that the proposed building work may be undertaken once any notices and/or certificates attached to this memorandum have been complied with and any additional authorisations you are required to obtain have been obtained. Commencement of the work is also subject to the provisions of the Building Act 2004 and requires a building consent. **THIS IS NOT A BUILDING CONSENT.***

---

**Owner Name:** Habitat for Humanity (Central NI) Limited

**Owner Address:** 29 Bryant Road, Te Rapa, Hamilton 3200

**Property Location:** 2/20 Matipo Street, Taupo

**Valuation Number:** 0732165202

**Legal Description:** Lot 2 DP 389398

**Description of Work:** New dwelling

---

### **Planning Comment:**

- Planning assessment has been undertaken and the proposal complies.

### **Engineering Comment:**

#### **Stormwater**

- No piped council stormwater system is provided for this site and all runoff from roofs and paving must be disposed of onsite (i.e. to soakholes).

#### **Wastewater**

- There is a connection provided to the Taupo District Council sewerage system for the disposal of all wastewater from the site. Refer to the Taupo District Council services plans.
- Each dwelling requires a separate direct connection to the Taupo District Council sewer.

#### **Water**

- There is a connection provided to the Taupo District Council water supply system. Refer to the Taupo District Council services plan. The water toby box lid shall be set at ground level after any site works.
- If the water to the toby is off, the ferrule on the Taupo District Council adjacent main must be turned on. This can be done by Taupo District Council by applying at Taupo District Council and paying the turn-on fee. Alternatively, your plumber may also do this.
- Each dwelling requires a separate water toby direct to the Taupo District Council watermain. No tobies are to be shared. Applications may be made at Taupo District Council service centres for new tobies.


**Other**

- The ultra-fast broadband fibre roll-out is underway in Taupo. New home and business wiring should now be designed for this, although the service is not yet available to all parts of Taupo District.
- Please refer to <http://www.chorus.co.nz/file/2037> for wiring information or <http://www.tcf.org.nz/library/51eee964-eae7-4a02-83c0-f4ac6072b1f4.cmr> for full technical specifications.
- For your information, the site is now identified on TDC`s draft stormwater overland flowpath plans as a possible ponding area for stormwater if the road sumps outside the site were to become blocked or the pipeline became overwhelmed in a flood. In this case ponding could occur on the road and some water flow down the driveway to this site. The 900mm raised floorlevel is expected to be fine, but structures near ground level should be able to cope without damage with the possibility of some temporary ponding of water.

**Attachments** (*The following attachments are included with this Project Information Memorandum*):

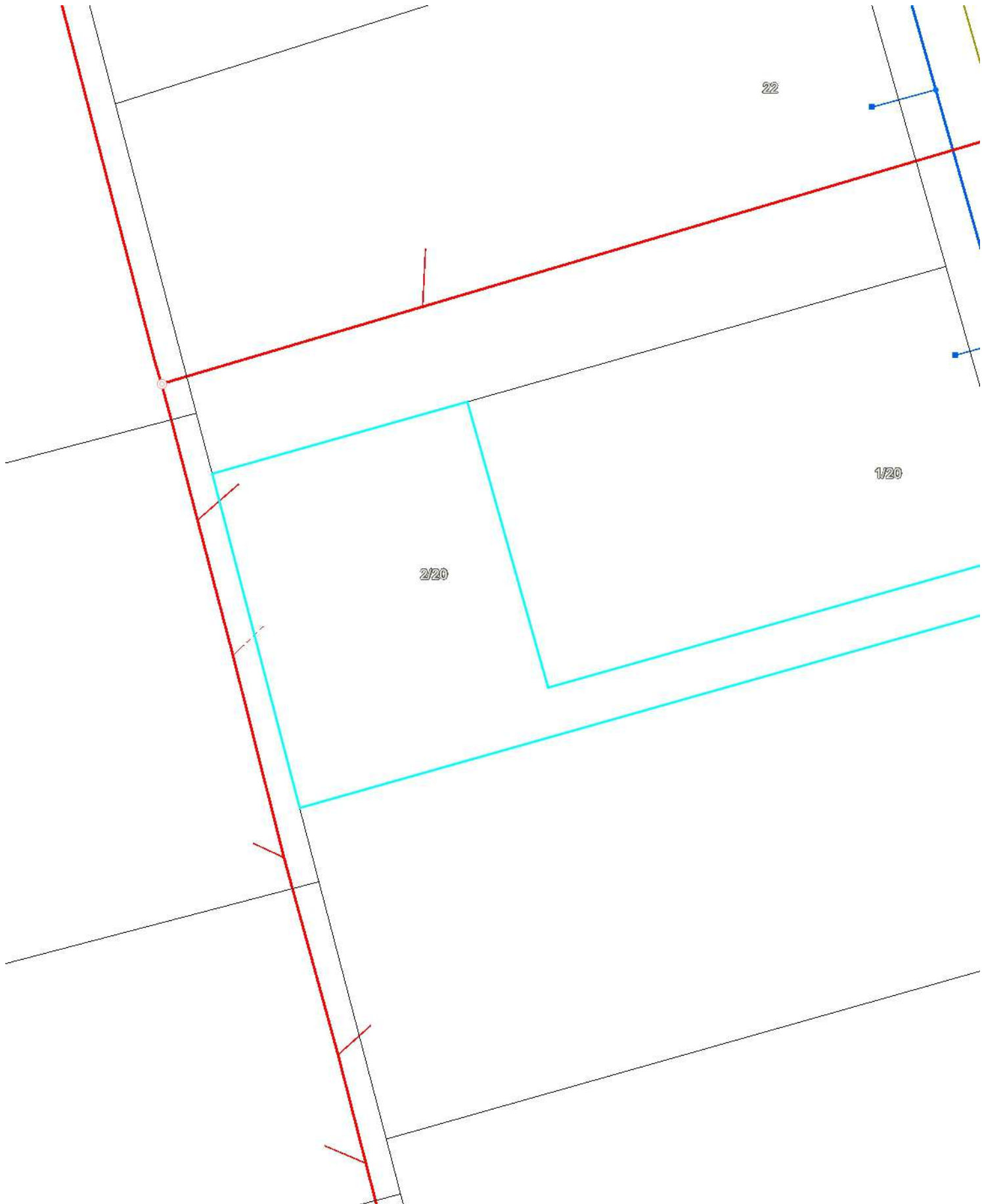
- Services plan
- Certificate of Title

Signed for and on behalf of Taupo District Council



---

Anne Walker  
**Technical Support Officer**  
**Date:** 1/08/13



The information displayed has been taken from Taupō District Council's GIS databases and maps. It is made available in good faith, but its accuracy or completeness is not guaranteed. Position of property boundaries are INDICATIVE only and must not be used for legal purposes. Cadastral information sourced from Land Information New Zealand. Crown Copyright Reserved. This map is not to be reproduced without permission of TDC. © Copyright Reserved Taupō District Council.

**LEGEND:**

- Property Boundaries
- Proposed Subdivisions
- Lease Boundaries
- Taupō District Boundary
- TDC Reserves
- DOC Reserves
- Council Owned Land
- Council Easements

**SERVICES**

**Sewer (wastewater)**

- Manhole
- Node
- Pump Station
- Sewer pipe

**Water**

- Water point (valve, fire hydrant)
- Water pipe

**Stormwater**

- Manhole
- Inlet / cesspit
- Node
- Stormwater pipe
- Fibre Optic Cable (Council)
- Street Lights

14.569 Meters

Scale = 1: 310 (A4)

Map Produced from Geocortex



Date Created: 1 August 2013 2:12 p.m.

Author:



**COMPUTER FREEHOLD REGISTER  
UNDER LAND TRANSFER ACT 1952**



Search Copy

  
R.W. Muir  
Registrar-General  
of Land

**Identifier** 357793  
**Land Registration District** South Auckland  
**Date Issued** 21 December 2007

**Prior References**  
SA1001/237

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**Estate** Fee Simple  
**Area** 452 square metres more or less  
**Legal Description** Lot 2 Deposited Plan 389398

**Proprietors**  
Habitat for Humanity (Central North Island) Limited

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**Interests**

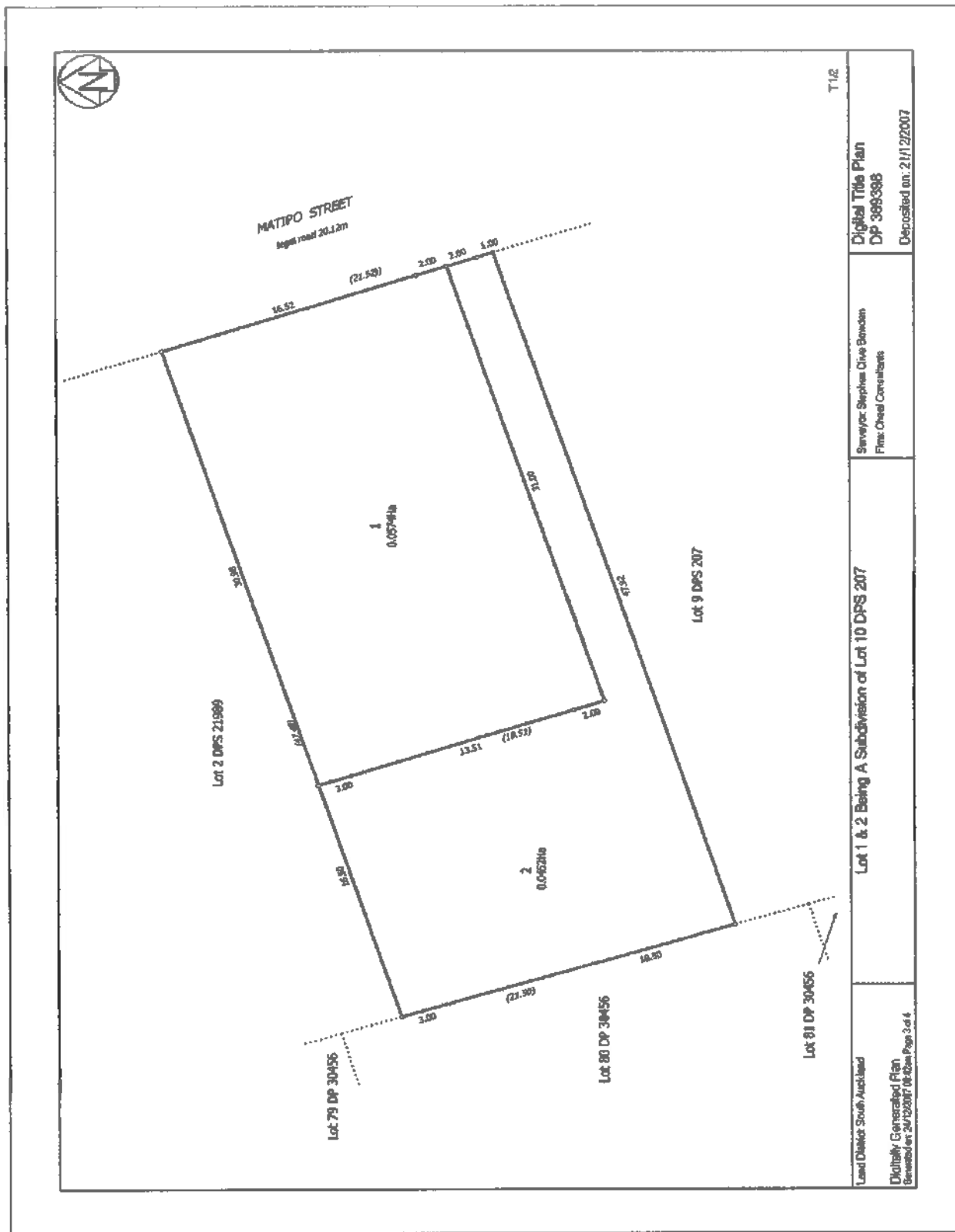
Saving and excepting all minerals within the meaning of the Land Act 1924 on or under the land and reserving always to Her Majesty the Queen and all persons lawfully entitled to work the said minerals a right of ingress, egress and regress over the said land

Subject to a right of way and drainage (stormwater) over part marked B and a sewage easement over part marked C on DP 389398 created by Easement Instrument 7667008.3 - 21.12.2007 at 9:00 am

Appurtenant hereto is a right of way and drainage (stormwater) easement created by Easement Instrument 7667008.3 - 21.12.2007 at 9:00 am

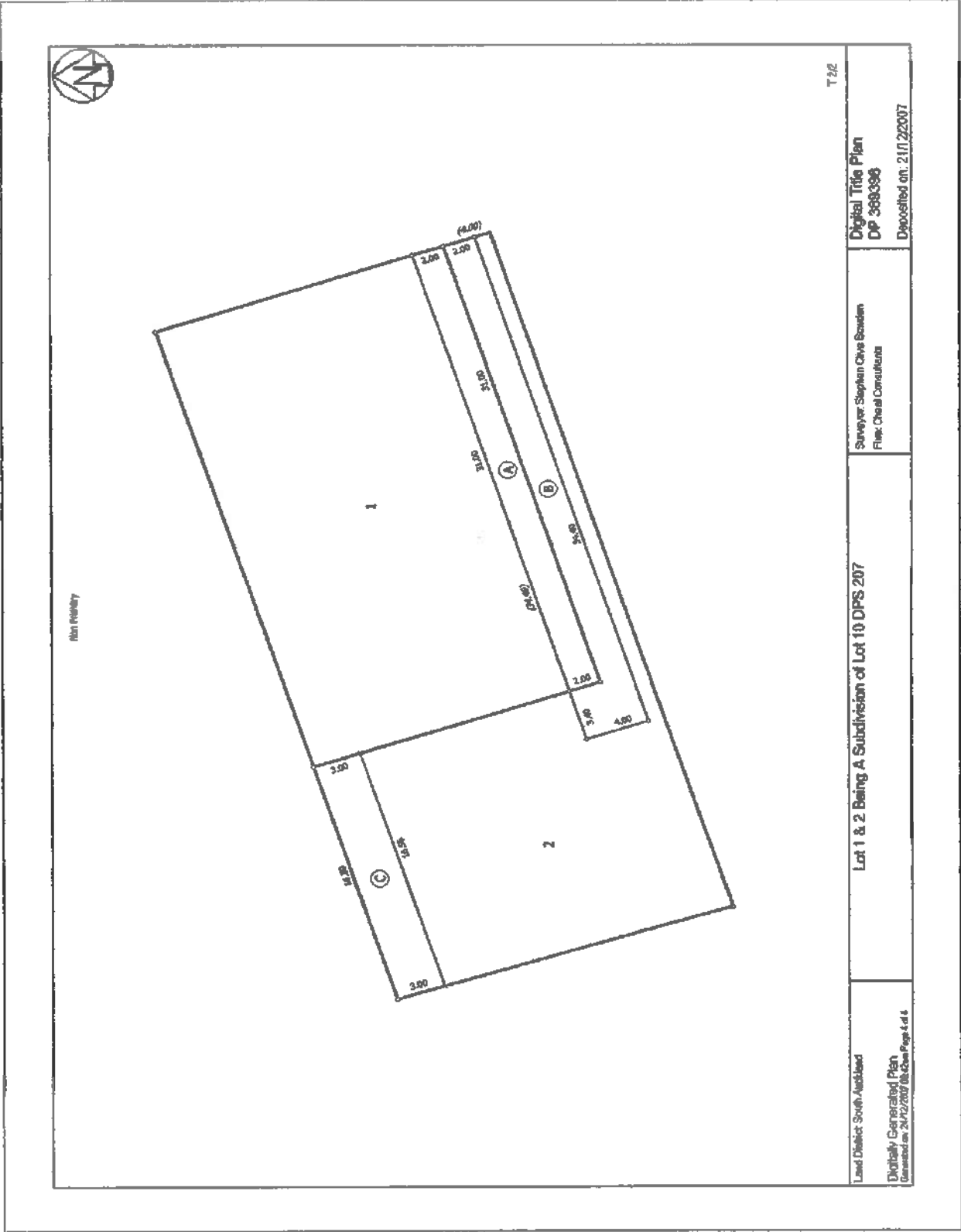
The easements created by Easement Instrument 7667008.3 are subject to Section 243 (a) Resource Management Act 1991

9167271.3 Encumbrance to Taupo District Council - 21.9.2012 at 1:04 pm



T1/2

<p>Digital Title Plan DP 369398B Deposited on: 21/12/2007</p>	<p>Surveyor: Stephen Clive Bannister Firm: Cheryl Consultants</p>	<p>Lot 1 &amp; 2 Being A Subdivision of Lot 10 DPS 207</p>	<p>Land District: South Australia Digitally Generated Plan Generated on: 26/12/2007 10:42:00am Page 3 of 4</p>
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2013-08-19 Request for information - A1149970



**GREAT LAKE TAUPŌ**

Taupō District Council  
72 Lake Terrace, Taupō 3330  
Private Bag 2005, Taupo Mail Centre  
Taupō 3352, New Zealand  
T 07 376 0899  
F 07 378 0118  
E [general@taupo.govt.nz](mailto:general@taupo.govt.nz)  
[www.taupo.govt.nz](http://www.taupo.govt.nz)

19 August 2013

Habitat for Humanity (Central NI) Limited  
29 Bryant Road  
Te Rapa  
Hamilton 3200

**BC No: 130523**

Dear Sir/Madam

**PROCESSING OF BUILDING CONSENT APPLICATION  
HABITAT FOR HUMANITY (CENTRAL NI) LIMITED - 2/20 MATIPO STREET, TAUPO  
NEW DWELLING**

Pursuant to Section 48(2) of the Building Act 2004, and before any further processing of the above building consent application can be carried out, the following information will need to be supplied:

- 1. The plans specify fixings to NZs3604 for the pile to bearer and bearer to Joist. We require the fixings to be specified on the plans rather than just a reference to a standard. Please show compliance with Clause B1.**
- 2. A detail has been provided for the bottom plate fixing to concrete floor. Please modify this detail to show a timber floor as this is not site specific.**
- 3. Please show how the trusses are to be fixed to the wall framing showing compliance with Clause B1.**
- 4. Please confirm lintel sizes for all openings. If not required due to construction method, please provide manufacturer's documentation showing this. Also note on the plans which measurements relate to lintel size.**
- 5. On the cross section there has been a problem with the printing which has deleted some notes. Please update page A06.**
- 6. Please show access to the building. There is a 100mm concrete patio noted on the floor plan with nothing to support it or any construction details. Show how this interacts with the timber floor. Please show position of steps on the floor plan. Riser and tread sizes need to comply with Clause D1 so please show them. Also if there are over three risers, a handrail needs to be shown complying with Clause F4.**
- 7. The cross sections show 90mm wall framing but the triboard details appear to show both 1 batten of 45mm and antoehr detail shows 45mm nailed together. Is there a reason why simply 90 x 45 framing is not to be used? Why nail two battens together to create the 90 x 45 framing? Please clarify.**
- 8. Stormwater needs to be disposed of onsite. Please show compliance with Clause E1. Soakhole sizes can be found on our website if required.**

9. **The Engineer has provided a PS1 for the design of the stormwater disposal installation but all I have here are calculations done for a test. Please confirm from the Engineer what he has actually designed.**
10. **The bottom of cladding detail shows a concrete foundation. The house is on piles so please provide the same detail for a timber floor showing compliance with clause E2.**
11. **The Design Memo has no description of the items in the appropriate column. These must be filled in with information on what the design memo is covering.**

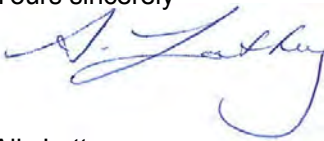
Until the information requested is received and found to be acceptable, processing of this consent will be suspended.

Please note that if the requested information is not received within 20 working days of the date of this letter then the application will be refused pursuant to Section 48 (1)(b) of the Building Act 2004.

For the purposes of Section 50 of the Building Act 2004, this letter is written notification of the refusal on the grounds that there was insufficient information provided to enable the consent to be issued.

For further enquiries please contact me on 07 376 0679

Yours sincerely



Alix Lattey  
**Building Control Officer**

2013-08-23 Request for information - A1152310



**GREAT LAKE TAUPŌ**

Taupō District Council  
72 Lake Terrace, Taupō 3330  
Private Bag 2005, Taupo Mail Centre  
Taupō 3352, New Zealand  
T 07 376 0899  
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[www.taupo.govt.nz](http://www.taupo.govt.nz)

23 August 2013

Habitat for Humanity (Central NI) Limited  
29 Bryant Road  
Te Rapa  
Hamilton 3200

**BC No: 130523**

Dear Sir/Madam

**PROCESSING OF BUILDING CONSENT APPLICATION  
HABITAT FOR HUMANITY (CENTRAL NI) LIMITED - 2/20 MATIPO STREET, TAUPŌ  
NEW DWELLING**

Pursuant to Section 48(2) of the Building Act 2004, and before any further processing of the above building consent application can be carried out, the following information will need to be supplied:

- 1. The pile connection still refers to NZS3604, please specify exactly what the fixings are.**
- 2. I have a ceiling to truss fixing detail but I still don't have a detail for the truss fixing to the wall.**
- 3. When the cross section is converted to PDF at this end some of the script is incompatible, hence the notes on the cross section are still not coming through**
- 4. The site plan still shows the stormwater connecting to the existing system. There is no existing system. As per the PIM conditions the stormwater needs to go to soakholes or otherwise be contained onsite.**

Until the information requested is received and found to be acceptable, processing of this consent will be suspended.

Please note that if the requested information is not received within 20 working days of the date of this letter then the application will be refused pursuant to Section 48 (1)(b) of the Building Act 2004.

For the purposes of Section 50 of the Building Act 2004, this letter is written notification of the refusal on the grounds that there was insufficient information provided to enable the consent to be issued.

For further enquiries please contact me on 07 376 0679

Yours sincerely

Alix Lattey  
**Building Control Officer**

2013-09-12 Required items for building consent - A1161665



## REQUIRED ITEMS FOR BUILDING CONSENT BC 130523

### Inspections Required

The following inspections are required:

1	Siting & Foundation	(pile holes, footings, reinforcing steel, ground bearing, earth fill etc)
1	Sanitary Sewer/Drainage	(sewer connection, storm-water, materials, septic tank, falls etc)
1	Framing Inspection	(wall and roof framing, connections and fittings, timber sizes & treatments, bracing and fixings)
1	Pre-Ext Cladding Systems-Building	(cavities, head, jamb, sill flashings & wraps penetrations, cavities fixings etc prior to installation of exterior cladding. Brick veneer at ½ height)
1	Preline Plumbing	(internal plumbing and fittings, pressure test)
1	Code Compliance - Building (Single Dwelling Only)	(Surface finishes, access & egress, fire safety features, weathertightness, as per approved plans etc)
6	Total Inspections	

### Documentation Required

The following documentation is required:

Drainage as-built  
Electrical Certificate  
Green siting sheet  
PS3/4 (Structural) (B1) - Engineer  
Roof Cladding Memorandum (E2)  
Water Proofing Certificate - External (E2) Membrane butynol  
Timber driven piles

### Licensed Building Practitioner Forms Required

The following Restricted Building Work must be carried out or supervised by a registered Licensed Building Practitioner (LBP) and a Record of Building Work form signed by each LBP is required at the completion of the work.

Design 1            Murray Borland  
Carpentry 1  
Foundations 1  
Roofing 1

### Advice Notes

#When all building work authorised by this building consent is complete written application should be made to Taupo District Council for a CODE COMPLIANCE CERTIFICATE. If no application has been made, Taupo District Council must decide whether to issue the CCC after 2 years of the building consent being granted. An application form for this purpose is enclosed.

*The above list is an indication only of the inspections that may need to be carried out to ensure the work complies with the building consent. Additional inspections may be required to satisfy the requirements of Section 90 of the Building Act 2004. Persons carrying out building work are to ensure that adequate inspections are carried out to enable the Building Consent Authority to be satisfied the work complies with the consent as required by Section 94(1)(a) of the Building Act 2004.*

*Please ensure that all relevant components are inspected and 'signed off' by Taupō District Council building control staff before progressing to the next stage and all conditions/notes are complied with.*

*Inspection Bookings:*

*For Taupō & Mangakino phone (07) 376 0899*

*For Turangi phone (07) 386 7017*

#Drainage/as built plans including stormwater drains and soakholes, are to be provided, drawn to scale, and all parts clearly identified at the time of inspection. Failure to do this may result in the inspection not being carried out. A recheck will then be required, which will incur further charges.

#As agreed prior to granting of consent, the design engineer or their nominated representative is to supervise the "driven timber piles" and upon completion supply documentation which is acceptable to Taupo District Council showing means of compliance with B1 and B2 of the NZ Building Code has been achieved.

#Prior to a Code of Compliance Inspection being undertaken, an Energy Works certificate shall be provided to the Taupo District Council to demonstrate compliance with Clause G9 and/or G10 and G11 of the NZBC.





# GoGet Processing Summary Report

Consent No: 130523

Checklist/Elements	Status	Notes
PIM/CIM	Pass	
Preliminaries	Pass	
Type of Application	Pass	1. PIM and Building Consent
Comments	Pass	
Planner	Pass	1. Town Planner Approved
Utilities Engineer	Pass	4. Standard Engineering Comments
Vehicle crossing - Development Engineer	N/A	
Environmental Health Officer	N/A	
HAZNO officer to reflect work instruction	N/A	
Building Act	N/A	
Building Consent Authority Information	N/A	
Residential Building	N/A	
Section 112	N/A	
Change of use	N/A	
Producer Statement PS1 (Design)	Pass	
Structural 1	Pass	
Authors Name	Pass	Mark Mitchell
Is the author approved?	Yes	The Engineer has provided a PS1 for the design of the stormwater disposal installation but all I have here are calculations done for a test. Please confirm from the Engineer what he has actually designed. See RFI response
What method of compliance has been used?	Pass	Acceptable Solution
Specific reference to the New Zealand Building Code	Pass	E1
Author signed and dated the Producer Statement?	Yes	09/09/13
Is the Producer Statement an original copy?	Yes	
Correct form has been used?	Yes	
All of the sections of the form have been fully completed?	Yes	
Compliance with the NZBC has been demonstrated?	Yes	
Peer review required?	N/A	
Supporting Information	Pass	Calculations Drawings
Producer Statement Approved?	Yes	
Specific conditions of acceptance	N/A	
Structural 2	N/A	
Architectural	N/A	
Heating	N/A	
Fire	N/A	
Hydraulic	N/A	
Glazing	N/A	
Backflow	N/A	
Geotechnical	N/A	
Plumbing	N/A	
Drainage	N/A	

Checklist/Elements	Status	Notes
Weather tightness	N/A	
Air-conditioning	N/A	
Mechanical	N/A	
Producer Statement PS2 (Design Review)	N/A	
Preliminaries	Pass	
Competency	Pass	
1. Level	Pass	R1
Limited Life (Section 113)	N/A	
Levels	N/A	
On Site Information	Pass	
Site Factors	Pass	
1. Wind Zone	Pass	Low
2. Corrosion Zone	Pass	Zone B
3. Earthquake Zone	Pass	Zone 2
Surveyors Certificate Required	N/A	
Site specific requirements	N/A	
Residential	Pass	
Fire Protection	Pass	
1. Smoke alarm location	Pass	NZBC F7
2. Distance to boundary	Pass	
3. Fire separation and travel	N/A	
4. Eaves within 650mm of a boundary	N/A	
5. Fire rating provisions	N/A	
Concrete Floors	N/A	
Timber Floors	Pass	
1. Pile-size/height/treatment/size/type	N/A	
3. DPC to piles < 300mm	N/A	
4. Driven piles	Pass	NZS 3604
8. Bearer grade/size/span/spacing/treatment	Pass	NZS 3604
7. Bearer to pile fixings and durability (including any bracing elements)	Pass	The plans specify fixings to NZs3604 for the pile to bearer and bearer to Joist. We require the fixings to be specified on the plans rather than just a reference to a standard. Please show compliance with Clause B1.
9. Bearer cantilever & point loads	N/A	
11. Stringer treatment/grade/size/fixings and durability	N/A	
12. Joist grade/size/span/spacing/treatment/fixings	Pass	NZS 3604 NZS 3602
13. Are load bearing walls parallel to floor supported by double joists?	Pass	NZS 3604
Are walls adequately supported by floor framing	Pass	NZS 3604
17. Trimmer and trimmer joists comply	N/A	
18. Lateral support, blocking & midspan blocking	Pass	NZS 3604
19. Cantilever joist grade/size/span and spacing	N/A	
20. Cantilever deck joist connections	N/A	
21. Joist spacing appropriate for flooring type	Pass	NZS 3604
22. Flooring material & thickness suitable for floor load	Pass	NZS 3604

Checklist/Elements	Status	Notes
23. Bracing calculations and layout plan provided	Pass	Specific Engineers design
24. Brace - size/length/location	Pass	all piles are driven timber piles at a depth of 1200mm and can be used in lieu of anchor piles or braced piles as per NZS3604
26. Subfloor ventilation/access/crawl space	Pass	NZS 3604
28. Bracing calculations & plans provided	N/A	
29. Even distribution of subfloor bracing	Pass	NZS 3604
30. Correct subfloor bracing components	N/A	
32. Bracing lines do not exceed 6m	N/A	
34. Fixings of elements provided and correctly detailed	Pass	See previous RFI See RFI response
Wall Framing	Pass	
1. Is design within scope of acceptable solutions?	N/A	Alternative solutions. Triboard. Branz appraised system, historically proven.  On the cross section there has been a problem with the printing which has deleted some notes. Please update page A06.
2. Stud grade/size/height/spacing/treatment	Pass	As per triboard system
7. Bottom plate fixings & dpc	Pass	A detail has been provided for the bottom plate fixing to concrete floor. Please modify this detail to show a timber floor as this is not site specific. See RFI response
8. Top plate to stud fixings	Pass	Please show how the trusses are to be fixed to the wall framing showing compliance with Clause B1. See RFI response
9. Is a structural ceiling diaphragm required and does it comply?	N/A	
10. Lintel grade/size/span	Pass	Please confirm lintel sizes for all openings. if not required due to construction method, please provide manufactures documentation showing this. Also note on the plans which measurements relate to lintel size.
11. Lintels supporting point loads	N/A	
12. Lintel fixings specified & on plans	Pass	manufacturers info from Triboard
13. Cantilever lintel design and construction details on plans	N/A	
14. Beam grade/size/span/treatment and fixing	N/A	
15. Beam/post connections	N/A	
16. Timber post/treatment	N/A	
17. Dragon ties appropriately detailed for spaces up to 7.5m	N/A	
18. System type identified	Pass	Triboard.
19. Bracing calculations & plans provided	Pass	
20. Bracing elements adjusted for height	N/A	
21. Bracing elements correct on plans	Pass	
22. Bracing lines do not exceed 6m and 5m without additional top plate	Pass	
23. Step in bracing line do not exceed 2m	Pass	
24. Bracing elements evenly distributed	Pass	
25. Bracing element clear of showers	Pass	
26. Fixings of elements provided and correctly detailed	N/A	
Full Masonry Construction	N/A	
Ceilings	Pass	

Checklist/Elements	Status	Notes
1. Ceiling lining type	Pass	triboard 18mm ceiling
2. Ceiling thickness	Pass	18mm triboard
3. Sheet sarking	N/A	
4. Ceiling batten size/grade/span/crs	N/A	
5. Ceiling space access >600mm	N/A	
6. Water tanks in roof space	N/A	
7. Ceiling diaphragm required	N/A	
9. Bracing units of walls connected to diaphragms	N/A	
Roofs	Pass	
1. Check that bracing is appropriate for roof type and weight	Pass	NZS 3604
2. Buildable truss layout and producer statement supplied	Pass	NZS 3604
3. Confirm truss design data - roof type/windzone/pitch/overhang/ceiling material/spacing correctly identified	Pass	
5. Truss to top plate connections	Pass	See previous RFI
6. Corrosion zone	Pass	NZS 3604
7. Rafter grade/size/span/spacing/treatment	N/A	
8. Rafter to top plate fixings	N/A	
9. Rafter to ridge beam connections	N/A	
11. Ridge boards	N/A	
12. Ridge beam/grade/size/span	N/A	
13. Ridge to wall connections	N/A	
14. Ridge to base connections	N/A	
15. Ceiling joists/grade/size/span/spacing	N/A	
16. Ceiling joist to top plate & rafter fixings	N/A	
17. Ceiling runners/grade/size/span/spacing	N/A	
18. Underpurlin grade/size/span/spacing	N/A	
19. Underpurlin struts/grade/size/length	N/A	
20. Underpurlin fixings and supports	N/A	
21. Strutting beam grade/size/span/spacing	N/A	
22. Collar tie size and fixings	N/A	
23. Cleat size and fixings	N/A	
24. Purlin treatment	Pass	NZS 3602
25. Purlin and batten grade/size/span/spacing	Pass	NZS 3604
26. Purlin fixings	Pass	NZS 3604
27. Purlins laid directly over ceiling lining	N/A	
28. Dummy rafters	N/A	
29. Fixing purlins and dummy rafters to sarked ceilings	N/A	
32. Periphery and main roof nailing	N/A	
33. Chimney framing stud treatment	N/A	
34. Chimney framing stud grade/size/height/spacing	N/A	
35. Chimney framing wind barrier (rigid/non-rigid)	N/A	
37. Flashing details provided for chimney/roof/wall junctions	N/A	
Stairs/Landings and handrails	Pass	

Checklist/Elements	Status	Notes
1. Stairs Type/pitch/riser/tread (NZBC D1, definitions pages 13 and 14)	Pass	Please show access to the building. There is a 100mm concrete patio noted on the floor plan with nothing to support it or any construction details. Show how this interacts with the timber floor. Please show position of steps on the floor plan. Riser and tread sizes need to comply with Clause D1 so please show them. Also if there are over three risers, a handrail needs to be shown complying with Clause F4. See RFI response
2. Slip resistance external (main access route)	N/A	
3. Height clearance	N/A	
7. Landings required	N/A	
8. Maximum rise	N/A	
9. Landing width & length	N/A	
10. Obstructions (400mm clearance in front of door opening on to landing)	N/A	
11. Curved and spiral stairways	N/A	
12. Stair winders	N/A	
13. Fixed ladders	N/A	
14. Handrail location/height/profile	Pass	NZBC D1
Insulation/H1	Pass	
1. Method used & calculations provided (check sheet attached)	Pass	The cross sections show 90mm wall framing but the triboard details appear to show both 1 batten of 45mm and antoehr detail shows 45mm nailed together. Is there a reason why simply 90 x 45 framing is not to be used? Why nail two battens together to create the 90 x 45 framing? Please clarify. See RFI response
3. Floor, wall and ceiling insulation correctly specified on drawings	Pass	
4. 25mm space provided between top of insulation and skillion roof underlay	N/A	
Glazing	Pass	
1. Windows have an area > 10%.	Pass	NZBC G7/AS1
2. Window construction	Pass	NZS 4211
3. Glazed panels and windows in bathrooms (indicated on drawings)	Pass	NZS 4223
4. Opening restrictors < 760mm to floor	N/A	
Ventilation	Pass	
1. Natural Ventilation (5% min)	Pass	NZBC G4/AS1
2. Mechanical ventilation demonstrated and ducted out to exterior	N/A	
Water Supplies	Pass	
1. Source of potable drinking water	Pass	Council supply
2. Water supply	Pass	Clause G12
Stormwater	Pass	
1. Means of stormwater disposal	Pass	Stormwater needs to be disposed of onsite. Please show compliance with Clause E1. Soakhole sizes can be found on our website if required. Engineers design
2. Downpipe size and catchment area	Pass	NZBC E1/AS1
3. Downpipes discharging to lower roof	N/A	
3. Minimum gradients	Pass	NZBC E1/AS1
4. Roof gutter size	Pass	NZBC E1/AS1
Sanitary Plumbing & Drainage	Pass	
1. Acceptable solution used	Pass	NZBC G13
2. Schematic plan provided for dwellings of 2 or more storeys	N/A	

Checklist/Elements	Status	Notes
3. Waste pipe diameter and discharge units	Pass	NZBC G13
4. Waste pipe/drain gradient	Pass	NZBC G13
5. Vent pipe position	Pass	NZBC G13
6. Diameter/size of vent pipes/drains/drainage vents	Pass	NZBC G13
7. Air admittance valves	N/A	
8. Drainage	Pass	Council connection
9. Drain ventilation	Pass	NZBC G13
10. Unvented branch drains	N/A	
Wet areas	Pass	
1. Shower type specified	Pass	Proprietary cubicle
2. Details specifying all wall/floor lining types for other showers on timber floor detailed on drawings.	Pass	
3. Floor construction including substrate support and falls to waste (Specify)	N/A	
4. Floor Waste Gully	N/A	
5. Floor/wall junction details (Specify)	Pass	
6. Waterproofing membrane technical specifications provided (Specify)	N/A	
7. 1 door min. between kitchen & WC	Pass	NZBC G1/AS1
8. Basin location for WC space	Pass	NZBC G1/AS1
Residential - Roof Claddings	Pass	
Multiple Roof Claddings	N/A	
Masonry tiles	N/A	
Pressed Metal tiles	N/A	
Profiled Metal Roof	Pass	
1. Roof pitch	Pass	NZBC E2 10 degrees
2. Roofing profile and depth	Pass	NZBC E2
3. Roof material durability suits exposure zone	Pass	NZBC B2
4. Underlay	Pass	NZBC E2
5. Hip and ridge details	N/A	
6. Ridge details	Pass	NZBC E2
7. Apron flashings	N/A	
8. Eaves and barge details	Pass	NZBC E2
9. Gutters and valley (internal & hidden) details.	N/A	
10. Gutter/wall junction	N/A	
11. Flashing requirements - durability/compatibility in contact and run-off	Pass	NZBC B2 & E2
12. Flashing dimensions	Pass	NZBC E2
13. Roof penetrations - chimneys, flues, skylights and pipes	Pass	NZBC E2
Profiled Other	N/A	
Membrane roofs	N/A	
Residential - Wall Claddings	Pass	
General	Pass	
1. Proposed design within limitations of NZBC E2, section 9	Pass	NZBC E2
2. Cladding materials are clearly identified	Pass	
3. E2 Risk Matrix provided	Pass	

Checklist/Elements	Status	Notes
4. The cladding is an Acceptable Solution	Pass	
5. Is the cladding an Alternative Solution?	N/A	
6. Product specific specification provided	Pass	
Masonry Veneer	N/A	
Stucco General	N/A	
Stucco on rigid backing	N/A	
Stucco on non - rigid Backing (studs < 2.4m high)	N/A	
Timber Weatherboards	N/A	
Fibre Cement Weatherboards	Pass	
1. Within Limitations	Pass	NZBC E2
2. Type specified	Pass	James Hardie Linea weatherboard
3. Window jamb, sill, head (direct fix)	Pass	Manufacturers technical specifications
4. Window jamb, sill, head (cavity fix)	N/A	
5. External corners - cavity and direct fix (boxed or soakers)	N/A	
6. External corners - cavity and direct fix (uPVC/aluminium)	Pass	Manufacturers technical specifications
7. Internal corners - cavity and direct fix	Pass	Manufacturers technical specifications
8. Details of junctions between different claddings	Pass	The bottom of cladding detail shows a concrete foundation. The house is on piles so please provide the same detail for a timber floor showing compliance with clause E2. See RFI response
9. Wall/soffit closure details	Pass	
Profiled Metal Wall Cladding	N/A	
Vertical profiled metal cladding direct fixed	N/A	
Horizontal profiled metal cladding on cavity	N/A	
Fibre Cement Sheet	N/A	
Plywood Sheet (direct fix and cavity)	N/A	
EIFS	N/A	
Other Cladding Systems	N/A	
Cavities	N/A	
Building Wrap	Pass	
1. Building wrap specified appropriate & compatible with cladding & framing	Pass	NZBC E2
2. Building wrap/air barrier specified appropriate & compatible for unlined walls or gable ends.	N/A	
Parapets	N/A	
Decks	N/A	
Solid Fuel Heater	N/A	
Accessible Facilities	N/A	
Carport/ Pergolas	N/A	
Alternative Solutions	N/A	
Alternative Solutions 2	N/A	
Alternative Solutions 3	N/A	
Alternative Solutions 4	N/A	
Commercial/Industrial	N/A	
Commercial - Verandah	N/A	



Checklist/Elements	Status	Notes
Commercial - Roof Claddings	N/A	
Commercial - Wall claddings	N/A	
Demolition consent	N/A	
Temporary Building Consents	N/A	
Fire Safety	N/A	
Plumbing & Drainage	N/A	
Relocation	N/A	
Retaining Wall	N/A	
Sheds & Farm Buildings	N/A	
Solar Panels	N/A	
Swimming Pools	N/A	
Pre-Issue Admin Check	Pass	
General	Pass	
Check PIM/CIM	Pass	Check PIM/CIM. Sort drawings & specifications into office copy and applicant/site copy. Check for completeness
Advice notes / Conditions of consent recorded	Pass	Advice notes / Conditions of consent recorded within application form
Stamp Plans & Specifications	Pass	Stamp Plans & Specifications with consent number & office copy/site copy identification stamps
Stamp siting form	Pass	Stamp siting form for applicant with consent number and include in consent envelope
Stamp drainage as built	Pass	Stamp 'drainage as built' with consent number and include in consent envelope
Update LBP	Pass	Update the LBP text fields within GoGet with Designers LBP info and other LBP's which will be required.
RFI and Processing checksheets	Pass	initiate RFI checksheet and processing checksheet reports within GOGET and save to file.
Sign Off	Pass	
All relevant checks have been made	Pass	All relevant checks have been made and compliance is demonstrated and the reasons recorded
Work undertaken by external consultants has been completed correctly	N/A	
Consent can be granted	Pass	
Producer Statement PS3 (Construction)	N/A	
Producer Statement PS4 (Construction Review)	N/A	

I am satisfied on reasonable grounds that the provisions of the Building Code will be met if the building work in relation to the attached application is properly completed in accordance with the attached plans and specifications.

Signed: \_\_\_\_\_ Date: 12 September 2013  
Alix Lattey

Building Consent - A1163413



**GREAT LAKE TAUPŌ**  
Taupō District Council

## **Building Consent**

**Section 51, Building Act 2004**

**BC No: 130523**

### **The Building**

**Street address of building:** 2/20 Matipo Street, Taupo

**Legal description of land where building is located:** Lot 2 DP 389398

**Valuation number:** 0732165202

### **The Owner**

**Name of owner:** Habitat for Humanity (Central NI) Limited

**Contact person:** Nic Greene

**Mailing address:** 29 Bryant Road, Te Rapa, Hamilton 3200

**Street address/registered office:**

**Phone number: Daytime:** 07 8490284 ext 202

**Email address:** gm@habitatcni.org.nz

### **First point of contact for communications with the council/building consent authority:**

As above

### **Building Work**

**The following building work is authorised by this building consent:**

New dwelling

This building consent:

- Is issued under section 51 of the Building Act 2004.
- 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).
- Also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is issued subject to the following conditions:

- 1. When all building work authorised by this building consent is complete written application should be made to Taupo District Council for a CODE COMPLIANCE CERTIFICATE. If no application has been made, Taupo District Council must decide whether to issue the CCC after 2 years of the building consent being granted. An application form for this purpose is enclosed.**

2. Drainage/as built plans including stormwater drains and soakholes, are to be provided, drawn to scale, and all parts clearly identified at the time of inspection. Failure to do this may result in the inspection not being carried out. A recheck will then be required, which will incur further charges.
3. As agreed prior to granting of consent, the design engineer or their nominated representative is to supervise the driven timber piles and up completion supply documentation which is acceptable to Taupo District Council showing means of compliance with B1 and B2 of the NZ Building Code has been achieved.
4. Prior to a Code of Compliance Inspection being undertaken, an Energy Works certificate shall be provided to the Taupo District Council to demonstrate compliance with Clause G9 and/or G10 and G11 of the NZBC.

When all building work authorised by the Building Consent Authority is complete, written application must be made to Taupo District Council for a **CODE COMPLIANCE CERTIFICATE**. This application must be made no later than 2 years after the date on which the building consent was issued. An application form for this purpose is enclosed.

### Compliance Schedule

A compliance schedule is not required for the building.

### Attachments

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

- Approved Plans and Specifications
- Application for Code Compliance Certificate
- Project Information Memorandum



Signature: \_\_\_\_\_

Kelvin Short - **Team Leader Building**

On behalf of: Taupo District Council

17 September 2013

Works Order Application - A1163553

## WORKS ORDER APPLICATION FOR: WATER CONNECTION

**Date:** 16 September 2013

**Works Order No:** \_\_\_\_\_ **Code No:** \_\_\_\_\_

**BC No:** 130523

**Owner Name:** Habitat for Humanity (Central NI) Limited **Phone No:** 07 8490284 ext 202

**Owner's Address:** 29 Bryant Road, Te Rapa, Hamilton 3200,

**Property Address:** 2/20 Matipo Street, Taupo

**Legal Description:** Lot 2 DP 389398

**Fee Paid:** \$140.00 **Receipt No:** 000264

**Dimensions:** Toby turn on

**Assigned Department:** Mel Montesa **Target Date:** \_\_\_\_\_

**Assigned By:** Tech Support

**SKETCH WHERE REQUIRED** (*Attach Sheets For Sketch If Required*)

### RETURN CHIT (FILL IN WHEN WORK COMPLETE)

<b>Works Order No:</b>			
------------------------	--	--	--

<b>Date Work Started:</b>		<b>Date Completed:</b>	
---------------------------	--	------------------------	--

<b>Action Taken:</b>	
----------------------	--

<b>Is additional work or further action needed?</b>	Ye s	<input type="checkbox"/>	No	<input type="checkbox"/>
---	---------	--------------------------	----	--------------------------

<b>Describe additional work or action:</b>	
--	--

<b>Signature:</b>		<b>Date:</b>	
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2013-10-29 Site Notice - A1181169

## SITE NOTICE

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

Date Printed: **29 October 2013**

Inspection Type: **Siting & Foundation**  
Inspection Status: **Fail**  
Inspected By: **Martyn Trainor**  
Inspection Date: **29 October 2013**  
**Foundation inspection for new dwelling .**

### Passed Elements

Excavations, safe slopes, hoarding etc for site safety

### Failed Elements

#### Siting / General

Correct site & Siting form supplied  
Approved building consent documents on site

**Still to come.**

**Approved plans not on site.**

#### Foundations

As per the approved plans  
Appropriate materials used, location, type, sizes,  
cover, laps etc of reinforcing correct  
Ground bearing checked and adequate  
Proposed floor level correct  
Engineer inspected (if required)

**At inspection I found the piles provided were driven piles.  
A further inspection is required for the following reasons.**

- 1. Approved plans were not on site to show the scope of the work.**
- 2. Green siting form not available and property boundary pegs not yet found.**
- 3. Engineer who supervised driven piles to submit producer statement at next inspection.**
- 4.LBP notification required for driven pile installer and builder doing subfloor framing.**

#### Outcome of Inspection

Approved  
Further Inspection Required (Recheck Required)  
Required documents not yet received



**Documentation**

Drainage as-built	Required
Electrical Certificate	Required
Green siting sheet	Required
PS3/4 (Structural) (B1) - Engineer	Required

**Status****Timber driven piles**

Roof Cladding Memorandum (E2)	Required
Water Proofing Certificate - External (E2) Membrane butynol	Required

---

**Licensed Building Practitioners**

Carpentry 1	Required
Foundations 1	Required
Roofing 1	Required

**Status**



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Siting & Foundation**  
 Inspection Status: **Fail**  
 Inspected By: **Martyn Trainor**  
 Inspection Date: **29/10/2013 10:50 a.m.**

**Foundation inspection for new dwelling .**

<b>Inspection Element</b>	<b>Status</b>
Siting / General	Fail
Correct site & Siting form supplied	Fail
<b>Still to come.</b>	
Approved building consent documents on site	Fail
<b>Approved plans not on site.</b>	
Excavations, safe slopes, hoarding etc for site safety	Pass
Foundations	Fail
As per the approved plans	Fail
Appropriate materials used, location, type, sizes, cover, laps etc of reinforcing correct	Fail
Steel is clean and tied	N/A
Ground bearing checked and adequate	Fail
Foundations clean, sides vertical & no water in foundations	N/A
Proposed floor level correct	Fail
Engineer inspected (if required)	Fail
Outcome of Inspection	Fail
<b>At inspection I found the piles provided were driven piles.</b>	
<b>A further inspection is required for the following reasons.</b>	
<b>1. Approved plans were not on site to show the scope of the work.</b>	
<b>2. Green siting form not available and property boundary pegs not yet found.</b>	
<b>3. Engineer who supervised driven piles to submit producer statement at next inspection.</b>	
<b>4.LBP notification required for driven pile installer and builder doing subfloor framing.</b>	
Approved	Fail
Further Inspection Required (Recheck Required)	Fail
Required documents not yet received	Fail

2013-11-04 Site Notice - A1183352

**SITE NOTICE**

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Date Printed: **4 November 2013**

Inspection Type: **Prefloor Building**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **4 November 2013**

**Passed Elements**

**General**

- As per the approved plans
- Approved building consent documents on site
- Conditions of consent (if any) are met
- Siting Sheet Received (If foundation inspection completed as well)

**Slab on Ground or Suspended Concrete**

- Appropriate materials being used
- Correct location, type, sizes, cover, laps etc of reinforcing
- Proposed floor level correct

**pile foundation**

**Timber Floor**

- Access to subfloor provided
- Subfloor insulation installed
- Bracing fixed, located correctly and connections correct

**inplace**

**all foundation held down correctly**

**Outcome of Inspection**

Approved

**sub floor only all appears ok to proceed as per approved Documents**

**Documentation**

	<b>Status</b>
Drainage as-built	Required
Electrical Certificate	Required
Green siting sheet	Accepted
PS3/4 (Structural) (B1) - Engineer	Required
<b>Timber driven piles</b>	
Roof Cladding Memorandum (E2)	Required
Water Proofing Certificate - External (E2) Membrane butynol	Required

**Licensed Building Practitioners**

Carpentry 1

Foundations 1

Roofing 1

**Status**

Required

Required

Required



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Prefloor Building**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **4/11/2013 10:35 a.m.**

<b>Inspection Element</b>	<b>Status</b>
General	Pass
As per the approved plans	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
Siting Sheet Received (If foundation inspection completed as well)	Pass
Slab on Ground or Suspended Concrete	Pass
Appropriate materials being used	Pass
Correct location, type, sizes, cover, laps etc of reinforcing	Pass
Steel is clean and tied	N/A
Compaction for base	N/A
Proposed floor level correct	Pass
<b>pile foundation</b>	
Engineer inspected (if required)	N/A
Damp Proof Membrane	N/A
Timber Floor	Pass
Access to subfloor provided	Pass
Subfloor insulation installed	Pass
<b>inplace</b>	
Bracing fixed, located correctly and connections correct	Pass
<b>all foundation held down correctly</b>	
Engineer inspected (if required) (specific design/driven piles)	N/A
Outcome of Inspection	Pass
Approved	Pass
<b>sub floor only all appears ok to proceed asper approved Documents</b>	
Further Inspection Required (Recheck Required)	N/A
Required documents not yet received	N/A



2013-11-13 Site Notice - A1187297

## SITE NOTICE

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Date Printed: **13 November 2013**

Inspection Type: **Framing Inspection**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **13 November 2013**

### Passed Elements

#### General

Approved building consent documents on site  
 Conditions of consent (if any) are met  
 Floor plan as per the approved plans

#### Wall Framing

As per the approved plans **panel walls**  
 Appropriate timber treatment for use  
 Bracing as per design **all holding down inplace correctly**  
 General Fixings (nailing, proprietary fixings for uplift, bracing, top plate etc) **correct**  
 Lintel sizes and fixing **panel lintel**

#### Roof Framing

As per the approved design & plans  
 Rafter and/or Truss Fixings (top plate, ridge beam, girder truss etc) **all trusses held down correct**  
 Roof bracing **inplace**  
 Appropriate timber treatment for use

#### Subfloor Framing

As per the approved plans  
 Sub floor bracing **correct**  
 Appropriate timber treatment for use  
 Pile sizes & bearer connections  
 Timber sizes & installation (lateral support, holes & checks, nailing etc)  
 Insulation **inplace correctly**

#### Outcome of Inspection

Approved

all appears ok to proceed as per approved Documents

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<b>Documentation</b>	<b>Status</b>
Drainage as-built	Required
Electrical Certificate	Required
PS3/4 (Structural) (B1) - Engineer	Required
<b>Timber driven piles</b>	
Roof Cladding Memorandum (E2)	Required
Water Proofing Certificate - External (E2) Membrane butynol	Required

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<b>Licensed Building Practitioners</b>	<b>Status</b>
Carpentry 1	Required
<b>Wayne</b>	
Foundations 1	Required
<b>as above</b>	
Roofing 1	Required



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Framing Inspection**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **13/11/2013 8:46 a.m.**

<b>Inspection Element</b>	<b>Status</b>
General	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
Floor plan as per the approved plans	Pass
Wall Framing	Pass
As per the approved plans	Pass
<b>panel walls</b>	
Appropriate timber treatment for use	Pass
Bracing as per design	Pass
<b>all holding down inplace correctly</b>	
General Fixings (nailing, proprietary fixings for uplift, bracing, top plate etc)	Pass
<b>correct</b>	
Lintel sizes and fixing	Pass
<b>panel lintel</b>	
Top plate packer as required	N/A
Support for proposed cladding	N/A
Support for point loads	N/A
Roof Framing	Pass
As per the approved design & plans	Pass
Rafter and/or Truss Fixings (top plate, ridge beam, girder truss etc)	Pass
<b>all trusses held down correct</b>	
Roof bracing	Pass
<b>inplace</b>	
Appropriate timber treatment for use	Pass
Subfloor Framing	Pass
As per the approved plans	Pass
Sub floor bracing	Pass
<b>correct</b>	

Appropriate timber treatment for use	Pass
Pile sizes & bearer connections	Pass
Timber sizes & installation (lateral support, holes & checks, nailing etc)	Pass
Insulation	Pass
<b>inplace correctly</b>	
Outcome of Inspection	Pass
Approved	Pass
<b>all appears ok to proceed as per approved Documents</b>	
Further Inspection Required (Recheck Required)	N/A
Required documents not yet received	N/A

2013-11-14 Site Notice - A1187889

**SITE NOTICE**

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Date Printed: **14 November 2013**

Inspection Type: **Pre-Ext Cladding Systems-Building**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **14 November 2013**

**Passed Elements**

**General**

- Approved building consent documents on site
- Conditions of consent (if any) are met

**Walls**

- Cladding type(s) **hardies weathboard**
- As per the approved plans
- Appropriate materials used (e.g. timber treatment & grade, approved/appraised)
- Flashing details & materials **flashing tape around windows and doors inplace correctly**
- Internal & external corners & junctions **inplace**
- Proprietary fixings ( metal tie down straps/connection etc for trusses/bracing etc)
- Building wrap (Correct type/installation)
- Penetrations **correct**

**Roof**

- Roof type(s) **5 rib**
- As per the approved plans
- Correct installation and materials
- Flashings **inplace correctly**

**Outcome of Inspection**

- Approved **batts inplace correctly , all appears ok to proceed asper approved consented Documents**

**Documentation**

	<b>Status</b>
Drainage as-built	Required
Electrical Certificate	Required
PS3/4 (Structural) (B1) - Engineer	Required



**Timber driven piles**

Roof Cladding Memorandum (E2)	Required
Water Proofing Certificate - External (E2) Membrane butynol	Required

---

**Licensed Building Practitioners**

**Status**

Carpentry 1	Required
<b>Wayne</b>	
Foundations 1	Required
<b>as above</b>	
Roofing 1	Required



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Pre-Ext Cladding Systems-Building**  
 Inspection Status: **Pass**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **14/11/2013 9:17 a.m.**

<b>Inspection Element</b>	<b>Status</b>
General	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
Walls	Pass
Cladding type(s)	Pass
<b>hardies weathboard</b>	
As per the approved plans	Pass
Appropriate materials used (e.g. timber treatment & grade, approved/appraised)	Pass
Flashing details & materials	Pass
<b>flashing tape around windows and doors inplace correctly</b>	
Internal & external corners & junctions	Pass
<b>inplace</b>	
Battens (cavity system) and/or ventilation	N/A
Proprietary fixings ( metal tie down straps/connection etc for trusses/bracing etc)	Pass
Building wrap (Correct type/installation)	Pass
Penetrations	Pass
<b>correct</b>	
Deck Flashings	N/A
Roof	Pass
Roof type(s)	Pass
<b>5 rib</b>	
As per the approved plans	Pass
Correct installation and materials	Pass
Flashings	Pass
<b>inplace correctly</b>	
Outcome of Inspection	Pass
Approved	Pass
<b>batts inplace correctly , all appears ok to proceed asper approved consented Documents</b>	

Further Inspection Required (Recheck Required)  
Required documents not yet received

N/A  
N/A

2013-11-15 Site Notice - A1188721

**SITE NOTICE**

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Date Printed: **15 November 2013**

Inspection Type: **Preline Plumbing**  
 Inspection Status: **Fail**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **15 November 2013**

**Passed Elements**

**General**

Approved building consent documents on site  
 Conditions of consent (if any) are met  
 As per the approved plans  
 Appropriate materials being used **all appears ok to proceed correct size and-type used**

Adequate support and protection where required  
 Integrity of framing (notches, holes etc)  
 Position of HWC  
 Soil and waste pipes as per AS/NZ 3500/G10 & G13  
 Pressure test of entire system **pressure test 200psi**

**Outcome of Inspection**

Approved **all appears ok to proceed**

**Failed Elements**

**Plumbing**

Sealing of penetrations **check lagging under floor**

**Documentation**

	<b>Status</b>
Drainage as-built	Required
Electrical Certificate	Required
PS3/4 (Structural) (B1) - Engineer	Required
<b>Timber driven piles</b>	
Roof Cladding Memorandum (E2)	Required
Water Proofing Certificate - External (E2) Membrane butynol	Required

**Licensed Building Practitioners**

	<b>Status</b>
Carpentry 1	Required
<b>Wayne</b>	

Foundations 1  
**as above**  
Roofing 1

Required

Required





### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Preline Plumbing**  
 Inspection Status: **Fail**  
 Inspected By: **Glenn Walker**  
 Inspection Date: **15/11/2013 9:48 a.m.**

<b>Inspection Element</b>	<b>Status</b>
General	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
Plumbing	Fail
As per the approved plans	Pass
Appropriate materials being used	Pass
<b>all appears ok to proceed correct size and-type used</b>	
Adequate support and protection where required	Pass
Integrity of framing (notches, holes etc)	Pass
Sealing of penetrations	Fail
<b>check lagging under floor</b>	
Position of HWC	Pass
Soil and waste pipes as per AS/NZ 3500/G10 & G13	Pass
Pressure test of entire system	Pass
<b>pressure test 200psi</b>	
Outcome of Inspection	Pass
Approved	Pass
<b>all appears ok to proceed</b>	
Further Inspection Required (Recheck Required)	N/A
Required documents not yet received	N/A

2013-12-05 Site Notice - A1197645

## SITE NOTICE

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

Date Printed: **5 December 2013**

Inspection Type: **Sanitary Sewer/Drainage**  
Inspection Status: **Fail**  
Inspected By: **Martyn Trainor**  
Inspection Date: **5 December 2013**  
**Drainage inspection for new dwelling .**

### Passed Elements

#### General

Approved building consent documents on site  
Conditions of consent (if any) are met

#### Sanitary Drainage

As per the approved plans  
Appropriate materials being used  
Adequate support and protection where required  
Correct location, type, sizes, cover, and gradients of drains  
Test of entire system  
As built provided  
Approved  
Further Inspection Required (Recheck Required)

**On water test.  
Received .**

### Failed Elements

#### Stormwater

To approved disposal system (onsite or reticulated system)  
Disposal system adequate  
As built provided

**Not yet installed.**

#### Outcome of Inspection

**The work was proceeding as the approved plan .  
The pipe work was laid as per G13 of NZBC, was on water test and had adequate fall. Received As Laid Plan.  
Ok to proceed on reasonable grounds .  
As laid plan and PS3 Producer statement required for stormwater disposal system when completed.**

---

 Inspection Type: **Preline Plumbing**
Inspection Status: **Pass**Inspected By: **Martyn Trainor**Inspection Date: **5 December 2013****Passed Elements**

Plumbing

Sealing of penetrations

**Documentation**

Drainage as-built

Electrical Certificate

PS3/4 (Structural) (B1) - Engineer

**Timber driven piles**

Roof Cladding Memorandum (E2)

Water Proofing Certificate - External (E2) Membrane butynol

**Status**

Accepted

Required

Required

Required

Required

**Licensed Building Practitioners**

Carpentry 1

**Wayne**

Foundations 1

**as above**

Roofing 1

**Status**

Required

Required

Required



### Audit Report

---

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

---

Inspection Type: **Preline Plumbing**  
Inspection Status: **Pass**  
Inspected By: **Martyn Trainor**  
Inspection Date: **5/12/2013 11:06 a.m.**

<b>Inspection Element</b>	<b>Status</b>
Plumbing	Pass
Sealing of penetrations	Pass

2013-12-13 Site Notice - A1201602

## SITE NOTICE

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

Date Printed: **13 December 2013**

Inspection Type: **Siting & Foundation**  
Inspection Status: **Fail**  
Inspected By: **Peter Shepherd**  
Inspection Date: **13 December 2013**  
**Foundation inspection for new dwelling .**

### Passed Elements

#### Siting / General

- Correct site & Siting form supplied
- Approved building consent documents on site
- Excavations, safe slopes, hoarding etc for site safety
- Approved
- Further Inspection Required (Recheck Required)

### Failed Elements

#### Outcome of Inspection

Required documents not yet received **PS4 for pile driving required**

Inspection Type: **Sanitary Sewer/Drainage**  
Inspection Status: **Pass**  
Inspected By: **Peter Shepherd**  
Inspection Date: **13 December 2013**  
**Drainage inspection for new dwelling .**

### Passed Elements

#### Sanitary Drainage

As built provided **Received .**

#### Stormwater

To approved disposal system (onsite or reticulated system)

Disposal system adequate

As built provided

#### Outcome of Inspection

**Failed items from previous inspection appear to have been attended to.**

Required documents not yet received



Inspection Type: **Code Compliance - Building (Single Dwelling Only)**

Inspection Status: **Fail**

Inspected By: **Peter Shepherd**

Inspection Date: **13 December 2013**

## **Passed Elements**

### General

- Approved building consent documents on site
- Conditions of consent (if any) are met
- As per the approved plans
- Energy certificates
- Application for Code Compliance Certificate
- Potable water as per Clause G12
- LBP Memorandums

### Exterior

- External envelope complete & weatherproof
- Claddings completed in accordance with standards/specifications
- Correct protective coating/paint systems as required
- Wall and roof penetrations sealed/flashed
- Access to building
- Barriers as required completed and compliant
- Subfloor access as required
- Ground levels/paving heights
- Stormwater disposed of appropriately

### Interior

- Ceiling and wall insulation in place
- Installation of shower / bath linings, splash boards etc
- Safety glass in bath / shower screens and adjacent windows
- Wet areas (walls, ceilings, floors)
- Tempering valve installed
- Mechanical ventilation extraction to exterior
- Barrier heights and handrails
- Lighting to access routes / stairs
- Smoke alarms fitted and working
- Visual awareness
- Approved
- Further Inspection Required (Recheck Required)

## **Failed Elements**

### Outcome of Inspection

Required documents not yet received

**Pile driving certificate required this will be supplied**

**Documentation**

Electrical Certificate

**Status**

Required

PS3/4 (Structural) (B1) - Engineer

Required

**Timber driven piles**

Roof Cladding Memorandum (E2)

Required

Water Proofing Certificate - External (E2) Membrane butynol

Required

---

**Licensed Building Practitioners****Status**

Carpentry 1

Required

**Wayne**

Foundations 1

Required

**as above**

Roofing 1

Required



### Audit Report

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

Inspection Type: **Code Compliance - Building (Single Dwelling Only)**  
Inspection Status: **Fail**  
Inspected By: **Peter Shepherd**  
Inspection Date: **13/12/2013 9:02 a.m.**

<b>Inspection Element</b>	<b>Status</b>
<b>General</b>	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
As per the approved plans	Pass
Energy certificates	Pass
Application for Code Compliance Certificate	Pass
Potable water as per Clause G12	Pass
LBP Memorandums	Pass
<b>Exterior</b>	Pass
External envelope complete & weatherproof	Pass
Claddings completed in accordance with standards/specifications	Pass
Correct protective coating/paint systems as required	Pass
Wall and roof penetrations sealed/flushed	Pass
Access to building	Pass
Barriers as required completed and compliant	Pass
Subfloor access as required	Pass
Ground levels/paving heights	Pass
Stormwater disposed of appropriately	Pass
Vehicle and footpath damage	N/A
<b>Interior</b>	Pass
Ceiling and wall insulation in place	Pass
Fire ratings stopped	N/A
Installation of shower / bath linings, splash boards etc	Pass
Safety glass in bath / shower screens and adjacent windows	Pass
Wet areas (walls, ceilings, floors)	Pass
Tempering valve installed	Pass
Mechanical ventilation extraction to exterior	Pass

Catches on low windows (safety from falling)	N/A
Barrier heights and handrails	Pass
Lighting to access routes / stairs	Pass
Smoke alarms fitted and working	Pass
Visual awareness	Pass
Outcome of Inspection	Fail
Approved	Pass
Further Inspection Required (Recheck Required)	Pass
Required documents not yet received	Fail
<b>Pile driving certificate required this will be supplied</b>	



Taken at 8:52 AM on Friday 13/12/2013





Taken at 8:54 AM on Friday 13/12/2013



Taken at 8:55 AM on Friday 13/12/2013





Taken at 8:55 AM on Friday 13/12/2013



Taken at 8:55 AM on Friday 13/12/2013



### Audit Report

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

Inspection Type: **Code Compliance - Building (Single Dwelling Only)**  
Inspection Status: **Pass**  
Inspected By: **Peter Shepherd**  
Inspection Date: **17/12/2013 8:35 a.m.**

<b>Inspection Element</b>	<b>Status</b>
<b>General</b>	Pass
Approved building consent documents on site	N/A
Conditions of consent (if any) are met	N/A
As per the approved plans	N/A
Energy certificates	Pass
Application for Code Compliance Certificate	N/A
Potable water as per Clause G12	N/A
LBP Memorandums	N/A
<b>Exterior</b>	N/A
External envelope complete & weatherproof	N/A
Claddings completed in accordance with standards/specifications	N/A
Correct protective coating/paint systems as required	N/A
Wall and roof penetrations sealed/flushed	N/A
Access to building	N/A
Barriers as required completed and compliant	N/A
Subfloor access as required	N/A
Ground levels/paving heights	N/A
Stormwater disposed of appropriately	N/A
Vehicle and footpath damage	N/A
<b>Interior</b>	N/A
Ceiling and wall insulation in place	N/A
Fire ratings stopped	N/A
Installation of shower / bath linings, splash boards etc	N/A
Safety glass in bath / shower screens and adjacent windows	N/A
Wet areas (walls, ceilings, floors)	N/A
Tempering valve installed	N/A
Mechanical ventilation extraction to exterior	N/A

Catches on low windows (safety from falling)	N/A
Barrier heights and handrails	N/A
Lighting to access routes / stairs	N/A
Smoke alarms fitted and working	N/A
Visual awareness	N/A
Outcome of Inspection	Pass
Approved	Pass
Further Inspection Required (Recheck Required)	Pass
Required documents not yet received	Pass
<b>Failed items from previous inspection have been attend to Electrical and pile driving certificates have been received OK to issue SOC</b>	

2013-12-17 Statement of compliance - A1202356

**Statement of Compliance with the NZ Building Code**

**Consent No: 130523**

ISSUED BY: **Taupo District Council**

**PROJECT**

Site Address: 2/20 Matipo Street, Taupo  
Legal Description: Lot 2 DP 389398  
Work Description: New dwelling  
Building Category: Residential Level 1

**OWNER**

Name(s): Habitat for Humanity (Central NI) Limited  
Address: 29 Bryant Road, Te Rapa, Hamilton

**[ P ] Application for CCC Received, Signed, Dated and have correct details**

- [ P ] Check all Inspections required and completed with reasons identified
- [ P ] Records and Notes of Required Standard, Legible and Authors identifiable
- [ P ] All Consent Conditions Complied With, Checked and no outstanding Conditions
- [NA] No outstanding Notices to Fix or Development Contributions
- [ P ] All Records in Consent Envelope Complete including Plans, Specifications, Inspection Notes, Certificate and Notices
- [ P ] Application form for BC, Amendments and all letters and correspondence (refer to NCS system & Objective)
- [NA] External Consultants (work completed is satisfactory)
- [NA] Compliance Schedule Required (systems specified, maintenance identified & info to TS)
- [ P ] All checks been completed as per Systems and Policy Manual 3.10.1 and 12.2 and a CCC for this consent can be issued

**NOTES:**

Inspections Prepaid:  
Inspections Done: seven  
CCC Backdating of Durability Requirements: NA

**LICENSED BUILDING PRACTITIONERS:**

Design 1	BP114766	Murray Borland
Carpentry 1	BP103590	Wayne Cunningham is the LBP
Foundations 1	BP103590	Wayne Cunningham was the LBP
Roofing 1	BP103590	Wayne Cunningham was the LBP

**Technical Queries**

Taupo District Council confirms that work done in relation to this project has been completed in accordance with the Building Consent and the New Zealand Building Code.

Signed:  
Name: Peter Shepherd  
Position: Building Officer

Date: 17 December 2013



Code of Compliance Certificate - A1202748



**GREAT LAKE TAUPŌ**  
Taupō District Council

## Code Compliance Certificate

Section 95, Building Act 2004

BC No: 130523

### The Building

**Street address of building:** 2/20 Matipo Street, Taupo

**Legal description of land where building is located:** Lot 2 DP 389398

**Valuation number:** 0732165202

**Current, lawfully established, use:**

**Year first constructed:**

### The Owner

**Name of owner:** Habitat for Humanity (Central NI) Limited

**Contact person:** Nic Greene

**Mailing address:** 29 Bryant Road, Te Rapa, Hamilton 3200

**Phone number:**           **Daytime:** 07 8490284 ext 202

**Email address:** gm@habitatcni.org.nz

**First point of contact for communications with the council/building consent authority:**

As above

### Building Work

**Issued by:** Taupo District Council

**Description of work:** New dwelling

Indefinite, but not less than 50 years

### Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that:

a) The building work complies with the building consent.

Signature: \_\_\_\_\_

Kelvin Short - **Team Leader Building**

On behalf of: Taupo District Council

Date: 17/12/13



**GREAT LAKE TAUPŌ**

Taupō District Council  
72 Lake Terrace, Taupō 3330  
Private Bag 2005, Taupo Mail Centre  
Taupō 3352, New Zealand  
T 07 376 0899  
F 07 378 0118  
E [info@taupo.govt.nz](mailto:info@taupo.govt.nz)  
[www.taupo.govt.nz](http://www.taupo.govt.nz)

17 December 2013

Habitat for Humanity (Central NI) Limited  
29 Bryant Road  
Te Rapa  
Hamilton 3200

Dear Sir/Madam

**Code Compliance Certificate in relation to BC130523  
2/20 Matipo Street, Taupo - New dwelling**

Please find enclosed the Code Compliance Certificate for the above Building Consent.

If you require further information, please contact this office on 07 376 0899 or email [techsupport@taupo.govt.nz](mailto:techsupport@taupo.govt.nz).

Yours sincerely

Cherie Clark

**Business Support Officer**

Envelope cover sheet - 130523 - A1355920

# PIM

## BC130523

**ADDRESS:**

2/20 Matipo Street, Taupo

**CONSENT CATEGORY**

R1	R2	R3	C1	C2	C3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**FILE NO:**
**OWNER:**

Habitat for Humanity (Central NI) Limited

**DESCRIPTION OF BUILDING WORK:**

New dwelling

**LEGAL DESCRIPTION OF LAND WHERE BUILDING IS LOCATED:**

VALUATION NUMBER: 0732165202

LEGAL DESCRIPTION: Lot 2 DP 389398

**APPLICATION LODGED:**

22/7/13

**FORMALLY RECEIVED:**
**PIM ISSUED:**
**CONSENT ISSUED:**
**CHECKED BY**
**INITIALS**
**DATE**
**INITIALS**
**DATE**
**BUILDING MANAGEMENT OFFICER**

12/9/13


**VETTED BY**

ab

22/7/13

**CONSENTS PLANNER**
**AMENDMENTS**
**OK to issue CCC**
**Print Name:**

*P Shepherd*

**Signature:**
**Date:**

17/12/13



Application code compliance certificate - 130523 - A1355921

Please check all owner details and consent information contained in this document are correct and all fields are completed **BEFORE** submitting this application. Insufficient information will result in the application being placed on hold until the required information is provided.

**AN INSPECTION MUST BE BOOKED PRIOR TO SUBMITTING THIS APPLICATION WITH COUNCIL**

An inspection has been booked: Date: 13/12/2013 Time slot: 9:00 am  
*Please record details of booked inspection here*

## 1. The Building Consent

Building consent number: 130523  
Street address of building: 2/20 Matipo Street, Taupo  
Building work undertaken: New dwelling  
Issued by: Taupo District Council

## 2. The Owner

Name of owner: Habitat for Humanity (Central NI) Limited  
Contact person: Nic Greene  
Mailing address: 29 Bryant Road, Te Rapa, Hamilton 3200  
Street address/registered office: \_\_\_\_\_  
Phone number: Landline: \_\_\_\_\_ Mobile: \_\_\_\_\_  
Daytime: 07 8490284 ext 202 After hours: \_\_\_\_\_  
Facsimile number: \_\_\_\_\_  
Email address: gm@habitatcni.org.nz  
Website: \_\_\_\_\_

The following evidence of ownership is attached to this application: *[copy of certificate of title, lease, agreement for sale and purchase, or other document showing full name of legal owner(s) of the building]*

## 3. The Agent

Name of agent: Habitat for Humanity (Central NI) Limited  
Contact person: Nic Greene  
Mailing address: 29 Bryant Road, Te Rapa, Hamilton 3200  
Street address/registered office: \_\_\_\_\_  
Phone number: Landline: \_\_\_\_\_ Mobile: \_\_\_\_\_  
Daytime: 07 8490284 ext 202 After hours: \_\_\_\_\_  
Facsimile number: \_\_\_\_\_  
Email address: gm@habitatcni.org.nz  
Website: \_\_\_\_\_  
Relationship to owner: \_\_\_\_\_

## 4. First point of contact for communications with the council/building consent authority:

As above

## 5. Application

All building work to be carried out under the above building consent was completed on: \_\_\_\_\_  
(Date)



HH004347



The personnel who carried out the building work are as follows:

Builder: WS Cunningham BP 103590  
Designer: \_\_\_\_\_  
Drainlayer: FRANK MILLIKEN  
Plumber: NICK VANDERWERK. 22006. KEVIN STORRY. 09153  
Electrician: Laser Electrical 578 7595 - Mick Peter Rowland  
Structural Engineer: Mark.T. Mitchell LTD - 07 838 3119

## 6. Compliance Schedule

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:

## 7. Signature

I request that you issue a code compliance certificate for this work under section 95 of the Building Act 2004.

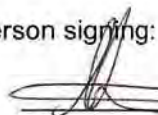
The code compliance certificate should be sent to:

Mabitak for Humanity  
29 Bryant Road TE-Rapa  
Hamilton - 3200

Name of person signing:

Nathan Collins

Signature:



Date:

13/12/2015

*of owner/agent on behalf of and with the authority of the owner*

## 8. Attachments

The following documents are attached to this application (if applicable):

- Certificates from the personnel who carried out the work
- Certificates that related to the energy work
- Evidence that specified systems are capable of performing to the performance standards set out in the building consent

Correct siting of building - 130523 - A1355922



**GREAT LAKE TAUPŌ**  
Taupō District Council

## UNDERTAKING AS TO CORRECT SITING OF BUILDING

*Building Act 2004*

This form must be completed and be available for collection by the Building Management Officer when the first inspection is carried out or at such other time as agreed. A Code Compliance Certificate ~~will not be issued until~~ such time as this form is received and correctly filled out.

BC No:



I hereby certify that the building work currently being carried out at

20 Matipo St Taupo

*(Address of Property)*

is positioned in accordance with, and is the same size, as shown on the approved plans of the Building Consent.

Name of Builder/~~Owner~~:

WS Cunningham

*(Delete that which does not apply)*

Signature:

[Handwritten Signature]

Date:

4/11/2013

Taupo District Council

72 Lake Terrace, Private Bag 2005, Taupo Mail Centre, Taupo 3352

Phone: 07 3760899 Email: [general@taupo.govt.nz](mailto:general@taupo.govt.nz) Website: [www.taupo.govt.nz](http://www.taupo.govt.nz)



Services As Laid plan - 130523 - A1355923



**GREAT LAKE TAUPŌ**

Taupō District Council

72 Lake Terrace, Taupo 3330

Private Bag 2005, Taupo Mail Centre, Taupo 3352

Ph: 07 376 0752 Fax: 07 378 0114

[techsupport@taupo.govt.nz](mailto:techsupport@taupo.govt.nz)

[www.taupo.govt.nz](http://www.taupo.govt.nz)

# SERVICES AS LAID PLAN







Building Consent No:

Owners Name:

Habitat for Humanity limited.

Property Address:

2/20 Matipo Street

Plumber:

Jesse Foden

Name/s

Address

Reg: 19755

Contact Phone No.

Registration No.

Drainlayer:

Z Milliken

Name/s

Address

Contact Phone No.

Registration No.

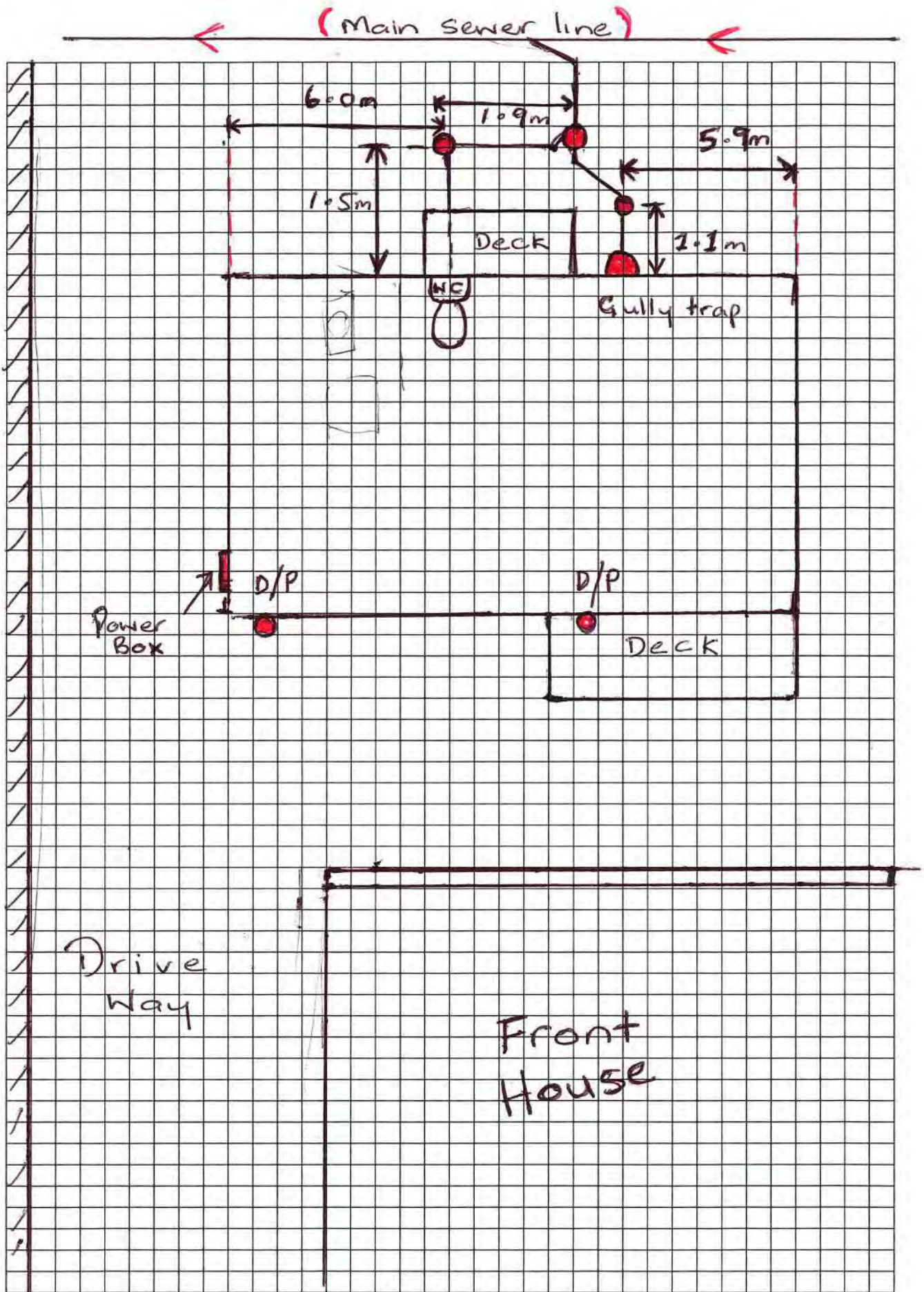
04551

**DRAW PLAN IN BLACK BALLPOINT ON GRAPH OPPOSITE**

Plan is to show:

- All drains in correct position relative to building and boundaries
- The road frontage
- Depth of drains at connection points
- All foul water and stormwater drains
- All inspection openings, accurately dimensioned
- All buildings and boundaries
- Outside water lines and the source of supply
- The type, location and size of all on site sewage disposal systems
- Size and position of soak holes

**REFER TO EXAMPLE ON LAST PAGE**



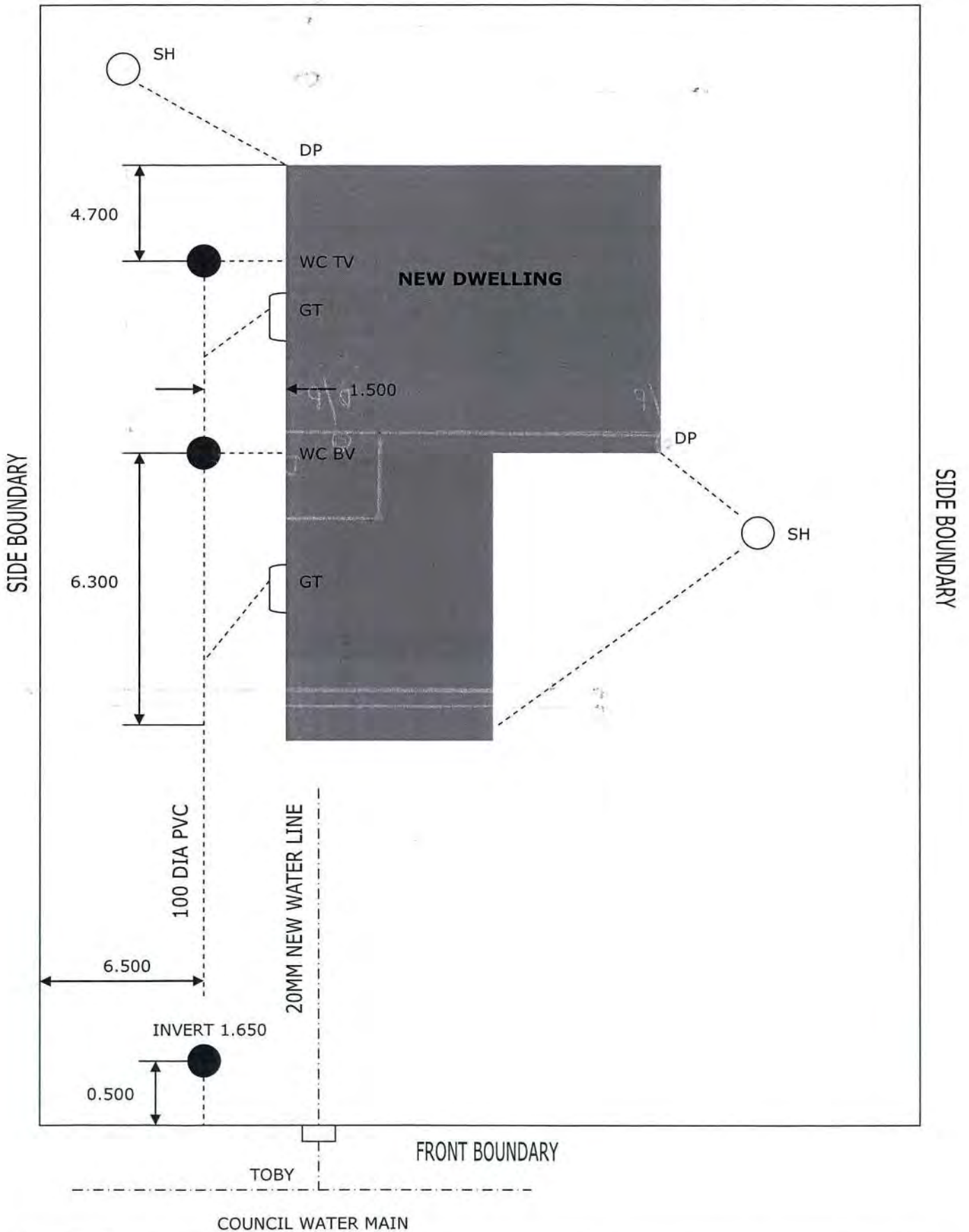
Matipo Street

CHECKED BY:



PLAN EXAMPLE

REAR BOUNDARY





Installation of storm water disposal system - 130523 - A1355924



**PROJECT DESCRIPTION:** \_\_\_\_\_

**LOCATION:** 2/20 Maupo Street Taupo

**BUILDING CONSENT NUMBER:** BC 130523

I hereby certify that the storm water disposal system that has been constructed in accordance with the approved plans for the above building consent and/or the details as shown on the 'as built' plans supplied with this statement.

**SIGNED:** \_\_\_\_\_

**PRINT NAME:** \_\_\_\_\_

**OWNER / BUILDER / DRAINLAYER**

*Please delete option that doesn't apply*

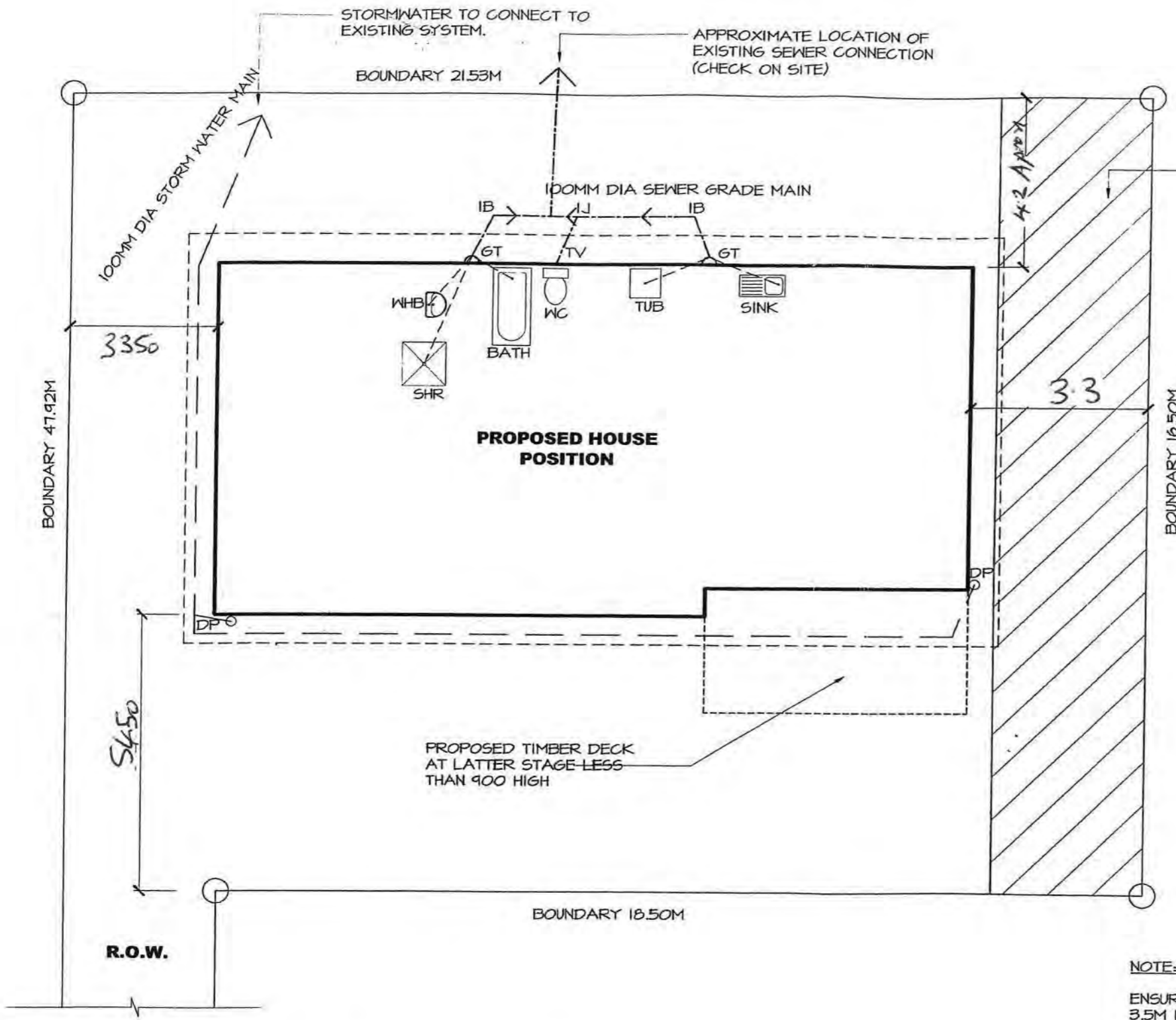
**DATE:** \_\_\_\_\_

**ATTACHMENTS:**

*Please specify*

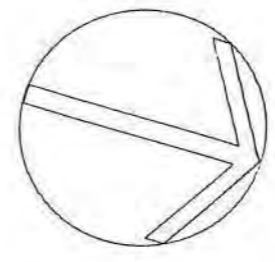
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Site Drainage Layout plan Amended - 130523 - A1355925



**site + drainage layout**  
SCALE 1:100

**AS AMENDED**  
05 NOV 2013  
TAUPO DISTRICT COUNCIL



**LEGAL DESCRIPTION:**  
LOT 2  
DPS 207  
AREA 452 SQM

20 MATIPO STREET,  
TAUPO

**BUILDING COVERAGE:**  
MAX: 135.6 SQM  
ACTUAL: 106.6 SQM  
PLOT RATIO: 0.24

**LEGEND**

- GT - GULLY TRAP
- BV - BACK VENT
- IJ - INSPECTION JUNCTION
- IB - INSPECTION BEND
- DP - 80MM DIA, DOWNPIPE

- WC - 80MM DIA
- SHR - 40MM DIA
- WHB - 40MM DIA
- TUB - 40MM DIA
- SINK - 40MM DIA

**NOTE:**

ENSURE DRAINAGE WASTE GREATER THAN 3.5M IN LENGTH IS INCREASED IN SIZE TO 65MM DIA WASTE.  
ALL SANITARY DRAINAGE TO COMPLY WITH G12/AS1

NB: IT IS THE RESPONSIBILITY OF THE DRAINLAYER TO ESTABLISH POSITION OF ALL EXISTING PIPE (STORMWATER AND SEWER) BEFORE ANY CONSTRUCTION IS COMMENCED AND TO POSITION PIPEWORK BASED ON EXISTING DRAINAGE

**ARCHITECTURE**  
MURRAY BORLAND ARCHITECTURE LTD  
Commercial & Residential Architecture  
Commercial & Industrial Interior Design  
Interior Planning, Consultant Designer  
ph. (07) 847 6017 fax (07) 847 0176  
9 Sloper Avenue, Hamilton, New Zealand  
P.O. Box 1272 Hamilton New Zealand

- All drawings in relation to this project.
1. do not scale.
  2. contractor shall verify and be responsible for all levels and dimensions on site, site measure.
  3. designers to be notified of any variation between site dimensions and those on plans.
  4. all work to be carried out in accordance with all local body regulations.
  5. This drawing is intellectual property and has copyright © to the designer M. P. Borland and cannot be copied or reproduced in any form.

proposed house location for habitat for humanity at 20 Matipo St, Taupo

site and drainage layout

DESIGNER	DRAWN
mpb	cjd
DATE	SCALE
July 2013	1:100 • A3
JOB No.	SHEET
213015	A01

Required items for building consent - 130523 - A1355926





## REQUIRED ITEMS FOR BUILDING CONSENT BC 130523

### Inspections Required

The following inspections are required:

- |   |   |  |
|---|---|--|
| 1 | Siting & Foundation                               | (pile holes, footings, reinforcing steel, ground bearing, earth fill etc)  |
| 1 | Sanitary Sewer/Drainage                           | (sewer connection, storm-water, materials, septic tank, falls etc)   |
| 1 | Framing Inspection                                | (wall and roof framing, connections and fittings, timber sizes & treatments, bracing and fixings)  |
| 1 | Pre-Ext Cladding Systems-Building                 | (cavities, head, jamb, sill flashings & wraps penetrations, cavities fixings etc prior to installation of exterior cladding. Brick veneer at ½ height) |
| 1 | Preline Plumbing                                  | (internal plumbing and fittings, pressure test)  |
| 1 | Code Compliance - Building (Single Dwelling Only) | (Surface finishes, access & egress, fire safety features, weathertightness, as per approved plans etc)   |
| 6 | Total Inspections                                 |  |

### Documentation Required

The following documentation is required:

- Drainage as-built
- Electrical Certificate
- Green siting sheet
- PS3/4 (Structural) (B1) - Engineer
- Roof Cladding Memorandum (E2)
- Water Proofing Certificate - External (E2) Membrane butynol

Timber driven piles

**COUNCIL / OFFICE COPY**  
THESE PLANS AND SPECIFICATIONS  
ARE APPROVED SUBJECT TO THE  
PROVISIONS OF THE BUILDING ACT  
AND IT'S REGULATIONS AND ARE  
TO BE RETAINED ON THE JOB IN  
GOOD ORDER AND PRODUCED UPON  
REQUEST

### Licensed Building Practitioner Forms Required

The following Restricted Building Work must be carried out or supervised by a registered Licensed Building Practitioner (LBP) and a Record of Building Work form signed by each LBP is required at the completion of the work.

- |               |                |
|---------------|----------------|
| Design 1      | Murray Borland |
| Carpentry 1   |                |
| Foundations 1 |                |
| Roofing 1     |                |



### Advice Notes

#When all building work authorised by this building consent is complete written application should be made to Taupo District Council for a CODE COMPLIANCE CERTIFICATE. If no application has been made, Taupo District Council must

*The above list is an indication only of the inspections that may need to be carried out to ensure the work complies with the building consent. Additional inspections may be required to satisfy the requirements of Section 90 of the Building Act 2004. Persons carrying out building work are to ensure that adequate inspections are carried out to enable the Building Consent Authority to be satisfied the work complies with the consent as required by Section 94(1)(a) of the Building Act 2004.*

*Please ensure that all relevant components are inspected and 'signed off' by Taupō District Council building control staff before progressing to the next stage and all conditions/notes are complied with.*

Inspection Bookings:

For **Taupō & Mangakino** phone (07) 376 0899

For **Turangi** phone (07) 386 7017

decide whether to issue the CCC after 2 years of the building consent being granted. An application form for this purpose is enclosed.

#Drainage/as built plans including stormwater drains and soakholes, are to be provided, drawn to scale, and all parts clearly identified at the time of inspection. Failure to do this may result in the inspection not being carried out. A recheck will then be required, which will incur further charges.

#As agreed prior to granting of consent, the design engineer or their nominated representative is to supervise the "driven timber piles" and upon completion supply documentation which is acceptable to Taupo District Council showing means of compliance with B1 and B2 of the NZ Building Code has been achieved.

#Prior to a Code of Compliance Inspection being undertaken, an Energy Works certificate shall be provided to the Taupo District Council to demonstrate compliance with Clause G9 and/or G10 and G11 of the NZBC.

Specifications - 130523 - A1355927

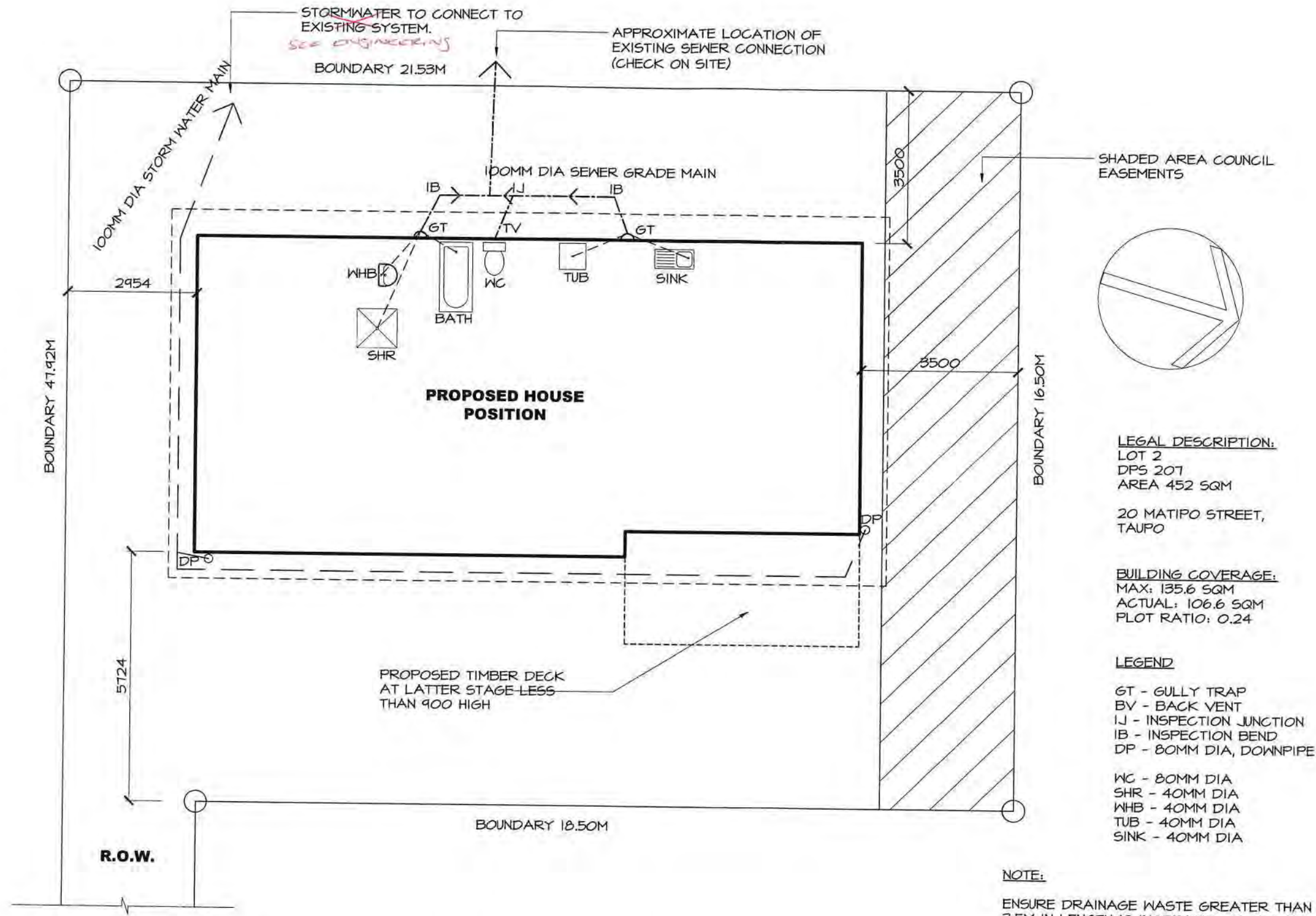


TAUPO DISTRICT COUNCIL  
130523  
APPROVED CONSENT  
PLANS / SPECIFICATIONS

COUNCIL / OFFICE COPY  
THESE PLANS AND SPECIFICATIONS  
ARE APPROVED SUBJECT TO THE  
PROVISIONS OF THE BUILDING ACT  
AND ITS REGULATIONS AND ARE  
TO BE RETAINED ON THE JOB IN  
GOOD ORDER AND PRODUCED UPON  
REQUEST.

# proposed house location for Habitat For Humanity at 20 Matipo Street, Taupo

Site Drainage Layout plan - 130523 - A1355928



**site + drainage layout**  
 SCALE 1:100

**NOTE:**

ENSURE DRAINAGE WASTE GREATER THAN 3.5M IN LENGTH IS INCREASED IN SIZE TO 65MM DIA WASTE.  
 ALL SANITARY DRAINAGE TO COMPLY WITH G12/AS1

NB: IT IS THE RESPONSIBILITY OF THE DRAINLAYER TO ESTABLISH POSITION OF ALL EXISTING PIPE (STORMWATER AND SEWER) BEFORE ANY CONSTRUCTION IS COMMENCED AND TO POSITION PIPEWORK BASED ON EXISTING DRAINAGE



**ARCHITECTURE**  
 MURRAY BORLAND ARCHITECTURE LTD  
 Commercial & Residential Architecture  
 Commercial & Industrial Interior Design  
 Interior Planning, Consultant Designer  
 ph. (07) 847 6017 fax (07) 847 0176  
 9 Sloper Avenue, Hamilton, New Zealand  
 P.O. Box 1272 Hamilton New Zealand  
 All drawings in relation to this project.

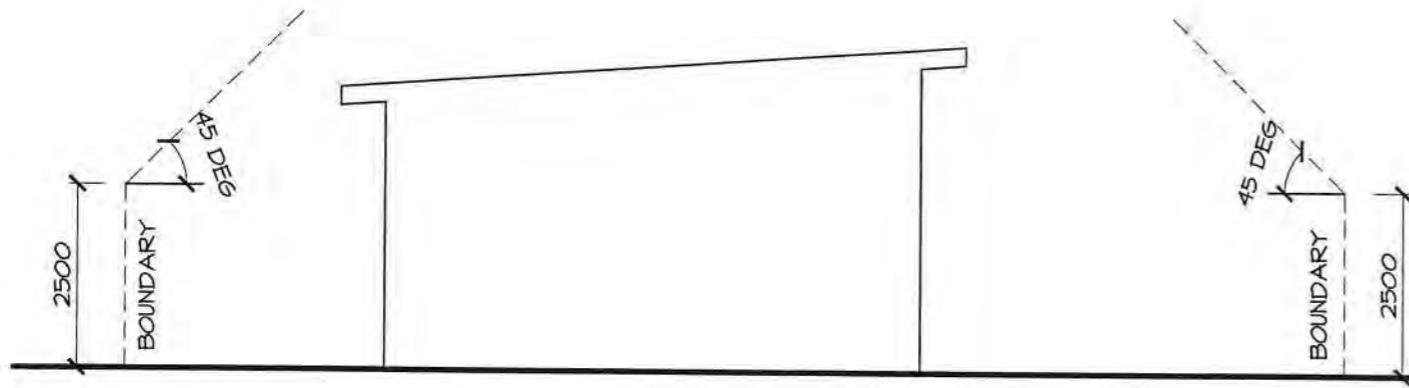
- do not scale.
- contractor shall verify and be responsible for all levels and dimensions on site, site measure.
- designers to be notified of any variation between site dimensions and those on plans.
- all work to be carried out in accordance with all local body regulations.
- This drawing is intellectual property and has copyright © to the designer M. P. Borland and cannot be copied or reproduced in any form

**proposed house location for habitat for humanity at 20 Matipo St, Taupo**

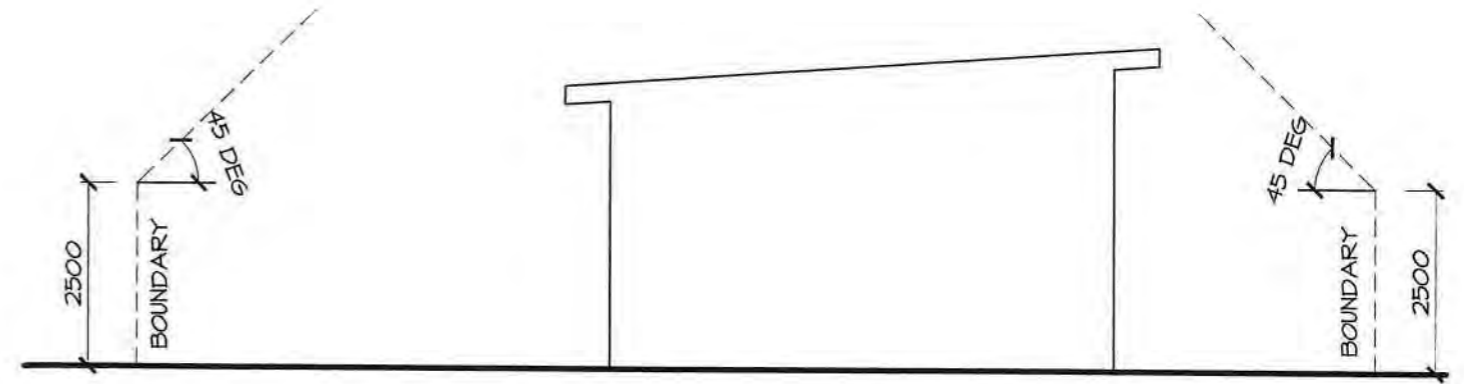
TITLE  
**site and drainage layout**

DESIGNER <b>mpb</b>	DRAWN <b>cjd</b>
DATE <b>July 2013</b>	SCALE <b>1:100 •A3</b>
JOB NO. <b>213015</b>	SHEET ISSUE <b>A01</b>

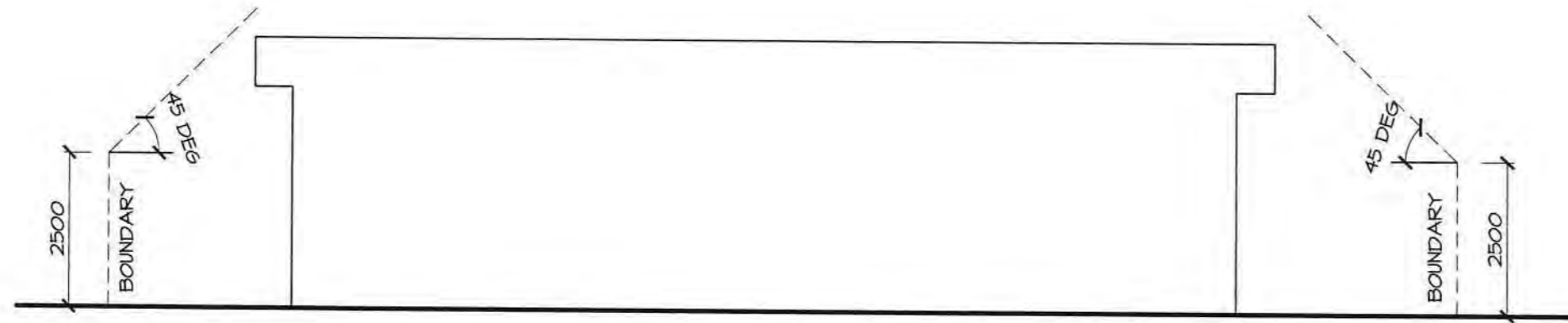




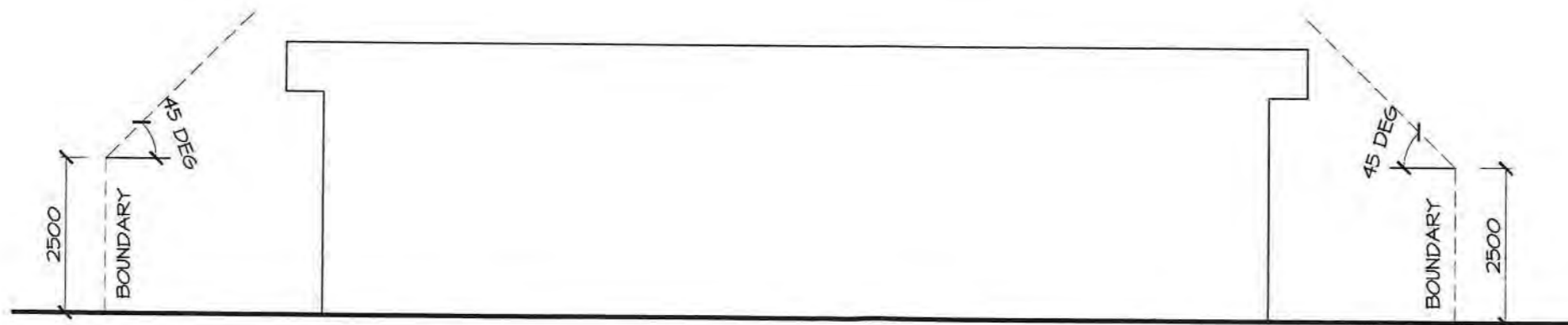
**south elevation**  
SCALE 1 : 100



**north elevation**  
SCALE 1 : 100



**east elevation**  
SCALE 1 : 100



**west elevation**  
SCALE 1 : 100



**ARCHITECTURE**  
MURRAY BORLAND ARCHITECTURE LTD  
Commercial & Residential Architecture  
Commercial & Industrial Interior Design  
Interior Planning, Consultant Designer  
ph. (07) 847 6017 fax (07) 847 0176  
9 Sloper Avenue, Hamilton, New Zealand  
P.O. Box 1272 Hamilton New Zealand

- All drawings in relation to this project.
1. do not scale.
  2. contractor shall verify and be responsible for all levels and dimensions on site, site measure.
  3. designers to be notified of any variation between site dimensions and those on plans.
  4. all work to be carried out in accordance with all local body regulations.
  5. This drawing is intellectual property and has copyright © to the designer M. P. Borland and cannot be copied or reproduced in any form.

JOB  
**proposed house location  
for habitat for humanity  
at 20 Matipo St, Taupo**

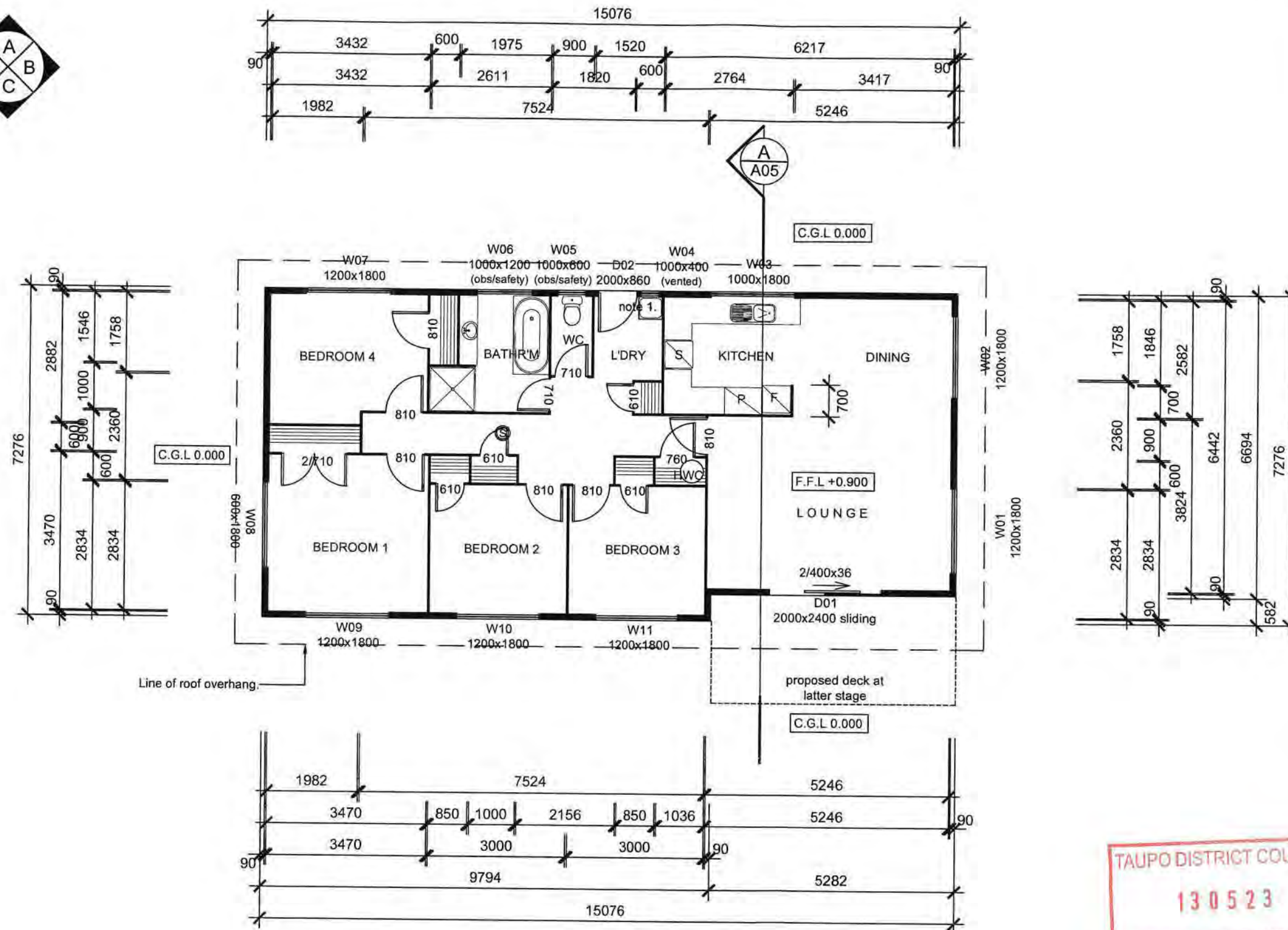
TITLE  
**site and drainage layout**

DESIGNER <b>mpb</b>	DRAWN <b>cjd</b>
DATE <b>July 2013</b>	SCALE <b>1:100 • A3</b>
JOB No <b>213015</b>	SHEET ISSUE <b>A02</b>



Specifications - 130523 - A1355929





**FLOOR LAYOUT**

Scale 1:100 on A3

FLOOR AREA: 106.6m<sup>2</sup>

**FRAMING NOTES:**

LOW wind zone.

All timber grades to be SG8 unless otherwise specified.

**Wall Framing:**

2/45 x 45 H1.2 battens @ .600 ctrs (all walls).

**Wall Framing/Top plate fixing:**

All wall framing fixed to 90 x 45 H1.2 top plate with - 2/90 x 3.15 end nails.

**Bottom plate fixing:**

90 x 45 H3.2 bottom plate fixed with 2 skewed nails at every stud as per NZS3604. Fix 6kN Lumberlok 300mm sheet brace straps with 6 nails to joist and 3 nails to bottom plate and 6 nail to stud at every stud.

**GENERAL NOTES:**

All included works to comply with NZS3604:2011 & the New Zealand Building Code.

1. Secure hot water cylinder for earthquake.
2. Contractor to allow for multiple stud layouts under any loadbearing points as per NZS 3604:2011.
3. Dimensions shown for windows over frame.
4. Dimensions shown for doors are over leaf.
5. Triboard lintels are only noted if a separate lintel is required.

**ALUMINIUM JOINERY NOTES:**

1. All new joinery to be double glazed.
2. Joiner to check all openings on site prior to manufacture.
3. All bathroom windows and glass shelving to be safety glass.

**INSULATION NOTES:**

Ceiling (trussed roof) - R3.2 Batts  
 Exterior walls - R2.4 Batts  
 (see specification for insulation calculations).

**KEY:**

C.O.S - check on site.  
 C.G.L - clear ground level.  
 F.F.L - finished floor level.  
 Ⓢ - hush button smoke alarm as NZBC F7.

**LEGEND:**

36mm Triboard  
 2/45x45 H1.2 battens @ .600 c/c.



DRAWING TITLE:	
CONTRACT FOR:	HABITAT FOR HUMANITY
Drawn:	C.D
Scale:	AS SHOWN @ A3
Date:	03/07/2013

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ISSUE	AMENDMENT	DATE	Sheet number	Issue
			A03	A
			213015	



Diagonally opposing pair of Lumberlok 8kN tensioned steel strip roof plane braces.

Double glazed powder coated aluminium joinery. Refer to manufactures specifications & details.

0.40BMT Diamond Styline roofing.

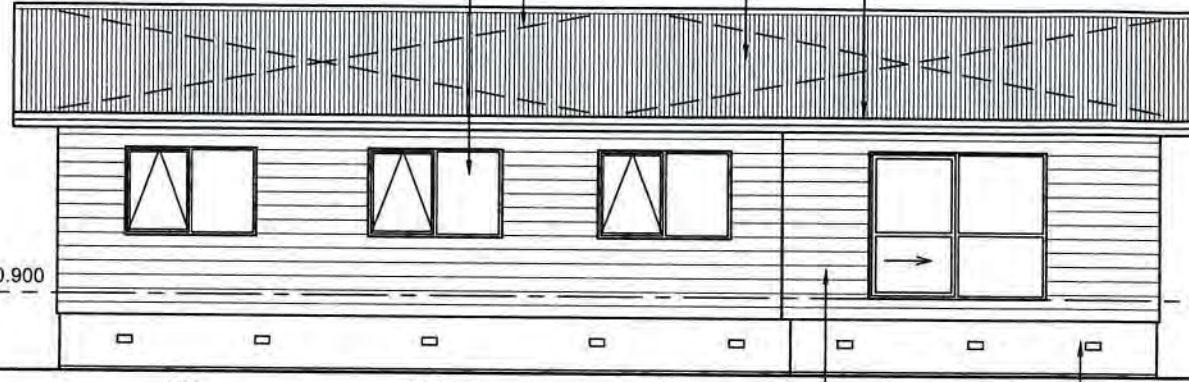
1/4 round PVC gutter over H3.1 paint finish timber

0.55BMT colorsteel barge flashing with birdsmouth kick out to form drip edge over H3.1 paint finish timber barge board.

James Hardies 4.5mm Hardiflex lining.

F.F.L + 0.900

C.G.L 0.000



W09  
1200x1800

W10  
1200x1800

W11  
1200x1800

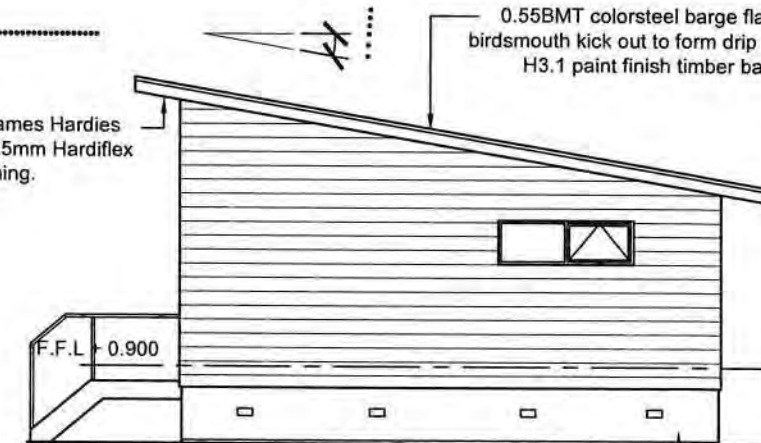
D01  
2000x2400

Paint finish James Hardie Weatherboards cladding with PVC box corners.

James hardies titan bd fixed to ribbon bds H3.2 allow for fixing of vent louvres at 1800 centres around house

**ELEVATION A**

Scale 1:100 on A3



F.F.L + 0.900

C.G.L 0.000

W08  
600x1800

James hardies titan bd fixed to ribbon bds H3.2 allow for fixing of vent louvres at 1800 centres around house

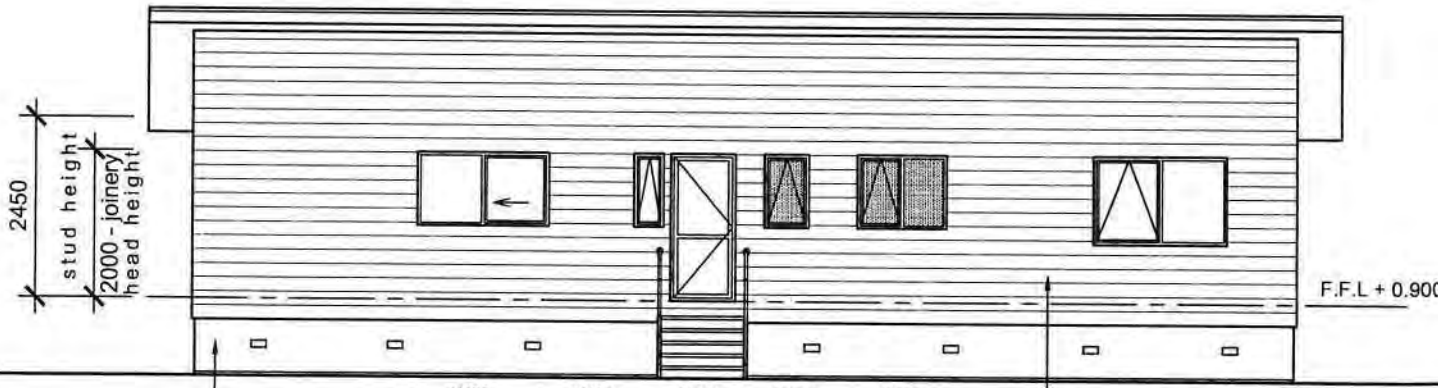
**ELEVATION B**

Scale 1:100 on A3

**ALUMINIUM JOINERY NOTES:**

1. All new joinery to be double glazed.
2. Joiner to check all openings on site prior to manufacture.
3. All bathroom windows and glass shelving to be safety glass.
4. Laundry window (W04) to be vented.

NOTE: See Specification for Risk Matrix Tables.



2450  
stud height  
2000 - joinery head height

F.F.L + 0.900

C.G.L 0.000

W03  
1000x1800

W04  
1000x400  
(vented)

D02  
2000x600

W05  
1000x600  
(obs/safety)

W06  
1000x1200  
(obs/safety)

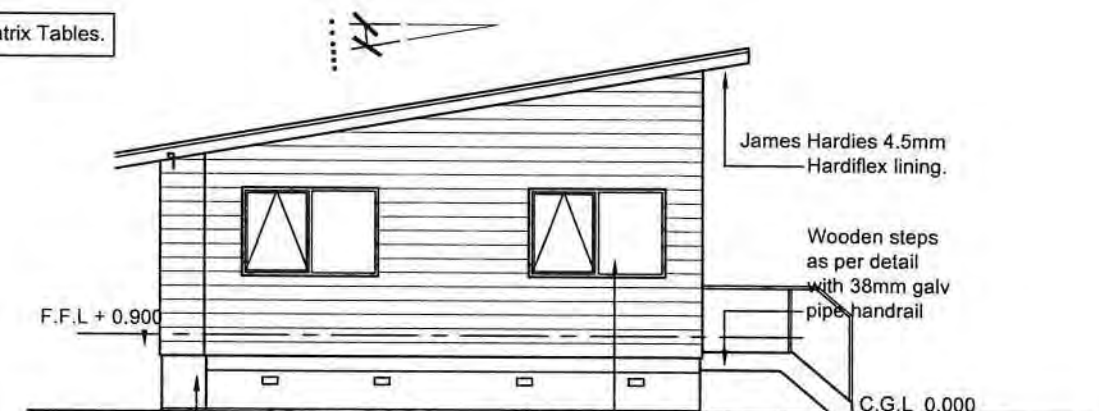
W07  
1200x1800

James hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

Paint finish James Hardie Weatherboards cladding with PVC box corners.

**ELEVATION C**

Scale 1:100 on A3



F.F.L + 0.900

C.G.L 0.000

W01  
1200x1800

W02  
1200x1800

James Hardies 4.5mm Hardiflex lining.

Wooden steps as per detail with 38mm galv pipe handrail

James hardies titan bd fixed to ribbon bds H3.2 allow for fixing of vent louvres at 1800 centres around house

Double glazed powder coated aluminium joinery. Refer to manufactures specifications & details.

**ELEVATION D**

Scale 1:100 on A3

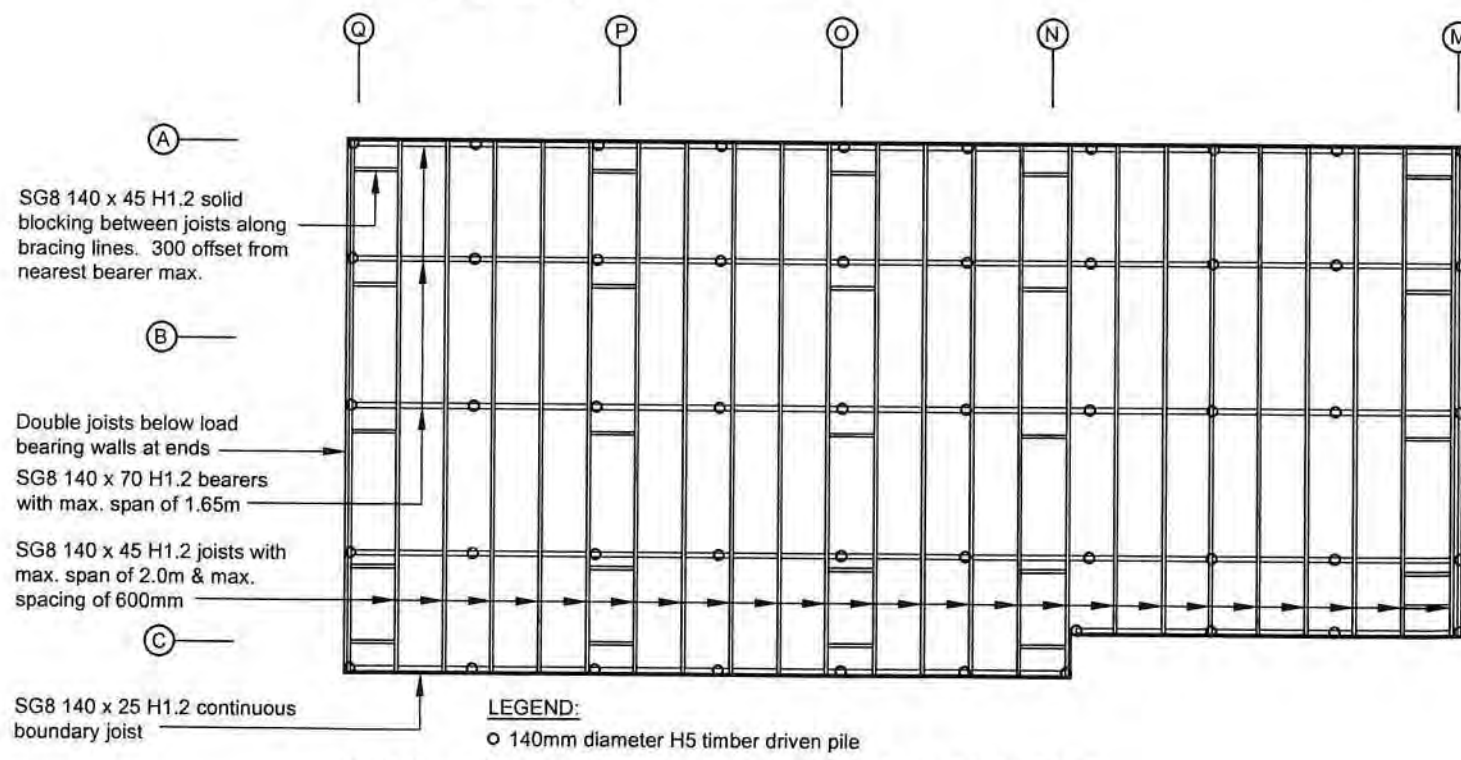
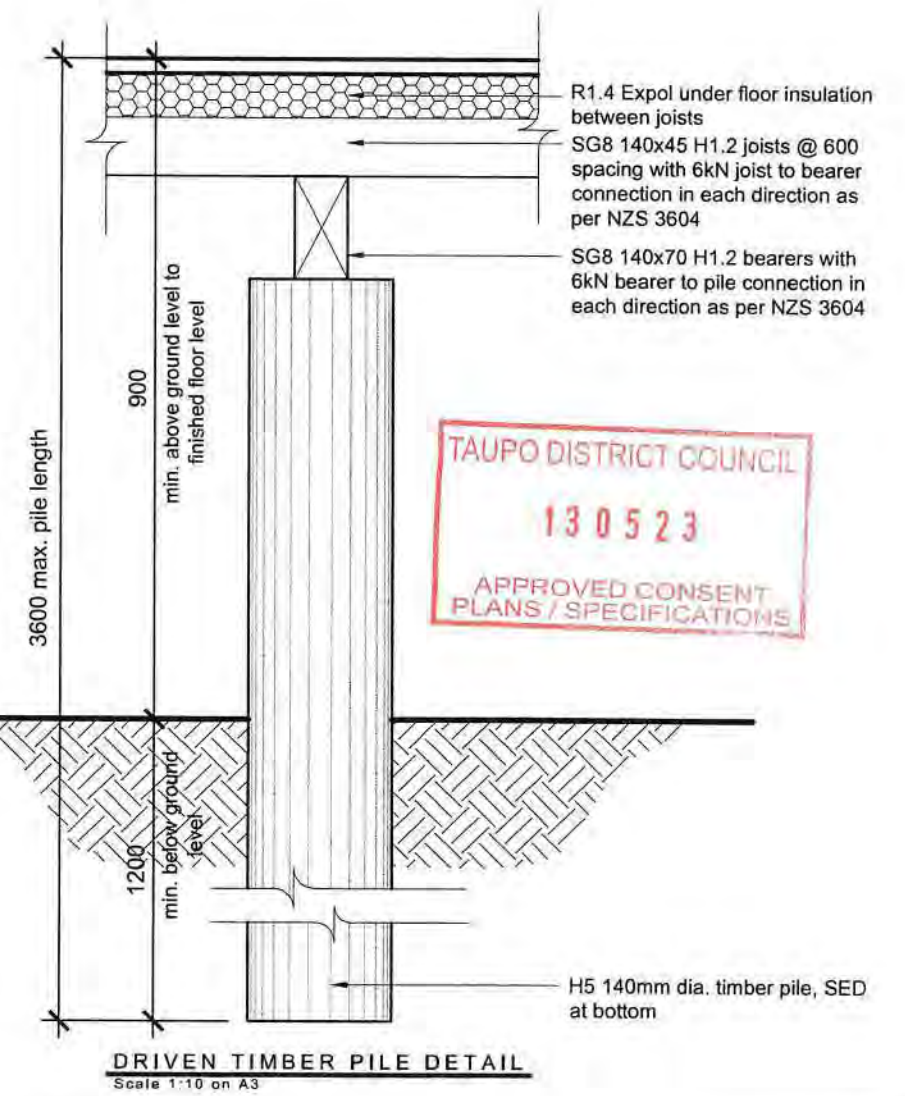
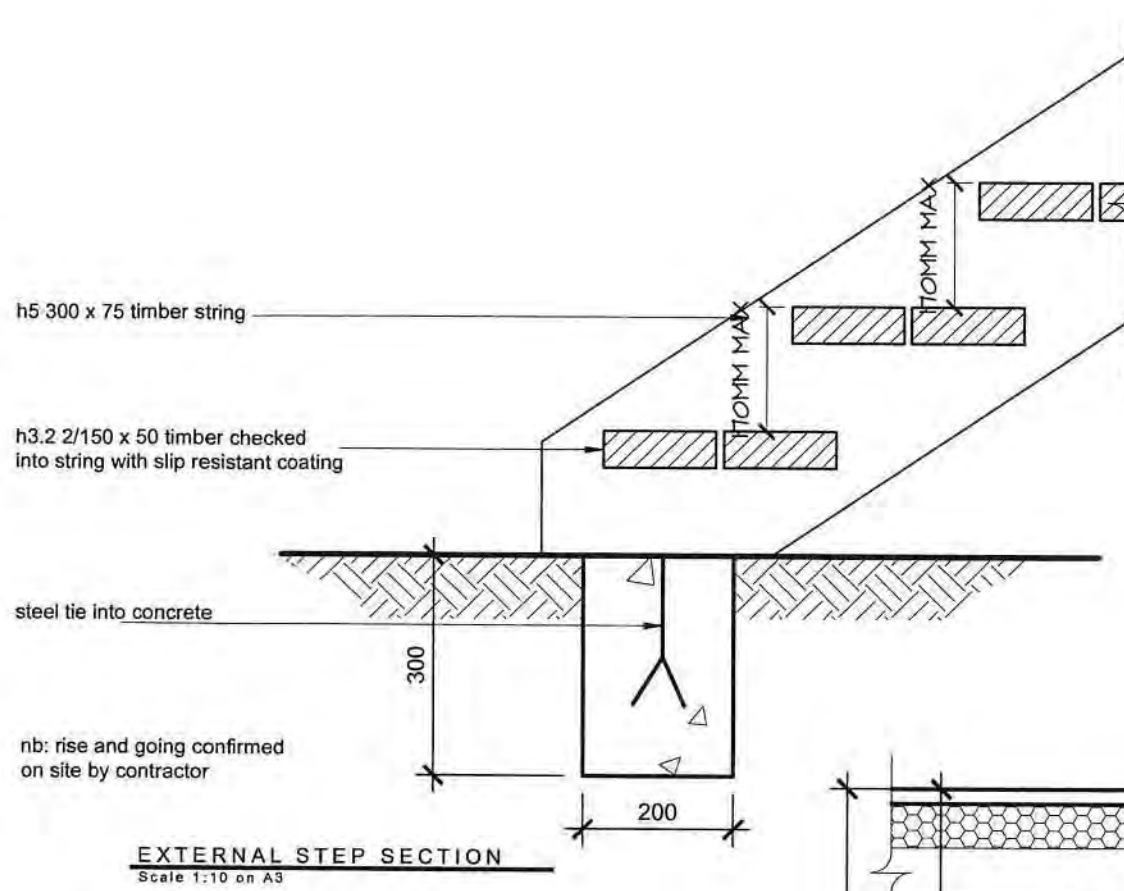
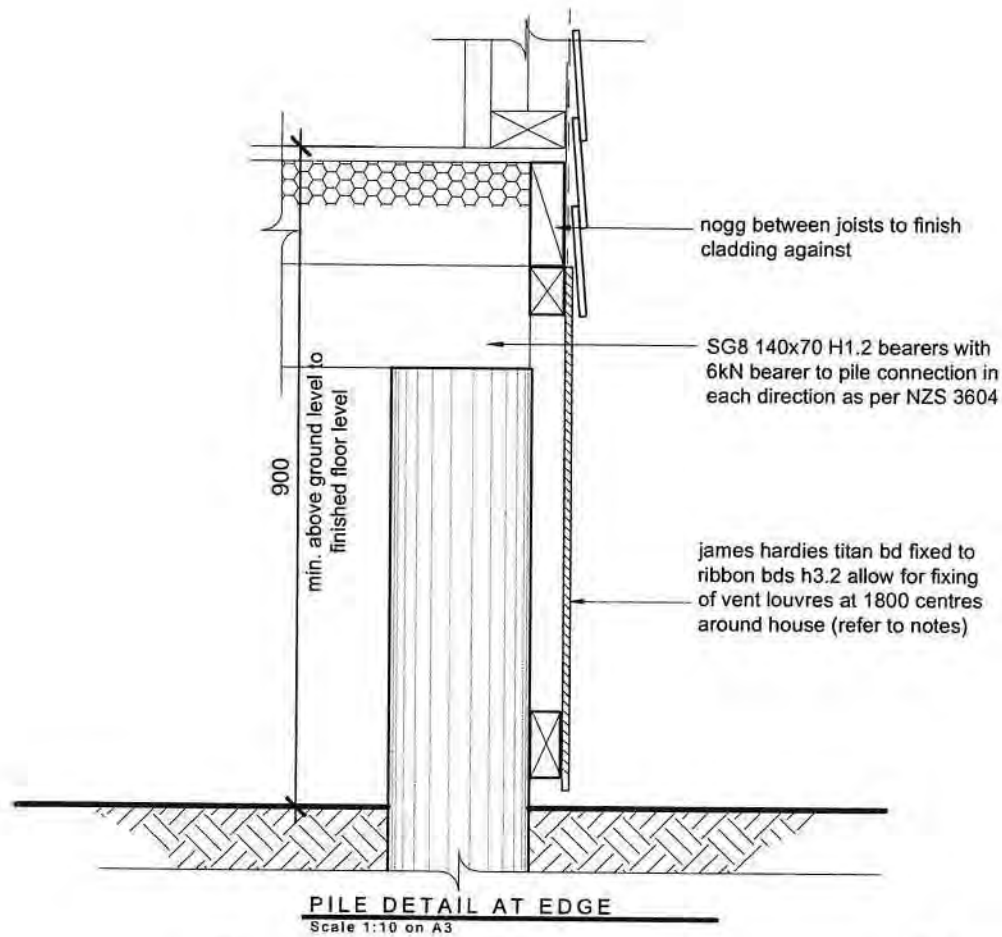


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CONTRACT FOR: HABITAT FOR HUMANITY	
Drawn: C,D	Date: 03/07/2013
Sheet: AS SHOWN @ A3	

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			A04	A
			Project number:	213015





**NOTE:** The max. spacing between driven piles along the line of the bearers must comply with NZS3604:2011 Table 6.2 and not exceed the max. span of the bearers

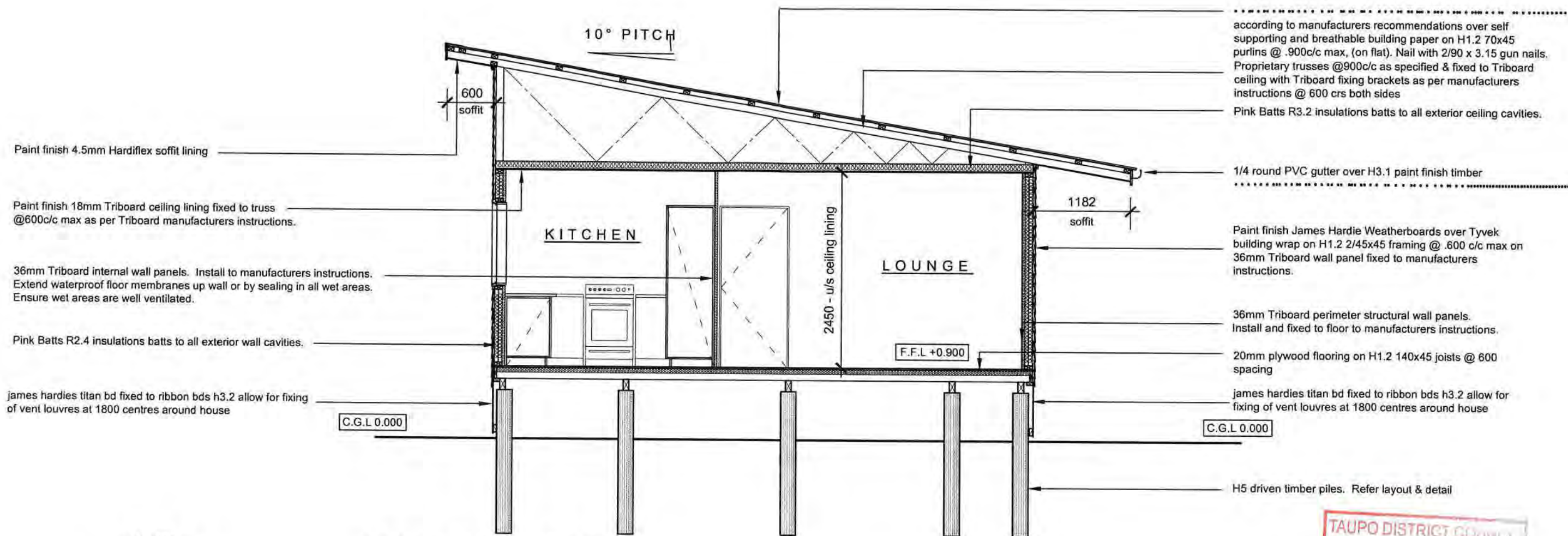


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DATE:	03/07/2013

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ISSUE	AMENDMENT	DATE	Sheet number:	Issue:
			A05	A
			Project number:	213015





Paint finish 4.5mm Hardiflex soffit lining

Paint finish 18mm Triboard ceiling lining fixed to truss @600c/c max as per Triboard manufacturers instructions.

36mm Triboard internal wall panels. Install to manufacturers instructions. Extend waterproof floor membranes up wall or by sealing in all wet areas. Ensure wet areas are well ventilated.

Pink Batts R2.4 insulations batts to all exterior wall cavities.

James Hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

according to manufacturers recommendations over self supporting and breathable building paper on H1.2 70x45 purlins @ .900c/c max, (on flat). Nail with 2/90 x 3.15 gun nails. Proprietary trusses @900c/c as specified & fixed to Triboard ceiling with Triboard fixing brackets as per manufacturers instructions @ 600 crs both sides

Pink Batts R3.2 insulations batts to all exterior ceiling cavities.

1/4 round PVC gutter over H3.1 paint finish timber

Paint finish James Hardie Weatherboards over Tyvek building wrap on H1.2 2/45x45 framing @ .600 c/c max on 36mm Triboard wall panel fixed to manufacturers instructions.

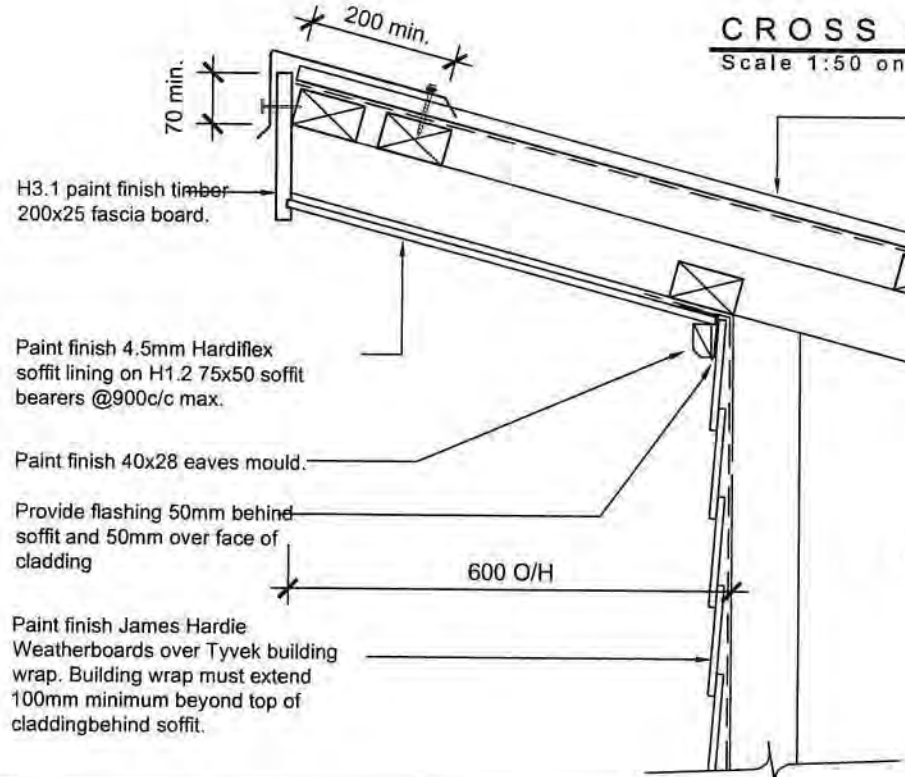
36mm Triboard perimeter structural wall panels. Install and fixed to floor to manufacturers instructions.

20mm plywood flooring on H1.2 140x45 joists @ 600 spacing

James Hardies titan bd fixed to ribbon bds h3.2 allow for fixing of vent louvres at 1800 centres around house

H5 driven timber piles. Refer layout & detail

**CROSS SECTION A**  
Scale 1:50 on A3



**SLOPING SOFFIT DETAIL**  
Scale 1:10 on A3

H3.1 paint finish timber 200x25 fascia board.

Paint finish 4.5mm Hardiflex soffit lining on H1.2 75x50 soffit bearers @900c/c max.

Paint finish 40x28 eaves mould.

Provide flashing 50mm behind soffit and 50mm over face of cladding

Paint finish James Hardie Weatherboards over Tyvek building wrap. Building wrap must extend 100mm minimum beyond top of cladding behind soffit.

Selected 0.40BMT min Diamond Styline roofing fixed @ supporting and breathable building paper on H1.2 90x45 purlins @900c/c max, (on flat).

Selected 0.40BMT min Diamond Styline roofing fixed @ on H1.2 70x45 purlins @ .900c/c max, (on flat). Nail with 2/90 x 3.15 gun nails

Pink Batts R3.2 insulations batts to all exterior ceiling cavities.

Paint finish 18mm Triboard ceiling lining fixed to truss @600c/c max as per Triboard manufacturers instructions.

36mm Triboard wall panel fixed to manufacturers instructions.

Pink Batts R2.4 insulations batts to all exterior wall cavities.

**SLOPING SOFFIT DETAIL**  
Scale 1:10 on A3

Proprietary trusses @900c/c as specified & fixed to truss manufacturers instructions.

at eaves fasten at every second corrugation

50 min.

1/4 round PVC gutter.

H3.1 paint finish timber 200x25 fascia board.

Paint finish 40x28 eaves mould.

600 O/H

Paint finish 4.5mm Hardiflex soffit lining.

Paint finish James Hardie Weatherboards over Tyvek building wrap. Building wrap must extend 100mm minimum beyond top of cladding behind soffit.

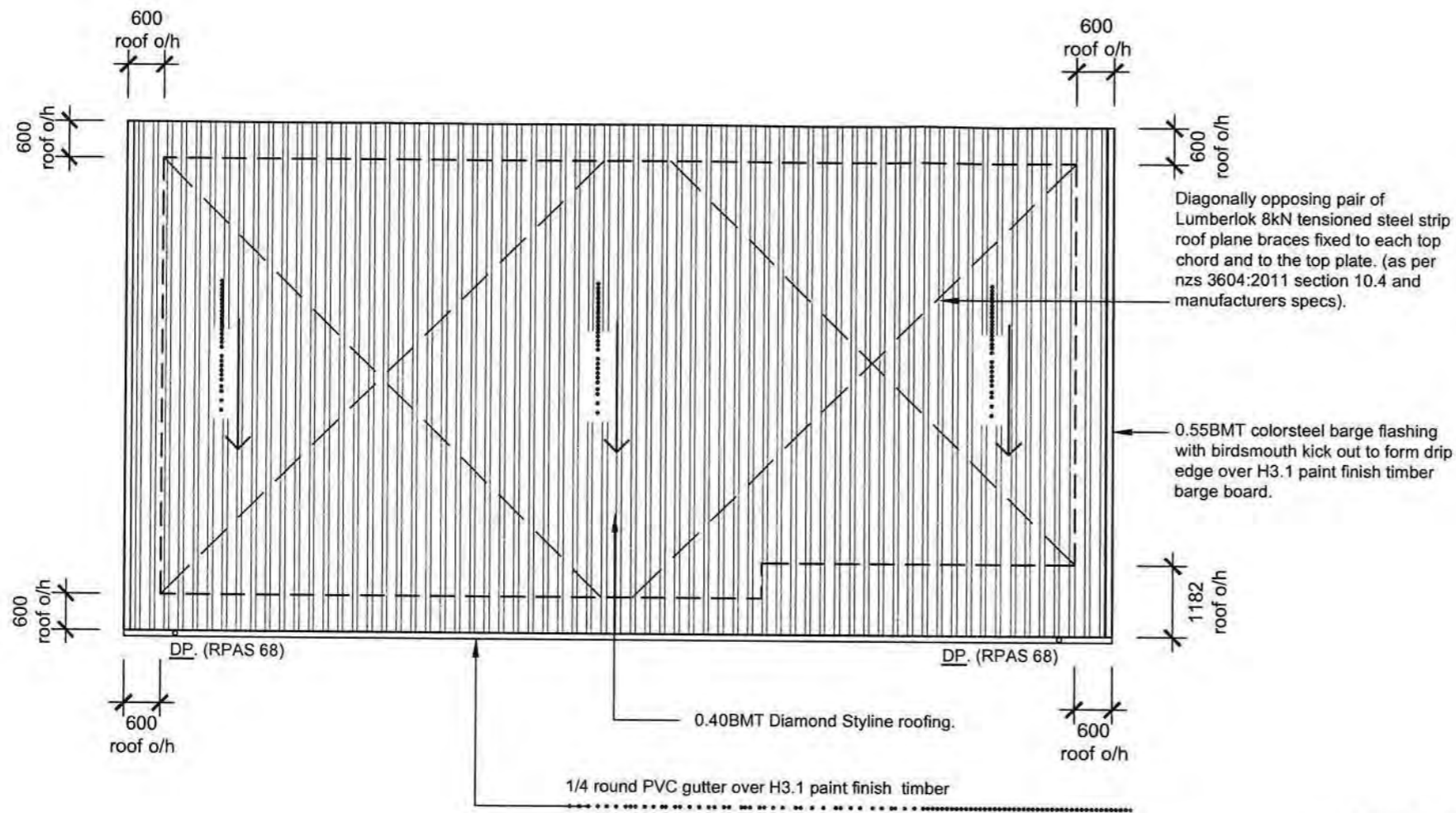


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ISSUE	AMENDMENT	DATE	Sheet number:	Issue:
			A06	A
			Project number:	213015





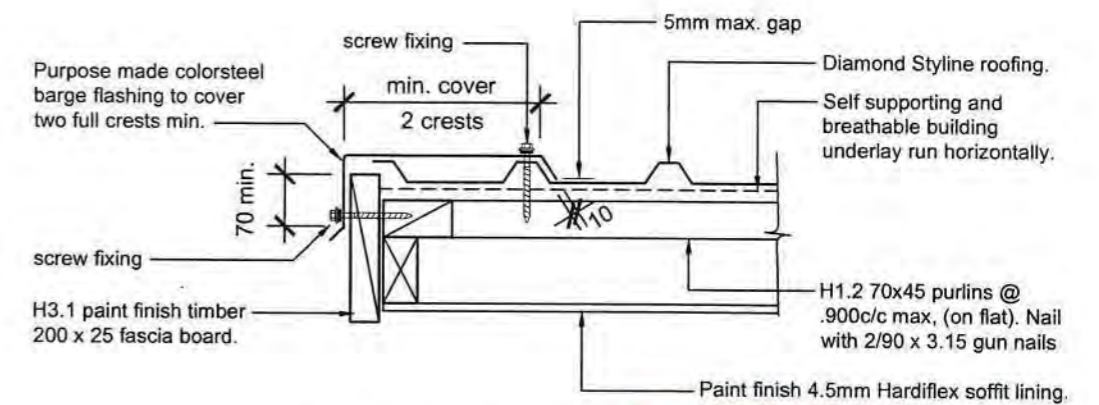
Diagonally opposing pair of Lumberlok 8kN tensioned steel strip roof plane braces fixed to each top chord and to the top plate. (as per nzs 3604:2011 section 10.4 and manufacturers specs).

0.55BMT colorsteel barge flashing with birdsmouth kick out to form drip edge over H3.1 paint finish timber barge board.

### ROOF LAYOUT

Scale 1:100 on A3

Wind Zone: LOW.  
Timber Grade: SG8.  
Eaves: 600mm, 1182mm.



### BARGE BOARD DETAIL

Scale 1:10 on A3

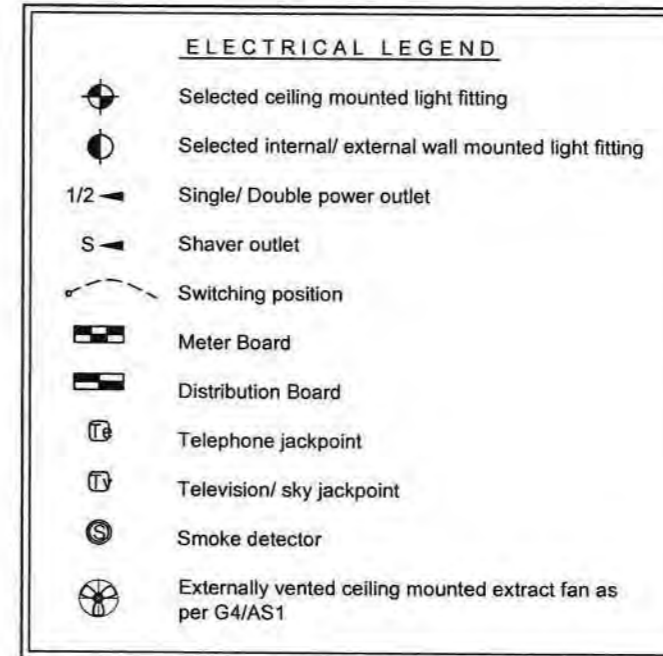
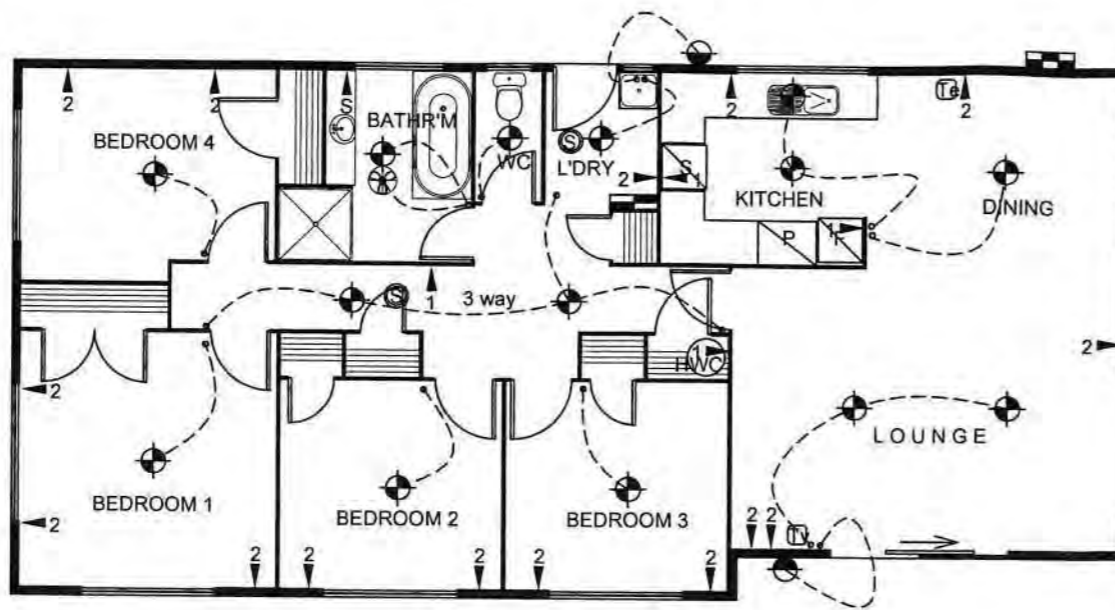


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Scale: AS SHOWN @ A3	

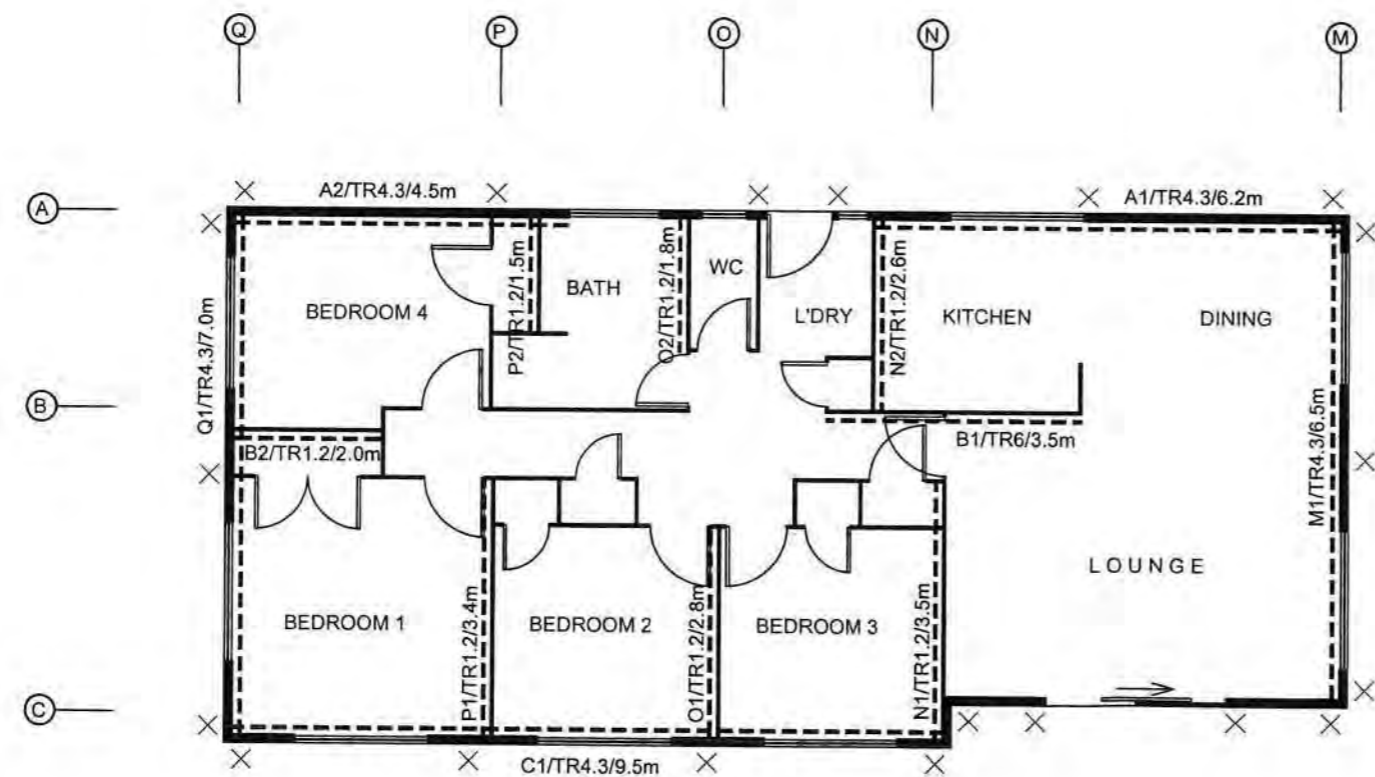
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ISSUE	AMENDMENT	DATE:	Sheet number: A07	Issue: A
			Project number: 213015	





**ELECTRICAL LAYOUT**  
Scale 1:100 on A3



**BRACING LAYOUT**  
Scale 1:100 on A3



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ISSUE	AMENDMENT	DATE	Sheet number:	Issue:
			A08	A
			213015	



# MURRAY BORLAND

A R C H I T E C T U R E

### Job Details

Name	HFH Maipo St		
Street and number	20 Maipo Street		
Lot and DP number	Lot 2, DPS 207		
City/Town/District	Taupo		
Location of storey:	Subfloor		
Building height to apex:	4.9 m	Roof weight:	light
Roof Height above eaves:	1.7 m		
Stud Height:	2.45 m	Cladding weight:	light
Average roof pitch:	10	Gross	
Building length:	15 m	Building plan area GPA:	106.6
Building width:	7.2 m		
<b>Note:</b>	When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW		
<b>Note:</b>	For a heavy roof, use the roof plan at eaves level to determine GPA		

### Wind Zone

R1	0	inland	0	exposed	0	moderate	0
Total points	0						
Wind zone:	Low						

### Earthquake zone

	1
--	---

### BU's required wind

Wind along =	40 BU's/m
Wind across =	37.5 BU's/m
Total wind load, W ALONG	
W along x BL =	600 BU's
W ACROSS	
W across x BW =	270 BU's

### BU's required earthquake

E =	BU's/m
(For a room in the roof space, use E + 1)	
Total earthquake load, EQ ALONG and ACROSS	
E x GPA Bus =	0 BU's

### ALONG

Line Label	Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
	1	2	3	4	5	6W	7W	6E	7E
	Minimum BUs Required	Bracing Element No.	Bracing Type	No. of Element	Rating BU/m	BUs Achieved (BU x No.)	Rating BU/m	BUs Achieved (BU/m x L)	
A	225		Driven	10	70	700			0
B	100		Driven	10	70	700			0
C	225		Driven	10	70	700			0
Totals achieved						W	2100	E	0

From Previous Sh	Totals required	W	600	E	0
W req/E req =	#DIV/0!				

If W req/E req is 1 or less complete column E only

If W req/E req is 1.5 or more complete column W Otherwise complete both W and E

### ACROSS

Line Label	Wall or Bracing Line		Bracing Elements Provided			Wind		Earthquake	
	1	2	3	4	5	6W	7W	6E	7E
	Minimum BUs Required	Bracing Element No.	Bracing Type	No. of Element (m)	Rating BU/m	BUs Achieved (BU/m x No.)	Rating BU/m	BUs Achieved (BU/m x L)	
M	225			5	70	350			0
N	100			6	70	420			0
O	100			5	70	350			0
P	100			5	70	350			0
Q	225			5	70	350			0
Totals achieved						W	1820	E	0

From Previous Sh	Totals required	W	600	E	0
W req/E req =	#DIV/0!				

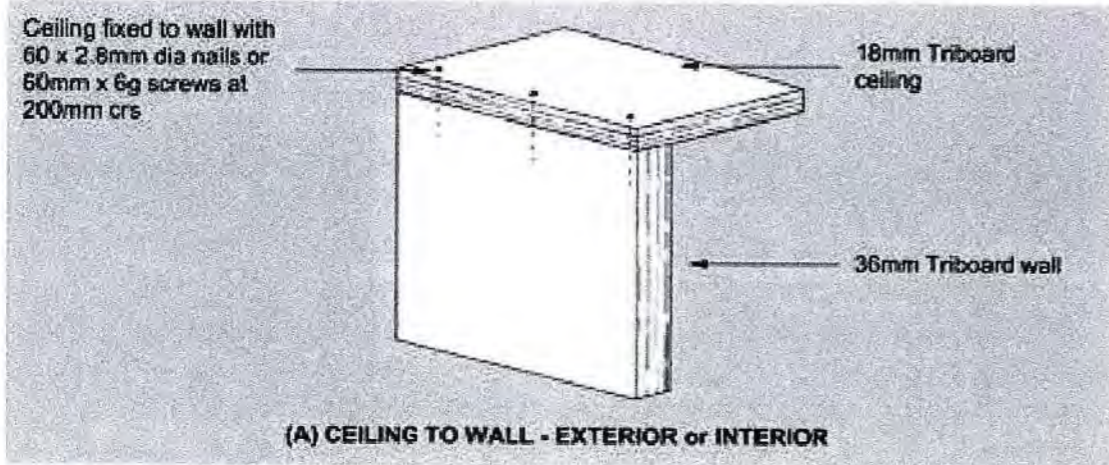


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Date:	03/07/2013

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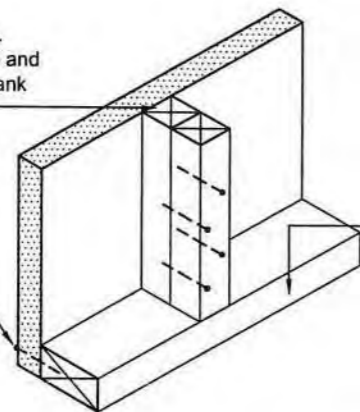
ISSUE	AMENDMENT	DATE	Sheet number: A09	Issue: A
			Project number: 213015	





2/45 x 45 H1.2 SG8 battens @ .600 crs. Nailed with 4/75mm galv. ring shank nails @ 100mm crs top and bottom, and 6/75mm galv. ring shank nails @ 270mm crs between.

36mm Triboard screwed to H3.2 Bottom Plate with 10 gauge 65mm Screws @ .200 crs.



90 x 45 H3.2 bottom plate fixed with 2 skewed nails at every stud as per NZS3604. Fix 6kN Lumberlok 300mm sheet brace straps with 6 nails to joist and 3 nails to bottom plate and 6 nail to stud at every stud.

**EXTERIOR WALL TO FLOOR FIXING DETAIL**  
Scale 1:10 on A3

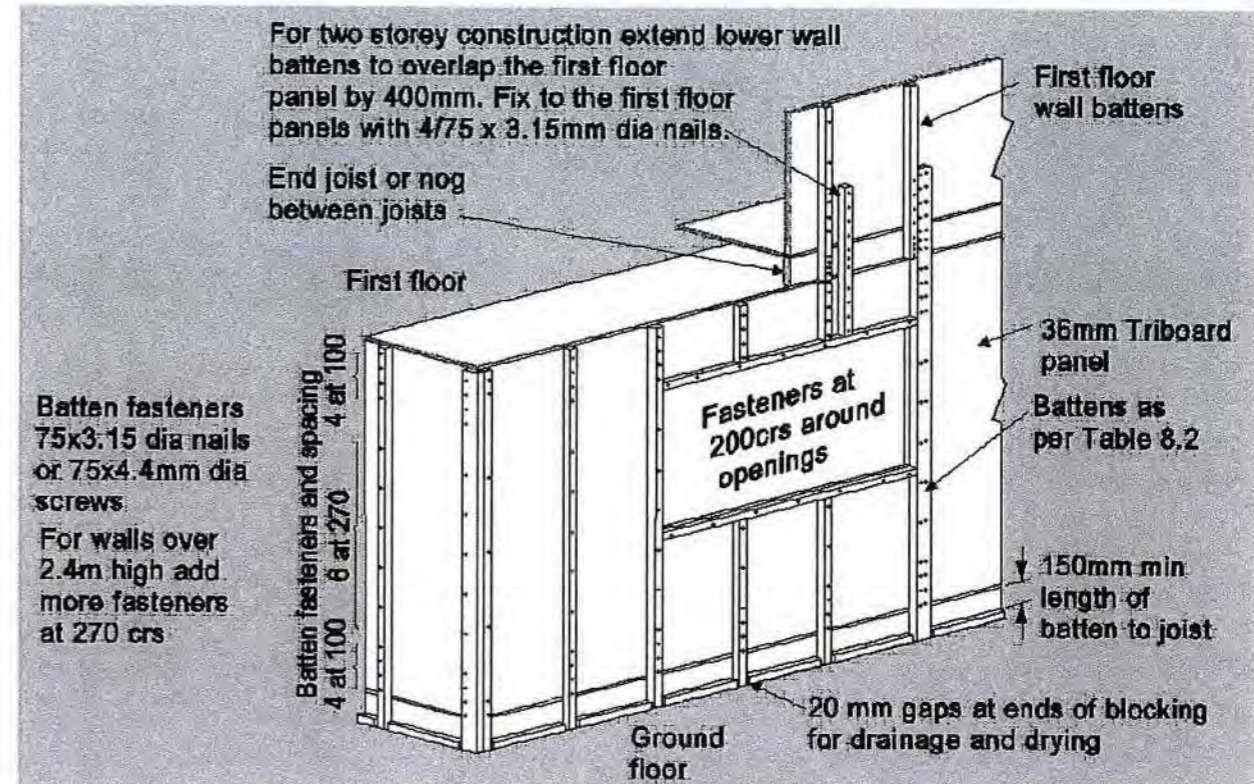


Figure 8.1 - Batten fixings.

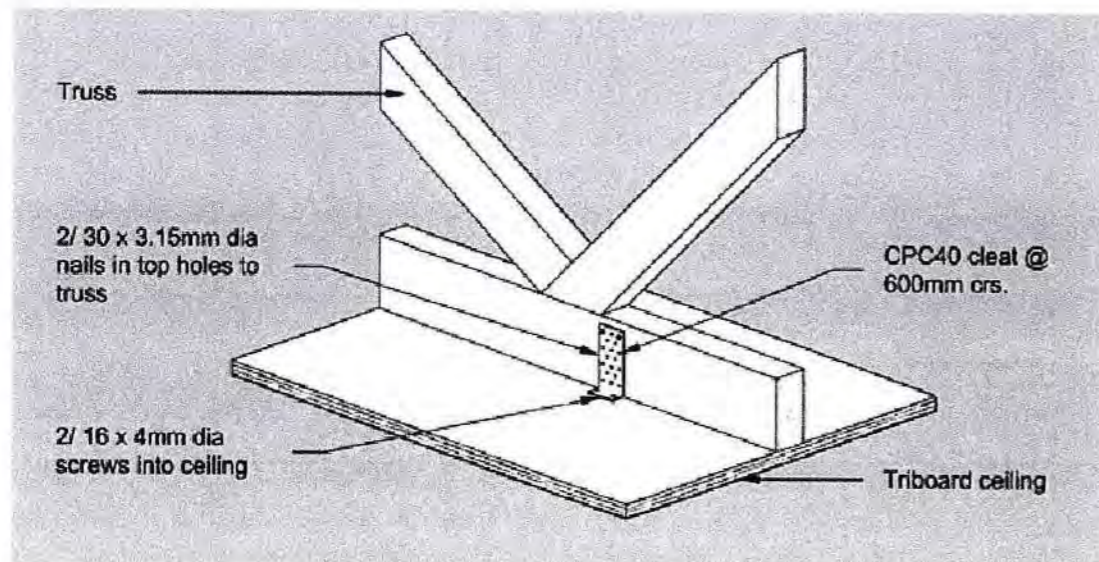


Figure 13.4 - Ceiling to truss fixings.

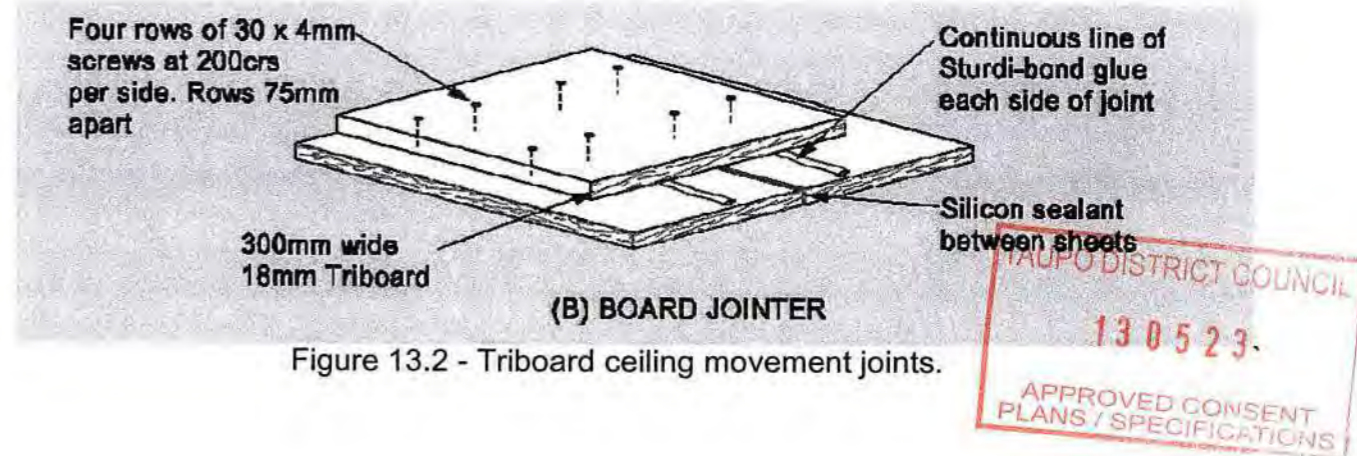


Figure 13.2 - Triboard ceiling movement joints.



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Drawn: C.D	3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ALL RELEVANT DOCUMENTS.	3. CONTRACTOR SHALL NOT SCALE OFF DRAWINGS.				Project number:	
Scale:	4. ALL CONSTRUCTION NOT SPECIFIED SHALL COMPLY WITH NZS3604:2011 AND THE NZBC AND ALL AMENDMENTS.	4. REFER TO STRUCTURAL ENGINEER DRAWINGS FOR ALL FOUNDATION, BLOCKWORK, SUSPENDED CONCRETE FLOORS AND STRUCTURAL BRACING CALCULATIONS. REGISTERED ENGINEERS DRAWINGS AND SPECIFICATIONS OVERRIDES ALL NZS3604 DESIGN.				213015	
Rev: 03/07/2013	5. IN THE EVENT THAT ANY UNSTABLE OR SOFT GROUND IS ENCOUNTERED A REGISTERED ENGINEER MUST BE CONTACTED FOR FURTHER DIRECTIONS.	5. IF NOMINATED CONTRACTOR ENCOUNTERS ANY DISCREPANCIES IN THESE DRAWINGS HABITAT FOR HUMANITY MUST BE CONTACTED BEFORE PROCEEDING.					
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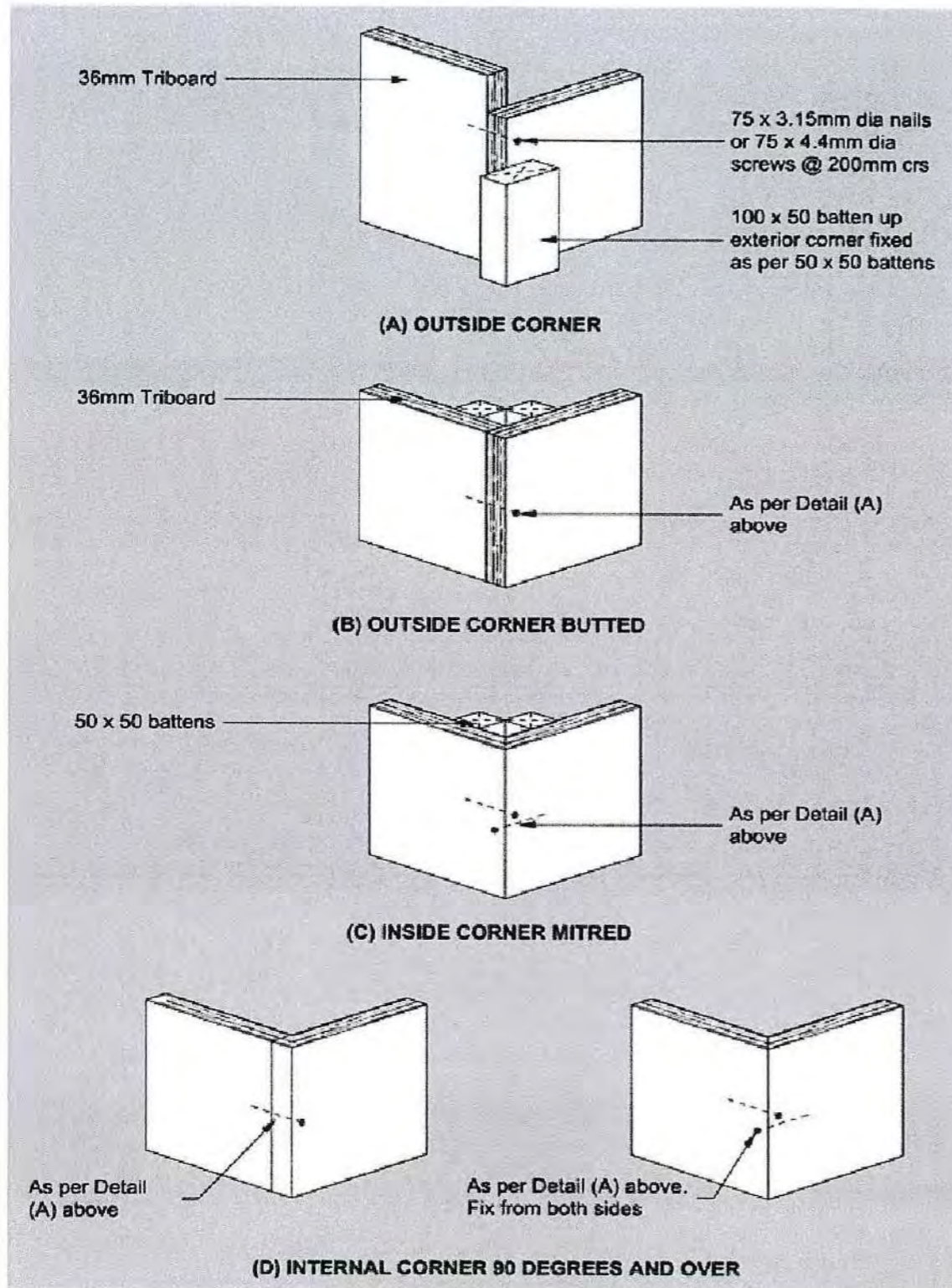


Figure 8.10 - Corner wall fixings.

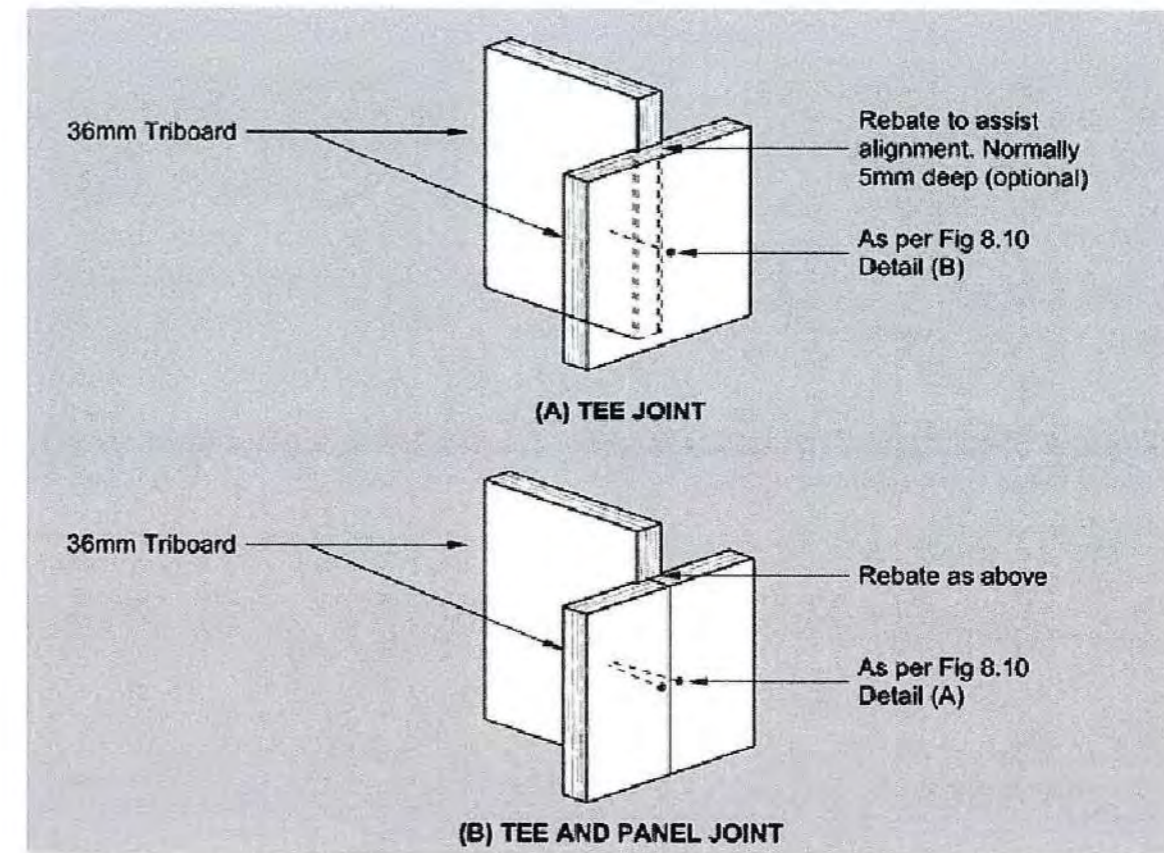


Figure 8.11 - Wall tee intersection fixings.

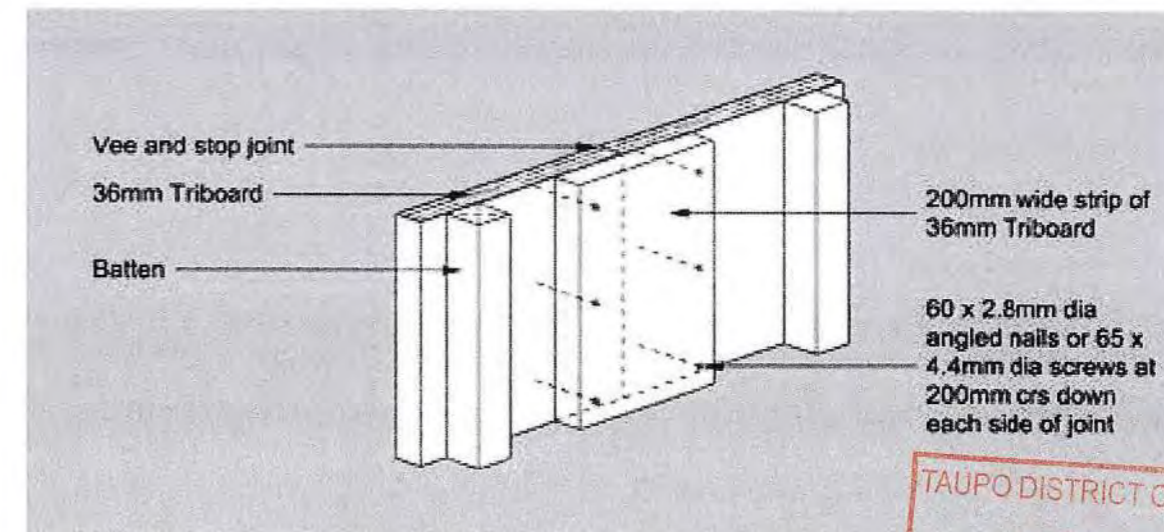


Figure 8.12 - Exterior wall butt joint.

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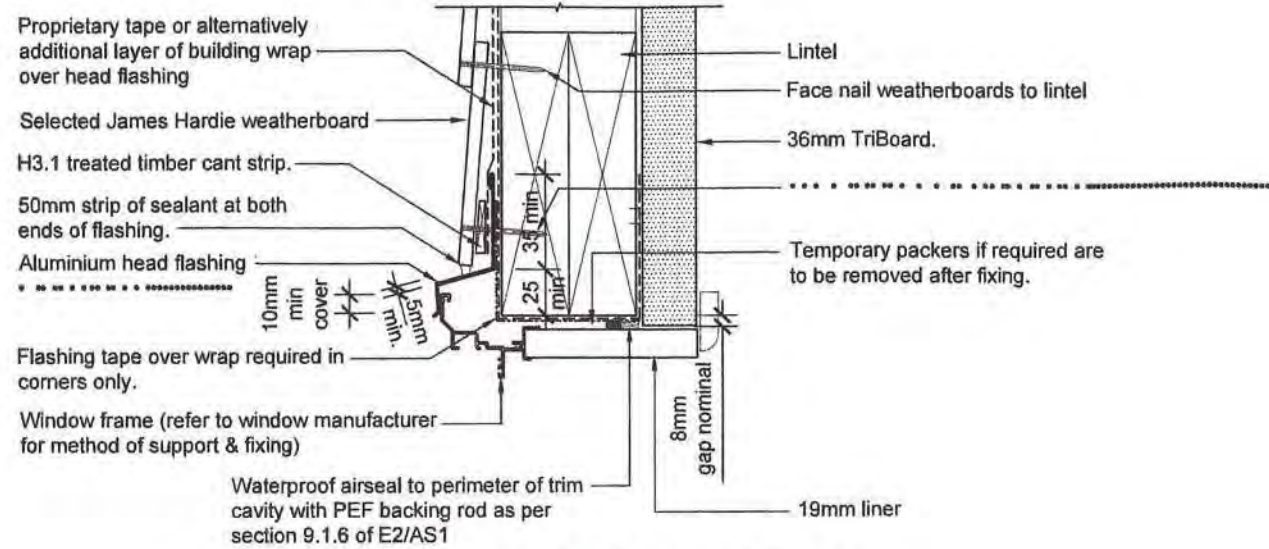


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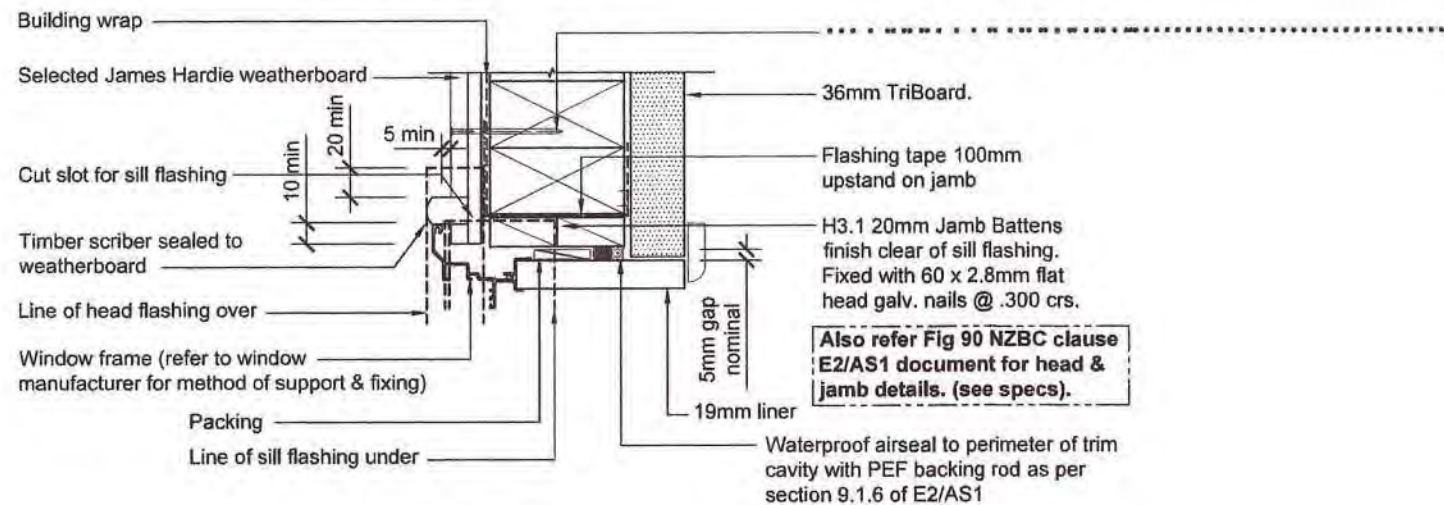
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			A11	A
			Project number:	213015





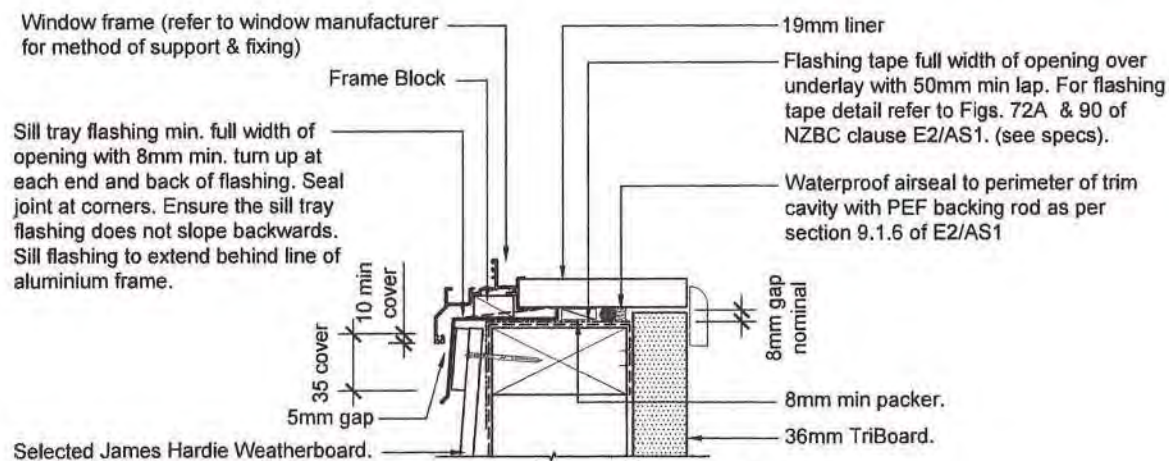
**WINDOW HEAD DETAIL**

Scale 1:5 on A3



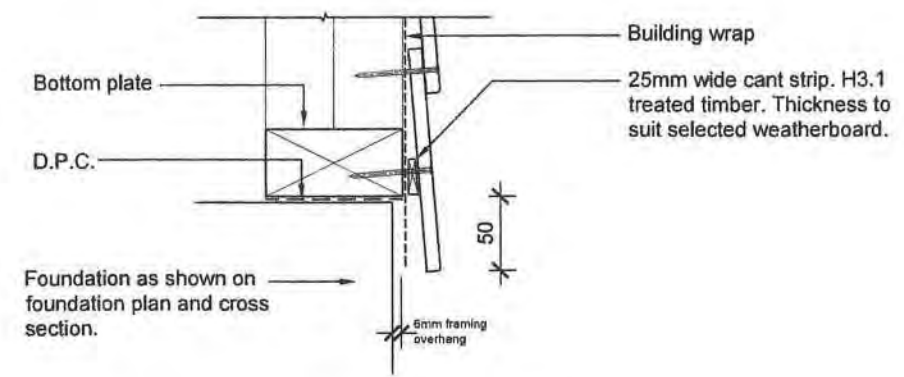
**WINDOW JAMB DETAIL**

Scale 1:5 on A3



**WINDOW SILL DETAIL**

Scale 1:5 on A3



**FOOTING DETAIL**

Scale 1:5 on A3

**General notes for materials selection**

1. Flashing materials must be selected based on environmental exposure, refer to NZS 3604 & table 20 of NZBC 'E2/AS1'.
2. Building wrap must comply with acceptable solution 'E2/AS1' & NZS 3604.
3. Flashing tape must have proven compatibility with the selected building wrap & other materials with which it comes into contact as per table 21 of 'E2/AS1'.

Refer to the manufacturer or supplier for technical information for these materials.

Also refer Fig 90 NZBC clause E2/AS1 document for head & jamb details. (see specs).



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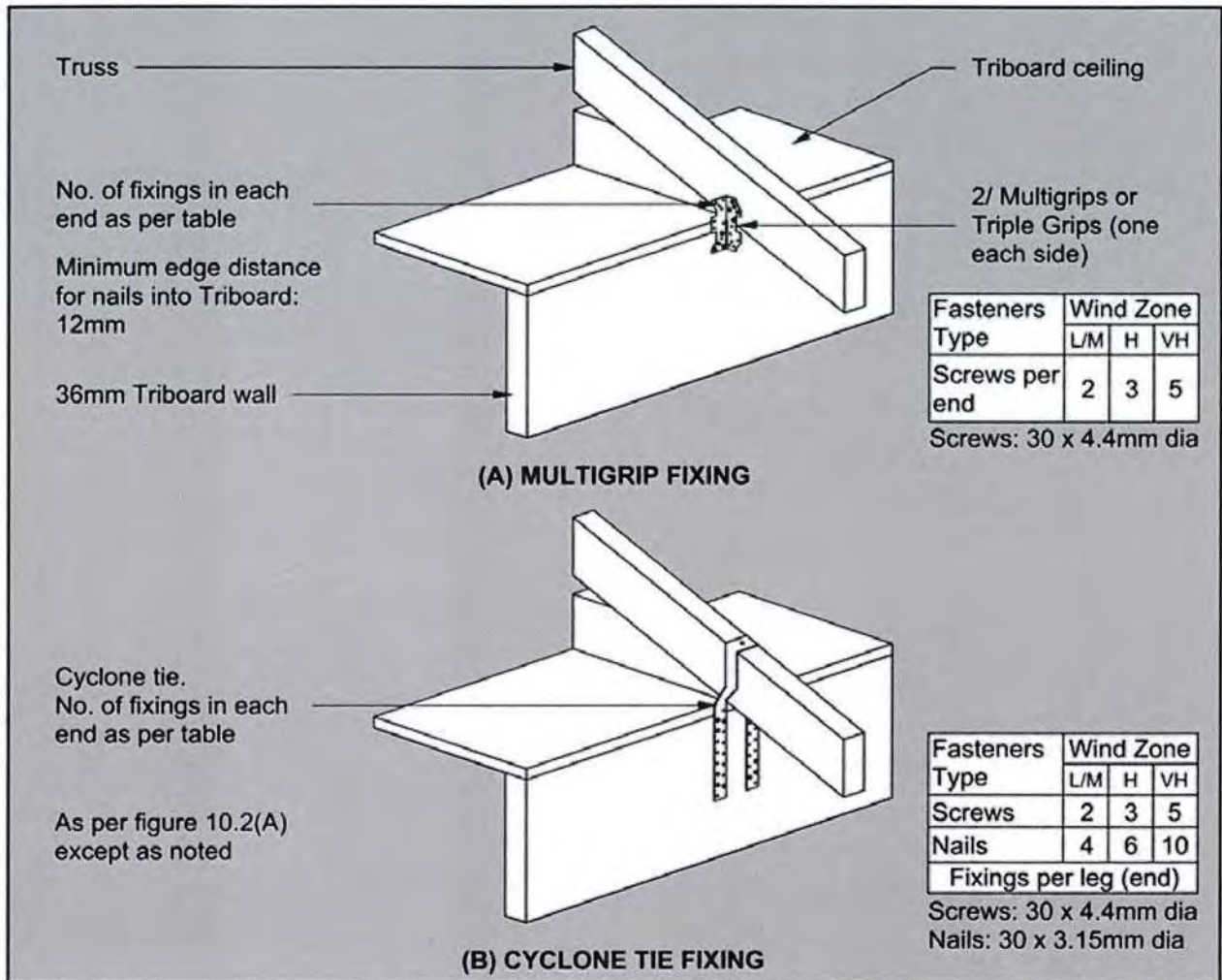
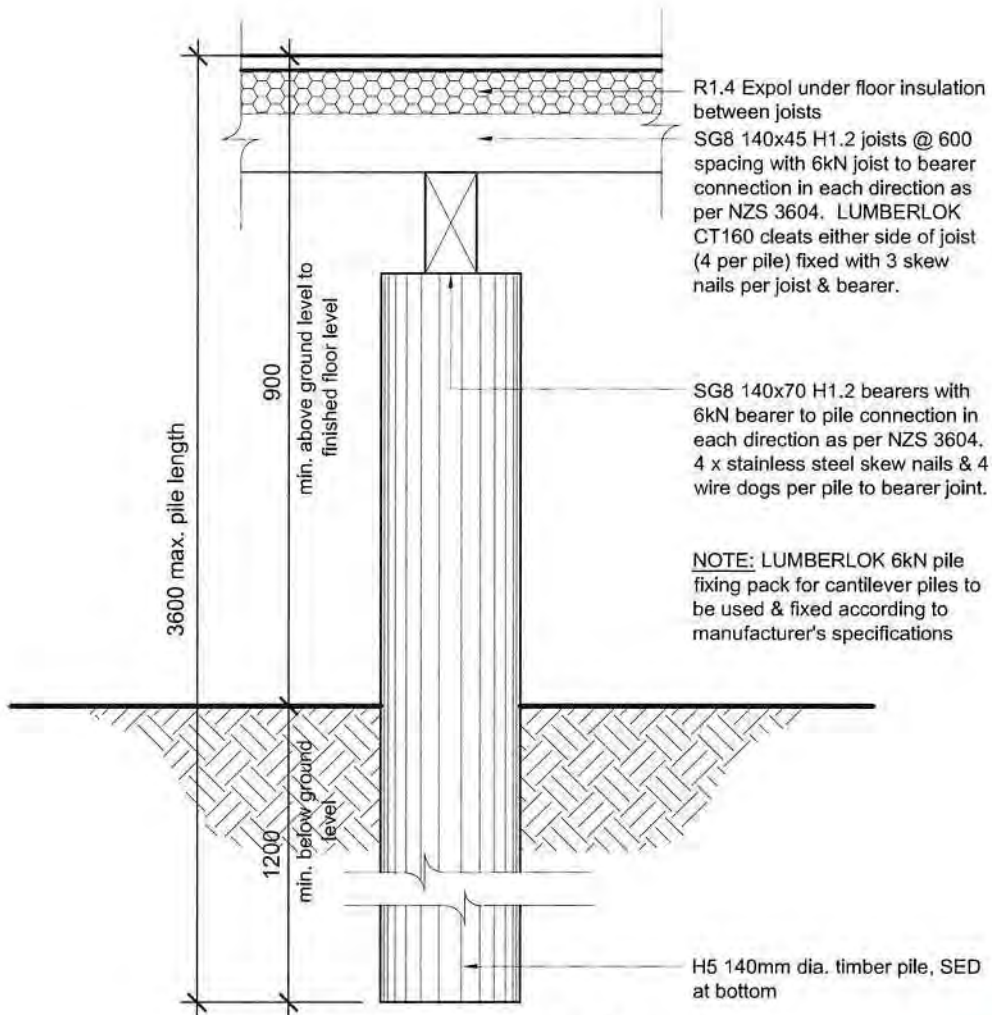


Figure 10.2 - Roof truss connection to walls

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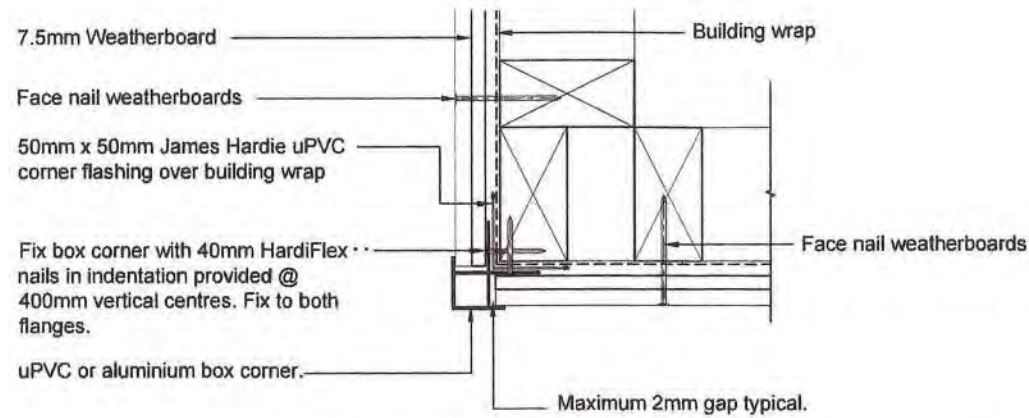


**DRIVEN TIMBER PILE DETAIL**

Scale 1:10 on A3





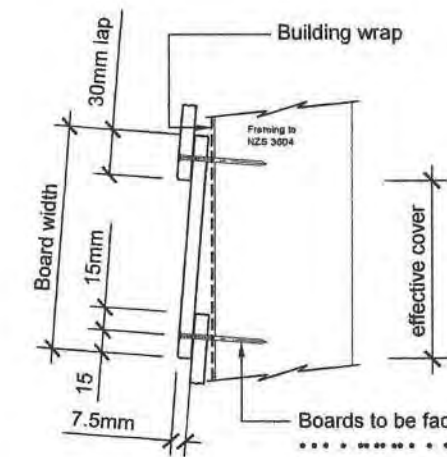


**EXTERNAL CORNER DETAIL**

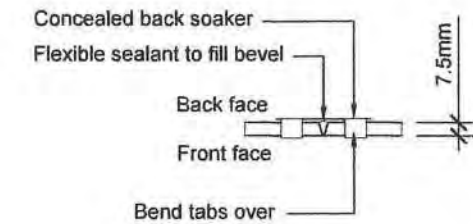
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**James Hardie**

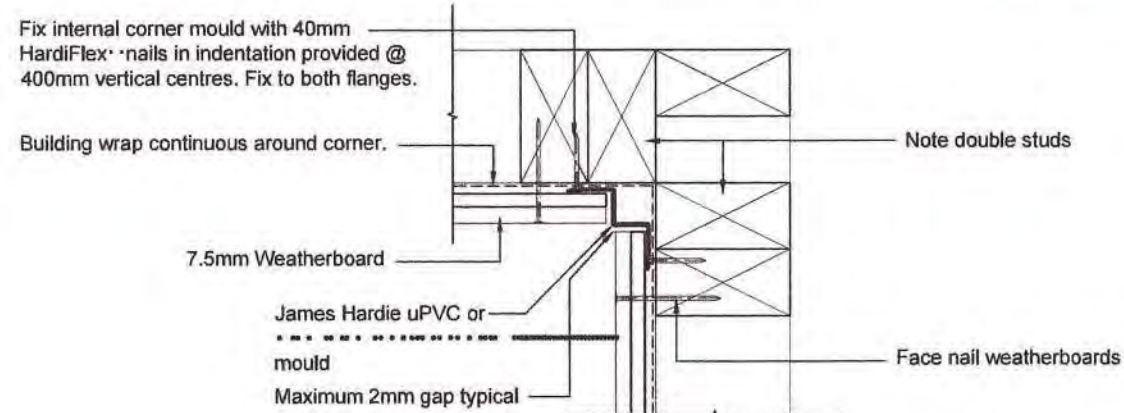


Face Nailing for 7.5mm weatherboards.



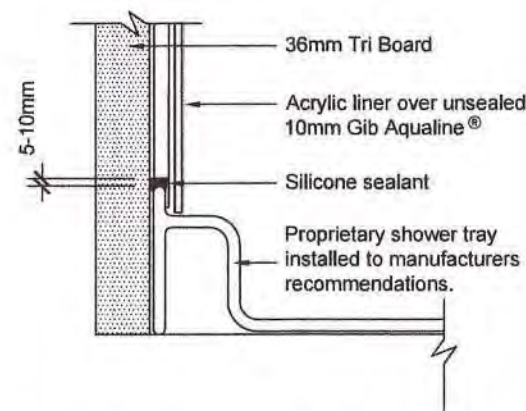
Concealed Back Soaker Joint.

NOTE: Back soaker Aluminium or Stainless steel.



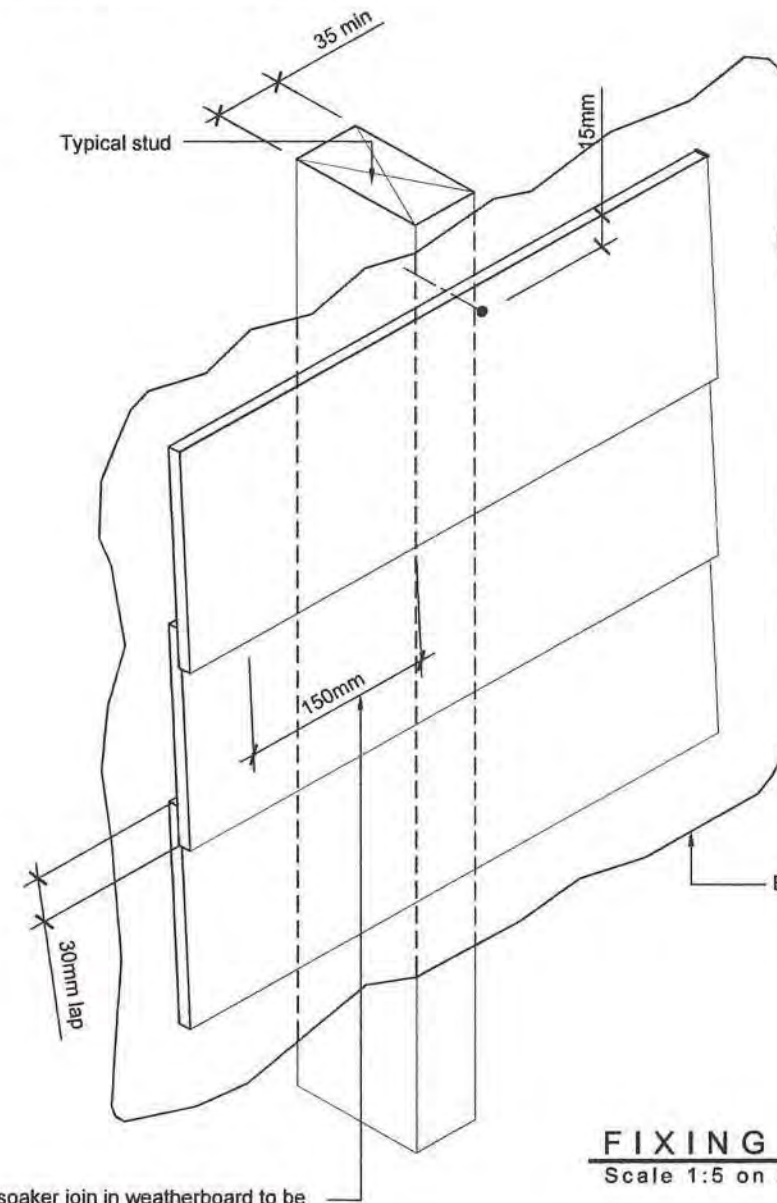
**INTERNAL CORNER DETAIL**

Scale 1:5 on A3



**SHOWER TRAY DETAIL**

Scale 1:5 on A3



Concealed back soaker join in weatherboard to be 150mm minimum from side of stud. Joints must be staggered by 600mm minimum

**FIXING DETAILS**

Scale 1:5 on A3

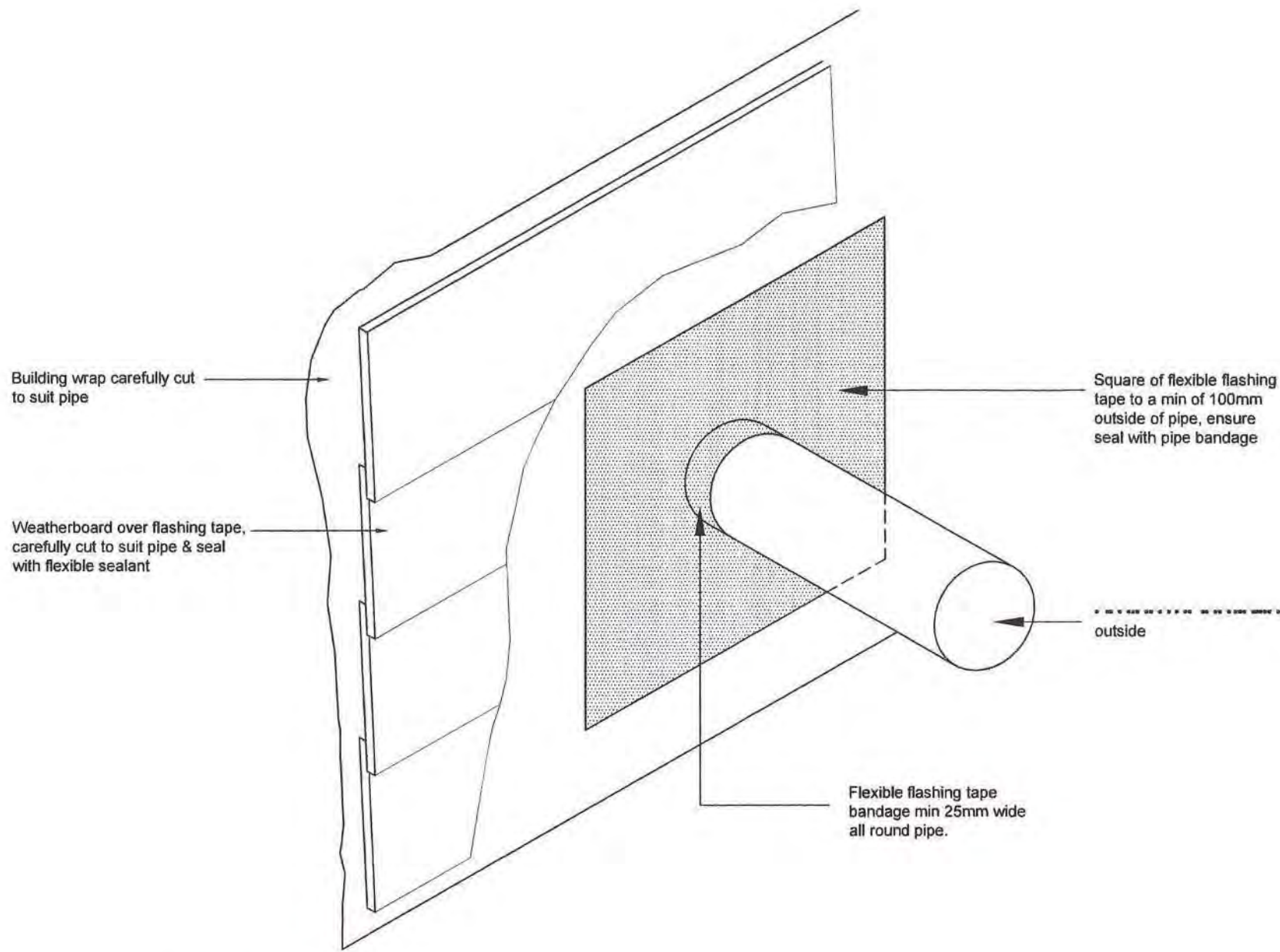


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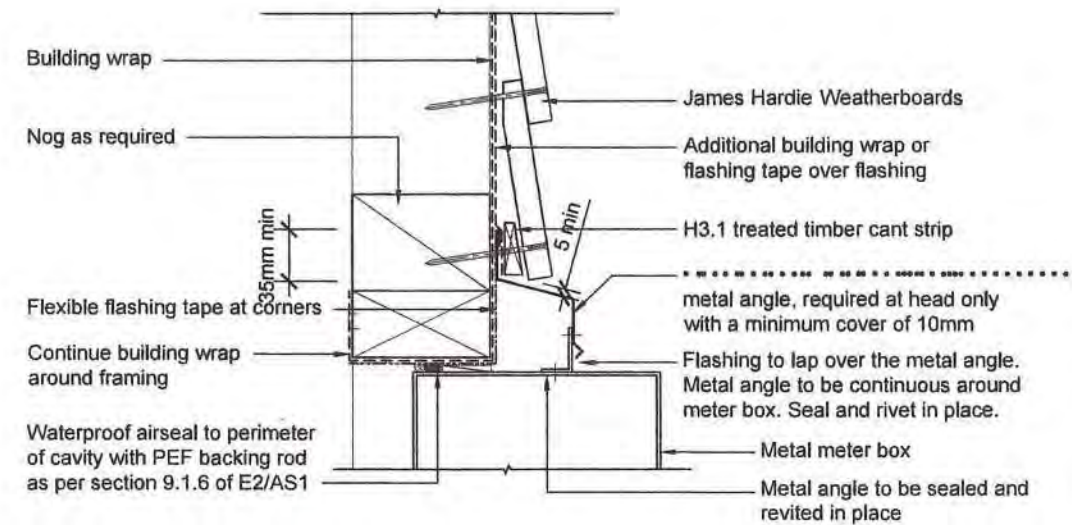
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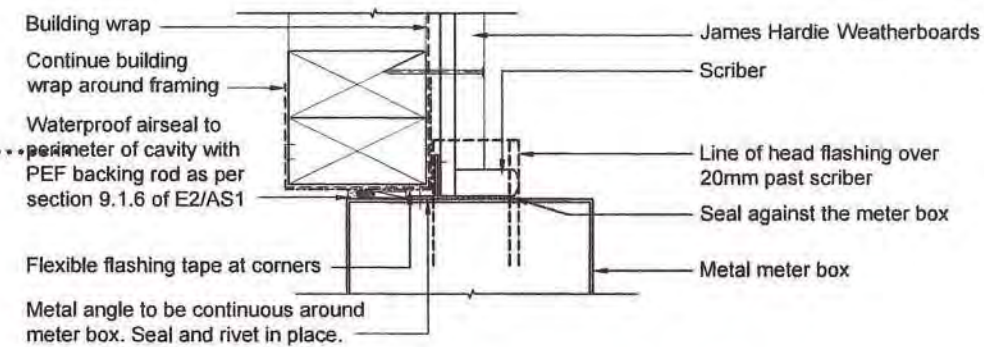




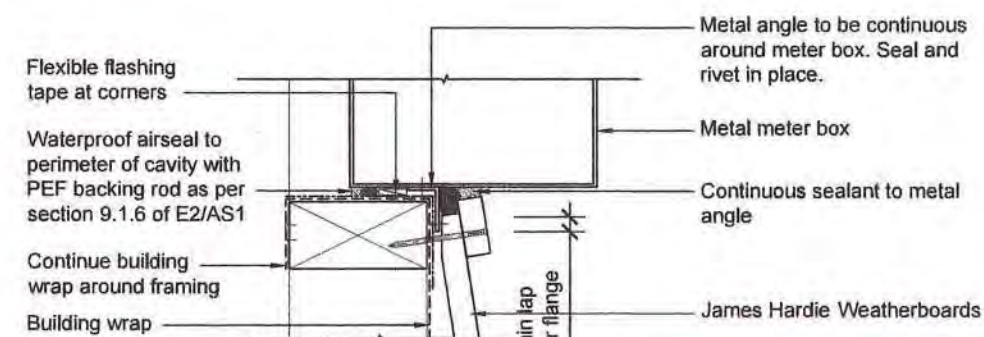
**PIPE PENETRATION DETAIL**  
Scale 1:5 on A3



**METER BOX HEAD DETAIL**  
Scale 1:5 on A3



**METER BOX JAMB DETAIL**  
Scale 1:5 on A3



**METER BOX BASE DETAIL**  
Scale 1:5 on A3



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			A14	A
			Project number:	213015

Specifications - 130523 - A1355930





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ARE APPROVED SUBJECT TO THE  
PROVISIONS OF THE BUILDING ACT  
AND IT'S REGULATIONS AND ARE  
TO BE RETAINED ON THE JOB IN  
GOOD ORDER AND PRODUCED UPON  
REQUEST.

# Habitat for Humanity

20 Matipo Street – Taupo



## SPECIFICATION

**BRACING, TRUSS DESIGN CALCS &  
PS1, RISK MATRIX, E2, H1 CALCS,  
BEAM DESIGN**

**REVISED 23/07/2013**

# Habitat for Humanity

## Principles:

- HFH aim is to provide affordable homes and improve the standard of housing for our Partner Families
- All housing developments are in accord with the Building Code & Local Authority requirements
- HFH must be “good stewards” of the donations, grants and effort put in by donors and volunteers
- The development should allow the family/whanau to add improvements. This leaves the family with some responsibility
- These guidelines are reviewable at any time by the Habitat Board and existing HFH houses constructed will not create a precedent
- HFH reserves the right to use any donated new or used materials on any part of the house construction, provided they are in a suitably good condition
- Any of the specified items contained herein may be changed at any time prior to completion of this home, completely at the discretion of HFH, when a similar product has been donated or discounted to HFH
- These Specifications take precedence over any other specifications and/or Plans
- These Specifications should be read in conjunction with the Plans

## HFH will provide:

<b>Foundations</b>	Driven timber piles to Specific Engineer Design, NZS 3604 and to drawings, soil report and specifications
<b>Framing</b>	<b>Tri board as per plan and specifications. Exterior walls framing 90mm x 45mm H1.2 MSG8 gauged Pine and shall conform to NZS 3602</b>
<b>Floor</b>	<b>20mm plywood H1.2 over 140x45mm H 1.2 MSG8 floor joists</b>
<b>Exterior Sheathing</b>	James Hardie Weatherboard as per plans and Hardie’s specifications
<b>Building Paper Wrap</b>	To Tyvek building wrap using Thermakraft Aluband window sealing system
<b>Windows &amp; Exterior Doors</b>	To comply with NZS 3604/4211/4223. Aluminium powder coated; double glazed, awning type. To be installed to manufacturers specification. Hinges, catches and handles all black Glazing clear except obscure to laundry door, bathroom(s) & toilets
<b>Roof Sheathing</b>	NZS 4217 Colorsteel Style line; Profile Corrugated
<b>Rain Water</b>	PVC Spouting Downpipes PVC round



<b>Fascia</b>	Radiata finger jointed H3
<b>Soffits</b>	Hardiflex; painted
<b>Linings</b>	Ceiling: 18mm Tri board and paint finish Walls: 36mm Tri board stopped for paint finish Aquapanel to walls & ceilings of toilet and bathroom
<b>Insulation</b>	Ceiling: Batts R3.2 <b>Exterior Walls: Batts R2.4</b>
<b>Mouldings</b>	Paint quality bevelled timber skirting and scotia Window jamb liners, paint quality
<b>Wardrobes</b>	Single timber shelf, painted, and hanging rail
<b>Interior Doors</b>	1980mm high MDF paint quality smooth doors in MDF Frames handles or knobs
<b>Plumber &amp; Drainlayer</b>	To comply with clauses B2 & E1 & G1 to G15 of NZBC 1992 AS/NZS 3500 plumbing systems. All drainage is to be laid by a registered drainlayer as per plans supplied
<b>Kitchen</b>	All colours from HFH range Units: Pre-finished (white inside) 600mm wide Unit ends: Pre-finished (same colour as doors) Cupboard doors: Pre-finished square edge with 2mm PVC clashing Benchtop: Laminate, square edged Handles: Bow handles Sink Insert: Stainless steel single bowl & drainer tray; standard waste Faucet: Greens single lever, chrome Stove: Fisher & Paykel or similar as supplied
<b>Toilet</b>	Caroma Concorde suite with dual flush cistern, white Toilet roll holder, white Vinyl coved 100mm up walls
<b>Bathroom Fittings</b>	All fittings white Sep/shower: 3 sided Acrylic base and walls Greens Flickmaster with separate shower head Bath: Acrylic 1575mm / 1675mm long, Hardiglaze splashboard 300mm high Taps: Greens, chrome Vanity: Unit with doors and drawers, pre-finished, floor mounted 900mm as per plan Mirror: As supplied



	Accessories: Double towel rail, shelf to shower
<b>Laundry</b>	Super Tub
<b>Hot Water Cylinder</b>	Mains Pressure 180 litres
<b>Exterior Taps</b>	Brass x 2 on opposite sides of house
<b>Electrical</b>	To comply with clauses B2 & G8 & G9 of NZBC 1992 and local supply authority. By Registered Electrician / all electrical to be single phase
<b>Decorating</b>	To comply with clauses B2 & E3 of NZBC 1992. Interior walls & skirtings, painted same colour Ceilings and scotia, painted white Doors, painted
<b>Floor coverings</b>	Carpet: From HFH range, to all non-wet floors Vinyl: From HFH range, to all wet floors
<b>Site Power, Phone</b>	By registered electrician from house to site connections
<b>Clothesline</b>	Timber supplied and assembled
<b>Letterbox</b>	Supplied, Alpine timber style, painted
<b>Driveway</b>	Concrete
<b>Footpath</b>	Concrete, un-reinforced 100mm thick, 750mm wide, from laundry door to clothesline, and from driveway edge to front entry landing
<b>Vehicle Crossing</b>	Constructed as per local Council requirements
<b>Garden Shed</b>	2.0 x 2.0 metre storage shed (or similar) on concrete base floor
<b>Steps</b>	If any, timber with handrails as per plans
<b>Fencing</b>	1.8m high to provide a secure rear yard, as per plans
<b>Rotary Hoe &amp; Grass Seed Site</b>	Yards only; to be done last thing after all other exterior work completed



Box 1

Job Details (tick appropriate boxes)

Name	HABITAT FOR HUMANITY		
Street Address	26 HOELAND ROAD 20 MATIPO STREET.		
Lot No	2	DPS No	1542
City/Town	MATIPO		
Location of Storey:		Floor type:	Floor load:
Single/upper storey	<input checked="" type="checkbox"/>	Sub-floor	<input type="checkbox"/>
Upper storey of two	<input type="checkbox"/>	Slab	<input checked="" type="checkbox"/>
Lower storey of two	<input type="checkbox"/>		2kPa <input checked="" type="checkbox"/>
			3kPa <input type="checkbox"/>
Key dimensions			
Building height to apex	4.3	Metres	
Roof height above eaves	1.5	Metres	
Stud height	2.4	Metres	
Average roof pitch	10°	Degrees	
Building Length	BL	15.1	Metres
Building Width	BW	7.3	Metres
Gross Plan Area	GPA	107	Sq Metres
Note: When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW			
Cladding weight	Light	Medium	Heavy
Sub-floor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower storey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upper or Single Storey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roof weight	Light	Heavy	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Room in roof space	Yes	No	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Box 2

Wind Zone

Action	Reference	Values available	Outcome
Wind Region	Figure 5.1	A, W	A
Lee Zone	Figure 5.1	Yes, No	No
Ground Roughness	Page 6	Urban, Open	Urban
Site Exposure	Page 7	Sheltered, Exposed	Sheltered
Topographic Class	Tables 6.2 and 5.3 + Fig 5.2	Gentle to Steep	Gentle
Wind Zone	Table 5.4	L, M, H, VH, EH, SED	LOW

Box 3

Earthquake Zone

Action	Reference	Values available	Outcome
Earthquake Zone	Figure 5.4	1, 2, 3, 4	1
Site subsoil classification	Page 9	A, B, C, D, E	D/E

Box 4

BUs required Wind

W Across		25	BU's per m	(From NZS 3604:2011 tables 5.5, 5.6 and 5.7)					
W Along		28	BU's per m						
Total Wind Load									
W Across	Enter BL from box 1	Multiply by	BU's per m Across	Equals Across W required	W Along	Enter BW from box 1	Multiply by	BU's per m Along	Equals Along W required
	15.1	x	25	378		7.3	x	28	205

Box 5

BUs required Earthquake

E =	6	BU's per m <sup>2</sup>	(From NZS 3604:2011 tables 5.8, 5.9 and 5.10)		
Note: For a room in the roof space use E + 3 BU/m <sup>2</sup>					
Total Earthquake Load					
EQ Requirement Along and Across	Enter GPA from box 1	Multiply by	E	Equals E required	Transfer to calculation sheet B
	107	x	6	642	

For manual calculations only

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**Along**

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED		
1	2	3	4	5
Line Label	Minimum BUs Required	Bracing Element No.	Bracing Type	Length Element (m) L
A	225	A1	TR4.3	6.2m
		A2	TR4.3	4.5m
B	100	B1	TR6	3.5m
		B2	TR1.2	2.0m
C	225	C1	TR4.3	9.5m
D				
E				

WIND	
6 W	7 W
Rating BU/m W	BUs Achieved (BU/m x L) W
	263
	117
	22
	90
	467

EARTHQUAKE	
6 E	7 E
Rating BU/m E	BUs Achieved (BU/m x L) E
	263
	117
	22
	90
	467

<b>Totals Achieved</b>	
From Sheet A	<b>Totals Required</b>

W achieved	959
W required*	205
W achieved must exceed W required*	

E achieved	959
E required*	642
E achieved must exceed E required*	

\* from Calculation Sheet A

**Across**

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED		
1	2	3	4	5
Line Label	Minimum BUs Required	Bracing Element No.	Bracing Type	Length Element (m) L
M	100	M1	TR4.3	6.5m
N	100	N1	TR1.2	3.5m
		N2	TR1.2	2.6m
O	100	O1	TR1.2	2.8m
		O2	TR1.2	1.8m
P	100	P1	TR1.2	3.4m
		P2	TR1.2	1.5m
Q	110	Q1	TR4.3	7.0m

WIND	
6 W	7 W
Rating BU/m W	BUs Achieved (BU/m x L) W
	263
	134
	90
	90
	44
	134
	44
	357

EARTHQUAKE	
6 E	7 E
Rating BU/m E	BUs Achieved (BU/m x L) E
	263
	134
	90
	90
	44
	134
	44
	357

<b>Totals Achieved</b>	
From Sheet A	<b>Totals Required</b>

W achieved	1156
W required*	378
W achieved must exceed W required*	

E achieved	1156
E required*	642
E achieved must exceed E required*	













\* from Calculation Sheet A

For manual calculations only

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**Table 5.1 Panel Bracing Values (BU) for 2.45m high wall**

Picture	Fixing	Type	Panel width in metres								
			0.6	1	2	3	4	5	6	7	8
	Lifting end of panel held down by 2m length of external wall - see note below	1.1	50	83	167	250	333	417	500	588	667
	Lifting end of panel held down by 0.8m length of external wall	1.2	26	44	90	134	178	222	268	312	356
	Lifting end of panel fixed with 6kN connection	2	22	44	98	152	206	260	314	368	422
	Lifting end of panel held down by 12kN connection grouted into concrete floor	2.1	40	82	184	286	388	492	594	696	798
	External wall fixed to timber boundary joist with nailed battens at 600mm cts	4.2	8	14	28	68	98	164	210	254	362
	External wall fixed to concrete floor with one fully nailed framing anchor at 600mm cts	4.3	3	7	29	66	117	182	263	357	467
	Lifting end of panel held down by weight of 2m length of internal wall	5	6	10	20	30	40	50	58	68	78
	Lifting end of panel held down by weight of trusses crossing	6	-	2	10	22	40	64	92	124	162
	Lifting end of panel held down by weight of trusses parallel, bearing on a wall fixed to the end (see roof type)	7.S Light	2	4	12	28	52	80	114	156	204
		7.T Heavy	2	6	24	54	96	150	216	296	386
	Wall panel resisting overturning by its own weight	8	-	2	8	16	28	44	64	86	114
	Lifting end of panel held down by weight of 2m long wall crossing it in the level above	205	2	4	12	24	40	60	84	112	146
	Lifting end of panel held down by weight of 2m of floor bearing on it	206	-	2	10	22	40	62	90	122	158
	Lifting end of panel held down by weight of 2m of floor above bearing on wall fixed to the end	207	2	4	14	34	60	92	134	182	238

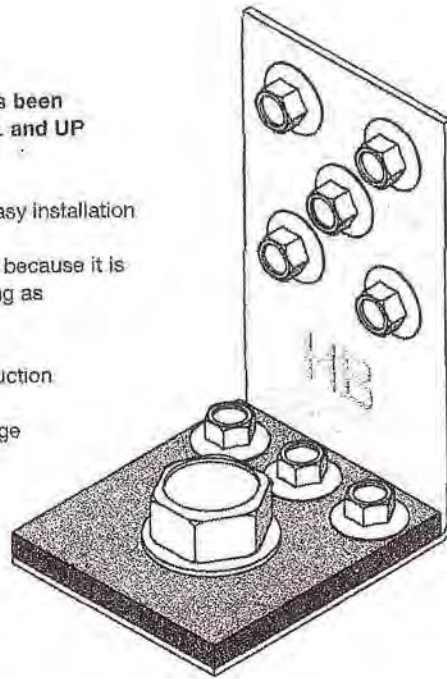
**NOTE** Type 1.1 must be screw fixed at the wall to wall 'T' joint

# GIB HandiBrac®

## Panel Hold-Down Bracket

Developed in conjunction with MiTek™, the GIB HandiBrac® has been designed and tested for use as a hold-down bracket in GIB® BL and UP bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings



### Components

GIB HandiBrac® is available in boxes of 10, each containing 5 pairs.  
Components per paired pack include:

- 2 x GIB HandiBrac® Brackets
- 2 x Washers
- 16 x Tek Screws
- 2 x BOWMAC screw bolts included within specific GIB HandiBrac® pack

### GIB® Bracing Elements

The GIB HandiBrac® is a proprietary product that has been tested and is suitable for use with specified GIB Ezy Brace® systems.

### Fixing to Existing Framing Elements

BOWMAC screw bolt or a 150mm by 12mm diameter galvanised coach screw (with a characteristic uplift strength of 12kN).

### Fixing to Concrete Slabs

BOWMAC screw bolt or an alternative proprietary fixing with a characteristic uplift strength of 15kN



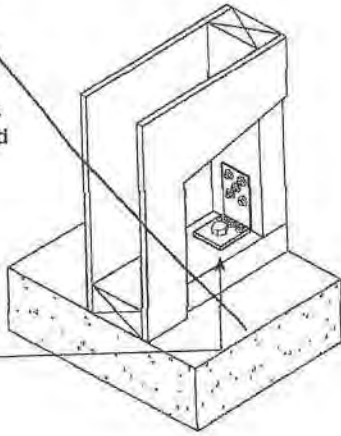


**Concrete Floor - Internal Wall**

The bottom plate at both ends of the bracing element is fixed using a fastener with a proprietary fixing with a minimum characteristic uplift strength of 15 kN. If included in pack see overleaf instruction to install BOWMAC screw bolt.

Locate the GIB HandiBrac® bracket centrally on the stud

GIB HandiBrac® bracket

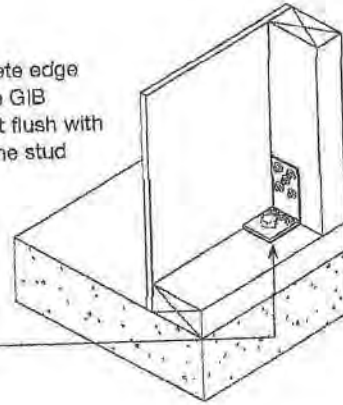


**Concrete Floor - External Wall**

The bottom plate at both ends of the bracing element is fixed using a fastener with a proprietary fixing with a minimum characteristic uplift strength of 15 kN. If included in pack see overleaf instruction to install BOWMAC screw bolt.

To maximise concrete edge distance, locate the GIB HandiBrac® bracket flush with the inside face of the stud

GIB HandiBrac® bracket

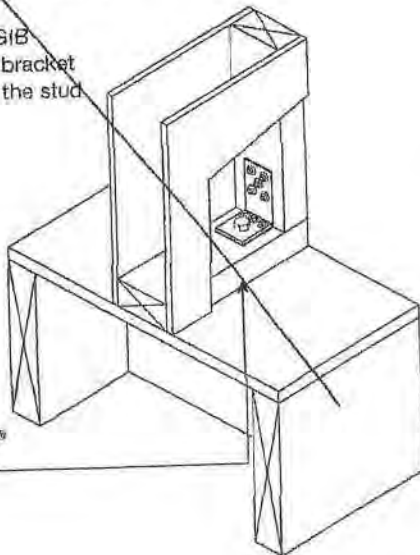


**Timber Floor - Internal Wall**

Bottom Plate is fixed using a BOWMAC screw bolt (if supplied) or a 150mm by 12mm diameter galvanised coach screw (with a characteristic uplift strength of 12kN). For BOWMAC screw bolt installations see overleaf.

Locate the GIB HandiBrac® bracket centrally on the stud

GIB HandiBrac® bracket

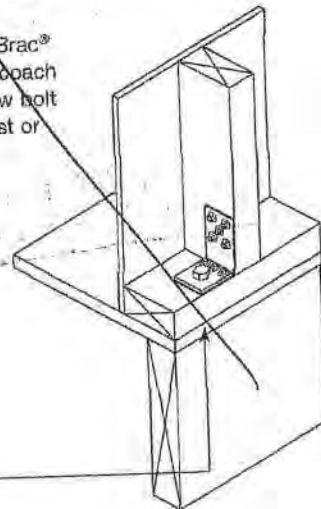


**Timber Floor - External Wall**

Bottom Plate is fixed using a BOWMAC screw bolt (if supplied) or a 150mm by 12mm diameter galvanised coach screw (with a characteristic uplift strength of 12kN). For BOWMAC screw bolt installations see overleaf.

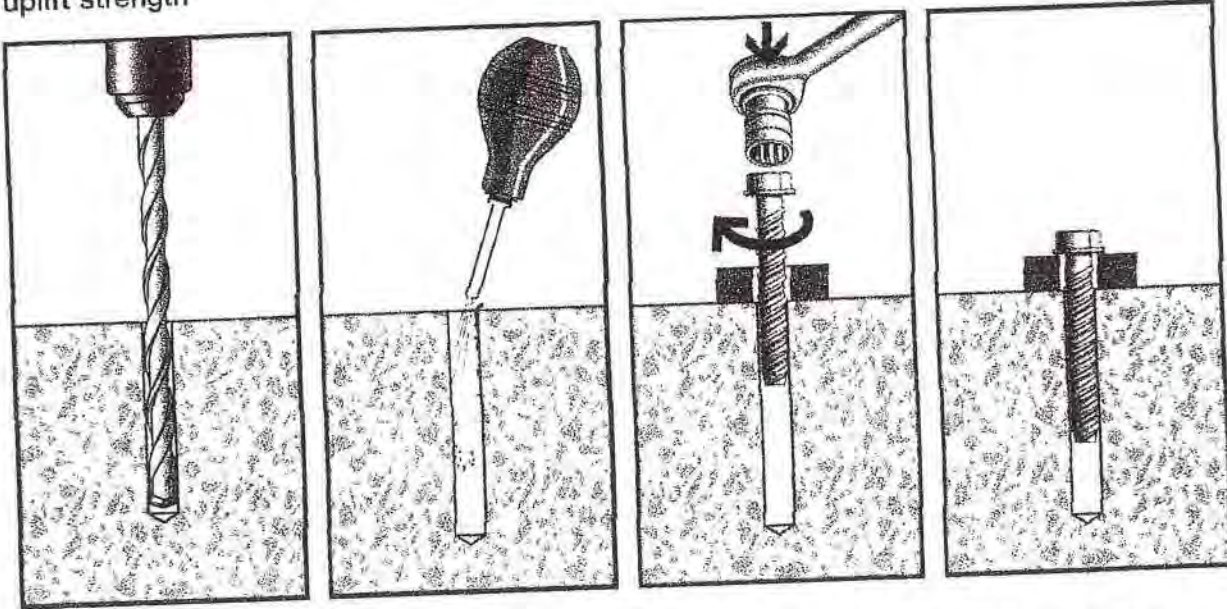
Locate the GIB HandiBrac® bracket such that the coach screw/BOWMAC screw bolt is centred over the joist or bearer below

GIB HandiBrac® bracket



## Installation of BOWMAC screw (bit included in pack)

- Suitable for use in timber or masonry base material and achieves the minimum uplift strength



- Use a 10 mm diameter masonry bit for a solid concrete substrate and an 8 mm diameter drill bit for fixing to a timber sub-floor.
- Drill a hole into the base material to depth 8 mm deeper than the required embedment and clean out the hole of dust and debris prior to installation of the BOWMAC screw bolt.
- Insert the bolt through the GIB HandiBrac® plate and bracket and into the hole.
- Begin tightening the bolt by applying forward pressure when engaging the first thread.
- Additional forward pressure may be required for installation in high strength, dense base materials.
- Continue tightening the anchor until the head is firmly seated against the GIB HandiBrac® plate.
- In extremely dense material, use of an impact wrench is recommended.
- Be sure the bolt is at the required embedment depth.
- Don't exceed the maximum clamping torque of 80Nm.
- The installation is now complete.

## Installation of BOWMAC screw

- Use quality hexagonal socket with a ratchet spanner
- Where substrate allows, a torque controlled wrench can be used
- During installation debris or dust created by the thread cutting action may cause some resistance to be experienced. This is easily overcome by unscrewing the BOWMAC screw bolt for one turn, or more and then continue to fix to the full embedment.

GIB HandiBrac® is manufactured and distributed by:

### MiTek New Zealand Ltd

Auckland Office:

40 Neales Rd, East Tamaki, Manukau 2013, New Zealand  
P O Box 58-014, Botany, Auckland 2163, New Zealand

Ph: 64-9-274 7109, Fax: 64-9-274 7100

Christchurch Office:

14 Pilkington Way, Wigram, Christchurch 8042, New Zealand

P O Box 8387, Riccarton, New Zealand

Ph: 64-3-348 8691, Fax: 64-3-348 0314

Internet Site: [www.mitek.nz](http://www.mitek.nz)

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Distributor:

### Winstone Wallboards Ltd

National Support:

37 Felix Street, Penrose, Auckland 1061, New Zealand  
P O Box 12 256, Penrose 1642, Auckland, New Zealand

Ph: 64-9-633 0100, GIB® Helpline: 0800 100 442

Fax: 64-9-633 0101, Free Fax: 0800 229 222

Email: [info@gib.co.nz](mailto:info@gib.co.nz), Site: [www.gib.co.nz](http://www.gib.co.nz)

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02/2011





**Fabricator / Designer Statement**

Job Ref: 5502

This statement may be used by the Building Consent Authority for compliance purposes and is issued by a licensed truss fabricator using the Pryda Build software.

**CLIENT Name:** *Habitat For Humanity*

**SITE Details:**

Address:	<del>76 Holland Road</del> <i>20 MATIPOST</i>
City:	<del>Hamilton</del> <i>TAUPO</i>
Post Code:	

**Nominal Design Criteria:**

Design working life: 50 years  
Building importance: Residential  
Roofing: Longrun (6.0 kg/sq.m)  
Ceiling: Specified (15.9 kg/sq.m)  
Top chord purlins: 900 mm  
  
BC restraints: Battens at 600 mm  
Standard truss spacing: 900 mm  
Standard roof pitch: 10.00 deg.  
Ult. design wind speed: 32 m/s (wind classification = Low)

Design roof snow load: 0 Pa  
(incl. probability factor)  
Ground snow load: 0 Pa  
Location: Region N0 - upper Nth Island  
Altitude above sea level: 100 m

Max. eaves height: 3 m  
Max. ridge height: 4 m

Int pressure coeff. up: 0.2  
Overhang Condition: Full structural fascia

The correctness of the Design Criteria used by the Pryda Build truss design software is the responsibility of the fabricator.

Note: The external wind pressure coefficients for the standard trusses in this job have allowed for proximity to a gable end.

All truss designs and their connections have been designed using Pryda design software. Additional items such as roof/ceiling plane bracing, special notes, supplementary timber, etc., which may be shown on the plan drawings are the responsibility of others.

All trusses shall be manufactured in accordance with the fabrication specifications provided by Pryda, and installed, connected and braced in accordance with the recommendations given in - : AS4440:2004 "Installation of nailplated timber roof trusses" and any other supplementary details that may be provided, such as the Pryda Installation Guides.

Timber verification and grading values are in accordance with clause B1 and timber treatment in accordance with clause B2 of the New Zealand Building Code.

I/we confirm that the trusses for this project have been manufactured in accordance with the fabrication specifications provided by Pryda New Zealand

Name: Paul Taylor

Position: Detailer

Signed: 

Date: 30-07-2012



**Fabricator / Designer Statement**

Job Ref: 5502

Note 1: All timber framing nails are machine-driven, glue coated, or annular/helical deformed shank.  
 Use specified fixings with Pryda connectors as noted.

**Tie-downs to walls/beams:**

All trusses need to be fixed at each timber support with 2 / 90x3.15 dia Skew Nail

All additional tie-downs are as follows:

Truss Mark	Support No.	Distance	Fixing	Support		Truss Jt Grp	Uplift (kN)
				Jt Grp	Width		
M1	1	-	2/Z	JD5	90	JD5	-1.41
	8	7276	1/MGL	JD5	90	JD5	-1.19
M2	1	-	1/MGL	JD5	90	JD5	-1.35
	5	6694	1/MGL	JD5	90	JD5	-1.34
M3	4	1878	1/MGL	JD5	70	JD5	-1.02
M4	11	6094	2/Z	JD5	70	JD5	-0.40
	3	1294	1/MGL	JD5	70	JD5	-0.78

**Secondary fixings (hip & gable ends, valleys):**

All trusses are to be fixed at each support with the following:

Hip truss to truncated girder	3 face nails, bottom chords
Jack truss to truncated girder	3 skew nails or back face nails, bottom chords
Creep truss to hip truss	3 face nails, top and bottom chords
Top chord extensions	2 skew nails
Valley trusses	1 skew nail
Outriggers	2 skew nails

All additional connections are as follows:

<b>Supporting Truss</b>	<b>Supported Truss</b>	<b>Top Chord</b>	<b>Bottom Chord</b>
-------------------------	------------------------	------------------	---------------------

**Fixing Summary:**

Connector	Description	Total	Fixing Method (per connector)	
			Support	Truss
MGL	Multigrip (long)	23	6/90x3.15d nails	4/90x3.15d nails
Z	Z nail	24		

**Producer Statement - PS1 - Design**

Job Ref: 5602

This producer statement applies to the structural engineering design software "Pryda Build" supplied by Pryda NZ to

**ACORN BUILDING SUPPLIES LTD**

who is licensed to use the software to produce nailplated timber roof truss, floor truss, lintel and beam designs. These truss designs are in accordance with sound and widely accepted engineering principles and comply with the Compliance Document for the New Zealand Building Code, Clause B1, and New Zealand Building Code Verification Method B1/VM1. The durability shall comply with the New Zealand Building Code, Clause B2, for importance level 2 and a design working life of 50 years.

In addition to the above, this software also complies in part with:

ANSI / TPI 1 - 2002 National Design Standard for metal plate connected wood truss construction.

AS 1649 - 2001 Timber - Methods of test for mechanical fasteners and connectors - Basic working loads and characteristic strengths.

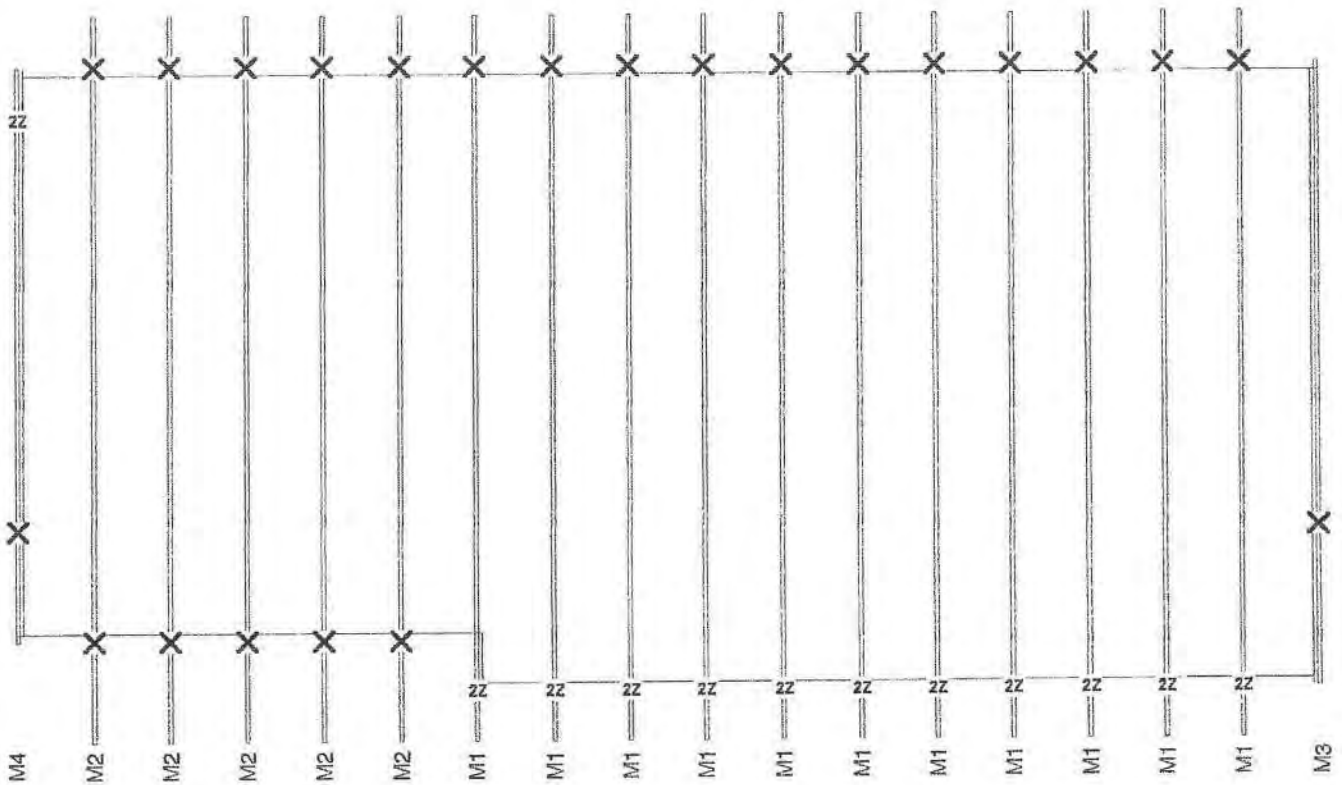
The truss designs require that the supporting structure is stable in its own right, and that the trusses will be braced in accordance with the New Zealand Building Code Standard NZS 3604:2011, and any supplementary details provided, such as the Pryda Installation Guides.

Pryda NZ holds a current policy of Professional Indemnity Insurance with cover no less than NZ\$2 million. The policy includes the engineering design processes used in the software.

On behalf of Pryda NZ (a division of ITW New Zealand)



A C van Blerk BSc (Eng) MIPENZ (214689) CPEng IntPE  
Engineering Services Manager



**Truss Connections**

\* All tie-downs use 2/90x3.15 dia Skew Nails unless otherwise noted.

- zz | 12 x 2/Z Z nail
- X | 23 x 1/MGL Multigrip (long)



Customer : Habitat For Humanity  
 Site Address : Unknown  
 : 76 Holland Road,  
 Job Ref : 5502

Roofing : Longrun  
 Pitch : 10.00 Deg.  
 Spacing : 900  
 Design Wind Velocity : 32.00 m/s (Ult.)  
 Detailer : <None>





## RISK MATRIX

JOB: 76, HOLLAND ROAD, HAMILTON.

<u>RISK FACTOR</u>	<u>LOW</u>	score	<u>MED</u>	score	<u>HIGH</u>	score	<u>V/HIGH</u>	score	<u>SUBTOTALS</u>
<b>Elevation: A</b>									
Wind zone (per NZS3604)	0	0	0		1		2		0
Number of Storeys	0	0	1		2		4		0
Roof/Wall intersection design	0	0	1		3		5		0
Eaves width	0		1	1	2		5		1
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							<b>Total Score:</b>		<b>1</b>
<b>Elevation: B</b>									
Wind zone (per NZS3604)	0	0	0		1		2		0
Number of Storeys	0	0	1		2		4		0
Roof/Wall intersection design	0		1		3	3	5		3
Eaves width	0		1	1	2		5		1
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							<b>Total Score:</b>		<b>4</b>
<b>Elevation: C</b>									
Wind zone (per NZS3604)	0	0	0		1		2		0
Number of Storeys	0	0	1		2		4		0
Roof/Wall intersection design	0		1		3	3	5		3
Eaves width	0		1	1	2		5		1
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							<b>Total Score:</b>		<b>4</b>
<b>Elevation: D</b>									
Wind zone (per NZS3604)	0	0	0		1		2		0
Number of Storeys	0	0	1		2		4		0
Roof/Wall intersection design	0		1		3	3	5		3
Eaves width	0		1	1	2		5		1
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							<b>Total Score:</b>		<b>4</b>
<b>CLADDING TYPE: Direct fixed James Hardie Weatherboards.</b>									
<b>CAVITY: nil.</b>									

**9.1.10.7 Closed cell foam tape**

Compressible foam tape shown behind window facings and *cladding* joints shall be closed cell PVC foam, with:

- a) Hardness 55-60 to ASTM D2240 Scale OO,
- b) Grade VE-43 to ASTM D1667,
- c) Compression set of 20% maximum to ASTM D1667, and
- d) UV weathering in UV Weatherometer for 1500 light hours to ASTM G154 or ASTM G155 with no visible deterioration in appearance.

**9.1.10.8 Attachments for windows and doors**

Install windows and doors using pairs of minimum 75 x 3.15 galvanised jolt head nails or 8 gauge x 65 mm stainless steel screws, through reveals into surrounding *framing* at:

- a) Maximum 450 mm centres along sills, jambs and heads, and
- b) Maximum 150 mm from reveal ends.

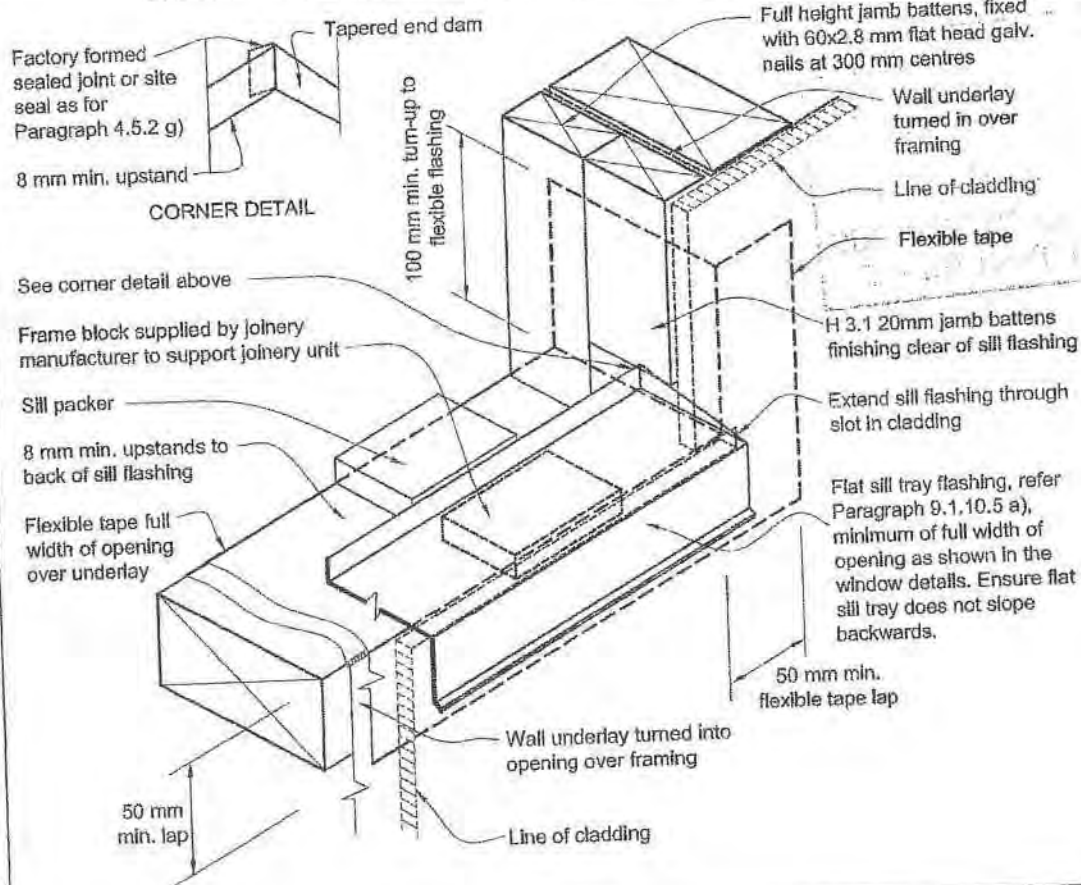
Install packers between reveals and *framing* at all fixing points, except between head reveals and lintels.

Amend 5  
Aug 2011

**Figure 72A: General window and door opening for direct fixed**  
Paragraphs 9.1.5, 9.1.10.2; Figures 81, 82, 83, 84, 90, 95 and 115

**NOTE:**

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

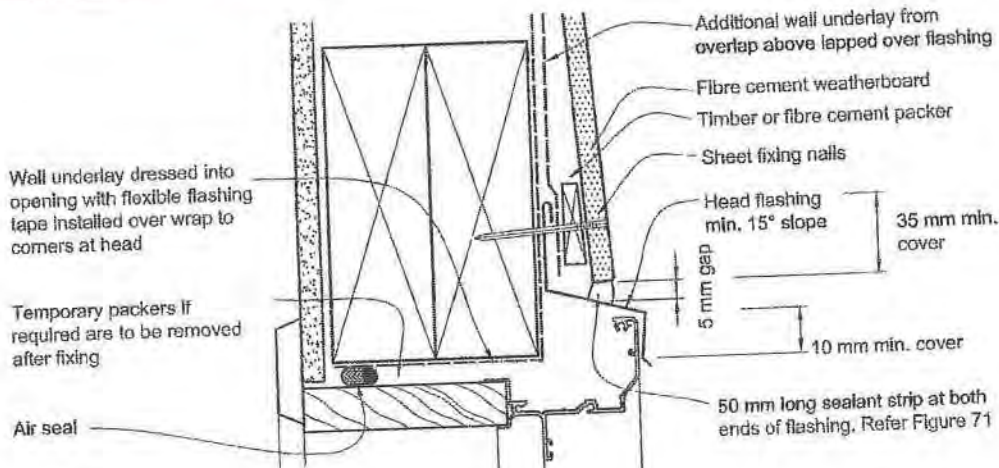


Errata 2  
Dec 2011

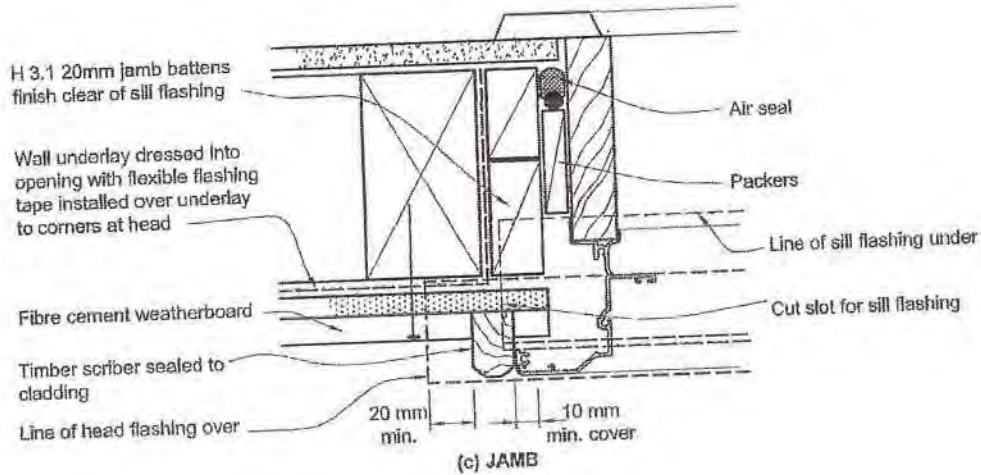
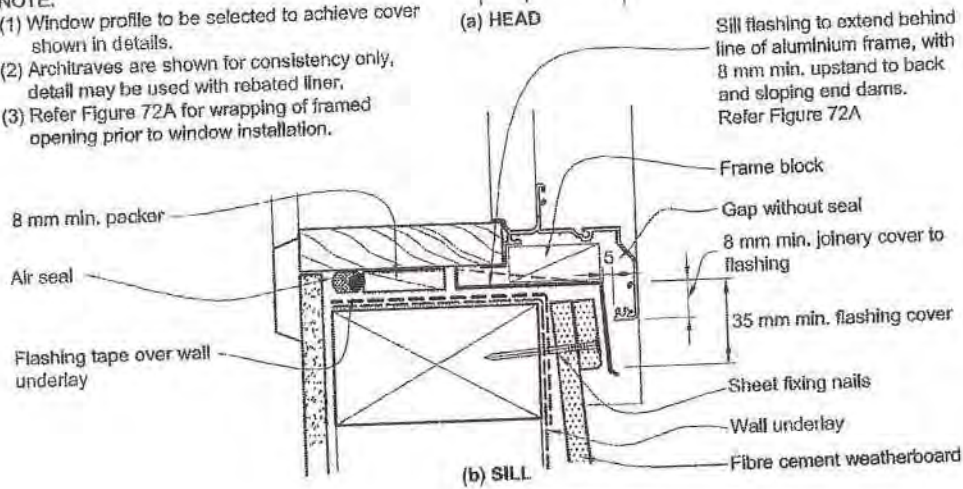
Amend 5  
Aug 2011



**Figure 90: Windows and doors in fibre cement direct fixed weatherboards**  
Paragraph 9.5.4.1



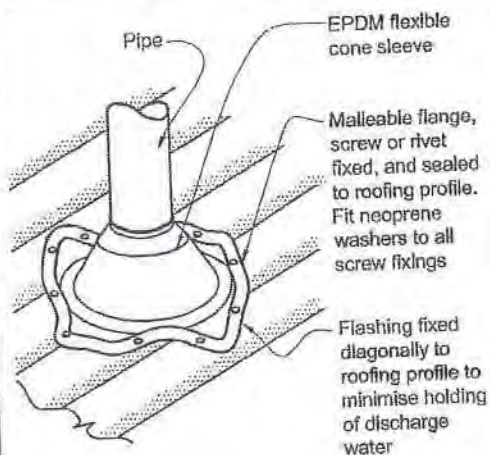
**NOTE:**  
(1) Window profile to be selected to achieve cover shown in details.  
(2) Architraves are shown for consistency only, detail may be used with rebated liner.  
(3) Refer Figure 72A for wrapping of framed opening prior to window installation.



Amend 5  
Aug 2011

Amend 2  
Jul 2005

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



**NOTE:**  
 (1) Max. roof pitch for this flashing 45°, minimum pitch 10° if base of flange covers one or more complete troughs.  
 (2) For pipes up to 85 mm diameter.

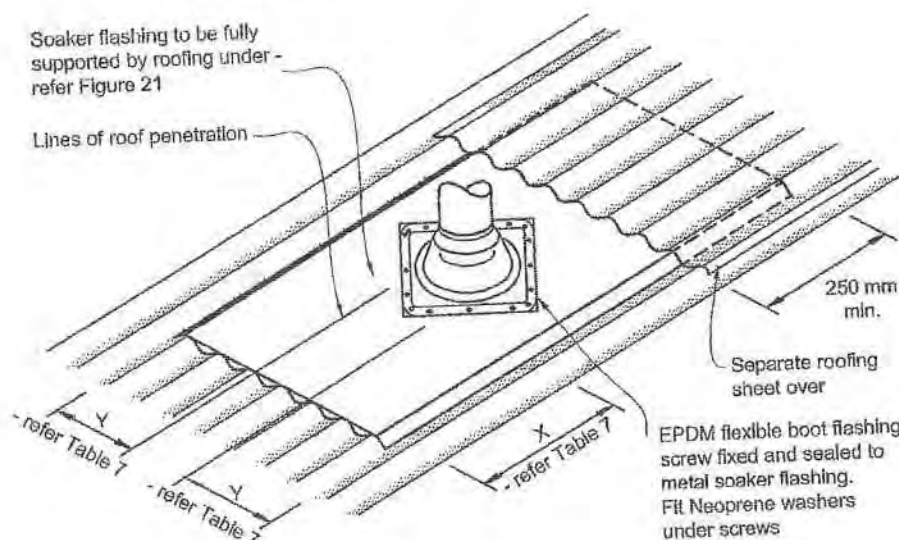
Amend 5  
 Aug 2011

**Figure 54: Soaker flashing for pipe penetrations**  
 Paragraph 8.4.17

**NOTE:** (1) Suitable for pipes from 86 mm to 500 mm diameter.  
 (2) Suitable only for roof pitches of 10° or more.

Soaker flashing to be fully supported by roofing under - refer Figure 21

Lines of roof penetration



Errata 2  
 Dec 2011

Amend 2  
 Jul 2005

Amend 2  
 Jul 2005

Amend 5  
 Aug 2011





# Design Navigator H1 Compliance Report

## Project Summary

H1 Report created by:	HFH
Project Name:	Matipo St
Client:	Habitat for Humanity
Lot No:	20a matipo
Comment:	Taupo Build
Project Id:	50396
Report Date:	09/07/2013

## Compliance Result

This building complies with H1 via the following methods:

- the Calculation Method in NZS4218:2004 (Sept 2008 R-values)
- the BPI Method

## H1 Compliance Details

### NZS4218:2004 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 60% of the R-values in the '60% Rule' table below. This design **complies** with the NZS4218:2004 Calculation Method.

#### HeatLoss:

Reference building	Proposed building
273	199

#### Minimum R-values ("60% rule"):

	Permitted Minimum	Proposed Minimum	
Floor:	0.8	3.01	✓
Non-solid Walls:	1.2	2.31	✓
Glazing in Non-solid Walls:	0.15	0.26	✓
Roof:	2	3.21	✓
Skylights:	0.2		✓

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

		Non-solid	Solid Timber	Other Solid
		100.0	0.0%	0.0%
Floor:	Area: 106.6 m <sup>2</sup> R-values:	1.3	1.3	1.5
Walls excl. glazing:	Area: 73.8 m <sup>2</sup> R-values:	2	1.4	1.2
Glazing (up to 30%):	Area: 31.6 m <sup>2</sup> R-values:	0.26	0.26	0.26
Glazing (surplus of 30%):	Area: 0 m <sup>2</sup> R-values:	0.34	0.34	0.34
Roof:	Area: 108 m <sup>2</sup> R-values:	3.3	3.5	3.5
Skylights:	Area: 0 m <sup>2</sup> R-values:	0.34	0.34	0.34
<b>Heat Loss:</b>		273	287	285

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 because NZS4218:2004 has no clear guidance on mixed constructions. Note that all other requirements (window area (30%) and skylight area (1.2m<sup>2</sup>) threshold for Schedule Method, maximum R-value tradeoff (40%), etc.) are still using NZS4218:2004 including the 2007 H1 amendments because this is the Acceptable Solution for Clause H1.

### Building Performance Index Compliance

The use of the Building Performance Index (BPI) method is permitted .

This design complies with the BPI.

In order to comply the design must have a BPI smaller or equal to 1.55 kWh/DegMonth.m<sup>2</sup>. Your building has a BPI of 1.08 kWh/DegMonth.m<sup>2</sup>.

Please refer to [www.design-navigator.co.nz/BPICorrelation.pdf](http://www.design-navigator.co.nz/BPICorrelation.pdf) regarding the recognition of the BPI for NZBC compliance verification.

### 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	
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	

## Design Details

### Building Dimensions

Floor Area	106.6
Gross Wall Area	105.4
Net Wall Area	80.8
Wall (North) Area	24.7
Wall (East, South and West) Area	56.1
Gross Roof Area	108
Net Roof Area	108
Glazing Area	24.6
Window (North) Area	11.3
Window (East, South and West) Area	13.3
Skylight Area	0

### Glazing Area Percentages

Total Glazing Percentage	23.3
East, South and West Window Percentage	19.1
Total over 30%	no
East, South and West over 30%	no
Total over 50%	no

### Information required for BPI calculation

Living Floor Area	106.6	Note: This includes also internal floors.
Average Room Height	2.4	
Thermal Mass Level	Medium weight	<u>Slab floor with some carpeting or direct glued timber, timber framed walls.</u>

### Climate

Location	Taupo
Climate Zone	3



## Heat Loss Details

	ID	Orient.	Width	Height	Gross Area	Net Area	R-value*	Heat Loss	Shad. Coeff.**	Solid Wall***
<b>Floors</b>										
	Floor 1	Floor			106.6	106.6	3.01	35.4		
<b>Walls</b>										
	Wall 1	North	N	15.0	2.4	36.0	24.7	2.31	10.7	C
	Window 1-1	slider		2.4	2.0		4.8	0.26	18.5	0.86
	Window 1-2	bed 3		1.8	1.2		2.2	0.26	8.3	0.86
	Window 1-3	bed 2		1.8	1.2		2.2	0.26	8.3	0.86
	Window 1-4	bed 1		1.8	1.2		2.2	0.26	8.3	0.86
	Wall 2	West	W	7.2	2.4	17.3	16.2	2.31	7.0	C
	Window 2-1	Bed 1		1.8	0.6		1.1	0.26	4.2	0.86
	Wall 3	South	S	15.0	2.4	36.0	28.1	2.31	12.2	C
	Window 3-1	Bed 2		1.8	1.2		2.2	0.26	8.3	0.86
	Window 3-2	bathroom		1.2	1.0		1.2	0.26	4.6	0.86
	Window 3-3	toilet		0.6	1.0		0.6	0.26	2.3	0.86
	Window 3-4	Laudry door		0.9	2.0		1.7	0.26	6.6	0.86
	Window 3-5	Lundry		0.4	1.0		0.4	0.26	1.5	0.86
	Window 3-6	kitchen		1.8	1.0		1.8	0.26	6.9	0.86
	Wall 4	East	E	6.7	2.4	16.1	11.8	2.31	5.1	C
	Window 4-1	Dining		1.8	1.2		2.2	0.26	8.3	0.86
	Window 4-2	Lounge		1.8	1.2		2.2	0.26	8.3	0.86
<b>Roofs</b>										
	Roof 1	Roof			108.0	108.0	3.21	33.6		
								198.5		
<b>Total Heat Loss</b>										

\* 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/VM1 and H1/AS1, Replacement Table 1, Note (4)).

\*\* 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 discretionary, i.e. solid timber walls and other solid walls can be treated as if they are non-solid (NZS4218:2004 section 3.1.4.))

## Floor Construction Details

### 1: Suspended Floor

internal surface 0.09	
Flooring	20mm Particle Board ▼ <i>R-value: 0.17</i>
Timber Frame & Cavity	190+ mm joists @ 450mm ▼  Frame Area: 10.4%      Cavity Area: 89.6% Timber Frame      Insulation 2.5 <> <i>R-value: 1.56</i>
Floor Lining	none ▼ <i>R-value: 0</i>
Insulation value of the subfloor space	
Suspended floor area [m]:	105
Perimeter length [m]:	44.5
Perimeter height [m]:	.6
Perimeter type:	Continuous perimeter wall (sheltered) ▼
<i>R-value: 0.39</i>	

Construction R-value: 3.01 m<sup>2</sup>K/W.

## Wall Construction Details

### 1: Solid timber wall with external insulation

external surface 0.03	
Cladding	Fibre cement board 1470 7.5mm ▼
R-value: 0.03	
Strapping	
Timber batten, 94mm deep, 47mm wide @ 600mm centers ▼	
Strapping Area: 11%	Cavity Area: 89%
ThermalBreak	none ▼
PinkBatts R2.2 Wall	2.2
R-value: 0	stillAirgap
Strapping	none ▼
R-value: 0.78	R-value: 0
SolidTimber	
Solid timber 44mm ▼	
R-value: 0.38	
WallLining	Structural Board i.e. Triboard 38mm ▼
R-value: 0.33	
internal surface 0.09	

Construction R-value: 2.69 m<sup>2</sup>K/W.

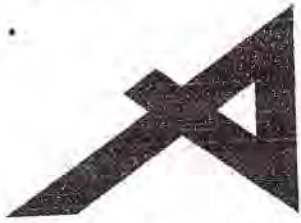
## Roof Construction Details

1: Timber framed roof, direct fixed or battened flat ceiling

external surface 0.03								
Roofing <input type="text" value="Corrugate iron with building paper"/> ▼ R-value: 0.01								
Insulation <input type="text" value="i"/>								
Timber Frame & Cavity <input type="text" value="75mm timber battens @ 1250mm with insulation inbetween, any type of purlins underneath"/> ▼ <table><tr><td>Frame Area: 3.8%</td><td>Cavity Area: 96.2%</td></tr><tr><td>Roof space (still air) 0.11</td><td>Roof space (still air) 0.11</td></tr><tr><td>Trusses and dwangs</td><td>Pink@Batts@ R3.2 Ceiling 3.2</td></tr><tr><td>R-value: 0.62</td><td></td></tr></table>	Frame Area: 3.8%	Cavity Area: 96.2%	Roof space (still air) 0.11	Roof space (still air) 0.11	Trusses and dwangs	Pink@Batts@ R3.2 Ceiling 3.2	R-value: 0.62	
Frame Area: 3.8%	Cavity Area: 96.2%							
Roof space (still air) 0.11	Roof space (still air) 0.11							
Trusses and dwangs	Pink@Batts@ R3.2 Ceiling 3.2							
R-value: 0.62								
Ceiling Lining <input type="text" value="Triboard 18mm"/> ▼ R-value: 0.16								
internal surface 0.09								
Recessed downlights Ceiling area [m <sup>2</sup> ]: _ Number of downlights: _ Clearance from lamp holder side [m]: _ <input type="text" value="i"/>								

Construction R-value: 3.21 m<sup>2</sup>K/W.





**BRANZ Appraised**  
Appraisal No.481 [2005]

**BRANZ Appraisals**  
Technical Assessments of products  
for building and construction

**BRANZ**  
**APPRAISAL**  
**No. 481 (2005)**

Amended 31 January 2012.

**TRIBOARD**  
**CONSTRUCTION**  
**SYSTEM**

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1.1 The Triboard Construction System is a structural wall and ceiling panel system for use in the construction of Triboard Panel houses. All other aspects of the design and construction of Triboard Panel houses, such as foundations, floors, roofs, joinery, cladding, services and interior finishing, are conventional.

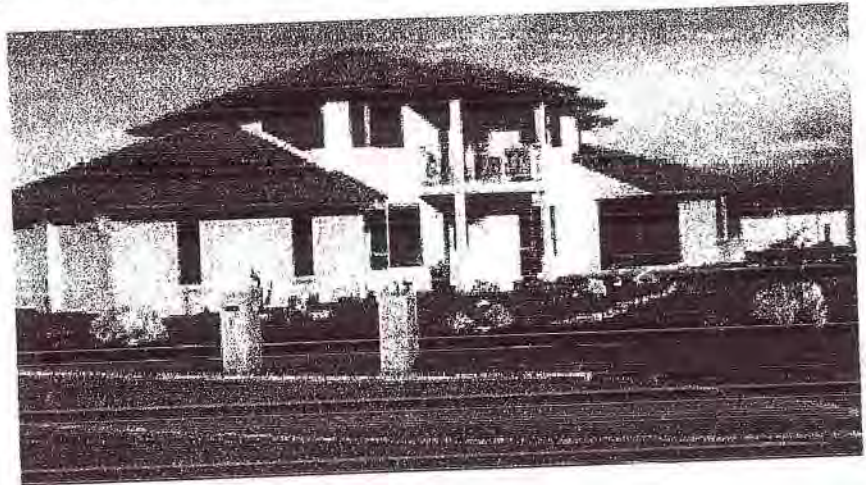
1.2 Triboard wall panels are 36 mm thick, and Triboard ceiling panels are 18 mm thick. Triboard panels are manufactured to consist of a strandboard core flanked by two outer layers of fibreboard.

1.3 Wall and ceiling panels are factory cut to shape and size, including window and door openings, by Triboard Re-manufacturers. All panel surfaces and exposed edges are pre-painted by the Re-manufacturer prior to delivery to site.

1.4 Onsite the wall panels are connected by specified structural connectors to a ground floor platform of either concrete-slab-on-ground or suspended timber framed floor. The exterior wall panels are strengthened externally by vertical timber battens, and the lintels can be strengthened either with a double thickness of Triboard or flitch plates.

1.5 For two-storey houses the upper floor construction is of standard timber framing and the upper floor wall panels connected to the floor.

1.6 Ceiling panels are installed over the wall panels and roof trusses are fixed over the ceiling panels. Conventional ceiling systems may also be used. The building is then completed using conventional construction.



2.1 The Triboard Construction System has been appraised for use in single unit (detached) housing which meets the scope of Clause 1.1.2 of NZS 3604 with the following limitations:

- buildings must be single or two-storey; and
- in NZS 3604 Wind Zones up to and including very high; and
- in all NZS 3604 Earthquake Zones; and
- the ground floor construction platform must comprise one of: a concrete slab-on-ground; or a suspended timber framed floor constructed in accordance with NZS 3604; and,
- the first (upper) floor is a suspended timber floor constructed in accordance with NZS 3604; and
- the first floor live load does not exceed 1.5 kPa; and
- roof construction comprises trusses and roof framing in accordance with NZS 3604; and
- roof pitches must not exceed 35°, nor be less than 10°; and
- Triboard ceiling panel diaphragms not exceeding 8 m in length.

2.2 This Appraisal does not cover the general or wet area finishing to walls.

2.3 The use of Triboard wall and ceiling panels in the following situations has not been assessed and is outside the scope of this Appraisal:

- sauna rooms and the like where they may be exposed to sustained high humidity (greater than 95% RH) or liquid water.
- where temperatures are in excess of 35°C over large areas for prolonged periods (e.g. ceiling heating installations) or in excess of 50°C in localised areas (e.g. the area adjacent to a fuel burning appliance - see Paragraph 11.1).
- in skillion roofs.

Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.



## New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, the Triboard Construction System comprising Triboard wall and ceiling panels and connections if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:

**Clause B1 STRUCTURE:** Performance B1.3.1, B1.3.2 and B1.3.4. The Triboard Construction System will meet the requirements for loads arising from self-weight, imposed gravity loads arising from use, earthquake, snow and wind [i.e. B1.3.3 (a), (b), (f), (g) and (h)]. See Paragraphs 8.1 - 8.8.

**Clause B2 DURABILITY:** Performance B2.3.1 (a) not less than 50 years. The Triboard Construction System will meet this requirement. See Paragraph 9.1.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. The Triboard Construction System will meet this requirement and will not present a health hazard to people. See Paragraphs 15.1 - 15.2.

3.2 This is an Appraisal of an Alternative Solution in terms of New Zealand Building Code compliance.

### Triboard Panels

4.1 The Triboard panels used with the Triboard Construction System are supplied by Juken New Zealand Limited. They are a three-layered wood panel product with a medium density fibreboard surface, 2 to 3 mm thick, on both sides of a non-oriented strandboard core. Triboard wall panels are manufactured to be 4.0 m x 2.45 m x 36 mm thick with a nominal density of 600 kg/m<sup>3</sup>. Triboard ceiling panels are manufactured to be 4.0 m x 2.45 m x 18 mm with a nominal density of 635 kg/m<sup>3</sup>.

### Triboard Panel Re-manufacturers

4.2 Triboard panels are only supplied to accredited Triboard Re-manufacturers, who are members of ACTRANZ. Refer to the Technical Literature for a list of these companies. Re-manufacturers cut the Triboard wall and ceiling panels to size, including all door and window openings, and paint all surfaces of the sheets to provide limited protection during construction.

4.3 Other components used with the Triboard Construction System and supplied by either the Re-manufacturer or the building contractor include:

### Batten Timber

4.4 Timber wall battens are MSG 8, H3.1 treated, kiln dried ex 50 x 50 mm or 75 x 50 mm radiata pine (dry dressed 45 x 45 mm or 70 x 45 mm) with a moisture content of 18% or less.

### Fasteners

4.5 A range of standard nails and screws are used with the Triboard Construction System. For details refer to the Technical Literature.

### Connectors

4.6 A range of commercially available products are used for connecting the Triboard wall and ceiling panels to each other and the rest of the structure. For details refer to the Technical Literature.

### Thermal Insulation

4.7 Systems for achieving the required wall insulation values are given in the Technical Literature.

### Other Components

4.8 The remaining materials and components required to construct a house are supplied by the building contractor in accordance with the requirements of NZS 3604.

### Handling and Storage

5.1 Triboard wall and ceiling panels are trucked to the site and normally lifted into position. To minimise storage and handling on-site and to maximise construction efficiency, panel transport from the Re-manufacturer's factory should be carefully timed to coincide with the approximate time of erection. Panels must be handled carefully at all times to avoid physical damage and kept dry under cover until ready for construction.

5.2 For long term storage, Triboard panels must be kept dry under cover and be stacked horizontally on fillets in between sheets at 1200 mm maximum spacing to allow air circulation. Triboard panels must be protected from direct sunlight whilst in storage.

5.3 The pre-painted surfaces of the panels provide adequate protection against occasional rain wetting during construction. To minimise exposure, however, roof and wall claddings should be installed as soon as possible. Panels must not be exposed to the weather for more than two weeks.

5.4 When prolonged exposure to the weather is anticipated during building construction, waterproof covers such as tarpaulins must be provided to keep the panels dry.

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

### General

7.1 Buildings are constructed using the information in the Technical Literature and NZS 3604. The Triboard Construction System has been designed in accordance with AS/NZS 1170 to comply with the appropriate design loadings for domestic buildings built within the scope of NZS 3604.

7.2 The ground floor construction platform is designed and constructed in accordance with NZS 3604 and to the requirements of the Technical Literature.

7.3 External Triboard wall panel and wall batten requirements for various applications are selected directly from tables in the Technical Literature.

7.4 The Triboard wall battens provide a framing cavity for the inclusion of thermal insulation designed in accordance with the Technical Literature.

7.5 The Triboard wall battens provide supporting framing, including around joinery openings, equivalent to conventional timber wall framing. From this point on the remainder of the wall construction is conventional. A wall wrap and cladding system (either direct-fixed or drained cavity) complying with New Zealand Building Code Acceptable Solution E2/AS1 is installed over the battens. Window and door joinery is conventionally fixed, also in accordance with NZBC Acceptable Solution E2/AS1.

7.6 Triboard ceiling panels provide an effective ceiling diaphragm. The ceiling is nail-fixed to the top of Triboard wall panels, and screw-fixed via brackets to floor joists or to truss chords.

7.7 Triboard wall panels are finished internally, either directly with a paint system or wall paper, or they may be battened out for internal linings, e.g. where impervious linings are required in wet areas or to accommodate services.

7.8 Roof trusses must be subject to a specific design. Purlins and other roof framing must be in accordance with Section 10 of NZS 3604. Roof cladding must be in accordance with NZBC Acceptable Solution E2/AS1.

## Structure

### Wall Loads

8.1 The structural design of the system is based on the action of a configuration of connected Triboard wall and ceiling panels with perimeter Triboard wall panels being stiffened by face-fixed timber wall battens.

8.2 Walls comprising Triboard wall panels and wall battens have been designed as an integral unit. The stiffness and strength of the walls and lintels are adequate to resist gravity, wind and earthquake loads to the same level as conventional timber framing with similar deflections.

### Live Loads

8.3 The maximum first floor live load is 1.5 kPa. All other live loads are those prescribed by AS/NZS 1170 for NZS 3604 applications.

### Wall Bracing Resistance

8.4 The Technical Literature provides bracing resistance values for a number of Triboard wall panel configurations in order to satisfy the requirements for earthquake and wind bracing which are determined from the tables in Section 5 of NZS 3604.

8.5 The in-plane rigidity of a Triboard wall panel is high, and the wind and earthquake bracing resistance it provides is limited by the connections. Sliding is prevented by connections at the floor and ceiling. Overturning is prevented by connections to abutting walls, and for external walls, by connections to the floor. Connection to other wall panels and the ceiling is by nailing or screwing. Connections to the floor are by galvanised steel angles, nails, screws, and cast-in floor framing anchors. Adhesive used at panel joints is ignored in terms of structural resistance.

### Wind Loads

8.6 Housing built with Triboard wall and ceiling panels, in accordance with the provisions of the Technical Literature and this Appraisal, is suitable for use in all NZS 3604 Wind Zones up to and including Very High. This is provided all other aspects are rated for the appropriate Wind Zone.

### Impact

8.7 Triboard wall panels are robust and have a high resistance to soft body impacts, and most hard body impacts associated with normal use situations.

### Service Penetrations

8.8 Penetration details for piping and electrical cabling are provided in the Technical Literature. All other penetrations are outside the scope of this Appraisal and Juken New Zealand Ltd must be consulted for advice.

## Durability

9.1 The durability opinion is dependent on the Triboard wall and ceiling panels and the connections remaining dry in service. It is also dependent on the Triboard wall and ceiling panels not being exposed to sustained high humidity, liquid water, or high temperatures (see Paragraph 2.3).

## Maintenance

10.1 The exterior cladding system, including joints, openings and perimeter junctions, must be maintained to ensure adequate protection is continually provided against water ingress. The internal linings, floor coverings and finishing (including joints, openings and the perimeters) must be maintained to provide protection from internal moisture. Regular inspections (at least annually) of the external cladding system and the internal linings and finishes must be made, and any damage or deterioration repaired or restored. The Technical Literature contains details of how Triboard wall and ceiling panels must be maintained.

## Outbreak of Fire

11.1 Triboard wall and ceiling panels contain combustible components which must be protected from heat sources such as chimneys, solid fuel heaters and flues. Clearances from such heat sources specified in NZBC Acceptable Solution C/AS1 Part 9 may not be sufficient for some appliances to ensure that 50°C is not exceeded.

## Spread of Fire

12.1 NZBC Acceptable Solution C/AS1 Part 6 requires that foamed plastics, such as EPS, which forms part of a wall must be protected from ignition by a flame barrier. Triboard wall panels, when joined with screw-fixed back-blocking or metal strips in accordance with details in the Technical Literature, will satisfy the NZBC Acceptable Solution C/AS1 Part 6 requirements for a flame barrier. EPS used for insulation must also meet the flame propagation criteria of AS1366 as required by NZBC Acceptable Solution C/AS1 Part 6, Paragraph 6.20.12(c) and Table 6.3.

12.2 There are no other external fire spread requirements for single unit detached housing up to two-storeys (Fire Purpose Group SH) built more than 1 m from the relevant boundary. Where less than 1 m from the relevant boundary, the fire requirements are given in NZBC Acceptable Solution C/AS1 Part 7.

## External Moisture

13.1 Buildings must be designed such that aspects relating to external moisture comply with NZBC Clause E2. This is achieved by the building envelope being designed and constructed in accordance with NZBC Acceptable Solution E2/AS1.

## Internal Moisture

14.1 Ventilation must meet the performance requirements of NZBC Clause G4.3.1. Roofs and walls complying with the Schedule Method for Compliance with Clause H1.3.2 (E) will have adequate thermal resistance to comply with NZBC Acceptable Solution E3/AS1.

14.2 Some permanent ventilation, not reliant on window openings, must be provided in wet areas, such as bathrooms and laundries. Vented windows, wall or ceiling mounted extract fans, or similar fittings are recommended in all building wet areas. Extract fans for moisture laden air must be vented externally.



14.3 The incorporation of vented windows and other forms of permanent ventilation are recommended in all rooms to ensure adequate air circulation and to prevent the build-up of moisture levels.

14.4 In wet areas (where sanitary fixtures are installed), and in rooms where the walls are likely to be splashed, the surface of Triboard wall panels must be finished with an impervious lining which is easily cleaned. All joints must be impervious to water, and protection of the walls must be provided by extending impervious floor membranes up the wall in accordance with the coved detail of NZBC Acceptable Solution E3/AS1 Figure 1.

### Hazardous Building Materials

15.1 Although Triboard wall and ceiling panels are manufactured using melamine fortified urea formaldehyde adhesive, vapour emissions are minimal because the panels are encapsulated by a paint coating.

15.2 The degree of health hazard caused by vapour release will depend on the total amount of vapour released from all sources in the building including flooring and furniture, the ventilation rate and the degree of encapsulation provided by surface finishes, such as coatings and carpets. The permanent ventilation required and recommended to control moisture levels (see Internal Moisture) will also minimise any accumulation of formaldehyde gas.

### Energy Efficiency

16.1 Compliance to NZBC Clause H1.3.1 and H1.3.2 (E) is achieved by using information from the Technical Literature and by using NZBC Acceptable Solution H1/AS1, NZBC Verification Method H1/VM1 and the Building Performance Index for Housing.

### Installation Skill Requirements

17.1 Houses built using the Triboard Construction System are built by building contractors who have been approved by ACTRANZ. For ACTRANZ member contact details, see the Technical Literature.

#### Inspection

17.2 For inspection reference must be made to the Technical Literature, especially for confirmation of fixing types and spacings.

#### General

17.3 Triboard wall and ceiling panels must be constructed in accordance with the non-specific design information contained within the Technical Literature. The following is a summary of important aspects.

17.4 Triboard wall and ceiling panels must be inspected for water damage before, during and after installation and damaged panels repaired or replaced.

17.5 Particular care must be taken that the foundations and building platform are level and square and that perimeter dimensions are accurate. This is important as Triboard panels are accurately factory cut to size.

17.6 All timber framing including battens must have a moisture content of not more than 18% at the time of enclosure.

17.7 To minimise the use of temporary braces, the erection sequence for Triboard wall panels is best planned so that, during construction, the panels at right angles support each other. Checks for final location should be made before fixing Triboard wall panels into position.

17.8 Battens must be screw or nail-fixed in place in accordance with the details in the Technical Literature. Sometimes battens are fitted at the re-manufacturer's factory.

17.9 External walls must be connected to concrete floors by means of a galvanised steel angle, and by galvanised steel anchors fixed to the battens with galvanised nails. Anchors and fixings must be Grade 316 stainless steel in Zone D, which is within 500 m of the coast or within 100 m of a harbour or estuary (refer to NZS 3604). The steel angle is screw-fixed to the Triboard wall panel and fixed to concrete floors using concrete nails. Battens are fixed to concrete floors using proprietary bottom plate anchors that are cast into the slab. With timber floor framing, Triboard wall panels and wall battens are nail-fixed to floor framing.

17.10 Internal Triboard wall panels are fixed to timber floors by skew nailing from both sides and to concrete floors via the galvanised steel angle using screws and concrete nails as for external Triboard wall panels.

17.11 All exposed pre-cut Triboard wall and ceiling panel edges are protected by a factory paint coating. It is important that any site cut, or site exposed, edges are similarly protected using the sealing paint supplied with the Triboard wall and ceiling panels.

17.12 Integral and separate Triboard lintel options are detailed in the Technical Literature. Lintels are strengthened either by the installation of an additional Triboard lintel panel section, or by installing mild steel plates between Triboard lintel panels to make flitch beams. Details are shown in the Technical Literature.

17.13 Triboard ceiling panels are temporarily supported on purpose built ceiling support frames. They are then nail-fixed to the top of walls and fixed together by a continuous screw-fixed galvanised steel strap or board cleat running parallel with and centred on the joint. Where the joint is parallel to a framing member and more than 150 mm away from it, the ceiling joint is supported by blocking between the framing members and by using a ceiling cleat near the joint.

17.14 After the ceiling has been installed, the roof trusses or the first floor framing are placed in position and fixed to the Triboard ceiling panels. The ceiling support frames are then removed.

17.15 First floor joists, roof trusses and Triboard ceiling panels must be supported by Triboard wall panels. Floor joists must be blocked at all wall supports. Blocking must be the same size as the joists. Blocking and joists at supports must be skew-nailed to the walls or lintels below.

17.16 Roof trusses must be restrained against wind uplift by using one of the hardware fixing options shown in the Technical Literature. Connections must be grade 316 stainless within NZS 3604 Exposure Zone D.

17.17 Roof and wall cladding should be installed as soon as practicable. Where Triboard wall and ceiling panels are exposed for longer than 14 days, waterproof covers such as tarpaulins must be provided to keep them dry.

## Services

18.1 Electrical switch box holes are hole sawn or routed into Triboard wall panels after walls have been installed, and ducts are drilled to them from the appropriate panel edge. Wiring may be fed through the ducts, or fixed to the outside surface of external Triboard wall panels. PVC sheathed electrical cables must not come into contact with the EPS insulation. Where electrical cabling is located in recesses cut into the face of Triboard wall panels, vertical routing is recommended. Horizontal or diagonal recesses, particularly through the middle third height of the Triboard wall panels, should be avoided as this weakens the walls.

18.2 Plumbing and pipework is run through the foundation platform, where possible up behind or in fitted joinery, or through ducts mounted on the Triboard wall panel face.

## Panel Finishing

20.1 Where a fine surface finish is required, surface sanding of the Triboard panels is recommended.

20.2 All dust should be removed from the surface of Triboard panels prior to applying a paint or paper finish.

## Health and Safety

21.1 Suitable protective masks must be worn to prevent inhalation of dust resulting from cutting or working with the Triboard panels.

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

## Tests

22.1 Tests have been carried out by Juken New Zealand Ltd at their Kaitaia Mill and at Gangnail New Zealand Ltd to establish characteristic strengths and stiffnesses of the wall and ceiling panels, the panel to panel connections, the batten to wall panel connection and the wall panel to floor connections. This work has been reviewed by BRANZ and found to be satisfactory.

22.2 Cyclic humidity tests were carried out by BRANZ to establish the durability of Triboard wall and ceiling panels.

## Calculations

23.1 Calculations to justify the structural adequacy of the Triboard Construction System have been examined by BRANZ and found to be satisfactory.

## Other Investigations

24.1 The satisfactory performance of Triboard wall and ceiling panels in New Zealand since 1987 has been recognised by BRANZ. BRANZ have inspected a number of Triboard panel houses up to 15 years old.

24.2 Site visits at various stages of construction, to assess installation methods and to examine completed installations, have been made by BRANZ.

24.3 Results of a formaldehyde monitoring investigation carried out by Paragon Health and Safety Ltd have been obtained. The results show that the air concentration of formaldehyde in a number of finished (closed up) houses is acceptable, being within the generally accepted indoor Air Quality Guidelines of 0.05 – 0.10 ppm.

24.4 The Technical Literature has been examined by BRANZ and found to be satisfactory.

## Quality

25.1 The manufacture of Triboard wall and ceiling panels by Juken New Zealand Ltd has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

25.2 The quality control systems of Juken New Zealand Ltd have been assessed and registered as meeting the requirements of ISO 9001:2000 by SGS International Certification Services Pty Ltd, Certificate number NZ03/052C, dated 11 February 2005.

25.3 The quality of the Triboard panels supplied by Juken New Zealand Ltd is their responsibility.

25.4 A re-manufacturer's factory operation for pre-cut house panels has been assessed by BRANZ.

25.5 Quality on-site is the responsibility of the building contractor.

25.6 The building contractor is responsible for the quality of installation of Triboard wall and ceiling panels.

25.7 Building owners are responsible for the maintenance of Triboard wall and ceiling panels and their connections in accordance with the instructions of Juken New Zealand Ltd.



## Sources of Information

- AS 1366.3-1992 Rigid cellular plastic sheets for thermal insulation – Rigid cellular polystyrene - Moulded.
- AS/NZS 1170: 2002 Structural design actions.
- AS/NZS 4266.15:1995, Reconstituted wood-based panels – methods of test – Method 15: Determination of formaldehyde (perforator method).
- NZS 3602:2003 Timber and wood based products for use in buildings.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4218:1996 Energy efficiency – housing and small building envelope.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (Amendment 5, 1 August 2011).
- New Zealand Building Code Handbook Department of Building and Housing, Third Edition (Amendment 12, 10 October 2011).
- The Building Regulations 1992.
- World Health Organisation (WHO) Working Group on the Evaluation of Carcinogenic Risks to Humans, Wood Dust and Formaldehyde, 1995.



In the opinion of BRANZ, Triboard Construction System is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to the Appraisal Holder, Juken New Zealand Ltd, and is valid until further notice, subject to the Conditions of Certification.

### Conditions of Certification

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



For BRANZ

A handwritten signature in black ink, appearing to read "P Robertson".

P Robertson  
Chief Executive

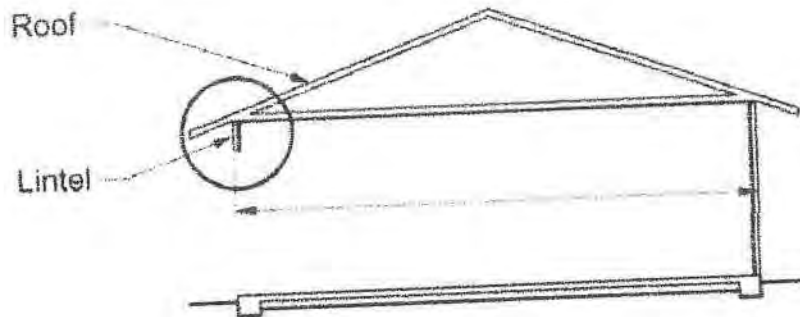
### Amendment No. 1, dated 31 January 2012.

This Appraisal has been amended to update clause changes as required by the introduction of NZS 3604: 2011 and NZBC Acceptable Solution E2/AS1 Third Edition, Amendment 5.

Date of issue: 29 June 2005



Table 8.3 – Triboard lintels supporting roof only



Loaded dimension of lintel (m)	Maximum span (m) for lintel sizes listed below												
	Single thickness						Double thickness						
	Separate lintel			Integral lintel			Separate lintel			Integral lintel			
	200	300	400	200	300	400	200	300	400	200	300	400	
Light roof	2	1.5	2.1	2.6	2.3	2.8	2.8	1.8	2.5	3.1	2.7	2.8	2.8
	3	1.4	1.9	2.1	2.1	2.5	2.6	1.7	2.2	2.8	2.5	2.8	2.8
	4	1.3	1.7	1.8	1.9	2.1	2.2	1.5	2.1	2.6	2.3	2.8	2.8
	6	1.2	1.4	1.5	1.5	1.7	1.8	1.4	1.9	2.3	2.1	2.8	2.8
Heavy roof	2	1.4	1.8	2.3	2.0	2.8	2.8	1.6	2.2	2.7	2.4	2.8	2.8
	3	1.2	1.7	2.1	1.8	2.5	2.8	1.5	2.0	2.5	2.2	2.8	2.8
	4	1.1	1.6	1.9	1.6	2.3	2.6	1.4	1.8	2.3	2.0	2.8	2.8
	6	1.0	1.4	1.7	1.3	2.0	2.1	1.2	1.7	2.1	1.8	2.5	2.8

**NOTES**

Loaded dimension as defined in NZS 3604

For roof pitches less than 15° in wind zones of Extra high and Very high, specific design must be carried out.

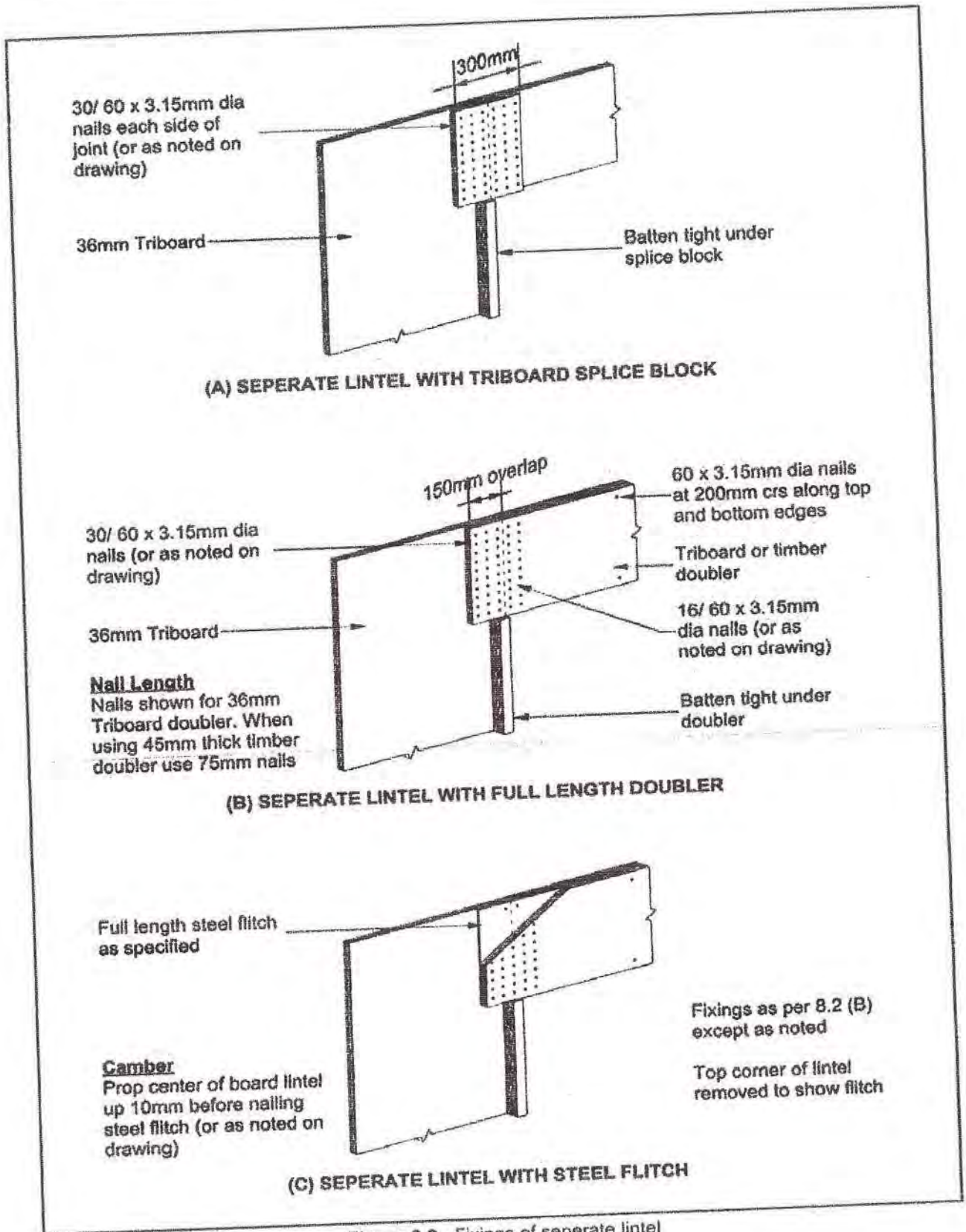
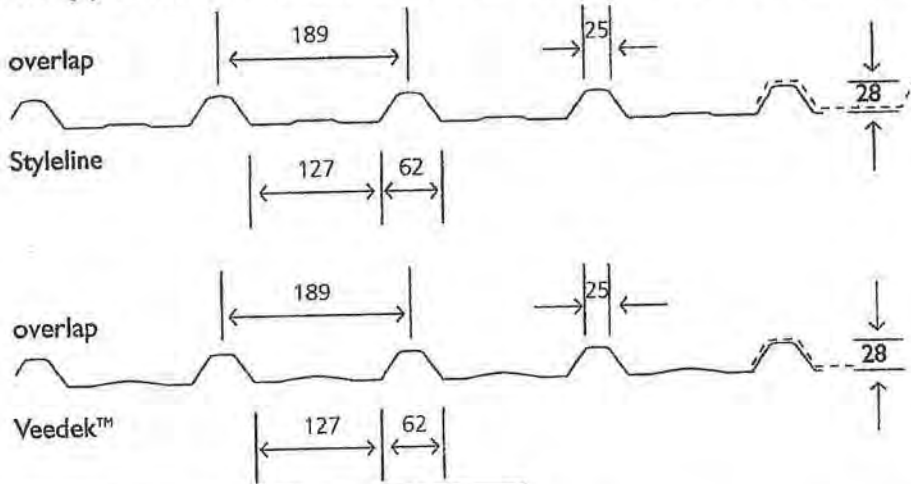


Figure 8.2 - Fixings of seperate lintel

2.1.4.5 (a) DIMOND STYLELINE AND VEEDERK™ PROFILE PERFORMANCE



Cover (mm)	755
Sheet width (mm)	810
Minimum Pitch	3° (approx. 1:20)

All dimensions given are nominal

**Sheet Tolerances**

Sheet width: ±5mm

Sheet width for aluminium +0, -15. If sheet cover widths are critical, advise Dimond at time of order.

Sheet length: +10mm, -0mm. For horizontal wall cladding where notified at time of order of intended use, tighter tolerances can be achieved +3mm, -0mm.

**Material Options**

Thickness (BMT) mm

Nominal weight/lineal metre (kg/m)

Drape curved roof – min. radius (m)\*

Purlin spacings for drape curved roof (m) (1)

Crimp curved – min. radius (mm)\*

Unsupported overhang (2)

	Steel		Aluminium		Duraclad
Thickness (BMT) mm	0.4	0.55	0.7	0.9	1.7 (total thickness)
Nominal weight/lineal metre (kg/m)	3.17	4.27	1.78	2.28	2.2
Drape curved roof – min. radius (m)*	80	40	80	40	12
Purlin spacings for drape curved roof (m) (1)	1.2	1.4	1.2	1.4	1.1
Crimp curved – min. radius (mm)*	900	400	n/a	400	n/a
Unsupported overhang (2)	200	250	100	200	100

**\*Please note: only Styleline is suitable for drape curving or crimp curving**

(1) Recommended maximum purlin spacing at minimum radius

(2) Based on 1.1kN point load support, but not intended for roof access.

n/a – not available

Roll-forming & crimp curving facilities for Styleline at: Auckland, Hamilton, Christchurch, Palmerston North

Roll-forming facilities for Veedek™ at: Auckland, Hamilton, New Plymouth, Palmerston North, Christchurch, Dunedin

Manufacturing location for Duraclad: Auckland

Sheet lengths: Styleline and Veedek™ are custom run to order. Where long sheets are used consideration must be given to:

- special transportation licences for sheet lengths over 25m
  - site access for special lifting equipment
  - fixing techniques to accommodate thermal expansion.
- Refer Section 2.1.3.4.



## 2.1.4.5 (b) Continued

### STYLELINE AND VEEDEK™ LIMIT STATE LOAD / SPAN CAPACITY CHART

(span in mm, distributed serviceability and ultimate loads in kPa)

**Serviceability Category****3. Non-Access Roof or Wall****2. Restricted-Access Roof****1. Unrestricted-Access Roof**

G550 Steel 0.40mm	End Span			600	800	1000	1100	1300	1600
	Internal Span			900	1200	1600	1700	2000	2400
	Serviceability			3.5	2.7	1.8	1.6	1.2	0.9
G550 Steel 0.55mm	End Span	800	1000	1100	1300	1500	1500	1700	2000
	Internal Span	1200	1500	1600	1900	2200	2300	2600	3000
	Serviceability	4.0	3.3	3.0	2.5	2.0	1.8	1.5	1.1
5052, H36 Aluminium 0.70mm	End Span				600	800	900	1100	1300
	Internal Span				900	1200	1300	1600	1900
	Serviceability				2.4	1.9	1.8	1.2	0.8
5052, H36 Aluminium 0.90mm	End Span		800	900	1000	1100	1200	1500	1700
	Internal Span		1200	1300	1500	1700	1800	2200	2600
	Serviceability		2.8	2.7	2.2	1.7	1.6	1.4	1.1
Duraclad 1.7mm (Note 4)	End Span					700	800	1000	1200
	Internal Span					1100	1200	1500	1800
	Serviceability					-	-	-	-
	Ultimate	N/R	N/R			4.5	4.4	2.6	1.6

**Notes**

- In any category, spans above the maximum shown should not be used. Category 1 and 2 maximum spans are based on static point load testing as a guide, and further limited by practical experience of roof performance under dynamic foot traffic loads. Category 3 maximum spans are limited as a guide to achieving satisfactory appearance for wall cladding.
  - Loads given are based on 4 screw fasteners/sheet/purlin.
  - Loads given are limited to a maximum of 4.5 kPa. If design requirements exceed this limit, contact Dimond for specific advice.
  - Duraclad
    - Serviceability Limit State loads are not applicable to the Duraclad material, as it does not experience permanent deformation.
    - System must include Safety Mesh if intended for use as a Restricted-Access roof. Refer Section 2.2.1.8.
  - N/R = not recommended.
  - End span capacities given in this table are based on the end span being  $\frac{2}{3}$  of the internal span.
  - Design Criteria for Limit State Capacities
    - Serviceability Limit State**  
No deflection or permanent distortion that would cause unacceptable appearance, side lap leakage or water ponding, due to foot traffic point load, inward or outward wind loads or snow loads.
    - Ultimate Limit State**  
No pull through of fixings or fastener withdrawal resulting in sheet detachment due to wind up-lift (outward) loads.
- System Design**  
The span capacity of Styleline and Veedek™ is determined from the Styleline and Veedek™ Limit State Load / Span Capacity Chart using the sections of the Chart appropriate to the grade and type of material, and to the category of serviceability selected from the three categories below. It is recommended that to obtain a dependable design strength capacity for the ultimate limit state, a reduction factor of  $\phi = 0.8$  is applied. The capacities given do not apply for cyclonic wind conditions.
- Serviceability Requirements**  
While these categories are given for design guidance to meet the serviceability limit state criteria, foot traffic point load damage may still occur if there is careless placement of these point loads.
- | Service Category            | Description   |
|-----------------------------|---|
| 1. Unrestricted-access roof | Expect regular foot traffic to access the roof for maintenance work and able to walk anywhere on the roof. No congregation of foot traffic expected.  |
| 2. Restricted-access roof   | Expect occasional foot traffic educated to walk only on the purlin lines, in the profile pans, or carefully across two profile ribs. Walkways installed where regular traffic is expected, and "Restricted Access" signs placed at access points. |
| 3. Non-access roof or wall  | Walls or roofs where no foot traffic access is possible or permitted. If necessary, "No Roof Access" signs used.  |

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Dimond

## 2.1.4.5 (b) Continued

## Fastener Design

Styleline and Veedek™ should be screw fixed to either timber or steel purlins. The use of the appropriate length of 12g screw will ensure failure by screw pull out will not occur under loads within the scope of the Limit State Load / Roofing Span Capacity Chart.

Purlin Type	Screw Fastener			
	Roofing Rib		Wall Cladding Pan Fixed	
	Screw Length* (mm)	Designation	Screw Length* (mm)	Designation
Timber with steel based sheet	65	T17 – 14 – 10 x 75 Roofzip M6 x 65 HG-Z4	50	Roofzip M6 x 50 HG-Z4
Timber with aluminium based sheet	73	14g x 73mm Alutite with 8mmØ clearance hole and an aluminium profiled washer and 36Ø EPDM seal	Non cavity 35	12g x 35mm or 14g x 55mm Alutite with 8mmØ clearance hole and an aluminium round washer and seal
			Cavity 55	
Steel	45	Tek – 12 – 14 x 45	20	Tek – 12 – 14 x 20

\* If sarking or insulation is used over the purlins or for wall cladding fixing onto a cavity batten, into the stud, the screw length will need to be increased.

For screw size range and fastener / washer assembly refer Section 2.2.3.1.

The Limit State Load / Span Capacity Chart is based on 4 screw fasteners/sheet/purlin without the use of load spreading washers (except for Duraclad material, which must be fitted with either profiled metal washers and 36mm EPDM seals, or 32mm Weatherlok washers).

Profiled metal washers are recommended for use:

1. On end spans, or large internal spans where the Ultimate Limit State distributed load is limiting. Contact Dimond for specific advice in these design cases.
2. When required to enable the fixing system to accommodate the thermal movement of long sheets – see Section 2.1.3.4 Thermal Movement.
3. Wherever the designer wishes to ensure the risk of fastener over-tightening will not cause dishing of the crest of the profile rib.

Use in serviceability categories (1) or (2) can allow the reduction of fasteners to an average of 2 screw fasteners/sheet/purlin. If this is done, the distributed load capacities given in the chart should be reduced using a multiplying factor of 0.5.

Long spans may require the specification and use of side lap stitching screws – see Section 2.3.2C Installation Information: Layout and Fastening.

## Design Example

Restricted access roof, 0.55mm G550 steel Styleline has a maximum end span of 1500mm and a maximum internal span of 2200mm. The following distributed load capacities apply.

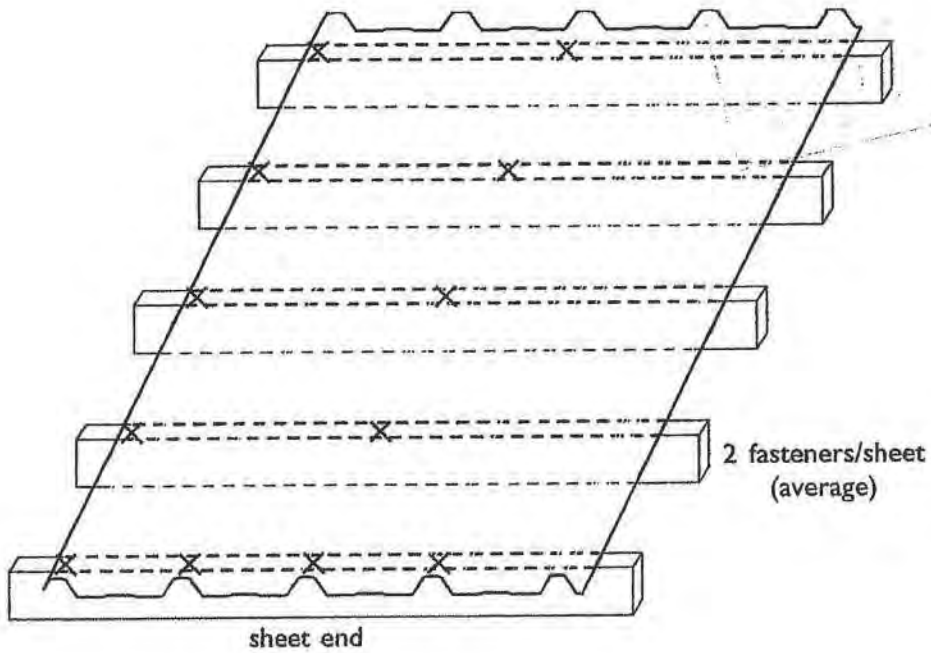
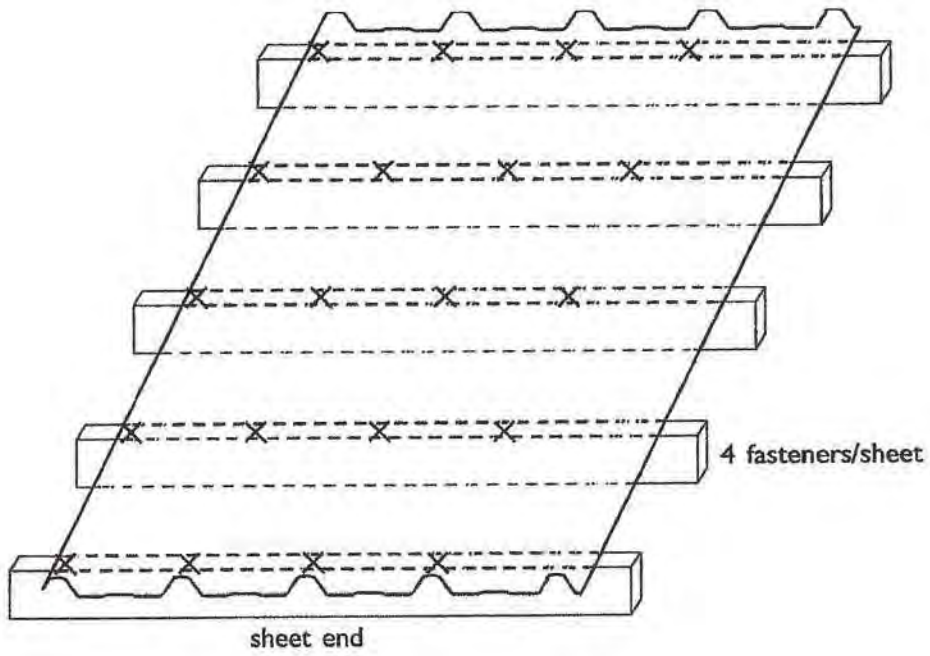
	4 fasteners/sheet	2 fasteners/sheet
End Span	1500 mm	1500 mm
Internal Span	2200 mm	2200 mm
Serviceability	2.0 kPa	1.0 kPa
Ultimate	4.0 kPa	2.0 kPa

Continued on next page...



2.1.4.5 (b) Continued

DIMOND STYLELINE AND VEEDEK™  
FASTENER LAYOUT OPTIONS



### 2.1.4.5 (c) SHORT FORM SPECIFICATION – DIMOND METAL ROOFING AND WALL CLADDING SYSTEM

(For a full specification please refer to the Full Specification Statement, in Section 4 of this manual.)

The roofing / cladding profile will be Styleline / Veedek™. The Roofing / Cladding Material (1), (2). Thickness (3). The Paint system (4) (only if material is pre-painted). The colour will be Dimond Habitats (5).

Roof sheets shall be continuous in length from ridge to gutter. (Where a step has been designed into the roof to accommodate thermal movement and or transportation issues, it will be from ridge to step and step to gutter). Sheet ends must be stop-ended under flashings and lipped into gutters.

All flashing, ridge and hip material shall be (6), (2). Thickness (7) and (4) (if pre-painted)

(The flashing paint system should be the same as the one chosen for the roof and / or cladding. For Duraclad, all flashing, ridge and hip material shall be aluminium with a paint system to suit.)  
Flashing cover over the roofing / cladding (delete one) sheet shall be a minimum of (8).

The primary fasteners shall be (9), material (10). Fastener placement shall be (11).  
The roofing/wall (delete one) underlay shall be (12) installed over (13).

All materials used must be compatible with each other. All work is to be carried out by a Dimond Certified Commercial Installer.

	Choose From:	Reference
1.	Grade G550 (steel), or grade 5052, H36 (aluminium), Dimond Duraclad	2.1.1
2.	zinc / aluminium coated steel sheet (Zincalume) pre-painted steel sheet plain mill finish / embossed aluminium sheet pre-painted aluminium sheet glass fibre reinforced polyester sheet	2.1.1 2.2.1
3.	0.40mm BMT / 0.55mm BMT (steel) 0.70mm / 0.90mm (aluminium) 1.7mm (Duraclad)	2.1.3 2.1.4
4.	ColorCote® ZR8™ (steel) ColorCote® AR8™ (aluminium) ColorCote® ZRX™ (steel) ColorCote® ARX™ (aluminium) Colorsteel® ENDURA™ (steel) Colorsteel® MAXX™ (steel)	2.1.1 2.2.1
5.	Choose from the Dimond Habitats Colour Collection	1.3
6.	Grade G300 (steel), or grade 5052, H34 (aluminium)	2.1.3.6
7.	0.55mm BMT (steel), or 0.90mm (aluminium)	2.1.3.6
8.	Select flashing cover from Table 2.1.O.	2.1.3.6
9.	Tek® 12g x 45mm (roof) or 12g x 20mm (wall) (Steel Purlins or Girts) Type 17 12g x 65mm (roof) or Roofzip M6 x 50mm (wall) (Timber Purlins or Girts)	2.1.4
10.	Climaseal 4®, or Stainless Steel	2.1.1 2.2.3
11.	4 fasteners per sheet per purlin or alternate rows of 4 fasteners and 2 fasteners per sheet per purlin	2.1.4
12.	Bitumac 750 or Thermakraft 213 (Bitumac 710 or Framegard G3 wall only) Fire Retardent Flamestop 950 Fire Retardent Foil Sisalation 420, 430 or 450, 420 W1 or 430 WF	2.1.3.5 2.2.2.2 2.4.3.1.2
13.	Netting Safety Mesh	2.4.5 2.4.1.1.8

Updated Proposed New Dwelling - 130523 - A1355931

# Mark T Mitchell Ltd

Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton 3240  
New Zealand  
Telephone 07 838 3119  
Facsimile 07 839 3125  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

COUNCIL / OFFICE COPY  
THESE PLANS AND SPECIFICATIONS  
ARE APPROVED SUBJECT TO THE  
PROVISIONS OF THE BUILDING ACT  
AND IT'S REGULATIONS AND ARE  
TO BE RETAINED ON THE JOB IN  
GOOD ORDER AND PRODUCED UPON  
REQUIREMENT.

Ref: W – 13615.6/2  
9 September, 2013

Habitat for Humanity  
29 Bryant Road  
Te Rapa  
Hamilton 3200

Attention: Nic Greene



Dear Sirs,

**Re: Site Investigation and Stormwater Disposal Recommendations - Updated  
Proposed New Dwelling – No. 2/20 Matipo Street, Taupo**

This report presents an update to the stormwater recommendations for the above referenced property, to be read as a supplement to our report dated 19 June, 2013. That report provides an explanation for the minimum floor level and possible flood hazards during a 1 in 100 year storm event at this property.

The purpose of the current report is to provide appropriate recommendations for the property with particular regard to the disposal of stormwater from the roof area and sealed areas around the property. It is understood that the dwelling with a floor area of 138 square metres and sealed car parking area of 23 square metres is to be constructed on the section.

The property is located off the western side of Matipo Street, Taupo, and is accessed via a gently dipping right-of-way. The Topsoil has been stripped off across the site and has been stockpiled in the north-western corner of the property. Our associate company, Geocon Soil Testing Ltd has carried out a site investigation and soil testing with the results presented in the attached Geocon report dated 20 May, 2013.

The results of our geotechnical assessment of the properties, together with our recommendations are as follows:

## 1. Stormwater Disposal

### 1.1 Soil and Soakage Conditions

The near-surface soil conditions at the site as revealed by the Stormwater Tests consist of fine to medium SAND, containing fine to medium pumice gravels to a depth of 1.0 metres, overlying fine sandy Silt containing fine to medium pumice gravels to at least the base of the 1.4 to 2.0 metre deep bore holes.



The result of the site soakage testing indicates that the soils on site have a coefficient of permeability of  $1.5 \times 10^{-5}$  metres per second (1.2 metres per day) in the vicinity of Stormwater Test A and  $3.2 \times 10^{-5}$  metres per second (2.7 metres per day) in the vicinity of Stormwater Test B, giving an average coefficient of permeability of  $2.2 \times 10^{-5}$  metres per second (1.9 metres per day).

Groundwater was not encountered within the bore holes at the time of site investigation.

## **2. Stormwater Disposal Recommendations**

The coefficient of permeability results shows that the soil across the site has moderate to high soakage capabilities and therefore, conventional in-ground soakage by means of trenches will be appropriate for the proposed new dwelling and sealed areas.

Table 1 attached sets out the calculations for stormwater runoff from the proposed roof area of 138 square metres and a paved area of 23 square metres, based on rainfall data for a 100-year Annual Recurrence Interval (ARI) storm.

### **2.1 Soakage Trench Option**

The proposed soakage trench is designed at 1.8 metres depth including 300mm Topsoil cover.

Table 1 sets out the requirements for the construction of a 12.0 metre long by 2.0 metre wide by 1.8 metres deep (including cover) aggregate-filled soakage trench. The proposed location of the soakage trench is shown on the Stormwater Drainage Plan, Drawing No. 13615-30.

A typical design detail for the soakage trench is provided in the attached Design Detail Drawing No. 13615-31.

Please note that if the soakage trench is to be located beneath the car parking area, it will need to be covered with a concrete slab. That slab should be minimum 100mm thick and be reinforced with steel 663 mesh, with the concrete slab extending at least 800mm beyond the trench sides.

This detail is required so that the driveway is not affected by future settlement of the surface of the soakage trench. This steel reinforcement will need to be inspected by a member of our Staff prior to the pouring of the concrete driveway.

## **3. Disposal of Car Parking Area Stormwater**

Based on the information provided by Murray Borland Architecture Ltd, it is understood that the proposed car parking area is to have a paved surface area of 23 square metres. It is recommended that this area be graded so the stormwater will fall to the existing catchpit located in the end of the Right-of-Way and this catchpit will need to be connected to the soakage trench.





#### **4. Limitations and Installation**

For all roof surfaces, a spouting leafguard product (Marley Leafslide Series 3 or similar) is to be adopted to prevent litter from entering the spoutings and downpipes prior to entering the roof tank.

All flows from the paved surfaces are to be transferred to the soakage system via catchpits designed to capture any litter or coarse sediment and thereby protect the soakage system.

A Producer Statement – PS 1 – Design to cover the stormwater system is attached. It should be noted that one of the requirements of this Producer Statement is that staff from our office will need to inspect the stormwater system at the time of its installation.

#### **5. Construction Inspections**

In order to satisfy Taupo District Council building requirements, site testing of the building sites will need to be carried out. Inspection of the foundations and stormwater systems will also need to be carried out.

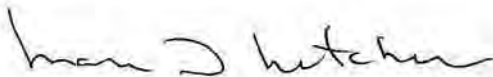
This work is required to be tested and inspected under the direction of a Chartered Engineer, with certification provided to indicate that the ground is suitable for the support of the proposed building.

Mark T Mitchell Ltd, together with Geocon Soil Testing Ltd, our associated testing company working under our direction, is able to provide this service.

Where possible, please provide at least 48 hours notice prior to the commencement of these site works.

Yours faithfully

**Mark T Mitchell Ltd**



Mark T Mitchell  
Director

cc: Borland Architecture





P.I.M. No.....

Building Regulation Clause(s) .....

### PRODUCER STATEMENT - PS1 - DESIGN

**ISSUED BY:.** Mark T Mitchell Ltd..... Job No W-13615.6/2  
(Design Firm)

**TO:.** Habitat For Humanity  
(Owner/Developer)

**TO BE SUPPLIED TO:** Taupo District Council  
(Building Consent Authority)

**IN RESPECT OF:** Stormwater Disposal System Installation  
(Description of Building Work)

**AT:** 2/20 Matipo Street, Taupo **SO**.....  
(Address)

We have been engaged by Habitat for Humanity in respect of the above referenced project to provide design and construction inspection services in respect of the requirements of of Clause E1 (Surface Water) of the Building Regulations 2004 for Part only (as specified below and on the Drawings attached to this statement), of the proposed work.

*-Stormwater Disposal System Design*

The design has been prepared in accordance with acceptable solutions of the approved document Verification Method E1/VM1 & AS1 issued by the Department of Building & Housing and described on the Drawings which are listed below

- Mark T Mitchell Ltd Site Investigation and Stormwater Disposal Recommendations report Design Report dated 9 September, 2013

The following specific design elements have not been reviewed:  
- All other aspects of project

On behalf of the Design Firm, which holds a current policy of Professional Indemnity Insurance to a minimum value of \$200,000 and is a member of ACENZ, I believe on reasonable grounds subject to site verification of the following design assumptions:

- (i) Soil Conditions as per Geocon Soil Testing Ltd report dated 20 May, 2013.
- (ii) Site layout as proposed and shown on the Drawings provided by Murray Borland Architecture Ltd.
- (iii) All proprietary products meeting the performance specification requirements, the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.
- (iv) For this Producer Statement to remain valid, construction inspection and certification of the installations are to be carried out by a staff member from Mark T Mitchell Ltd

**I believe on reasonable grounds** the building work, if constructed in accordance with the drawings, specifications, and other documents provided, will comply with the relevant provisions of the Building Code.

I, Mark T Mitchell.....am registered as CPEng 15278.....#  
(Name of Design Professional)

I am a Member of: IPENZ and hold the following qualifications: . BE (Civil), MSCE, MIPENZ, CPEng, Int PE (NZ)

SIGNED BY Mark T Mitchell ON BEHALF OF .....Mark T Mitchell Ltd, Consulting Engineers.....  
(Design Firm)

Date. 9 Sept 2013 (signature) . *Mark T Mitchell*

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000\*.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

# Mark T Mitchell Ltd

Consulting Geotechnical Engineers

Ph 07 838 3119

PROJECT: HABIT FOR HUMANITY  
Stormwater assessment for No. 2/20 Matipo Street, Taupo

W-13615  
date of test: May 2013

**TABLE 1 - ON SITE SOAKAGE REQUIREMENTS FOR A TYPICAL ROOF AREA OF 138 SQM & SEALED AREA OF 23 SQM**  
(100 - Year Storm Event - Critical Storm Duration - Adjusted for Climate Change)

## 1. SOAKAGE TRENCH DESIGN DETAILS

Trench Design Depth =	1.5 m	Base Soakage Area =	2.00
Av Silt Depth =	0.0 m	Long term seepage reduction factor (F.O.S) =	0.85
Av Sand Soakage Depth (cover considered) =	1.0 m	Reduced Base Soakage area =	1.7 sq m/m
Trench width =	2.0 m	Sidewall Soakage area =	2.00 sq m/m
Hydraulic Conductivity (k) =	2.2E-05 m/sec	Av H =	0.75
		Avail storage capacity (30% voids) =	0.90 cu m
		Avail soakage capacity =	0.22 cu m/hr
		Total Area =	3.7 sq m/m

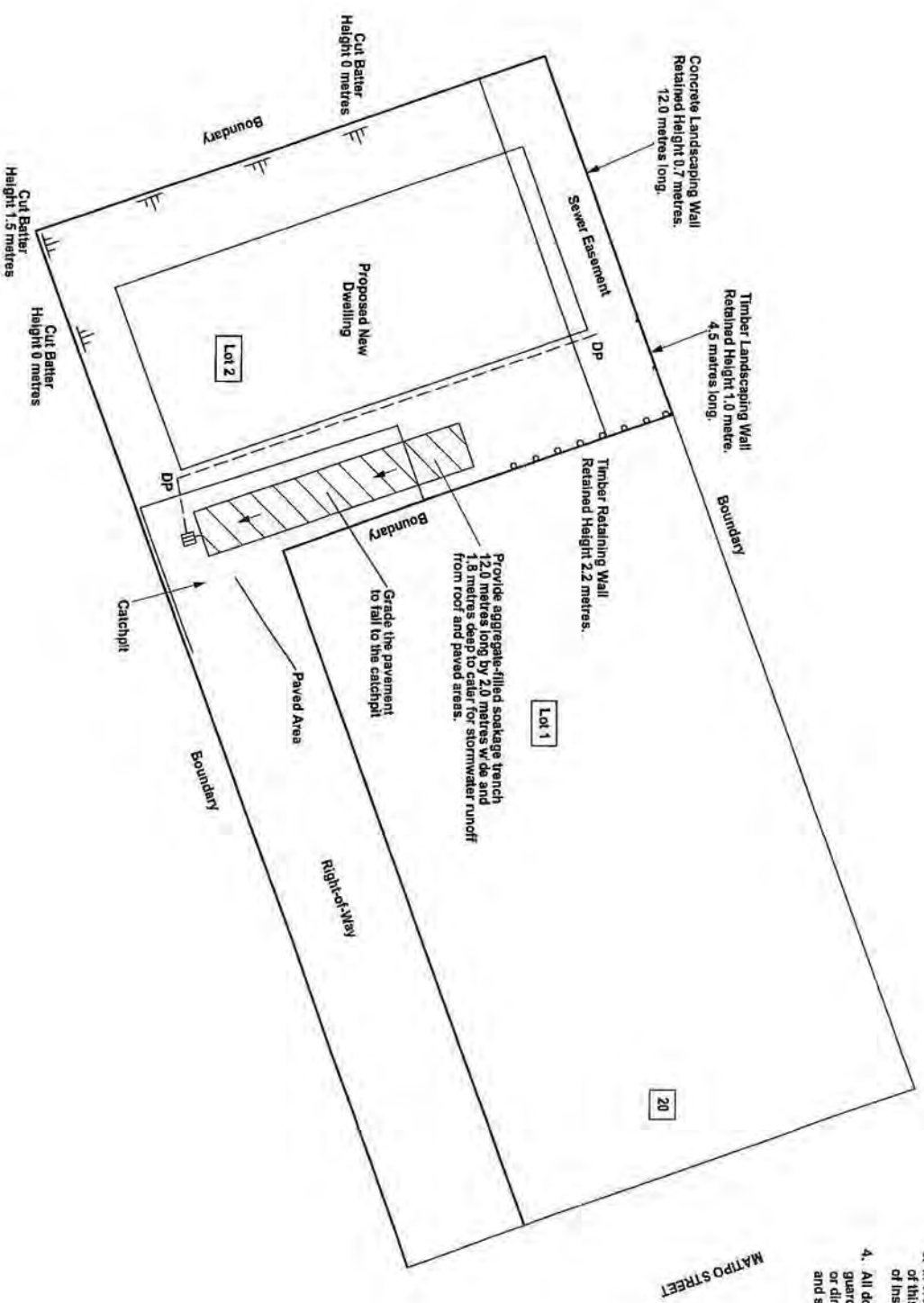
## 2. DESIGN REQUIREMENTS

C=	Roof 0.9	Paved 0.85	(ex BDH NZ Building Code C1 E1 VM E1/VM1)
Catchment Area (m2):	138	23	

STORM DURATION	RAINFALL INTENSITY 100 yr ARI (mm/hr)	RAINFALL VOLUME (litres/m <sup>2</sup> area)	RUNOFF (litres)	SOAKAGE TRENCH REQUIREMENTS		
				CAPACITY (litres per lineal metres)	CAPACITY (litres)	LENGTH REQD
10 min	198.0	33	3,912	937	3912.15	4.2
20 min	174.0	58	6,876	973	6875.9	7.1
30 min	154.0	77	9,128	1,010	9128.35	9.0
60 min	113.0	113	13,396	1,120	13396.15	12.0

RECOMMENDATIONS: PROVIDE 12.0M LONG BY 2.0M WIDE BY 1.5M DEEP (EXCLUDING 0.3M COVER) AGGREGATE-FILLED SOAKAGE TRENCH TO CATER STORMWATER RUNOFF FROM PROPOSED ROOF & SEALED AREA

\*NOTE: RAINFALL DATA FOR TAUPO FROM TAUPO DISTRICT COUNCIL CODE OF PRACTICE FOR DEVELOPMENT OF LAND pg 89



- NOTE:**
1. This drawing is reproduced from the plans prepared by Murray Borland Architecture Ltd.
  2. All areas and distances where shown are subject to survey.
  3. In order to issue a completion letter a member of this office needs to be present at the time of installation of the stormwater disposal system.
  4. All downpipes and inlets to be fitted with leaf guard products (Manley leaf slide series 3 or similar) or directed through a catchpit to prevent leaf litter and sediment from entering the detention system.



SCALE 1:200

**Mark T Mitchell Ltd**  
 Consulting Geotechnical Engineers  
 1150 Victoria Street, P.O. Box 9123, Hamilton

**HABITAT FOR HUMANITY**  
 Stormwater Assessment and Design Studies  
 No. 2/20 Matipo Street, Taupo

**STORMWATER DRAINAGE PLAN**

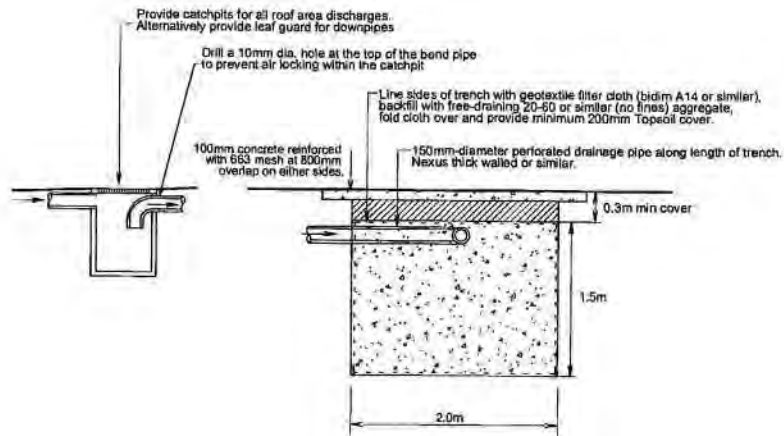
DRAWING No. 13615-30  
 DATE August 2013  
 ISSUE One

**NOTE:**

This Drawing is Intellectual property and has copyright © to the designer, Mark T Mitchell Ltd. No form of unauthorised reproduction, in full or part, is permitted.

**INSPECTIONS REQUIRED TO CERTIFY SYSTEM: 48 Hours Notice is Required**

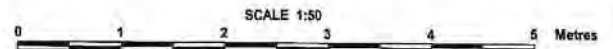
1. Soakage Trench Installation
2. Driveway reinforced prior to pouring concrete




**TYPICAL SOAKAGE TRENCH DETAIL**

**NOTE:**

Provide a 12.0m long by 2.0m wide by 1.8m deep (including 0.3m cover) soakage trench to cater for runoff from the dwelling roof and paved areas.



 <b>Mark T Mitchell Ltd</b> Consulting Geotechnical Engineers 1150 Victoria Street, P.O. Box 9123, Hamilton	<b>HABITAT FOR HUMANITY</b>	<b>SOAKAGE TRENCH DESIGN DETAIL</b>	DRAWING No. 13615-31
	On-Site Stormwater Disposal Requirements No. 2/20 Matipo Street, Taupo		DATE August 2013 ISSUE One



Statement of Compliance - 130523 - A1355932



# GREAT LAKE TAUPŌ

Taupō District Council

## Statement of Compliance with the NZ Building Code

Consent No: 130523

ISSUED BY: Taupo District Council

### PROJECT

Site Address: 2/20 Matipo Street, Taupo  
Legal Description: Lot 2 DP 389398  
Work Description: New dwelling  
Building Category: Residential Level 1

### OWNER

Name(s): Habitat for Humanity (Central NI) Limited  
Address: 29 Bryant Road, Te Rapa, Hamilton

### [ P ] Application for CCC Received, Signed, Dated and have correct details

- [ P ] Check all Inspections required and completed with reasons identified
- [ P ] Records and Notes of Required Standard, Legible and Authors identifiable
- [ P ] All Consent Conditions Complied With, Checked and no outstanding Conditions
- [NA] No outstanding Notices to Fix or Development Contributions
- [ P ] All Records in Consent Envelope Complete including Plans, Specifications, Inspection Notes, Certificate and Notices
- [ P ] Application form for BC, Amendments and all letters and correspondence (refer to NCS system & Objective)
- [NA] External Consultants (work completed is satisfactory)
- [NA] Compliance Schedule Required (systems specified, maintenance identified & info to TS)
- [ P ] All checks been completed as per Systems and Policy Manual 3.10.1 and 12.2 and a CCC for this consent can be issued

### NOTES:

Inspections Prepaid:  
Inspections Done: seven  
CCC Backdating of Durability Requirements: NA

### LICENSED BUILDING PRACTITIONERS:

Design 1	BP114766	Murray Borland
Carpentry 1	BP103590	Wayne Cunningham is the LBP
Foundations 1	BP103590	Wayne Cunningham was the LBP
Roofing 1	BP103590	Wayne Cunningham was the LBP

### Technical Queries

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Taupo District Council confirms that work done in relation to this project has been completed in accordance with the Building Consent and the New Zealand Building Code.

Signed:

Name: Peter Shepherd

Position: Building Officer

Date: 17 December 2013

Memorandum from Licensed Building Practitioner Carpentry - 130523 - A1355933



**Memorandum from licensed building practitioner:  
Record of building work**

Section 88, Building Act 2004



**THE BUILDING**

Street address: <i>20a Makipo</i>	
Suburb:	
Town/City: <i>Taupo</i>	Postcode:

**THE PROJECT**

Building consent number: <i>130523</i>
--

**THE OWNER(S)**

Name(s): <i>Habitat for Humanity</i>	
Mailing address: <i>29 Bryant Rd.</i>	
Suburb:	PO Box/Private Bag:
Town/City: <i>Hamilton</i>	Postcode: <i>3200</i>
Phone number: <i>8490284</i>	Email address:

**RECORD OF WORK THAT IS RESTRICTED BUILDING WORK**

**PRIMARY STRUCTURE**

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work	Tick <input checked="" type="checkbox"/> whether you carried out the work or supervised someone else.
Foundations and subfloor framing <input type="radio"/>	<i>Piles Driven by Wakaheke Post Rainey Mark Mitchell inspected. Cut off piles, frame up flooring as detailed - install insulafloor lay H3 Ply flooring</i>	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Walls <input type="radio"/>	<i>Stood up Tripanel Walls - Glue a Screw @ 200 &amp; - Nail 45x45 battens &amp; external with second batten nailed to Boundary Joists Install 22 wall batts and cap</i>	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised



**PRIMARY STRUCTURE CONT'D**

Roof <input type="radio"/>	Fitt truss @ 900 & attach ends with Multicrete, - Fit four space Braces to middle & top - Fit angle brackets @ 500 & truss to ceiling	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Columns and beams <input type="radio"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Bracing <input type="radio"/>	Tripanel Screed @ 200 & 8 Space braces to truss 18 mm ceiling Screed @ 200 & to form Diaphragm	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Other <input type="radio"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised

**RECORD OF WORK THAT IS RESTRICTED BUILDING WORK**

**EXTERNAL MOISTURE MANAGEMENT SYSTEMS**

Damp proofing <input type="radio"/>	Rapped walls with Termacraft Bulldog rap. Thermacraft. All bands to Window Opening Sill Grays to all Alumini Joinery	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Roof cladding or roof cladding system <input type="radio"/>	Lay Self Support paper 150 lap lay Colour Steel (Diamond) and Tech Screws down, Turn up Ends of Steel at Ridge fit all flashing - One penetration done by Plumber	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Ventilation system (for example, subfloor or cavity) <input type="radio"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised



**EXTERNAL MOISTURE MANAGEMENT SYSTEMS CONT'D**

Wall cladding or wall cladding system	<input type="radio"/> Fit Hardies Back Soakers to all corners Fit Hardies Ben Corners and install Hardies plank with 60mm "H" nails, used back Soakers with Schliffen to butt joints.	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Waterproofing	<input type="radio"/> Fit sill trays Scribes to Sides of all Joints Full exterior was painted with at least 2 coats of paint.	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Other	<input type="radio"/>	<input type="radio"/> Carried out <input type="radio"/> Supervised

**ISSUED BY**

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

Name: <i>Wayne Cunningham</i>	LBP number: <i>BP 103590</i>
Class(es) licensed in: <i>Carpentry</i>	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below):	
Street address/Registered office: <i>60 Lochiel Rd</i>	
Suburb: <i>RD 2</i>	Town/City: <i>Hamberley</i>
PO Box/Private Bag:	Postcode: <i>3287</i>
Phone number: <i>07-8433455</i>	Mobile: <i>0294 754 922</i>
After hours:	Fax:
Email address:	Website:

**DECLARATION**

I *Wayne Cunningham* carried out or supervised the restricted building work recorded on this form.

Signature: *[Signature]* Date: *1-12-2013*

Electrical certificate - 130523 - A1355934





# Compliance and Electrical Safety Certificate



This form has been issued by the Electrical Workers Registration Board

Unique ID: 10452

This form has been designed to be used by licensed electrical workers to certify low voltage installations that comply with part 2 of AS/NZS 3000 and are safe to be connected to a 230/400 volt multiple earth neutral (MEN) system of electrical supply.

## 1. Location of installation

Address: 20A Matipo Street Taupo

## 2. Customer Information

Name: S & T Sa'u

Postal Address: 20A Matipo Street Taupo

Phone and Email: \_\_\_\_\_

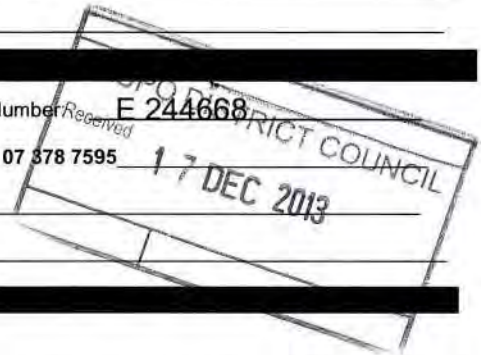
## 3. Electrical Worker Information

Name: Dan McLaughlin Registration/Practising Licence Number E 244668

Organisation: Laser Electrical Taupo Telephone Number 07 378 7595

Email: taupo@laserelectrical.co.nz

Name of person(s) being supervised: \_\_\_\_\_



## 4. Work Details

The work is (circle): **additions** | alterations | **new work**

The prescribed electrical work is (circle): **High Risk** | **General** | Low Risk | The homeowner has undertaken part of the electrical installation work.

Indicate the number of each item installed or altered:

Number of lighting outlets: 16

Number of socket outlets: 19

Number of ranges: 1

Number of water heaters: 1

Other Work?

1 x heat/ ligh/fan

1 x heat pump - power supply only

Circle if work includes:

**Mains**

**MEN switchboard closest to point of supply**

**Main Earthing System**

Electric Lines

## 5. Certification of Work

I certify that the completed prescribed electrical work to which this certificate applies, has been done lawfully and safely, and the information in the certificate is correct in that the installation, or part of the installation:

<input type="checkbox"/>	Has been installed in accordance with a certified design.
<input checked="" type="checkbox"/>	Has an earthing system that is correctly rated.
<input checked="" type="checkbox"/>	Contains fittings which are safe to connect to a power supply.
<input type="checkbox"/>	Relies on supplier's Declaration of Conformity (attach or reference)
<input type="checkbox"/>	Relies on manufacturer's instructions (attach or reference)
<input checked="" type="checkbox"/>	Has been satisfactorily tested in accordance with Electrical (safety) Regulations 2010
<input checked="" type="checkbox"/>	Is safe to connect

Test Results:		
	Electrical Worker:	Inspector:
Polarity (independent Earthing):		0.25 ohm
Insulation resistance		10 M ohm +
Bonding:		NA
Other: Earth Loop Imp.		0.78 ohm

Electronic reference: \_\_\_\_\_

Electrical Worker's Signature: D McLaughlin Date: 13/12/13

## 6. Electrical Safety Certificate

I certify that the installation, or part of the installation, to which the Electrical Safety Certificate applies is connected to a power supply and is safe to use

Name: \_\_\_\_\_ Registration/Practising Licence number: E 244668

Signature: D McLaughlin Date: \_\_\_\_\_

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED

*"Totally Dependable"*

Request for additional information - 130523 - A1355935



# Mark T Mitchell Ltd

Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton, New Zealand  
Facsimile 07 839 3125  
Telephone 07 838 3119  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

Ref: W – 13615.2  
12 December, 2013

The Chief Building Inspector  
Taupo District Council  
Private Bag 2005  
Taupo 3352



Dear Sirs,

**Re: Driven Pile Completion Report and PS4 Certification  
Proposed New Dwelling – No. 2/20 Matipo Street, Taupo  
Owner: Habitat for Humanity Contractor: Waikato Post Ramming Ltd**

We wish to advise that we were retained by the owner to carry out the inspection of the driven piles that underlie the proposed new dwelling.

Please find attached our PS4 Producer Statement - Construction Review and accompanying Schedule for the above referenced project. A PS3 Producer Statement – Construction prepared by Waikato Post Ramming Ltd, dated 29 October, 2013 is also attached.

We advise that on the basis of the results of our inspections carried out during construction, and on the understanding that the Contractor carried out all the works in accordance with the specifications, we are of the opinion that the works have been completed to the extent required by the Building Consent.

Yours faithfully

**Mark T Mitchell Ltd**

Mark T Mitchell  
Director

cc. Nic Greene  
Habitat for Humanity  
29 Bryant Road  
Hamilton 3200



P.I.M. No. ....  
 Building Regulation Clause(s) .....

## PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

**ISSUED BY:** Mark T Mitchell Limited.....(Job Reference No. W-13615)  
*(Suitably qualified Design Professional)*

**TO:** Habitat for Humanity.....  
*(Owner)*

**TO BE SUPPLIED TO:** Taupo District Council.....  
*(Territorial Authority)*

**IN RESPECT OF:** Foundation Preparation & Foundation Completion  
*(Description of Building Work)*

**AT:** No. 2/20 Matipo Street, Taupo  
*(Address)*

**LOT DP.....SO.....**

Mark T Mitchell Limited *(Design Firm)* has been engaged by... Habitat for Humanity to provide:  
*(Owner/Developer/Contractor)*

Inspection of Foundation Soil Preparation and Driven Pile services in respect of clause(s) B1 - Structure  
*(Extent of Engagement)*

of the Building Regulations 1992 for the building work described by the reports, drawings and specifications as follows:

- Mark T Mitchell Ltd Site Investigation, Geotechnical Assessment, Foundation Recommendations and Preliminary Assessment for Stormwater Disposal Report  
Reference W – 13615.6, dated 19 June, 2013
- Mark T Mitchell Ltd Driven Pile Design and Test Pile Data Calculation  
Reference W – 13615, dated 24 October, 2013
- Habitat for Humanity Design Details  
Project No. 213015, Sheet No. A05, dated 3 July, 2013

On the basis of this review and information supplied by the contractor during the course of the works.

**I believe on reasonable grounds that:**

For Part only of the construction works, as specified in the attached Foundation Completion Report dated 12 December, 2013 which provides particulars of the building work under the above Building Consent with respect to Clause B1 – Structure of the Building Regulations has been completed to the extent required by that Building Consent identified above.

I, Mark T Mitchell am registered as: CPEng Reg. No. 15278

I am a Member of: IPENZ and hold the following qualifications: BE, MSCE, MIPENZ, MASCE, CP Eng, IntPE(NZ)

The Design Firm issuing this statement holds a current policy of professional Indemnity Insurance no less than \$200,000\*.

The Design Firm is a member of ACENZ

SIGNED BY ..... Mark T Mitchell ..... ON BEHALF OF ..... Mark T Mitchell Limited .....  
*(Signature suitably qualified Design Professional)* *(Name of Firm)*

DATE: 12/12/2013 (signature)

*Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The maximum amount of damages payable, whether in contract, tort or otherwise, is limited to the sum \$200,000\*.*

This form to accompany Forms 6 or 8 of the Building (Form) Regulations 2004 for the issue of a Code Compliance Certificate.

# Mark T Mitchell Ltd

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Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton, New Zealand  
Facsimile 07 839 3125  
Telephone 07 838 3119  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

Ref: W – 13615.2  
12 December, 2013

## SCHEDULE TO ACCOMPANY:

### PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

**Project:** Inspection of Driven Piles  
Proposed New Dwelling – No. 2/20 Matipo Street, Taupo

**Reference:**

- Mark T Mitchell Ltd Site Investigation, Geotechnical Assessment, Foundation Recommendations and Preliminary Assessment for Stormwater Disposal  
Reference: W – 13615.6, dated 19 June, 2013
- Mark T Mitchell Ltd Driven Pile Design and Test Pile Data Calculations  
Reference: W – 13615, dated 24 October, 2013
- Habitat for Humanity Design Details  
Project No. 213015, Sheet No. A05, dated 3 July, 2013
- Mark T Mitchell Foundation Completion Report  
Reference: W – 13615.2, dated 12 December, 2013

**Issue date:** 12 December, 2013

#### **Part of Works Covered by PS4:**

Period Covered: 22 October, 2013

##### 1. Test Pile Installation

- Our staff visited the site during the driving of test piles on 22 October, 2013 to ensure they met the specifications and design requirements as stipulated by the Mark T Mitchell Ltd, Driven Pile Design and Test Data Calculations, Reference: W – 13615, dated 24 October, 2013. The test piles were timber piles, 150mm SED, 3 metres long and were driven with a 500kg hammer with a drop of 1.0 metres.
- Records taken on site at the time of this inspection are indicative of the test piles being satisfactorily constructed.

##### 2. Production Pile Installation

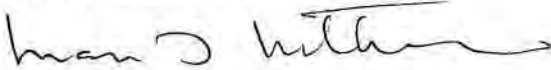
- Subsequently, Waikato Post Ramming Ltd drove the production piles with the instructions to drive them in the same manner as the test piles.
- Waikato Post Ramming Ltd has advised that this procedure was followed.
- The foundation design for the proposed new dwelling required maximum final sets of 30mm for the pile driving criteria. Actual final sets were given by Waikato Post Ramming Ltd were between 6 and 18mm for all piles.
- Our review of this data indicates that the piles on this site have been driven to achieve the specified design foundation loads, with final data shown on the attached drawing. It is therefore considered that the substructure is adequate to support the structural load from the proposed new dwelling, as designed.

3. Documents attached to this Schedule

*Drawing No. 13615-10 – Foundation Plan As Built*

Schedule prepared by:

**Mark T Mitchell Ltd**

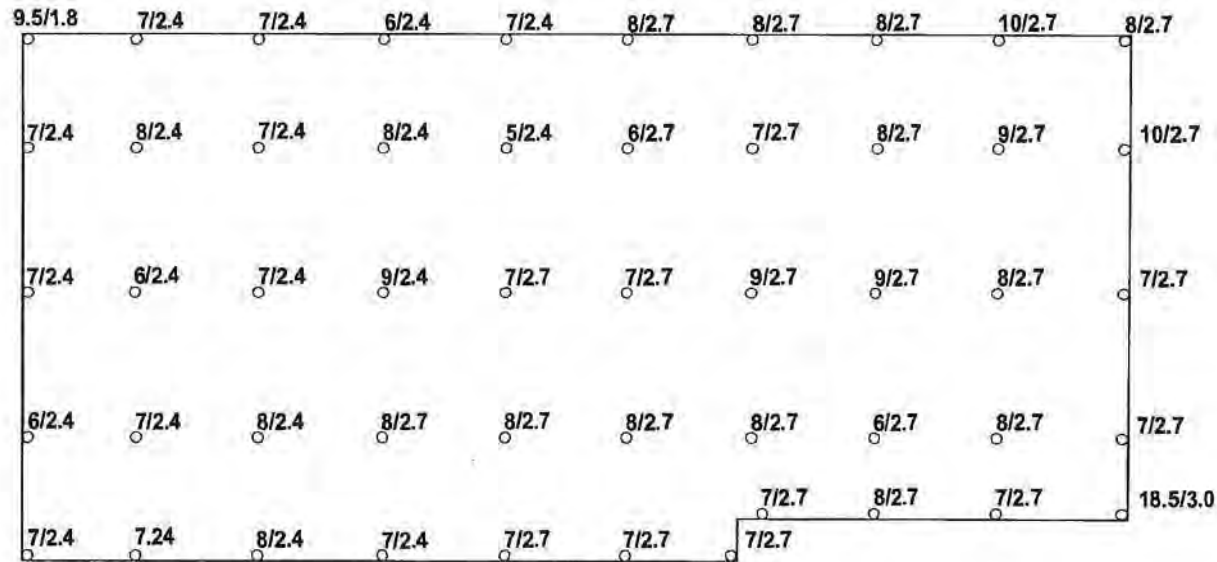


Mark T Mitchell  
Director



**NOTE:**

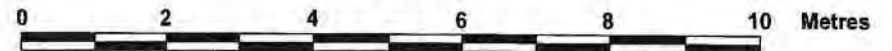
1. This drawing is reproduced from the plans supplied by Habitat for Humanity.
2. All measurements are in millimetres.



**LEGEND**

- denotes pile location (150mm diameter SED)
- 11/3.5 " achieved set (mm) / driven pile length below existing ground level (m)

SCALE 1:100



**Mark T Mitchell Ltd**  
 Geotechnical Engineers  
 1150 Victoria Street, P.O. Box 9123, Hamilton

**HABITAT FOR HUMANITY**  
 Proposed New Dwelling at  
 No. 2/20 Matipo Street, Taupo

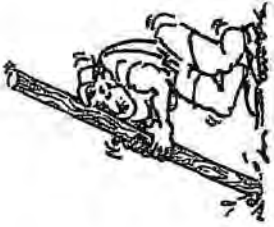
**SITE PLAN - AS BUILT**

DRAWING No. 13615-10  
 DATE December 2013  
 ISSUE One



# WPR

Ltd



Wayne Albiston  
P O Box 190  
NGARUA WAHIA

Ph: 07 8248542  
Fax: 07 8249542  
Mob: 027 4374 912  
Email: wayne.albiston@xtra.co.nz

NZS 3910:2003

Schedules

SIXTH SCHEDULE

FORM OF PRODUCER STATEMENT - CONSTRUCTION- PS. 3

ISSUED BY: WAIKATO POST RAMMING LTD  
(Contractor)

*HABITAT JOB  
Taupo*

To Mark T Mitchell  
IN RESPECT ; PILE DRIVING

AT; Taupo Job  
(Address)

WPR LTD  
(Contractor)

Has contracted to Habitat For Humanity  
(Principal)

To carry out and complete certain building works in accordance with a contract titled PILE DRIVING  
to ENGINEERS SPECIFICATIONS (The contract)  
(Project)

1 Wayne ALBISTON a duly authorized representative of WAIKATO POST RAMMING LTD  
(Duty Authorized Agent) has carried out  
Believe on reasonable grounds that Waikato Post Ramming  
(Contractor)  
and completed all contract work as specific

All  Part only as specified in the attached particulars of the building works in accordance  
with the contract

*Wayne Albiston*  
(Signature of Authorized Agent on behalf of)

*29/10/2013*  
(Date)

Waikato Post Ramming Ltd  
(Contractor)

Memorandum from Licensed Building Practitioner Design - 130523 - A1355936

Form 6A

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

**The building**

Street address of building: **No. 2/20 Matipo Street**

**Taupo**

**The project**

Building consent number:

**The owner**

Name: Habitat for Humanity

Address: 29 Bryant Road, Hamilton 3200

Telephone number:

Email address:

**Record of work that is restricted building work**

<b>Work that is restricted building work</b>	<b>Description</b>	<b>Carried out/ supervised</b>
<i>[Tick]</i>	<i>[If necessary, describe the restricted building work]</i>	<i>[Specify whether you carried out the restricted building work or supervised someone else carrying out the restricted building work]</i>

**Primary structure**

Foundations and subfloor framing <input checked="" type="checkbox"/>	Details of inspections carried out are as per the attached Producer Statement PS4 Schedule. This inspection work was supervised by Mark T Mitchell CPEng in his role as a LBP.	<input type="checkbox"/> Carried out <input checked="" type="checkbox"/> Supervised
Walls <input type="checkbox"/>	N/A	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Roof <input type="checkbox"/>	N/A	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Columns and beams <input type="checkbox"/>	N/A	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Bracing <input type="checkbox"/>	N/A	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Other - Insulation <input type="checkbox"/>	N/A	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised

External moisture management systems			
Damp proofing	( )	N/A	( ) Carried out ( ) Supervised
Roof cladding or roof cladding system	( )	N/A	( ) Carried out ( ) Supervised
Ventilation system (for example, subfloor or cavity)	( )	N/A	( ) Carried out ( ) Supervised
Wall cladding or wall cladding system	( )	N/A	( ) Carried out ( ) Supervised
Waterproofing	( )	N/A	( ) Carried out ( ) Supervised
Other	( )	N/A	( ) Carried out ( ) Supervised

**Note:** continue on another page if necessary.

**Issued by**

Name: Mark T Mitchell

LBP number: 15278

Class(es) licensed in: Chartered Professional Engineer

Plumbers, Gasfitters and Drainlayers registration number (if applicable): NA

Mailing address: PO Box 9123, Hamilton

Street address or registered office:

Phone number: Landline:  
07 838 3119

Mobile:  
0274727827

Fax number: 07 839 3125

Email address: mtm@geocon.co.nz

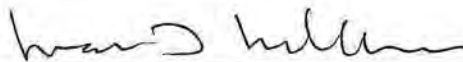
Website: www.geocon.co.nz

**Declaration**

I Mark T Mitchell [name of practitioner]

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

Signature:



Date:

12 December 2013

**Attachments:**

- PS4 – Construction Review  
Reference: W-13615, dated 12 December, 2013
- Schedule to Accompany PS4  
Reference: W-13615.2, dated 12 December, 2013
- Site Plan – As Built  
Drawing No: 13615-10, dated December, 2013
- Waikato Post Ramming Ltd PS3 – Construction, dated 29 October, 2013

Services As Laid plan 2 - 130523 - A1355937





**GREAT LAKE TAUPŌ**

Taupō District Council

72 Lake Terrace, Taupo 3330

Private Bag 2005, Taupo Mail Centre, Taupo 3352

Ph: 07 376 0752 Fax: 07 378 0114

[techsupport@taupo.govt.nz](mailto:techsupport@taupo.govt.nz)

[www.taupo.govt.nz](http://www.taupo.govt.nz)

# SERVICES AS LAID PLAN

**Building Consent No:** \_\_\_\_\_

**Owners Name:** \_\_\_\_\_

**Property Address:** \_\_\_\_\_

**Plumber:** \_\_\_\_\_  
*Name/s* *Address* *Contact Phone No.*

**Registration No.** \_\_\_\_\_

**Drainlayer:** \_\_\_\_\_  
*Name/s* *Address* *Contact Phone No.*

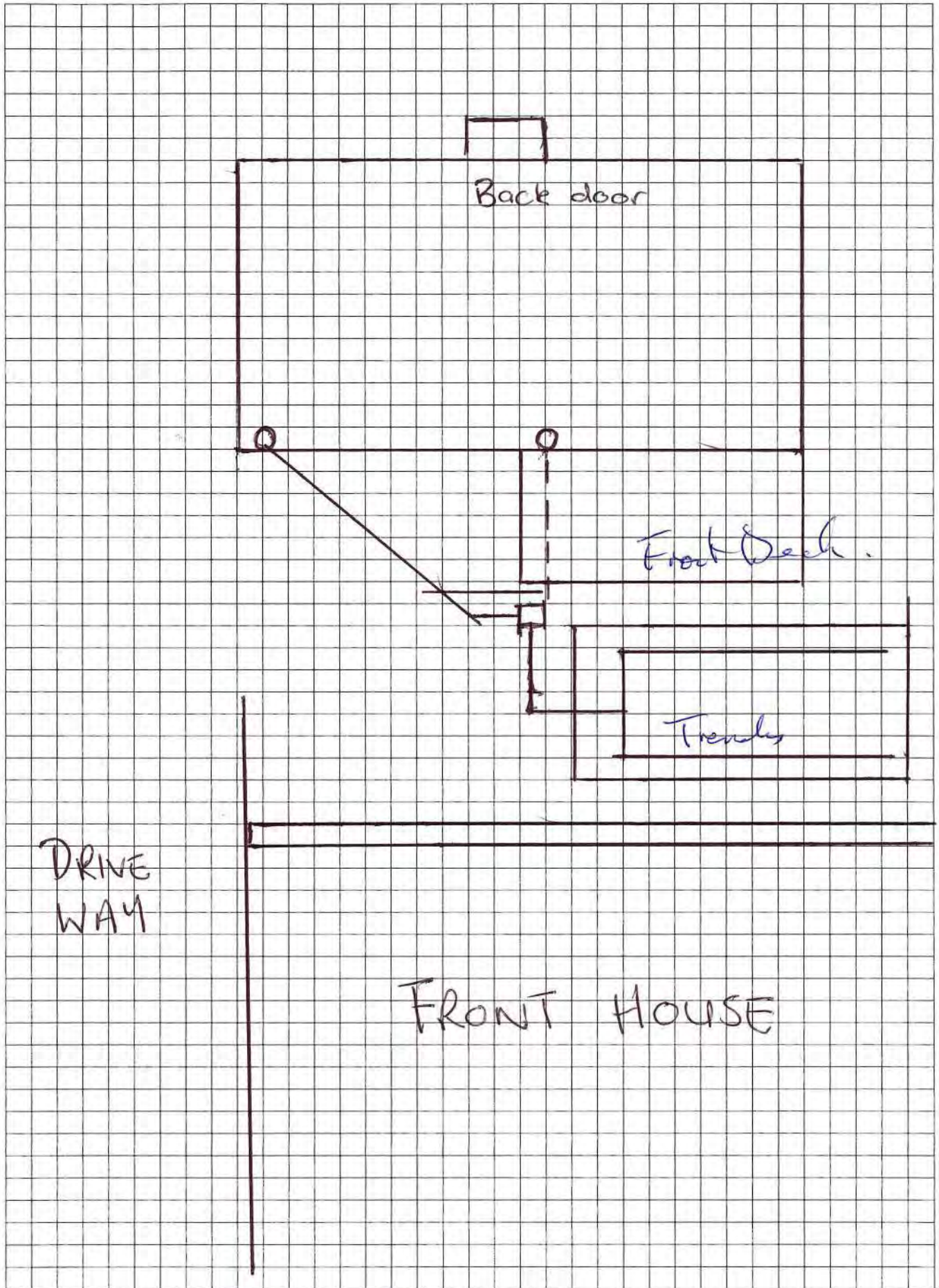
**Registration No.** \_\_\_\_\_

**DRAW PLAN IN BLACK BALLPOINT ON GRAPH OPPOSITE**

Plan is to show:

- All drains in correct position relative to building and boundaries
- The road frontage
- Depth of drains at connection points
- All foul water and stormwater drains
- All inspection openings, accurately dimensioned
- All buildings and boundaries
- Outside water lines and the source of supply
- The type, location and size of all on site sewage disposal systems
- Size and position of soak holes

**REFER TO EXAMPLE ON LAST PAGE**

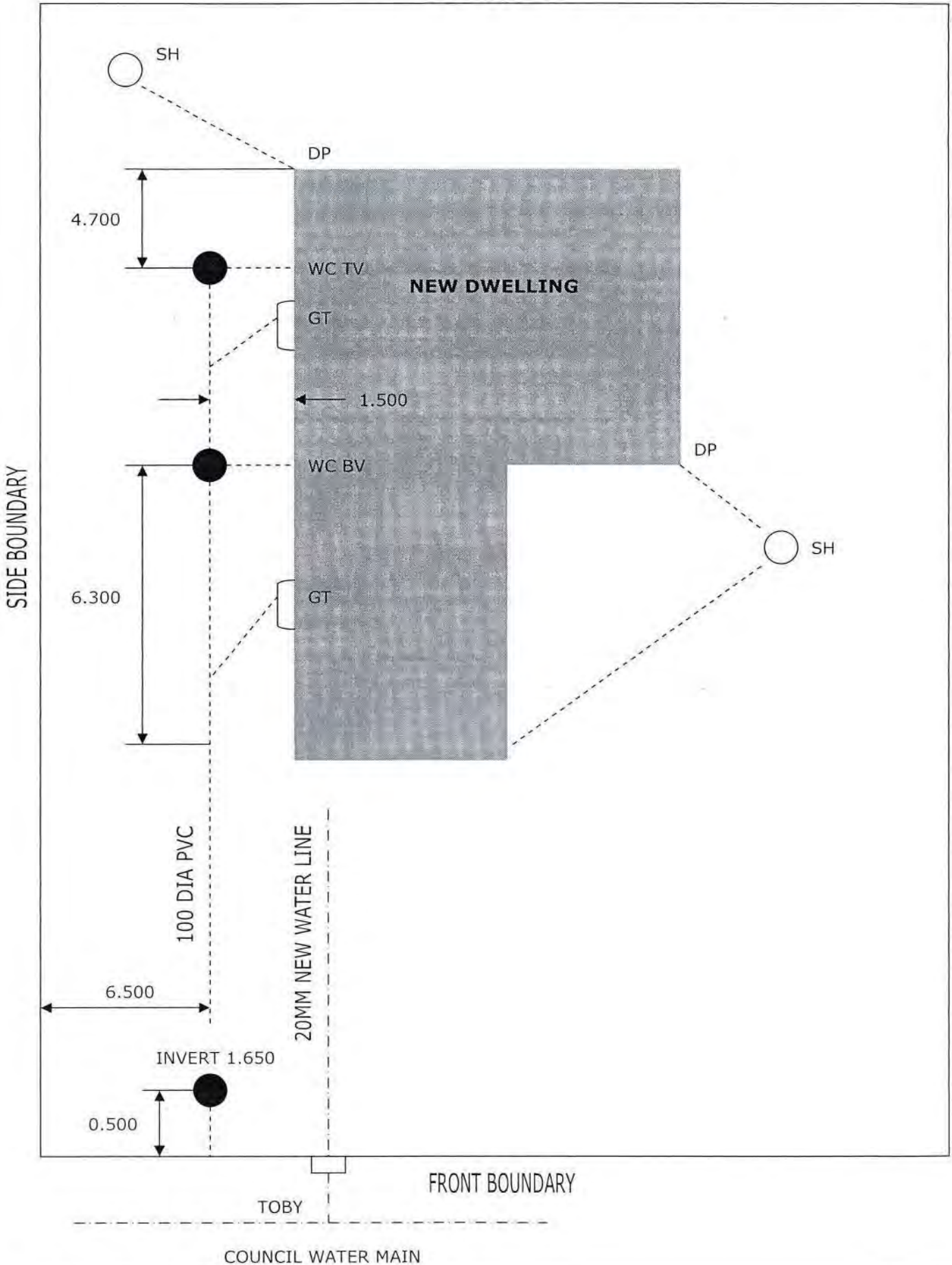


CHECKED BY: *Stormsick*



PLAN EXAMPLE

REAR BOUNDARY





**PROJECT DESCRIPTION:** \_\_\_\_\_

**LOCATION:** \_\_\_\_\_

**BUILDING CONSENT NUMBER:** \_\_\_\_\_

I hereby certify that the storm water disposal system that has been constructed in accordance with the approved plans for the above building consent and/or the details as shown on the 'as built' plans supplied with this statement.

**SIGNED:** \_\_\_\_\_

**PRINT NAME:** \_\_\_\_\_

**OWNER / BUILDER / DRAINLAYER**  
*Please delete option that doesn't apply*

**DATE:** \_\_\_\_\_

**ATTACHMENTS:** \_\_\_\_\_  
*Please specify*  
\_\_\_\_\_  
\_\_\_\_\_



Updated project new dwelling - 130523 - A1355938

# Mark T Mitchell Ltd

Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton 3240  
New Zealand  
Telephone 07 838 3119  
Facsimile 07 839 3125  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

APPLICANT/SITE COPY  
THESE PLANS AND SPECIFICATIONS  
ARE APPROVED SUBJECT TO THE  
PROVISIONS OF THE BUILDING ACT  
AND ITS REGULATIONS AND ARE  
TO BE RETAINED ON THE JOB IN  
GOOD ORDER AND PRODUCED UPON  
REQUEST

Ref: W – 13615.6/2  
9 September, 2013

Habitat for Humanity  
29 Bryant Road  
Te Rapa  
Hamilton 3200

Attention: Nic Greene



Dear Sirs,

**Re: Site Investigation and Stormwater Disposal Recommendations - Updated  
Proposed New Dwelling – No. 2/20 Matipo Street, Taupo**

This report presents an update to the stormwater recommendations for the above referenced property, to be read as a supplement to our report dated 19 June, 2013. That report provides an explanation for the minimum floor level and possible flood hazards during a 1 in 100 year storm event at this property.

The purpose of the current report is to provide appropriate recommendations for the property with particular regard to the disposal of stormwater from the roof area and sealed areas around the property. It is understood that the dwelling with a floor area of 138 square metres and sealed car parking area of 23 square metres is to be constructed on the section.

The property is located off the western side of Matipo Street, Taupo, and is accessed via a gently dipping right-of-way. The Topsoil has been stripped off across the site and has been stockpiled in the north-western corner of the property. Our associate company, Geocon Soil Testing Ltd has carried out a site investigation and soil testing with the results presented in the attached Geocon report dated 20 May, 2013.

The results of our geotechnical assessment of the properties, together with our recommendations are as follows:

## **1. Stormwater Disposal**

### **1.1 Soil and Soakage Conditions**

The near-surface soil conditions at the site as revealed by the Stormwater Tests consist of fine to medium SAND, containing fine to medium pumice gravels to a depth of 1.0 metres, overlying fine sandy Silt containing fine to medium pumice gravels to at least the base of the 1.4 to 2.0 metre deep bore holes.



HH004352

The result of the site soakage testing indicates that the soils on site have a coefficient of permeability of  $1.5 \times 10^{-5}$  metres per second (1.2 metres per day) in the vicinity of Stormwater Test A and  $3.2 \times 10^{-5}$  metres per second (2.7 metres per day) in the vicinity of Stormwater Test B, giving an average coefficient of permeability of  $2.2 \times 10^{-5}$  metres per second (1.9 metres per day).

Groundwater was not encountered within the bore holes at the time of site investigation.

## **2. Stormwater Disposal Recommendations**

The coefficient of permeability results shows that the soil across the site has moderate to high soakage capabilities and therefore, conventional in-ground soakage by means of trenches will be appropriate for the proposed new dwelling and sealed areas.

Table 1 attached sets out the calculations for stormwater runoff from the proposed roof area of 138 square metres and a paved area of 23 square metres, based on rainfall data for a 100-year Annual Recurrence Interval (ARI) storm.

### **2.1 Soakage Trench Option**

The proposed soakage trench is designed at 1.8 metres depth including 300mm Topsoil cover.

Table 1 sets out the requirements for the construction of a 12.0 metre long by 2.0 metre wide by 1.8 metres deep (including cover) aggregate-filled soakage trench. The proposed location of the soakage trench is shown on the Stormwater Drainage Plan, Drawing No. 13615-30.

A typical design detail for the soakage trench is provided in the attached Design Detail Drawing No. 13615-31.

Please note that if the soakage trench is to be located beneath the car parking area, it will need to be covered with a concrete slab. That slab should be minimum 100mm thick and be reinforced with steel 663 mesh, with the concrete slab extending at least 800mm beyond the trench sides.

This detail is required so that the driveway is not affected by future settlement of the surface of the soakage trench. This steel reinforcement will need to be inspected by a member of our Staff prior to the pouring of the concrete driveway.

## **3. Disposal of Car Parking Area Stormwater**

Based on the information provided by Murray Borland Architecture Ltd, it is understood that the proposed car parking area is to have a paved surface area of 23 square metres. It is recommended that this area be graded so the stormwater will fall to the existing catchpit located in the end of the Right-of-Way and this catchpit will need to be connected to the soakage trench.



#### 4. Limitations and Installation

For all roof surfaces, a spouting leafguard product (Marley Leafslide Series 3 or similar) is to be adopted to prevent litter from entering the spoutings and downpipes prior to entering the roof tank.

All flows from the paved surfaces are to be transferred to the soakage system via catchpits designed to capture any litter or coarse sediment and thereby protect the soakage system.

A Producer Statement – PS 1 – Design to cover the stormwater system is attached. It should be noted that one of the requirements of this Producer Statement is that staff from our office will need to inspect the stormwater system at the time of its installation.

#### 5. Construction Inspections

In order to satisfy Taupo District Council building requirements, site testing of the building sites will need to be carried out. Inspection of the foundations and stormwater systems will also need to be carried out.

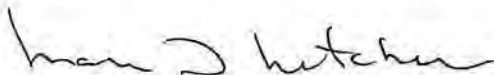
This work is required to be tested and inspected under the direction of a Chartered Engineer, with certification provided to indicate that the ground is suitable for the support of the proposed building.

Mark T Mitchell Ltd, together with Geocon Soil Testing Ltd, our associated testing company working under our direction, is able to provide this service.

Where possible, please provide at least 48 hours notice prior to the commencement of these site works.

Yours faithfully

**Mark T Mitchell Ltd**



Mark T Mitchell  
Director

cc: Borland Architecture







P.I.M. No.....  
 Building Regulation Clause(s) .....

**PRODUCER STATEMENT - PS1 - DESIGN**

**ISSUED BY:.** Mark T Mitchell Ltd..... Job No W-13615.6/2  
(Design Firm)

**TO:.** Habitat For Humanity  
(Owner/Developer)

**TO BE SUPPLIED TO:** Taupo District Council  
(Building Consent Authority)

**IN RESPECT OF:** Stormwater Disposal System Installation  
(Description of Building Work)

**AT:** 2/20 Matipo Street, Taupo **SO**.....  
(Address)

We have been engaged by Habitat for Humanity in respect of the above referenced project to provide design and construction inspection services in respect of the requirements of of Clause E1 (Surface Water) of the Building Regulations 2004 for Part only (as specified below and on the Drawings attached to this statement), of the proposed work.

*-Stormwater Disposal System Design*

The design has been prepared in accordance with acceptable solutions of the approved document Verification Method E1/VM1 & AS1 issued by the Department of Building & Housing and described on the Drawings which are listed below

- Mark T Mitchell Ltd Site Investigation and Stormwater Disposal Recommendations report Design Report dated 9 September, 2013

The following specific design elements have not been reviewed:  
 - All other aspects of project

On behalf of the Design Firm, which holds a current policy of Professional Indemnity Insurance to a minimum value of \$200,000 and is a member of ACENZ, I believe on reasonable grounds subject to site verification of the following design assumptions:

- (i) Soil Conditions as per Geocon Soil Testing Ltd report dated 20 May, 2013.
- (ii) Site layout as proposed and shown on the Drawings provided by Murray Borland Architecture Ltd.
- (iii) All proprietary products meeting the performance specification requirements, the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.
- (iv) For this Producer Statement to remain valid, construction inspection and certification of the installations are to be carried out by a staff member from Mark T Mitchell Ltd

**I believe on reasonable grounds** the building work, if constructed in accordance with the drawings, specifications, and other documents provided, will comply with the relevant provisions of the Building Code.

I, Mark T Mitchell.....am registered as CPEng 15278.....#  
(Name of Design Professional)

I am a Member of: IPENZ and hold the following qualifications: . BE (Civil), MSCE, MIPENZ, CPEng, Int PE (NZ)

SIGNED BY Mark T Mitchell ON BEHALF OF .....Mark T Mitchell Ltd, Consulting Engineers.....  
(Design Firm)

Date. 9 Sept 2013 (signature) . *Mark T Mitchell*

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000\*.

This form is to accompany Form 2 of the Building (Forms) Regulations 2004 for the application of a Building Consent.



**Mark T Mitchell Ltd**  
Consulting Geotechnical Engineers

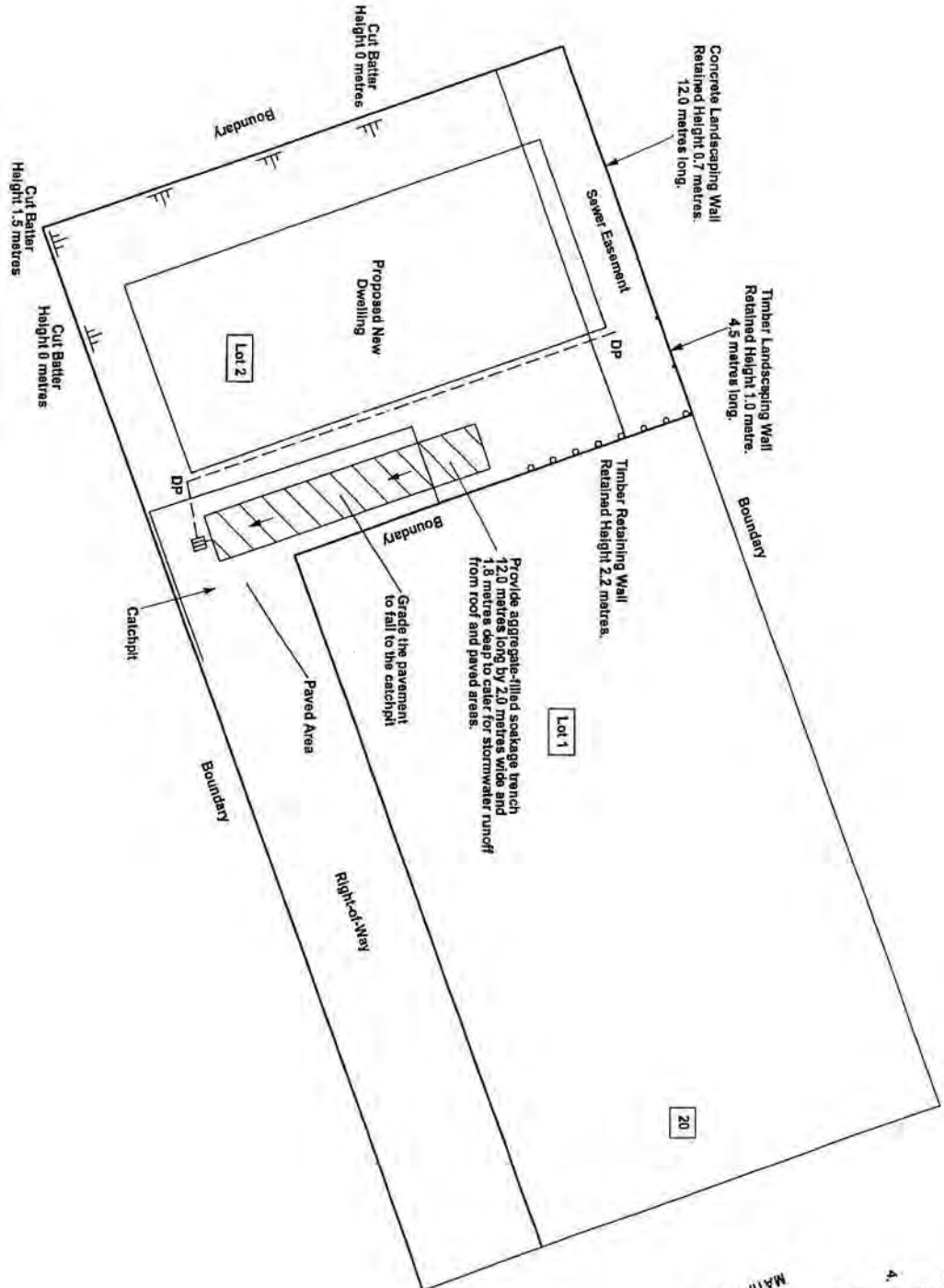
Ph 07 838 3119

PROJECT: HABIT FOR HUMANITY  
Stormwater assessment for No. 2/20 Matipo Street, Taupo

W-13615  
date of test: May 2013

**TABLE 1 - ON SITE SOAKAGE REQUIREMENTS FOR A TYPICAL ROOF AREA OF 138 SQM & SEALED AREA OF 23 SQM**  
(100 - Year Storm Event - Critical Storm Duration - Adjusted for Climate Change)

1. SOAKAGE TRENCH DESIGN DETAILS							
Trench Design Depth =	1.5	m			Base Soakage Area =	2.00	
Av Silt Depth =	0.0	m			Long term seepage reduction factor (F.O.S) =	0.85	
Av Sand Soakage Depth (cover considered) =	1.0	m			Reduced Base Soakage area =	1.7	sq m/m
Trench width =	2.0	m			Sidewall Soakage area =	2.00	sq m/m
Hydraulic Conductivity (k) =	2.2E-05	m/sec			Av H =	0.75	
					Avall storage capacity (30% voids) =	0.90	cu m
					Avall soakage capacity =	0.22	cu m/hr
					Total Area =	3.7	sq m/m
2. DESIGN REQUIREMENTS							
		Roof	Paved				
C=	0.9	0.65		(ex BDH NZ Building Code C1 E1 VM E1/VM1)			
Catchment Area (m2):	138	23					
STORM DURATION	RAINFALL INTENSITY 100 yr AR1 (mm/hr)	RAINFALL VOLUME (litres/m2 area)	RUNOFF (tres)	SOAKAGE TRENCH REQUIREMENTS			
				CAPACITY (litres per lineal metres)	CAPACITY (litres)	LENGTH REQD	
10 min	198.0	33	3,912	937	3912.15	4.2	
20 min	174.0	58	6,876	973	6875.9	7.1	
30 min	154.0	77	9,128	1,010	9128.35	9.0	
60 min	113.0	113	13,396	1,120	13396.15	12.0	
RECOMMENDATIONS: PROVIDE 12.0M LONG BY 2.0M WIDE BY 1.5M DEEP (EXCLUDING 0.3M COVER) AGGREGATE-FILLED SOAKAGE TRENCH TO CATER STORMWATER RUNOFF FROM PROPOSED ROOF & SEALED AREA							
*NOTE: RAINFALL DATA FOR TAUPŌ FROM TAUPŌ DISTRICT COUNCIL CODE OF PRACTICE FOR DEVELOPMENT OF LAND pg 89							



- NOTE:**
1. This drawing is reproduced from the plans prepared by Murray Borland Architecture Ltd.
  2. All areas and distances where shown are subject to survey.
  3. In order to issue a completion letter a member of this office needs to be present at the time of installation of the stormwater disposal system.
  4. All downpipes and inlets to be fitted with leaf guard products (Marley leaf slide series 3 or similar) or directed through a catchpit to prevent leaf litter and sediment from entering the detention system.



SCALE 1:200

**Mark T Mitchell Ltd**  
 Consulting Geotechnical Engineers  
 1150 Victoria Street, P.O. Box 9123, Hamilton

**HABITAT FOR HUMANITY**  
 Stormwater Assessment and Design Studios  
 No. 2120 Matipo Street, Taupo

**STORMWATER DRAINAGE PLAN**

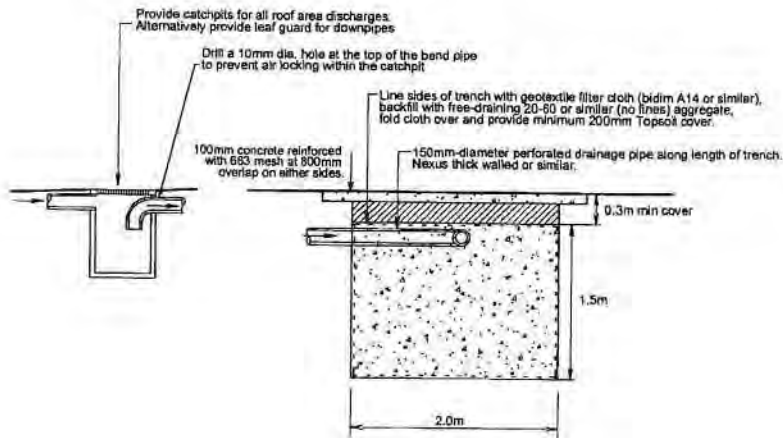
DRAWING No. 13615-30  
 DATE August 2013  
 ISSUE One

**NOTE:**

This Drawing is intellectual property and has copyright © to the designer, Mark T Mitchell Ltd. No form of unauthorised reproduction, in full or part, is permitted.

**INSPECTIONS REQUIRED TO CERTIFY SYSTEM: 48 Hours Notice is Required**

1. Soakage Trench Installation
2. Driveway reinforced prior to pouring concrete




**TYPICAL SOAKAGE TRENCH DETAIL**

Provide a 12.0m long by 2.0m wide by 1.8m deep (including 0.3m cover) soakage trench to cater for runoff from the dwelling roof and paved areas.

SCALE 1:50



 <b>Mark T Mitchell Ltd</b> Consulting Geotechnical Engineers 1150 Victoria Street, P.O. Box 8123, Hamilton	<b>HABITAT FOR HUMANITY</b>	<b>SOAKAGE TRENCH DESIGN DETAIL</b>	DRAWING No. 13615-31
	On-Site Stormwater Disposal Requirements No. 2/20 Matipo Street, Taupo		DATE August 2013 ISSUE One

Updated Proposed New Dwelling - 130523 - A1355939

# Mark T Mitchell Ltd

---

Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton 3240  
New Zealand  
Telephone 07 838 3119  
Facsimile 07 839 3125  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

Ref: W – 13615.6/2  
9 September, 2013

Habitat for Humanity  
29 Bryant Road  
Te Rapa  
Hamilton 3200

Attention: Nic Greene

Dear Sirs,

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The result of the site soakage testing indicates that the soils on site have a coefficient of permeability of  $1.5 \times 10^{-5}$  metres per second (1.2 metres per day) in the vicinity of Stormwater Test A and  $3.2 \times 10^{-5}$  metres per second (2.7 metres per day) in the vicinity of Stormwater Test B, giving an average coefficient of permeability of  $2.2 \times 10^{-5}$  metres per second (1.9 metres per day).

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### **2.1 Soakage Trench Option**

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Table 1 sets out the requirements for the construction of a 12.0 metre long by 2.0 metre wide by 1.8 metres deep (including cover) aggregate-filled soakage trench. The proposed location of the soakage trench is shown on the Stormwater Drainage Plan, Drawing No. 13615-30.

A typical design detail for the soakage trench is provided in the attached Design Detail Drawing No. 13615-31.

Please note that if the soakage trench is to be located beneath the car parking area, it will need to be covered with a concrete slab. That slab should be minimum 100mm thick and be reinforced with steel 663 mesh, with the concrete slab extending at least 800mm beyond the trench sides.

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#### **4. Limitations and Installation**

For all roof surfaces, a spouting leafguard product (Marley Leafslide Series 3 or similar) is to be adopted to prevent litter from entering the spoutings and downpipes prior to entering the roof tank.

All flows from the paved surfaces are to be transferred to the soakage system via catchpits designed to capture any litter or coarse sediment and thereby protect the soakage system.

A Producer Statement – PS 1 – Design to cover the stormwater system is attached. It should be noted that one of the requirements of this Producer Statement is that staff from our office will need to inspect the stormwater system at the time of its installation.

#### **5. Construction Inspections**

In order to satisfy Taupo District Council building requirements, site testing of the building sites will need to be carried out. Inspection of the foundations and stormwater systems will also need to be carried out.

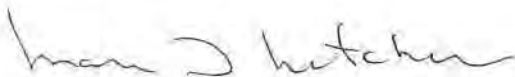
This work is required to be tested and inspected under the direction of a Chartered Engineer, with certification provided to indicate that the ground is suitable for the support of the proposed building.

Mark T Mitchell Ltd, together with Geocon Soil Testing Ltd, our associated testing company working under our direction, is able to provide this service.

Where possible, please provide at least 48 hours notice prior to the commencement of these site works.

Yours faithfully

**Mark T Mitchell Ltd**



Mark T Mitchell  
Director

cc: Borland Architecture





### PRODUCER STATEMENT - PS1 - DESIGN

ISSUED BY: Mark T Mitchell Ltd..... Job No W-13615.6/2  
(Design Firm)

TO: Habitat For Humanity  
(Owner/Developer)

TO BE SUPPLIED TO: Taupo District Council  
(Building Consent Authority)

IN RESPECT OF: Stormwater Disposal System Installation  
(Description of Building Work)

AT: 2/20 Matipo Street, Taupo SO.....  
(Address)

We have been engaged by Habitat for Humanity in respect of the above referenced project to provide design and construction inspection services in respect of the requirements of of Clause E1 (Surface Water) of the Building Regulations 2004 for Part only (as specified below and on the Drawings attached to this statement), of the proposed work.

*-Stormwater Disposal System Design*

The design has been prepared in accordance with acceptable solutions of the approved document Verification Method E1/VM1 & AS1 issued by the Department of Building & Housing and described on the Drawings which are listed below

- Mark T Mitchell Ltd Site Investigation and Stormwater Disposal Recommendations report Design Report dated 9 September, 2013

The following specific design elements have not been reviewed:  
- All other aspects of project

On behalf of the Design Firm, which holds a current policy of Professional Indemnity Insurance to a minimum value of \$200,000 and is a member of ACENZ, I believe on reasonable grounds subject to site verification of the following design assumptions:

- (i) Soil Conditions as per Geocon Soil Testing Ltd report dated 20 May, 2013.
- (ii) Site layout as proposed and shown on the Drawings provided by Murray Borland Architecture Ltd.
- (iii) All proprietary products meeting the performance specification requirements, the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.
- (iv) For this Producer Statement to remain valid, construction inspection and certification of the installations are to be carried out by a staff member from Mark T Mitchell Ltd

**I believe on reasonable grounds** the building work, if constructed in accordance with the drawings, specifications, and other documents provided, will comply with the relevant provisions of the Building Code.

I, Mark T Mitchell.....am registered as CPEng 15278.....#  
(Name of Design Professional)

I am a Member of: IPENZ and hold the following qualifications: . BE (Civil), MSCE, MIPENZ, CPEng, Int PE (NZ)

SIGNED BY Mark T Mitchell ON BEHALF OF .....Mark T Mitchell Ltd, Consulting Engineers.....  
(Design Firm)

Date. 9 Sept 2013 (signature) . *Mark T Mitchell*

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000\*.



PROJECT: HABIT FOR HUMANITY  
Stormwater assessment for No. 2/20 Matipo Street, Taupo

W-13615  
date of test: May 2013

**TABLE 1 - ON SITE SOAKAGE REQUIREMENTS FOR A TYPICAL ROOF AREA OF 138 SQM & SEALED AREA OF 23 SQM**  
(100 - Year Storm Event - Critical Storm Duration - Adjusted for Climate Change)

**1. SOAKAGE TRENCH DESIGN DETAILS**

Trench Design Depth =	1.5 m	Base Soakage Area =	2.00
Av Silt Depth =	0.0 m	Long term seepage reduction factor (F.O.S) =	0.85
Av Sand Soakage Depth (cover considered) =	1.0 m	Reduced Base Soakage area =	1.7 sq m/m
Trench width =	2.0 m	Sidewall Soakage area =	2.00 sq m/m
Hydraulic Conductivity (k) =	2.2E-05 m/sec	Av H =	0.75
		Avail storage capacity (30% voids) =	0.90 cu m
		Avail soakage capacity =	0.22 cu m/hr
		Total Area =	3.7 sq m/m

**2. DESIGN REQUIREMENTS**

	Roof	Paved	
C=	0.9	0.85	(ex BDH NZ Building Code C1 E1 VM E1/VM1)
Catchment Area (m2):	138	23	

STORM DURATION	RAINFALL INTENSITY 100 yr ARI (mm/hr)	RAINFALL VOLUME (litres/m2 area)	RUNOFF (litres)	SOAKAGE TRENCH REQUIREMENTS		
				CAPACITY (litres per lineal metres)	CAPACITY (litres)	LENGTH REQD
10 min	198.0	33	3,912	937	3912.15	4.2
20 min	174.0	58	6,876	973	6875.9	7.1
30 min	154.0	77	9,128	1,010	9128.35	9.0
60 min	113.0	113	13,396	1,120	13396.15	12.0

RECOMMENDATIONS: PROVIDE 12.0M LONG BY 2.0M WIDE BY 1.5M DEEP (EXCLUDING 0.3M COVER) AGGREGATE-FILLED SOAKAGE TRENCH TO CATER STORMWATER RUNOFF FROM PROPOSED ROOF & SEALED AREA

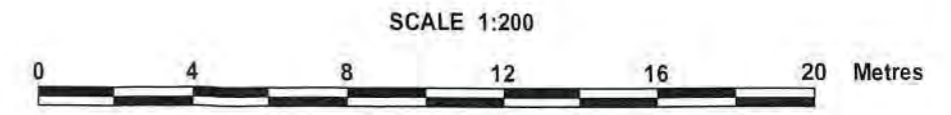
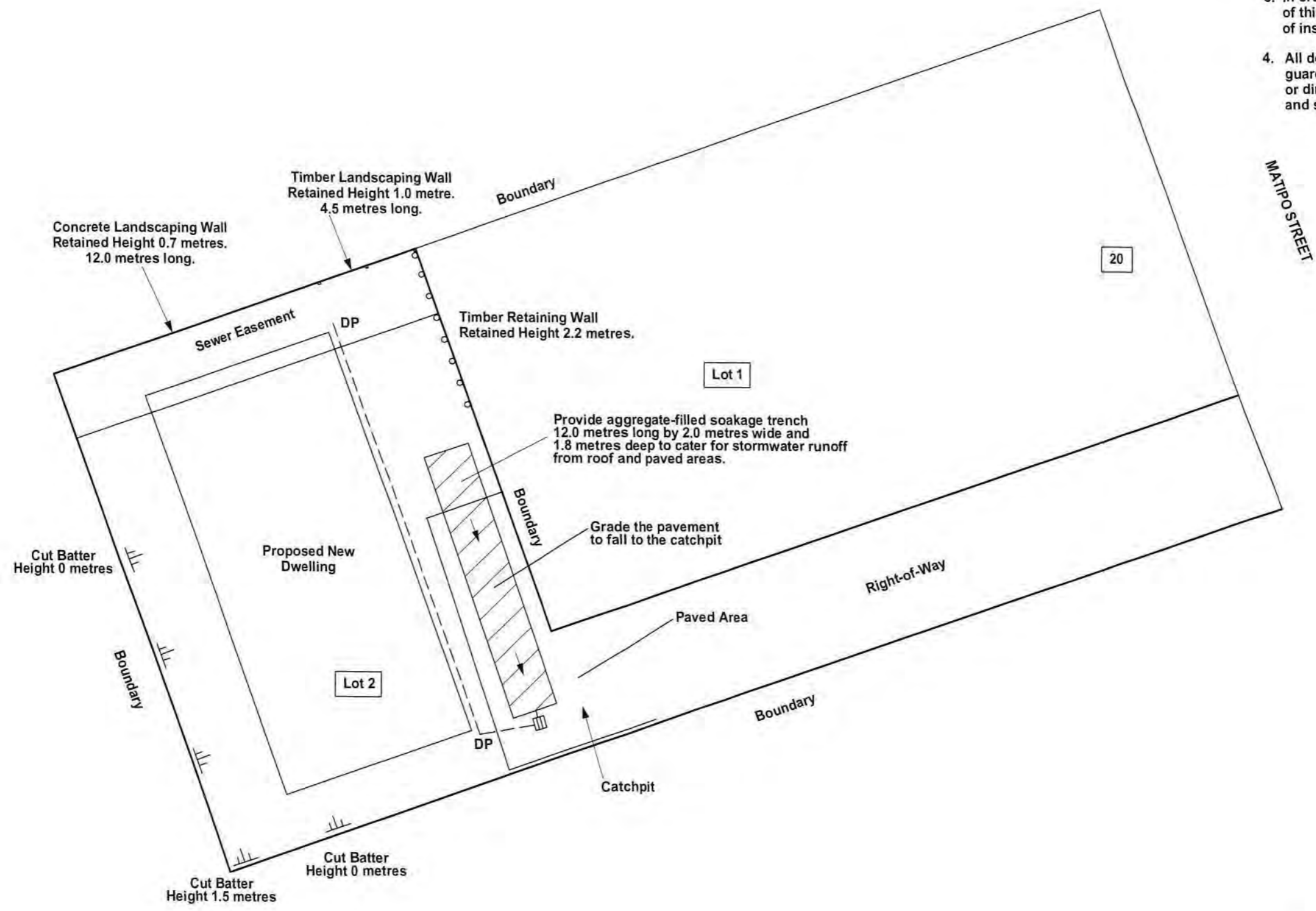
\*NOTE: RAINFALL DATA FOR TAUPO FROM TAUPO DISTRICT COUNCIL CODE OF PRACTICE FOR DEVELOPMENT OF LAND pg 89

Stormwater Drainage plan - 130523 - A1355940





- NOTE:
1. This drawing is reproduced from the plans prepared by Murray Borland Architecture Ltd.
  2. All areas and distances where shown are subject to survey.
  3. In order to issue a completion letter a member of this office needs to be present at the time of installation of the stormwater disposal system.
  4. All downpipes and inflows to be fitted with leaf guard products (Marley leaf slide series 3 or similar) or directed through a catchpit to prevent leaf litter and sediment from entering the detention system.



**Mark T Mitchell Ltd**  
Consulting Geotechnical Engineers  
1150 Victoria Street, P.O. Box 9123, Hamilton

HABITAT FOR HUMANITY  
Stormwater Assessment and Design Studies  
No. 2/20 Matipo Street, Taupo

**STORMWATER  
DRAINAGE PLAN**

DRAWING No. 13615-30  
DATE August 2013  
ISSUE One

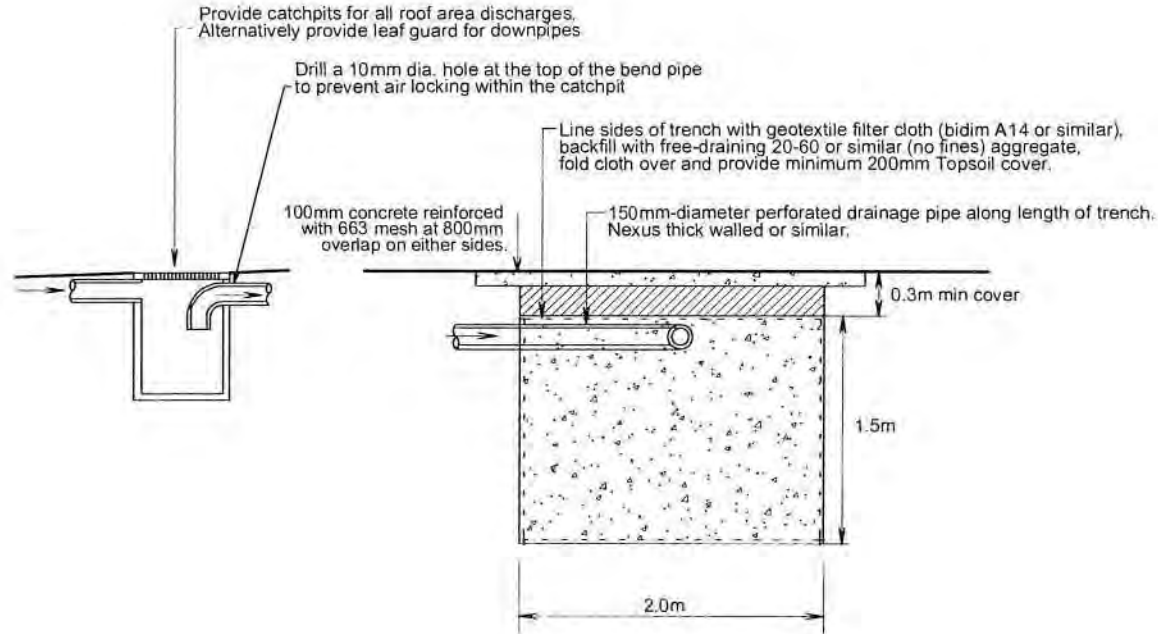
Soakage Trench Design Detail plan - 130523 - A1355941

**NOTE:**

This Drawing is intellectual property and has copyright © to the designer, Mark T Mitchell Ltd. No form of unauthorised reproduction, in full or part, is permitted.

**INSPECTIONS REQUIRED  
TO CERTIFY SYSTEM: 48 Hours Notice is Required**

1. Soakage Trench Installation
2. Driveway reinforced prior to pouring concrete

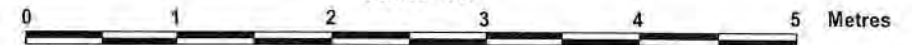


**TYPICAL SOAKAGE TRENCH DETAIL**

**NOTE:**

Provide a 12.0m long by 2.0m wide by 1.8m deep (including 0.3m cover) soakage trench to cater for runoff from the dwelling roof and paved areas.

SCALE 1:50



Memorandum from Licensed Building Practitioner Design - 130523 - A1355942





## Form 2A

# Memorandum from licensed building practitioner: Certificate of design work

Section 30C or section 45, Building Act 2004

### THE BUILDING

Street address of building: **20 Matipo Street; Taupo** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### THE OWNER

Name: **Habitat for Humanity** \_\_\_\_\_  
 Address: **29 Bryant Road Hamilton 3200** \_\_\_\_\_  
 \_\_\_\_\_  
 Phone: **07 8490284** \_\_\_\_\_ or Mobile: \_\_\_\_\_  
 Email: **gm@habitat cni.org.nz** \_\_\_\_\_ Fax: **07 8497715** \_\_\_\_\_

### IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK

I carried out or supervised the following design work that is restricted building work:

Design work that is restricted building work	Description	Carried out/ supervised	Reference to plans and specifications
[Tick]	[If appropriate, provide details of the restricted building work]	[Specify whether you carried out this design work or supervised someone else carrying out this design work]	[If appropriate, specify references]
<b>Primary structure</b>			
Foundations and subfloor framing	X	X Carried out <input type="checkbox"/> Supervised	Dwg A05
Walls	X	X Carried out <input type="checkbox"/> Supervised	BRANZ Appraisal #481 & Dwg A06
Roof	X	X Carried out <input type="checkbox"/> Supervised	Dwg A07 & Truss Design doc



Columns and beams	<input type="checkbox"/>	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
-------------------	--------------------------	---	--

Primary structure cont'd				
Bracing sub floor	X	X	Carried out	Dwg A09 Gib Brace sheets
Building Frame	X	<input type="checkbox"/>	Supervised	
Other	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
External moisture management systems				
Damp proofing	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
Roof cladding or roof cladding system	X	X	Carried out <input type="checkbox"/> Supervised	& Dimond sheet 2.1.4.5
Ventilation system for example, subfloor or cavity)	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
Wall classing or wall cladding system	X	X	Carried out <input type="checkbox"/> Supervised	Refer to Jamies Hardie Dwgs A12,13,14
Waterproofing	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
Other	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
Fire safety systems				
Emergency warning systems, evacuation and fire service operation systems, suppression or control systems, or other	<input type="checkbox"/>	<input type="checkbox"/>	Carried out <input type="checkbox"/> Supervised	
<p><b>Note:</b> The design of fire safety systems is only restricted building work when it involves small to medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.</p> <p><b>Note:</b> continue on another page if necessary.</p>				

Are waivers or modifications of the building code required?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If Yes, provide details of the waivers or modifications below:			
Clause	Waiver/modification required		
<i>[List relevant clause numbers of building code]</i>	<i>[Specify nature of waiver or modification of building code]</i>		
<b>Note:</b> continue on another page if necessary.			





Application building consent - 130523 - A1355943





## Form 2 APPLICATION FOR PROJECT INFORMATION MEMORANDUM AND/OR BUILDING CONSENT Section 33 or 45, Building Act 2004

1. THE BUILDING [If item is not applicable put N/A in the space]	OFFICE USE ONLY:
Street address of building: <sup>24</sup> <b>20 Matipo Street; Taupo</b> _____	File No. _____
_____	Consent/PIM Number: <b>BC130523</b>
[If no street address – details of nearest intersection] _____	Compliance Schedule No: _____
Legal description of land where building is located: Lot 2 _____ DP 389398 _____	Date received: _____
Site area: 452m <sup>2</sup> _____ Sec _____ Block _____	<b>Vetted</b>
Building name: _____ Valuation No: _____	Complete/Incomplete/Exempt _____
Location of building within site/block number: [Include nearest street access] _____	Name _____
Number of levels: [Above & below ground] <b>Ground Only</b> _____ Level/Unit No: _____	Date _____
Floor area: 135.6 (sq m) [Indicate area affected by the building work]	Signature _____
Current, lawfully established, use: Dwelling _____ Year First Constructed: _____	Restricted Building Work? Yes <input type="checkbox"/> No <input type="checkbox"/>
[Add no. of occupants per level and per use if more than 1] <b>6</b> _____	

2. OWNER	3. AGENT [only required if application is being made on behalf of the owner]
Name of Owner: <b>Habitat for Humanity</b> _____	Name of Agent: _____
Contact person: <b>Nic Greene Central Regional Manager</b> _____	Contact person: _____
Mailing address: <b>29 Bryant Road, Hamilton</b> _____	Mailing address: _____
Street address/registered office: <b>29 Bryant Road, Hamilton</b> _____	Street address/registered office: _____
Phone No: _____ Landline: <b>07 8490284 ext 202</b>	Phone No: _____ Landline: _____
Mobile: <b>027 224 8450</b> _____ Daytime: <b>07 8490284</b>	Mobile: _____ Daytime: _____
After hours: _____ Facsimile: _____	After hours: _____ Facsimile: _____
Email: <b>gm@habitatcni.org.nz</b> _____	Email: _____
<b>THE FOLLOWING EVIDENCE OF OWNERSHIP IS ATTACHED:</b>	Website _____
<input checked="" type="checkbox"/> Certificate of Title <input type="checkbox"/> Lease Agreement	Relationship to owner: [State details of the authorisation from the owner to make the application on the owner's behalf] _____
<input type="checkbox"/> Agreement for Sale and Purchase <input type="checkbox"/> Other document	_____

**FIRST POINT OF CONTACT** for communications with the Council / Building Consent Authority: **Owner**  
 Or: (if different to above details) Name: **Borland Architecture Ltd** Email: **info@borlandarchitecture.co.nz**  
 Mailing Address: **P.O. Box 1272 Hamilton** Phone: **07 847 6017** Facsimile: **07 847 017**

To be completed in lieu of Authorisation Letter

**Habitat for Humanity** as the owner of the above property, authorise **Borland Architecture Ltd** to act as our first contact only.  
 Signature **REFER TO COVERING LETTER** Date **10/07/2013**



29 Bryant Road, Te Rapa  
Hamilton 3200, New Zealand

P: 07 849 0284  
F: 07 849 7715  
M: 0272248450

E: [ngreene@habitat.org.nz](mailto:ngreene@habitat.org.nz)

Date 10-07-2013

**AGENT AUTHORISATION FOR CONSENT APPLICATION AT 20 MATIPO ST. TAUPO**

To whom it may concern

This letter is to authorise Borland Architecture to act on Behalf of Habitat for Humanity (Central North Island) for the purposes of gaining building consent for our upcoming project.

If you have any questions about this authorisation please contact me at the details above.

Regards,

A handwritten signature in blue ink, appearing to read "Nic Greene".

Nic Greene  
General Manager  
Habitat for Humanity (CNI)

Building Homes, Building Hope.

[www.habitat.org.nz](http://www.habitat.org.nz)



#### 4. APPLICATION (Tick if applicable)

I request that you issue a (for the building work described in this application)

Project Information Memorandum (PIM)

Project Information Memorandum (PIM) and Building Consent

Building Consent The existing PIM No [if applicable] is: \_\_\_\_\_

Amendment to an existing Building Consent. The existing BC No is: \_\_\_\_\_

State the reference number if this application involves a National Multiple Use Approval: \_\_\_\_\_

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If you do not want information contained in this application to be made available for purposes of marketing please tick the box

The signature is that of the  Owner OR the  Agent on behalf of and with the approval of the Owner

#### 5. THE PROJECT

DESCRIPTION OF BUILDING WORK: (Provide sufficient information below to enable scope of work to be fully understood)

New Dwelling \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Current use of building: \_\_\_\_\_ [e.g. home, implement shed, office]

Will the building work result in a change of use of the building?  Yes  No If Yes, provide details of the new use of the building:

\_\_\_\_\_

Intended life of the building if less than 50 years: \_\_\_\_\_ [Years]

List Building Consents previously issued for this project (if any): \_\_\_\_\_

Estimated value of the building work on which the building levy will be calculated (including goods and services tax):

\$190,000 \_\_\_\_\_ [State estimated value as defined in section 7 of the Building Act 2004]

#### 6. RESTRICTED BUILDING WORK [residential building work affecting structure or weather tightness] OR CONTACTS

Will the building work include any restricted work?  Yes  No

If Yes, provide the following details of all licensed building practitioners who will be involved in carrying out or supervising the restricted building work (If these details are unknown at the time of the application, they must be supplied before the building work begins):

**Note:** Continue on another page if necessary

##### DESIGNER:

Name: **Murray Borland** \_\_\_\_\_

Address: **P.O. Box 1272 Hamilton** \_\_\_\_\_

Email: **info@borlandarchitecture.co.nz** \_\_\_\_\_

Telephone: **07 847 6017** \_\_\_\_\_ LBP No: **114766** \_\_\_\_\_

License Class: **Registered and DESIGN 3**

##### ENGINEER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_ Reg No: \_\_\_\_\_

License Class: DESIGN

##### BUILDER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_ LBP No: \_\_\_\_\_

License Class: CARPENTRY

##### BRICK / BLOCK LAYER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_ Reg No: \_\_\_\_\_

License Class: BLOCKLAYING

<b>ROOFER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: ROOFING or CARPENTRY (delete one)	<b>EXTERNAL PLASTERER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: EXTERNAL PLASTERING
<b>FOUNDATIONS / FLOORS:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: FOUNDATIONS or CARPENTRY (delete one)	<b>GAS FITTER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____
<b>PLUMBER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____	<b>DRAIN LAYER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____
<b>LICENSED BUILDING PRACTITIONER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: _____	<b>LICENSED BUILDING PRACTITIONER:</b> Name: _____ Address: _____ Email: _____ Telephone: _____ Reg No: _____ License Class: _____

**7. PROJECT INFORMATION MEMORANDUM** [Do not fill in this section if the application is for a building consent only]

The following matters are involved in the project: [Tick the matters relevant to the project]

- Subdivision
- Alterations to land contours [e.g. digging out the site for a building platform]
- New or altered connections to public utilities [e.g. Council sewer, stormwater or water mains]
- New or altered locations and/or external dimensions of buildings
- New or altered access for vehicles
- Building work over or adjacent to any road or public place
- Disposal of stormwater and wastewater
- Building work over any existing drains or sewers or in close proximity to wells or water mains
- Other matters known to the applicant that may require authorisations from the Territorial Authority: [Specify]

The following plans and specifications are attached to this application:

Refer to schedule \_\_\_\_\_  
\_\_\_\_\_



Building Code Clause <i>Tick relevant clauses</i>	Acceptable Solution & NZS 4121 Accessible Design	Verification Method	Alternative Solution [Supporting documents listed below]	Waiver/Modification [Supporting documents listed below]	Proposed Inspections
X B1 Structure	<input type="checkbox"/> AS1NZS1170 <input type="checkbox"/> B1/AS1 X NZS3604 <input type="checkbox"/> NZS4229 <input type="checkbox"/> Other	<input type="checkbox"/> B1/VM1 <input type="checkbox"/> Other	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
x B2 Durability	x B2/AS1	<input type="checkbox"/> B2/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> C1-4 Fire Clauses <input type="checkbox"/> C1-6 Fire Safety Clauses	<input type="checkbox"/> C/AS1 <input type="checkbox"/> C/AS2 <input type="checkbox"/> C/AS3 <input type="checkbox"/> C/AS4 <input type="checkbox"/> C/AS5 <input type="checkbox"/> C/AS6 <input type="checkbox"/> C/AS7 <input type="checkbox"/> C/VM1	<input type="checkbox"/> C/VM1 <input type="checkbox"/> C/VM2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> D1 Access routes	<input type="checkbox"/> D1/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> D2 Mechanical installation for access	<input type="checkbox"/> D2/AS1 <input type="checkbox"/> D2/AS2 <input type="checkbox"/> D2/AS3 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> E1 Surface water	<input type="checkbox"/> E1/AS1 <input type="checkbox"/> AS3500	<input type="checkbox"/> E1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x E2 External moisture	x E2/AS1 <input type="checkbox"/> E2/AS2 <input type="checkbox"/> SED <input type="checkbox"/> E2/AS3	<input type="checkbox"/> E2/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> E3 Internal moisture	<input type="checkbox"/> E3/AS1 <input type="checkbox"/> Other		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F1 Hazardous agents on site	<input type="checkbox"/> F1/AS1	<input type="checkbox"/> F1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F2 Hazardous building materials	<input type="checkbox"/> F2/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F3 Hazardous substances and processes	<input type="checkbox"/> F3/AS1	<input type="checkbox"/> F3/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F4 Safety from falling	<input type="checkbox"/> F4/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F5 Construction and demolition hazards	<input type="checkbox"/> F5/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F6 Visibility in escape routes	<input type="checkbox"/> F6/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> F7 Warning systems	<input type="checkbox"/> F7/AS1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Engineer <input type="checkbox"/> Other (Specify): _____

Building Code Clause <i>Tick relevant clauses</i>	Acceptable Solution & NZS 4121 Accessible Design	Verification Method	Alternative Solution [Supporting documents listed below]	Waiver/Modification [Supporting documents listed below]	Proposed Inspections
<input type="checkbox"/> F8 Signs	<input type="checkbox"/> F8/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G1 Personal hygiene	x G1/AS1 x NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G2 Laundering	<input type="checkbox"/> G2/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G3 Food preparation and prevention of contamination	<input type="checkbox"/> G3/AS1 <input type="checkbox"/> NZS 4121		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G4 Ventilation	<input type="checkbox"/> G4/AS1	<input type="checkbox"/> G4/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G5 Interior environment	<input type="checkbox"/> G5/AS1	<input type="checkbox"/> G5/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G6 Airborne impact sound	<input type="checkbox"/> G6/AS1	<input type="checkbox"/> G6/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G7 Natural light	<input type="checkbox"/> G7/AS1	<input type="checkbox"/> G7/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G8 Artificial light	<input type="checkbox"/> G8/AS1	<input type="checkbox"/> G8/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G9 Electricity	x G9/AS1	<input type="checkbox"/> G9/VM1	<input type="checkbox"/>	<input type="checkbox"/>	By certification only
x G10 Piped services	<input type="checkbox"/> G10/AS1	<input type="checkbox"/> G10/VM1	<input type="checkbox"/>	<input type="checkbox"/>	By certification only
<input type="checkbox"/> G11 Gas as an energy source	<input type="checkbox"/> G11/AS1		<input type="checkbox"/>	<input type="checkbox"/>	By certification only
x G12 Water supplies	x G12/AS1 <input type="checkbox"/> G12/AS2	<input type="checkbox"/> G12/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
x G13 Foul water	x G13/AS1 <input type="checkbox"/> G13/AS2 <input type="checkbox"/> AS3500 <input type="checkbox"/> G13/AS3	<input type="checkbox"/> G13/VM1 <input type="checkbox"/> G13/VM4	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
<input type="checkbox"/> G14 Industrial liquid waste	<input type="checkbox"/> G14/AS1	<input type="checkbox"/> G14/VM1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Council <input type="checkbox"/> Other (Specify): _____
x G15 Solid waste	<input type="checkbox"/> G15/AS1		<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____
x H1 Energy efficiency	<input type="checkbox"/> H1/AS1	<input type="checkbox"/> H1/VM1	<input type="checkbox"/>	<input type="checkbox"/>	X Council <input type="checkbox"/> Other (Specify): _____



## 8. WAIVER/MODIFICATION TO NZ BUILDING CODE REQUIRED FOR FOLLOWING PARTS OF CODE:

Supporting documentation attached as follows [please list]:

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## 9. COMPLIANCE SCHEDULE

The specified systems for the building are as follows: [specified systems are defined in regulations]

Any system installed from below to be accompanied by procedures for inspection and routine maintenance. [Council to vet and verify in first column.]		COUNCIL	Applicant to complete				
			Existing	New	Altered	Added	Removed
There are no specified systems in the building <input type="checkbox"/>							
<b>Specified Systems Prescribed by Building Act 2004 Compliance Schedule Handbook 25 May 2007</b>							
ss1	Automatic systems for fire suppression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss2	Automatic or manual emergency warning systems for fire or other dangers (other than a warning system for fire that is entirely within a household unit and services only that unit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss3	Electromagnetic or automatic doors and windows						
	ss3/1 Automatic doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss3/2 Access controlled doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss3/3 Interfaced fire or smoke doors or windows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss4	Emergency lighting systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss5	Escape route pressurisation systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss6	Riser mains for use by fire services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss7	Automatic back-flow preventers connected to a potable water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss8	Lifts, escalators, travelators, or other systems for moving people or goods within buildings						
	ss8/1 Passenger carrying lifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss8/2 Services lifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss8/3 Escalators and moving walks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss9	ss9/1 Mechanical ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss9/2 Air conditioning systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss10	Building maintenance units providing access to exterior and interior walls of buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss11	Laboratory fume cupboards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss12	Audio loops or other assistive listening systems						
	ss12/1 Audio loops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss12/2 FM radio frequency systems and infrared beam transmission systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss13	Smoke control systems						
	ss13/1 Mechanical smoke control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss13/2 Natural smoke control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss13/3 Smoke curtains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss14	Emergency power systems for a system or feature specified in any of specified systems 1-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss14/1 Emergency power systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss14/2 Signs in relation to any specified systems 1-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



		Applicant to complete					
		COUNCIL	Existing	New	Altered	Added	Removed
ss15	Other fire safety systems or features						
	ss15/1 Systems for communicating spoken information intended to facilitate evacuation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss15/2 Final exits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss15/3 Fire separations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ss15/4 Signs for communicating information intended to facilitate evacuation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Ss15/5 Smoke separations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ss16	Cable cars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Only include where one or more of ss1-6, 9 or 13 are included.

10. ATTACHMENTS

The following documents are attached to this application: [Tick as applicable]

X Plans and specifications (list)

**Drawings and specifications including Bracing, Truss Design calc and PS1; Risk Matrix;  
E2 Calcs; H1 Calcs; Beam Design Calcs; CT Geotec Report and Application form and Design Memorandum**

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X Memoranda from licensed building practitioner(s) who carried out or supervised any design work that is restricted building work

- Project Information Memorandum
- Development contribution notice
- Certificate attached to Project Information Memorandum
- National Environmental Standard Checklist
- Other information relevant to this application: [Please specify]: \_\_\_\_\_

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# COUNCIL USE ONLY

## ESTIMATED TOTAL VALUE OF WORK

\$ \_\_\_\_\_ GST inclusive Project floor area \_\_\_\_\_ m<sup>2</sup>

### FEE PAYABLE

Project Information Memorandum \$ \_\_\_\_\_

Building Administration \$ \_\_\_\_\_

Technical Processing fee \$ \_\_\_\_\_

Inspection fee \$ \_\_\_\_\_

Certificate of Title \$ \_\_\_\_\_

Other \$ \_\_\_\_\_

**LODGEMENT FEE** \$ \_\_\_\_\_

Technical Processing fee \$ \_\_\_\_\_

Inspection fee \$ \_\_\_\_\_

Industry Levy (DBH) \$ \_\_\_\_\_

Industry Levy (BRANZ) \$ \_\_\_\_\_

BCA Levy \$ \_\_\_\_\_

Vetting \$ \_\_\_\_\_

Producer Statements \$ \_\_\_\_\_

Compliance Schedules \$ \_\_\_\_\_

Vehicle Crossing \$ \_\_\_\_\_

Street Damage \$ \_\_\_\_\_

Water Connection \$ \_\_\_\_\_

Sewer Connection \$ \_\_\_\_\_

Peer Review \$ \_\_\_\_\_

N Z F S \$ \_\_\_\_\_

Development Contribution \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL BALANCE PAYABLE** \$ \_\_\_\_\_

Lodgement deposit \$ \_\_\_\_\_

Date paid \_\_\_\_\_

Receipt No. \_\_\_\_\_

Consent fee balance \$ \_\_\_\_\_

Date paid \_\_\_\_\_

Receipt No. \_\_\_\_\_

Granted by \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Issued by \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Please complete

Forward any refunds or further invoices to:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Recommendations and preliminary assessment for stormwater disposal proposed new dwelling - 130523 - A1355945

# Mark T Mitchell Ltd

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Consulting Geotechnical Engineers

1150 Victoria Street  
P O Box 9123  
Hamilton 3240  
New Zealand  
Telephone 07 838 3119  
Facsimile 07 839 3125  
email: [mtm@geocon.co.nz](mailto:mtm@geocon.co.nz)

Ref: W – 13615.6  
19 June, 2013

Habitat for Humanity  
29 Bryant Road  
Hamilton 3200

Attention: Nic Greene

Dear Sirs,

**Re: Site Investigation, Geotechnical Assessment, Foundation Recommendations and Preliminary Assessment for Stormwater Disposal Proposed New Dwelling – No. 2/20 Matipo Street, Taupo**

In accordance with your request, we have carried out a Site Investigation and Geotechnical Assessment of the above referenced properties. The purpose of our investigation and assessment was to determine and evaluate the subsurface conditions within the properties and provide appropriate recommendations for building development and preliminary stormwater disposal option.

It is understood that the dwelling with an approximate floor area of 100 square metres is to be constructed of either concrete floor construction or timber floor.

The property is located off the western side of Matipo Street, Taupo, and is accessed via a gently dipping right of way. The Topsoil has been stripped off across the site and has been stockpiled in the north-western corner of the property. Our associate company, Geocon Soil Testing Ltd has carried out a site investigation and soil testing with the results presented in the attached Geocon report dated 20 May, 2013.

The property has been excavated to form a level building site. A 2.2 metre high retaining wall has been constructed along the north-eastern boundary, with a low timber and concrete landscaping wall along the northern boundary. The southern corner of the site has been cut to level resulting in an unsupported face of up to 1.5 metres high.

The results of our geotechnical assessment of the properties, together with our recommendations are as follows:

## 1. Soil Conditions

The results of soil testing indicate the medium dense to dense Sand soils which occur from the existing ground surface exhibit moderate densities and are suitable for the support of building foundations.



## **2. Foundation Recommendations – Concrete Floor**

The test hole results indicate that the vegetation will need to be removed and soft or loose soils encountered in the base of the excavation. After this initial excavation has been completed, the excavated area should be proof rolled. If during the proof rolling process soft soils are encountered we should be called to reinspect the foundation area. The foundation area can then be backfilled with imported granular filling and compacted in layers up to the required level.

When the base of the excavation and the sand & gravel backfill soils are adequately compacted these soils will provide adequate support for a building that is designed and constructed in accordance with NZS 3604: 2011, the NZ Standard for Timber Framed Buildings.

## **3. Foundation Recommendations – Timber Floor**

If the proposed new dwelling is to be constructed on a timber floor dwelling, founded on bored piles it may be constructed in accordance with NZS 3604:2011, the NZ Standard for Timber Framed Buildings, provided that foundations as described below are utilised.

The bored piles will need to be drilled through the Sand to a depth at which the Sca-la-values exceed 5 blows per 100mm and then founded to depths as specified in NZS 3604:2011.

Where the sca-la blows at these depths do not achieve the 5 blows per 100mm, the diameter or width of the footings will need to be increased by 100mm greater than the minimum values set out in Table 6.1 of NZS 3604:2011. The test holes indicate that this criteria is achieved at one location from about 0.1 m depth, and at 0.9 m depth at the other location.

When the pile holes are drilled, the Council Building Inspector, or other competent person, will need to carry out testing at several locations across the site to verify this recommendation and certify the adequacy of foundation soil bearing.

The use of driven, 150mm SED timber piles may also be considered for foundation support, with those piles driven to 0.9 metre depth so as to act as cantilever/anchor piles. In view of the minimum floor level required on account t of potential flooding, this option may be more economic than a bored pile foundation.

## **4. Flood Levels**

The Taupo District Council Code of Practice for the Development of Land, dated 29 September, 2009, section D(ii) requires that 'stormwater be managed via overland flow paths while preventing damage to private property'. Urban Stormwater systems within Taupo town are designed for a 10% AEP (1 in 10 storm event) storm events.

The proposed new dwelling is to be sited approximately 2.0 metres below the level of Matipo Street and almost entirely within the RL 404 metre contour, which is the lowest point within the local stormwater catchment.

During a 1% AEP (ie. a 1 in 100-year event) the property will be at risk from flooding from overland flows generated from the neighbouring properties and possibly from the kerb and channel system, should the council reticulated system become overwhelmed.

Based on the calculations contained in Table 1 to avoid flooding to the dwelling from stormwater inundation, the floor level should be set at a minimum of 0.9 metres above existing ground level.

## **5. Preliminary Stormwater Disposal Recommendations**

The soakage characteristics at the site show that the soils are suitable for on-site disposal of stormwater by means of aggregate filled soakage trench. The Taupo District Council requires that the stormwater system be designed to cope with a 1 in 100 year (1% AEP) storm event because the property has no secondary flow path available to overland flows.

### **5.1 Soakage Trench Option – Dwelling**

The attached Table 1 shows that for a typical roof area of 110 square metres a 10.0 metre long by 2.0 metre wide by 1.5 metre deep aggregate-filled soakage trench be required to cater for the stormwater generated from a 100-year ARI (Average Recurrence Interval), 60-minute storm. All roof water downpipes are to be connected to the soakage trench.

This soakage trench will also cater for storms of lesser intensity and will minimize the extend of surface water flooding around the house area during those storm events.

### **5.2 General Recommendations**

It should be noted that the actual soakage trench requirements will need to be determined by a Chartered Engineer based on the proposed house roof and paved areas for the property. This information will need to be undertaken prior to the Building Consent Application, as these details will need to be submitted with that application.

## **6. Limitations and Installation**

For all roof surfaces, a spouting leafguard product (Marley Leafslide Series 3 or similar) is to be adopted to prevent litter from entering the spoutings and downpipes prior to entering the roof tank.

A Producer Statement – PS 1 – Design to cover the stormwater system is attached. It should be noted that one of the requirements of this Producer Statement is that staff from our office will need to inspect the stormwater system at the time of its installation.

## **7. Construction Inspections**

In order to satisfy Taupo District Council building requirements, site testing of the building sites will need to be carried out. Inspection of the foundations and stormwater systems will also need to be carried out.

This work is required to be tested and inspected under the direction of a Chartered Engineer, with certification provided to indicate that the ground is suitable for the support of the proposed building.



Mark T Mitchell Ltd, together with Geocon Soil Testing Ltd, our associated testing company working under our direction, is able to provide this service. Please note that inspection and certification of foundations, wastewater and stormwater systems will be at an additional cost.

Where possible, please provide at least 48 hours notice prior to the commencement of these site works.

Yours faithfully

**Mark T Mitchell Ltd**



Mark T Mitchell  
Director



Producer statement: PS1 - Design - 130523 - A1355946





P.I.M. No. ....  
 Building Regulation Clause(s) .....

**PRODUCER STATEMENT - PS1 - DESIGN**

**ISSUED BY:** Mark T Mitchell Ltd..... Job No W-13615  
(Design Firm)

**TO:** Habitat For Humanity  
(Owner/Developer)

**TO BE SUPPLIED TO:** Taupo District Council  
(Building Consent Authority)

**IN RESPECT OF:** Stormwater Disposal System Installation  
(Description of Building Work)

**AT:** 2/20 Matipo Street, Taupo **SO**.....  
(Address)

We have been engaged by Habitat for Humanity in respect of the above referenced project to provide design and construction inspection services in respect of the requirements of of Clause E1 (Surface Water) of the Building Regulations 2004 for Part only (as specified below and on the Drawings attached to this statement), of the proposed work.

*-Stormwater Disposal System Design*

The design has been prepared in accordance with acceptable solutions of the approved document Verification Method E1/VM1 & AS1 issued by the Department of Building & Housing and described on the Drawings which are listed below

- Mark T Mitchell Ltd Site Investigation, Geotechnical Assessment, Foundation Recommendations and Assessment for Stormwater Disposal - Design Report dated 19 June, 2013

The following specific design elements have not been reviewed:  
 - All other aspects of project

On behalf of the Design Firm, which holds a current policy of Professional Indemnity Insurance to a minimum value of \$200,000 and is a member of ACENZ, I believe on reasonable grounds subject to site verification of the following design assumptions:

- (i) Soil Conditions as per Geocon Soil Testing Ltd report dated 20 May, 2013.
- (ii) Site layout as proposed and shown on the Drawings provided by Habitat for Humanity.
- (iii) All proprietary products meeting the performance specification requirements, the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.
- (iv) For this Producer Statement to remain valid, construction inspection and certification of the installations are to be carried out by a staff member from Mark T Mitchell Ltd

**I believe on reasonable grounds** the building work, if constructed in accordance with the drawings, specifications, and other documents provided, will comply with the relevant provisions of the Building Code.

I, Mark T Mitchell.....am registered as CPEng 15278.....#  
(Name of Design Professional)

I am a Member of: IPENZ and hold the following qualifications: BE (Civil), MSCE, MIPENZ, CPEng, Int PE (NZ)

SIGNED BY Mark T Mitchell ON BEHALF OF .....Mark T Mitchell Ltd, Consulting Engineers.....  
(Design Firm)

Date: 19 June 2013 (signature)

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000\*.


This form is to accompany Form 2 of the Building (Forms) Regulations 2004 for the application of a Building Consent.



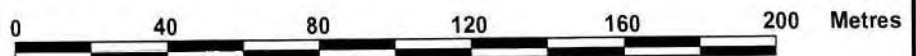


**LEGEND**

 denotes Stormwater catchment boundary  
(Catchment Area 8,783 sqm)

 " property to be developed

SCALE 1:2000



**Mark T Mitchell Ltd**  
Geotechnical Engineers  
1150 Victoria Street, P.O. Box 9123, Hamilton

HABITAT FOR HUMANITY  
Proposed New Dwelling at  
No. 2/20 Matipo Street, Taupo

**STORMWATER  
CATCHMENT**

FIGURE No. 1  
DATE May 2013  
ISSUE One

**Mark T Mitchell Ltd**

Consulting Geotechnical Engineers

Ph 07 838 3119

PROJECT: HABITAT FOR HUMANITY  
Stormwater Assessment for No. 2/22 Matipo Street, Taupo

Ref. W-13615  
Date: May 2013

**TABLE 1 - MINIMUM FLOOR LEVEL REQUIRED TO RAISE THE DWELLING ABOVE OVERLAND FLOWS GENERATED BY A 1 in 100 YEAR STORM**  
(100 Year Storm Event)

**A. CATCHMENT CHARACTERISTICS**

Existing development Roof, Paved & Grass	Area of Lowest Point: 406	sq m
Catchment Area (square metres): 8,738	Hydraulic Conductivity: 2.2E-05	m/sec
Runoff co-efficient: 0.45 (ex DBH NZ Building Code C1 E1 VM E1/VM1)		

**B. OVERLAND FLOW VOLUMES (100 YEAR STORM EVENT - ADJUSTED FOR CLIMATE CHANGE)**

STORM DURATION (min)	RAINFALL INTENSITY (100 yr ARI (mm/hr) Computed)	RAINFALL VOLUME (litres/sq m area) Entered from TDC	TOTAL VOLUME (litres) Determined from TDC	VOLUME - Existing areas (litres)	SOAKAGE VOLUME from lowest area (litres for period)	RUNOFF VOLUME LESS SOAKAGE (litres)	DEPTH OF WATER (metres)	MIN FLOOR LEVEL (inc 0.5m freeboard)
10	198	33	288,354	129,759	5,359	124,400	0.4	0.9
30	116	58	506,804	228,062	16,078	211,984	0.4	0.9
60	77	77	672,826	302,772	32,155	270,617	0.4	0.9
120	57	113	987,394	444,327	64,310	380,017	0.3	0.8
360	27	161	1,406,818	633,068	192,931	440,137	0.3	0.8
720	15	182	1,590,316	715,642	385,862	329,780	0.2	0.7
1440	8	201	1,756,338	790,352	771,725	18,627	0.0	0.5
2880	5	222	1,939,836	872,926	1,543,450	-670,523	-0.3	0.2

PROVIDE A MINIMUM FLOOR LEVEL 0.9 METRES ABOVE EXISTING GROUND LEVEL

\*NOTE: RAINFALL DATA FOR TAUPO FROM TAUPO DISTRICT COUNCIL CODE OF PRACTICE FOR DEVELOPMENT OF LAND pg 89

**Notes:**

- Area of Catchment: (Refer Figure 1)**  
Area of Catchment comprising: Nos 12, 1/14, 2/14, 16, 18, 1/20, 2/20, 22, 24, 26 Matipo Street & Nos. 3/17, 1/19 and 1/21 Rojokawa Street, Taupo
- Area of RL 404 metre contour within Nos 18 and 2/20 Matipo Street**  
Area within the 404 metre contour = 406 sq m. (from TDC GIS system)
- Minimum Floor Level**  
The height above existing ground level incorporates 0.5 metres of freeboard. The freeboard height is designed to stop the water 'climbing up' any obstacles as it flows past, under or around the dwelling.

Recommendations and preliminary assessment for stormwater disposal proposed new dwelling - 130523 - A1355947



# Geocon Soil Testing Ltd

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Geotechnical Engineers

1150 Victoria Street  
PO Box 9123  
Hamilton, New Zealand  
Facsimile 07 839 3125  
Telephone 07 838 3119  
email: kevin@geocon.co.nz

Ref: G-13615.1  
20 May, 2013

Habitat for Humanity  
c/- Mark T Mitchell Ltd  
Consulting Geotechnical Engineers  
PO Box 9123  
Hamilton 3240

Attention: Nic Greene

Dear Sir,

**Re: Geotechnical Investigation for Foundations and Stormwater Disposal  
Proposed New Dwelling – No. 2/20 Matipo Street, Taupo**

In accordance with your request, we have carried out a Site Investigation at the above referenced property. The purpose of our studies was to determine and evaluate the subsurface conditions within the property and assess the feasibility for building development. It is understood that the dwelling with an approximate floor area of 100 square metres is to be constructed on-site.

The following report is based on site conditions as observed during a site investigation carried out by our geologists on 17 May, 2013.

The property is located off the western side of Matipo Street, Taupo, and is accessed via a gently dipping right of way. The Topsoil has been stripped off across the site and has been stockpiled in the north-western corner of the property.

The property has been excavated to form a level building site. A 2.2 metre high retaining wall has been constructed along the north-eastern boundary, with a low timber and concrete landscaping wall along the northern boundary. The southern corner of the site has been cut to level resulting in an unsupported face of upto 1.5 metres high.

A topographic plan of the property is shown on the attached Site Plan, Drawing No. 13615-01.

The results of the investigation are as follows:

**1. Geomorphology and Geology**

The geomorphology of the local area is developed on alluvial sediments that were deposited when the lake levels were higher and the rising lake levels cut a series of benches into the side of the caldera.

The soils encountered during test drilling can be classified as Lake Edge Deposits. These soils have formed in and around the edge of the lake in a low energy environment. The sediments typically consist of silt, sand and pumice gravels.

Because of the manner in which the soils were deposited variations in soil grain size, density and shear strength may occur within relatively short distances.

## **2. Field Investigation**

The subsurface conditions at the site were investigated by drilling two hand-auger borings together with Scala Penetrometer probes at the locations shown on the Site Plan. The Bore Holes are designated Nos. 1 and 2 with the Bore Hole Logs and associated test results presented on Figs. A-1 and A-2.

Two hand-auger borings were also carried out for the Stormwater disposal testing, the locations of which are shown on the Site Plan. The Stormwater Bore Holes are designated Stormwater Tests A and B with the Bore Hole Logs presented on Fig. A-3.

The purpose of the borings and associated testing was to provide guidance as to the general subsurface soil profile, variability and relative density of soils within the proposed building area. Actual conditions may vary across this area however, and in some locations may differ slightly from those as described below.

The capacity of the site soils to receive concentrated stormwater flows was then determined by conducting *insitu* falling head permeability testing.

Falling Head tests were conducted in accordance with the following general procedure:

1. Pre-drill 85mm-diameter bore holes to design or test depth;
2. Ream out and scarify the bore hole using a 95mm-diameter hand auger so that the sides of the hole are not smeared;
3. Insert and push 65mm-internal diameter, open-ended and slotted PVC pipe to the base of pre-drilled test hole;
4. Pre-soak soils within the test hole by filling the PVC casing and allowing a single cycle of water drainage from the test hole;
5. Refill the test hole and monitor the rate of water level drop over time.

## **3. Subsurface Conditions**

The sub-surface soil conditions, as revealed by the bore holes consist of alternating layers of loose to dense, silty, fine to medium grained SAND and stiff to very stiff, fine to medium sandy, SILT to at least the base of the 2.4 to 3.0 metre deep bore holes.

In Bore Hole No. 1, a 100mm thick layer of medium dense, silty, fine sandy Gravel occurred at a depth of 2.6 metres below existing ground level.

Groundwater was not encountered within the bore holes at the time of the site investigation.



#### 4. Stormwater Disposal Investigation

##### 4.1 Soil Conditions

The soil conditions at the site, as revealed by the soakage bore holes consist of 1.0 metres of silty, fine to medium grained SAND below existing ground level.

Underlying the SAND is fine sandy, SILT through to at least the base of the 1.4 to 2.0 metre deep bore holes.

##### 4.2 Groundwater

Groundwater was not encountered within the soakage bore holes at the time of the site investigation.

##### 4.3 Permeability Test Results

The results of the falling head permeability testing are presented on the attached Tables 1 and 2 with an analysis of the falling head tests presented on Figs. B-1 and B-2. The test results indicate that the soils at the site have an average coefficient of permeability of  $2.2 \times 10^{-5}$  metres per second (1.9 metres per day). These test results indicate the soils at the site have moderate to high soakage capacity respectively.

The test results represent the theoretical soil hydraulic conductivity or ability of that soil medium to transmit water flows under a range of simulated water level heads. The calculation procedure followed was in general accordance with widely accepted methods following Hvorslev.

Yours faithfully

**Geocon Soil Testing Ltd.**



Bruce Murdoch  
Engineering Geologist



Geraint Walters  
Operations Manager



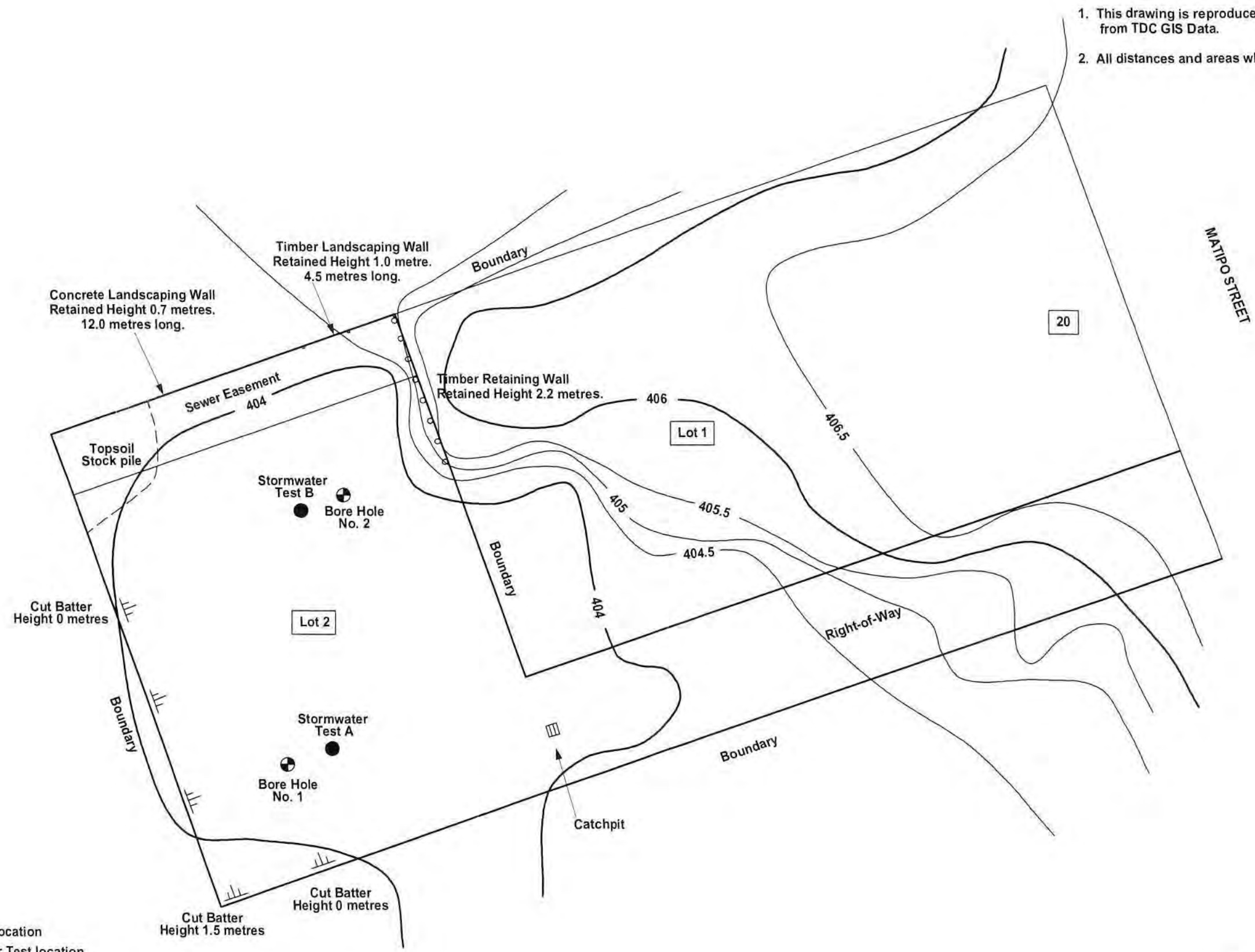
Site plan - 130523 - A1355948





**NOTE:**

- 1. This drawing is reproduced from Survey Plan DP 389398 & from TDC GIS Data.
- 2. All distances and areas where shown are subject to survey.



**LEGEND**

- denotes Bore Hole location
- " Stormwater Test location
- " Top of Cut
- " Contour line and elevation

SCALE 1:200



**Geocon Soil Testing Ltd**  
 Consulting Geotechnical Engineers  
 1150 Victoria Street, P.O. Box 9123, Hamilton

**HABITAT FOR HUMANITY**  
 Site Investigation for Proposed New Dwelling  
 No. 2/20 Matipo Street, Taupo

**SITE PLAN**

DRAWING No. 13615-01  
 DATE May 2013  
 ISSUE One

Specifications - 130523 - A1355949



GRAPHIC LOG	BORE HOLE LOG No. 2		DEPTH (metres)	GEOLOGICAL FORMATION	VANE SHEAR STRENGTH - kPa (In-situ/Remoulded)	SCALA PENETROMETER (blows/100mm)										PIEZOMETER / WATER LEVEL
	SOIL DESCRIPTION					1	2	3	4	5	6	7	8	9	10	
	SAND: medium dense, light brownish grey, moist, silty, fine grained, containing fine to medium pumice Gravels.			Lake Edge Deposit												No Groundwater
	SAND: loose to medium dense, yellowish brown, moist, silty, fine to medium grained, containing fine to medium pumice Gravels.															
	SILT: very stiff, light grey, moist, fine sandy, containing medium pumice Gravels.		1													
	SILT: stiff becoming very stiff, light brown, moist, fine sandy, containing fine to medium pumice Gravels.															
	SAND: medium dense, light greyish brown, moist to wet, silty, fine to medium grained, containing fine pumice Gravels. Becoming loose @ 2.3 metres.		2													
Unable to Retrieve Sample Bottom of Bore Hole Completed 17/05/13																
<b>NOTES</b> - The stratification lines represent the approximate boundary between soil types and the transition may be gradual. - Vane shear values shown are as-recorded in the field, to which a calibration factor of 1.60 should be applied to attain Undrained Shear Strength (kPa). - Scala test was carried out in 1.0 metre depth increments.																
JOB NAME: <u>HABITAT FOR HUMANITY</u> JOB LOCATION: <u>No. 2/20 Matipo Street, Taupo</u> JOB NUMBER: <u>W-13615</u>			DRILL METHOD: <u>Hand Auger</u> RIG: _____ DRILLER: <u>BGM</u>			LOGGED: <u>BGM</u> PLOTTED: <u>BGM</u> DATE: <u>17/05/13</u> CHECKED: <u>SW</u>										
<b>Geocon Soil Testing Ltd</b> Geotechnical Engineers 1150 Victoria Street, P.O. Box 9123, Hamilton		<b>BORE HOLE LOG</b>			<b>BORE HOLE No. 2</b> LOCATION: refer Site Plan    RL (m): _____ SHEET: 1 OF 1    Fig. No. A-2											





**Geocon Soil Testing Ltd**

**Geotechnical Engineers**

HABITAT FOR HUMANITY  
Stormwater Assessment for No. 2/20 Matipo Street, Taupo

W-13615  
Date of test: 17/05/13  
Field Soakage Test Data

**FALLING HEAD SOAKAGE TEST RESULTS**

**STORMWATER TEST A**

Length of PVC Casing (m)	2.00
Length of PVC Above Ground (m)	0.05
Depth of Soakhole (m)	1.95
Groundwater Level (m)	0.00
Groundwater Level (height above base of Soakhole) (m)	na
Test Hole Diameter (m)	0.095

Time (mins)	Water Level below top of PVC (m)	Water Level Relative to Ground Level (m)	Change in Water Level (m)	Water Level head (m)
0.0	0.05	0.00	0.00	1.95
1.0	0.55	-0.50	0.50	1.45
2.0	0.85	-0.80	0.30	1.15
3.0	0.92	-0.87	0.07	1.08
4.0	1.01	-0.96	0.09	0.99
5.0	1.06	-1.01	0.05	0.94
6.0	1.11	-1.06	0.05	0.89
8.0	1.20	-1.15	0.09	0.80
10.0	1.25	-1.20	0.05	0.75
15.0	1.33	-1.28	0.08	0.67
20.0	1.49	-1.44	0.16	0.51
25.0	1.55	-1.50	0.06	0.45
30.0	1.68	-1.63	0.13	0.32

**Geocon Soil Testing Ltd**

**Geotechnical Engineers**

**TABLE 1 - COEFFICIENT OF PERMEABILITY DERIVATION**

Use Hvorslev Case 7 (from Kortegast NZGS Vol 16 Issue 1) - hole extended in uniform soil ie. soakage occurs out the side and base of test hole (slotted) with overlying restrictive layer

**PERMEABILITY CALCULATIONS**

**STORMWATER TEST A**

Shape Factor F =  $\frac{2 \times \pi \times L}{\ln\left(\frac{L}{R}\right) + \left[1 + \left(\frac{L}{R}\right)^2\right]^{0.5}}$  where L = soakage (sand) length (m)  
R = test hole radius (m)

Perm coeff. k =  $\frac{A}{F \times (t_2 - t_1)} \times \ln \frac{h_1}{h_2}$  where A = test hole flow area  
h1 = initial water level  
h2 = final water level  
t1 = time at h1  
t2 = time at h2

Bore Hole Log Data: Topsoil & Silt overlying Sand

Test hole diameter = 0.095 m  
1.95 m soakage hole depth  
1.0 m overburden depth  
0.95 m sand depth

Elapsed Time (mins)	Av Water Level		L (m)	Av L (m)	F	k (m/sec)
	Water Level head (m)	Head (m) (=H/2)				
0.0	1.95	1.48	0.95			
1.0	1.45	0.98	0.95	0.95	1.62	3.0E-05
2.0	1.15	0.68	0.95	0.95	1.62	2.7E-05
3.0	1.08	0.61	0.95	0.95	1.62	8.0E-06
4.0	0.99	0.52	0.95	0.95	1.62	1.2E-05
5.0	0.94	0.47	0.94	0.95	1.61	6.7E-06
6.0	0.89	0.45	0.89	0.92	1.57	4.1E-06
8.0	0.80	0.40	0.80	0.85	1.49	4.2E-06
10.0	0.75	0.38	0.75	0.78	1.40	2.7E-06
15.0	0.67	0.34	0.67	0.71	1.31	2.0E-06
20.0	0.51	0.26	0.51	0.59	1.15	5.6E-06
25.0	0.45	0.23	0.45	0.48	1.00	3.0E-06
30.0	0.32	0.16	0.32	0.39	0.87	9.3E-06

COMPUTED ADJUSTED AVERAGE: 1.2E-05

Specifications - 130523 - A1355950

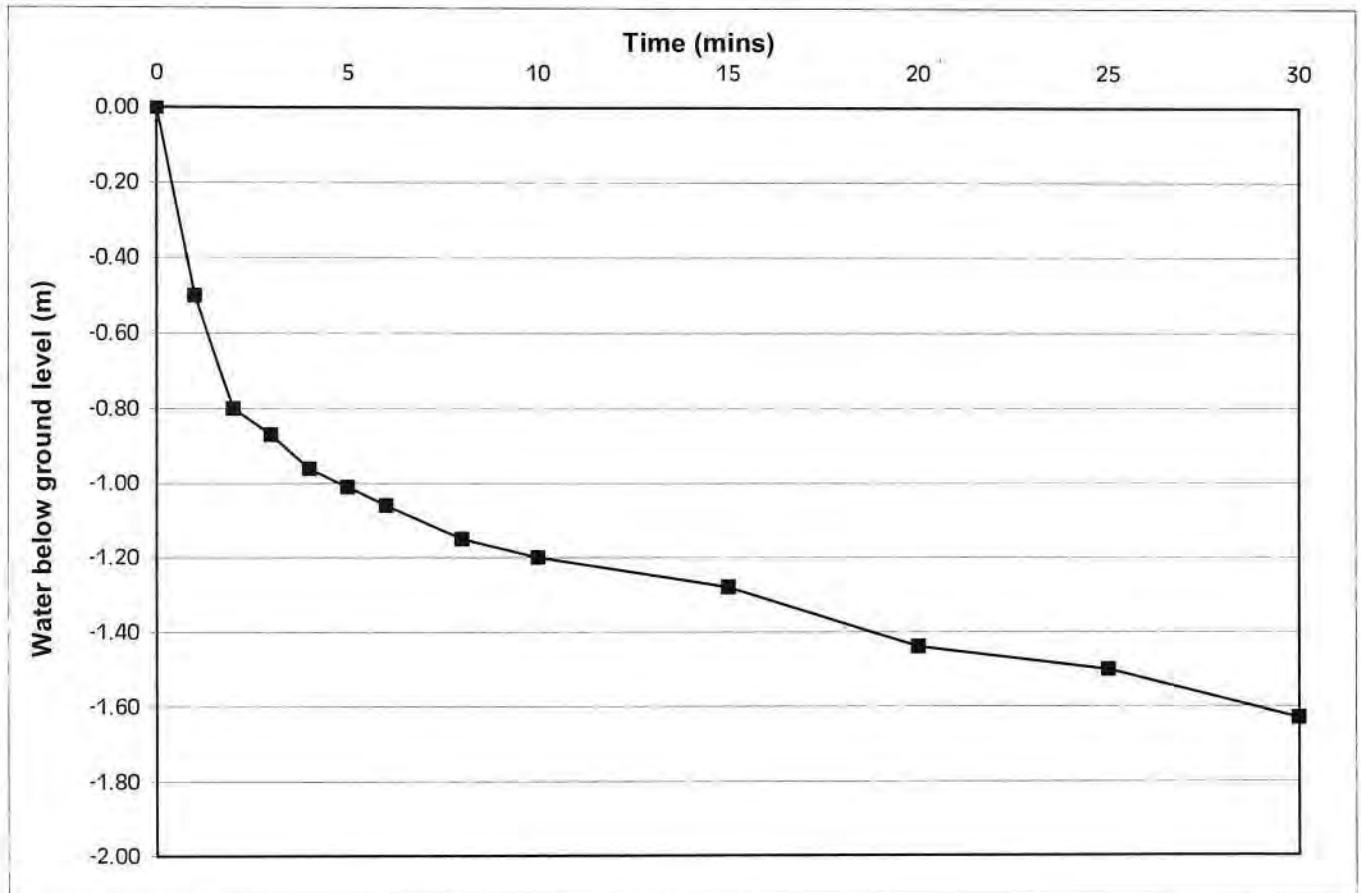
# FALLING HEAD SOAKAGE TEST

JOB NO. W-13615

PROJECT: HABITAT FOR HUMANITY

LOCATION: No. 2/20 Matipo Street, Taupo

## SOAKAGE TEST A



Time (mins)	Water Level below top of PVC (m)	Water Level Relative to Ground Level (m)	Change in Water Level (m)	Water Level head (m)
0	0.05	0.00	0.00	1.95
1	0.55	-0.50	0.50	1.45
2	0.85	-0.80	0.30	1.15
3	0.92	-0.87	0.07	1.08
4	1.01	-0.96	0.09	0.99
5	1.06	-1.01	0.05	0.94
6	1.11	-1.06	0.05	0.89
8	1.20	-1.15	0.09	0.80
10	1.25	-1.20	0.05	0.75
15	1.33	-1.28	0.08	0.67
20	1.49	-1.44	0.16	0.51
25	1.55	-1.50	0.06	0.45
30	1.68	-1.63	0.13	0.32



**Geocon Soil Testing Ltd**

Geotechnical Engineers

1150 Victoria Street, PO Box 9123, Hamilton

## FALLING HEAD SOAKAGE TEST RESULTS

Figure No. B-1

DATE: May 2013

CHECKED: *GN*



**Geocon Soil Testing Ltd**

**Geotechnical Engineers**

HABITAT FOR HUMANITY  
Stormwater Assessment for No. 2/20 Matipo Street, Taupo

W-13615  
Date of test: 17/05/13  
Field Soakage Test Data

**FALLING HEAD SOAKAGE TEST RESULTS**

**STORMWATER TEST B**

Length of PVC Casing (m)	2.10
Length of PVC Above Ground (m)	1.00
Depth of Soakhole (m)	1.10
Groundwater Level (m)	0.00
Groundwater Level (height above base of Soakhole) (m)	na
Test Hole Diameter (m)	0.095

Time (mins)	Water Level below top of PVC (m)	Water Level Relative to Ground Level (m)	Change in Water Level (m)	Water Level head (m)
0.0	1.00	0.00	0.00	1.10
1.0	1.36	-0.36	0.36	0.74
2.0	1.53	-0.53	0.17	0.57
3.0	1.66	-0.66	0.13	0.44
4.0	1.78	-0.78	0.12	0.32
5.0	1.85	-0.85	0.07	0.25
6.0	1.88	-0.88	0.03	0.22
8.0	1.91	-0.91	0.03	0.19
10.0	1.96	-0.96	0.05	0.14
15.0	2.06	-1.06	0.10	0.04
20.0	2.06	-1.06	0.00	0.04
25.0	2.06	-1.06	0.00	0.04
30.0	2.06	-1.06	0.00	0.04

**Geocon Soil Testing Ltd**

**Geotechnical Engineers**

**TABLE 1 - COEFFICIENT OF PERMEABILITY DERIVATION**

Use Hvorslev Case 7 (from Kortegast NZGS Vol 16 Issue 1) - hole extended in uniform soil ie. soakage occurs out the side and base of test hole (slotted) with overlying restrictive layer

**PERMEABILITY CALCULATIONS**

**STORMWATER TEST B**

Shape Factor F =  $\frac{2 \times \pi \times L}{\ln\left(\frac{L}{R}\right) + \left[1 + \left(\frac{L}{R}\right)^2\right]^{0.5}}$  where L = soakage (sand) length (m)  
R = test hole radius (m)

Perm coeff. k =  $\frac{A}{F \times (t_2 - t_1)} \times \ln \frac{h_1}{h_2}$  where A = test hole flow area  
h1 = initial water level  
h2 = final water level  
t1 = time at h1  
t2 = time at h2

Bore Hole Log Data: Topsoil & Silt overlying Sand

Test hole diameter = 0.095 m  
1.00 m soakage hole depth  
0.0 m overburden depth  
1 m sand depth

Elapsed Time (mins)	Av Water Level		L (m)	Av. L (m)	F	k (m/sec)
	Water Level head (m)	Head (m) (=H/2)				
0.0	1.10	0.63	0.95			
1.0	0.74	0.37	0.74	0.85	1.49	4.2E-05
2.0	0.57	0.29	0.57	0.66	1.24	2.5E-05
3.0	0.44	0.22	0.44	0.51	1.04	2.9E-05
4.0	0.32	0.16	0.32	0.38	0.86	4.4E-05
5.0	0.25	0.13	0.25	0.29	0.72	4.1E-05
6.0	0.22	0.11	0.22	0.24	0.64	2.4E-05
8.0	0.19	0.09	0.19	0.20	0.59	1.5E-05
10.0	0.14	0.07	0.14	0.17	0.53	3.4E-05
15.0	0.04	0.02	0.04	0.09	0.41	7.3E-05
20.0	0.04	0.02	0.04	0.04	0.33	0.0E+00
25.0	0.04	0.02	0.04	0.04	0.33	0.0E+00
30.0	0.04	0.02	0.04	0.04	0.33	0.0E+00

COMPUTED ADJUSTED AVERAGE: 3.2E-05

Specifications - 130523 - A1355952

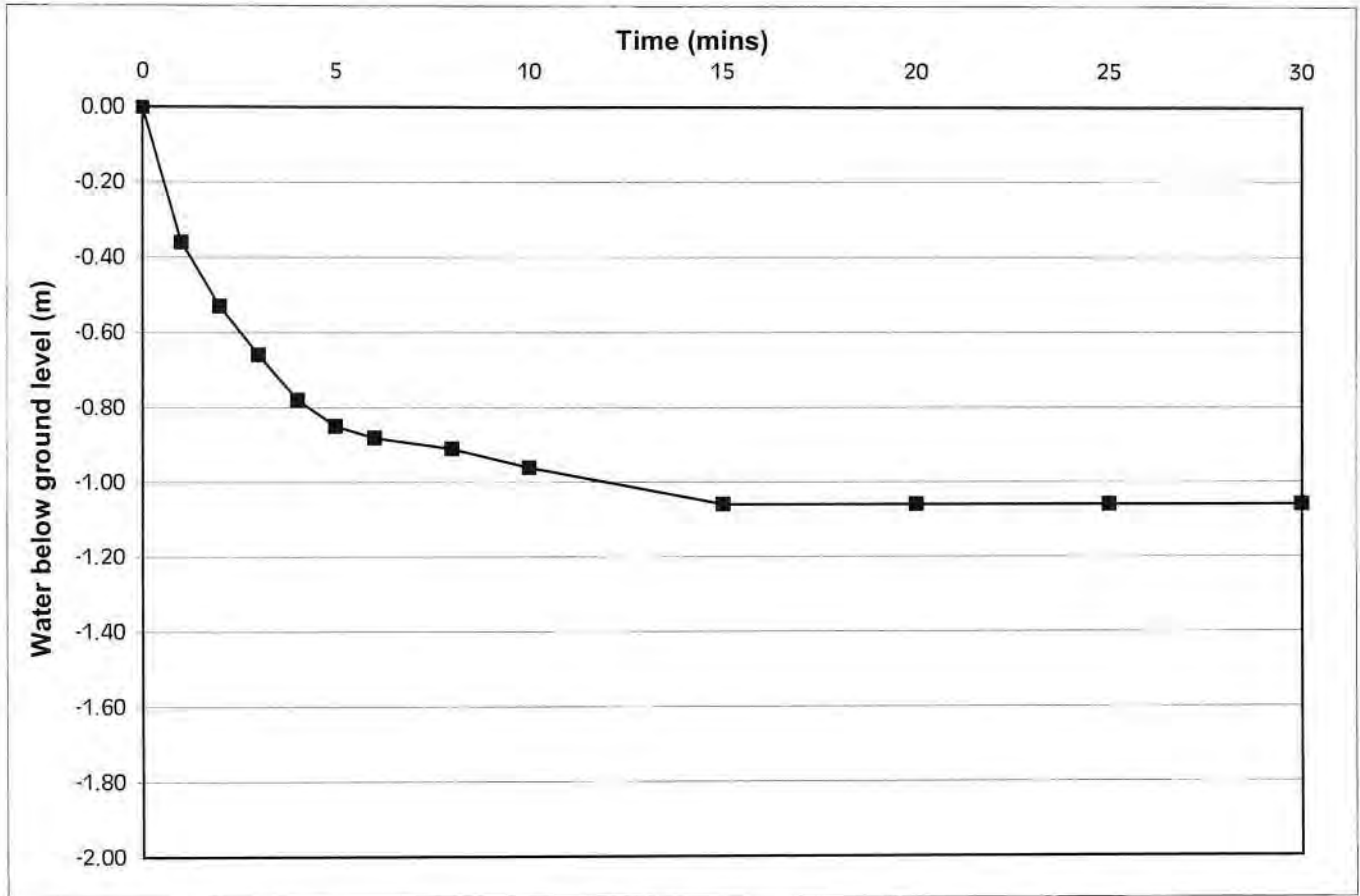
# FALLING HEAD SOAKAGE TEST

JOB NO. W-13615

PROJECT: HABITAT FOR HUMANITY

LOCATION: No. 2/20 Matipo Street, Taupo

## SOAKAGE TEST B



Time (mins)	Water Level below top of PVC (m)	Water Level Relative to Ground Level (m)	Change in Water Level (m)	Water Level head (m)
0	1.00	0.00	0.00	1.10
1	1.36	-0.36	0.36	0.74
2	1.53	-0.53	0.17	0.57
3	1.66	-0.66	0.13	0.44
4	1.78	-0.78	0.12	0.32
5	1.85	-0.85	0.07	0.25
6	1.88	-0.88	0.03	0.22
8	1.91	-0.91	0.03	0.19
10	1.96	-0.96	0.05	0.14
15	2.06	-1.06	0.10	0.04
20	2.06	-1.06	0.00	0.04
25	2.06	-1.06	0.00	0.04
30	2.06	-1.06	0	0.04



**Geocon Soil Testing Ltd**

Geotechnical Engineers

1150 Victoria Street, PO Box 9123, Hamilton

## FALLING HEAD SOAKAGE TEST RESULTS

Figure No. B-2

DATE: May 2013

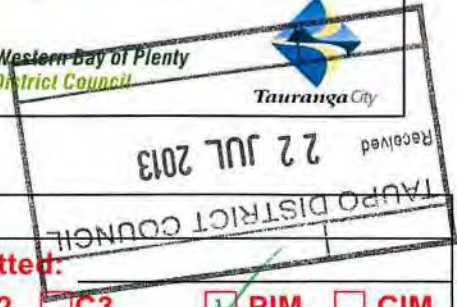
CHECKED: *GH*

Building consent processing checklist - 130523 - A1355953





## Building Consent Residential Application Checklist



Address: 20 MATIPO ST

Restricted Building Work?  Yes  No      Date Vetted: \_\_\_\_\_

Building Consent Category  R1  R2  R3  C1  C2  C3  PIM  CIM

### How to use this checklist

Use this checklist when finalising your building drawings plans to assist you to lodge a complete application and to avoid delays in processing. Your application will be accepted based on this checklist to ensure that it has sufficient information to commence processing.

All items on this checklist must be circled to show that they are either provided or are not applicable to your project (N/A).

Later additional information may be requested during the processing of your building consent to confirm compliance with the Building Act, Building Code, District/City Plan and any other relevant legislation. Processing time will be suspended until information is received.

Your application will only be accepted if the information in this checklist is provided and the checklist completed.

### General documentation required for building consent application

Customer Use					Council Use		
Circle as appropriate			Doc ref./ page #		Circle as appropriate		
Yes	No	N/A		Application form completed in full and signed	Yes	No	N/A
Yes	No	N/A		Lodgement fee (refer to Schedule of Fees and Charges for amount)	Yes	No	N/A
Payment details:				<u>ELECTRONIC PLS</u>			
Yes	No	N/A		Two (2) complete sets of drawings/report/specification/plans and other relevant documents are required – including an A3 set for PIM/CIM or electronic versions	Yes	No	N/A
Yes	No	N/A		Form 2A Certificate of Design Work.	Yes	No	N/A
Yes	No	N/A		All drawings must meet the minimum requirements of the technical drawings standard AS/NZS1100 with a minimum font size of Microsoft word text size 8	Yes	No	N/A
Yes	No	N/A		All plans to be to a recognised metric scale and drawn in black ink (not pencil or red pen)	Yes	No	N/A
Yes	No	N/A		All documents must have at least 10mm margin on all outer edges with no information in them	Yes	No	N/A
Yes	No	N/A		All documents including photocopies must be legible	Yes	No	N/A
Yes	No	N/A		All plans are to be titled and dated (or version number)	Yes	No	N/A
Yes	No	N/A		Do not use grid or lined paper	Yes	No	N/A

### Legal documentation required

Yes	No	N/A		Full, current (less than three months old) Certificate of Title and survey plan is required for all new dwellings and external building work. All consent notices, encumbrances and easement instruments. <i>NB: If a cross lease, please provide a flats plan as well.</i> If not provided Council can supply a CT but it will attract an additional fee	Yes	No	N/A
Yes	No	N/A		Sale and purchase agreement with settlement date provided	Yes	No	N/A
Yes	No	N/A		Full copy of lease agreement	Yes	No	N/A

Comments – Council use only

ROTORUA BOX FLUSHING ✓

R 2-2 WALLS 3



**Site/Location plan (scale 1:100 or 1:200) – a location plan can also be included for larger sites (scale 1:500 or 1:1000)**

Customer Use					Council Use		
Circle as appropriate			Doc ref/ page #		Circle as appropriate		
Yes	No	N/A		North Point	Yes	No	N/A
Yes	No	N/A		Road frontage indicated and street named	Yes	No	N/A
Yes	No	N/A		Location of all existing and proposed buildings	Yes	No	N/A
Yes	No	N/A		Distance of buildings to boundaries and distance between existing and proposed buildings including eaves and gutters <b>NB: If encroaching into yard provisions, Affected Person forms need to be provided with signed and dated plans</b>	Yes	No	N/A
Yes	No	N/A		Site levels and finished floor levels relative to Moturiki Datum survey point	Yes	No	N/A
Yes	No	N/A		Existing contours (proposed cut or fill also needs to be shown)	Yes	No	N/A
Yes	No	N/A	SP/CS	Show how wind zone was determined LOW (A03)	Yes	No	N/A
Yes	No	N/A		Earthquake zone determined	Yes	No	N/A
Yes	No	N/A		Durability determined	Yes	No	N/A
Yes	No	N/A		Building line restrictions and easements	Yes	No	N/A
Yes	No	N/A		Site boundaries/exclusive area boundaries for cross lease properties and common areas clearly shown	Yes	No	N/A
Yes	No	N/A		Show calculations and percentage of net site coverage	Yes	No	N/A
Yes	No	N/A		Labelled points on boundaries where overshadowing is taken from <b>NB: If encroaching into overshadowing, Affected Person forms need to be provided with signed and dated plans</b>	Yes	No	N/A
Yes	No	N/A		Crossings/driveways also showing berms and footpaths. Crossings are to be clear of Council stormwater sumps (Note: normally one crossing per site only)	Yes	No	N/A
Yes	No	N/A		Street tree trunks and driplines indicating distance from vehicle crossing. Protected trees also indicated	Yes	No	N/A
Yes	No	N/A		Dimensions and location of parking spaces shown onsite	Yes	No	N/A
Yes	No	N/A		Existing and proposed access for vehicles	Yes	No	N/A
Yes	No	N/A		Access and manoeuvring areas demonstrated	Yes	No	N/A
Yes	No	N/A		Sediment control plan	Yes	No	N/A
Yes	No	N/A		Fire walls shown (if applicable – please provide firewall design)	Yes	No	N/A
Yes	No	N/A		If building under or near transmission lines, please show transmission plan area	Yes	No	N/A
Yes	No	N/A		Natural hazards (see definitions of Natural Hazard NZBA 2004 section 71)	Yes	No	N/A

**Comments – Council Use Only**

RE DO



Plumbing and drainage									
Customer Use					Council Use				
Circle as appropriate			Doc ref./ page #		Circle as appropriate				
Yes	No	N/A		All existing SEWERS, sewer connections and sewer drains shown including Territorial Authority services	Yes	No	N/A		
Yes	No	N/A		All existing STORMWATER drains and connections shown including Territorial Authority services	Yes	No	N/A		
Yes	No	N/A		Proposed sewer and stormwater drains/soak holes shown	Yes	No	N/A		
Yes	No	N/A		Existing and proposed potable water supply and water supply for firefighting shown (rural sites only)	Yes	No	N/A		
Yes	No	N/A		All existing and proposed sanitary fittings including pipe sizes and gradients (isometric)	Yes	No	N/A		
Yes	No	N/A		Specifications proprietary or tiled shower – supply waterproof membrane specifications for tiled showers	Yes	No	N/A		
Yes	No	N/A		Standard Regional Council design system or Regional Council approved effluent disposal system	Yes	No	N/A		
Yes	No	N/A		Specifications for hot water heating system including seismic restraints	Yes	No	N/A		
Yes	No	N/A		Water Supply Schematic	Yes	No	N/A		
Yes	No	N/A		Backflow preventer shown – type and location	Yes	No	N/A		
Yes	No	N/A		Stormwater disposal design and calculations	Yes	No	N/A		
Foundation plan									
Yes	No	N/A		Foundation details	Yes	No	N/A		
Yes	No	N/A		Engineer design, calculations and PS1 provided	Yes	No	N/A		
Yes	No	N/A		For timber floors and decks, show the location of piles, pile type, sub-floor bracing calculations, foundation perimeter walls and internal piling system where applicable	Yes	No	N/A		
Yes	No	N/A		Upper Storey floor design if applicable	Yes	No	N/A		
Yes	No	N/A		Floor joist layout for floors and decks	Yes	No	N/A		
Floor plan (scale 1:100 or 1:50)									
Yes	No	N/A		Plan of all floors describing the function of each room	Yes	No	N/A		
Yes	No	N/A		Show all doors, windows and ventilation including enclosed space ventilation	Yes	No	N/A		
Yes	No	N/A		For additions and alterations, the existing shall be shown separately to the "proposed" and to the same scale for comparison	Yes	No	N/A		
Yes	No	N/A	A05	Stairs, handrails and decking shown showing dimensions and details	Yes	No	N/A		
Yes	No	N/A	A08	Smoke detectors shown on plan	Yes	No	N/A		
Yes	No	N/A		Chimneys and solid fuel heaters	Yes	No	N/A		
Yes	No	N/A		Square metre of floor plans	Yes	No	N/A		
Yes	No	N/A		Lintel sizes/beam sizes and proprietary system design	Yes	No	N/A		
Yes	No	N/A		Disabled access to building showing dimensions and details	Yes	No	N/A		
Yes	No	N/A		Disabled access toilet showing dimensions and details	Yes	No	N/A		
Yes	No	N/A		State any change of use	Yes	No	N/A		
Comments – Council Use Only									
<p>G12 APP FORM - A53500 SHD A02 ? + 3500 SPECS  CODE CLAUSES APP FORM NOT ALL FILLED IN.  D. M. M. M.</p>									



Elevations									
Customer Use						Council Use			
Circle as appropriate			Doc ref./ page #			Circle as appropriate			
Yes	No	N/A		North, South, East and West elevations		Yes	No	N/A	
Yes	No	N/A	A02b	Overshadowing labelled to correspond with points on site plan shown on all elevations		Yes	No	N/A	
Yes	No	N/A		Height from ground level to apex of building		Yes	No	N/A	
Yes	No	N/A		Show existing finished ground levels/floor levels and proposed finished ground levels/floor levels (subfloor ventilation and access)		Yes	No	N/A	
Yes	No	N/A		Stairs, handrails and decking shown		Yes	No	N/A	
Yes	No	N/A		Cladding systems, roofing type and any other relevant details		Yes	No	N/A	
Yes	No	N/A		Window Schedule		Yes	No	N/A	
Yes	No	N/A		Roof pitch and chimneys (show height of chimney in relation to ridge)		Yes	No	N/A	
Yes	No	N/A		Alterations to land contour, retaining, cut and fill and batters		Yes	No	N/A	
Weathertightness									
Yes	No	N/A		Is a weathertight claim or a building surveyor's report involved with this application?		Yes	No	N/A	
Yes	No	N/A		If project is subject to a weathertight homes claim, has an assessor's report been supplied?		Yes	No	N/A	
Yes	No	N/A		Level of supervision proposed and by whom?		Yes	No	N/A	
Specifications and other Documentation									
Yes	No	N/A		Two sets of specifications that make reference to NZBC, which are relevant and to current NZ standards		Yes	No	N/A	
Yes	No	N/A		The specification should be project specific and appropriate to the building construction. It should be laid out in easily followed sections shown in an index covering methods and materials that are not included in the building plans, e.g. pipe work materials quoting up to date references		Yes	No	N/A	
Yes	No	N/A	SPECS	H1 calculations		Yes	No	N/A	
Yes	No	N/A		E2 Risk Matrix		Yes	No	N/A	
Yes	No	N/A		Fire reports and design		Yes	No	N/A	
Yes	No	N/A		Compliance Schedule systems and relevant maintenance and inspection procedures		Yes	No	N/A	
Yes	No	N/A		A4/A4 Plan showing location of all specified systems for Compliance Schedule		Yes	No	N/A	
Cross section (1:50 or better)									
Yes	No	N/A		Drawings showing constructional details of foundations, floor systems, wall, ceiling, stud heights and stud sizes, roof construction, balustrades and barriers		Yes	No	N/A	
Yes	No	N/A		Surface finishes to wet areas (walls and floor to laundry, kitchen and bathroom)		Yes	No	N/A	
Comments – Council Use Only									
WRONG ADDRESS/ZONE!									



Framing plan/Bracing plan									
Customer Use							Council Use		
Circle as appropriate			Doc ref./ page #				Circle as appropriate		
Yes	No	N/A		Bracing details – type and fixing			Yes	No	N/A
Yes	No	N/A		Bracing calculations			Yes	No	N/A
Yes	No	N/A		Framing Plan			Yes	No	N/A
Yes	No	N/A		Bottom plate, top plate stud, roof purlins, Lintel fixing details			Yes	No	N/A
Yes	No	N/A		Upper storey floor design if applicable			Yes	No	N/A
Yes	No	N/A		Floor joist layout for floors and decks			Yes	No	N/A
Roof plan									
Yes	No	N/A		Roof plan and roof bracing			Yes	No	N/A
Yes	No	N/A		Truss types/roof framing layout			Yes	No	N/A
Specific design engineering									
Yes	No	N/A		Engineering calculations and scope of works			Yes	No	N/A
Yes	No	N/A		Producer statements fully completed, signed and dated			Yes	No	N/A
Yes	No	N/A		Engineered plans or Architectural plans with engineer's details to be signed, dated and stamped			Yes	No	N/A
Retaining walls/Site works									
Yes	No	N/A		Site Plan indicating position and height of retaining walls and drainage points			Yes	No	N/A
Yes	No	N/A		Elevations showing original ground level, cut and fill			Yes	No	N/A
Yes	No	N/A		Cross sections/details (cut, fill, height of retained ground, waterproof membrane and drainage) and height of wall indicated			Yes	No	N/A
Yes	No	N/A		Engineering design and barrier details where required			Yes	No	N/A
Yes	No	N/A		Show cuts battered to a safe angle			Yes	No	N/A
Swimming pool/Spa pool									
Yes	No	N/A		Site plan (refer site plan section of checklist)			Yes	No	N/A
Yes	No	N/A		Plan of all floors describing the function of each room. Show all doors and windows.			Yes	No	N/A
Yes	No	N/A		Fences/Gates with dimensions, show access restrictions to pool area from all doors and windows			Yes	No	N/A
Yes	No	N/A		Pool manufacturer's specifications			Yes	No	N/A
Yes	No	N/A		Elevations/Cross section showing all construction details			Yes	No	N/A
Yes	No	N/A		Location of backwash indicating connection to nearest gulley trap			Yes	No	N/A
Yes	No	N/A		Backflow preventer shown – type and location			Yes	No	N/A
Comments – Council Use Only									

**Solid fuel heaters**

Customer Use					Council Use		
Circle as appropriate			Doc ref./ page #		Circle as appropriate		
Yes	No	N/A		Make/Model	Yes	No	N/A
Yes	No	N/A		Type of roof (e.g. tile, coloursteel, etc)	Yes	No	N/A
Yes	No	N/A		Flashing details (new or existing)	Yes	No	N/A
Yes	No	N/A		Indicate inbuilt or freestanding – including wetbacks	Yes	No	N/A
Yes	No	N/A		Floor plan showing position of SFH and location and distance of all smoke alarms	Yes	No	N/A
Yes	No	N/A		Seismic restraints provided	Yes	No	N/A
Yes	No	N/A		Specifications	Yes	No	N/A

**Solar heating**

Yes	No	N/A		Location of solar panels/tubes on roof plan	Yes	No	N/A
Yes	No	N/A		Location of hot water cylinder and size	Yes	No	N/A
Yes	No	N/A		Specifications and flashing details	Yes	No	N/A
Yes	No	N/A		Show location on elevations and compliance with overshadowing	Yes	No	N/A

**Outcome of decisions**

**Officer**

**Date**

- This application was not accepted for lodgment because documentation was incomplete ..... ..
- This application needs to be re-vetted ..... ..
- Documentation is now complete and the application is accepted for lodgment ..... ..
- Application will now proceed for compliance checking ..... .. *AB 23/7/13*

Time taken to vet application: *45* ..... minutes





Request for additional information - 130523 - A1355955





**GREAT LAKE TAUPŌ**

Taupō District Council  
72 Lake Terrace, Taupō 3330  
Private Bag 2005, Taupo Mail Centre  
Taupō 3352, New Zealand  
T 07 376 0899  
F 07 378 0118  
E [general@taupo.govt.nz](mailto:general@taupo.govt.nz)  
[www.taupo.govt.nz](http://www.taupo.govt.nz)

23rd of July, 2013

Habitat for Humanity  
Nic Greene  
29 Bryant Road  
Hamilton

**BC No: Not yet allocated**

To whom it may concern

**INCOMPLETE BUILDING CONSENT APPLICATION  
20 MATIPO STREET  
NEW HOME**

Thank you for your building consent application.

During the plan vetting process undertaken at the receipt of your building consent application, it was established that we are unable to accept your application in its current form. This is because it does not contain the following information:

1. Vetting sheet not supplied. (In future please fill this out and attach to Application form). We have filled one out for you.
2. Please address the insulation. It appears the wall insulation is incorrect.
3. The Application form states G12 and the Specifications and Sheet A02 both refer to AS3500. Please confirm the means of compliance and amend the incorrect information.
4. The E2 Risk Matrix has a different address on it.
5. Please complete question 7 of the application form. (Code Clauses – relevant ones to be marked).

Upon receipt of this information we will start the process of issuing your building consent. Please be advised during the course of processing we may again ask for further information. This will be made pursuant to Section 48(1)(b) of the Building Act 2004.

For the purposes of Section 50 of the Building Act 2004, this letter is written notification of the refusal on the grounds that there was insufficient information provided to enable your consent to be issued.

In the interest of helping the process along we will enter this consent into our system and give it a building consent number. For further enquiries please contact me on 07 3760781

Yours sincerely

Amber Bradley  
Building Management Officer



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Siting & Foundation**  
 Inspection Status: **Fail**  
 Inspected By: **Peter Shepherd**  
 Inspection Date: **13/12/2013 9:05 a.m.**

**Foundation inspection for new dwelling .**

<b>Inspection Element</b>	<b>Status</b>
Siting / General	Pass
Correct site & Siting form supplied	Pass
Approved building consent documents on site	Pass
Excavations, safe slopes, hoarding etc for site safety	Pass
Foundations	N/A
<b>Failed items from previous inspection appear to have been attended to.</b>	
As per the approved plans	N/A
Appropriate materials used, location, type, sizes, cover, laps etc of reinforcing correct	N/A
Steel is clean and tied	N/A
Ground bearing checked and adequate	N/A
Foundations clean, sides vertical & no water in foundations	N/A
Proposed floor level correct	N/A
Engineer inspected (if required)	N/A
Outcome of Inspection	Fail
Approved	Pass
Further Inspection Required (Recheck Required)	Pass
Required documents not yet received	Fail
<b>PS4 for pile driving required</b>	





### Audit Report

---

Consent No: **130523**  
Applicant: **Habitat for Humanity (Central NI) Limited**  
Valuation Ref: **0732165202**  
Site Address: **2/20 Matipo Street, Taupo**  
Work Type: **New dwelling**

---

Inspection Type: **Siting & Foundation**  
Inspection Status: **Pass**  
Inspected By: **Peter Shepherd**  
Inspection Date: **17/12/2013 8:32 a.m.**

**Foundation inspection for new dwelling .**

<b>Inspection Element</b>	<b>Status</b>
Siting / General	N/A
Correct site & Siting form supplied	N/A
Approved building consent documents on site	N/A
Excavations, safe slopes, hoarding etc for site safety	N/A
Outcome of Inspection	Pass
Required documents not yet received	Pass
<b>PS4 for pile driving received</b>	



### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Sanitary Sewer/Drainage**  
 Inspection Status: **Fail**  
 Inspected By: **Martyn Trainor**  
 Inspection Date: **5/12/2013 11:06 a.m.**  
**Drainage inspection for new dwelling .**

<b>Inspection Element</b>	<b>Status</b>
General	Pass
Approved building consent documents on site	Pass
Conditions of consent (if any) are met	Pass
Sanitary Drainage	Pass
As per the approved plans	Pass
Appropriate materials being used	Pass
Adequate support and protection where required	Pass
Correct location, type, sizes, cover, and gradients of drains	Pass
Test of entire system	Pass
<b>On water test.</b>	
As built provided	Pass
<b>Received .</b>	
Stormwater	Fail
To approved disposal system (onsite or reticulated system)	Fail
<b>Not yet installed.</b>	
Disposal system adequate	Fail
As built provided	Fail
On Site Wastewater System	N/A
Outcome of Inspection	Fail
<b>The work was proceeding as the approved plan .</b>	
<b>The pipe work was laid as per G13 of NZBC, was on water test and had adequate fall. Received As Laid Plan.</b>	
<b>Ok to proceed on reasonable grounds .</b>	
<b>As laid plan and PS3 Producer statement required for stormwater disposal system when completed.</b>	
Approved	Pass
Further Inspection Required (Recheck Required)	Pass

Required documents not yet received

Fail

**As laid plan for stormwater system and PS3 .**





### Audit Report

Consent No: **130523**  
 Applicant: **Habitat for Humanity (Central NI) Limited**  
 Valuation Ref: **0732165202**  
 Site Address: **2/20 Matipo Street, Taupo**  
 Work Type: **New dwelling**

Inspection Type: **Sanitary Sewer/Drainage**  
 Inspection Status: **Pass**  
 Inspected By: **Peter Shepherd**  
 Inspection Date: **13/12/2013 9:03 a.m.**

**Drainage inspection for new dwelling .**

<b>Inspection Element</b>	<b>Status</b>
General	N/A
Approved building consent documents on site	N/A
Conditions of consent (if any) are met	N/A
Sanitary Drainage	Pass
As built provided	Pass
<b>Received .</b>	
Stormwater	Pass
To approved disposal system (onsite or reticulated system)	Pass
Disposal system adequate	Pass
As built provided	Pass
Outcome of Inspection	Pass
<b>Failed items from previous inspection appear to have been attended to.</b>	
Required documents not yet received	Pass

Certificate of Acceptance CA0154 - A334406

COPY

0095 1/20

## ***Certificate of Acceptance***

**Certificate Number CA0154**

**Section 99, Building Act 2004**

### **The Owner**

Name of owner: Tracey Ann Bell

Contact person: Miss Tracey Ann Bell

Mailing address: P O Box 11136, Manners Street, Wellington 6142

Phone number: Mobile: 0274 435 701

Email address: [tracey@wordsworth.co.nz](mailto:tracey@wordsworth.co.nz)

First point of contact for communications with the council/building consent authority:

Full Name: Cheal Consultants Limited. (Helen Pickles)

Mailing Address: P O Box 165, Taupo

Phones:: 378 6405

Email: [helenp@cheal.co.nz](mailto:helenp@cheal.co.nz)

### **The Building**

Street address of building: 1/20 Matipo Street, Taupo

Legal description of land where building is located: Lot 1 DP 389398

Building name: Retaining wall

Location of building within site/block number: North eastern boundary between Lot 1 & Lot 2

### **Acceptance of Compliance**

The Taupo District Council is satisfied, to the best of its knowledge and belief and on reasonable grounds, that, insofar as it can ascertain, the building work described below complies with the building code:

**2.2m retaining wall on shared boundary between Lots 1 and 2 of 20 Matipo Street**



The Taupo District Council was only able to inspect the completed works and this certificate is qualified as follows:

In issuing this Certificate, Taupo District Council has relied on documentation from Cheal Consultants Limited, Structural Engineers, in demonstrating compliance with the NZ Building Code.

As the foundations were not inspected by either Cheal Consultants or Taupo District Council during construction no assurance can be given that they comply with the requirements of B1 or B2 of the N Z Building Code.

Nothing in this certificate limits the requirement that a person must not carry out building work except in accordance with a building consent, nor does it relieve any person from the requirement to obtain a building consent for building work.



---

Peter Shepherd

---

Building Control Supervisor

On behalf of: **Taupo District Council**

Date: 4/03/08

## APPLICATION FOR CERTIFICATE OF ACCEPTANCE Form 8, Section 97, Building Act 2004

CA 0154

DATE RECEIVED:	26.2.08
DATE ISSUED:	
SITE FILE No.	0095 0020

### THE BUILDING

<b>Street address of building:</b> [for structures that do not have a street address, state the nearest street intersection and the distance and direction from that intersection]	20 Matipo Street, Taupo	
<b>Legal description of land where building is located:</b> [state legal description as at the date of application and if the land is proposed to be subdivided include details of relevant lot numbers and subdivision consent]	<b>Valuation No. N/A</b> DPS 389398	<b>Lot No. 2 §1</b> <b>Section</b>
<b>Building name:</b> [insert building name if applicable]	<b>Block:</b> .....	<b>Survey District:</b> South Auckland
<b>Location of building within site/block number:</b> [include nearest street access]	<b>Subdivision Consent</b> [if applicable] RM 060328	
<b>Number of levels:</b> [include ground level and any levels below ground]	<b>Level/unit number:</b> [insert level/unit number if applicable]	N/A
<b>Area:</b> [total floor area; indicate area affected by the building work if less than the total area]	..... m <sup>2</sup>	
<b>Current, lawfully established, use:</b> [include number of occupants per level and per use if more than 1]	.....	
<b>Year first constructed:</b> [insert year, approximate date is acceptable e.g. c1920s or 1960-1970]	.....	
	Retaining Wall	
	North eastern boundary between Lot 1 and Lot 2	

### THE OWNER

<b>Name of owner:</b> [include preferred form of address, e.g., Mr, Miss, Dr, if an individual]	Mercurial Holdings Limited	
<b>Contact person:</b> [insert contact name]	Miss Tracey Ann Bell	
<b>Mailing address:</b> [insert mailing address]	PO Box 11136, Manners Street, Wellington 6142	
<b>Street address/registered office:</b> [insert street address/registered office]	20 Matipo Street, Taupo	
<b>Phone numbers:</b> Landline: N/A	Mobile: 0274 435 701	
Daytime: 0274 435 701	After Hours:	
<b>Facsimile number:</b> N/A	<b>Email address:</b> tracey@wordsworth.co.nz	
<b>Website:</b> [website address if applicable]	N/A	
<b>The following evidence of ownership is attached to this application:</b> [copy of certificate of title, lease, agreement for sale and purchase, or other document showing full name of legal owner(s) of the building]	Certificate of Title	

## AGENT

**Name of agent:** [only required if application is being made on behalf of the owner]

Cheal Consultants Limited

**Contact person:** [insert contact name]

Helen Pickles

**Mailing address:** [insert mailing address]

PO Box 165, Taupo 3351

**Street address/registered office:** [insert street address/registered office]

Level 1, 4 Horomatangi Street, Taupo

**Phone numbers:** Landline: 07 378 6405

Mobile: Nil

Daytime: 07 378 6405

After Hours: Nil

**Facsimile number:** 07 378 6447

**Email address:** helenp@cheal.co.nz

**Website:** [website address if applicable] N/A

**Relationship to owner:** [state details of authorisation from owner to make the application on the owner's behalf]

Planning Consultants

**First point of contact for communications with the council/building consent authority:**

Helen Pickles

[please state name, mailing address, phone number(s), facsimile number(s) and email address]

Cheal Consultants Limited

PO Box 165, Taupo 3351

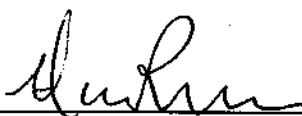
Ph: 378 6738

Fax: 3786447

helenp@cheal.co.nz

## APPLICATION

I request that you issue a certificate of acceptance for the building work described in this application

 (c/o CHEAL CONSULTANTS)

Signature of [owner/agent on behalf of and with the authority of the owner]

Date: 25 / 02 / 08

## BUILDING WORK

<b>Description of the building work:</b>	2.2m retaining wall on shared boundary between Lots1 and 2 of 20 Matipo Street
<b>Date building work carried out:</b>	July 2007
<b>The personnel who carried out the building work are as follows:</b> <i>[list names, addresses, phone numbers and (where relevant) registration numbers]</i>	Phil Black (Builder), PO Box 1520, Taupo (07) 376 5795 / 0274 427 239
<b>Did the building work result in a change of use?</b> <i>[Yes/No]</i>	No
<b>If Yes, provide details of the new use:</b> <i>[insert details]</i>	
<b>Intended life of the building if 50 years or less:</b> <i>[number] years</i>	50
	<b>Estimate the value of the building work on which building levy will be calculated (including goods and services tax):</b> \$ <i>[state estimated value as defined in section 7 of the Building Act 2004]</i> 6891.50
<b>The following plans and specifications are attached to this application:</b> <i>[list/describe/identify plans and specifications]</i>	Refer to plans in Appendix 1 of Certificate of Acceptance Report
<b>Reasons why a certificate of acceptance is required:</b>	
<b>The owner, or the owner's predecessor in title, carried out building work for which a building consent was required, but a building consent was not obtained because:</b> <i>[explain in detail]</i>	The owner was not aware that a building consent was required for a retaining wall and considered the structure to be part of the landscaping
<b>A building consent could not practicably be obtained in advance because the building work had to be carried out urgently: (delete one of the following)</b>	
<b>(a) for the purpose of saving or protecting life or health or preventing serious damage to property as follows:</b> <i>[explain in detail]</i>	N/A
<b>(b) in order to ensure that a specified system was maintained in a safe condition or made safe as follows:</b> <i>[explain in detail]</i>	N/A
<b>The building consent authority that granted the building consent is unable or refuses to issue a code of compliance certificate in relation to the building work, and no other building consent authority will agree to issue a code of compliance certificate for the building work</b> <i>[state details of name of building consent authority and building consent granted]</i>	N/A



## COMPLIANCE SCHEDULE

The specified systems for the building are as follows: *[specified systems are defined in regulations]*

The following specified systems are being altered, added to, or removed in the course of the building work: *[specify]*

There are no specified systems in the building. ✓

## ATTACHMENTS

The following documents are attached to this application

✓ Plans and specifications *[list]*

### See attached report

- Project information memorandum
- Development contributions notice
- Certificate attached to project information memorandum

## FEES

### ESTIMATED VALUE OF WORK

\$ 6891.50 (gst inclusive)

Completed work floor area \_\_\_\_\_ m<sup>2</sup>

Council use only

Lodgement deposit \$ 305

Date paid \_\_\_\_\_ Receipt # \_\_\_\_\_

Application fee balance \$ \_\_\_\_\_

Date paid \_\_\_\_\_ Receipt # \_\_\_\_\_

### Please complete

Forward any refunds or further invoices to:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### FEE PAYABLE

#### Application deposit

Project Information Memorandum \$ \_\_\_\_\_

Building Administration \$ 115

Technical Processing \$ 115

Industry Levies \$ \_\_\_\_\_

\$ \_\_\_\_\_

Certificate of Title \$ \_\_\_\_\_

Producer Statements \$ \_\_\_\_\_

Compliance Schedules \$ \_\_\_\_\_

Other(s) \$ \_\_\_\_\_

\$ \_\_\_\_\_

Total Application Deposit \$ \_\_\_\_\_

#### Application fee balance

Inspections \$ 75

Other \$ \_\_\_\_\_

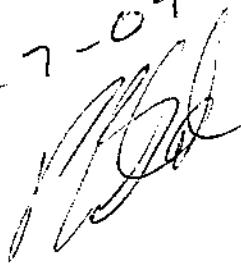
Total balance payable \$ \_\_\_\_\_

BCO	P&D	CONSULTANT	PLANNER	EHO	NZFS

PHIL BLACK (BUILDER), PO Box 1526 *Tampopo*  
 Cellphone (0274) 427 239, Home No. (07) 376 5795 GST No. 26 328 578

# PURCHASE ORDER

Tax Invoice Statement 0536

Date 21-6-07	
Job Reference 20 Matipo St.	
To Greg Catley	
To Alter bathroom & kitchen and to Build retaining wall and fence. work to date.	
Gregs Dingos	\$380.00
Building materials	\$868.00
Labour 80 hrs. at \$45.00	\$3600.00
42 hrs at \$30.00	\$1260.00
	<hr/> 608.00
	763.50
	<hr/> 8871.50
G.S.T at 12.5% Total inc G.S.T.	
Paid with Thanks 2-7-07 	



032412

OUR REF 2006-88L11



CA 0154

25 February 2008

Building Control Supervisor  
Taupo District Council  
Gillespie Plaza  
TAUPO

ATTENTION: PETER SHEPHERD

DELIVERED

Dear Peter

**MERCURIAL HOLDINGS LIMITED : 20 MATIPO STREET  
APPLICATION FOR CERTIFICATE OF ACCEPTANCE**

Please find enclosed an Application for Certificate of Acceptance for a retaining wall.  
We include the following information:

- Cheque for \$305.00
- Certificate of Acceptance Report

Please place this proposal before the appropriate Council Building Control Officer  
for approval at your earliest convenience.

Should you have any queries, please do not hesitate to contact us.

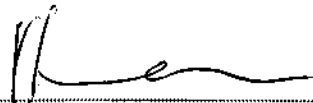
Yours sincerely

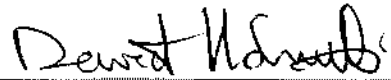
**KEANE KANNAN  
ENGINEER  
Email: keanek@cheal.co.nz**

People You Can Trust

**MERCURIAL HOLDINGS LIMITED  
20 MATIPO STREET, TAUPO**

**APPLICATION FOR CERTIFICATE OF  
ACCEPTANCE**

Prepared by:   
Keane Kannan  
Civil Engineer

Reviewed by:   
David H Smith  
Senior Civil Engineer

Approved for  
Release by:   
Eric Webel  
Engineering Manager

Date: 22 February 2008  
Reference: 2006-88  
Status: Final

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People You Can Trust



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### Appendices –

1. Proposed Retaining Wall Design by Mercurial Holdings
2. Engineering Site Inspection Notes
3. Folio of Photographs
4. Design Calculations
5. Builders Producer Statement
6. Engineers Producer Statement

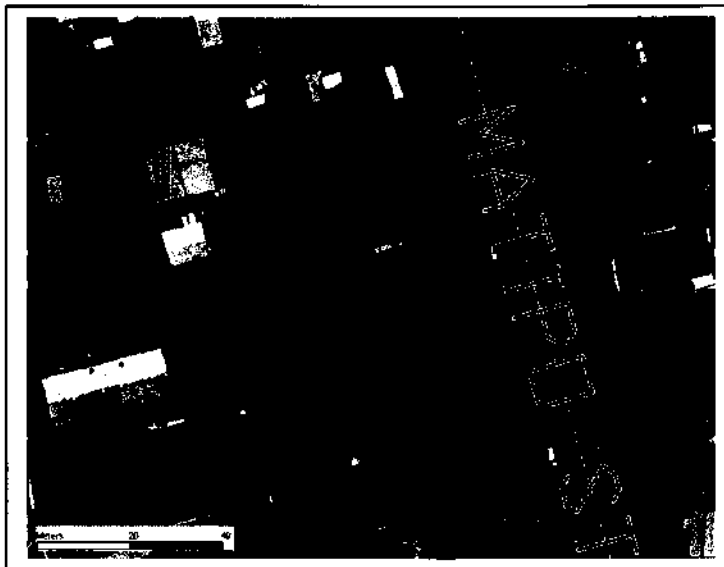
## 1. INTRODUCTION

Cheal Consultants Limited was engaged by Mercurial Holdings to produce a report in support of their application for the Certificate of Acceptance. The Certificate of Acceptance is for the construction of a 2.3m high retaining wall constructed within the property at 20 Matipo Street, Taupo.

This report provides the proposed retaining wall design, design calculations, construction photographs and a Producer Statements for the construction and design review in order to qualify the structural suitability of the constructed retaining wall.

## 2. SITE

The property is located at 20 Matipo St, Taupo. The lot is orientated east/west with the property access off Matipo Street. The retaining wall is situated in the middle of the lot behind the existing house and is orientated north south.



**Figure 1: Aerial Photograph of Site**

The retaining wall retains a small grassed area and a 1.5m post and rail fence has been constructed on top of the retaining wall for safety and privacy from the rear lot.

## 3. PROPOSED DESIGN

The proposed design of the retaining wall was presented to us by Mercurial Holdings Limited and a site visit was carried out by Cheal Consultant Engineers to inspect the retaining wall prior to backfilling. Refer to Appendix 1 – Proposed Retaining wall design and Appendix 2 – Engineering Site Inspection Notes.

### 3.1 Site Inspection

Cheal Consultants carried out a site inspection on 13 August 2007. The findings from the site inspection are as follows:

1. The main retaining wall consists of 13 treated poles with spacing ranging from 950mm to 1150mm.
2. The height of the timber poles ranged between 2200mm and 2300mm above the present ground level at the time of inspection.
3. The pole diameters at the top ranged from 250mm to 310mm and appeared to be suitably treated.
4. The measured diameter of the concrete footing exposed at ground level was approximately 500mm.
5. The railings were measured as 175mm x 50mm tongue and groove and appeared to be suitably treated.
6. The stepped down retaining wall consists of 4 square posts measuring 125mm x 125mm with spacing ranging from 870mm to 1120mm centre to centre.
7. The railings for the stepped down wall are the same 175mm x 50mm tongue and groove timber.
8. The stepped down retaining wall had posts ranging in height from 1200mm down to approximately 500mm.
9. The soils to be retained appeared to be clean pumiceous sands with no visible lenses of ash or silts in the exposed cuts around the property.

It must be noted that the proposed dead man anchor and tie backs (Appendix 1) had not been constructed at the time of the site inspection, but have been constructed since as shown in Appendix 3 - Folio of Photographs.

## 4. DESIGN / CONSTRUCTION REVIEW

The design reviewed by Cheal Consultants is based on the measurements obtained from the site inspection and information provided on the drawings. The tiebacks have not been included in the theoretical design check. The worst cases were checked for stability as shown in Appendix 4 – Design Calculations.

### 4.1 Pole Retaining Wall

The design check is carried out in four parts;

- The first part identifies and assigns soil and retaining wall parameters based on the site inspection and drawings provided to us by Mercurial Holdings Limited (Appendix 1 and 2).
- The second part is a calculation of loadings applied to the wall along the most critical section.
- The third part is a check to look at soil failure mechanisms and the retaining wall embedment.
- The fourth part is to check that the wall materials are adequate to resist the loading applied to them.

The critical spacing and wall heights were chosen in order to check the structural capabilities of the pole retaining wall. The maximum thrust on the wall from the retained soil was approximately 22 kN and the moment generated at the base of the wall as a result of the horizontal soil loading is approximately 17 kNm.

The analysis shows that thrusts and moments in excess of those mentioned above are required to mobilise failure in the soil, therefore theoretically the wall will not be subject to overturning failure. Tie backs have also been installed on every second pole to hold the top of the wall in place.

The design check on the timber used to retain the wall showed that the size of poles used and the thickness of the railings were sufficient to resist the loads applied from the retained soils.

## **4.2 Post Retaining Wall**

As mentioned above the design check for the post retaining wall was carried out in four parts. The loadings and critical spacing on this retaining wall as different as the wall was stepped down. As the critical spacing varied between 1100mm and 900mm and the heights of the retained soils changed from 1200mm to 800mm either side of the critical post, the maximum thrust on the post was calculated to be approximately 4.4 kN and the resulting moment at the base of the wall was approximately 1.5 kNm.

The analysis shows that thrusts and moments in excess of those mentioned above are required to mobilise failure in the soil, therefore theoretically the wall will not be subject to overturning failure. As the wall steps down loads are reduced, while the post size and the railing size remain the same.

The design check on the timber used to retain the wall showed that the sizes of post used and the thickness of the railings were sufficient to resist the loads applied from the retained soils.

## **5. CONCLUSIONS**

The theoretical analysis concludes that the wall has been constructed such that the soil loadings applied to the wall can be resisted by the walls. On site inspections reveal that the construction methods and materials used were suitable for the intended purpose of retaining soils.

## **6. DISCLAIMER**

The theoretical analysis is based on a mixture of information obtained from drawings provided by Mercurial Holdings Limited and the information obtained from a site visit carried out by Cheal Consultants Limited. Foundation depths and exact concrete sock diameters were not obtained by Cheal Consultants Limited.

**CHEAL CONSULTANTS LIMITED**  
22 February 2008

## LIST OF APPENDICES

Appendix 1 ..... Proposed Retaining Wall Design by Mercurial Holdings Limited

Appendix 2 ..... Engineering Site Inspection Notes

Appendix 3 ..... Folio of Photographs

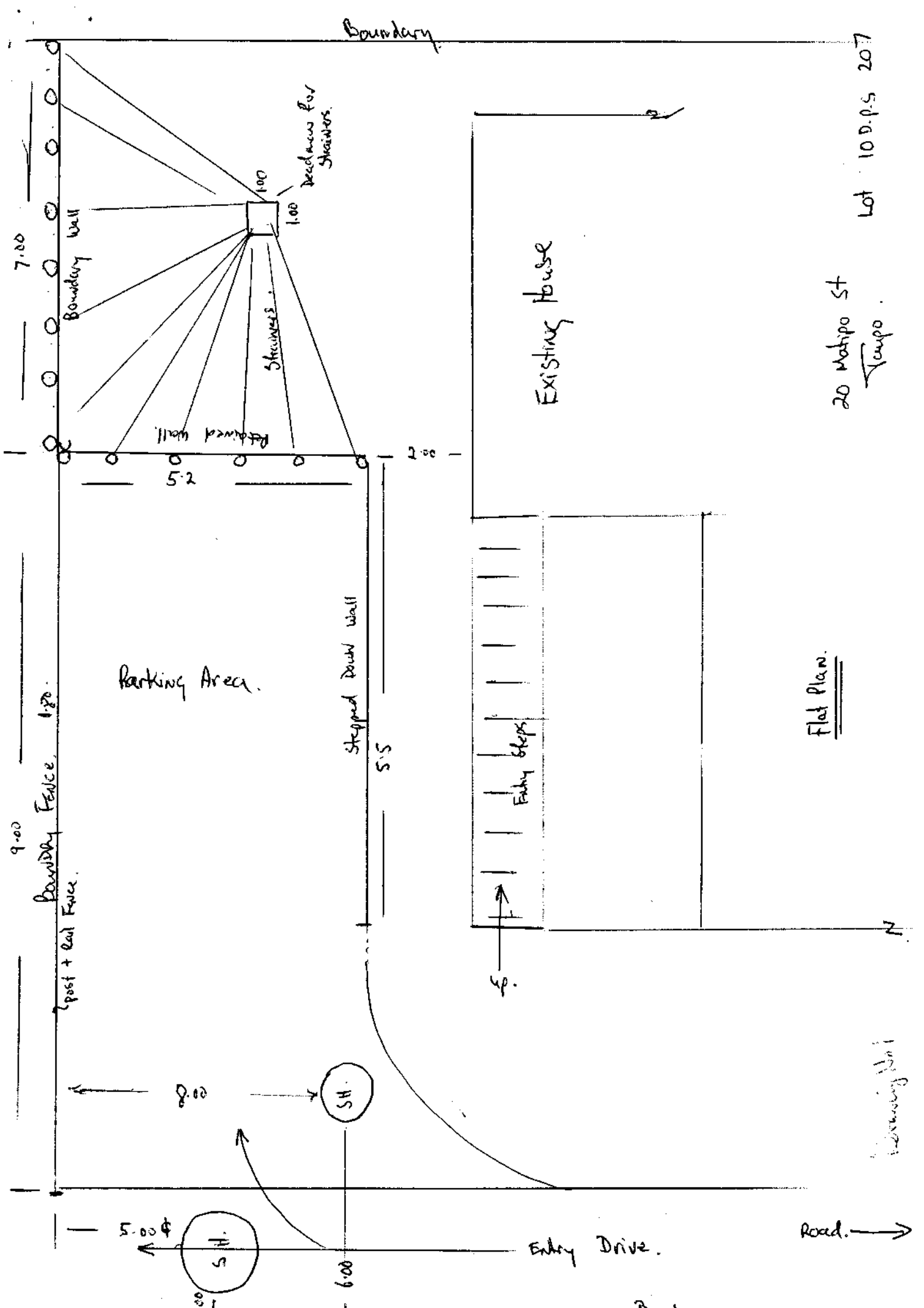
Appendix 4 ..... Design Calculations

Appendix 5 ..... Builders Producer Statement

Appendix 6 ..... Engineers Producer Statement



- **Proposed Retaining Wall Design by Mercurial Holdings Ltd**



Flat Plan.

20 Makipo St  
 Tempo.

Lot 109.P.S 2017

Retaining Wall

Road. →

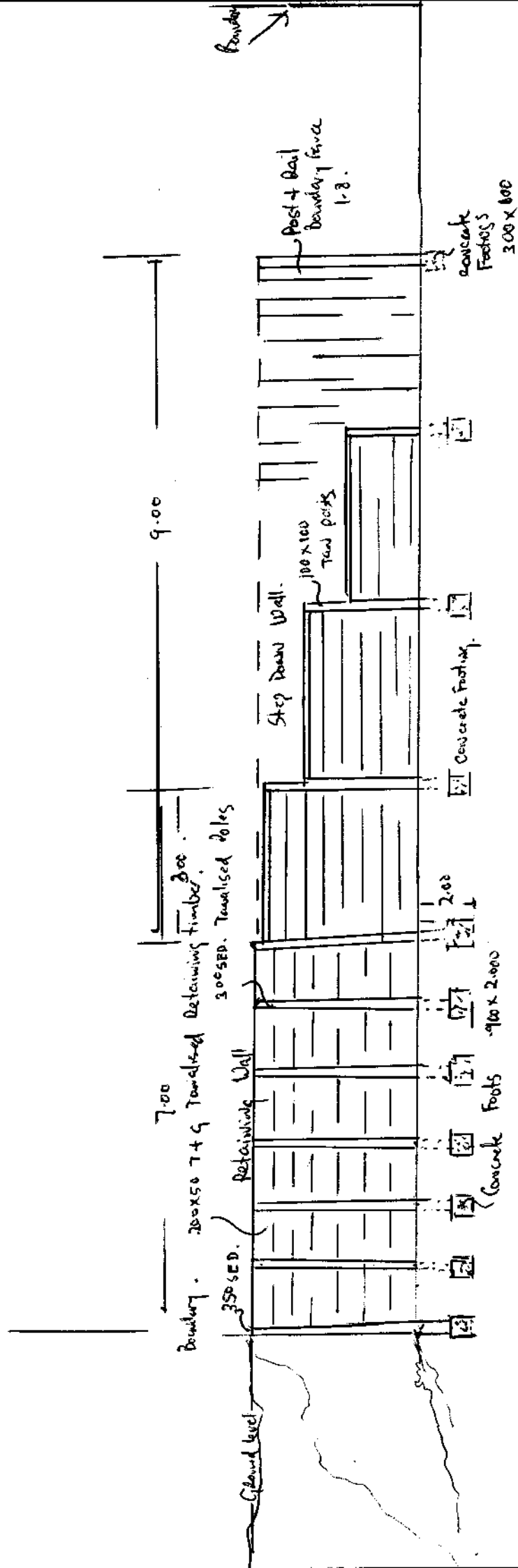
Boundary

20 Maitopo Street

Tamupo

Retaining Wall and Fencing to Boundary. to Surveyed Dimensions.

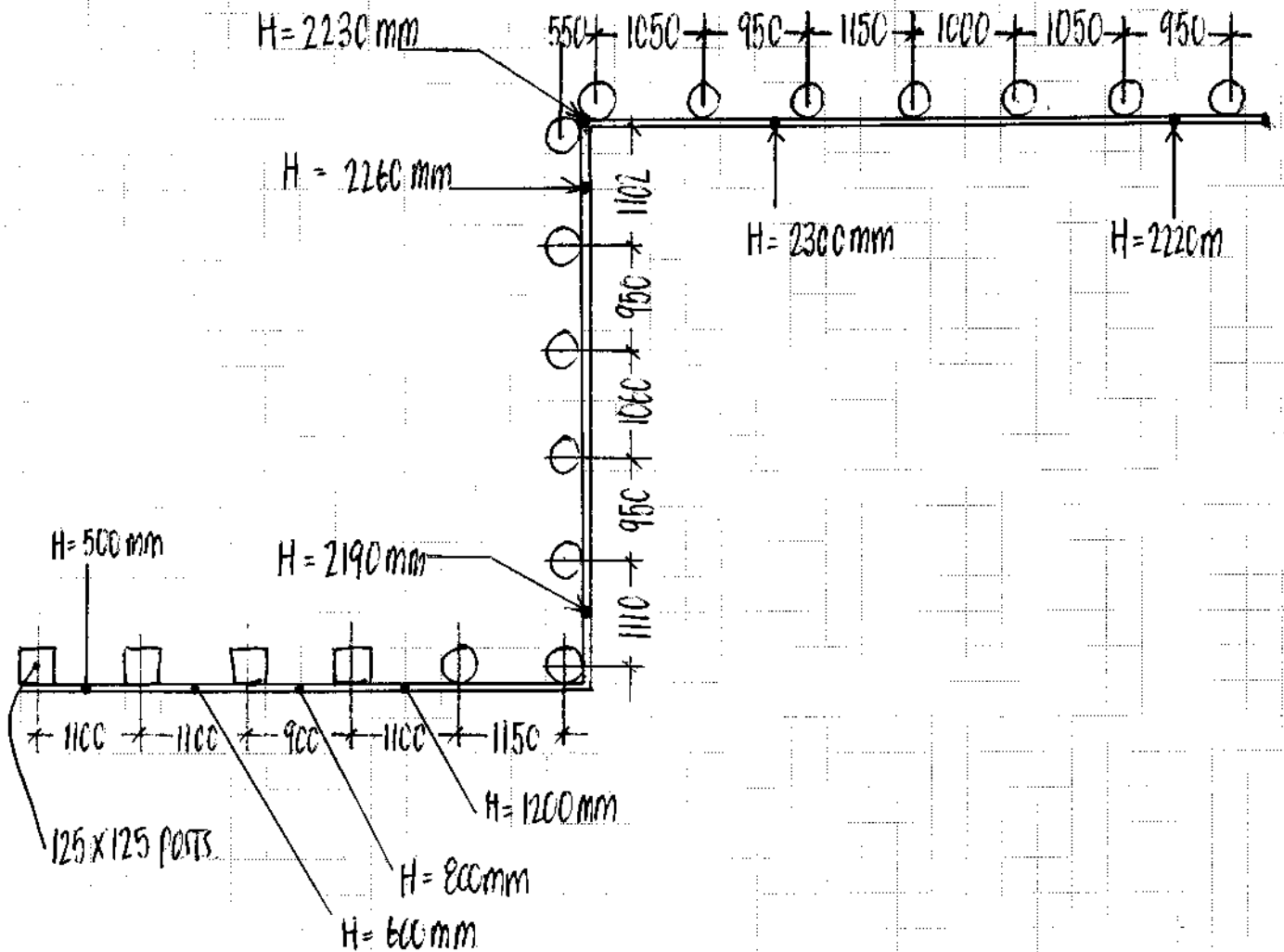
Lot 10. D.P.S 207.



Dr. J. J. J.

- **Engineering Site Inspection Notes**

[2006-088] 20 MATIPO ST - RETAINING WALL INSPECTION



NOTES:

- ① Concrete sock diameter measured on site 500mm
- ② Pole diameters at the top range between 250 and 310mm.
- ③ Railings are 50 x 175mm Tongue and groove boards
- ④ No tie backs or deadman constructed to date.



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Drawn **KK** Checked  
Approved  
Scale  
Date **13 Aug 2007**

Title **SITE INSPECTION OF RETAINING WALL**  
Drawing Number **[2006-088]**



- Folio of Photographs

Photo 1 – Retaining wall pre completion (facing east).



Photo 2 – Completed retaining wall with constructed fence (facing east).

Photo 3 – Completed retaining wall (facing east).

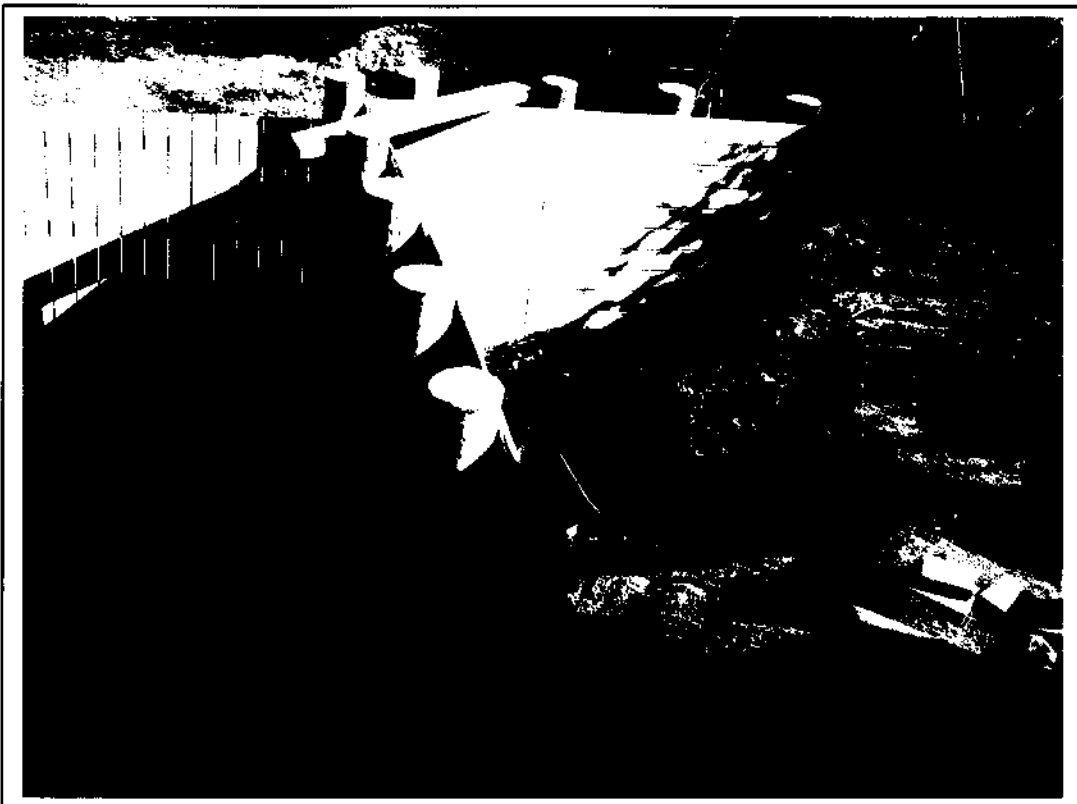


Photo 4 – Retaining wall pre backfilling (facing west).

Photo 5 – Retaining wall pre backfilling (facing west).

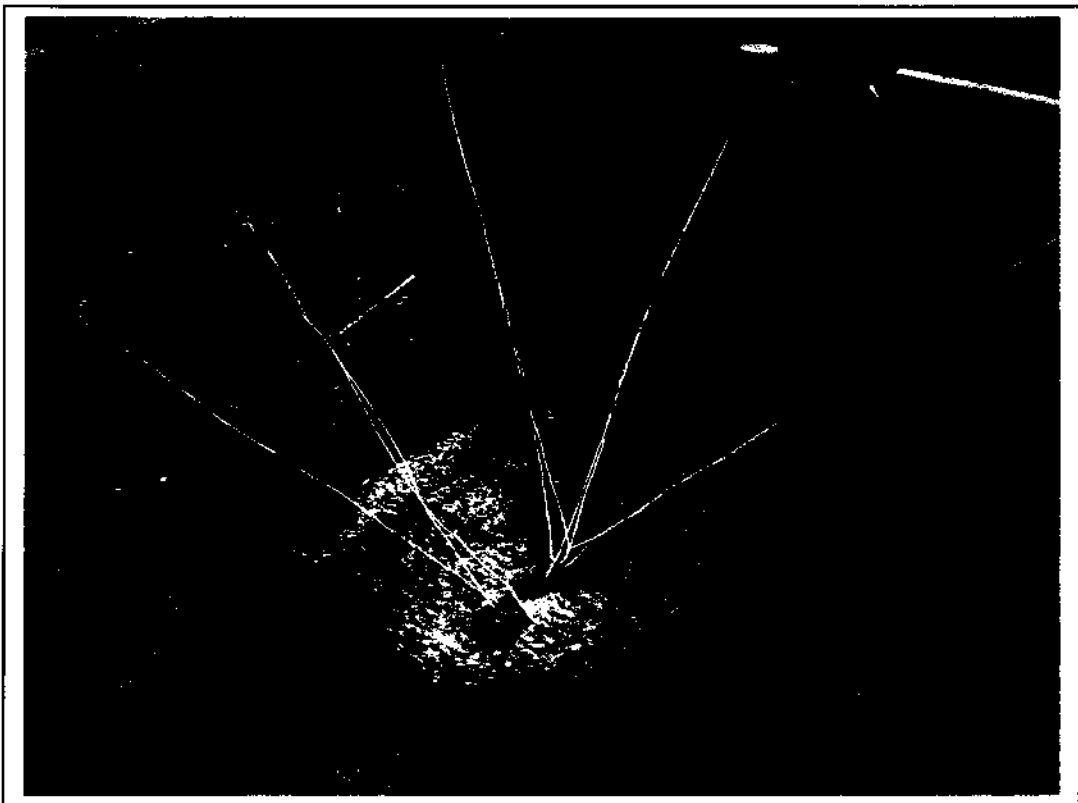


Photo 6 – Completed construction of tie backs and deadman anchor.

Photo 7 – Completed construction of tie backs and deadman anchor.

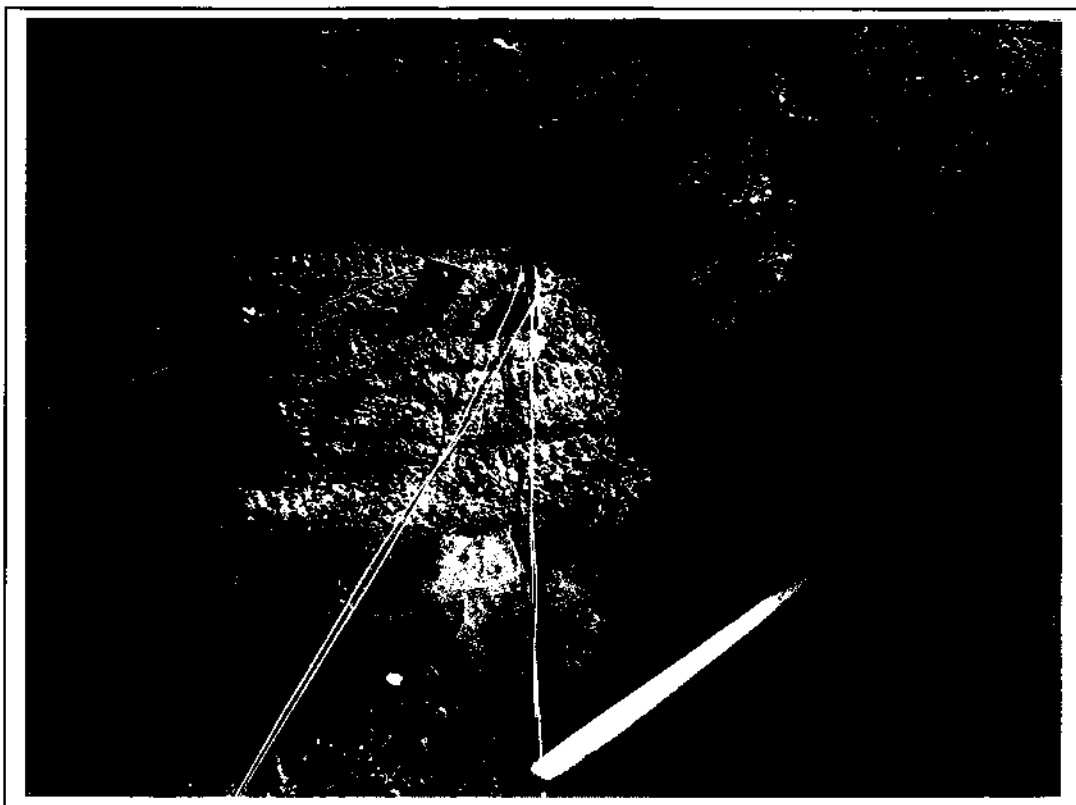
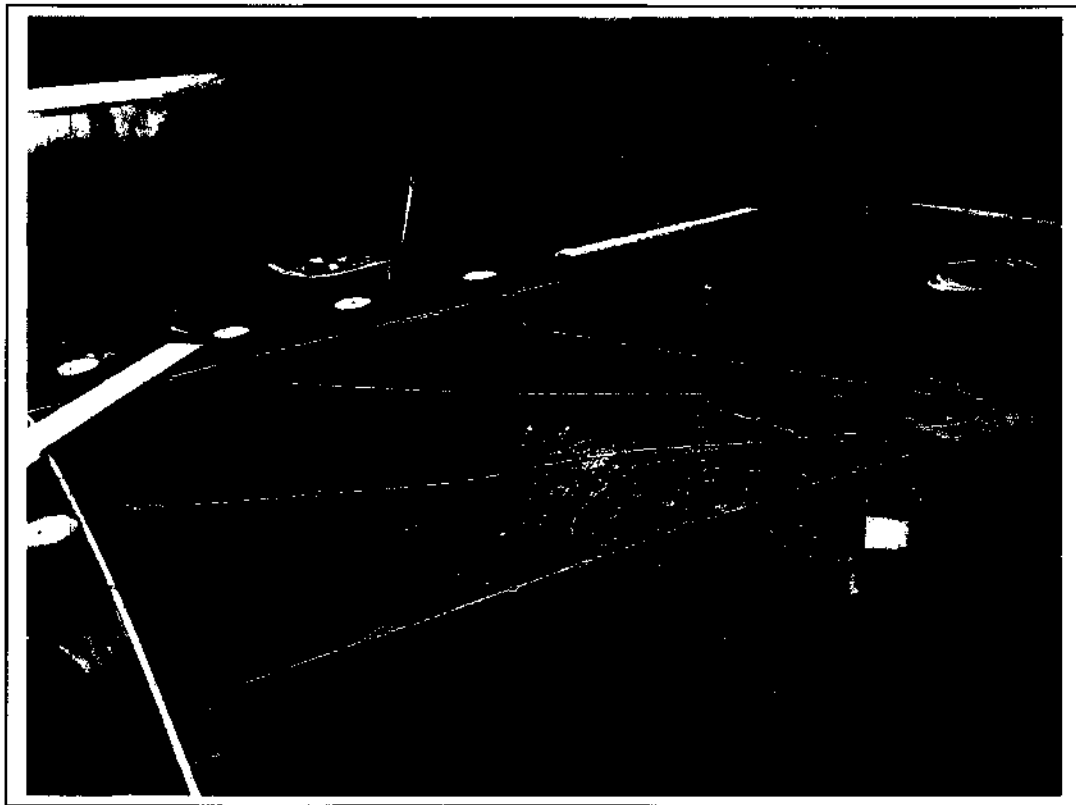


Photo 8 – Deadman anchor and tie back connection.



Photo 9 – Stepped retaining wall (facing south).



Photo 10 – Retaining wall (facing north).

Photo 11 – Stepped retaining wall pre backfilling.

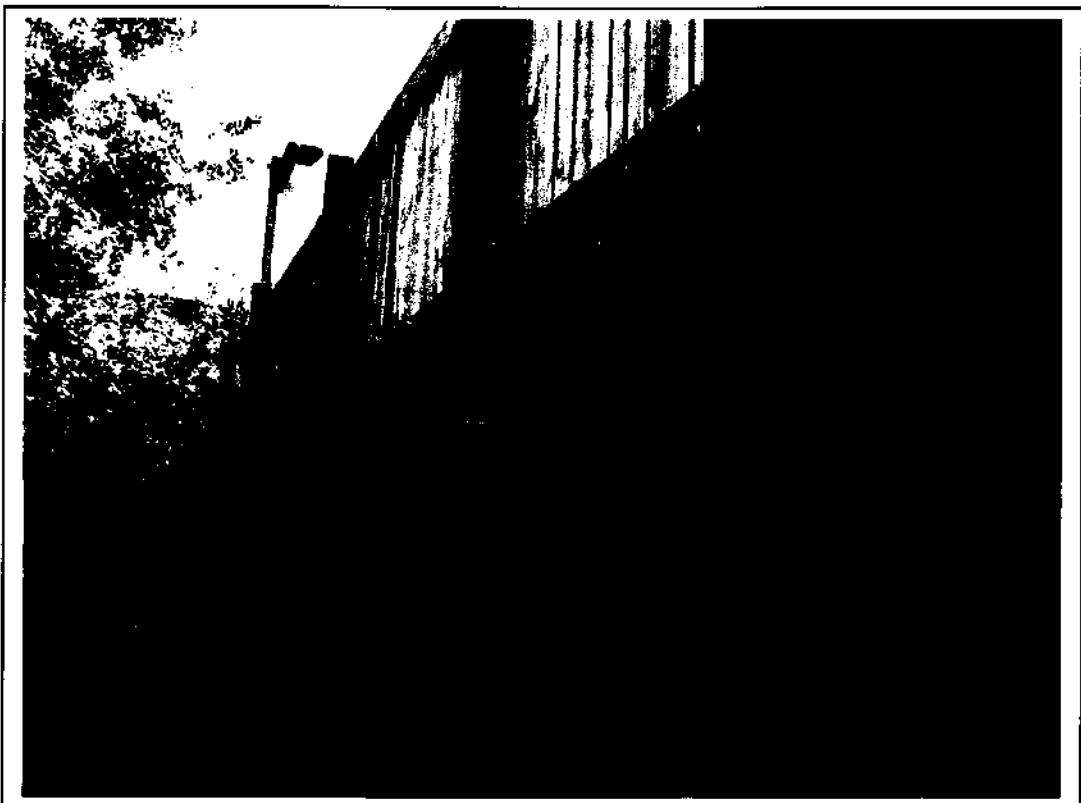


Photo 12 – Tie back connections to posts (facing north).

Photo 13 – Completed retaining wall (facing north).

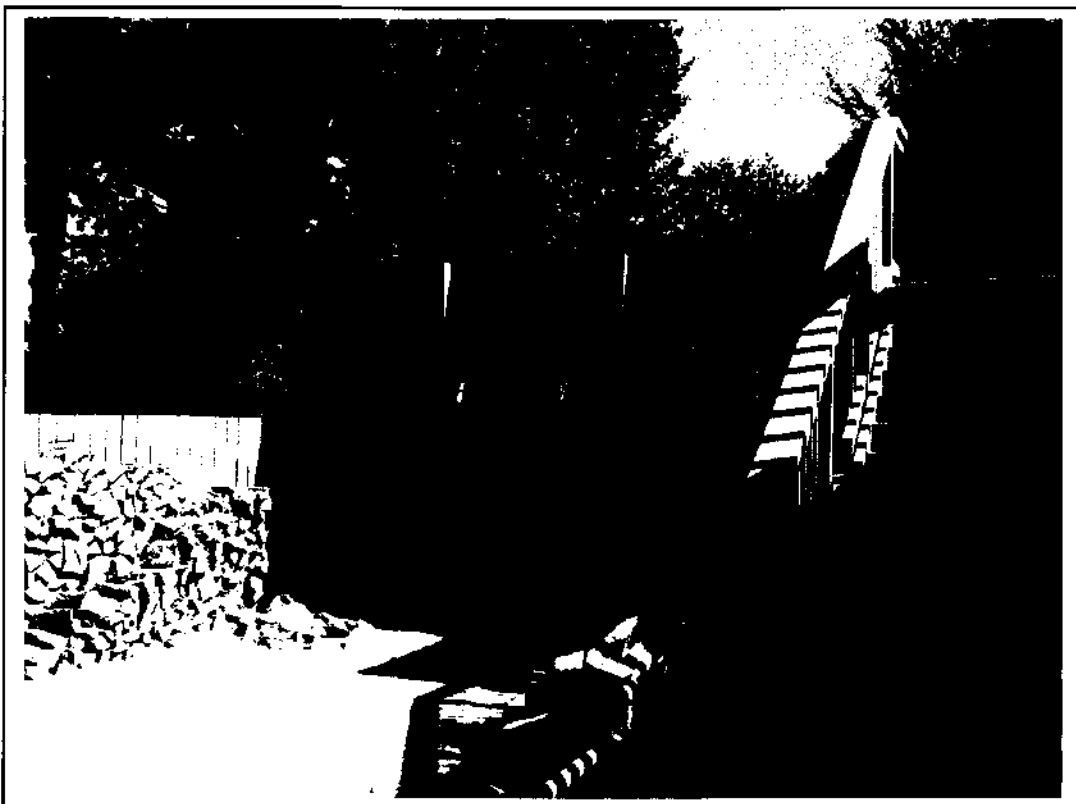
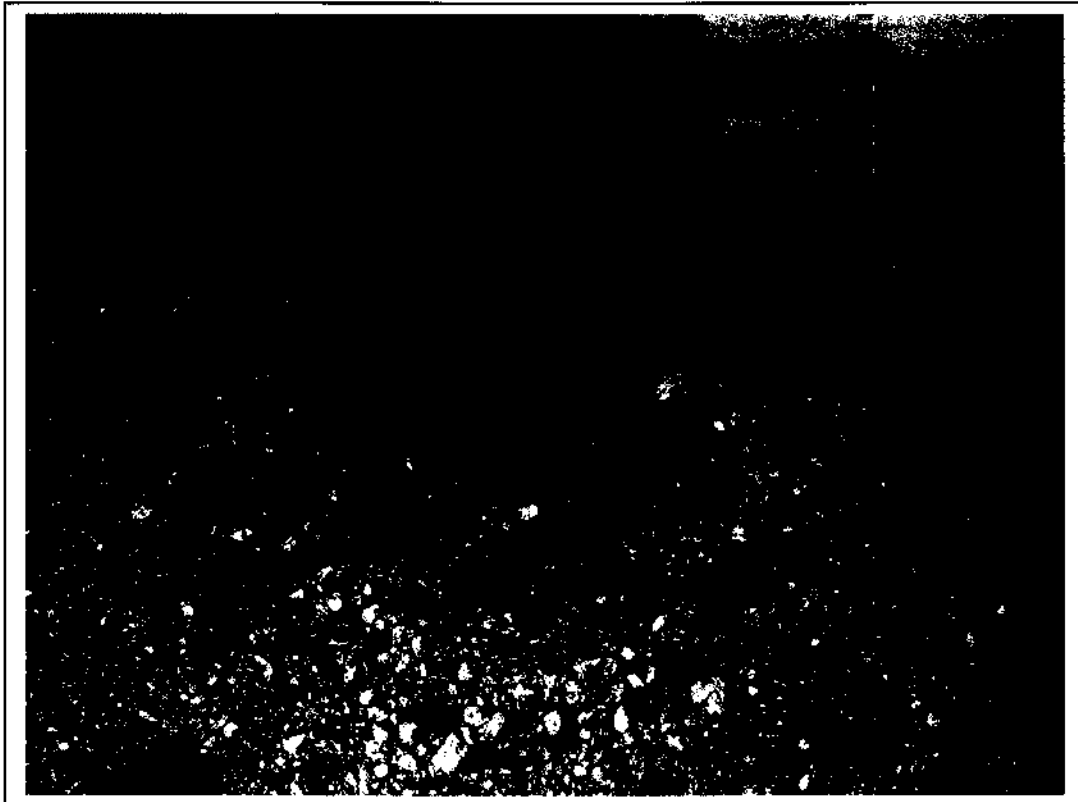


Photo 14 – Completed retaining wall.

Photo 15 – Concrete sock.



- **Design Calculations**