



**On behalf of
Tauranga City Council**

Resource Consent Application to Tauranga City Council
for Mobile Accommodation Units and Amenity Block Extension
Mount Maunganui Beachside Holiday Park
(Project reference 14291)

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Executive Summary

This application has been prepared by Tiaki Engineering Consultants Ltd. (TECL) on behalf of Tauranga City Council (TCC) for the purpose of applying for a Resource Consent to provide improved facilities at the Mount Maunganui Holiday Park (1 Adams Avenue).

Proposed upgrades to the campground include the placement of up to 25 new Mobile Accommodation Units (MAU) (5 with ablution facilities and 20 basic units), and an extension to the Ocean Amenity block. Eight MAUs are proposed to be placed within this financial year and the remaining units are to be placed in the future. All new proposed MAUs will be replacing existing permanent caravans, their locations can be found in Appendix III along with plans

Proposed works comprise of:

- Minor trenching and potholing for installation of new utilities,
- Piling for foundations,
- Construction of the extension,
- Removal of permanent caravans and,
- The placement of new MAUs.

The conclusion in this application correspondingly confirms that the proposal is unable to meet the requirements of the Tauranga City Plan as a Permitted Activity, therefore this application is lodged as a **Restricted Discretionary Activity**.

Site Description and Locality

Location

The subject site is legally described as Section 19 Block VI Tauranga SD, and is a total of 5.15 hectares in area. The site is classified as a recreational reserve and has been used as a camping ground since the early 20th century.

Certificate of Title has been attached as Appendix I. The site is zoned under the TCC Operative City Plan as Passive Open Space, Conservation and the site falls within the Mauao Recreational Reserve Scheduled Site.

The following aerial photo (TCC Mapi System) shows the general locality of the site.



Photo 1: Site Location

Buildings

Currently there are several permanent buildings on site. The Mauao Recreation Reserve Scheduled Site – Outline Development Plan has been attached as Appendix II, indicating the location of all existing buildings.

Topography and Vegetation

The site is located at the base of Mount Manganui and is situated between the Tauranga Harbour (Pilot Bay) and Mount Manganui beach. Much of the site is comprised of terraced areas providing flat sites for use as temporary accommodation, using tents, caravans, and campervans.

The site has a central high point which acts as a natural divider for the site. The southern side is referred to as the harbour side and has terraces facing east with views of Pilot Bay and the Tauranga Harbour. The northern side is referred to as the beach side and has terraces facing north east toward Mount Maunganui beach on the Pacific Ocean.

Access

Access into the campground is via the existing sealed driveway and is restricted by a boom gate to limit vehicle access to park guests, maintenance staff and approved vehicles.



Photo 2: Existing site entrance

Reasons for Consent

This consent is required for the replacement of existing permanent caravans with MAUs and the construction of an extension to the Ocean Amenity Block. This includes the temporary land disturbing activities associated with the installation of utilities.

An increase in school camping trips has resulted in larger groups utilising the park facilities, the existing Ocean Amenity block is unable to accommodate these larger groups. This causes issues for these larger groups, particularly during poor/inclement weather.

The need for the placement of new MAUs has come about due to the ageing permanent caravans requiring replacement. Units including ablution facilities will also provide more options for park guests, in particular these units are targeted toward senior guests.

This consent is requested to have no term limit, this will allow the replacement of the existing permanent caravans gradually over years as they become obsolete. Due to the location and number of MAUs being placed, consent is required under Chapter 13, Rule 13A.9.12.3 Building Scale as a **Restricted Discretionary Activity**.

Assessment Criteria

The following Statutory Policies and Plans apply to the consideration of this application:

RMA Part 6 – Resource Consents

Section 104 of the Resource Management Act (RMA), sets out matters a Consent Authority must, subject to Part 2 – Purpose and Principles of the Act, have regard to when considering Resource Consent Applications. The matters that are relevant in considering this application, are as follows:

- a) Any actual or potential effects of allowing the activity (s.104(1)(a))
- b) Any relevant provisions of a National Environmental Standard (NES) (s.104(1)(b)(i))
- c) Any relevant provisions of a National Policy Statement (NPS) (s.104(1)(b)(iii))
- d) Any relevant provisions of the Bay of Plenty Regional Policy Statement (RPS) (s.104(1)(b)(v))
- e) Any relevant provisions of a plan or proposed plan (s.104(1)(b)(vi)), these include:
 - (i) Bay of Plenty Natural Resources Plan
- f) reasonably necessary to determine the application (s.104 (1)(c))

The following Statutory Policies and Plans apply to the consideration of this application:

Assessment against the Bay of Plenty Regional Policy Statement

The Bay of Plenty Operative Regional Policy Statement (RPS) sets the direction for the future management of the Bay of Plenty Region's significant resource management issues. All regional and district plans must be consistent with Regional Policy Statements. The RPS is relevant to the Resource Consent Application for this site. The resource management issues, objectives and policies of the RPS relating to this proposal, are identified below:

- **2.3 Energy and Infrastructure**
 - Objective 7: Provide for the appropriate management of:

- a) any adverse environmental effects (including effects on existing lawfully established land uses) created by the development and use of infrastructure and associated resources;
- b) any reverse sensitivity effects on established, consented or designated infrastructure.
 - *Policy EI 7B: Managing the effects of infrastructure development and use*
- **2.5 Integrated Resource Management**
 - Objective 10: Cumulative effects of existing and new activities are appropriately managed
 - *Policy IR 1B: Applying a precautionary approach to managing natural and physical resources*
 - *Policy IR 5B: Assessing cumulative effects*
 - Objective 12: The timely exchange, consideration of and response to relevant information by all parties with an interest in the resolution of a resource management issue
 - *Policy IR 4B: Using consultation in the identification and resolution of resource management issues*
 - *Policy IW 6B: Encouraging tangata whenua to identify measures to avoid, remedy or mitigate adverse cultural effects*
- **2.6 Iwi Resource Management**
 - Objective 13: Kaitiakitanga is recognised and the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) are systematically taken into account in the practice of resource management
 - *Policy IR 4B: Using consultation in the identification and resolution of resource management issues*
 - Objective 14: Partnerships between Bay of Plenty Regional Council, district and city councils and iwi authorities
 - *Policy IR 4B: Using consultation in the identification and resolution of resource management issues*
 - *Policy IW 7D: Cultivating partnerships between iwi and statutory management agencies*
- **2.7 Matters Of National Importance**
 - Objective 18: The protection of historic heritage and outstanding natural features and landscapes from inappropriate subdivision, use and development.
 - *Policy MN 8B: Managing effects of subdivision, use and development*

Assessment Against the Tauranga City Plan

An extract from the Tauranga City Plan is shown below, showing the zoning and location of the proposal.



Figure 1: Extract from the TCC District Plan.

Chapter 8 Natural Hazards Provisions

8B.2 Activity Status Rules (CHEPA & Coastal Protection Plan Area)

8B.2.1 Activities Subject to Natural Hazards

Table 8B.1: Natural Hazards Activity Status (CHEPA and Coastal Protection Plan Area)

Use/Activity	Relevant Rule	CERZ	50 year and 100 year ERZ	Coastal Protection Plan Area
<p><i>The following activities that form part of a lawfully established camping ground that existed at the date of notification of the Plan:</i></p> <ul style="list-style-type: none"> <i>a) Tent and powered sites for campers and caravans;</i> <i>b) Kitset awnings and mobile annexes;</i> <i>c) Existing carparking and internal vehicle and pedestrian accessways.</i> 	8B.3	P	P	P

Chapter 13 Open Space Zones

13A.9.11 Mauao Recreational Reserve Scheduled Site – Permitted Activity Rules

Within Appendix 13E: Mauao Recreation Reserve Scheduled Site – Outline Development Plan

- a. Camping grounds;*
- b. Community facilities and associated activities and allied business activity directly associated with the use of the holiday park which provides a service to holiday park guests;*
- c. Associated carparking to meet the Permitted Activity requirements in Chapter 4 – General Rules;*
- d. Surf Life Saving Buildings (including Clubrooms) and associated carparking to meet the Permitted Activity requirements in Chapter 4 – General Rules;*
- e. Minor Structures and Activities;*
- f. Minor Public Recreational Facilities and Activities.*

The proposed locations of the new MAUs fall outside the permitted area as shown in the Outline Development Plan and exceed the allowable quantity; therefore, the mobile accommodation units are considered to be a **Restricted Discretionary Activity** requiring consent.

Note, the positions of the existing units have changed from positions indicated in the Outline Development Plan due to health and safety reasons. Rocks above the consented locations are considered to be unstable, resulting in the mobile units being moved to their current positions avoiding potential damage to property and persons.

13A.9.12 Mauao Recreational Reserve Scheduled Site – Permitted Activity Rules

A design feature or building component may exceed the maximum permitted height in Rule 13A.9.12.1 – Building Height within the Hot Pool Complex (as identified on Appendix 13E: Mauao Recreation Reserve Scheduled Site – Outline Development Plan) provided that design feature or building component does not exceed the envelope of the existing building/structure that existed on 26 March 2011.

13A.9.12.3 Building Scale

Mount Hot Pools and Mount Maunganui Surf Life Saving Clubrooms:

- a. *The maximum gross floor area (GFA) of any building, structure or activity identified as the Mount Hot Pools and Mount Manganui Surf Life Saving Clubrooms shall not exceed the external footprint or envelope of the existing building, structure or activity (as existed on 26 March 2011):*

Mount Beachside Holiday Park:

- b. *Principal buildings:*
 - i. *Ocean Amenity block: 380m²*
 - ii. *Pilot Bay amenity block: 100m²*
 - iii. *Harbour amenity block: 280m²*
 - iv. *Manager’s Accommodation Main offices and Ranger’s Office: 225m²*
 - v. *Mobile accommodation units: 24m²*
- c. *Accessory Buildings:*
 - i. *Implement shed (#1): 115m²*
 - ii. *Implement shed (#2): 35m²*
 - iii. *Mauao fire pump house: 20m²*
 - iv. *Public Toilet 30m²*

The expansion to the Ocean Amenity block will increase the building footprint from 380m² to 530m² therefore the expansion is considered a **Restricted Discretionary Activity**.

The existing 9m long mobile accommodation units shown within the Outline Development Plan have a GFA of 24m²; however, their footprints are 25.2m². Because the units were placed prior to 26 March 2011, it is unclear if the new 9m long mobile accommodation units trigger consent under Rule 13A.12.3 as they also have a footprint of 25.2m².

Construction Methodology

Ocean Amenity Block:

Pre-Construction

- 1) Implement 2m high fencing around the construction site (for the extension)
- 2) Construction entrance to be located in within the internal access road.
- 3) Implement health and safety register and project sign boards.
- 4) Notify iwi of intentions to begin work

Construction

- 1) Strip topsoil and remove from site.
- 2) Construct foundation piling.
- 3) Construct building.

Mobile Accommodation Units

- 1) Open trenching to be mechanically excavated.
- 2) Stockpile materials in 300mm layers.
- 3) Lay bedding.
- 4) Place pipework to grade.
- 5) Connect to existing services (open cut manhole and re-bench)
- 6) Backfill and compact trenches.

Other Consents

Building Consent

Building consent is required for the extension to the ocean amenity block and has been lodged with Tauranga City Council. The consent number for this application is, BC301155, as at submission of this application it is pending an outcome.

Assessment of Environmental Effects

Park use Intensity

The purpose of placing the new MAUs is to provide improved accommodation options to park users replacing the existing permanent caravans notably senior citizens (for the units with ablution) and children on organised school camps. The extension of the Ocean Amenity Block serves a similar purpose, for larger groups of park users there is currently not enough space for every guest to have shelter, this becomes problematic during poor / inclement weather conditions.

The proposed upgrades will not result in an increased overall intensity of the use of the park, as the new MAUs are to replace the existing permanent caravans onsite.

Earthworks

Minor earthworks are required for the extension of the Ocean Amenity Block, top soil is to be stripped and removed from site.

For the installation of services, open trenching may be required for some services; however, it is expected most services will be directionally drilled to reduce adverse effects on the culturally significant site.

Effects on Natural Landscape

Clinton Bowyer from TCC is currently preparing a landscape and visual amenity assessment, this will be forwarded on completion.

Infrastructure

Proposed works include the installation of additional services within the park to service the MAUs and Amenity block extensions, there will be additional loading on the TCC water or wastewater infrastructure, due to the capacity remaining the same.

Effects on the Community

The community is considered to experience a net positive effect from the proposal.

The need for more basic MAUs and units with Ablution facilities has arisen due to an increase in school trips to the holiday park and due to the change in demographic resulting in older users in the park requiring the abolition facilities. This proposal will allow for larger school groups to use the park and its facilities and for senior citizens to have improved accommodation options when staying at the park.

Cultural Effects

Initial consultation with Tangata Whenua, indicated potential concern with wastewater infrastructure being installed near Mauao due to the risk of leakage from wastewater pipes and possible contamination of the site and adjacent Mount Main Beach. Further consultation including discussion of current engineering construction standards has resolved these concerns.

Consultation with Affected Parties

Consultation with the Mauao Iwi Trust has been undertaken by Keren Paekau and Mark Hales from TCC. The outcome of this consultation has been attached as Appendix V.

Review of Historic Sites

The TCC Mapi system shows recorded archaeological sites located in surrounding properties, the area is known to be rich in archaeological features.

Archaeological Authorities have been applied for and approved; copies of these approvals have been attached as Appendix V along side an archaeological assessment from Ken Phillips.

Below is a screenshot from TCC's Mapi, taken on the 23 April 2020.



Figure 2: Extract from the TCC Mapi System showing known Archaeological features, 23 April 2020

Appendix I

Certificate of Title



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**

**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**




R. W. Muir
Registrar-General
of Land

Identifier SA61D/711
Land Registration District South Auckland
Date Issued 19 May 1997

Prior References

GN H362414.1

Estate Fee Simple
Area 5.1500 hectares more or less
Legal Description Section 19 Block VI Tauranga Survey
District
Purpose Recreation reserve

Registered Owners

Tauranga City Council

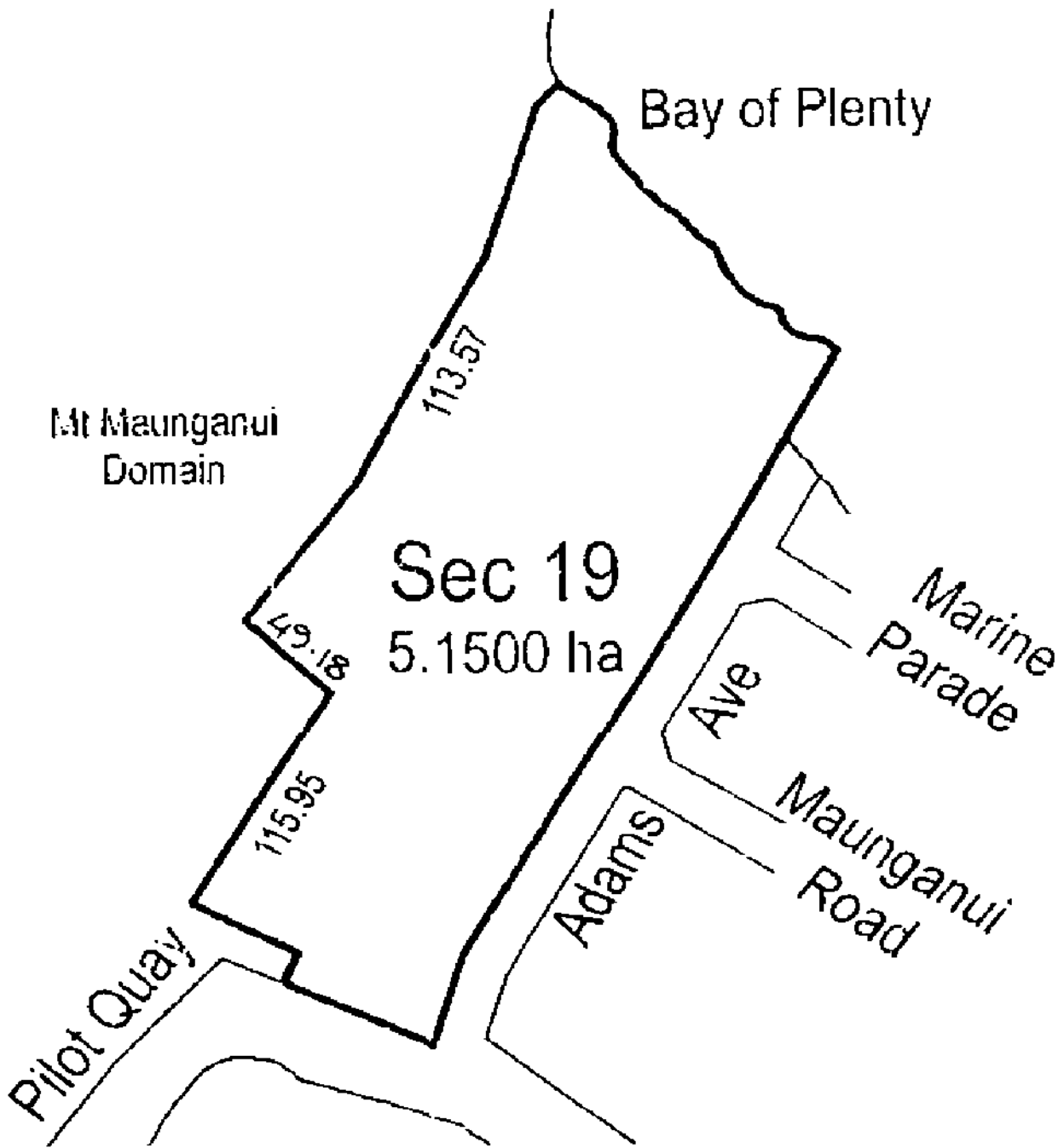
Interests

SUBJECT TO THE RESERVES ACT 1977

B433419.1 Building Act 1991 - Section 36 (2) - Certificate - 15.8.1997 at 12.10 pm

B567263.1 Building Act 1991 - Section 36 (2) - Certificate - 15.9.1999 at 11.07 am

6077303.2 Certificate that a building consent has been issued in respect of a building on the land that is described in Section 36(2) Building Act 1991 - 13.7.2004 at 9:00 am



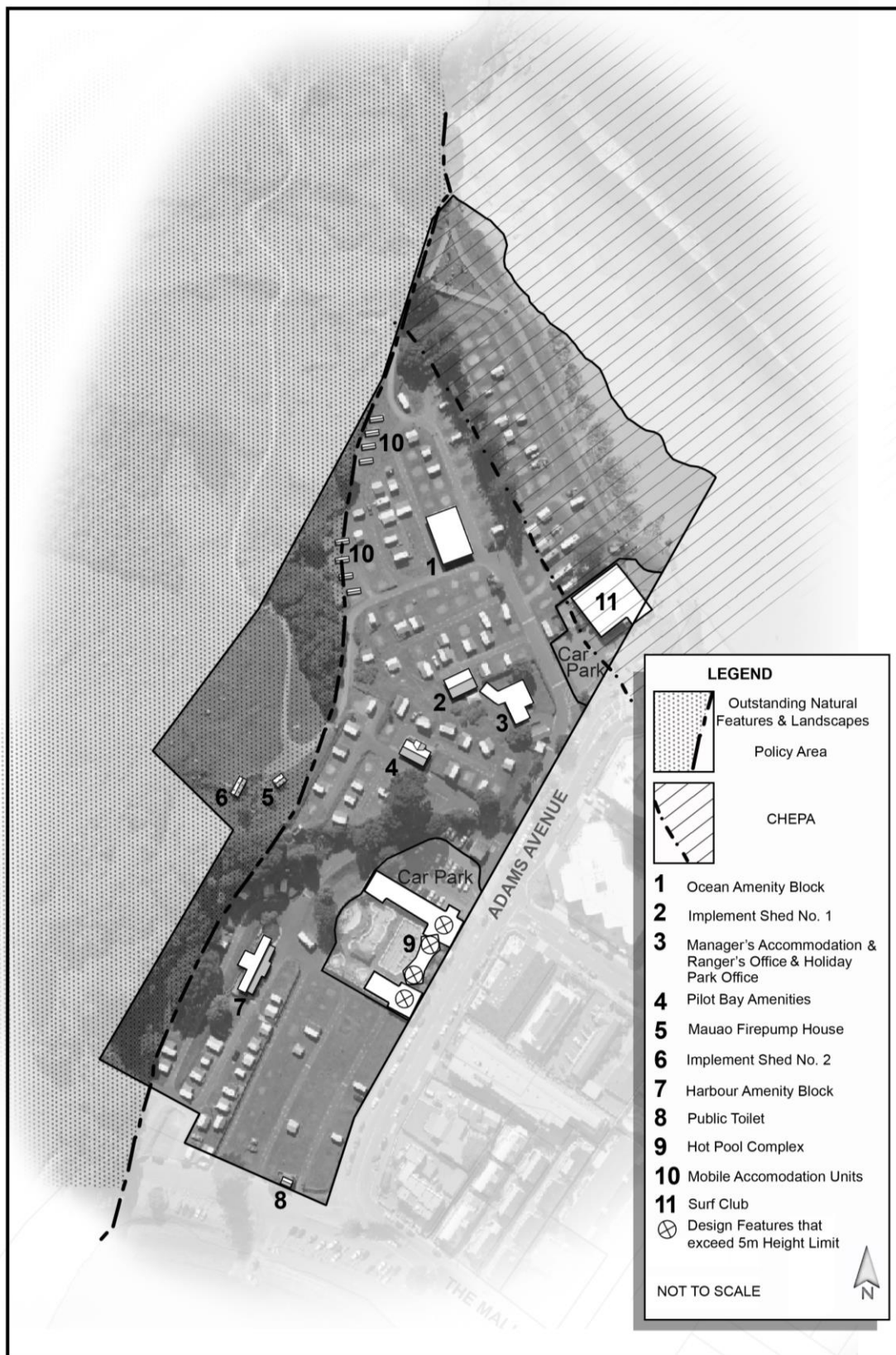
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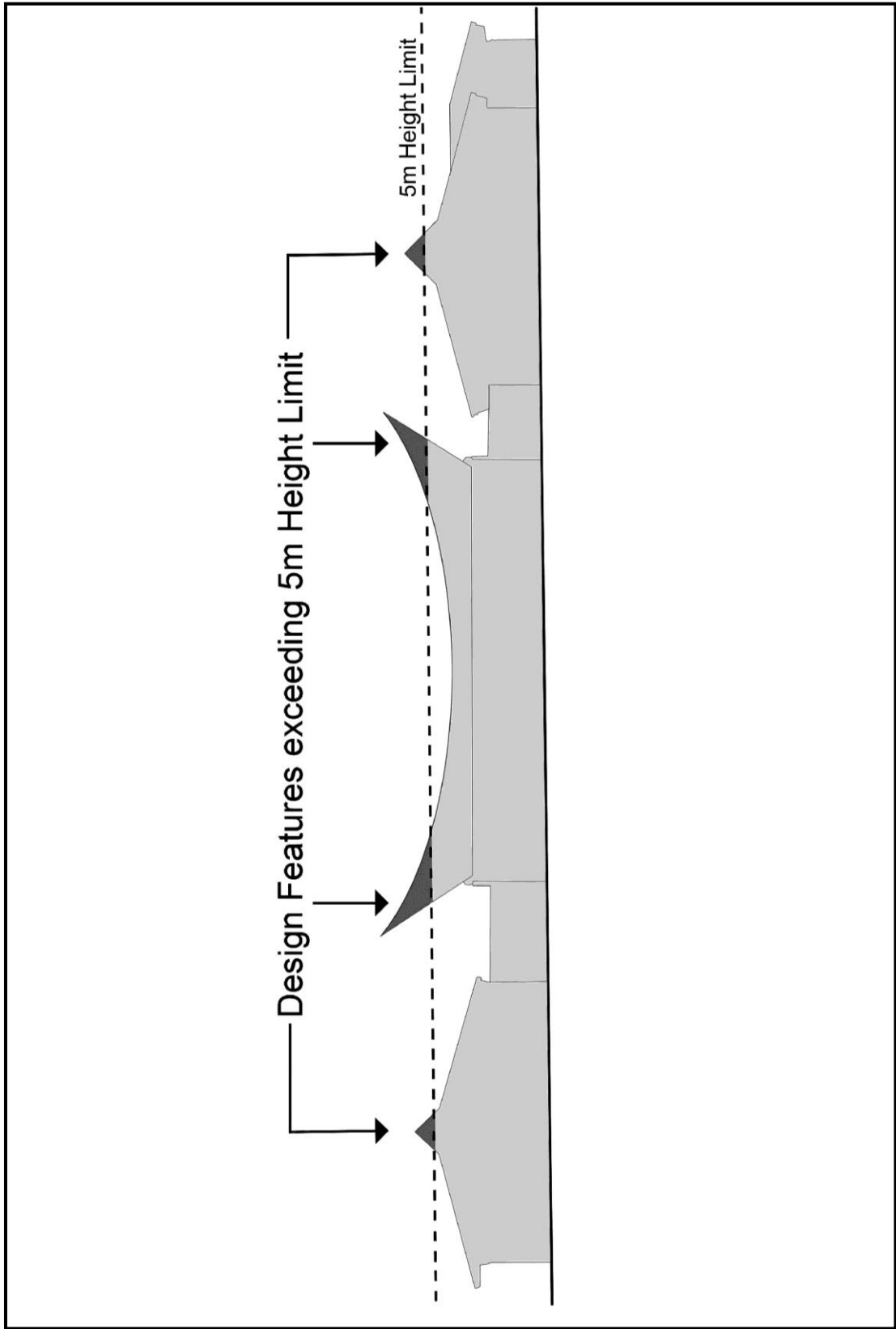
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Appendix II

Mauao Recreational Reserve Scheduled Site – Outline Development Plan

Appendix 13E: Mauao Recreation Reserve Scheduled Site – Outline Development Plan





Appendix III

Proposed Locations of New Mobile Accommodation Units

Mobile Accommodation Unit Specifications

Plans of Mobile Accommodation Units
















Plans of the Extension to the Ocean Amenity Block

GISAT CASINS
2020

Mt Maungarui / Mauao Reserve

MOUNT MAUNGARUI
BEACHSIDE
HOLIDAY PARK
Tauranga City


Welcome to our place

- | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|-----------------------------|
|  | Ocean Park |  | Amenity Blocks |  | Rubbish & Recycling Station |
|  | Pilot Park |  | Dump Station |  | BBQ |
|  | Harbour Park |  | Car Wash |  | Site Car Parking |
|  | Offices & Maintenance |  | Clothes Line |  | Assembly Point |
|  | Cabins |  | Fish Station |  | Tsunami Assembly Point |



Future Carriwis
















Mt Maungarui / Mauao Reserve



**MOUNT MAUNGARUI
BEACHSIDE
HOLIDAY PARK**

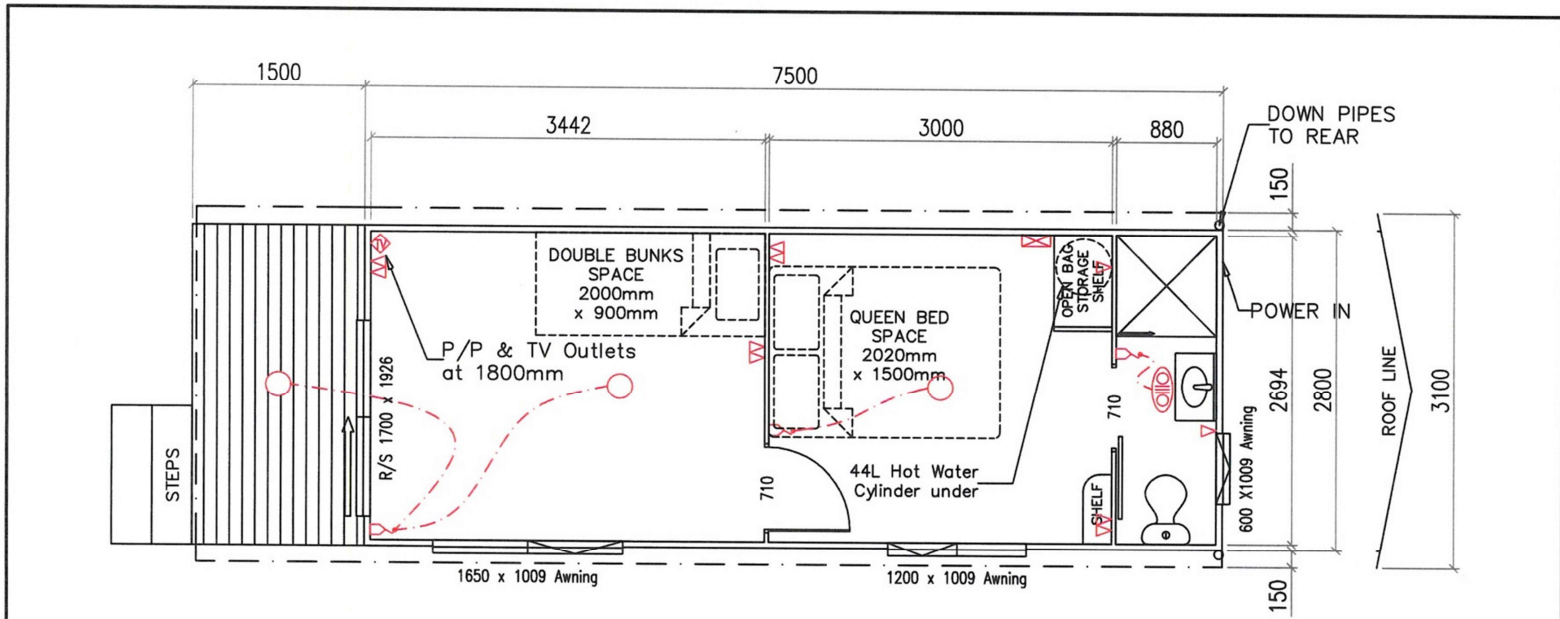
Tauranga City

Welcome to our place

- | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|-----------------------------|
|  | Ocean Park |  | Amenity Blocks |  | Rubbish & Recycling Station |
|  | Pilot Park |  | Dump Station |  | BBQ |
|  | Harbour Park |  | Car Wash |  | Site Car Parking |
|  | Offices & Maintenance |  | Clothes Line |  | Assembly Point |
|  | Cabins |  | Fish Station |  | Tsunami Assembly Point |



Mount Main Beach



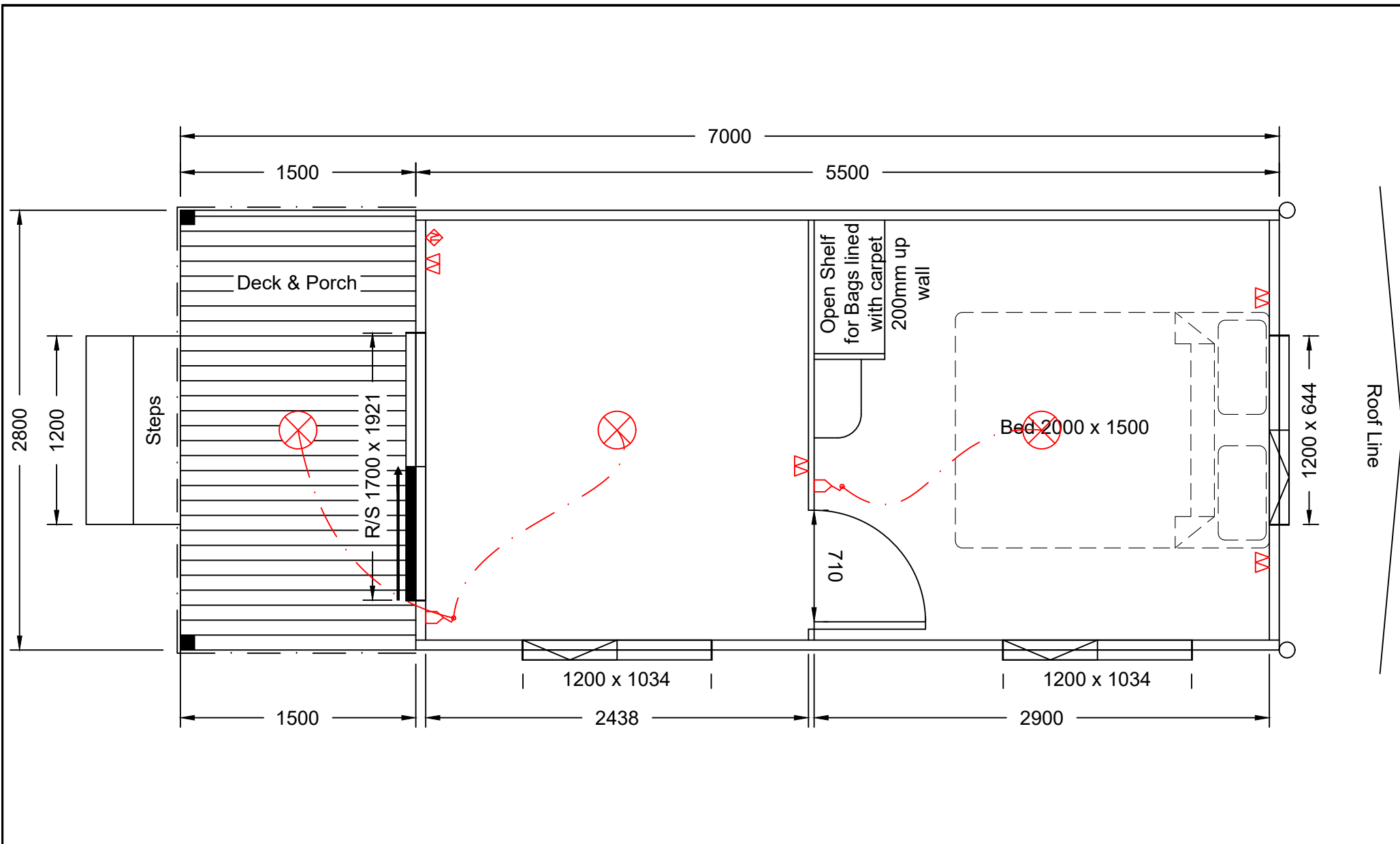
Signed as Accepted by:.....

Full Name:.....

Dated:.....

LEGEND		PLAN INFORMATION	
▽	Power Point Single	Customer Name:	Mt Maunganui Holiday Park
▽▽	Power Point Double	Plan/ Chassis No:	xxx
◇	TV Outlet	Date:	24/07/2014
Ⓜ	Telephone Jack	Scale:	1: 50
Ⓞ	Bathroom Fan/ Light		
Ⓛ	Light Switch		
Ⓛ	Exterior Light		
Ⓛ	Interior Light Std		
Ⓛ	Interior Downlight		
Ⓛ	Wall Light With Switch		





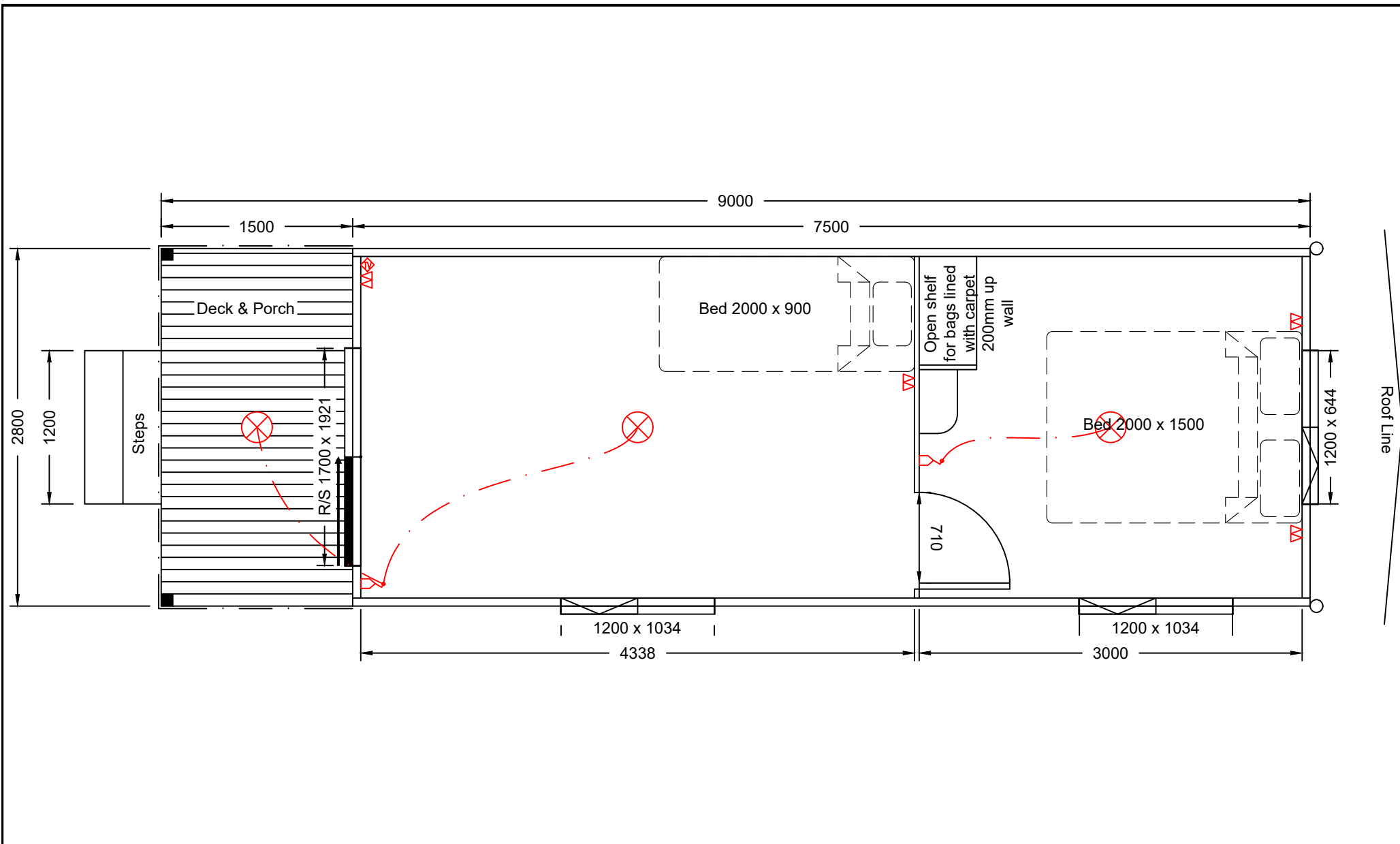
LEGEND

-  Power Point Single
-  Power Point Double
-  TV Outlet
-  Telephone Jack
-  Bathroom Fan/ Light
-  Light Switch
-  Exterior Light
-  Interior Light Std
-  Interior Downlight
-  Wall Light With Switch

PLAN INFORMATION

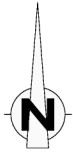
Customer Name:	Mount Maunganui
Plan/ Chassis No:	HHXXX
Date:	19/09/2018
Palaside / Roof Colour	Pallside / Roof?





LEGEND		PLAN INFORMATION	
	Power Point Single	Customer Name:	Mount Maunganui
	Power Point Double	Plan/ Chassis No:	HHXXX
	TV Outlet	Date:	19/09/2018
	Telephone Jack	Palaside / Roof Colour	Palliside / Roof?
	Bathroom Fan/ Light		
	Light Switch		
	Exterior Light		
	Interior Light Std		
	Interior Downlight		
	Wall Light With Switch		





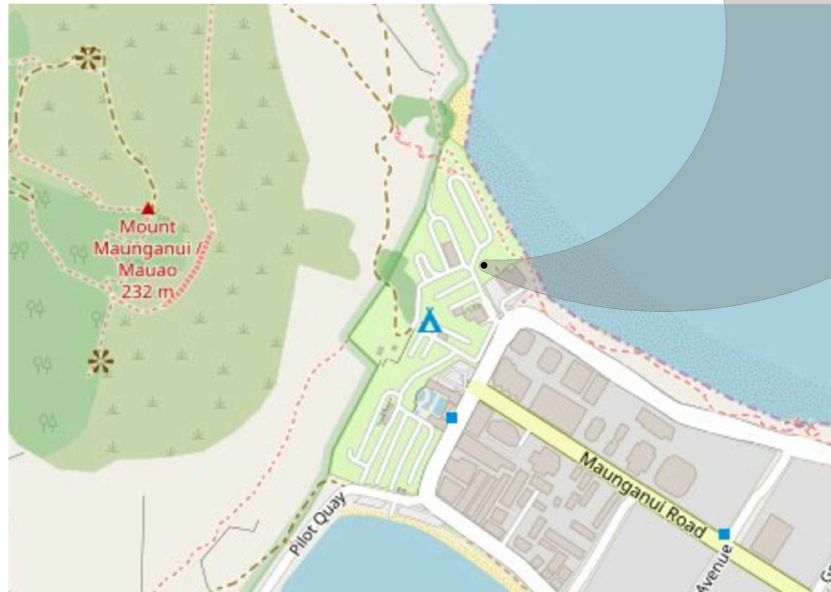
Note:

1. Base plan based on GIS Contours supplied by Tauranga City Council and site survey data
2. Bench Mark: BMRM4
3. RL: 5.224
4. All local co-ordinates are based on the New Zealand Transverse Mercator co-ordinate system



SITE PLAN
NTS

Sheet Set Index: Site 1	
General	Sheet 01 to 03
Wastewater	Sheet 04 to 07
Water	Sheet 08 to 10



LOCALITY SKETCH
NTS

**ISSUED FOR
CONSENT**

Surveyed:	C	FOR CONSENT	JUN 2020
Designed:	B	COUNCIL APPROVAL	Dec 2019
Drawn:	A	CLIENT COMMENT	Dec 2019
Reviewed:	Rev	Revision Details	Appd Signature Date

Verify all dimensions on site before commencing work. Prioritise figured dimensions over scaling. Refer all discrepancies to the drawing office. This document and the copyright in this document remain the property of Tiaki Engineering Consultants Limited. The contents of this document may not be reproduced either in whole or in part by any means whatsoever without the prior written consent of Tiaki Engineering Consultants Limited.

tiaki
ENGINEERING CONSULTANTS

Tiaki Engineering Consultants Ltd
115 The Strand, Tauranga
PO Box 13030 Tauranga 3141
Phone: 07 577 1399
Web: www.tecl.co.nz

Client:
**TAURANGA
CITY
COUNCIL**



Project Title:
MT MAUNGANUI CABINS

Sheet Title:
LOCALITY & SITE PLAN

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	01 of 10	Sheet #:	Rev No: C



Surveyed:	C	FOR CONSENT	JUN 2020
Designed:	B	COUNCIL APPROVAL	Dec 2019
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Reviewed:	Rev	Revision Details	Appd Signature Date

s 7(2)(a) - Privacy



Tiaki Engineering Consultants Ltd
115 The Strand, Tauranga
PO Box 13030 Tauranga 3141
Phone: 07 577 1399
Web: www.tecl.co.nz

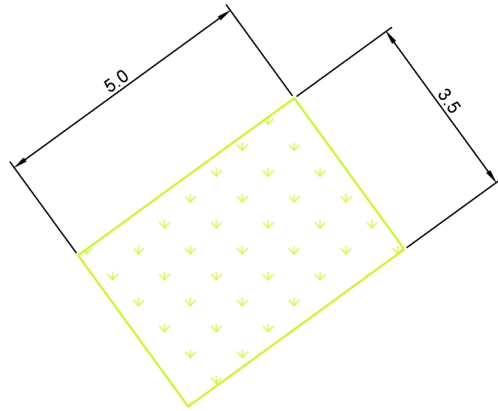
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TAURANGA CITY COUNCIL



Project Title:
MT MAUNGANUI CABINS

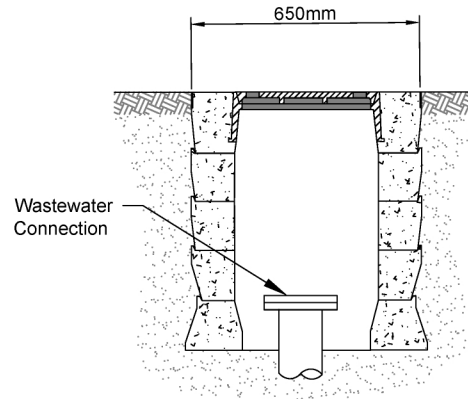
Sheet Title:
CABINS LAYOUT

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	02 of 10	Sheet #:	Rev No: C



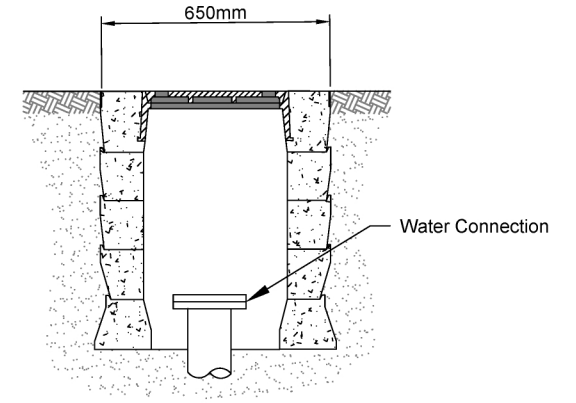
DESIGNATED PARKING AREAS

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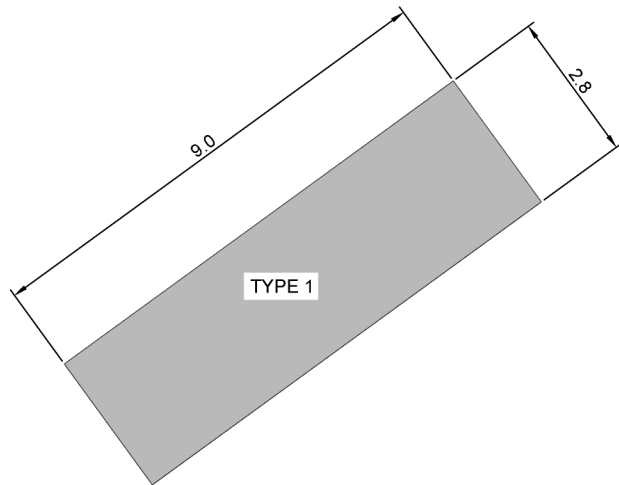
WASTEWATER CONNECTION BOX

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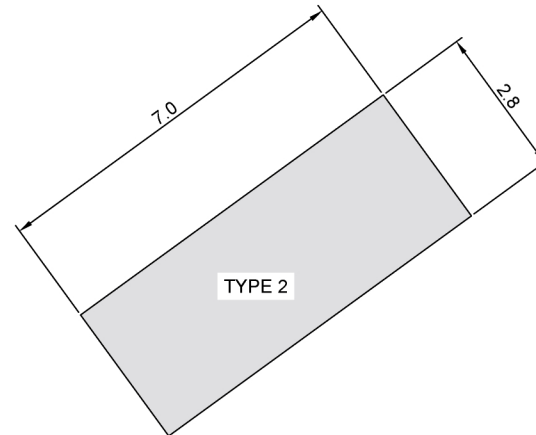
WATER CONNECTION BOX

Scale 1:500 on A3



PRE-FABRICATED 9.0m CABIN

Scale 1:500 on A3



PRE-FABRICATED 7.0m CABIN

Scale 1:500 on A3

**ISSUED FOR
CONSENT**

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Reviewed:	Rev	Revision Details	Appd Signature Date

s 7(2)(a) - Privacy



Tiaki Engineering Consultants Ltd
115 The Strand, Tauranga
PO Box 13030 Tauranga 3141
Phone: 07 577 1399
Web: www.tecl.co.nz

Client:
**TAURANGA
CITY
COUNCIL**



Project Title:
MT MAUNGANUI CABINS

Sheet Title:
TYPICAL DETAILS

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	03	Sheet #:	Rev No:
	of 10		C

Reference Sheets
 05 - WW1 LONGITUDINAL SECTION
 06 - WW2 LONGITUDINAL SECTION
 07 - Pipe & Structure Schedules Wastewater



Key:

- Water supply pipe (existing)
- Water supply pipe (new)
- - - Wastewater pipe (existing)
- - - Wastewater pipe (new)
- ⊙ Wastewater man hole (existing)
- ⊙ Wastewater man hole (new)
- ⊞ Wastewater rodding eye (existing)
- ⊞ Wastewater pipe (new)
- ⊞ Wastewater Connection Box
- - - Stormwater pipe (existing)
- ⊙ Stormwater man hole (existing)
- ⊙ Stormwater man hole (new)
- Stormwater sump (new)
- Stormwater sump (existing)
- Legal boundary (existing)

Wastewater Labels: Legend

WW1 : Wastewater Line 1
 WW2 : Wastewater Line 2
 RE : Rodding eye
 LC : Lateral Connection
 MH : Manhole
 P : Pipe

Note: Directional Drilling

- All sewer pipes to be Ø100mm uPVC
- Trenches will be directionally drilled
- Finished Floor Level (FFL) obtained from Moruriki datum, and modelled TCC floodlevel records.

Note

- All wastewater to be constructed in accordance with TCC development code.
- All maholes to conform with TCC drawing T601, T608
- Rodding Eye to conform with TCC drawing T620
- All lot connections to be 100Ø PVC.
- Lot connections to pipe to conform with TCC drawings T630 & T631.

WW1-MH3-3
 300Ø
 5830352.42mN
 1880316.92mE
 Lid Level 5.19
 MH Depth 1.12

WW1-MH1-3
 300Ø
 5830367.89mN
 1880341.94mE
 Lid Level 5.90
 MH Depth 1.27

LAYOUT PLAN - WASTEWATER - SITE 1
 Scale 1:200 on A3

ISSUED FOR CONSENT

Surveyed:	C	FOR CONSENT	JUN 2020
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Reviewed:	Rev	Revision Details	Appd Signature Date

tiaki
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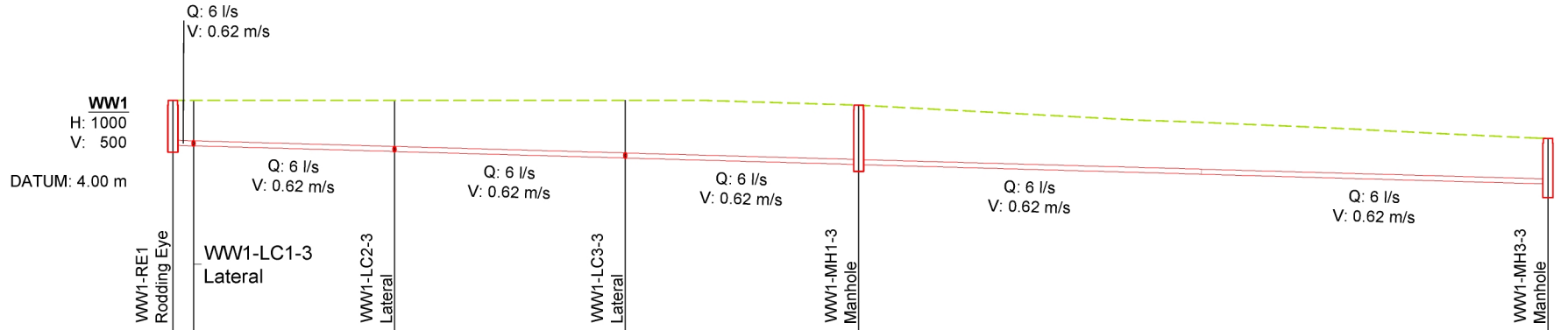
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 PO Box 13030 Tauranga 3141
 Phone: 07 577 1399
 Web: www.tecl.co.nz

Client:
TAURANGA CITY COUNCIL

Project Title:
MT MAUNGANUI CABINS

Sheet Title:
WASTEWATER LAYOUT

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	04	Sheet #:	10
Rev No:	C		



SET OUT DATA	E: 1880324.959 E: 1880325.468 N: 5830391.011	E: 1880330.447 N: 5830384.025	E: 1880336.163 N: 5830376.004	E: 1880341.944 N: 5830367.890	E: 1880316.921 N: 5830352.417	
DISTANCE	0.88 m	8.58 m	9.85 m	9.96 m	14.63 m	14.79 m
LID LEVEL	6.00 6.00	6.00	6.00	5.90	5.19	
INVERT LEVELS	5.04 5.03	4.91	4.77	4.63	4.22	
DEPTH TO INVERT	0.96 0.97	1.09	1.23	1.27	0.97	
PIPE DETAILS	WW1-P1-6 100 mm Ø uPVC	WW1-P2-6 100 mm Ø uPVC	WW1-P3-6 100 mm Ø uPVC	WW1-P4-6 100 mm Ø uPVC	WW1-P5-6 100 mm Ø uPVC	WW1-P6-6 100 mm Ø uPVC
GRADES	1.40% 1:71	1.40% 1:71	1.40% 1:71	1.40% 1:71	1.40% 1:71	1.40% 1:71

LONGITUDINAL SECTION - WASTEWATER - SITE 1 - WW1

Scale 1:200 on A3

**ISSUED FOR
CONSENT**

Surveyed:	C	FOR CONSENT	JUN 2020
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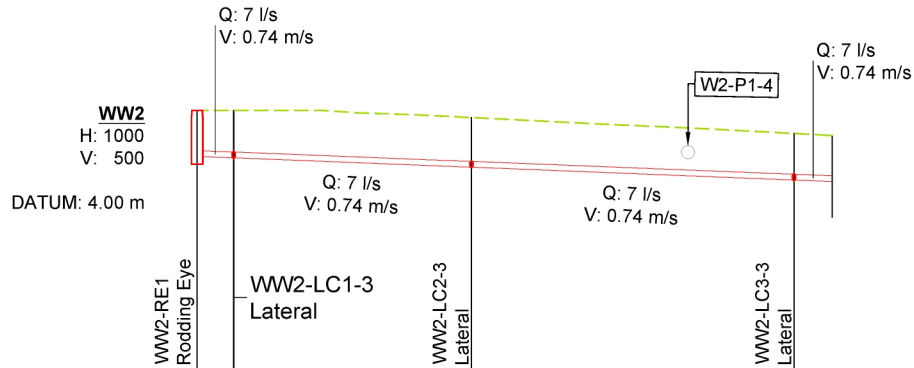
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Project Title:
MT MAUNGANUI CABINS

Sheet Title:
**WASTEWATER
LONGSECTION 1**

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	05 of 10	Sheet #:	Rev No: C



SET OUT DATA	E: 1880319.155 N: 5830381.586 E: 1880319.751 N: 5830380.352	E: 1880323.622 N: 5830372.347	E: 1880328.875 N: 5830361.482 E: 1880329.498 N: 5830360.194
DISTANCE	1.37 m	8.89 m	12.07 m
LID LEVEL	6.00	6.00	5.87
INVERT LEVELS	5.14	5.12	4.94
DEPTH TO INVERT	0.86	0.88	0.93
PIPE DETAILS	WW2-P1-4 100 mm Ø uPVC	WW2-P2-4 100 mm Ø uPVC	WW2-P3-4 100 mm Ø uPVC
GRADES	2.00% 1:50	2.00% 1:50	2.00% 1:50

LONGITUDINAL SECTION - WASTEWATER - SITE 1 - WW2

Scale 1:200 on A3

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Client:
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Project Title:
MT MAUNGANUI CABINS

Sheet Title:
**WASTEWATER
LONGSECTION 2**

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	06	Sheet #:	10
Rev No.:	C		

STRUCTURE TABLE								
STRUCTURE NAME:	STRUCTURE TYPE:	SETOUT CONTOURS:	STRUCTURE LID LEVEL:	STRUCTURE DEPTH:	INLET PIPES:	INLET INVERT:	OUTLET PIPES:	OUTLET INVERT:
WW1-RE1	Rodding Eye	E:1880324.9585 N:5830391.7285	6.000	0.955	WW1-RE1		WW1-P1-6	5.045
WW2-RE1	Rodding Eye	E:1880319.1553 N:5830381.5855	6.000	0.858	WW2-RE1		WW2-P1-4	5.142
WW1-MH1-3	Manhole	E:1880341.9445 N:5830367.8898	5.899	1.267	WW1-MH1-3 WW1-P4-6	4.633	WW1-P5-6	4.632
WW2-LC1-3	Lateral	E:1880319.7515 N:5830380.3524	6.000	0.885	WW2-LC1-3 WW2-P1-4	5.115	WW2-P2-4	5.117
WW1-MH3-3	Manhole	E:1880316.9208 N:5830352.4167	5.188	1.116	WW1-MH3-3 WW1-P6-6	4.218		
WW1-LC1-3	Lateral	E:1880325.4677 N:5830391.0108	6.000	0.867	WW1-LC1-3 WW1-P1-6	5.033	WW1-P2-6	5.033
WW2-LC2-3	Lateral	E:1880323.6230 N:5830372.3451	5.866	0.927	WW2-LC2-3 WW2-P2-4	4.939	WW2-P3-4	4.941
WW1-LC2-3	Lateral	E:1880330.4473 N:5830384.0254	6.000	0.109	WW1-LC2-3 WW1-P2-6	4.913	WW1-P3-6	4.912
WW1-LC3-3	Lateral	E:1880336.1626 N:5830376.0043	6.000	1.051	WW1-LC3-3 WW1-P3-6	4.774	WW1-P4-6	4.772
WW2-LC3-3	Lateral	E:1880328.8752 N:5830361.4821	5.568	0.868	WW2-LC3-3 WW2-P3-4	4.700	WW2-P4-4	4.700

Pipe Table								
NAME	SIZE	LENGTH	SLOPE	DESIGN FLOW (l/s)	U/S	U/S INVERT	D/S	D/S INVERT
WW1-P1-6	100 mm	0.9 m	1.40%	6.111	WW1-RE1	5.045	WW1-LC1-3	5.033
WW1-P2-6	100 mm	8.6 m	1.40%	6.111	WW1-LC1-3	5.033	WW1-LC2-3	4.913
WW1-P3-6	100 mm	9.8 m	1.40%	6.111	WW1-LC2-3	4.912	WW1-LC3-3	4.774
WW1-P4-6	100 mm	10.0 m	1.40%	6.111	WW1-LC3-3	4.772	WW1-MH1-3	4.633
WW1-P5-6	100 mm	14.6 m	1.40%	6.111	WW1-MH1-3	4.632		4.427
WW1-P6-6	100 mm	14.8 m	1.40%	6.111		4.425	WW1-MH3-3	4.218
WW2-P1-4	100 mm	1.4 m	2.00%	7.304	WW2-LC1-3	5.115	WW2-RE1	5.142
WW2-P2-4	100 mm	8.9 m	2.00%	7.304	WW2-LC2-3	4.939	WW2-LC1-3	5.117
WW2-P3-4	100 mm	12.1 m	2.00%	7.304	WW2-LC3-3	4.700	WW2-LC2-3	4.941
WW2-P4-4	100 mm	1.4 m	2.00%	7.304		4.672	WW2-LC3-3	4.700

PIPE & STRUCTURE SCHEDULES - WW1 & WW2

Scale 1:1000 on A3

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 PO Box 13030 Tauranga 3141
 Phone: 07 577 1399
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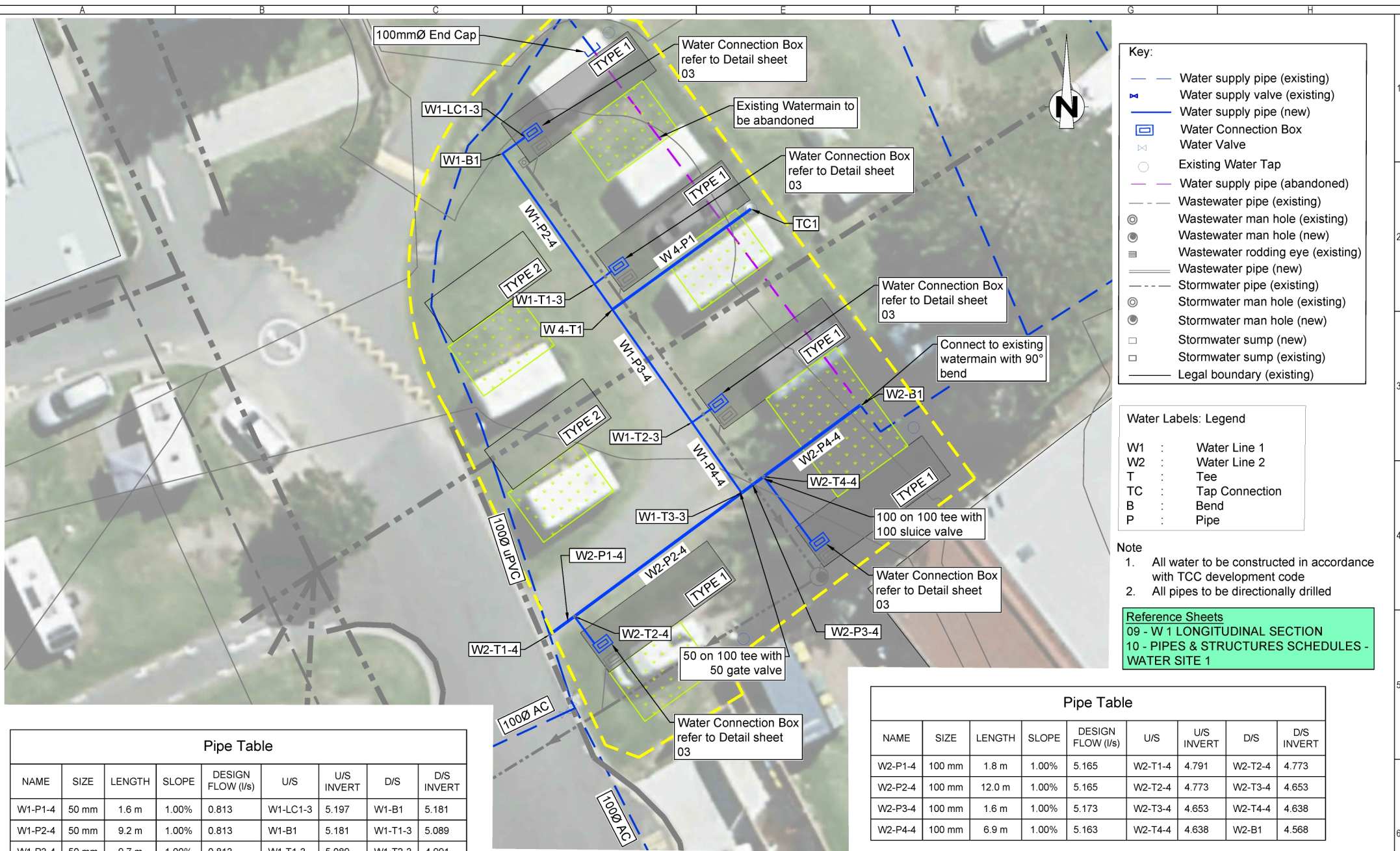
Client:
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 CITY
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Project Title:
MT MAUNGANUI CABINS

Sheet Title:
**WASTEWATER PIPE &
 STRUCTURE SCHEDULES**

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	07	Sheet #:	Rev No:
	of 10		C



Key:

- Water supply pipe (existing)
- Water supply pipe (new)
- ☐ Water Connection Box
- ⊗ Water Valve
- Existing Water Tap
- Water supply pipe (abandoned)
- - - Wastewater pipe (existing)
- ⊙ Wastewater man hole (existing)
- ⊙ Wastewater man hole (new)
- ≡ Wastewater rodding eye (existing)
- Wastewater pipe (new)
- - - Stormwater pipe (existing)
- ⊙ Stormwater man hole (existing)
- ⊙ Stormwater man hole (new)
- ☐ Stormwater sump (new)
- ☐ Stormwater sump (existing)
- Legal boundary (existing)

Water Labels: Legend

- W1 : Water Line 1
- W2 : Water Line 2
- T : Tee
- TC : Tap Connection
- B : Bend
- P : Pipe

- Note**
1. All water to be constructed in accordance with TCC development code
 2. All pipes to be directionally drilled

Reference Sheets

- 09 - W 1 LONGITUDINAL SECTION
- 10 - PIPES & STRUCTURES SCHEDULES - WATER SITE 1

Pipe Table

NAME	SIZE	LENGTH	SLOPE	DESIGN FLOW (l/s)	U/S	U/S INVERT	D/S	D/S INVERT
W1-P1-4	50 mm	1.6 m	1.00%	0.813	W1-LC1-3	5.197	W1-B1	5.181
W1-P2-4	50 mm	9.2 m	1.00%	0.813	W1-B1	5.181	W1-T1-3	5.089
W1-P3-4	50 mm	9.7 m	1.00%	0.813	W1-T1-3	5.089	W1-T2-3	4.991
W1-P4-4	50 mm	5.0 m	1.00%	0.813	W1-T2-3	4.991	W1-T3-3	4.942

Pipe Table

NAME	SIZE	LENGTH	SLOPE	DESIGN FLOW (l/s)	U/S	U/S INVERT	D/S	D/S INVERT
W2-P1-4	100 mm	1.8 m	1.00%	5.165	W2-T1-4	4.791	W2-T2-4	4.773
W2-P2-4	100 mm	12.0 m	1.00%	5.165	W2-T2-4	4.773	W2-T3-4	4.653
W2-P3-4	100 mm	1.6 m	1.00%	5.173	W2-T3-4	4.653	W2-T4-4	4.638
W2-P4-4	100 mm	6.9 m	1.00%	5.163	W2-T4-4	4.638	W2-B1	4.568

LAYOUT PLAN - WATER - SITE 1
Scale 1:200 on A3

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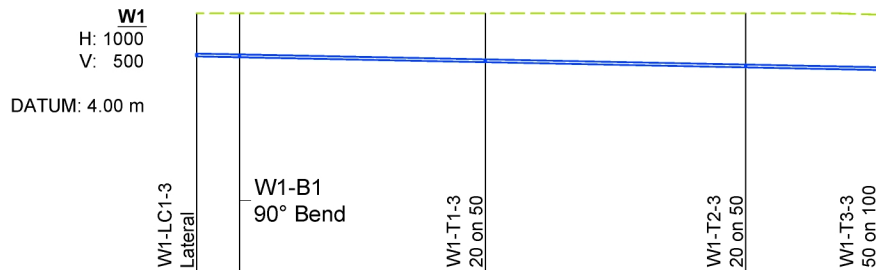
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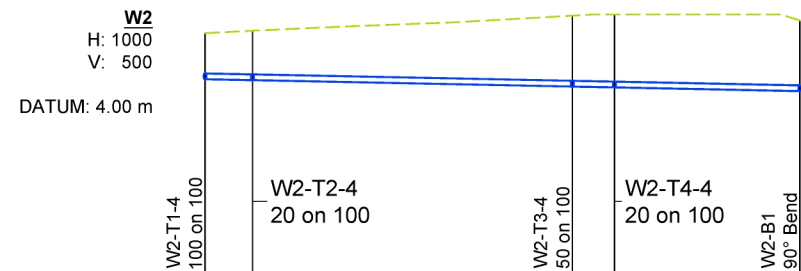
Project Title:
MT MAUNGANUI CABINS

Sheet Title:
WATER LAYOUT & PIPE SCHEDULES

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	08 of 10	Sheet #:	Rev No: C



SET OUT DATA	E: 1880325.025			E: 1880329.019		E: 1880334.628	E: 1880337.486
	N: 5830393.187			N: 5830384.728		N: 5830376.765	N: 5830372.708
DISTANCE	1.61 m	9.19 m		9.74 m		4.96 m	
LID LEVEL	6.00	6.00		6.00		6.00	5.98
INVERT LEVELS	5.20	5.18		5.09		4.99	4.94
DEPTH TO INVERT	0.80	0.82		0.91		1.01	1.04
PIPE DETAILS	W1-P1-4 50 mm Ø PE80	W1-P2-4 50 mm Ø PE80		W1-P3-4 50 mm Ø PE80		W1-P4-4 50 mm Ø PE80	
GRADES	1.00% 1:100	1.00% 1:100		1.00% 1:100		1.00% 1:100	



SET OUT DATA	E: 1880326.434			E: 1880337.486		E: 1880344.327
	N: 5830364.542			N: 5830372.708		N: 5830377.763
DISTANCE	1.78 m	11.96 m		1.57 m		6.93 m
LID LEVEL	5.65			5.98		5.89
INVERT LEVELS	4.79			4.65		4.57
DEPTH TO INVERT	0.86			1.32		1.32
PIPE DETAILS	W2-P1-4 100 mm Ø uPVC	W2-P2-4 100 mm Ø uPVC		W2-P3-4 100 mm Ø uPVC		W2-P4-4 100 mm Ø uPVC
GRADES	1.00% 1:100	1.00% 1:100		1.00% 1:100		1.00% 1:100

LONGITUDINAL SECTION - WATER

Scale 1:200 on A3

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Tiaki Engineering Consultants Ltd
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Web: www.tecl.co.nz

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Project Title:
MT MAUNGANUI CABINS

Sheet Title:
WATER LONGSECTIONS

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	09	Sheet #:	Rev No:
	of 10		C

STRUCTURE TABLE								
STRUCTURE NAME:	STRUCTURE TYPE:	SETOUT CONTOURS:	STRUCTURE LID LEVEL:	STRUCTURE DEPTH:	INLET PIPES:	INLET INVERT:	OUTLET PIPES:	OUTLET INVERT:
W1-LC1-3	Lateral	E:1880325.0255 N:5830393.1873	6.000	0.803	W1-LC1-3		W1-P1-4	5.197
W1-B1	90° Bend	E:1880323.7248 N:5830392.2446	6.000	0.899	W1-B1 W1-P1-4	5.181	W1-P2-4	5.181
W1-T1-3	20 on 50	E:1880329.0191 N:5830384.7281	6.000	1.071	W1-T1-3 W1-P2-4	5.089	W1-P3-4	5.089
W1-T2-3	20 on 50	E:1880334.6281 N:5830376.7648	6.000	1.249	W1-T2-3 W1-P3-4	4.991	W1-P4-4	4.991
W1-T3-3	50 on 100	E:1880337.4856 N:5830372.7080	5.977	1.275	W1-T3-3 W1-P4-4	4.942		

PIPE & STRUCTURE SCHEDULES - WATER - SITE 1 - W1

Scale 1:1000 on A3

STRUCTURE TABLE								
STRUCTURE NAME:	STRUCTURE TYPE:	SETOUT CONTOURS:	STRUCTURE LID LEVEL:	STRUCTURE DEPTH:	INLET PIPES:	INLET INVERT:	OUTLET PIPES:	OUTLET INVERT:
W2-T1-4	100 on 100	E:1880326.4340 N:5830364.5422	5.649	0.858	W2-T1-4		W2-P1-4	4.791
W2-T2-4	20 on 100	E:1880327.8630 N:5830365.5980	5.694	0.921	W2-T2-4 W2-P1-4	4.773	W2-P2-4	4.773
W2-T3-4	50 on 100	E:1880337.4856 N:5830372.7080	5.977	1.403	W2-T3-4 W2-P2-4	4.653	W2-P3-4	4.653
W2-T4-4	20 on 100	E:1880338.7510 N:5830373.6431	6.000	1.442	W2-T4-4 W2-P3-4	4.638	W2-P4-4	4.638
W2-B1	90° Bend	E:1880344.3274 N:5830377.7634	5.888	1.399	W2-B1 W2-P4-4	4.568		

PIPE & STRUCTURE SCHEDULES - WATER - SITE 1 - W2

Scale 1:1000 on A3

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Phone: 07 577 1399
Web: www.tecl.co.nz

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Project Title:
MT MAUNGANUI CABINS

Sheet Title:
WATER STRUCTURE
SCHEDULES

Job #:	14291	Scale (A3 Original):	As Shown
Client Drawing #:	10 of 10	Sheet #:	10
Rev No:	C		

BUILDING CONSENT DRAWINGS

for

Tauranga City Council

at

1 Adams Avenue

Mount Maunganui, Tauranga



Sheet Index	Layout Name
A101	Site Plan
A102	Foundation Plan
A103	Existing Plan
A104	Proposed Plan
A105	Roof Framing Plan
A106	Proposed Roof Plan
A107	Bracing/Lintel Plan
A108	Electrical Plan
A201	Sections
A202	Sections
A301	North Elevations
A302	East Elevations

Sheet Index	Layout Name
A303	West Elevations
A401	Cladding Details
A402	Masonry Veneer Joinery Details
A403	Plywood Joinery Details
A404	Roof Details
A405	Roof Details
A406	Roof Details
A407	Details
A408	Lintel Fixing Details
A409	Proposed Door & Window Schedule



P: (+64) 7 281 0280
M: 027 2477660
E: daniel@cullenkeiser.co.nz
A: 1480 Cameron Rd, Tauranga
W: www.cullenkeiser.co.nz

KEY:

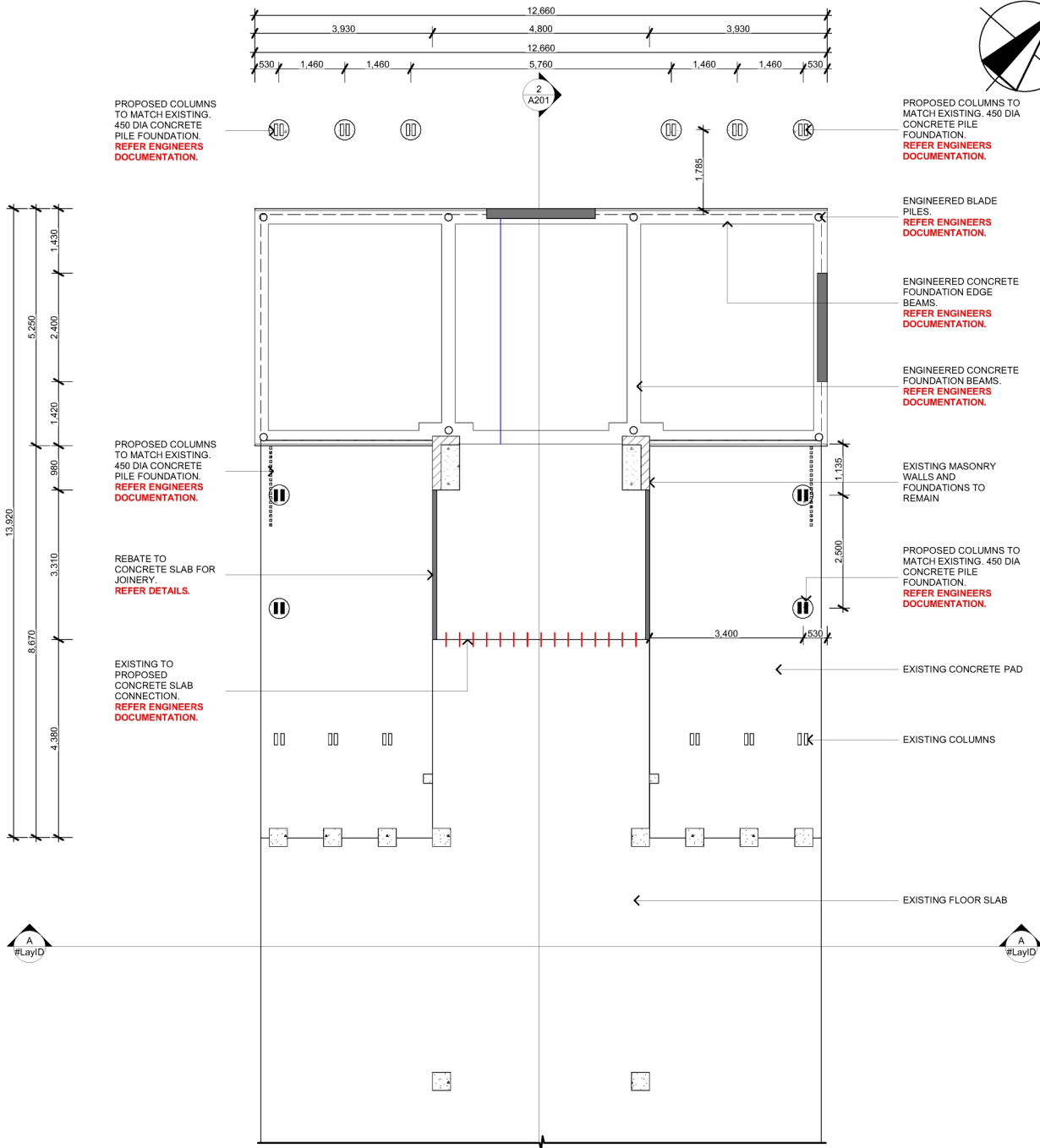
- REBATE FOR JOINERY
- BRICK REBATE.
- 3x25mm SAW CUT
- 300mm LONG HD16 TOP BAR

FOUNDATION PLAN NOTES

Read in conjunction with Structural Engineers documentation and Geo-tech Report
Note: Foundation designed to NZS3604:2011 'Good Ground' 300kPa. Criteria to be confirmed prior to construction, after site has been cut.

Concrete Floor:
 - Engineered concrete slab & foundations. Refer Engineers documentation.

Damp Proof Membrane (DPM)
 The DPM shall:
 1) Have a water vapour flow resistance not less than 90MN/g when tested in accordance with ASTM E 96 utilising standard test conditions
 2) Be sufficiently durable to resist damage from installation & normal workable operations
 3) Be laid on a surface that is unlikely to damage the membrane
 4) Have penetrations by services, reinforcing & other objects sealed by taping or by applying a wet-applied DPM material.
 5) To be used anywhere between concrete and timber.



NOTES

1 GENERAL

101 THE MAIN CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LEVELS ON SITE AND LOCATE ALL PUBLIC DRAINS ON SITE BEFORE COMMENCING WORK.

102 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION AND ALL OTHER RELEVANT DOCUMENTS.

103 DO NOT SCALE OFF DRAWINGS.

104 ALL CONSTRUCTION NOT SPECIFICALLY DESIGNED SHALL COMPLY WITH NZS3604:2011 AND THE NEWZEALAND BUILDING CODE 1992 AND THEIR AMENDMENTS.

105 REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR ALL FOUNDATION BLOCKWORK, SUSPENDED CONCRETE FLOOR AND STRUCTURAL BRACING CALCULATIONS.

106 IN THE EVENT THAT ANY UNSTABLE OR SOFT GROUND IS ENCOUNTERED DURING EXCAVATIONS THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR FURTHER DIRECTIONS.

107 IN THE EVENT THAT DISCREPANCIES ARE FOUND IN THESE DRAWINGS THE CONTRACTOR MUST CONTACT CULLEN KEISER ARCHITECTURE LTD, BEFORE PROCEEDING.

108 THE CONTRACTOR SHALL SUPPLY AND FIX ALL NECESSARY FLASHINGS AND SEALANTS TO PROVIDE A COMPLETELY WEATHERTIGHT BUILDING.

109 USE TYPE 304 OR 316 STAINLESS STEEL PROTECTED FIXINGS IN ALL EXPOSED AREAS AS PER TABLE 4.1 NZS3604:2011.

110 WET AREAS PRONE TO SPLASH AS PER NZBC CLAUSE E3 ARE COMPLY WITH CLAUSES 3.0 AND 3.2

CULLEN KEISER ARCHITECTURE

P :: [+64] 7 281 0280
 M :: 027 2477660
 E :: daniel@cullenkeiser.co.nz
 A :: 1480 Cameron Rd, Tauranga
 W :: www.cullenkeiser.co.nz

CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui Tauranga

DRAWING INFORMATION

DESIGN	
DRAWN	s 7(2)(a) - Privacy
DWG CHK	
PLOT DATE	-
CAD FILE	-
SCALE	1:100
DRAWING TITLE	

Foundation Plan

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A102	-

WALL TYPE	
	EXISTING TIMBER FRAMED WALL TO REMAIN
	NEW TIMBER WALL
	EXISTING MASONRY BLOCK WALL TO REMAIN

Wind Zone : High
 Earthquake Zone : 1
 Exposure Zone : D
 Planning Zone : Section 19 Blk VI Tauranga SD
 Floor Area : 168 m²

NOTES

Structural Timber
 - All structural timber framing to be SG8 minimum & H1.2 Boron Treated.
 - For window lintel sizes and Lumberlok fixing types refer to Truss Plan.
 - All exterior & interior wall construction is to be SG8 H1.2 unless noted otherwise.
Single or Top Story:
 Studs up to 2.4m - 90x45mm@600 crs.
 Studs 2.4 - 2.7m - 90x45mm@400 crs.

- Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1.
 - Provide fixings to all elements not specifically designed in accordance with NZS 3604: 2011.
 - Provide Lumberlok bottom plate anchor in accordance with manufacturers specification and NZS 3604 7.5, 12.2-4
 - HY90 & HYSPAN LVL lintels (H1.2 Boron min.) beams to be fixed in accordance with NZS 3604 & CH1 specifications.

Top Plate sizes:
 - 140x35 - 90x45 SG8 H1.2

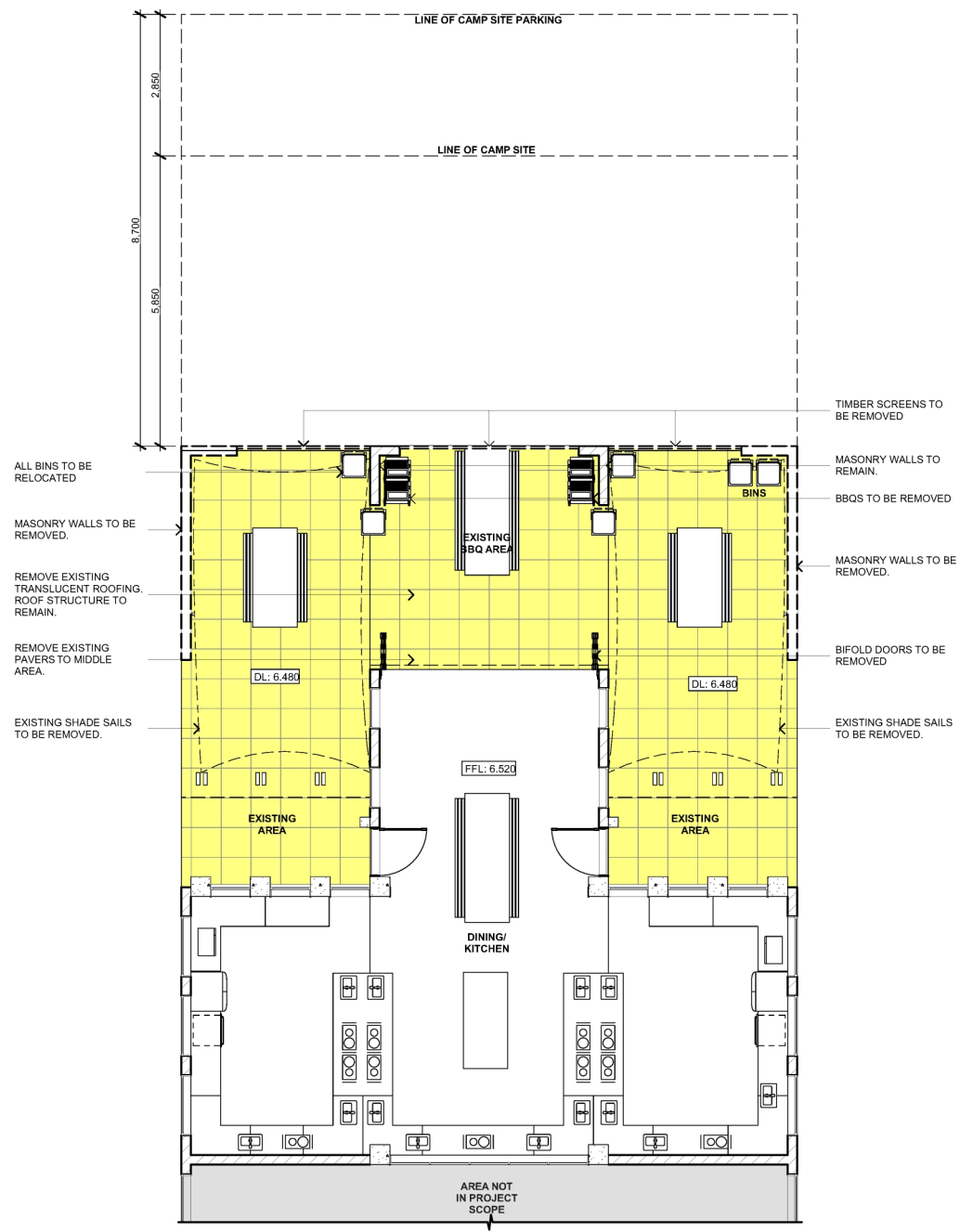
Fixings
 - Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1.

Fixing of Timber Bottom Plate to Concrete Slab
 Framing timber shall be fixed to slab-on-ground floors with M12 hold down bolts at 900 crs, unless using masonry block foundation use M12 at 600crs. When using sheet brace, anchors should be placed within 150mm from the end of that element, or use a M10 dynabolt for additional fixing.

Top Plate to Studs
 2/90 x 3.15mm plain steel wire nails driven vertically into stud, plus lumberlok stud strap (one face only).

Damp Proof Membrane
 The DPM shall:
 1) Have a water vapour flow resistance not less than 90MN/g when tested in accordance with ASTM E 96 utilising standard test conditions
 2) Be sufficiently durable to resist damage from installation & normal workable operations
 3) Be laid on a surface that is unlikely to damage the membrane
 4) Have penetrations by services, reinforcing & other objects sealed by taping or by applying a wet-applied DPM material.
 5) To be used anywhere between concrete and timber.

Interior Linings
 - Horizontally fixed plasterboard board lining to all walls where possible. Provide wet area plasterboard to bathroom/ensuite walls & ceilings.
 Square stop with level 4 finish for paint finish throughout.
Refer to Bracing plan for specific lining requirements for acoustic treatment required by district plan
 There is to be issued a producer statement to cover the whole design and application of the cladding including the fixing & adhesive methods.
 Provide control joints throughout as per manufacturers specifications.
 Polypropylene tape to support building wrap and insulation - horizontally at 300mm centres plus over dwangs and vertically at 600crs to match studs.



1 Existing Plan **1:100**

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P :: [+64] 7 281 0280
 M :: 027 2477660
 E :: daniel@cullenkeiser.co.nz
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CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui Tauranga

DRAWING INFORMATION	
DESIGN	
DRAWN	s 7(2)(a) - Privacy
DWG CHK	
PLOT DATE	
CAD FILE	
SCALE	1:1, 1:100
DRAWING TITLE	

Existing Plan

REVISION					
NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT	s 7(2)(a) - Privacy			22.05.20

JOB NO	DRAWING NO	REVISION
19995	A103	-

WALL TYPE	
	EXISTING TIMBER FRAMED WALL TO REMAIN
	NEW TIMBER WALL
	EXISTING MASONRY BLOCK WALL TO REMAIN

Wind Zone : High
 Earthquake Zone : 1
 Exposure Zone : D
 Planning Zone : Section 19 Blk VI Tauranga SD
 Floor Area : 168 m²

NOTES

Structural Timber
 - All structural timber framing to be SG8 minimum & H1.2 Boron Treated.
 - For window lintel sizes and Lumberlok fixing types refer to Truss Plan.
 - All exterior & interior wall construction is to be SG8 H1.2 unless noted otherwise:
Single or Top Story:
 Studs up to 2.4m - 90x45mm@600 crs.
 Studs 2.4 - 2.7m - 90x45mm@400 crs.

- Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1.
 - Provide fixings to all elements not specifically designed in accordance with NZS 3604: 2011.
 - Provide Lumberlok bottom plate anchor in accordance with manufacturers specification and NZS 3604 7.5.12.2-4
 - HY90 & hySPAN LVL lintels (H1.2 Boron min.) beams to be fixed in accordance with NZS 3604 & CHH specifications.

Top Plate sizes:
 - 140x35 x 90x45 SG8 H1.2
Fixings
 - Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1.
Fixing of Timber Bottom Plate to Concrete Slab
 Framing timber shall be fixed to slab-on-ground floors with M12 hold down bolts at 900 crs. unless using masonry block foundation use M12 at 600crs.
 When using sheet brace, anchors should be placed within 150mm from the end of that element, or use a M10 dynabolt for additional fixing.

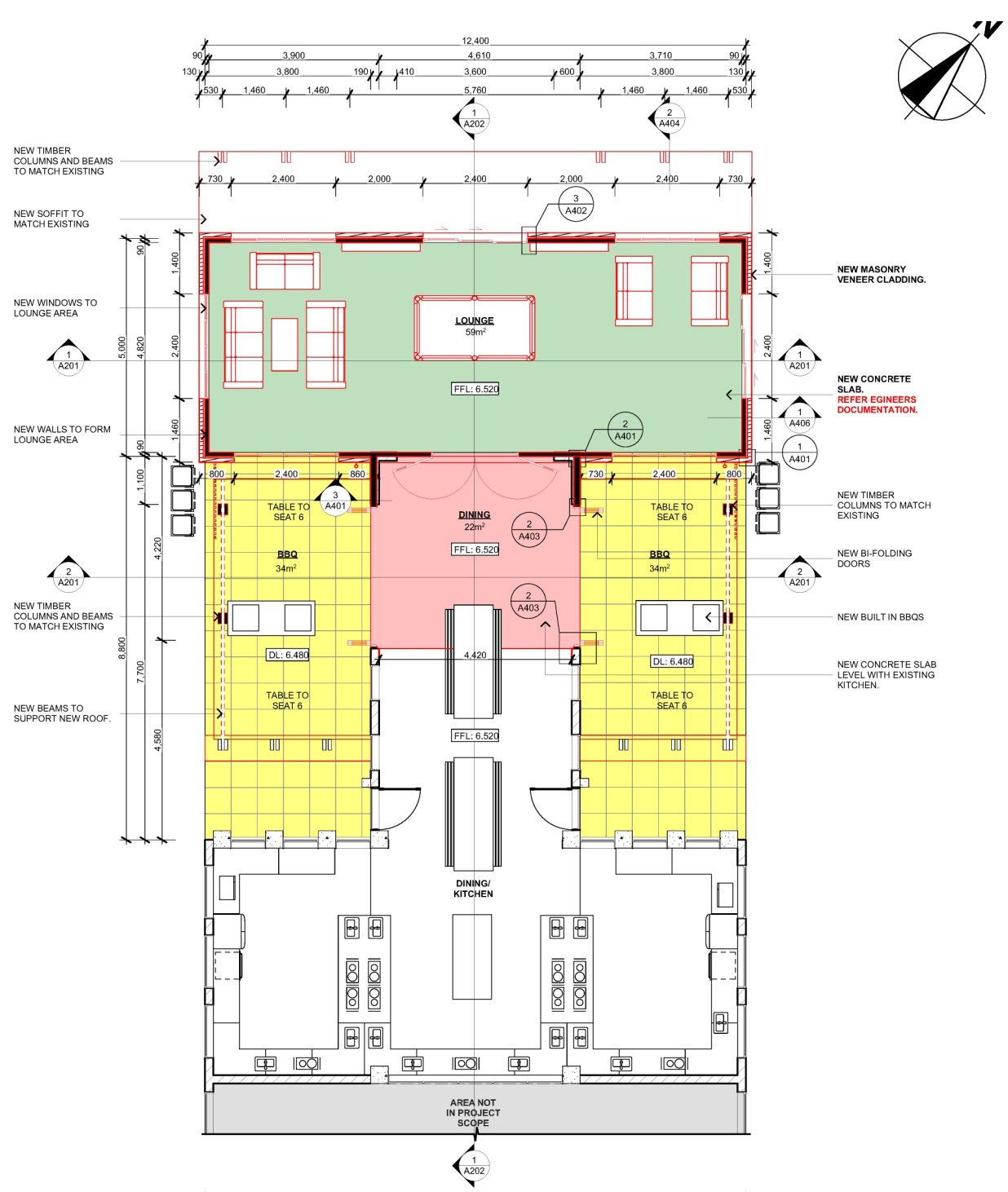
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 - Horizontally fixed plasterboard board lining to all walls where possible. Provide wet area plasterboard to bathroom/en-suite walls & ceilings.
 Square stop with level 4 finish for paint finish throughout.
Refer to Bracing plan for specific lining requirements for acoustic treatment required by district plan

There is to be issued a producer statement to cover the whole design and application of the cladding including the fixing & adhesive methods.
 Provide control joints throughout as per manufacturers specifications.
 Polypropylene tape to support building wrap and insulation - horizontally at 300mm centres plus over dwangs and vertically at 600crs to match studs.

KITCHEN/DINING AREA:	
EXISTING -	90m ²
ADDITIONAL -	22m ²
PROPOSED TOTAL -	112m ²
BBQ AREA:	
EXISTING -	90m ²
PROPOSED TOTAL -	68m ²
LOUNGE AREA:	
EXISTING -	0m ²
ADDITIONAL -	59m ²
PROPOSED TOTAL -	59m ²
TOTAL FLOOR AREA:	
EXISTING -	180m ²
ADDITIONAL -	81m ²
PROPOSED TOTAL -	168m ²



1 Proposed Plan **1:100**

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SCALE	1:1, 1:100
DRAWING TITLE	

Proposed Plan

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NO	REVISION	BY	CHK	APPD	DATE
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-	BUILDING CONSENT	s 7(2)(a) - Privacy			22.05.20

JOB NO	DRAWING NO	REVISION
19995	A104	-

ROOF FRAMING LEGEND

LB Load bearing wall
 PL Point Load
 DS Double Stud - 2/140x45 SG8

Wind Zone: High
 Roof Type: LIGHT

FIXING KEY:

TRUSS TO TOP PLATE FIXINGS:
 E - 2/90x3.15mm SKEW NAILS + 2x 4.9mm WIREDOGS

RAFTER FIXINGS:
 Mitek JH 47x190 Joist Hanger

PURLIN FIXINGS:
 C - 1/LUMBERLOK BLUE SCREW

ROOF STRUCTURE:

TRUSSES:
 H1.2 SG8 Timber Trusses @ 900crs max.

RAFTERS:
 240x70 H1.2 SG8 Timber Rafters @ 900crs max.

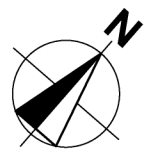
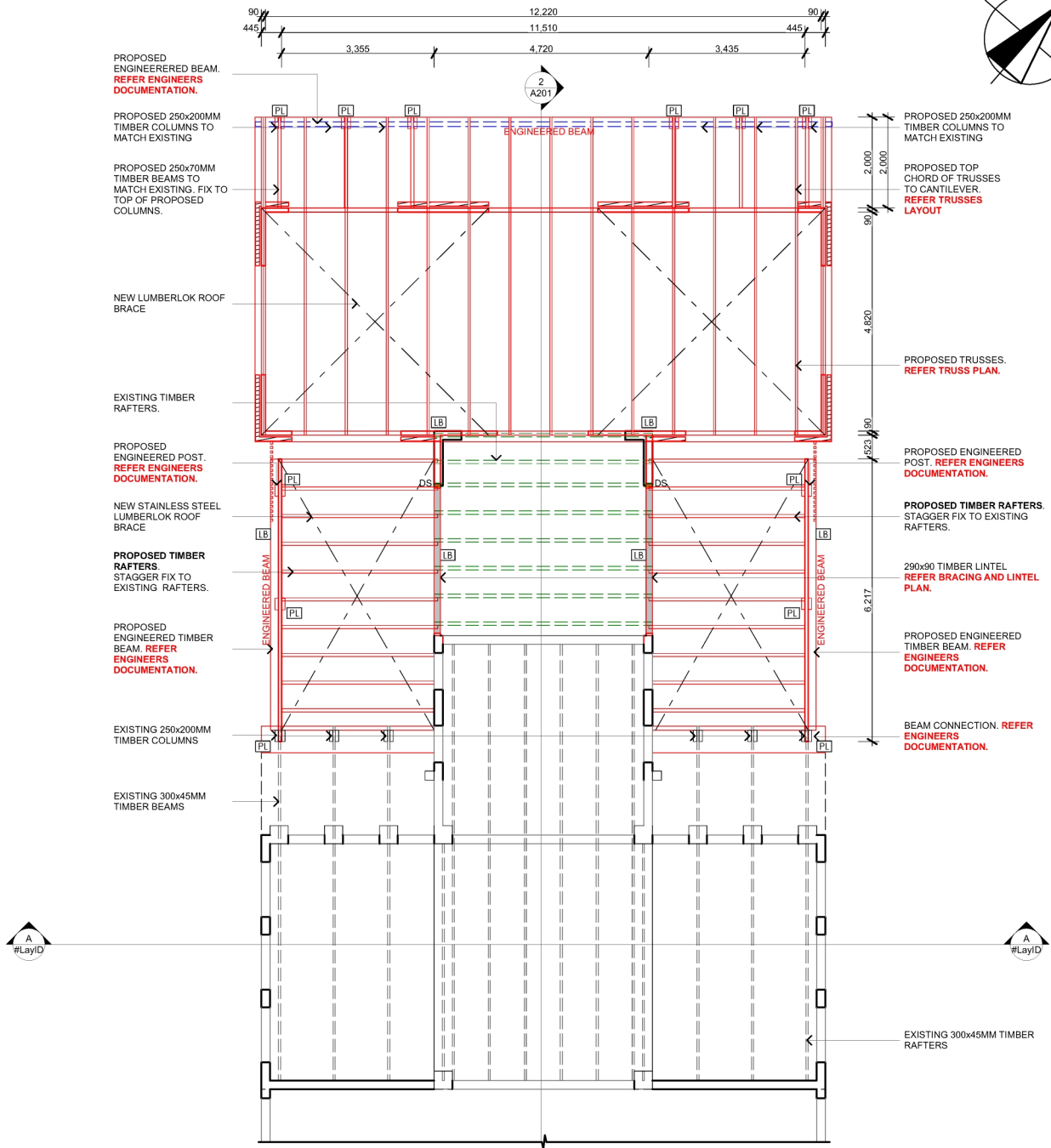
PURLINS:
 70x45 H1.2 SG8 Timber Purlins @ 900crs max.

ROOF BRACING:

2/LUMBERLOK ROOF BRACES @ 45°

LIGHT - 1/ROOF BRACE PER 50m²
 HEAVY - 1/ROOF BRACE PER 25m²
 Continuous hip or valley to ridge equals one brace each.
 Min 2 braces per ridge line.

FOR TRUSS LAYOUT & FIXINGS - REFER TO TRUSS DESIGN IN SPECIFICATIONS



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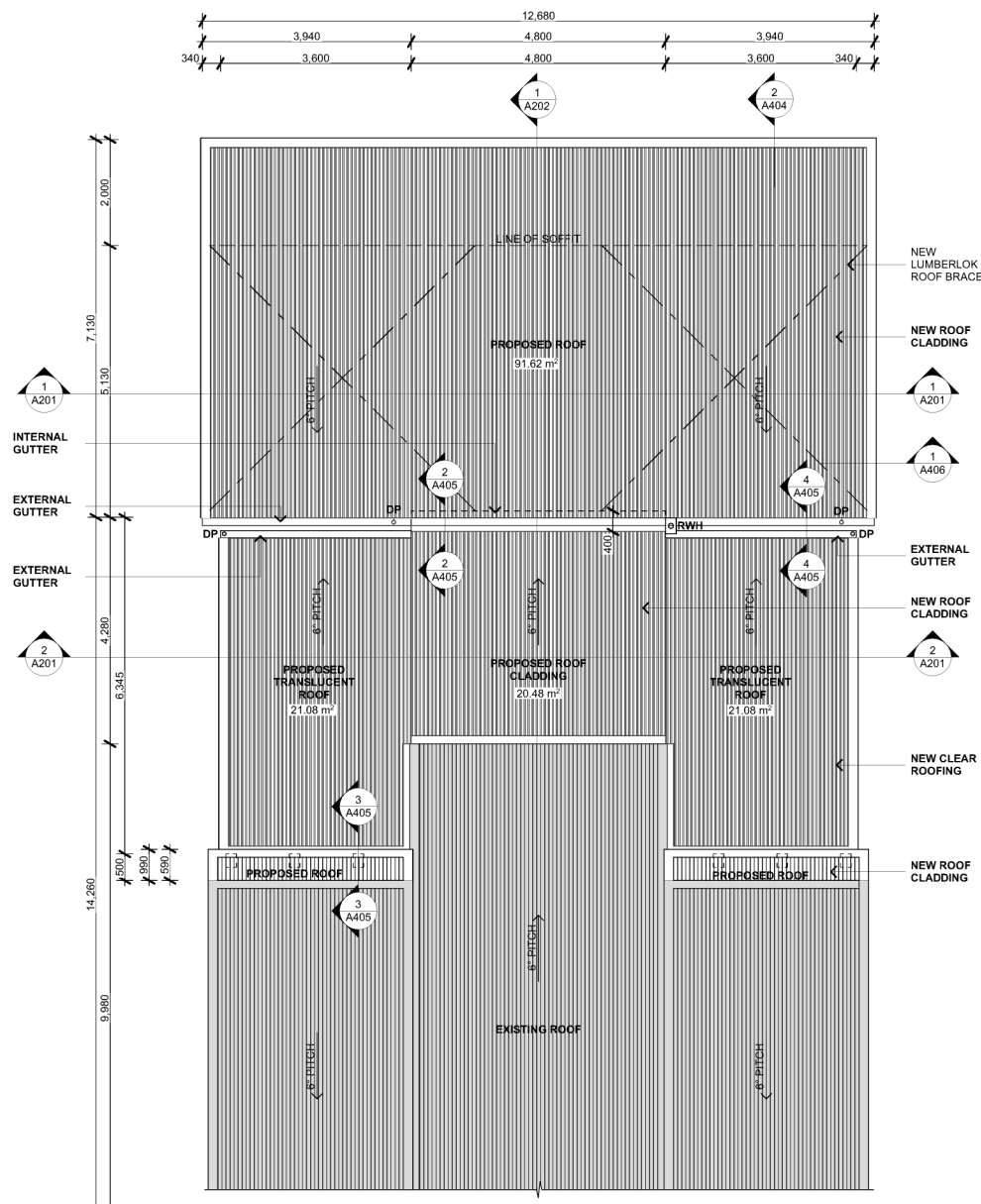
Roof Framing Plan

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NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A105	-

ROOF PLAN LEGEND	
ODP	- 100mm Downpipe location
RWH	- Rainwater Head
	- Direction of 1:100 gutter fall
	- Roof pitch and direction of fall
	- Roof plane brace
	- Building outline - over framing
Downpipe Calculations:	
Roof Pitch: 6°	
Max. area per Ø100mm Downpipe: 155m ²	
0-25° = 155m ²	
25-35° = 130m ²	
35-45° = 110m ²	
45-55° = 90m ²	
Total min. number of DPs required: 1	
Gutter: 125mm & 400mm Internal	
100Ø downpipe : 154.26m ² catchment area	
ROOF BRACING:	
2/LUMBERLOK ROOF BRACES @ 45°	
LIGHT - 1/ROOF BRACE PER 50m ²	
Continuous hip or valley to ridge equals one brace each. Min 2 braces per ridge line.	
Roofing and Roof Drainage Notes	
- All roof claddings and associated flashings including all barge and apron flashings are to be undertaken by a licenced applicator in strict accordance with the NZBC E2/AS1 and NZ Metal Roof and Wall Cladding Code of Practice.	
- Provide producer statements to cover the whole design and application of the cladding system including all flashings & penetration flashing kits.	
- For trussed roof structure set out - refer to Truss Layout Plan.	
Roof Claddings:	
All roof claddings and associated flashings including all barge and apron flashings are to be undertaken by a licenced applicator in strict accordance with the NZBC E2/AS1 and NZ Metal Roof and Wall Cladding Code of Practice. Provide producer statements to cover the whole design and application of the cladding system including all flashings & penetration flashing kits. For trussed roof structure set out - refer to Truss Layout Plan.	
Line of Roof Plane bracing with Lumberlok roof plane strip brace as per NZS 3604:2011 10.4.2 and Lumberlok detail in specification.	
PRODUCT NOTES	
EXTERNAL GUTTER	- 0.55mm coloursteel 125mm powdercoated gutters.
INTERNAL GUTTER	- Viking Enviroclad membrane on 20mm H3.2 plywood. Dimensions and falls as shown.



1 Proposed Roof Plan **1:100**

NOTES	
INSULATION REQUIREMENTS: <i>(in accordance with NZBC H1/AS1 Climate zone 2, NZS 4218: 2009 Calculation Method)</i>	Structural Timber - All structural timber framing to be SG8 minimum & H1.2 Boron Treated. - For window lintel sizes and Lumberlok fixing types refer to Truss Plan. - All exterior & interior wall construction is to be SG8 H1.2 unless noted otherwise.
UNDERSLAB INSULATION: 100mm EXPOL Thermaslab S/H R2.63	FIXINGS - Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1. Fixing of Timber Bottom Plate to Concrete Slab Framing timber shall be fixed to slab-on-ground floors with M12 hold down bolts at 900 cs. Top Plate to Studs H1.2 unless noted otherwise: Studs up to 2.4m - 90x45mm @ 600 cs. Studs 2.4 - 2.7m - 90x45mm @ 400 cs.
WALL INSULATION: EARTHWOOL R2.8 90MM	NEW PLYWOOD WALL CLADDING - Treated plywood wall cladding to match existing on 20mm timber cavity battens, on underlay.
GLAZING: Double Glazing (safety glass to all full height glazing or bathroom windows).	NEW TRAPEZOIDAL WALL CLADDING - 0.55mm coloursteel trapezoidal wall cladding on 20mm timber cavity battens, on underlay, to match new roof cladding.
Top Plate sizes: - 140x35 + 90x45 SG8 H1.2	NEW MASONRY VENEER CLADDING - Masonry veneer wall cladding on 50mm cavity, on underlay, on timber framing to match existing masonry wall appearance.

PRODUCT NOTES	
NEW ROOF CLADDING - 0.55mm coloursteel trapezoidal roof cladding on roof underlay, on timber purlins. Flashings to match existing.	NEW CLEAR ROOFING - Diamond trapezoidal translucent roof cladding to match profile, on new roof framing over bbg areas.
NEW TIMBER SLATS - 50x50mm H3.2 Timber slats @ 100mm cs. Run horizontal members top and bottom. Bolt fix bottom and nail at top.	NEW CONCRETE SLAB - Engineered concrete slab. Refer engineers Documentation.
PLYWOOD LINING - 12mm Plywood to all internal walls and ceilings. Ceilings on timber ceiling battens @ 600 cs.	NEW ENGINEERED TIMBER BEAM Refer engineers Documentation.
NEW ALUMINIUM JOINERY - Aluminium powder coated joinery (Double Glazed. Safety glass to all full height glazing).	NEW ROOF TRUSSES - Mitek prefabricated parallel chord trusses. Refer truss layout and PS1.
DRAINAGE CHANNEL - 150x150mm PVC drainage channel, connect to existing stormwater drain. Refer Stormwater Documentation.	NEW TIMBER COLUMN - 3/250x75mm H3.2 Timber columns to match existing. Refer engineers Documentation.

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M :: 027 2477660
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CAD FILE	
SCALE	1:1, 1:100
DRAWING TITLE	
Proposed Roof Plan	

REVISION	
NO	REVISION
-	PRELIMINARY
-	BUILDING CONSENT

JOB NO	DRAWING NO	REVISION
19995	A106	-

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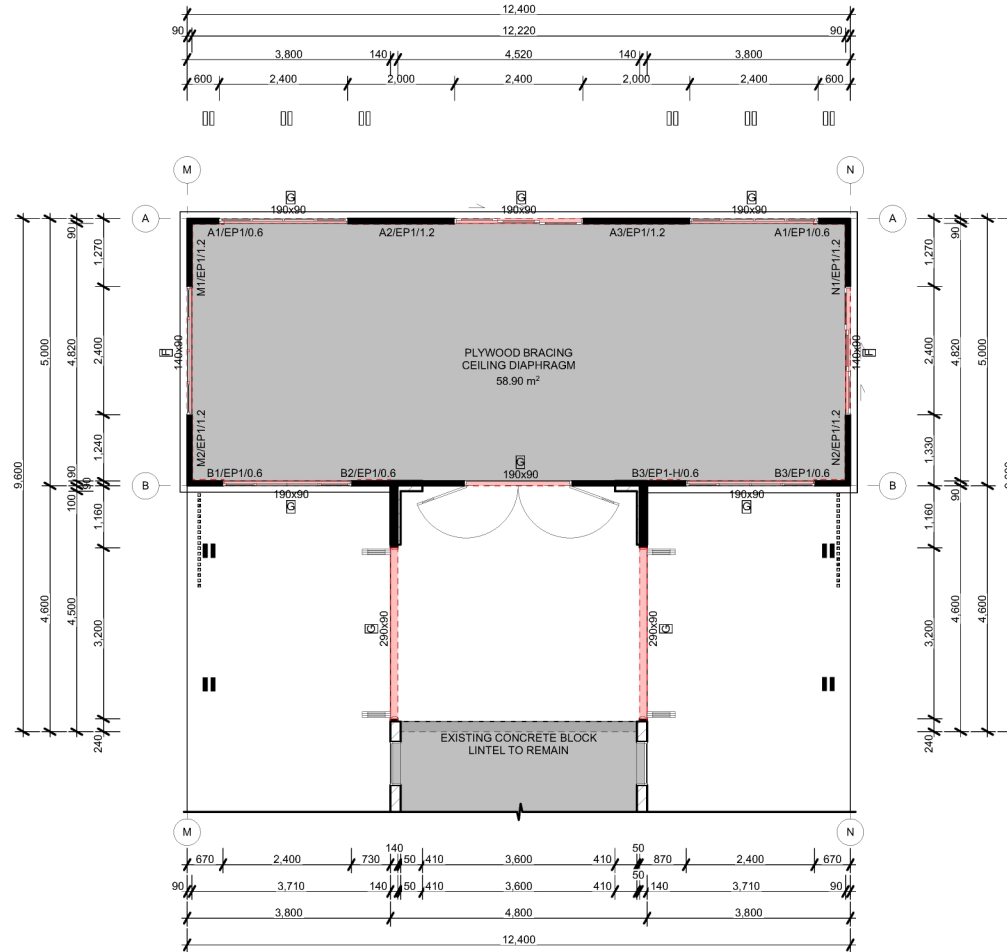
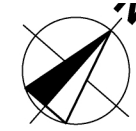
BRACING & LINTEL LEGEND

Brace No. \swarrow \searrow Bracing Element Length
 A1/GS1-N/1.2
 Bracing Element Type

All floor bracing design by Gib Ezybrace software. Refer to Specifications.

E F G H Lintel fixing requirement

Note: Lintels sized using NZS 3604:2011 Table 8.9 & DesignIT - refer specifications.



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

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DRAWN	s 7(2)(a) - Privacy
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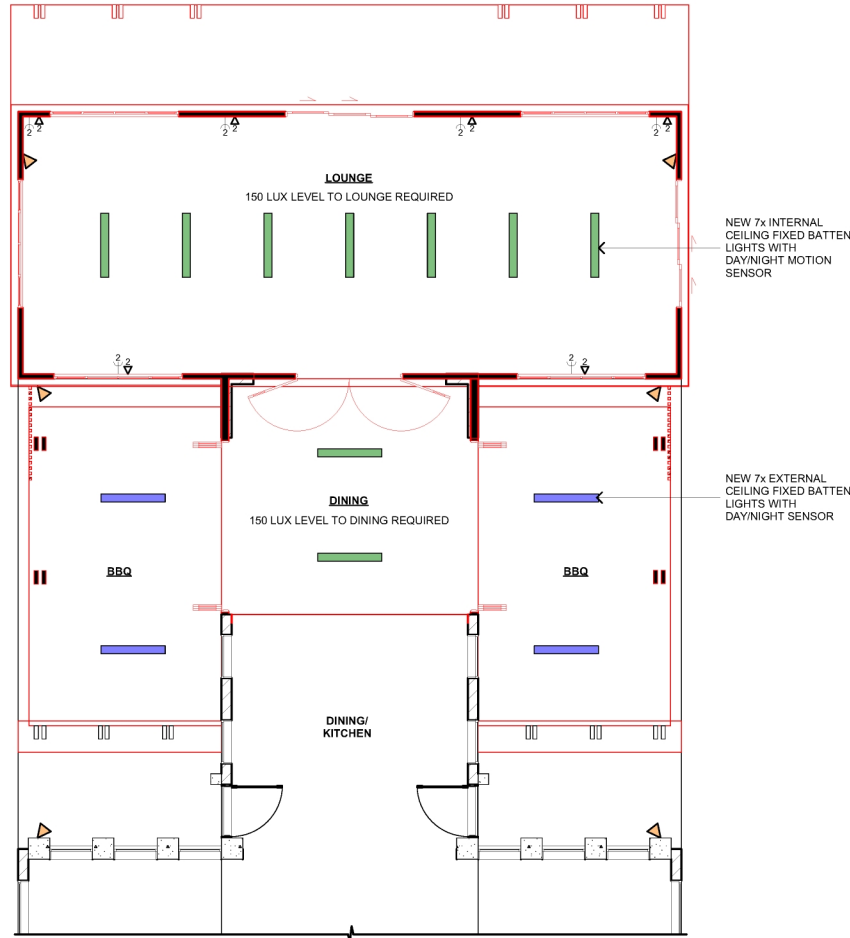
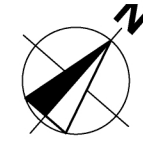
Bracing/Lintel Plan

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT	s 7(2)(a) - Privacy			22.05.20

JOB NO	DRAWING NO	REVISION
19995	A107	-

ELECTRICAL LEGEND	
	1200x100 Internal LED Ceiling Fixed Batten Light (or similar).
	1200x100 External LED Ceiling Fixed Batten Light (or similar).
	Double USB Point
	Double Socket Power Point
	Sensor



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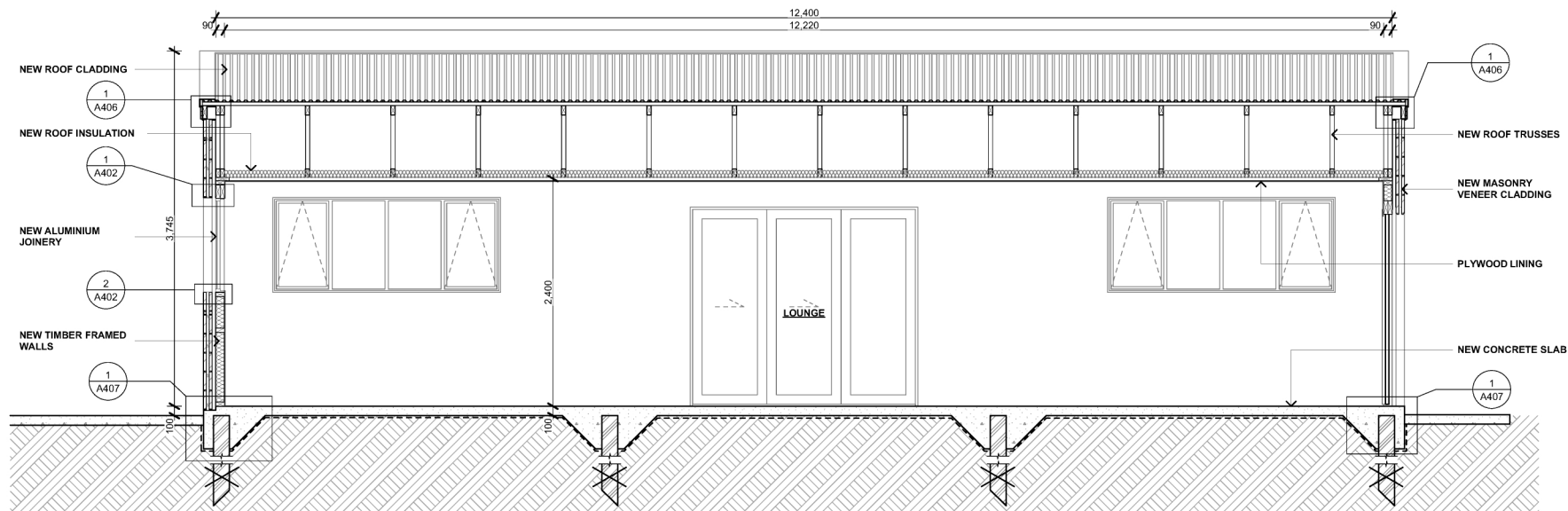
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Electrical Plan

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A108	-



1

Section AA

1:50

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NOTES

PRODUCT NOTES

<p>INSULATION REQUIREMENTS: (in accordance with NZBC H1/AS1 Climate zone 2, NZS 4218: 2009 Calculation Method).</p> <p>UNDERSLAB INSULATION: 100mm EXPOL Thermastab SH R2.63</p> <p>WALL INSULATION: EARTHWOOL R2.8 90MM</p> <p>ROOF INSULATION: EARTHWOOL R3.2 130MM</p> <p>Glazing: Double Glazing (safety glass to all full height glazing or bathroom windows).</p> <p>Top Plate sizes: - 140x35 + 90x45 SG8 H1.2</p>	<p>Structural Timber - All structural timber framing to be SG8 minimum & H1.2 Boron Treated. - For window lintel sizes and Lumberlok fixing types refer to Truss Plan. - All exterior & interior wall construction is to be SG8 H1.2 unless noted otherwise:</p> <p>TIMBER FRAMED WALLS: Studs up to 2.4m - 90x45mm @ 600 crs. Studs 2.4 - 2.7m - 90x45mm @ 400 crs.</p>	<p>Fixings - Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1. - Fixing of Timber Bottom Plate to Concrete Slab Framing timber shall be fixed to slab-on-ground floors with M12 hold down bolts at 900 crs. Top Plate to Studs 200 x 3.15mm plain steel wire nails driven vertically into stud, plus lumberlok stud strap (one face only).</p>	<p>NEW PLYWOOD WALL CLADDING - Treated plywood wall cladding to match existing on 20mm timber cavity battens, on underlay.</p> <p>NEW TRAPEZOIDAL WALL CLADDING - 0.55mm coloursteel trapezoidal wall cladding on 20mm timber cavity battens, on underlay, to match new roof cladding.</p> <p>NEW MASONRY VENEER CLADDING - Masonry veneer wall cladding on 50mm cavity, on underlay, on timber framing to match existing masonry wall appearance.</p>	<p>NEW ROOF CLADDING - 0.55mm coloursteel trapezoidal roof cladding on roof underlay, on timber purlins. Flashings to match existing.</p> <p>NEW CLEAR ROOFING - Diamond trapezoidal translucent roof cladding to match profile, on new roof framing over bbq areas.</p> <p>NEW TIMBER SLATS - 50x50mm H3.2 Timber slats @ 100mm crs. Run horizontal members top and bottom. Bolt fix bottom and nail at top.</p>	<p>PLYWOOD LINING - 12mm Plywood to all internal walls and ceilings. Ceilings on timber ceiling battens @ 600 crs.</p> <p>NEW ALUMINIUM JOINERY - Aluminium powder coated joinery (Double Glazed. Safety glass to all full height glazing).</p> <p>DRAINAGE CHANNEL - 150x150mm PVC drainage channel, connect to existing stormwater drain. Refer Stormwater Documentation.</p>	<p>NEW CONCRETE SLAB - Engineered concrete slab. Refer engineers Documentation.</p> <p>NEW ENGINEERED TIMBER BEAM Refer engineers Documentation.</p> <p>NEW ROOF TRUSSES - Mitek prefabricated parallel chord trusses. Refer truss layout and PSI.</p> <p>NEW TIMBER COLUMN - 3/250x75mm H3.2 Timber columns to match existing. Refer engineers Documentation.</p>
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CULLEN KEISER ARCHITECTURE

P :: [+64] 7 281 0280
M :: 027 2477660
E :: daniel@cullenkeiser.co.nz
A :: 1480 Cameron Rd, Tauranga
W :: www.cullenkeiser.co.nz

CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui
Tauranga

DRAWING INFORMATION

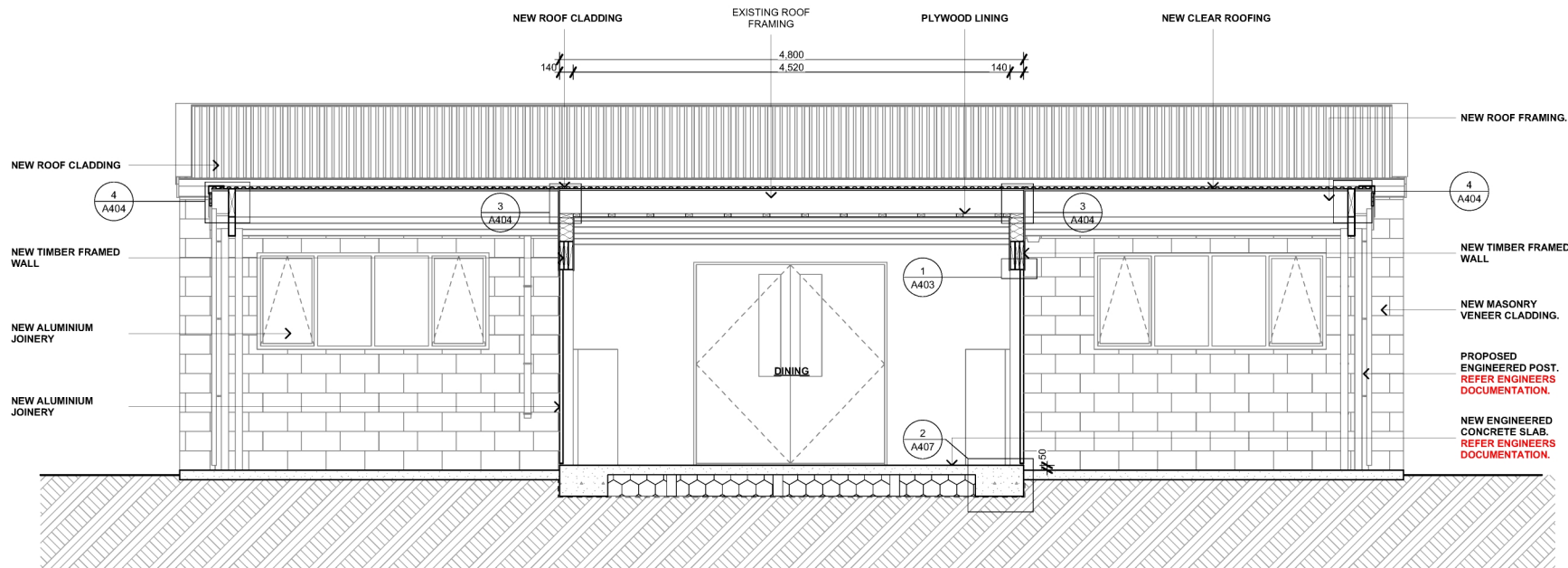
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Sections

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

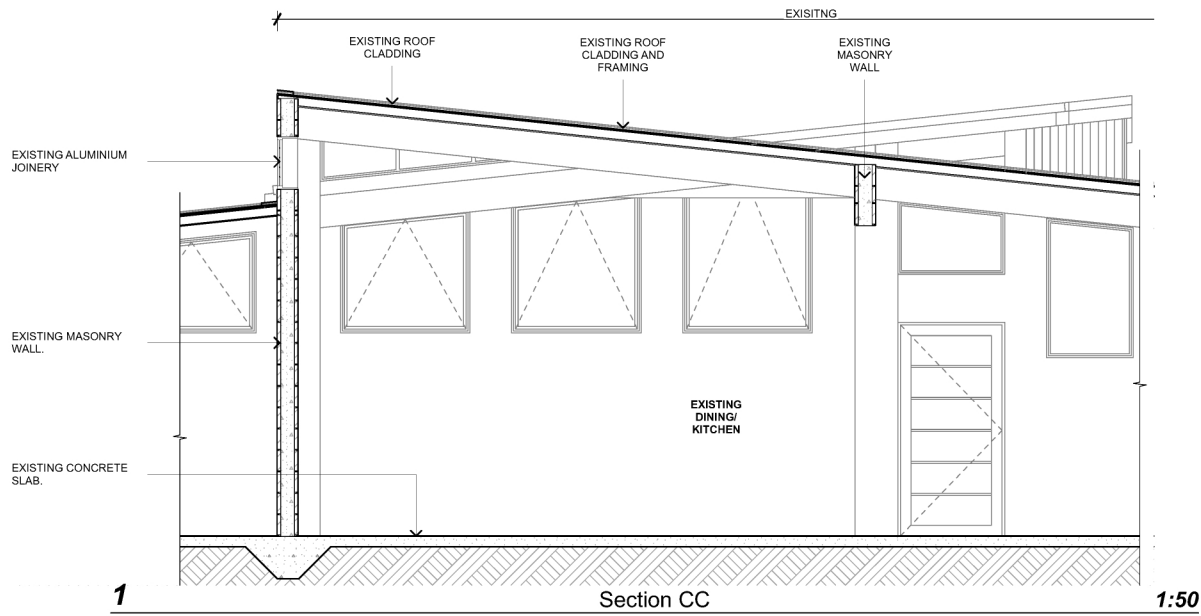
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19995	A201	-



2

Section BB

1:50



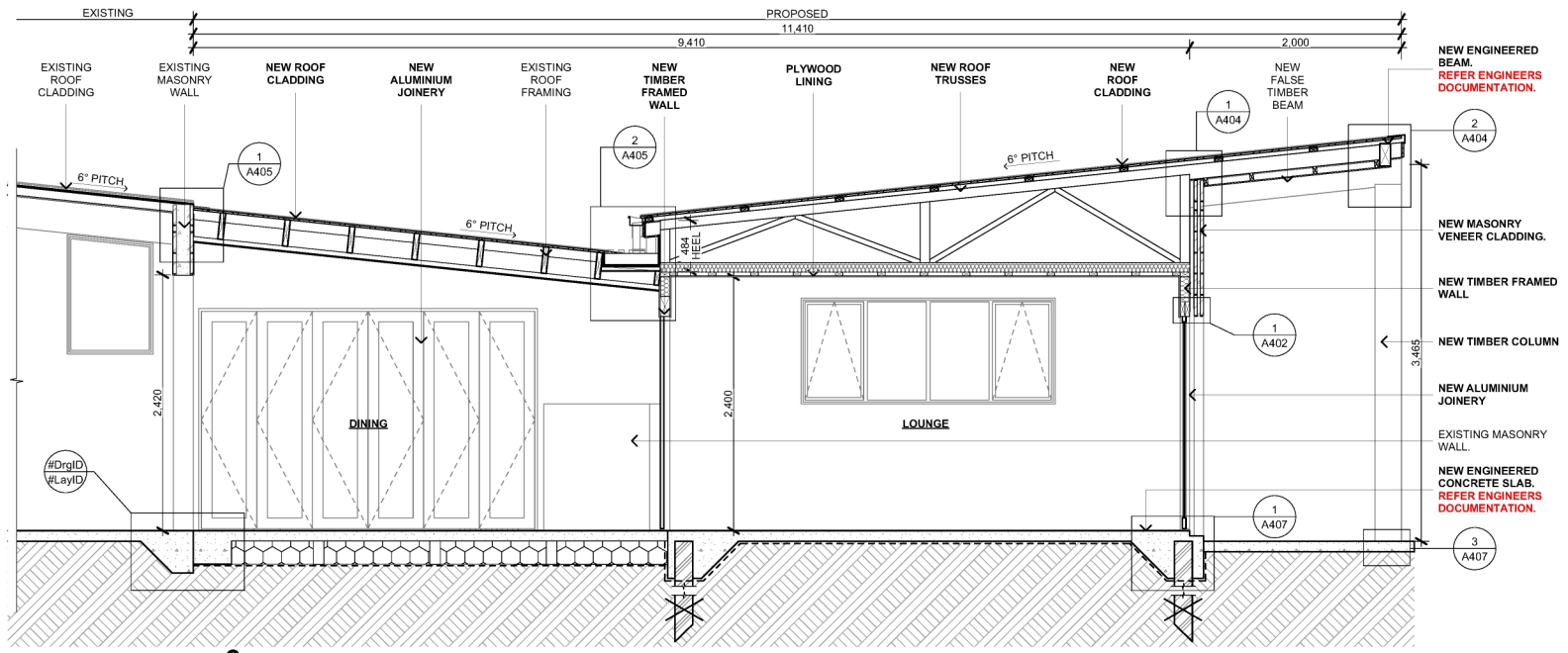
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Section CC

1:50

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2

Section CC

1:50

CULLEN KEISER ARCHITECTURE

P :: [+64] 7 281 0280
M :: 027 2477660
E :: daniel@cullenkeiser.co.nz
A :: 1480 Cameron Rd, Tauranga
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CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui
Tauranga

DRAWING INFORMATION

DESIGN s 7(2)(a) - Privacy
DRAWN s 7(2)(a) - Privacy
DWG CHR s 7(2)(a) - Privacy
PLOT DATE -
CAD FILE -
SCALE 1:50, 1:1
DRAWING TITLE

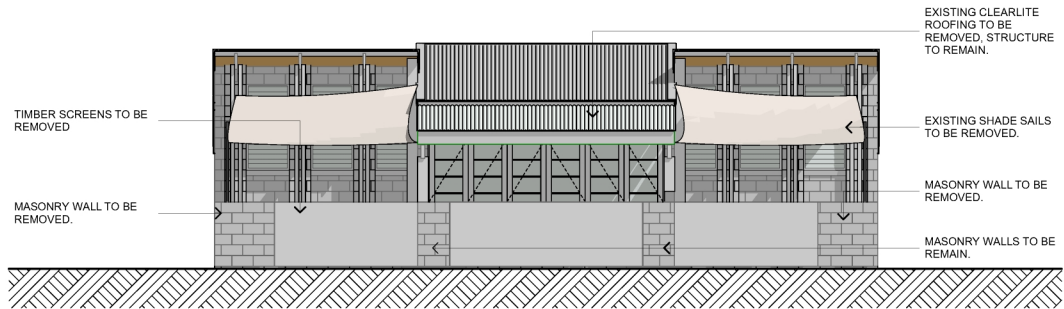
Sections

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO 19995 DRAWING NO A202 REVISION -

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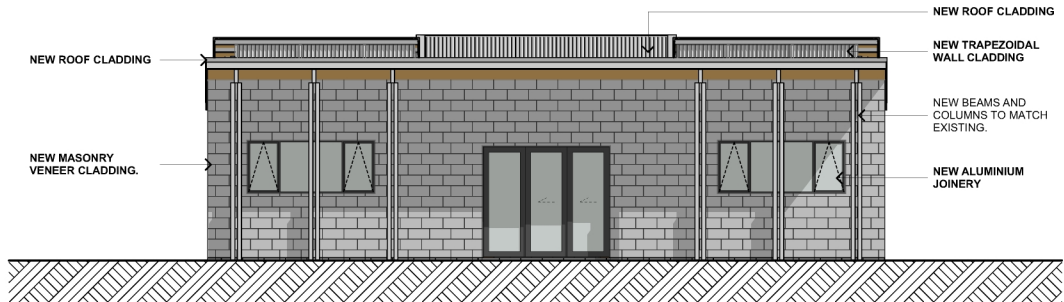


1

Existing North Elevation

1:100

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2

Proposed North Elevation

1:100

BUILDING ENVELOPE RISK MATRIX		
North Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low	0
Total Risk Score:		7

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P :: [+64] 7 281 0280
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CLIENT & PROJECT

PROPOSED ALTERATION AT
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DRAWING INFORMATION

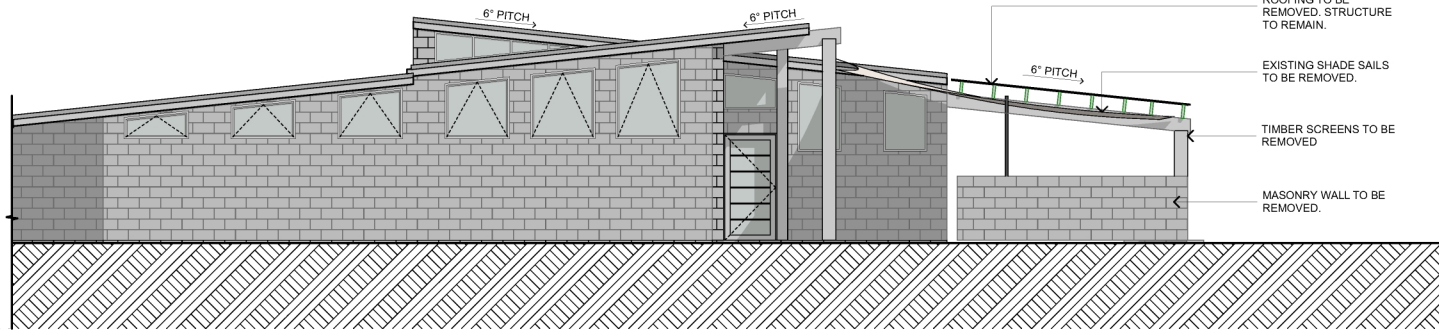
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DRAWING TITLE	

North Elevations

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A301	-



1

Existing East Elevation

1:100

- EXISTING CLEARLITE ROOFING TO BE REMOVED. STRUCTURE TO REMAIN.
- EXISTING SHADE SAILS TO BE REMOVED.
- TIMBER SCREENS TO BE REMOVED
- MASONRY WALL TO BE REMOVED.

NOTES

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UNDERSLAB INSULATION: 100mm EXPOL Thermastab SH R2.63
WALL INSULATION: EARTHWOOL R2.8 90MM
ROOF INSULATION: EARTHWOOL R3.2 130MM
Glazing: Double Glazing (safety glass to all full height glazing or bathroom windows).
Top Plate sizes:
- 140x35 + 90x45 SG8 H1.2

Structural Timber
- All structural timber framing to be SG8 minimum & H1.2 Boron Treated.
- For window lintel sizes and Lumberlok fixing types refer to Truss Plan.
- All exterior & interior wall construction is to be SG8 H1.2 unless noted otherwise.
TIMBER FRAMED WALLS:
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Studs 2.4 - 2.7m - 90x45mm @ 400 crs.

Fixings
- Provide stainless steel fixings to exposed elements in accordance with NZS 3604: 2011 table 4.1.
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PLYWOOD LINING
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NEW ALUMINIUM JOINERY
- Aluminium powder coated joinery (Double Glazed. Safety glass to all full height glazing).

DRAINAGE CHANNEL
- 150x150mm PVC drainage channel, connect to existing stormwater drain.
Refer Stormwater Documentation.

NEW CONCRETE SLAB
- Engineered concrete slab.
Refer engineers Documentation.

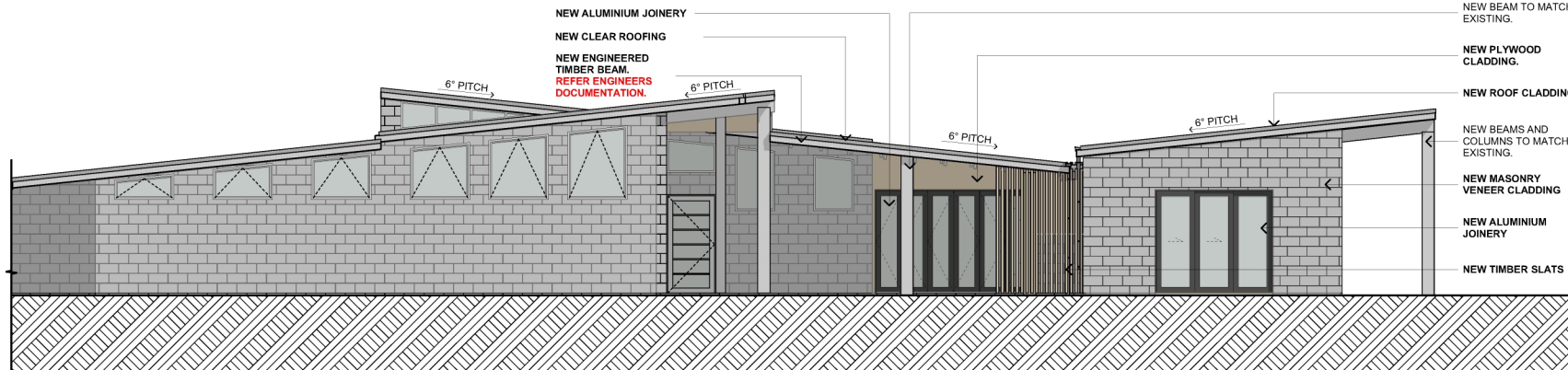
NEW ENGINEERED TIMBER BEAM
Refer engineers Documentation.

NEW ROOF TRUSSES
- Mitek prefabricated parallel chord trusses.
Refer truss layout and PS1.

NEW TIMBER COLUMN
- 3x250x75mm H3.2 Timber columns to match existing.
Refer engineers Documentation.

PRODUCT NOTES

BUILDING ENVELOPE RISK MATRIX			
North Elevation			
Risk Factor	Risk Severity	Risk Score	
Wind zone (per NZS 3604)	High risk	1	
Number of storeys	Low risk	0	
Roof/wall intersection design	Medium risk	1	
Eaves width	Very high risk	5	
Envelope complexity	Low risk	0	
Deck design	Low	0	
Total Risk Score:		7	



2

Proposed East Elevation

1:100

CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui
Tauranga

DRAWING INFORMATION

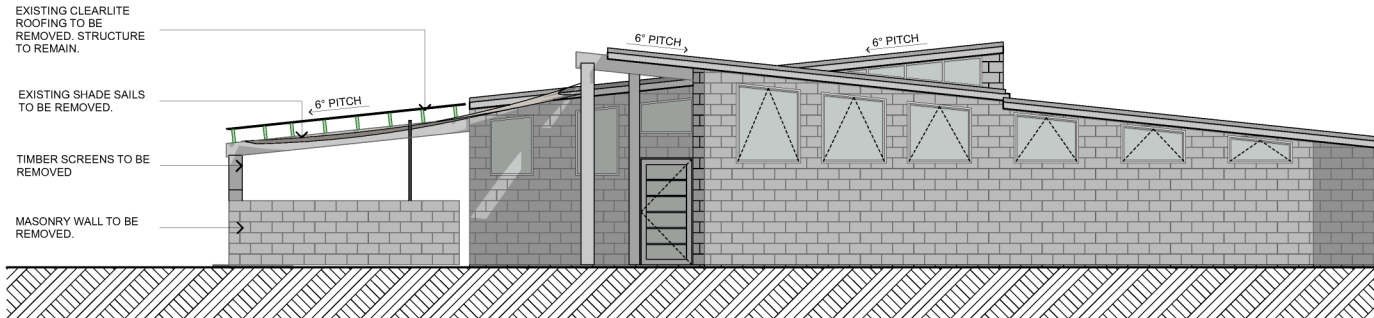
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PLOT DATE	-
CAD FILE	-
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East Elevations

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT	s 7(2)(a) - Privacy			22.05.20

JOB NO	DRAWING NO	REVISION
19995	A302	-



1

Existing West Elevation

1:100

NOTES

INSULATION REQUIREMENTS:
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WALL INSULATION: EARTHWOOL R2.8 90MM
ROOF INSULATION: EARTHWOOL R3.2 130MM
Glazing: Double Glazing (safety glass to all full height glazing or bathroom windows).
Top Plate sizes:
 - 140x35 + 90x45 SG8 H1.2

Structural Timber
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NEW CLEAR ROOFING
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NEW TIMBER SLATS
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PLYWOOD LINING
 - 12mm Plywood to all internal walls and ceilings. Ceilings on timber ceiling battens @ 600 crs.

NEW ALUMINIUM JOINERY
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DRAINAGE CHANNEL
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Refer Stormwater Documentation.

NEW CONCRETE SLAB
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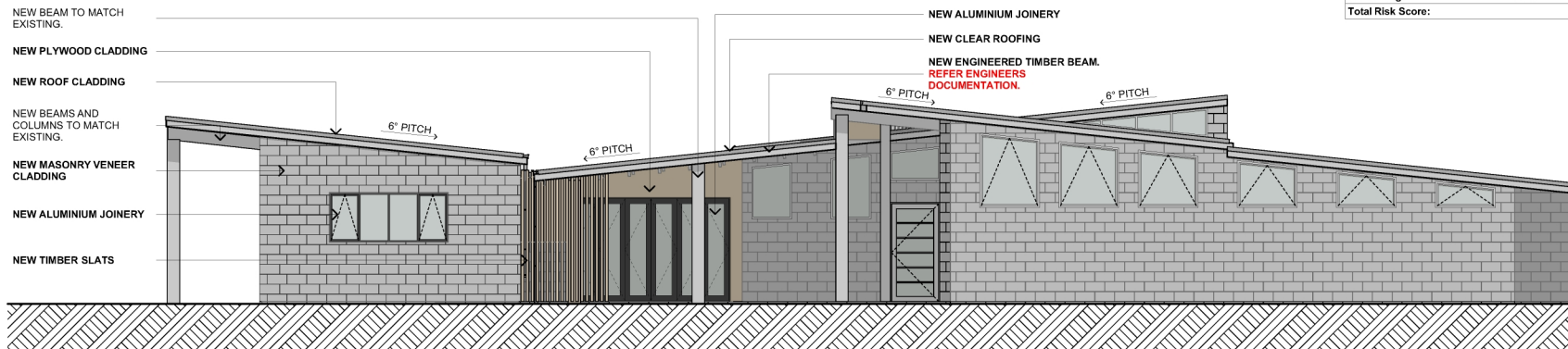
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North Elevation			
Risk Factor	Risk Severity	Risk Score	
Wind zone (per NZS 3604)	High risk	1	
Number of storeys	Low risk	0	
Roof/wall intersection design	Medium risk	1	
Eaves width	Very high risk	5	
Envelope complexity	Low risk	0	
Deck design	Low	0	
Total Risk Score:		7	



2

Proposed West Elevation

1:100

NOTES

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P :: [+64] 7 281 0280
 M :: 027 2477660
 E :: daniel@cullenkeiser.co.nz
 A :: 1480 Cameron Rd, Tauranga
 W :: www.cullenkeiser.co.nz

CLIENT & PROJECT

PROPOSED ALTERATION AT
 1 Adams Avenue Mount Maunganui
 Tauranga

DRAWING INFORMATION

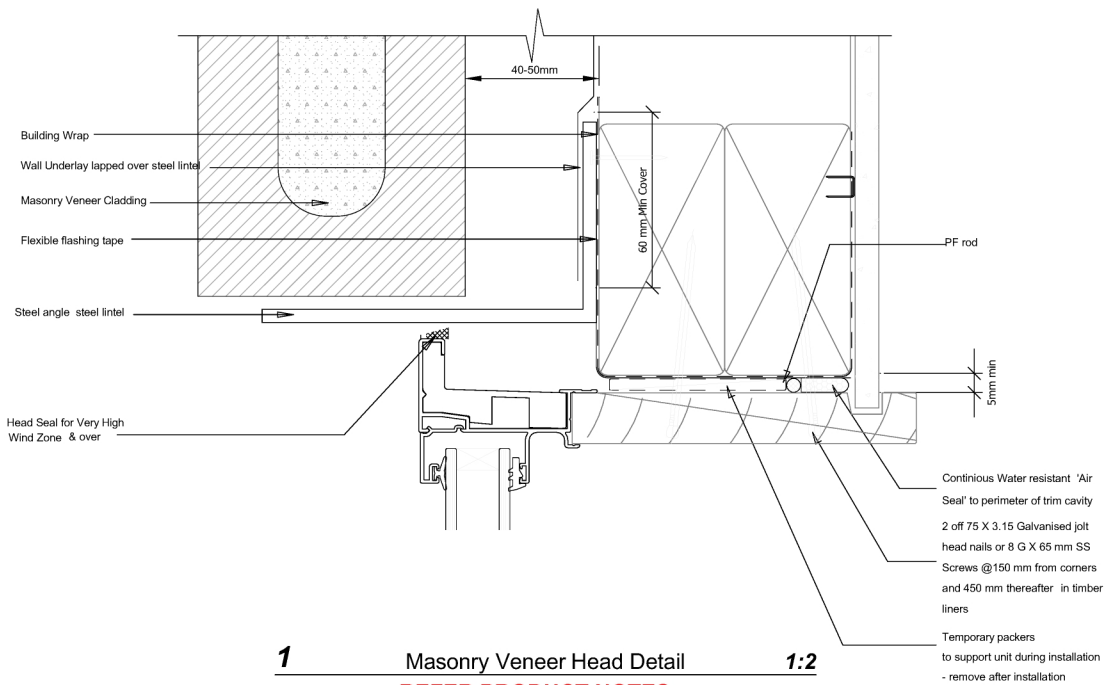
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West Elevations

REVISION

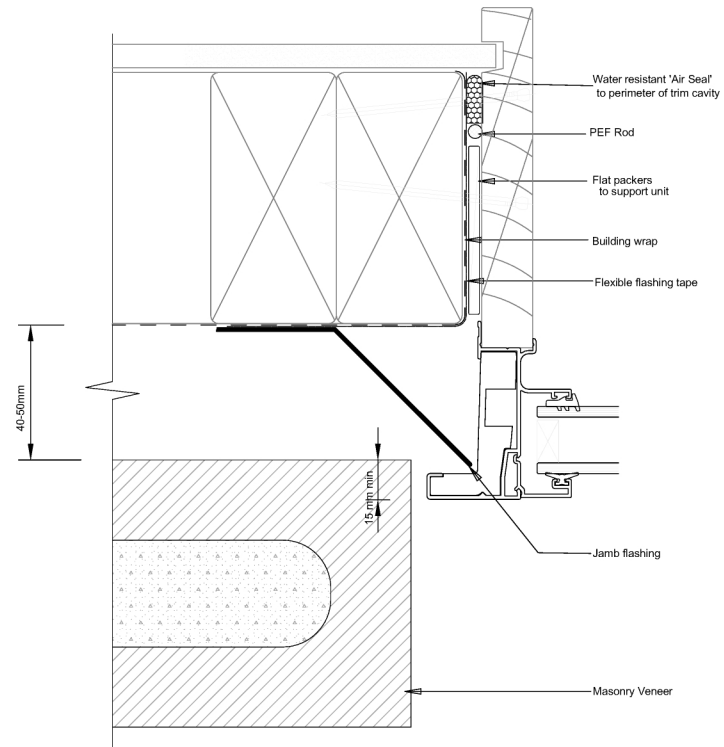
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-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A303	-



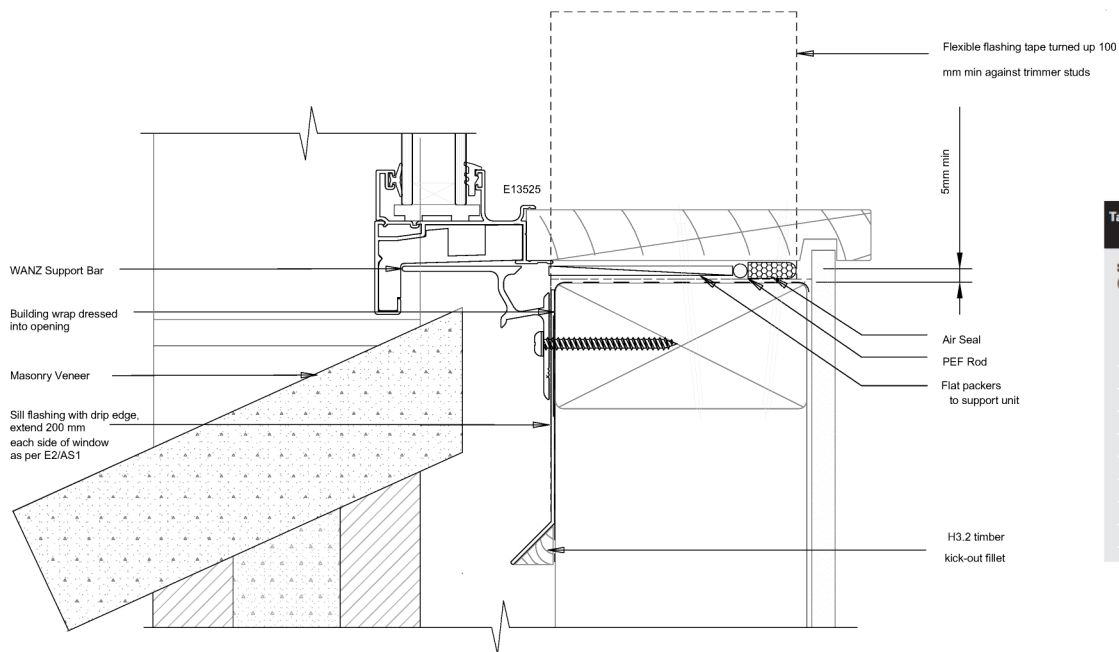
1 Masonry Veneer Head Detail **1:2**

REFER PRODUCT NOTES



3 Masonry Veneer Jamb Detail **1:2**

REFER PRODUCT NOTES



2 Masonry Veneer Window Sill **1:2**

REFER PRODUCT NOTES

Table 18E: Masonry veneer lintel sizes (minimum)
Paragraph 9.2.9

Span of lintel (m) up to:	Maximum thickness of masonry veneer (mm)					
	70			90		
	350	700	2000	350	700	2000
0.800	60 x 60 x 6 L	60 x 60 x 6 L	60 x 60 x 6 L	60 x 80 x 6 L	60 x 80 x 6 L	80 x 80 x 6 L
2.000	60 x 60 x 6 L	60 x 60 x 6 L	60 x 60 x 6 L	60 x 80 x 6 L	60 x 80 x 6 L	80 x 80 x 6 L
2.500	60 x 60 x 6 L	80 x 80 x 6 L	80 x 80 x 6 L	80 x 80 x 6 L	80 x 80 x 6 L	80 x 80 x 6 L
3.000	80 x 80 x 6 L	80 x 80 x 6 L	125 x 75 x 6 L	80 x 80 x 6 L	80 x 80 x 8 L	90 x 90 x 10 L
3.500	80 x 80 x 6 L	80 x 80 x 6 L	125 x 75 x 6 L	80 x 80 x 8 L	90 x 90 x 10 L	125 x 75 x 10 L
4.000	80 x 80 x 8 L	125 x 75 x 6 L	125 x 75 x 10 L	80 x 80 x 10 L	125 x 75 x 6 L	150 x 90 x 10 L
4.500	125 x 75 x 6 L	125 x 75 x 10 L	-	125 x 75 x 6 L	125 x 75 x 10 L	-
4.800	125 x 75 x 6 L	125 x 75 x 10 L	-	125 x 75 x 6 L	125 x 75 x 10 L	-

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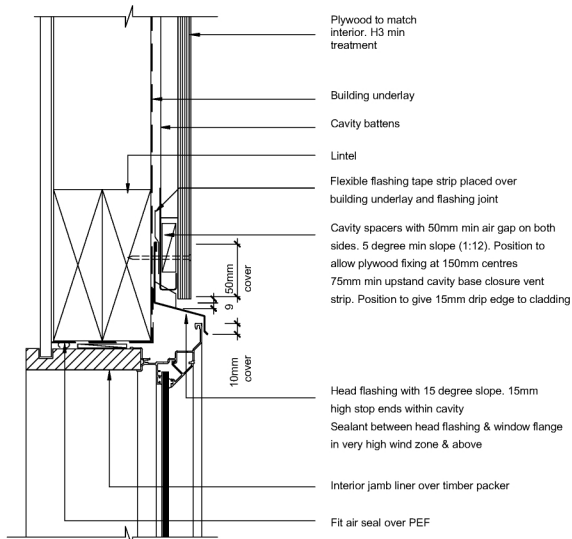
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Masonry Veneer Joinery Details

REVISION

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-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A402	-



Note:

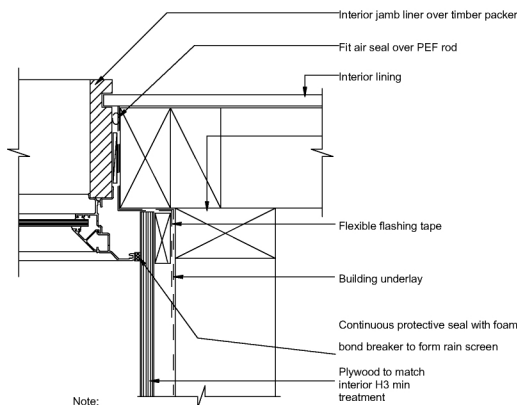
1. Treat all cut edges with Holdfast ⊗ Metalex ⊗ Clear
2. Stop ends to head flashing terminations

1

Plywood Head Detail

1:5

REFER PRODUCT NOTES



Note:

1. Treat all cut edges with Holdfast
2. 50mm strip of neutral cure silicon sealant must be provided at the termination point of all Z flashings

2

Plywood Jamb Detail

1:5

REFER PRODUCT NOTES

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DESIGN	
DRAWN	s 7(2)(a) - Privacy
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PLOT DATE	-
CAD FILE	-
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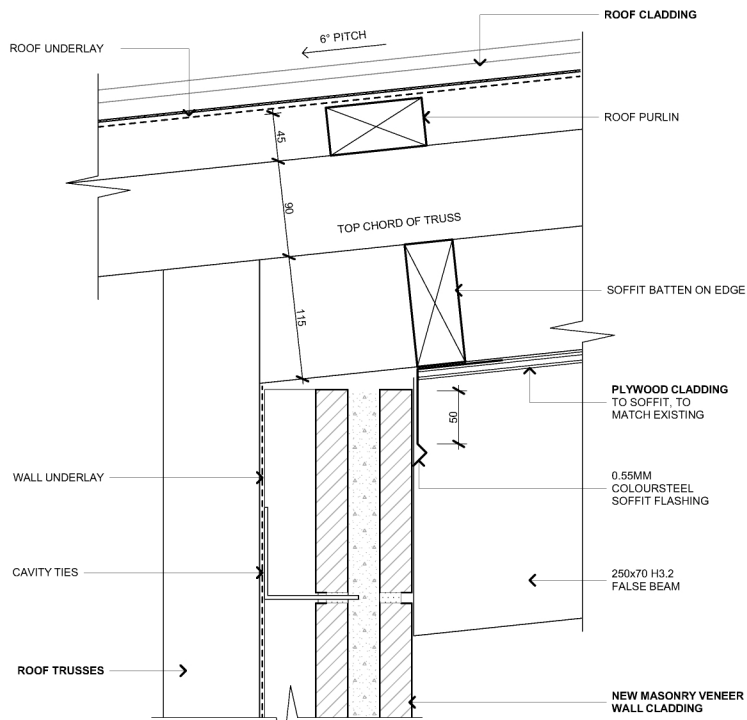
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Plywood Joinery Details

REVISION

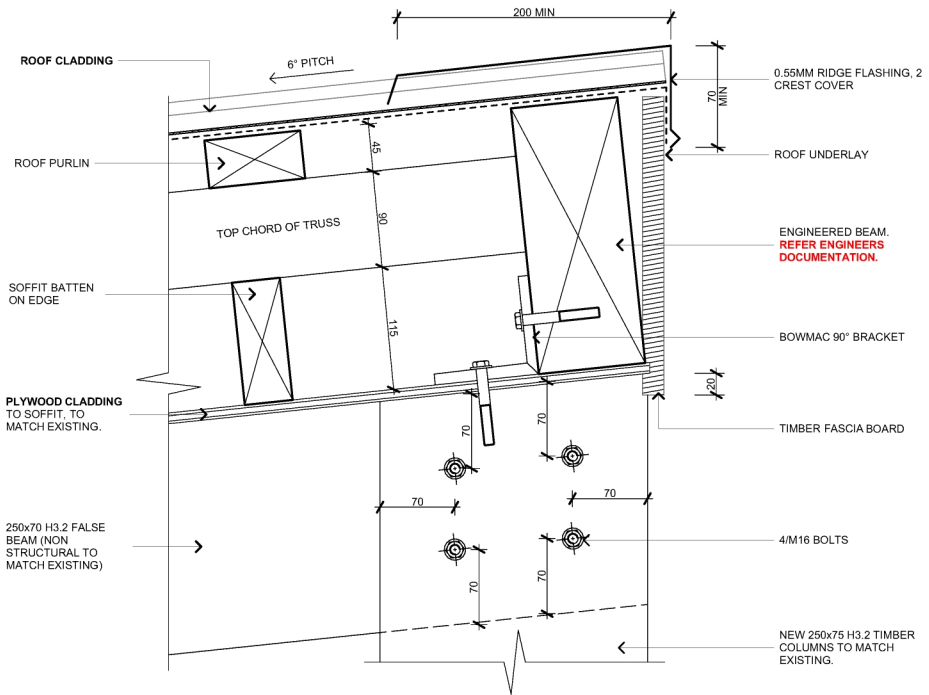
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-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A403	-



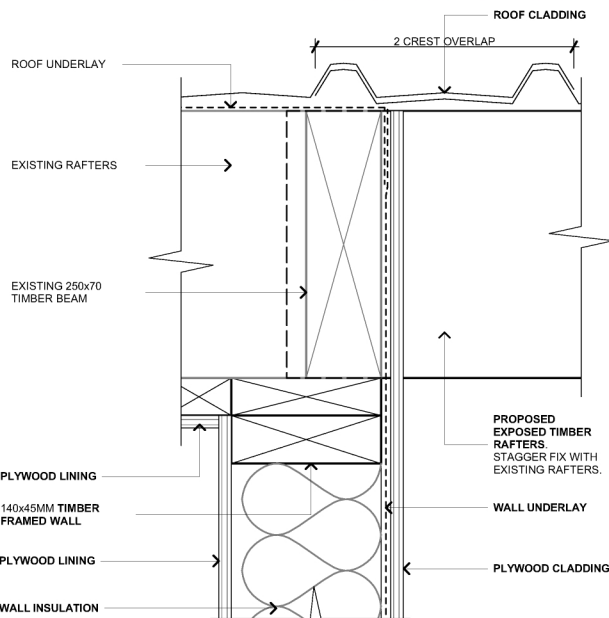
1 Brick Veneer Soffit Detail **1:5**

REFER PRODUCT NOTES



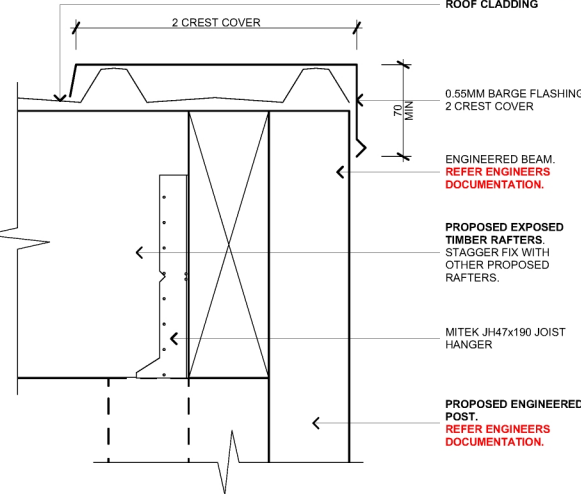
2 Roof Barge Detail **1:5**

REFER PRODUCT NOTES



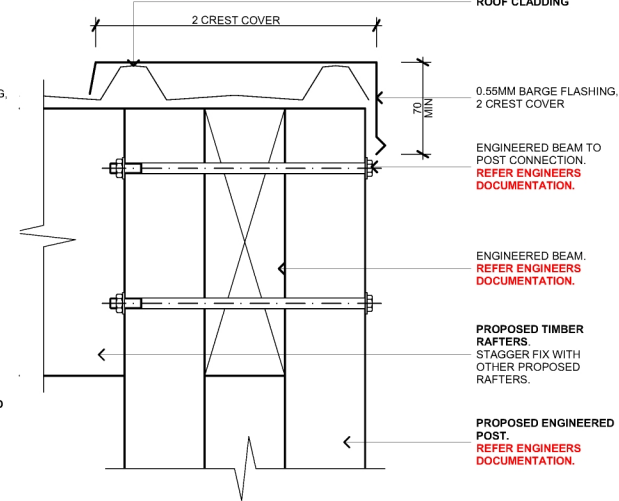
3 Roof - Outdoor Roof Detail **1:5**

REFER PRODUCT NOTES



4 Translucent Roofing Barge Detail **1:5**

REFER PRODUCT NOTES



5 Translucent Roofing Post Connection Detail **1:5**

REFER PRODUCT NOTES

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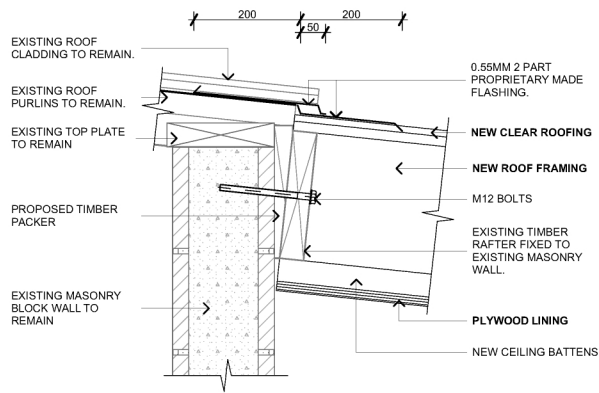
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Roof Details

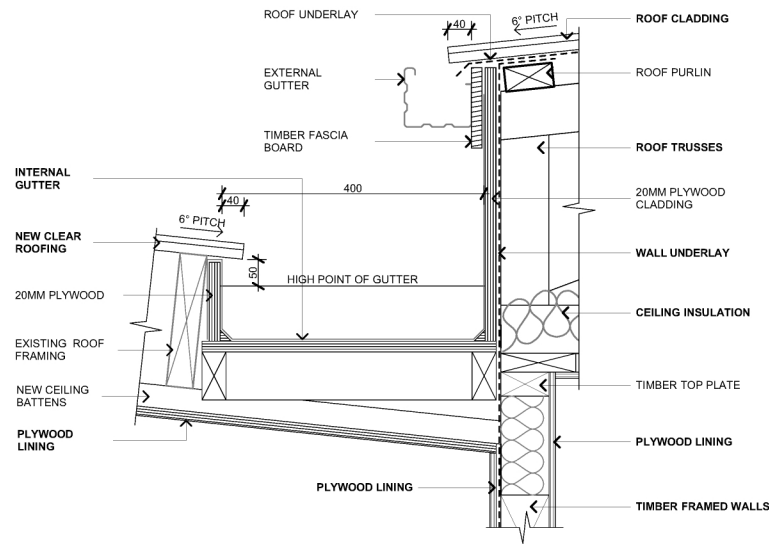
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-	PRELIMINARY				11.05.20
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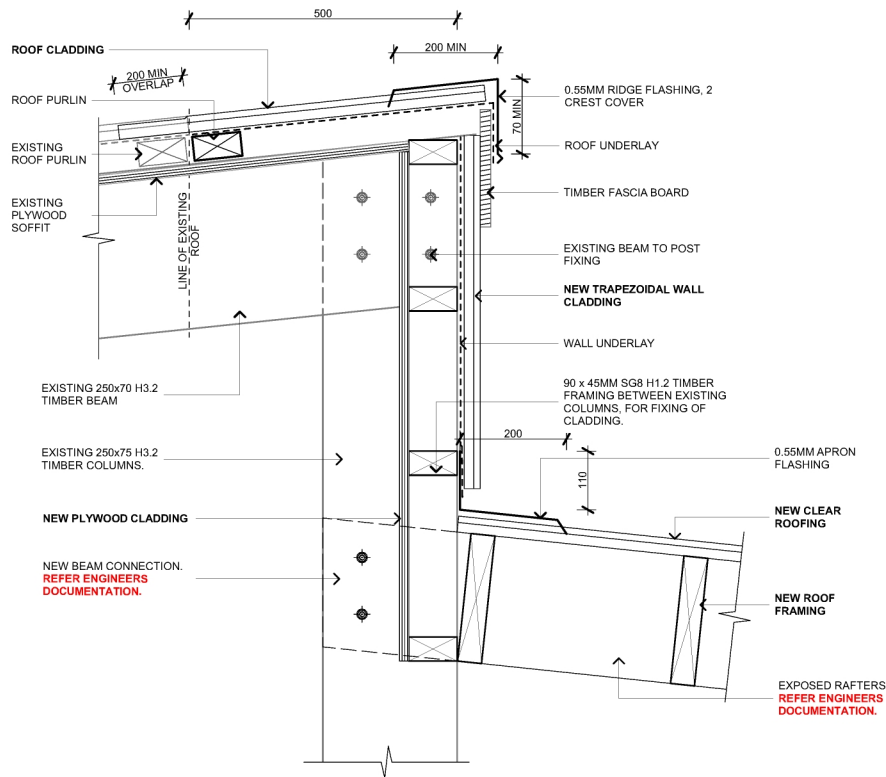
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19995	A404	-



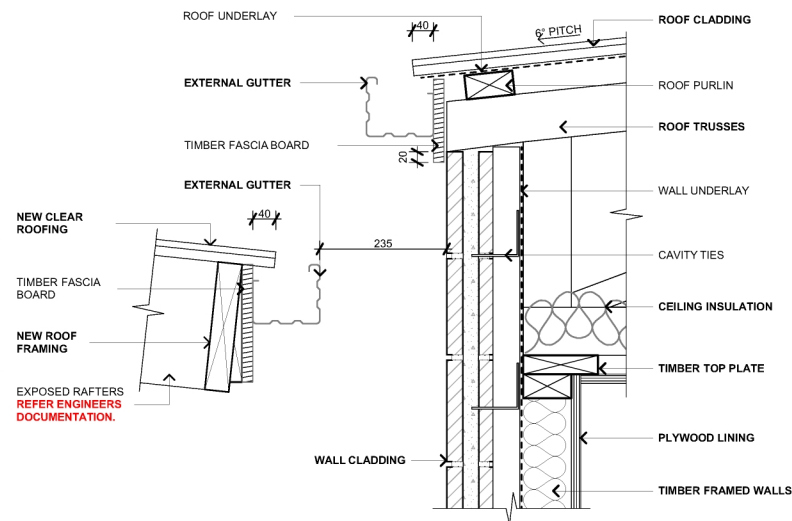
1 Existing - Proposed Roof Detail **1:10**
REFER PRODUCT NOTES



2 Internal Gutter Detail **1:10**
REFER PRODUCT NOTES



3 Extended Soffit Detail **1:10**
REFER PRODUCT NOTES



4 Roof Gutters Detail **1:10**
REFER PRODUCT NOTES

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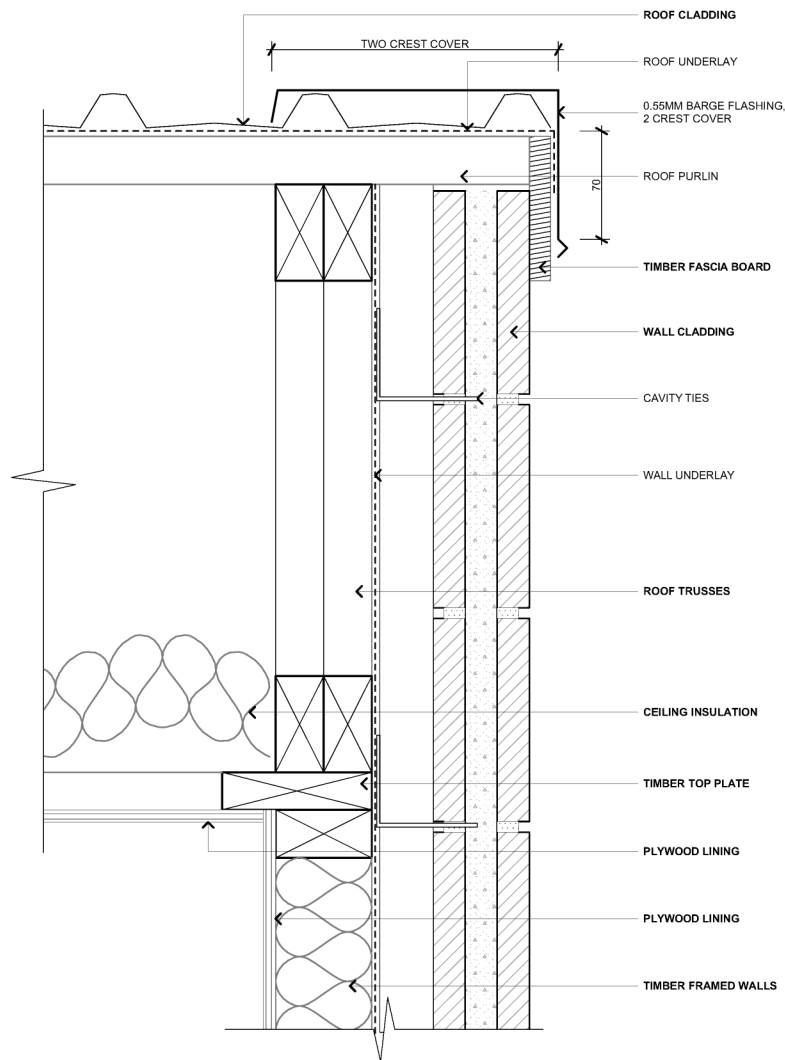
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Roof Details

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A405	-



1

Barge Detail

1:5

REFER PRODUCT NOTES

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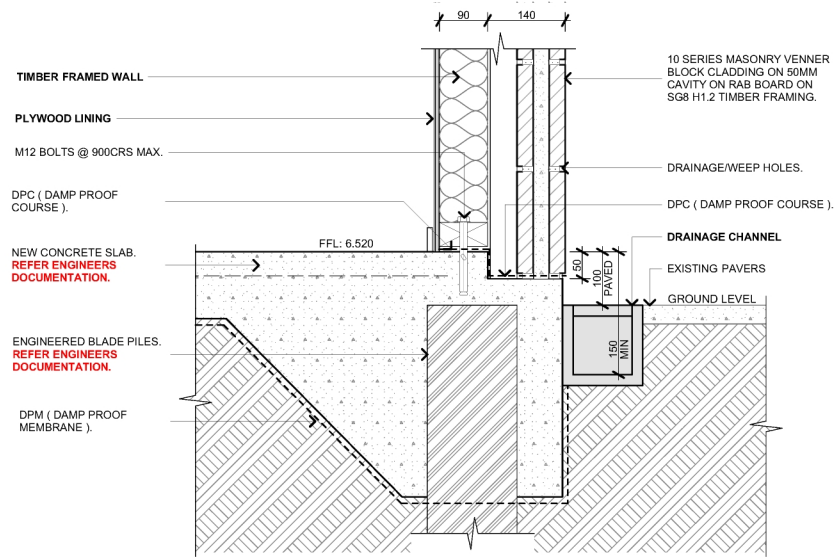
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Roof Details

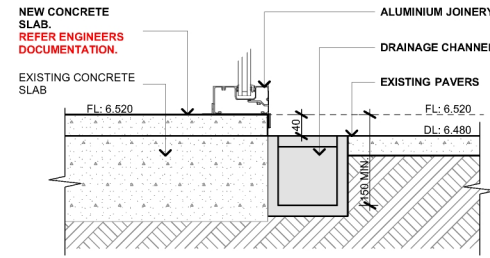
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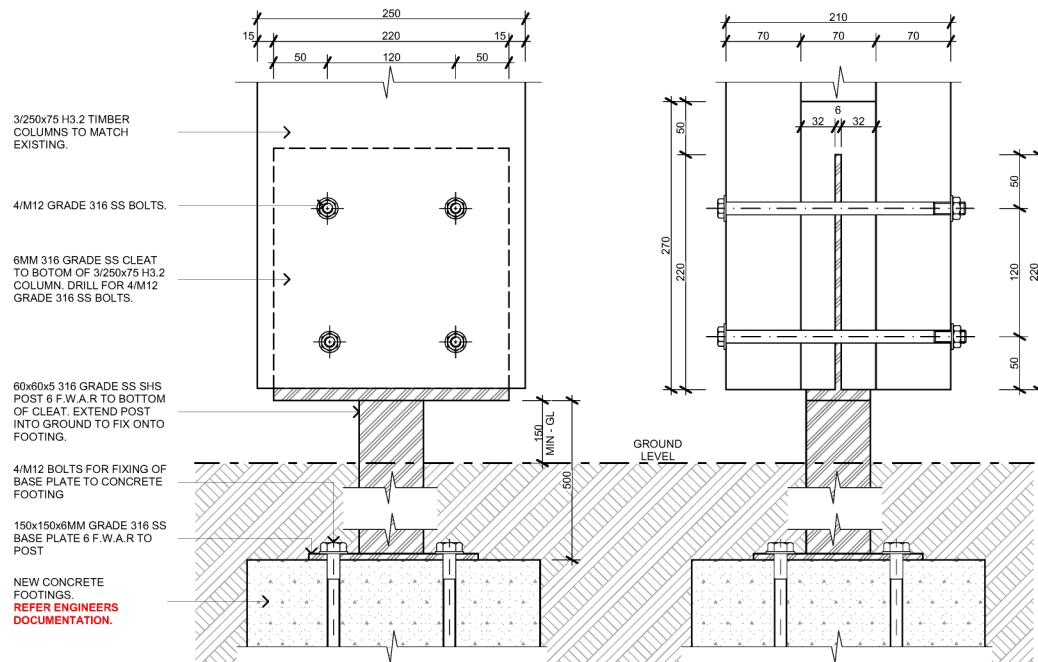
JOB NO	DRAWING NO	REVISION
19995	A406	-



1 Masonry Veneer Clearance Detail **1:10**
REFER PRODUCT NOTES



2 Aluminium Joinery Door Sill Detail **1:10**
REFER PRODUCT NOTES



REFER ENGINEERS DOCUMENTATION

3 Post Bracket Detail **1:5**
REFER PRODUCT NOTES

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PLOT DATE	
CAD FILE	
SCALE	1:10, 1:5
DRAWING TITLE	

Details

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-	BUILDING CONSENT				22.05.20

JOB NO	DRAWING NO	REVISION
19995	A407	-

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SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (see pg. 1.3 NZS3604:2011)	Light Roof				Heavy Roof					
		Wind Zone				Wind Zone					
		L	M	H	VH	EH	L	M	H	VH	EH
0.7	2.0	E	E	E	E	E	E	E	E	E	E
	3.0	E	E	E	F	F	E	E	E	F	F
	4.0	E	E	F	F	F	E	E	F	F	F
	5.0	E	F	F	G	G	E	F	F	G	G
	6.0	E	F	F	G	G	E	F	F	G	G
0.9	2.0	E	E	E	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	F	F	E	F	F	F	F
	5.0	E	F	F	G	G	E	F	F	G	G
	6.0	E	F	F	G	G	E	F	F	G	G
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	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	F	F	E	F	F	F	F
	5.0	E	F	F	G	G	E	F	F	G	G
	6.0	E	F	F	G	G	E	F	F	G	G
1.2	2.0	E	E	F	F	F	E	E	F	F	F
	3.0	E	F	F	F	F	E	F	F	F	F
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	5.0	E	F	F	G	G	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
1.5	2.0	E	E	F	F	F	E	E	F	F	F
	3.0	E	F	F	F	F	E	F	F	F	F
	4.0	E	F	F	G	G	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
2.0	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
2.4	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
3.0	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
3.6	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
4.2	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G
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	3.4	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	5.0	F	F	G	G	H	E	F	F	G	G
4.8	2.0	F	F	G	G	H	E	F	F	G	G
	3.0	F	F	G	G	H	E	F	F	G	G
	3.2	F	F	G	G	H	E	F	F	G	G
	4.0	F	F	G	G	H	E	F	F	G	G
	6.0	F	F	G	G	H	E	F	F	G	G

CULLEN KEISER ARCHITECTURE

P :: [+64] 7 281 0280
M :: 027 2477660
E :: daniel@cullenkeiser.co.nz
A :: 1480 Cameron Rd, Tauranga
W :: www.cullenkeiser.co.nz

CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui Tauranga

DRAWING INFORMATION

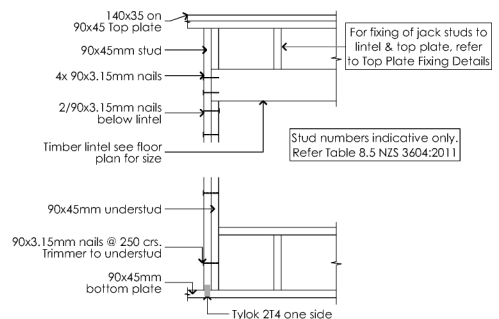
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DRAWN	
DWG CHK	
PLOT DATE	
CAD FILE	
SCALE	1:1, 6054
DRAWING TITLE	

Lintel Fixing Details

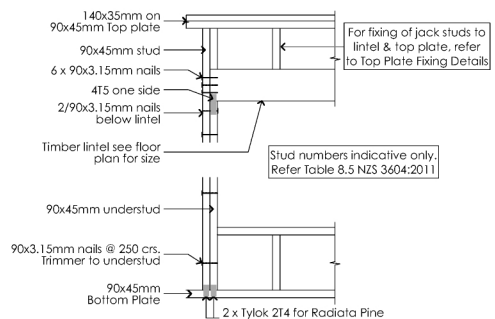
REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT				22.05.20

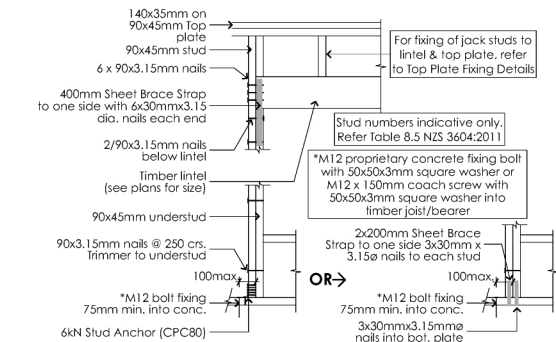
JOB NO	DRAWING NO	REVISION
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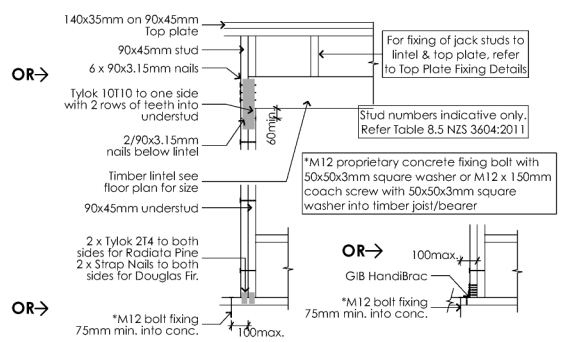
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Scale 1:10



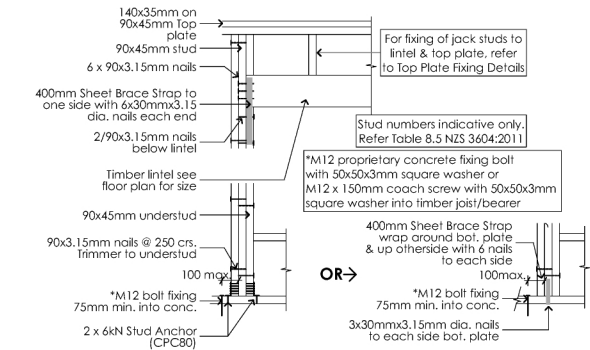
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Scale 1:10



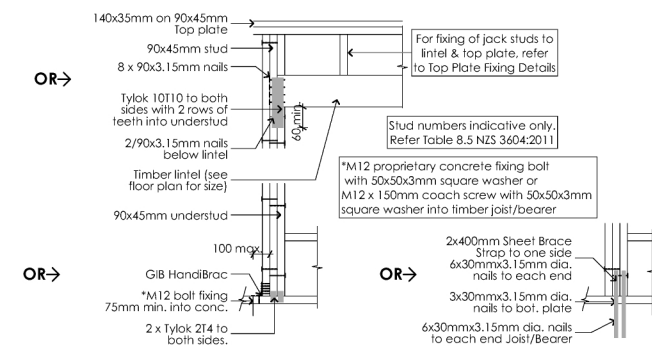
FIXING TYPE G - 7.5kN
Scale 1:10



FIXING TYPE G - 7.5kN
Scale 1:10



FIXING TYPE H - 13.5kN
Scale 1:10



FIXING TYPE H - 13.5kN
Scale 1:10

Proposed Door & Window Schedule						
Full Element ID	D01 - D02	D01 - D02	D016	W01 - W02	W03 - W07	
Opening Name	CI Tools Door	CI Tools Door	CI Tools Door	CI Tools Window	CI Tools Window	
Quantity	2	2	1	2	3	
W x H Size	2,400x2,100	3,200x2,100	2,000x2,100	2,400x1,000	2,400x1,000	
Sill height	0	0	0	1,200	1,200	
Head height	2,100	2,100	2,100	2,200	2,200	
2D Symbol						
View from Side Opposite to Opening Side						

NOTES

1. GENERAL

- 101 THE MAIN CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LEVELS ON SITE AND LOCATE ALL PUBLIC DRAINS ON SITE BEFORE COMMENCING WORK.
- 102 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION AND ALL OTHER RELEVANT DOCUMENTS.
- 103 DO NOT SCALE OFF DRAWINGS.
- 104 ALL CONSTRUCTION NOT SPECIFICALLY DESIGNED SHALL COMPLY WITH NZS3604:2011 AND THE NEWZEALAND BUILDING CODE 1992 AND THEIR AMENDMENTS.
- 105 REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR ALL FOUNDATION BLOCKWORK, SUSPENDED CONCRETE FLOOR AND STRUCTURAL BRACING CALCULATIONS.
- 106 IN THE EVENT THAT ANY UNSTABLE OR SOFT GROUND IS ENCOUNTERED DURING EXCAVATIONS THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR FURTHER DIRECTIONS.
- 107 IN THE EVENT THAT DISCREPANCIES ARE FOUND IN THESE DRAWINGS THE CONTRACTOR MUST CONTACT CULLEN KEISER ARCHITECTURE LTD, BEFORE PROCEEDING.
- 108 THE CONTRACTOR SHALL SUPPLY AND FIX ALL NECESSARY FLASHINGS AND SEALANTS TO PROVIDE A COMPLETELY WEATHERTIGHT BUILDING.
- 109 USE TYPE 304 OR 316 STAINLESS STEEL PROTECTED FIXINGS IN ALL EXPOSED AREAS AS PER TABLE 4.1 NZS3604:2011.
- 110 WET AREAS PRONE TO SPLASH AS PER NZBC CLAUSE E3 ARE COMPLY WITH CLAUSES 3.0 AND 3.2

CULLEN KEISER ARCHITECTURE

P :: [+64] 7 281 0280
M :: 027 2477660
E :: daniel@cullenkeiser.co.nz
A :: 1480 Cameron Rd, Tauranga
W :: www.cullenkeiser.co.nz

CLIENT & PROJECT

PROPOSED ALTERATION AT
1 Adams Avenue Mount Maunganui Tauranga

DRAWING INFORMATION

DESIGN	
DRAWN	s 7(2)(a) - Privacy
DWG CHG	
PLOT DATE	-
CAD FILE	-
SCALE	1:1

DRAWING TITLE

Proposed Door & Window Schedule

REVISION

NO	REVISION	BY	CHK	APPD	DATE
-	PRELIMINARY				11.05.20
-	BUILDING CONSENT	s 7(2)(a) - Privacy			22.05.20

JOB NO	DRAWING NO	REVISION
19995	A409	-

Appendix IV

Stormwater Management Design Report

Geotechnical Assessment



**Mount Holiday Park
Amenity Block, Kitchen Upgrade**

**Stormwater Management System
Design Report**

Tauranga City Council

Project Ref: 14379

June 2020

Revision 0

Report Revision History

Submitted	Revision Number	Description
June 2020	Initial Release	For Council Approval

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1.0 General

1.1 Preamble

Tiaki Engineering Consultants Limited have been commissioned by Tauranga City Council (TCC) to investigate and propose a revised stormwater reticulation due to the proposed Amenity Block Building kitchen upgrades at the Mount Holiday Park, Tauranga.

The purpose of this document is to provide sufficient information in the form of drawings and calculations to show that the stormwater run-off will be managed in accordance with the infrastructure development code (TCC IDC).

1.2 Site Description and Location

The existing kitchen building is located on the premises of the Mount Holiday Park, at the foothills of Mount Maunganui's Mauao. The property is legally described as **APPORTIONMENT OF PT SEC 1 & PT SEC 19 BLK VI TAURANGA S D-REC RES**. The locality of the property is presented in Figure 1 below.

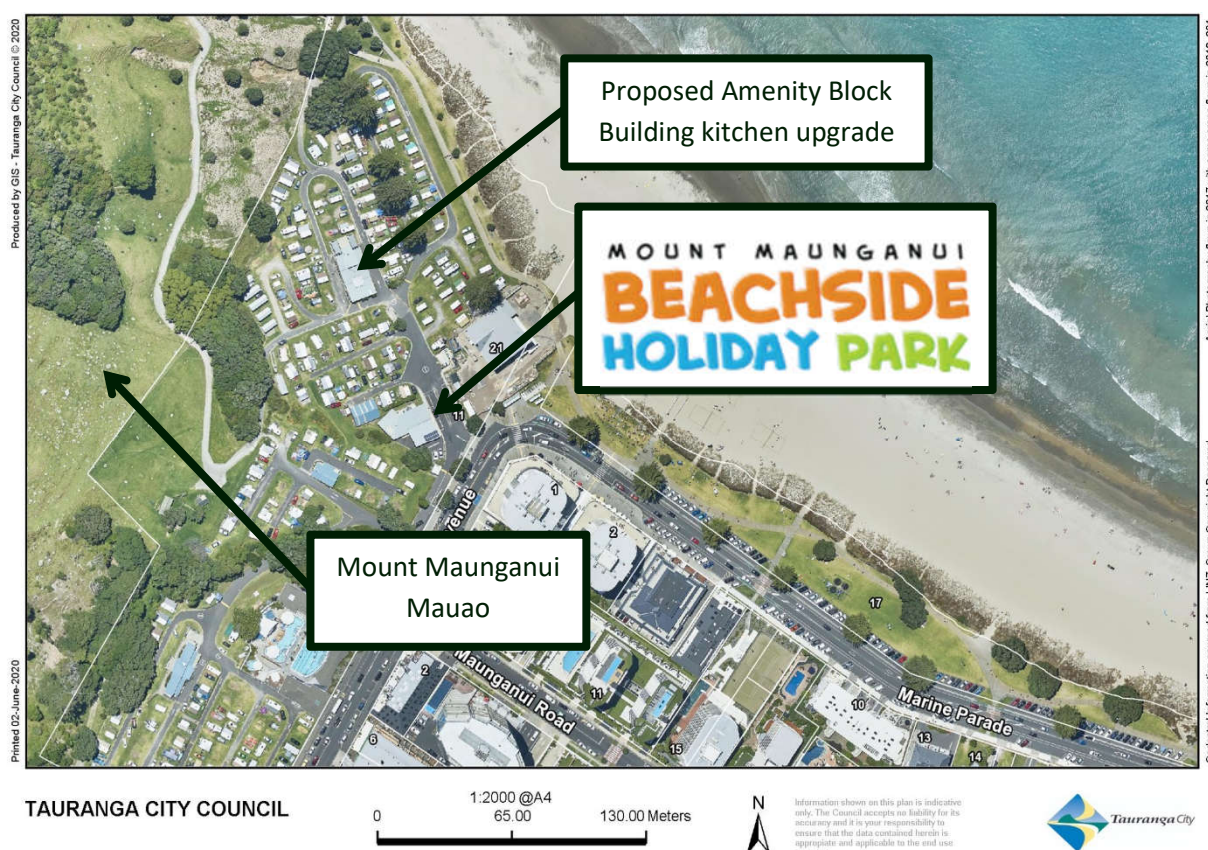


Figure 1: Location of proposed kitchen upgrade site.

1.3 Data Collection and Assumptions

The following information was used to prepare this report:

1. Latest proposed layouts, Cullen Keiser Architecture, Job No 19995, May 2020
2. Existing Elevation Data: Mapi, Tauranga City Council's free GIS map viewer, <http://mapi.westernbay.govt.nz>

3. New Zealand Building Code, Clause E1, Surface Water (NZBC E1)
4. Tauranga City Council Infrastructure Development Code (TCC IDC)
5. Topographical Survey (Tiaki)

2.0 Stormwater Management Design

2.1 Catchment Characteristics

The effective catchment area related to the proposed stormwater system as part of the kitchen upgrades is approximately 1.275ha and consists of primarily a densely native bush and grassed surface area with fairly steep average ground slopes of around 53%. Refer to **Appendix A** for the design calculations.

2.2 Time of Concentration

In accordance with the New Zealand Building Code (NZBC) Section E1: Surface Water, the Time of concentration (Tc) for the subject site is calculated as 19 minutes. Refer to **Appendix A** for the design calculations.

2.3 Design Rainfall and Intensity

Design rainfall data was sourced from TCC IDC which is presented in **Table 1** below.

Table 1: Climate Adjusted Rainfall Intensity Estimates (2055) in mm/hour.

Return Period	Storm Duration (min)					
	10	20	30	60	120	360
2.33	78	60	50	33	23	12
5	108	78	70	49	35	17
10	126	99	88	65	45	22
20	144	120	104	80	56	27
50	180	144	128	100	71	33
100	198	168	144	115	82	38

2.4 Runoff Coefficient (C)

The runoff coefficient 'C-value' in the Rational Method includes for interception, infiltration, evaporation, depression storage and groundwater flow.

Published New Zealand Institute of Engineers (NZIE 1980) coefficient charts were used to assign appropriate 'C-values' within the Rational Method equation.

Table 2 below presents a summary of the land-use classification that was adopted and the adopted 'C-value'.

Table 2: Adopted Land Use Classification

Land Use Classification	Adopted C-Value
Undeveloped: Grass, Bush, Scrub Cover	0.20

2.5 Peak Runoff Analysis

Peak runoff rates have been assessed based on **The Rational Method** which is widely publicised as a simple and effective method to estimate peak runoff from relatively small and homogenous catchments (same land use and land cover across the catchment) of up to 80ha.

Table 3 below presents a summary of the peak flow rates calculated for the catchment area. Refer to **Appendix A** for the design calculations.

Table 3: Peak Design Flow Rates

Storm Event	Return Period	Peak Design Flows (l/s)
50 % AEP	2 Year ARI	44
20 % AEP	5 Year ARI	57
10% AEP	10 Year ARI	72
5 % AEP	20 Year ARI	87
2% AEP	50 Year ARI	104
1 % AEP	100 Year ARI	121

3.0 Stormwater Network

3.1 Existing Stormwater Reticulation

As per TCC's online GIS maps, an existing 1050mm \varnothing concrete manhole along the north-eastern corner of the existing kitchen building serves as the service connection point for the existing stormwater network. Asbestos cement pipes ranging between 100mm \varnothing and 150 mm \varnothing are connected upstream to this manhole. Refer to **Figure 2** below.

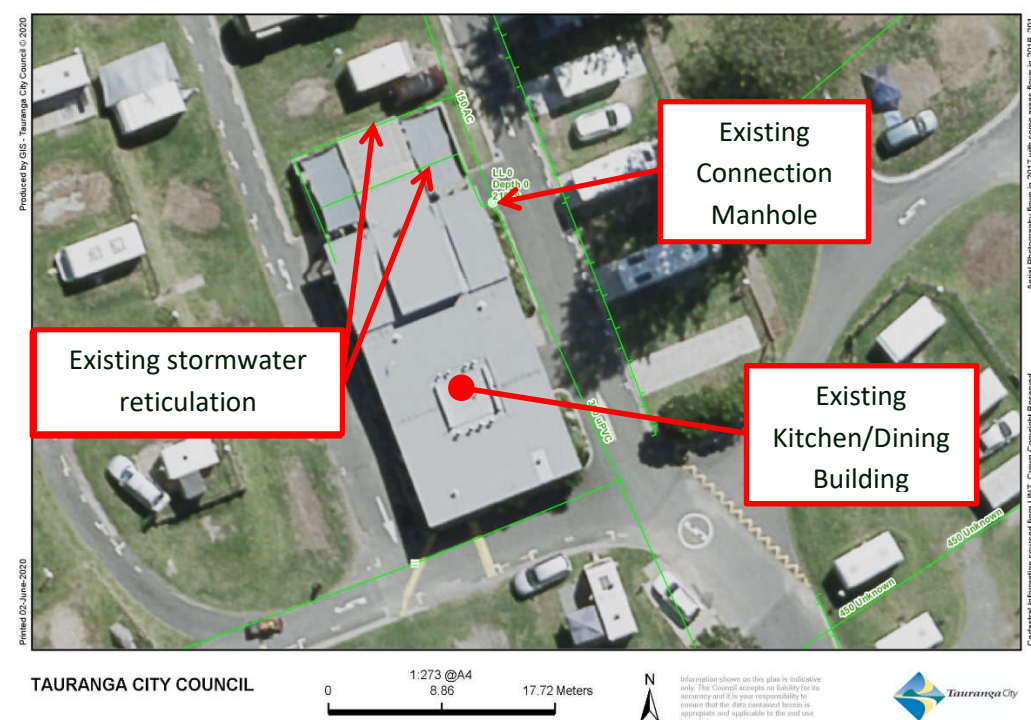


Figure 2: Existing Stormwater Reticulation

3.2 Proposed Stormwater Reticulation

The proposed kitchen upgrades will introduce two new barbeque areas, a dining area and a lounge area as presented in **Figure 3** below. This new additions will require a revision of the stormwater reticulation leading up to the connection manhole.

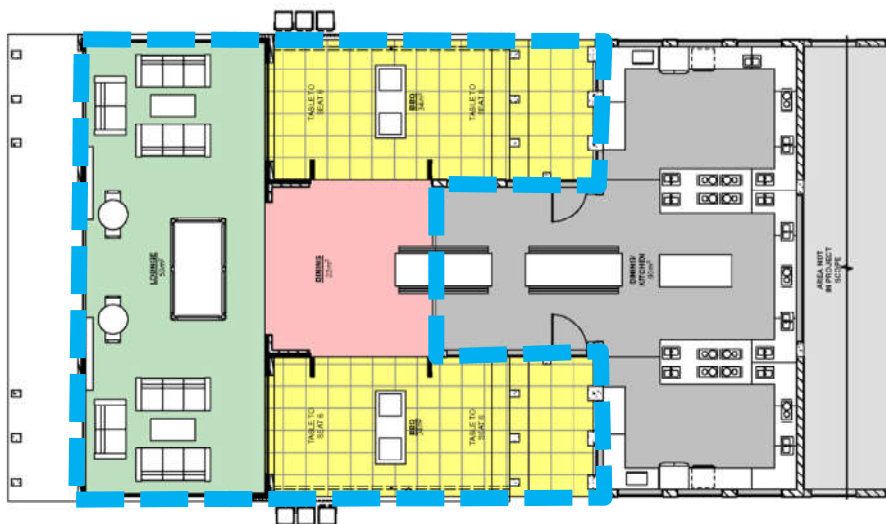


Figure 3: New additions to kitchen building

It is proposed to abandon and/or relocate existing stormwater pipes to suit the new building footprint by providing new strip drains on the western face of the building and providing suitably sized drainage pipes to the existing connection manhole in accordance with TCC IDC requirements. Refer to **Figure 4** Below:



Figure 4: New addition area

Refer to the design calculations in **Appendix A** and the drawing set in **Appendix B** for more details regarding the proposed stormwater reticulation sizing and analysis.

4.0 Conclusion

The revised stormwater reticulation design for the proposed kitchen upgrades at the Mount Holiday Park is designed in accordance with TCC IDC requirements and the New Zealand Building Code, Clause E1, Surface Water (NZBC E1).

The proposed stormwater reticulation will not have an adverse effect on the existing Council stormwater network.

This report has been prepared for the benefit of the client with respect to the particular brief provided to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

If you have any queries, please contact the undersigned.

Report prepared by:

s 7(2)(a) - Privacy

Report authorised by:

s 7(2)(a) - Privacy

5.0 Appendix A – Peak Stormwater Runoff design



PEAK STORMWATER RUNOFF DESIGN

E1/VM1 METHOD (NEW ZEALAND BUILDING CODE)

DESIGN PEAK RUNOFF

$$Q := \frac{C \cdot I \cdot A}{360}$$

Q - catchment runoff m³/s

C - a dimensionless runoff coefficient

I - design rainfall intensity in mm/hr

A - contributing catchment area in hectares

TYPICAL RUNOFF COEFFICIENTS (C)

Refer to Table 1

TIME OF CONCENTRATION (STORM DURATION)

$$T_c := \frac{107 \cdot n \cdot L^{0.333}}{s^{0.2}}$$

T_c - time to develop overland flow

n_h - Horton's n value for surface conditions

Surface condition	Horton's n value
Paved surface	0.015
Bare soil surface	0.0275
Poorly grassed surface	0.035
Average grassed surface	0.045
Densely grassed surface	0.060

L - hydraulic length of contributing catchment

s - catchment slope in %

DESIGN RAINFALL INTENSITY (TCC) (I)

Table 1: Run-off Coefficients
Paragraphs 2.0.1, 2.1.1, 2.1.3

Description of surface	C
Natural surface types	
Bare impermeable clay with no interception channels or run-off control	0.70
Bare uncultivated soil of medium soakage	0.60
Heavy clay soil types:	
- pasture and grass cover	0.40
- bush and scrub cover	0.35
- cultivated	0.30
Medium soakage soil types:	
- pasture and grass cover	0.30
- bush and scrub cover	0.25
- cultivated	0.20
High soakage gravel, sandy and volcanic soil types:	
- pasture and grass cover	0.20
- bush and scrub cover	0.15
- cultivated	0.10
Parks, playgrounds and reserves:	
- mainly grassed	0.30
- predominantly bush	0.25
Gardens, lawns, etc.	0.25
Developed surface types	
Fully roofed and/or sealed developments	0.90
Steel and non-absorbent roof surfaces	0.90
Asphalt and concrete paved surfaces	0.85
Near flat and slightly absorbent roof surfaces	0.80
Stone, brick and precast concrete paving panels	
- with sealed joints	0.80
- with open joints	0.60
Unsealed roads	0.50
Railway and unsealed yards and similar surfaces	0.35
Land use types	
Industrial, commercial, shopping areas and town house developments	0.65
Residential areas in which the impervious area is less than 36% of gross area	0.45
Residential areas in which impervious area is 36% to 50% of gross area	0.55
Note:	
Where the impervious area exceeds 50% of gross area, use method of Paragraph 2.1.2.	

Table B: Climate-Adjusted Design Rainfall Intensity Estimates (2055) in mm/hour

Return Period (Years)	Duration					
	10 Minutes	20 Minutes	30 Minutes	1 Hour	2 Hours	6 Hours
2.33*	78	60	50	33	23	12
5	108	78	70	49	35	17
10	126	99	88	65	45	22
20	144	120	104	80	56	27
50	180	144	128	100	71	33
100	198	168	144	115	82	38



DESIGN RAINFALL INTENSITY:

Design Rainfall Intensity Matrix(mm/hr)

ARI :=	I _H :=	2	78.0	60.0	50.0	33.0	23.0	12.0
		5	108.0	78.0	70.0	49.0	35.0	17.0
		10	126.0	99.0	88.0	65.0	45.0	22.0
		20	144.0	120.0	104.0	80.0	56.0	27.0
		50	180.0	144.0	128.0	100.0	71.0	33.0
		100	198.0	168.0	144.0	115.0	82.0	38.0

C-value

C₀ := 0.20

Table 1 (E1:NZBC)

Area (ha)

A := 1.275 ha

SD := [10 20 30 60 120 360] min

PEAK RAINFALL AND RUNOFF ANALYSIS:

TIME OF CONCENTRATION

Horton's n value

n_h := 0.060

Hydraulic Length

L := 285 m

Height Difference

Δh := 152.0 m

Catchment Slope

s := $\frac{\Delta h}{L} \cdot 100 = 53.33 \%$

Time of Concentration

T_{c0} := $\frac{107 \cdot n_h \cdot L^{0.333}}{s^{0.2}} = 19.04 \text{ min}$

Minimum Tc to be 10 min

19.04 min

Rational Method (E1:NZBC)

INTERPOLATED DESIGN RAINFALL @ TIME OF CONCENTRATION:

I₂ := InterpBilinear (SD, ARI, I_H, T_c, 2) = 61.7

I₅ := InterpBilinear (SD, ARI, I_H, T_c, 5) = 80.9

I₁₀ := InterpBilinear (SD, ARI, I_H, T_c, 10) = 101.6

I₂₀ := InterpBilinear (SD, ARI, I_H, T_c, 20) = 122.3

I₅₀ := InterpBilinear (SD, ARI, I_H, T_c, 50) = 147.5

I₁₀₀ := InterpBilinear (SD, ARI, I_H, T_c, 100) = 170.9

Design Rainfall Intensity for Stormwater Infrastructure

I_{design} := $\begin{bmatrix} I_2 \\ I_5 \\ I_{10} \\ I_{20} \\ I_{50} \\ I_{100} \end{bmatrix} = \begin{bmatrix} 61.7 \\ 80.9 \\ 101.6 \\ 122.3 \\ 147.5 \\ 170.9 \end{bmatrix} \frac{\text{mm}}{\text{hr}}$

Pre-development Peak Runoff (m³/s)

Q_{design} := $\frac{C_0 \cdot I_{design} \cdot A}{360} = \begin{bmatrix} 0.044 \\ 0.057 \\ 0.072 \\ 0.087 \\ 0.104 \\ 0.121 \end{bmatrix} \frac{\text{m}^3}{\text{s}}$

Design Pipe Flow (m³/s) 10% AEP

Q₁₀ := $\frac{C_0 \cdot I_{10} \cdot A}{360} = 0.072 \frac{\text{m}^3}{\text{s}}$

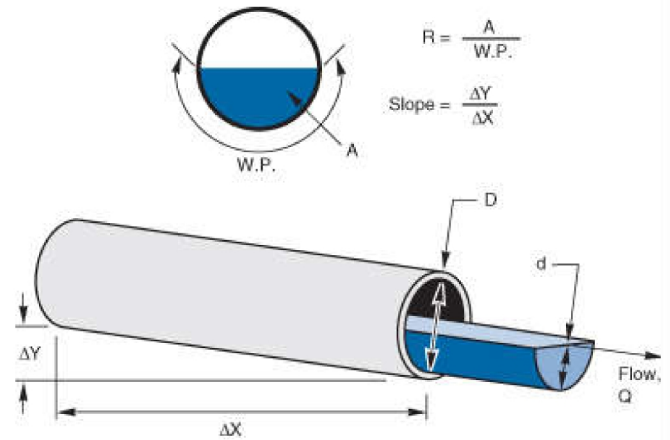
PIPE SIZING ANALYSIS:

0.011 Mannings n Value

0.020 Pipe Gradient (m / m)

Pipe Diameter (mm)

0.225



$\theta := 180 \text{ deg}$ $Angle := 2 \cdot \theta = 6.283 \text{ rad}$

Cross-sectional Area $A_{pipe} := \frac{D^2}{4} \cdot \left(\theta - \frac{1}{2} \cdot \sin(2 \cdot \theta) \right) = 0.03976 \text{ m}^2$

Wetted Perimeter $P_{pipe} := D \cdot \theta = 0.7069 \text{ m}$

Hydraulic Radius $R_h := \frac{D}{4} \cdot \left(1 - \frac{1}{2} \cdot \frac{\sin(2 \cdot \theta)}{\theta} \right) = 0.0563 \text{ m}$

Flow Rate

$$Q_{pipe} := \frac{D^2}{4} \cdot \left(\theta - \frac{1}{2} \cdot \sin(2 \cdot \theta) \right) \cdot \left(\frac{1}{n} \right) \cdot S_{pipe}^{\frac{1}{2}} \cdot \left(\frac{D}{4} \cdot \left(1 - \frac{1}{2} \cdot \frac{\sin(2 \cdot \theta)}{\theta} \right) \right)^{\frac{2}{3}} = 0.075 \frac{\text{m}^3}{\text{s}}$$

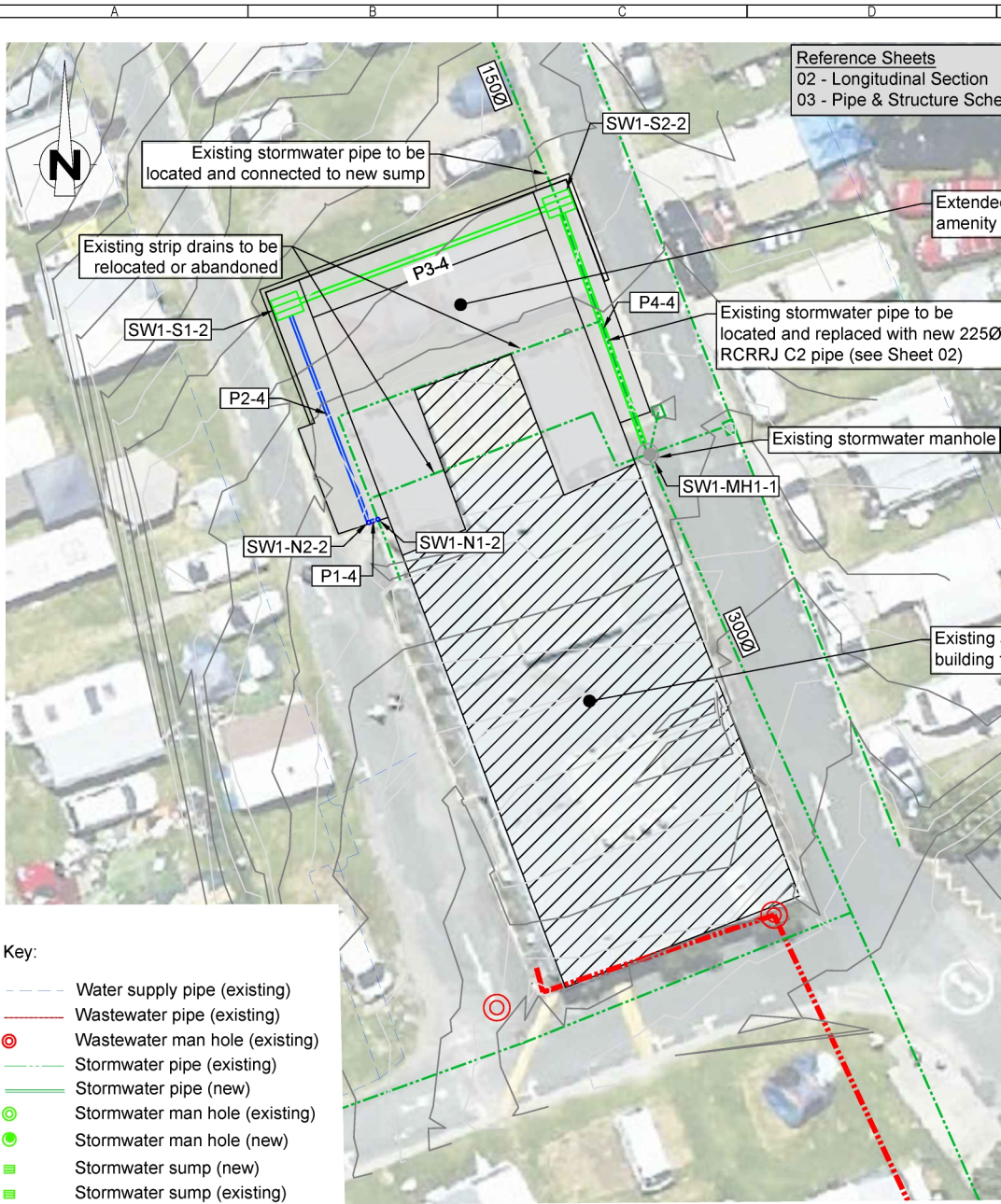
Minimum 10 % AEP Flow Design Check "Design OK"

Flow Velocity $V_{pipe} := \frac{Q_{pipe}}{A_{pipe}} = 1.89 \frac{\text{m}}{\text{s}}$

Minimum Velocity @ 0.65 m/s "Design OK"

Maximum Velocity @ 4.00 m/s "Design OK"

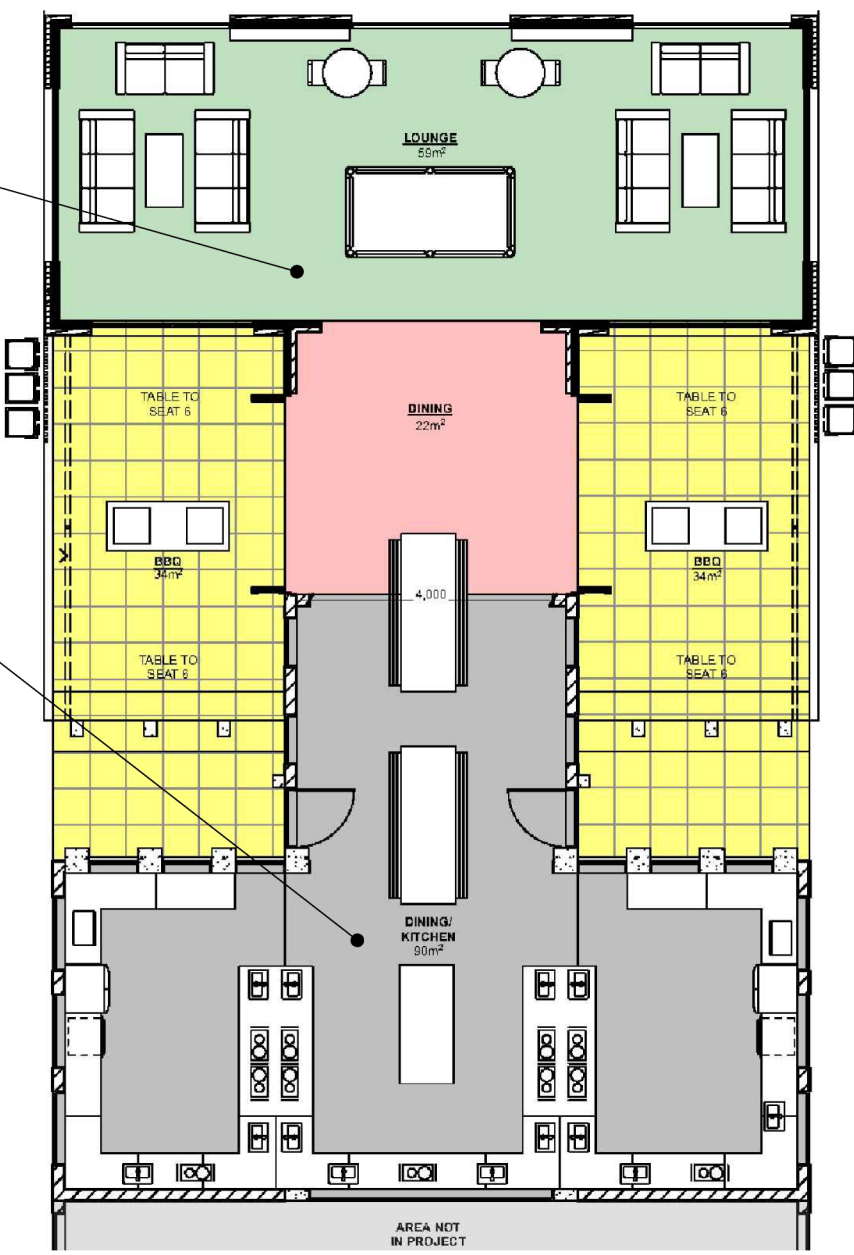
6.0 Appendix B – Drawing Sheet Set



STORMWATER LAYOUT PLAN

Scale 1:250 on A3

Note
1. All stormwater to be constructed in accordance with TCC development code.



AMENITY BLOCK ADDITIONS

N.T.S

FOR COUNCIL APPROVAL

Surveyed:					
Designed:					
Drawn:	A	FOR COUNCIL APPROVAL	s 7(2)(a) - Privacy	JUN 2020	
Reviewed:	Rev	Revision Details	Appd	Signature	Date

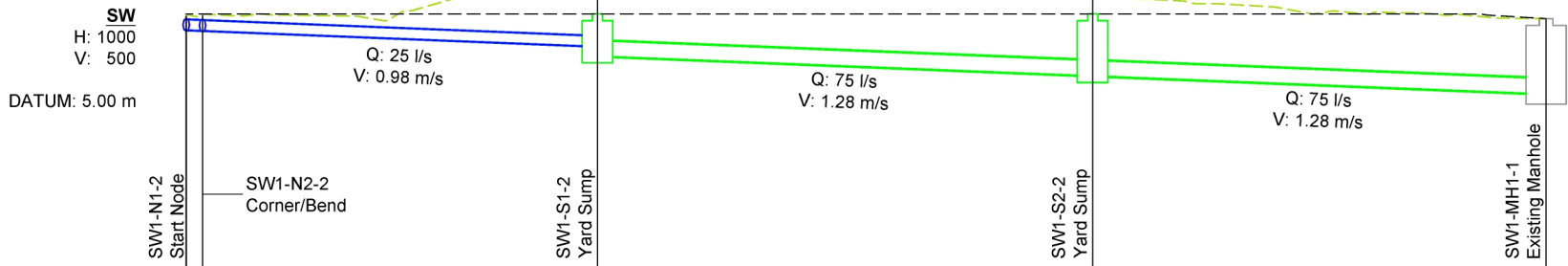
tiaki ENGINEERING CONSULTANTS
 Tiaki Engineering Consultants Ltd
 115 The Strand, Tauranga
 PO Box 13030 Tauranga 3141
 Phone: 07 577 1399
 Web: www.tecl.co.nz

Client:
TAURANGA CITY COUNCIL

Project Title:
MT HOLIDAY PARK AMENITY BLOCK EXTENSION

Sheet Title:
LAYOUT PLAN

Job #:	14379	Scale (A3 Original):	As Shown
Client Drawing #:	01 of 03	Sheet #:	Rev No: A



SET OUT DATA	E: 1880281.731 E: 1880281.278 N: 5830404.902	E: 1880277.193 N: 5830415.754	E: 1880290.802 N: 5830420.877	E: 1880295.242 N: 5830408.321
DISTANCE	0.00 0.48	12.07	26.62	39.93
LID LEVEL	6.52 6.52	6.52	6.52	6.45
INVERT LEVELS	6.28 6.27	6.04 5.90	5.61	5.34
DEPTH TO INVERT	0.24 0.25	0.62 0.48	0.91	1.11
PIPE DETAILS	P1-4 150 mm Ø Strip Drain	P2-4 150 mm Ø Strip Drain	P3-4 225 mm Ø RCRRJ C2	P4-4 225 mm Ø RCRRJ C2
GRADES	2.00% 1:50	2.00% 1:50	2.00% 1:50	2.00% 1:50

LONGSECTION
Scale 1:150 on A3

FOR COUNCIL APPROVAL

Surveyed:				
Designed:				
Drawn:	A	FOR COUNCIL APPROVAL	s 7(2)(a) - Privacy	JUN 2020
Reviewed:	Rev	Revision Details	Appd	Signature
				Date

tiaki
ENGINEERING CONSULTANTS

Tiaki Engineering Consultants Ltd
115 The Strand, Tauranga
PO Box 13030 Tauranga 3141
Phone: 07 577 1399
Web: www.tecl.co.nz

Client:
TAURANGA CITY COUNCIL

Project Title:
MT HOLIDAY PARK AMENITY BLOCK EXTENSION

Sheet Title:
LONGITUDINAL SECTION

Job #:	14379	Scale (A3 Original):	As Shown
Client Drawing #:		Sheet #:	02
		Rev No:	A
			of 03

STRUCTURE TABLE								
STRUCTURE NAME:	STRUCTURE TYPE:	SETOUT CONTOURS:	STRUCTURE LID LEVEL:	STRUCTURE DEPTH:	INLET PIPES:	INLET INVERT:	OUTLET PIPES:	OUTLET INVERT:
SW1-S1-2	Yard Sump	E:1880277.1927 N:5830415.7536	6.520	0.618	SW1-S1-2 P2-4	6.042	P3-4	5.902
SW1-S2-2	Yard Sump	E:1880290.8023 N:5830420.8771	6.520	0.909	SW1-S2-2 P3-4	5.611	P4-4	5.611
SW1-N1-2	Start Node	E:1880281.7314 N:5830405.0556	6.520	0.461	SW1-N1-2		P1-4	6.284
SW1-MH1-1	Existing Manhole	E:1880295.2420 N:5830408.3210	6.450	1.105	SW1-MH1-1 P4-4	5.345		
SW1-N2-2	Corner/Bend	E:1880281.2780 N:5830404.9020	6.520	0.461	SW1-N2-2 P1-4	6.274	P2-4	6.274

Pipe Table								
NAME	SIZE	LENGTH	SLOPE	DESIGN FLOW (l/s)	U/S	U/S INVERT	D/S	D/S INVERT
P1-4	150 mm	0.5 m	2.00%	25.451	SW1-N1-2	6.284	SW1-N2-2	6.274
P2-4	150 mm	11.6 m	2.00%	25.472	SW1-N2-2	6.274	SW1-S1-2	6.042
P3-4	225 mm	14.5 m	2.00%	75.023	SW1-S1-2	5.902	SW1-S2-2	5.611
P4-4	225 mm	13.3 m	2.00%	75.027	SW1-S2-2	5.611	SW1-MH1-1	5.345

SCHEDULES

Scale 1:200 on A3

FOR COUNCIL APPROVAL

Surveyed:					
Designed:					
Drawn:	A	FOR COUNCIL APPROVAL	s 7(2)(a) - Privacy	JUN 2020	
Reviewed:	Rev	Revision Details	Appd	Signature	Date

tiaki ENGINEERING CONSULTANTS
 Tiaki Engineering Consultants Ltd
 115 The Strand, Tauranga
 PO Box 13030 Tauranga 3141
 Phone: 07 577 1399
 Web: www.tecl.co.nz

Client:
TAURANGA CITY COUNCIL


Project Title:
MT HOLIDAY PARK AMENITY BLOCK EXTENSION

Sheet Title:
PIPE & STRUCTURE SCHEDULES

Job #:	14379	Scale (A3 Original):	As Shown
Client Drawing #:	03 of 03	Sheet #:	Rev No: A

GEOTECHNICAL INVESTIGATION REPORT

PROPOSED ALTERATION

**1 ADAMS AVENUE,
MOUNT MAUNGANUI**

TAURANGA CITY COUNCIL

Reference: TL488
Prepared: 19 February 2020
Issued to: Tauranga City Council

s 7(2)(f)(ii)

Issued on: 17 March 2020

1. INTRODUCTION

This report presents the findings of a geotechnical investigation carried out for a proposed alteration to the existing amenities block at Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui.

The purpose of our investigation was to assess subsoil conditions, quantify various geotechnical risks and determine the geotechnical suitability of the existing building platform for further development. We have also been asked to make recommendations regarding suitable foundation options.

This report has been prepared for Tauranga City Council (TCC) in accordance with our proposal letter dated 12 December 2019 and subject to a geotechnical review of the final plans, may be used in support of an application to TCC for building consent approval in respect of the proposed development as described herein.

2. SITE DESCRIPTION

2.1 General

The subject site (legally described as Section 19 Block VI Tauranga SD) is located at the base of Mount Maunganui. The site extends between the inner harbour (Pilot Bay) and the coastline (Mount Maunganui Beach) and is bound to the south-east by Adams Avenue. The site is currently occupied by the Mount Maunganui Beachside Holiday Park and the Mount Hot Pools. It comprises an irregular shaped property with an area of 51,500 m².

The existing amenities block is located within the northern half of the site, at the approximate centre of the Mount Holiday Park. It is understood that the existing single level heavyweight masonry block building comprises a conventional concrete slab on grade foundation with perimeter strip footings. A sealed accessway on the eastern and western side of the building provides vehicle access to near level camp sites which surround the existing structure. The camp sites are predominantly grass covered.

The Tauranga City Council GIS viewer indicates the existing building platform is at or near RL 6.4 m (Moturiki Datum).

A site plan is attached, drawing number TL488/1.

2.1 Historical Aerial Photographs



	<p>Aerial Photograph – 1977</p> <p>This aerial photograph shows the established campground. The walking track above the campground has been formed, with adjacent slopes still in pasture. A localised depression on the slope appears to have failed at some stage post 1943. The amenities block has been constructed with ground surface presumably raised as part of the development.</p>
	<p>Aerial Photograph – 2011</p> <p>This aerial photograph shows the amenities block has been replaced and/or extended to the north. A retaining wall has been constructed to the east of the building forming a lower and upper level camping sites. Vegetation has been established along the lower part of the slope.</p>
	<p>Aerial Photograph – 2019</p> <p>This aerial photograph shows the campground in its current form. Vegetation is being further established over the lower slope where the previously reference recent instability was observed.</p>

2.2 Utilities

A review of the TCC GIS viewer indicates that a public sanitary sewer connection is available at the south-western corner of the existing building. It also indicates that stormwater reticulation is available to the site. The nearest available connection is a pipe that extends through a manhole on the eastern side of the existing amenities block.

3. GEOLOGY AND GEOMORPHOLOGY

The Geological Map of Rotorua¹ shows the subject site to be underlain by Holocene aged beach deposits of the Tauranga Group. Coastal beach deposits occur as active sand and pebbly beaches and sandy beach ridges near the coast between Mount Maunganui and Maketu. The beach deposits are described as consisting of marine gravel, sand and mud on modern beaches.

A review of the GNS Active Faults Database indicates the property is located approximately 35 km to the north-west of the Otamarakau Fault and approximately 40 km to the north-east of the Kerepehi Fault.

4. EXISTING GEOTECHNICAL INFORMATION

4.1 Geotechnical Reports

We are not aware of any existing geotechnical reports relating to this site, however, we have obtained and reviewed existing borehole information from nearby sites using the New Zealand Geotechnical Database (NZGD).

4.2 Natural Hazards

4.2.1 Liquefaction Hazard

The proposed building platform is located within an area identified by TCC to be at no risk of liquefaction during a design event, however; this is due to the resolution and accuracy of the mapped zones, which have resulted in the lower risk category associated with the adjacent higher ground being incorrectly applied to the lower ground. Given the similar topography immediately to the east of the proposed building platform is considered at risk of minor ground damage due to liquefaction, a site-specific liquefaction assessment as per MBIE Guideline Module 3 of the Earthquake Geotechnical Engineering Series will be required.

4.2.2 Flooding Risk

A review of the TCC GIS viewer indicates that the proposed building platform is considered to be at risk of flooding (0.1 to 0.25 m deep) in a 100-year event.

4.2.3 Tsunami Risk

The TCC GIS viewer indicates the entire property is located within a Tsunami Evacuation Zone.

5. PROPOSED DEVELOPMENT

We have been supplied with preliminary drawings (drawing no: A01 to A06) for the proposed alteration to the existing amenities block, prepared by Cullen Keiser Architecture. Based on this information and discussions with our client we understand that the proposed development will comprise construction of a single storey, masonry veneer clad extension to the northern end of the existing amenities block. The proposed extension will be supported on a concrete slab/pod raft type floor.

The location of the proposed alteration is shown on the attached site plan drawing number TL488/1.

¹ Leonard, G.S.; Begg, J.G.; Wilson, C.J.N. (compilers) 2010. *Geology of the Rotorua Area. Institute of Geological and Nuclear Sciences 1:250 000 Geological Map 5. 1 Sheet + 102p. Lower Hutt, New Zealand: Institute of Geological and Nuclear Sciences Limited*

6. SITE INVESTIGATION

Our site investigation work comprised the following:

- A walk over visual appraisal of the site;
- 4 hand auger boreholes to depths between 3.0 and 6.4 m;
- 2 Scala penetrometer tests from the ground surface, immediately adjacent to selected hand auger boreholes; and
- The measurement of groundwater levels in the boreholes.

The approximate locations of all test positions are shown on our attached site plan, drawing number TL488/1. The borehole logs and Scala penetrometer test results are also attached. The soil descriptions given on the logs are in general accordance with the New Zealand Geotechnical Society's "Field Description of Soil and Rock." The groundwater levels were measured following drilling and are indicated on the borehole logs.

7. GROUND MODEL

7.1 Subsoil Conditions

Detailed descriptions of the subsoils encountered in the boreholes and cone penetration tests are attached. The subsoils were generally found to comprise:

- **Non-Engineered Fill (1.5 to 2.2 m thick)**, predominantly consisting of re-spread topsoil and re-worked loose to dense sands, overlying:
- **Historical Slip Debris (700 mm to 1.8 m thick)**, predominantly consisting of stiff to very stiff brown mottled orange brown clayey silt, overlying:
- **Beach Deposits (2.4 to 3.3 m bgl)**, predominantly consisting of medium dense to dense light brownish grey sand, as described below.

The results of the investigation indicate the proposed building platform is underlain by a significant depth of uncontrolled fill overlying historical slip debris. This correlates well with machine boreholes and test pits obtained from the NZGD. These were undertaken within the Mount Hot Pools by Shrimpton & Lipinski Ltd in 1990 and 2000, respectively. The fill comprises generally well compacted, re-worked sands. The variable depth of slip debris comprises clayey silt, with the source most likely a landslide or debris flow on the lower part of Mount Maunganui. The fill and slip debris overly medium dense to dense beach sands. Rhyolitic lava associated with the adjacent lava dome (Mount Maunganui) is inferred to underly the site at depth. This was not encountered within the tested depth, however, deeper machine boreholes undertaken by Shrimpton & Lipinski Ltd beneath the hot pools did encounter Rhyolite at depths of between 40 and 80 m below existing ground level.

Scala penetrometer tests were carried out from the ground surface immediately adjacent to selected boreholes to confirm the relative density of the fill/slip debris and from the base of a selected borehole to determine the density of the natural sands. The variably compacted fill material in SP2 (2.2 m thick) generally achieved values of <1 to 12 blows per 100 mm over the tested depth (2.2 m). The natural soils immediately below the fill at a depth of 2.4 m generally achieved values between 5 and 16 blows per 100 mm for the entire tested depth (5.0 m).

7.2 Groundwater Conditions

The groundwater level measured in the deeper hand auger borehole (HA01) following completion of drilling was found to be at a depth of 6.0 m below ground level or approximately RL 0.5 m (Moturiki Datum). Groundwater was not encountered within the tested depth of the remaining boreholes. This depth is considered representative of typical summer groundwater conditions on the site, but water levels may be higher following times of heavy or prolonged rainfall and/or tidal fluctuations.

8. GEOTECHNICAL ASSESSMENT

8.1 Liquefaction Assessment

Liquefaction is the process where saturated sand and silt grains temporarily lose strength and act as a fluid. This effect can be caused by a build-up of excess pore water pressure due to earthquake shaking and can result in significant damage to buildings and infrastructure.

For liquefaction and/or lateral spreading to occur, the subsoils must have the following properties:

- loose (compacted soils tend not to liquefy)
- sandy or silty (clays and gravels tend not to liquefy)
- saturated (only soils below the ground water table are susceptible to liquefaction)

Tauranga is an area of moderate seismic hazard. A review of the GNS Active Faults Database indicates the Otamarakau Fault is the nearest active fault, located approximately 30 km to the south-east of Tauranga. The relatively young deposits beneath the subject site comprise non-cohesive soils deposited within a high energy environment. In this instance, the depth to the groundwater table is approximately 6.0 m below existing ground level.

Our experience with similar sites in the vicinity is that the risk of liquefaction induced damage occurring in an SLS event (50 years) is very low to negligible and usually does not warrant consideration.

There is a risk of liquefaction occurring in the materials below the water table (6.0 m) in a ULS event (1:500-year event), with potentially 100 to 200 mm of settlement occurring at depth, however, where there is a raft of non-liquefiable soils at the surface and where that raft is greater than 3.5m thickness (in this case 6 m) the predicted settlement and deformation at the surface is usually sufficiently low that building collapse would be considered unlikely with appropriate foundations. For that reason, a detailed liquefaction assessment was not considered necessary provided the proposed building utilises a pod raft floor.

Lateral spreading is the lateral displacement of gently sloping ground caused by earthquake induced liquefaction. The site is located approximately 80 m to the south-west of the coastline and the groundwater table is 6.0 m below existing ground level. The site is therefore considered to be at low to moderate risk (<100 mm) of lateral spreading during a ULS design seismic event.

8.2 Slope Stability Assessment

The proposed building platform is located approximately 30 m from the base of Mount Maunganui, within the Mount Maunganui Beachside Holiday Park. Mount Maunganui or Mauao is a 232 m high rhyolitic lava dome located at the eastern entrance of the Tauranga Harbour. The upper part of the dome comprises near vertical rhyolitic bluffs while the more moderately inclined middle section is understood to comprise a thick mantle of residual volcanic soils overlying agglomerate. The base consists of highly eroded flow banded rhyolitic lava flows, which transition into the sea.

The bush covered upper part of the dome is predominantly at risk of rock fall along the exposed bluffs. In 2003, explosive experts removed up to 500 tonnes of unstable rock deemed to pose a risk to the campground in event of a minor earthquake². Based on discussions with TCC it is understood that reference points identifying these possible risk areas are checked regularly for rock stability by Avalon Industrial Services with remedial measures undertaken as required. While intermittent rockfall has resulted in temporary closure of walking tracks in the past, management of this hazards means the risk of rockfall inundating the proposed addition to be remote.

The lower pasture covered slopes flanking the upper part of the dome have a history of recurring instability, particularly after or during heavy rainfall events. The proposed building platform was found to be underlain by a layer of historical slip debris; evidence the area has been inundated in the past. In 2014, a study was undertaken into the spatio-temporal distribution of mass movement on Mount Maunganui³. The study used aerial photographs between 1943 and 2011 to compile an inventory of mass movement on Mount Maunganui. The methods of failure observed over the middle part of the slope include rotational slides, debris flows and debris avalanches. Shallow rotational failures were predominantly observed along steep cut faces associated with the walking tracks while the debris flows typically occurred within valleys or gullies. The distribution map indicates that relatively large failures occurred on the steeper slope immediately above the holiday park in aerial photographs from 1959 and 1977. The extent of the associated debris lobes is unknown.

The failures occurred in what appear to be localised gullies immediately to the west and north-west of the amenities building, where stormwater runoff from the upper part of the dome would be expected to concentrate. Given the topography, the larger western failure may have resulted in some inundation of the existing building platform from the expected fan shaped debris lobe, particularly given the fluid nature of debris flows. The slip debris encountered during testing may or may not be associated with this event.

Aerial photographs indicate the amenities block was constructed prior to 1977. We are not aware of any inundation of the building platform within the lifetime of the structure. Like the existing structure, the proposed alteration will comprise heavyweight masonry block construction which would be expected to withstand some inundation from relatively fluid debris flows on the steeper slopes above the site. The proposed development is a minor alteration to the existing structure with occupancy of the building not expected to significantly increase. On this basis, the current risk to the building will not be increased. In the event some inundation of the building platform was to occur, consideration should be given to ensure there is safe egress from the building on the eastern and southern side of the structure.

² Brideau, M. & Martin, Z. (2014). Spatio-temporal distribution of mass movements on Mount Maunganui, New Zealand.

³ Unknown (2003, 7 November). Rockfall danger closes Mauao. *Bay of Plenty Times*

9. RECOMMENDATIONS

9.1 Foundations

9.1.1 Piled Raft Foundation

The subsoils at this site were found to comprise a 2.4 to 3.3 m thick layer of non-engineered fill and slip debris overlying medium dense to dense natural sands. Given the deeper soils below the groundwater are potentially susceptible to liquefaction and the near surface soils comprise non-engineered fill overlying slip debris, the founding conditions are outside the criteria for “Good Ground” given in NZS3604:2011.

In this instance, the variably compacted fill material and slip debris may be subject to ongoing settlement over time and/or under additional load and are not considered suitable to support building loads. Given the significant depth of uncontrolled fill and slip debris within the proposed building platform and potentially liquefiable soils below the groundwater table in a ULS design event it is recommended that all building loads be supported on a piled raft type foundation.

Pile foundations embedded into the natural sands encountered at depths between 2.4 and 3.3 m will be required to support all building loads during static conditions. In addition, to address the risk of liquefaction within the pile founding depth during an ULS event and to meet the life safety requirements the pile foundations should support a raft type foundation. The raft type floor will give the building resilience in a ULS design event, where there is a temporary loss of support due to liquefaction of at-risk soils beneath the pile foundation and subsequently the structure they support.

Given the variable depth of unsuitable soils and the proximity to the existing structure, bored piles are considered the most appropriate piling method. Screw piles are also considered appropriate but would require further input from a specialist contractor.

Pile foundations should be embedded a minimum depth of 4.0 m below ground level at least 1.0 m into the denser natural sands, whichever is greater. In this instance the groundwater table (>6.0 m) is not expected to be encountered within the pile depth, however some casing may be required. Temporary works are the responsibility of the contractor.

For design purposes a geotechnical ultimate end bearing capacity of 900 kPa is considered available for 450 mm diameter piles at a minimum depth of 4.0 m.

Foundations for the proposed addition will require specific design by a suitably qualified CPEng (Structural) and reviewed by a Geo-Professional⁴ to confirm they meet the requirements of this report. Bored pile foundations should be inspected by a suitably qualified Geo-professional during construction to check for soft/loose spots as may occur naturally.

9.2 Earthworks

The site is near level and it is anticipated that no significant cut or fill earthworks are proposed at the property except for the stripping of existing vegetation. The proposed addition will comprise a pod-raft floor supported on pile foundations. Existing fill and unsuitable soils may remain in place provided that the piles are embedded to the required minimum depths as discussed in the foundations section above. All excavated topsoil and unsuitable material should be removed from site or stockpiled away from the building platform and/or earthworks area.

⁴ Chartered Professional Engineer specialising in geotechnical engineering (CPEng(Geotech)) or Professional Engineering Geologist (PEngGeol), both as administered by Engineering NZ.

9.3 Stormwater Management

Stormwater from paved areas, roofs, tank overflows and all other sources should be collected in sealed pipes and discharged into the Council stormwater system. Concentrated stormwater flows should not be allowed to discharge onto or into the ground close to the buildings or on sloping ground as this would be detrimental to foundation conditions.

9.4 Plan Review

Detailed development plans should be reviewed when they are available. This should include geotechnical review of the foundation design and building layout prior to building consent. This is to ensure that the information used as the basis of this report is consistent with final development proposals and that the recommendations outlined in this report have been interpreted correctly.

9.5 Site Inspections during Construction

Geotechnical inspection of the bored pile foundation excavations will be required during construction to check they meet the requirements outlined above and as determined in pile design. This is to confirm expected ground conditions and to ensure compliance with the recommendations contained in this report.

It is the Client's responsibility to ensure that we are notified of any required inspections and that we are given adequate notice to carry out the inspections (at least 48 hours). We will issue a certification letter upon successful completion of the inspected works.

10. LIMITATIONS

The recommendations and opinions contained in this report are based on the subsoils encountered at discrete test locations. We have made assumptions about the nature of the ground conditions across the site based on this limited subsoil information and actual ground conditions may vary from those assumed in this report. If any variations from the assumed ground conditions are found to exist during construction the matter should be referred to Geoconsult.

This report has been prepared solely for the benefit of Tauranga City Council as our client and their nominated agents for the purposes of the specific brief as stated in this report. Geoconsult accepts no liability in respect to any matters arising from the use of the information given in this report by any other person or organisation or for any other purpose except that it may be relied upon by Council in support of an application for building consent approval for the proposed development as described herein.

GEOCONSULT

Author:

s 7(2)(a) - Privacy

BSc Geology

Reviewed:

s 7(2)(a) - Privacy

**Technical
Review by:**

s 7(2)(a) - Privacy

Terra Firma Engineering (2016) Ltd




s 7(2)(a) - Privacy



Notes:

1. LOCATIONS OF ALL FEATURES ARE APPROXIMATE ONLY.
2. THIS DRAWING IS BASED ON TAURANGA COUNCIL GIS PHOTOGRAPHY.
3. DRAWING NOT TO BE USED FOR CONSTRUCTION PURPOSES.

Key:

-  HAND AUGER BOREHOLE LOCATION
-  SCALE PENETROMETER TEST
-  PROPOSED ALTERATION

REV:	DESCRIPTION:	BY:	DATE:
-	-	-	-

STATUS: **NOT FOR CONSTRUCTION**



GEOCONSULT
 489 OTUMOETAU ROAD, OTUMOETAU, TAURANGA 3110
 P: 07 281 1314 W: www.geoconsult.co.nz

PROJECT:
**TAURANGA CITY COUNCIL
 PROPOSED ALTERATION**

SITE:
**1 ADAMS AVENUE,
 MOUNT MAUNGANUI**

TITLE:
SITE PLAN

SCALE AT AS:	DATE:	REVISION:
1 : 200	FEB 2020	s 7(2)(a) - Privacy
SHEET NO: 1 OF 1	DRAWING NO: TL488/1	REVISION: -

BOREHOLE LOG

HA01

Drill Method: Hand Auger
Hole Dia: 50mm
Date Drilled: 11/02/20

Drilled By: s 7(2)(a) - Privacy
Logged By: s 7(2)(a) - Privacy
Checked By: s 7(2)(a) - Privacy

PROJECT NO: TL488
PROJECT: 1 Adams Avenue, Mount Maunganui

DRILLING			SUBSURFACE PROFILE				SAMPLES		UNDRAINED SHEAR STRENGTH		FIELD TESTS		
Geology	Method	% Recovery	Depth (m)	Symbols	SOIL/ROCK DESCRIPTION	Depth (m)	Groundwater	Depth (m)	Type	● Peak (kPa) ● 0 50 100 150 200 □ Residual (kPa) □ 0 50 100 150 200		SPT N Value	Others
			Ground Surface										
FILL	HAND AUGER	100	0.0	[Cross-hatch]	TOPSOIL								
			1.0	[Cross-hatch]	Fine to medium SAND with some intermixed topsoil; dark brown mixed grey brown. Loose to medium dense, moist, well graded. Fine to medium SAND with trace organics; orange brown mixed grey brown. Medium dense, moist, well graded. - becomes dark brown intermixed with topsoil, wet								
SLIP DEBRIS	HAND AUGER	100	2.0	[Dotted]	Clayey SILT with trace sand and gravel; greyish brown mixed orange brown. Stiff, moist to wet, low plasticity.						22	96	
			3.0	[Dotted]	Fine to medium SAND; yellow brown. Medium dense to dense, moist, uniformly graded.								
BEACH DEPOSITS	HAND AUGER	100	4.0	[Dotted]	- dark grey to black								
			5.0	[Dotted]	- dark orange brown streaked black - becomes yellow brown - becomes black - becomes yellow brown, wet								
			6.0	[Dotted]	- becomes dark brown, saturated								
			End of borehole at 6.4 mbgl. (Target depth)										

Remarks:

Sheet: 1 of 1

BOREHOLE LOG

HA02

Drill Method: Hand Auger
Hole Dia: 50mm
Date Drilled: 11/02/20

Drilled By: [Redacted]
Logged By: [Redacted]
Checked By: [Redacted]

PROJECT NO: TL488
PROJECT: 1 Adams Avenue, Mount Maunganui

DRILLING			SUBSURFACE PROFILE				SAMPLES		UNDRAINED SHEAR STRENGTH		FIELD TESTS			
Geology	Method	% Recovery	Depth (m)	Symbols	SOIL/ROCK DESCRIPTION	Depth (m)	Groundwater	Depth (m)	Type	● Peak (kPa) ● 0 50 100 150 200 □ Residual (kPa) □ 0 50 100 150 200		SPT N Value	Others	
			0.0		Ground Surface									
FILL	HAND AUGER	100			TOPSOIL									
					Fine SAND; dark grey brown. Loose to medium dense, dry to moist, well graded.									
					Gravelly SILT; light whitish grey. Hard, dry to moist, poorly graded.									
					Silty fine SAND; brown. Loose to medium dense, moist, well graded. - some gravel									
			2.0		Clayey SILT; brown mixed orange brown. Stiff, wet, low plasticity.									
*			3.0		Silty SAND; yellow brown. Medium dense to dense, moist, uniformly graded. - becomes wet									
**					End of borehole at 3.5 mbgl. (Target depth)									
			4.0											
			5.0											
			6.0											

Remarks: *SLIP DEBRIS **BEACH DEPOSITS

Sheet: 1 of 1

BOREHOLE LOG

HA03

Drill Method: Hand Auger
Hole Dia: 50mm
Date Drilled: 11/02/20

Drilled By: [Redacted]
Logged By: [Redacted]
Checked By: [Redacted]

PROJECT NO: TL488
PROJECT: 1 Adams Avenue, Mount Maunganui

DRILLING			SUBSURFACE PROFILE				SAMPLES		UNDRAINED SHEAR STRENGTH		FIELD TESTS		
Geology	Method	% Recovery	Depth (m)	Symbols	SOIL/ROCK DESCRIPTION	Depth (m)	Groundwater	Depth (m)	Type	UNDRAINED SHEAR STRENGTH		SPT N Value	Others
										Peak (kPa)	Residual (kPa)		
FILL			0.0	[Cross-hatch symbol]	Ground Surface Fine to medium SAND with minor organics; orange brown mixed grey brown. Medium dense, dry to moist, uniformly graded.								
HAND AUGER			1.0										
SLIP DEBRIS			100	[Dotted symbol]	Clayey SILT; brown mixed orange brown. Stiff, wet, low plasticity.								
*			2.0										
*			3.0	[Dotted symbol]	Fine SAND; orange brown. Medium dense to dense, moist, uniformly graded.								
*			3.4		End of borehole at 3.4 mbgl. (Target depth)								
*			4.0										
*			5.0										
*			6.0										

Remarks: *BEACH DEPOSITS

Sheet: 1 of 1

BOREHOLE LOG

HA04

Drill Method: Hand Auger
Hole Dia: 50mm
Date Drilled: 11/02/20

Drilled By: [Redacted]
Logged By: [Redacted]
Checked By: [Redacted]

PROJECT NO: TL488
PROJECT: 1 Adams Avenue, Mount Maunganui

Geology	DRILLING		SUBSURFACE PROFILE				SAMPLES		UNDRAINED SHEAR STRENGTH		FIELD TESTS		
	Method	% Recovery	Depth (m)	Symbols	SOIL/ROCK DESCRIPTION	Depth (m)	Groundwater	Depth (m)	Type	Peak (kPa)	Residual (kPa)	SPT N Value	Others
			0.0		Ground Surface								
FILL	HAND AUGER	100	0.0 - 1.0		Fine to medium SAND with minor organics; orange brown mixed grey brown. Medium dense, dry to moist, uniformly graded.								
*			1.0 - 2.0		Clayey SILT; brown mixed orange brown. Stiff, wet, low plasticity.								
**			2.0 - 3.0		Fine SAND; orange brown. Medium dense to dense, moist, uniformly graded.								
			3.0		End of borehole at 3.0 mbgl. (Target depth)								
			4.0										
			5.0										
			6.0										

Remarks: *SLIP DEBRIS **BEACH DEPOSITS

Sheet: 1 of 1

SCALA PENETROMETER TEST PROBE

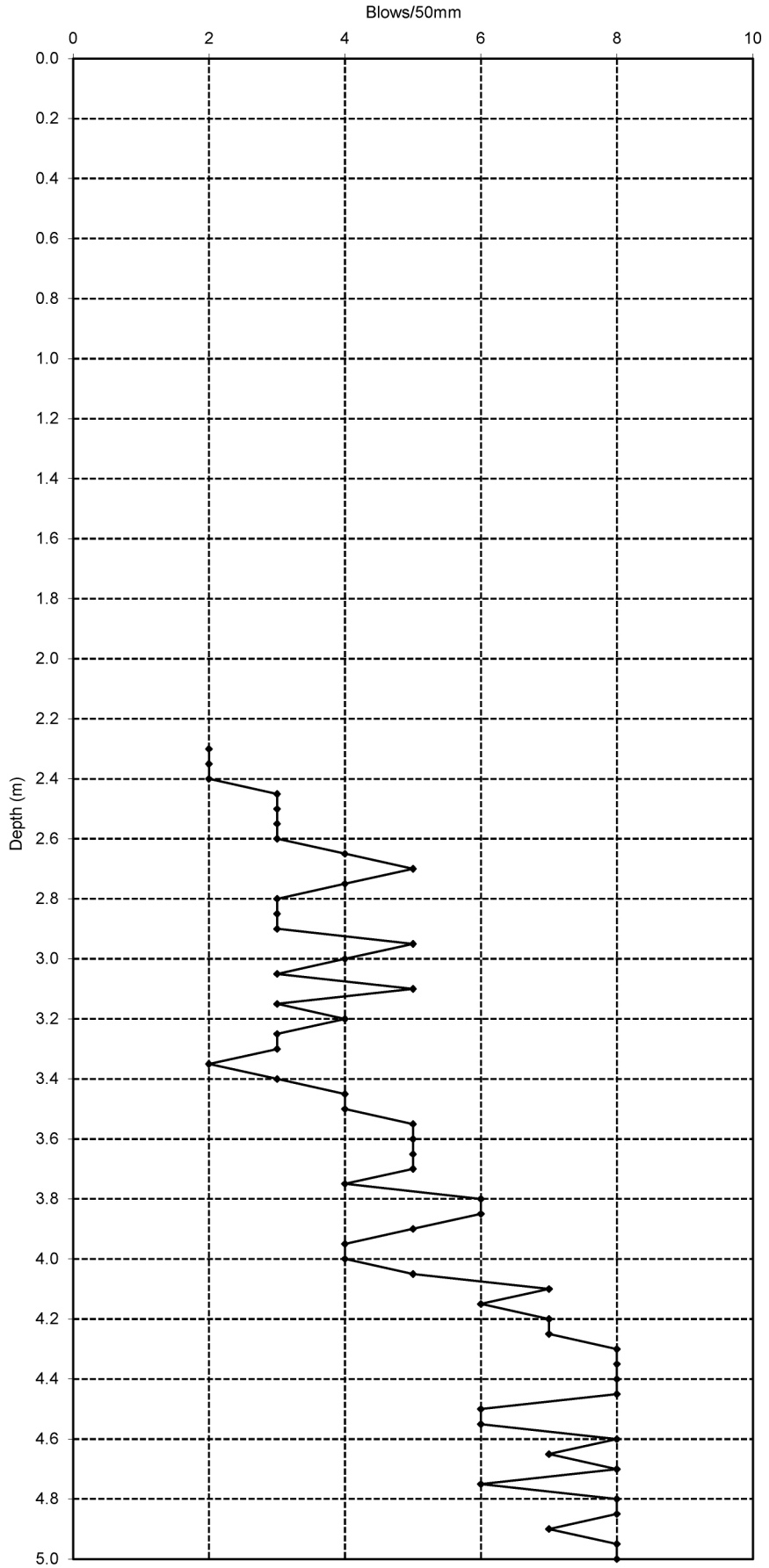
No. **SP1**

Test Location: HA04
 N:
 E:
 Elevation:
 Datum:

Test carried out By:
 Logged by: s 7(2)(a) - Privacy
 Checked by:
 Date of test: 19/02/2020

GCL. ref.: TL488
 Project: Proposed Alteration
 Location: 1 Adams Avenue, Mount Maunganui
 Client: TCC

Depth (m)	Blows/ 50 mm	Depth (m)	Blows/ 50 mm	Depth (m)	Blows/ 50 mm
0.05	0	3.05	3	6.05	
0.10	0	3.10	5	6.10	
0.15	0	3.15	3	6.15	
0.20	0	3.20	4	6.20	
0.25	0	3.25	3	6.25	
0.30	0	3.30	3	6.30	
0.35	0	3.35	2	6.35	
0.40	0	3.40	3	6.40	
0.45	0	3.45	4	6.45	
0.50	0	3.50	4	6.50	
0.55	0	3.55	5	6.55	
0.60	0	3.60	5	6.60	
0.65	0	3.65	5	6.65	
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0.80	0	3.80	6	6.80	
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0.90	0	3.90	5	6.90	
0.95	0	3.95	4	6.95	
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1.05	0	4.05	5	7.05	
1.10	0	4.10	7	7.10	
1.15	0	4.15	6	7.15	
1.20	0	4.20	7	7.20	
1.25	0	4.25	7	7.25	
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1.35	0	4.35	8	7.35	
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1.85	0	4.85	8	7.85	
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2.05	0	5.05		8.05	
2.10	0	5.10		8.10	
2.15	0	5.15		8.15	
2.20	0	5.20		8.20	
2.25	0	5.25		8.25	
2.30	2	5.30		8.30	
2.35	2	5.35		8.35	
2.40	2	5.40		8.40	
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2.65	4	5.65		8.65	
2.70	5	5.70		8.70	
2.75	4	5.75		8.75	
2.80	3	5.80		8.80	
2.85	3	5.85		8.85	
2.90	3	5.90		8.90	
2.95	5	5.95		8.95	
3.00	4	6.00		9.00	



Remarks:

SCALA PENETROMETER TEST PROBE

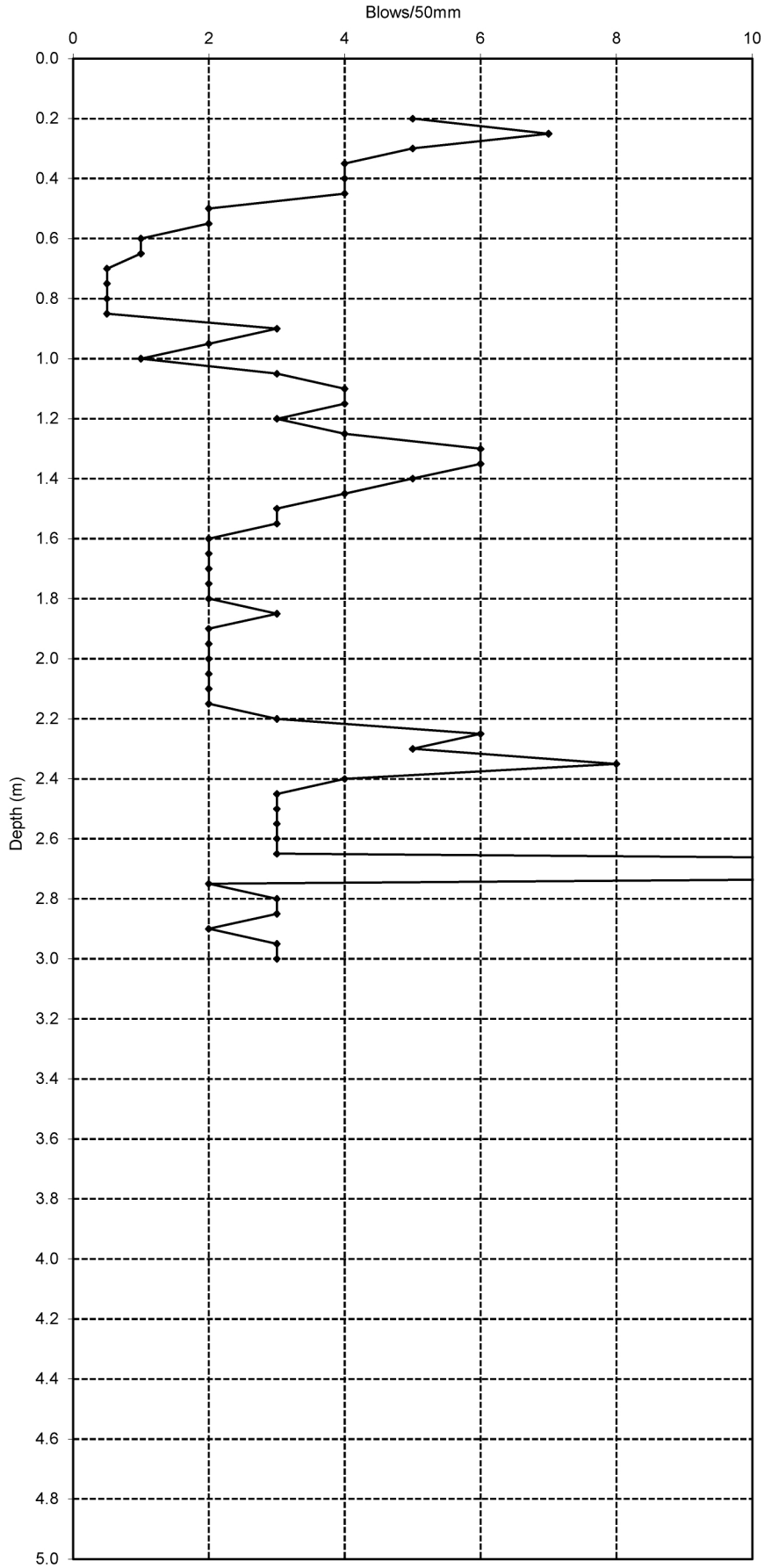
No. **SP2**

Test Location:
 N:
 E:
 Elevation:
 Datum:

Test carried out By:
 Logged by: s 7(2)(a) - Privacy
 Checked by:
 Date of test: 19/02/2020

GCL. ref.: TL488
 Project: Proposed Alteration
 Location: 1 Adams Avenue, Mount Maunganui
 Client: TCC

Depth (m)	Blows/ 50 mm	Depth (m)	Blows/ 50 mm	Depth (m)	Blows/ 50 mm
0.05	0	3.05		6.05	
0.10	0	3.10		6.10	
0.15	0	3.15		6.15	
0.20	5	3.20		6.20	
0.25	7	3.25		6.25	
0.30	5	3.30		6.30	
0.35	4	3.35		6.35	
0.40	4	3.40		6.40	
0.45	4	3.45		6.45	
0.50	2	3.50		6.50	
0.55	2	3.55		6.55	
0.60	1	3.60		6.60	
0.65	1	3.65		6.65	
0.70	0.5	3.70		6.70	
0.75	0.5	3.75		6.75	
0.80	0.5	3.80		6.80	
0.85	0.5	3.85		6.85	
0.90	3	3.90		6.90	
0.95	2	3.95		6.95	
1.00	1	4.00		7.00	
1.05	3	4.05		7.05	
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1.40	5	4.40		7.40	
1.45	4	4.45		7.45	
1.50	3	4.50		7.50	
1.55	3	4.55		7.55	
1.60	2	4.60		7.60	
1.65	2	4.65		7.65	
1.70	2	4.70		7.70	
1.75	2	4.75		7.75	
1.80	2	4.80		7.80	
1.85	3	4.85		7.85	
1.90	2	4.90		7.90	
1.95	2	4.95		7.95	
2.00	2	5.00		8.00	
2.05	2	5.05		8.05	
2.10	2	5.10		8.10	
2.15	2	5.15		8.15	
2.20	3	5.20		8.20	
2.25	6	5.25		8.25	
2.30	5	5.30		8.30	
2.35	8	5.35		8.35	
2.40	4	5.40		8.40	
2.45	3	5.45		8.45	
2.50	3	5.50		8.50	
2.55	3	5.55		8.55	
2.60	3	5.60		8.60	
2.65	3	5.65		8.65	
2.70	32	5.70		8.70	
2.75	2	5.75		8.75	
2.80	3	5.80		8.80	
2.85	3	5.85		8.85	
2.90	2	5.90		8.90	
2.95	3	5.95		8.95	
3.00	3	6.00		9.00	



Remarks:

Appendix V

Archaeological Authorities

Archaeological Assessment

Iwi Consultation



25 February 2019

File ref: 2019/456
11013-059

s 6(c) - Maintenance of Law

Tena koe s 6(c) - Maintenance of Law

**APPLICATION FOR ARCHAEOLOGICAL AUTHORITY UNDER HERITAGE NEW ZEALAND
POUHERE TAONGA ACT 2014: Authority no. 2019/456, U14/3118, Mount Maunganui
Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui**

Thank you for your application for an archaeological authority which has been granted and is attached.

In considering this application, Heritage New Zealand Pouhere Taonga notes that Tauranga City Council operates the Mount Maunganui Beachside Holiday Park at the base of Mauao, at 1 Adams Avenue, Mount Maunganui. Council have made an application to undertake a number of maintenance activities including curb and channelling around the camp sites, installing ultrafast fibre, and building an ocean kitchen extension. The authority would also cover general maintenance such as renewing water pipes and resealing camp roads. Ground disturbance associated with these activities have the potential to affect intact subsurface archaeological features associated with the Mauao archaeological landscape (U14/3118). The area is of significance to Ngati Kuku and Ngai Tukairangi and we appreciate the consultation you have undertaken.

Please inform Ngati Kuku and Ngai Tukairangi, the approved archaeologist and the Heritage New Zealand Pouhere Taonga Archaeologist of start and finish dates for the work.

An appeal period from receipt of decision by all parties applies. Therefore this authority may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

If you have any queries please direct your response in the first instance to:

s 7(2)(a) - Privacy

Yours sincerely

s 7(2)(a) - Privacy

cc: Tauranga City Council, s 6(c) - Maintenance of Law
s 6(c) - Maintenance of Law

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy

cc: s 7(2)(f)(i)

Tauranga City Council

s 7(2)(f)(ii)

Pursuant to Section 51 Heritage New Zealand Pouhere Taonga Act 2014 Heritage New Zealand Pouhere Taonga must notify TLAs of any decision made on an application to modify or destroy an archaeological site. We recommend that this advice is placed on the appropriate property file for future reference.

cc: Ministry for Culture and Heritage
via email at protected-objects@mch.govt.nz

Pursuant to Section 51 Heritage New Zealand Pouhere Taonga Act 2014

cc: s 7(2)(a) - Privacy

cc: Heritage New Zealand Pouhere Taonga, s 7(2)(a) - Privacy

cc: Heritage New Zealand Pouhere Taonga, s 7(2)(a) - Privacy

cc: Heritage New Zealand Pouhere Taonga, s 7(2)(a) - Privacy



HERITAGE NEW ZEALAND
POUHERE TAONGA

AUTHORITY

Heritage New Zealand Pouhere Taonga Act 2014

AUTHORITY NO: 2019/456

FILE REF: 11013-059

DETERMINATION DATE: 25 February 2019

EXPIRY DATE: 25 February 2024

AUTHORITY HOLDER: Tauranga City Council

POSTAL ADDRESS: Private Bag 12022, TAURANGA 3143

ARCHAEOLOGICAL SITES: U14/3118

LOCATION: Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui

APPROVED ARCHAEOLOGIST: s 7(2)(a) - Privacy

LANDOWNER CONSENT: Completed

This authority may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

DETERMINATION

Heritage New Zealand Pouhere Taonga grants a general authority pursuant to section 48 of the Heritage New Zealand Pouhere Taonga Act 2014 in respect of the archaeological site described above, within the area specified as PT Sec 19 BLK VI to Tauranga City Council for the proposal to undertake maintenance activities including curb and channelling around the camp sites, renewing water pipes and resealing camp roads, installing ultrafast fibre, and building an ocean kitchen extension at the Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui, subject to the following conditions:

CONDITIONS OF AUTHORITY

1. Prior to the start of any on-site archaeological work, the authority holder must ensure that Heritage New Zealand Pouhere Taonga is advised of the date when work will begin. This advice must be provided at least 2 working days before work starts. The authority holder must also ensure that Heritage New Zealand Pouhere Taonga is advised of the completion of the on-site archaeological work, within 5 working days of completion.

2. The authority holder must ensure that all contractors working on the project are briefed by the approved archaeologist on the possibility of encountering archaeological evidence, how to identify possible archaeological sites during works, the archaeological work required by the conditions of this authority, and contractors' responsibilities with regard to notification of the discovery of archaeological evidence to ensure that the conditions of the authority are complied with.
3. All earthworks that may affect any archaeological sites must be monitored at the discretion of an archaeologist approved by Heritage New Zealand Pouhere Taonga. A representative sample of archaeological evidence encountered during the exercise of this authority must be investigated, recorded and analysed in accordance with current archaeological practice.
4. If any koiwi tangata (human remains) are encountered, all work should cease within 5 metres of the discovery. The Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist, New Zealand Police and Ngati Kuku and Ngai Tukairangi must be advised immediately in accordance with Guidelines for Koiwi Tangata/Human Remains (Archaeological Guideline Series No.8) and no further work in the area may take place until future actions have been agreed by all parties. This condition is not a statement of mana whenua status.
5. Any archaeological work must be undertaken in conformity with any tikanga Maori protocols agreed to by the authority holder and Ngati Kuku and Ngai Tukairangi, so long as the legal requirements of the authority are met. This condition is not a statement of mana whenua status.
6. That within 20 working days of the completion of the on-site archaeological work associated with this authority a brief interim report, outlining the archaeological work undertaken, must be emailed to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist and Ngati Kuku and Ngai Tukairangi. This must include copies of the new or updated site record forms that have been submitted to the NZAA Site Recording Scheme.
7. If any radiocarbon dates are obtained then the Tauranga Moana Radiocarbon Database Template must be completed and submitted to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist, within 20 working days of receiving the laboratory results.
8. That within 12 months of the completion of the on-site archaeological work, the authority holder shall ensure that a final report, completed to the satisfaction of Heritage New Zealand Pouhere Taonga, is emailed to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist. Digital copies of the final report must also be sent to the NZAA Central Filekeeper and Ngati Kuku and Ngai Tukairangi.

Signed for and on behalf of Heritage New Zealand.

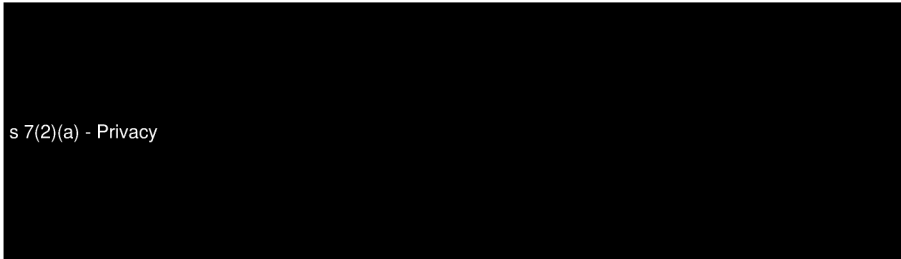
s 7(2)(a) - Privacy

**Heritage New Zealand Pouhere Taonga
PO Box 2629
WELLINGTON 6140**

Date 25 February 2019

ADVICE NOTES

Contact details for Heritage New Zealand Archaeologist



Current Archaeological Practice

Current archaeological practice may include, but is not limited to, the production of maps/ plans/ measured drawings of site location and extent; excavation, section and artefact drawings; sampling, identification and analysis of faunal and floral remains and modified soils; radiocarbon dating of samples; the management of taonga tuturu and archaeological material; the completion of a final report and the updating of existing (or creation of new) site record forms to submit to the NZAA Site Recording Scheme. The final report shall include, but may not be limited to, site plans, section drawings, photographs, inventory of material recovered, including a catalogue of artefacts, location of where the material is currently held, and analysis of recovered material.

Please note that where one is required, an interim report should contain a written summary outlining the archaeological work undertaken, the preliminary results, and the approximate percentage of archaeological material remaining *in-situ* and a plan showing areas subject to earthworks, areas monitored and the location and extent of any archaeological sites affected or avoided.

Rights of Appeal

An appeal to the Environment Court may be made by any directly affected person against any decision or condition. The notice of appeal should state the reasons for the appeal and the relief sought and any matters referred to in section 58 of the Heritage New Zealand Pouhere Taonga Act 2014. The notice of appeal must be lodged with the Environment Court and served on Heritage New Zealand Pouhere Taonga within 15 working days of receiving the determination, and served on the applicant or owner within five working days of lodging the appeal.

Review of Conditions

The holder of an authority may apply to Heritage New Zealand Pouhere Taonga for the change or cancellation of any condition of the authority. Heritage New Zealand Pouhere Taonga may also initiate a review of all or any conditions of an authority.

Non-compliance with conditions

Note that failure to comply with any of the conditions of this authority is a criminal offence and is liable to a penalty of up to \$120,000 (Heritage New Zealand Pouhere Taonga Act 2014, section 88).

Costs

The authority holder shall meet all costs incurred during the exercise of this authority. This includes all on-site work, post fieldwork analysis, radiocarbon dates, specialist analysis and preparation of interim and final reports.

Assessment and Interim Report Templates

Assessment and interim report templates are available on the Heritage New Zealand Pouhere Taonga website: archaeology.nz

Guideline Series

Guidelines are available on the Heritage New Zealand Pouhere Taonga website: archaeology.nz

The Protected Objects Act 1975

The Ministry for Culture and Heritage (“the Ministry”) administers the Protected Objects Act 1975 which regulates the sale, trade and ownership of taonga tūturu.

If a taonga tūturu is found during the course of an archaeological authority, the Ministry or the nearest public museum must be notified of the find within 28 days of the completion of the field work.

Breaches of this requirement are an offence and may result in a fine of up to \$10,000 for each taonga tūturu for an individual, and of up to \$20,000 for a body corporate.

For further information please visit the Ministry’s website at <http://www.mch.govt.nz/nz-identity-heritage/protected-objects>.

Land Owner Requirements

If you are the owner of the land to which this authority relates, you are required to advise any successor in title that this authority applies in relation to the land. This will ensure that any new owner is made aware of their responsibility in regard to the Heritage New Zealand Pouhere Taonga Act 2014.



HERITAGE NEW ZEALAND
POUHERE TAONGA

APPROVED ARCHAEOLOGIST

Heritage New Zealand Pouhere Taonga Act 2014

AUTHORITY NO: 2019/456

FILE REF: 11013-059

APPROVAL DATE: 25 February 2019

This approval may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

APPROVAL

Pursuant to section 45 of the Act, s 7(2)(a) - Privacy, is approved by Heritage New Zealand Pouhere Taonga to carry out any archaeological work required as a condition of authority 2019/456, and to compile and submit a report on the work done. s 7(2)(a) - Privacy will hold responsibility for the current archaeological practice in respect of the archaeological authority for which this approval is given.

Signed for and on behalf of Heritage New Zealand.

s 7(2)(a) - Privacy

**Heritage New Zealand Pouhere Taonga
PO Box 2629
WELLINGTON 6140**

Date 25 February 2019



01 July 2020

File ref: 2020/729
11013-059

s 6(c) - Maintenance of Law

Tauranga City Council
Private Bag 12022
TAURANGA 3143

Tena koe s 6(c) - Maintenance of Law

**APPLICATION FOR ARCHAEOLOGICAL AUTHORITY UNDER HERITAGE NEW ZEALAND
POUHERE TAONGA ACT 2014: Authority no. 2020/729, U14/3118, Mauao Archaeological
Landscape, Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui**

Thank you for your application for an archaeological authority which has been granted and is attached.

In considering this application, Heritage New Zealand Pouhere Taonga notes that you wish to carry out general maintenance and improvements at the Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui. This will include increasing the number of mobile serviced cabins and ground disturbance associated with these activities has the potential to affect intact subsurface archaeological features associated with the Mauao archaeological landscape (U14/3118). The site is of significance to Ngati Kuku and Ngai Tukairangi Hapu Trust we appreciate the consultation you have undertaken.

Please inform Ngati Kuku and Ngai Tukairangi Hapu Trust, the approved archaeologist and the Heritage New Zealand Pouhere Taonga Archaeologist of start and finish dates for the work.

An appeal period from receipt of decision by all parties applies. Therefore this authority may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

If you have any queries please direct your response in the first instance to:

s 7(2)(a) - Privacy

Yours sincerely

s 7(2)(a) - Privacy

cc: Tauranga City Council, s 6(c) - Maintenance of Law
s 6(c) - Maintenance of Law

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy
Tauranga City Council
via email at info@tauranga.govt.nz

Pursuant to Section 51 Heritage New Zealand Pouhere Taonga Act 2014 Heritage New Zealand Pouhere Taonga must notify TLAs of any decision made on an application to modify or destroy an archaeological site. We recommend that this advice is placed on the appropriate property file for future reference.

cc: Ministry for Culture and Heritage
via email at protected-objects@mch.govt.nz

Pursuant to Section 51 Heritage New Zealand Pouhere Taonga Act 2014

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy

cc: s 7(2)(a) - Privacy



HERITAGE NEW ZEALAND
POUHERE TAONGA

AUTHORITY

Heritage New Zealand Pouhere Taonga Act 2014

AUTHORITY NO: 2020/729

FILE REF: 11013-059

DETERMINATION DATE: 01 July 2020

EXPIRY DATE: 01 July 2025

AUTHORITY HOLDER: Tauranga City Council

POSTAL ADDRESS: Private Bag 12022, TAURANGA 3143

ARCHAEOLOGICAL SITES: U14/3118

LOCATION: Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui

APPROVED ARCHAEOLOGIST: s 7(2)(a) - Privacy

LANDOWNER CONSENT: Completed

This authority may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

DETERMINATION

Heritage New Zealand Pouhere Taonga grants a general authority pursuant to section 48 of the Heritage New Zealand Pouhere Taonga Act 2014 in respect of the archaeological site described above, within the area specified as Section 19 Block VI, Tauranga Survey District to Tauranga City Council for the proposal to carry out earthworks for general maintenance and improvements including mobile cabins with connections to services at Mount Maunganui Beachside Holiday Park, 1 Adams Avenue, Mount Maunganui, subject to the following conditions:

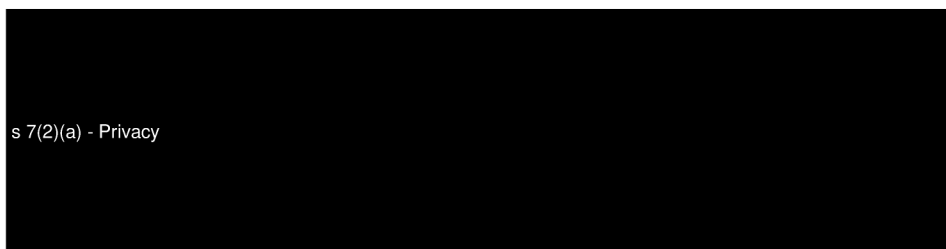
CONDITIONS OF AUTHORITY

1. Prior to the start of any on-site archaeological work, the authority holder must ensure that Heritage New Zealand Pouhere Taonga is advised of the date when work will begin. This advice must be provided at least 2 working days before work starts. The authority holder must also ensure that Heritage New Zealand Pouhere Taonga is advised of the completion of the on-site archaeological work, within 5 working days of completion.
2. The authority holder must ensure that all contractors working on the project are briefed on site by the s45 approved person, who may appoint a person to carry out the briefing

on their behalf, prior to any works commencing on the possibility of encountering archaeological evidence, how to identify possible archaeological sites during works, the archaeological work required by the conditions of this authority, and contractors' responsibilities with regard to notification of the discovery of archaeological evidence to ensure that the authority conditions are complied with. If the s45 approved person appoints a person to carry out the briefing on their behalf, the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist must be advised who that person is before the briefing takes place.

3. All earthworks that may affect any archaeological sites must be monitored by the s45 approved person who may appoint a person to carry out the monitoring on their behalf. Any archaeological evidence encountered during the exercise of this authority must be investigated, recorded and analysed in accordance with current archaeological practice.
4. If any koiwi tangata (human remains) are encountered, all work should cease within 5 metres of the discovery. The Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist, New Zealand Police, Ngati Kuku and Ngai Tukairangi Hapu Trust must be advised immediately in accordance with Guidelines for Koiwi Tangata/Human Remains (Archaeological Guideline Series No.8) and no further work in the area may take place until future actions have been agreed by all parties. This condition is not a statement of mana whenua status.
5. Any archaeological work must be undertaken in conformity with any tikanga Maori protocols agreed to by the authority holder, Ngati Kuku and Ngai Tukairangi Hapu Trust, so long as the legal requirements of the authority are met. This condition is not a statement of mana whenua status.
6. That within 20 working days of the completion of the on-site archaeological work associated with this authority a brief interim report, outlining the archaeological work undertaken, must be emailed to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist, Ngati Kuku and Ngai Tukairangi Hapu Trust. This must include copies of the new or updated site record forms that have been submitted to the NZAA Site Recording Scheme.
7. If any radiocarbon dates are obtained then the Tauranga Moana Radiocarbon Database Template must be completed and submitted to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist, within 20 working days of receiving the laboratory results.
8. That within 12 months of the completion of the on-site archaeological work, the authority holder shall ensure that a final report, completed to the satisfaction of Heritage New Zealand Pouhere Taonga, is emailed to the Heritage New Zealand Pouhere Taonga Lower Northern Archaeologist. Digital copies of the final report must also be sent to the NZAA Central Filekeeper, Ngati Kuku and Ngai Tukairangi Hapu Trust.

Signed for and on behalf of Heritage New Zealand.



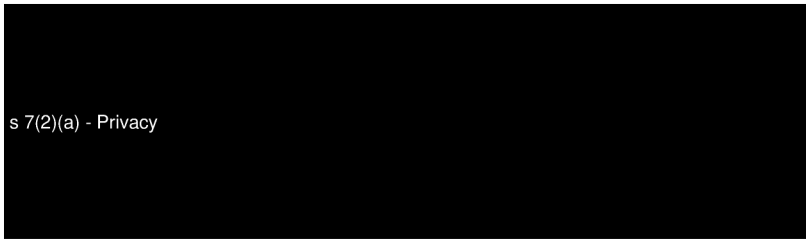
s 7(2)(a) - Privacy

**Heritage New Zealand Pouhere Taonga
PO Box 2629
WELLINGTON 6140**

Date 01 July 2020

ADVICE NOTES

Contact details for Heritage New Zealand Archaeologist



Current Archaeological Practice

Current archaeological practice may include, but is not limited to, the production of maps/ plans/ measured drawings of site location and extent; excavation, section and artefact drawings; sampling, identification and analysis of faunal and floral remains and modified soils; radiocarbon dating of samples; the management of taonga tuturu and archaeological material; the completion of a final report and the updating of existing (or creation of new) site record forms to submit to the NZAA Site Recording Scheme. The final report shall include, but may not be limited to, site plans, section drawings, photographs, inventory of material recovered, including a catalogue of artefacts, location of where the material is currently held, and analysis of recovered material.

Please note that where one is required, an interim report should contain a written summary outlining the archaeological work undertaken, the preliminary results, and the approximate percentage of archaeological material remaining *in-situ* and a plan showing areas subject to earthworks, areas monitored and the location and extent of any archaeological sites affected or avoided.

Rights of Appeal

An appeal to the Environment Court may be made by any directly affected person against any decision or condition. The notice of appeal should state the reasons for the appeal and the relief sought and any matters referred to in section 58 of the Heritage New Zealand Pouhere Taonga Act 2014. The notice of appeal must be lodged with the Environment Court and served on Heritage New Zealand Pouhere Taonga within 15 working days of receiving the determination, and served on the applicant or owner within five working days of lodging the appeal.

Review of Conditions

The holder of an authority may apply to Heritage New Zealand Pouhere Taonga for the change or cancellation of any condition of the authority. Heritage New Zealand Pouhere Taonga may also initiate a review of all or any conditions of an authority.

Non-compliance with conditions

Note that failure to comply with any of the conditions of this authority is a criminal offence and is liable to a penalty of up to \$120,000 (Heritage New Zealand Pouhere Taonga Act 2014, section 88).

Costs

The authority holder shall meet all costs incurred during the exercise of this authority. This includes all on-site work, post fieldwork analysis, radiocarbon dates, specialist analysis and preparation of interim and final reports.

Assessment and Interim Report Templates

Assessment and interim report templates are available on the Heritage New Zealand Pouhere Taonga website: archaeology.nz

Guideline Series

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The Protected Objects Act 1975

The Ministry for Culture and Heritage (“the Ministry”) administers the Protected Objects Act 1975 which regulates the sale, trade and ownership of taonga tūturu.

If a taonga tūturu is found during the course of an archaeological authority, the Ministry or the nearest public museum must be notified of the find within 28 days of the completion of the field work.

Breaches of this requirement are an offence and may result in a fine of up to \$10,000 for each taonga tūturu for an individual, and of up to \$20,000 for a body corporate.

For further information please visit the Ministry’s website at <http://www.mch.govt.nz/nz-identity-heritage/protected-objects>.

Land Owner Requirements

If you are the owner of the land to which this authority relates, you are required to advise any successor in title that this authority applies in relation to the land. This will ensure that any new owner is made aware of their responsibility in regard to the Heritage New Zealand Pouhere Taonga Act 2014.



HERITAGE NEW ZEALAND
POUHERE TAONGA

APPROVED ARCHAEOLOGIST

Heritage New Zealand Pouhere Taonga Act 2014

AUTHORITY NO: 2020/729

FILE REF: 11013-059

APPROVAL DATE: 01 July 2020

This approval may not be exercised during the appeal period of 15 working days or until any appeal that has been lodged is resolved.

APPROVAL

Pursuant to section 45 of the Act, s 7(2)(a) - Privacy is approved by Heritage New Zealand Pouhere Taonga to carry out any archaeological work required as a condition of authority 2020/729, and to compile and submit a report on the work done. s 7(2)(a) - Privacy will hold responsibility for the current archaeological practice in respect of the archaeological authority for which this approval is given.

Signed for and on behalf of Heritage New Zealand.

s 7(2)(a) - Privacy

**Heritage New Zealand Pouhere Taonga
PO Box 2629
WELLINGTON 6140**

Date 01 July 2020

**ARCHAEOLOGICAL SURVEY
AND ASSESSMENT OF EFFECTS**

**PROPOSED
MOUNT MAUNGANUI
CAMPGROUND UPGRADE**

Prepared by

KEN PHILLIPS (MA HONS)

For

BECA PLANNING

MARCH 2009

**ARCHAEOLOGY B.O.P.
HERITAGE CONSULTANTS
P O BOX 855
WHAKATANE**

Phone: 027 276 9919 Email: KJS.Phillips@xtra.co.nz

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INTRODUCTION

Project Background

This field inspection and report was commissioned by Beca Planning in order to determine if archaeological resources are affected by the proposed Mt Maunganui Campground Upgrade.

The camp ground is located within Section 19 Block VI Tauranga Survey situated at the eastern foot of Mauao. Tauranga City Council proposes to improve facilities within the camp ground including a new amenity block in the Ocean camp, a refurbished harbour camp amenity building and upgrading the infrastructure throughout the holiday park. A complex of cabins will also be installed on the seaward side of the eastern spur.

Historic Places Act

An archaeological site, as defined by the Historic Places Act 1993, 2(a)(i) and 2(b) is, “any place in New Zealand that was associated with human activity that occurred before 1900; and is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand”. Archaeological sites may not be destroyed damaged or modified except pursuant to an authority granted under section 14 of the Historic Places Act.

Constraints and Limitations

This report deals specifically with the identification of physical evidence relating to pre 1900 human activity that can be investigated using archaeological methodology. An assessment of the cultural significance of an area can only be competently made by the affected tangata whenua. It should be noted that an assessment of cultural significance might not necessarily correlate with an assessment of archaeological significance.

Methodology

Prior to the archaeological survey the records of the New Zealand Archaeological Association (NZAA) were consulted to determine whether any archaeological sites had previously been recorded on or in the immediate vicinity of the property. Early plans and archaeological reports relating to the affected area were also reviewed.

An archaeological survey of property was carried out by Ken Phillips in 2008. The survey focused on identifying evidence for the presence of intact archaeological sites. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape, or indications of 19th century European settlement remains). Subsurface testing was limited to the examination of disturbed soils and soil profiles exposed in cuttings for evidence of earlier settlement, and an understanding of the local stratigraphy. Sites were photographed and GPS readings taken where possible.



Figure 5. Aerial photo showing proposed location of cabins and service roads.

RESULTS

Previous Archaeological Studies

The history and archaeology of Mauao and surrounding land has been presented in a number of reports.¹ Most recently a detailed archaeological survey of Mauao was carried out by Phillips in 2003. Phillips describes the natural environment and the archaeological resource on Mauao including features in the immediate vicinity of the campground.

Phillips writes that ‘The significance of the archaeological resource on Mauao cannot be overemphasised. It is unique for its size, antiquity and spatial complexity and constitutes one of the most important archaeological landscapes in New Zealand. The archaeological significance is derived not from any specific pa or terrace complex but from the relationship of collective components and intervening spaces that constitute the archaeological cultural landscape. The spatial organisation of archaeological features on Mauao suggests a high level of social and political organisation over a long period of time.’²

Prehistoric Archaeology

The Eastern Spur

Volumes of shell midden eroding around the margins of the eastern spur extending into the campgrounds suggest this was a significant component of the prehistoric Maori settlement on Mauao. Post European modification including the construction of the Pilot house and subsequent levelling and terracing during the development of the camp ground has modified the original contour on the top of the spur and any prehistoric features such as pits and terraces have likely been damaged destroyed or buried. The original contour of the spur is visible in several early photos which show a consistent slope angle rising from the distal end of the spur to the old farm shed (Figure. 5) where large occupation terraces survive (Figure 3). The slope would have been an ideal location for occupation and cultivation and it is probable that the occupation terraces within the stock yards formed the upper features of a flight of terraces descending the spur.

There are extensive shell deposits exposed in level camp sites on the spur, however, much of this material appears to have been introduced to the site during the establishment of the camp ground. A large amount of shell was quarried from midden on the southern side of Mauao during the establishment of the camp and the base track. Consequently the camp site shell has cultural inclusions but as it is no longer in its primary context it has limited or no archaeological value. Shell eroding around the margins of the spur may represent insitu deposits relating to prehistoric occupation on the spur, however, subsurface investigation is required in order to clarify its archaeological integrity.

¹ The Mount Management Plan 1980, Mauao Management Plan 1998.

² Phillips 2003:28



Figure 6. Aerial photo showing the location of recorded midden and terraces above the camp grounds and midden extending around the perimeter of the eastern spur indicated by the green line.



Figure 7. Early oblique aerial photo showing the eastern face of Mauao and possible early contouring of the eastern spur (arrowed)



Figure 8. Midden eroding down a southern scarp at the eastern end of the spur immediately below camp site 18.



Figure 9. Heavily modified section of the eastern spur showing road cutting and terracing for camp site 18 - 21 and location of eroding midden (arrowed).

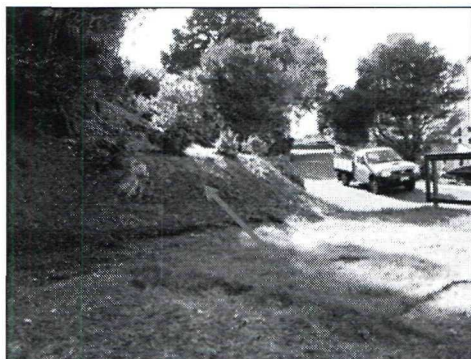


Figure 10. View looking north showing location of large midden eroding down the south western face of the eastern spur in the vicinity of camp site 61.

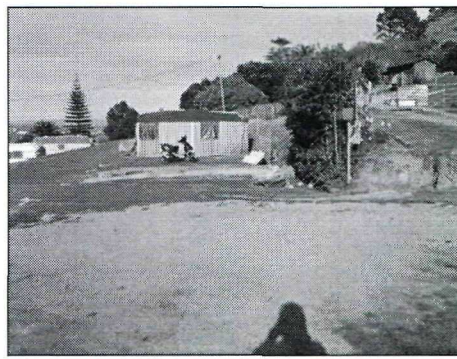


Figure 11. View looking south showing the upper cut and fill terrace forming camp sites 2, 3, 4, 5, & 6.

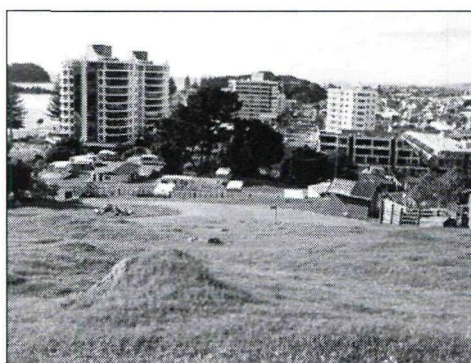


Figure 12. View looking east down the eastern spur from the occupation terraces within the stock yards.

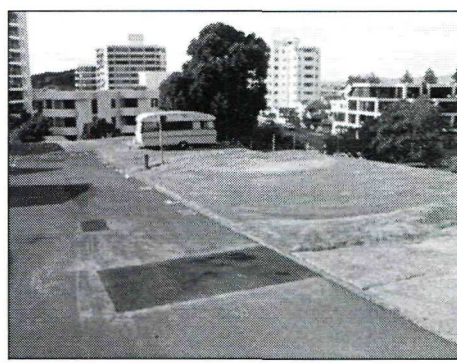


Figure 13. View of camp sites 18-21 where the first and second Pilot houses were probably located.

The Lower Camp Grounds

Land now occupied by the Hot Pools and lower camp sites has been modified by contouring for early 20th Century recreational facilities and more recently Hot Pool and Camp Ground development. In prehistory the area comprised a relatively level landscape with fertile coluvial soils and a prolific fresh water spring on the southern side of the eastern spur.

Archaic sites possibly dating to the 14th Century have been identified along Pilot Bay and it is probable that the soils and spring within the camp ground provided an ideal environment for very early human settlement.

The extent to which 20th Century development has damaged destroyed or obscured the prehistoric archaeological resource in this area can only be established by extensive subsurface investigation. Early 20th Century recreational developments including bowling greens and tennis courts probably damaged or destroyed surface archaeology such as midden mounds and stone features but may have buried and preserved more substantial subsurface archaeology.

More recent developments such as the excavation of the hot water pools carried out in the mid 1960s and cut and fill terracing carried out to form level camp sites has had a greater impact on the subsurface archaeological resource.

Prehistoric archaeological features within the property are considered components parts of the Mauao cultural / archaeological landscape recorded as U14/3118.

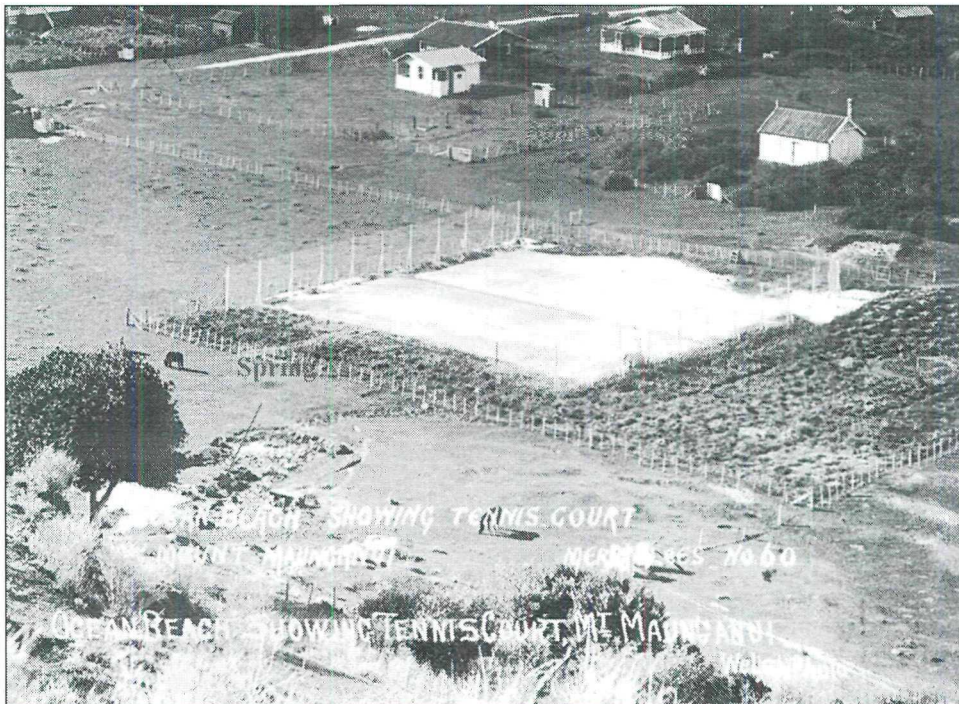


Figure 14. Early photo taken following the construction of the tennis court opposite the Adams cottage showing the spring.

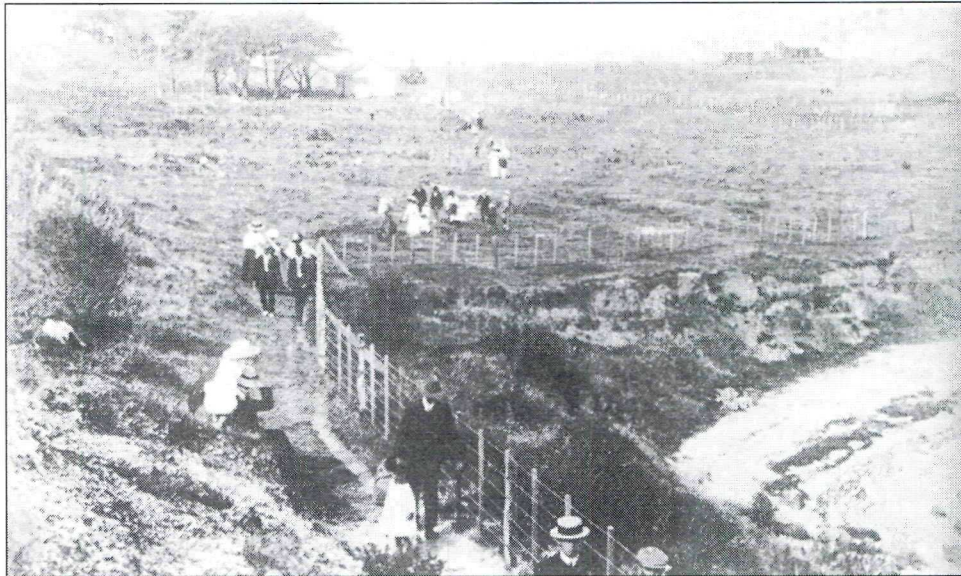


Figure 15. Photo taken in the early late 1800s showing the southern end of the camp ground before the construction of Bowling greens and tennis courts. Rising ground from centre to left of picture was extensively terraced for camp sites in the mid 20th Century.

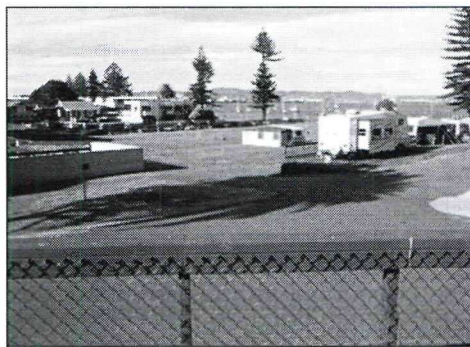


Figure 16. Terraced camp sites at the southern end of the camping ground.

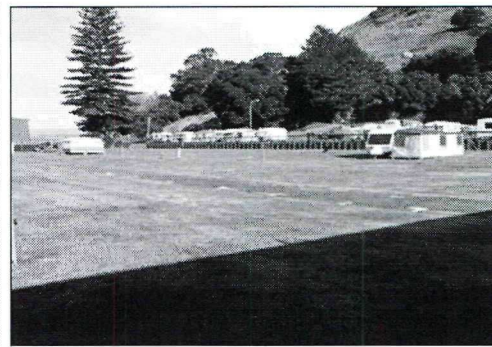


Figure 17. Level ground where the bowling green and tennis courts were located in the early 20th Century.

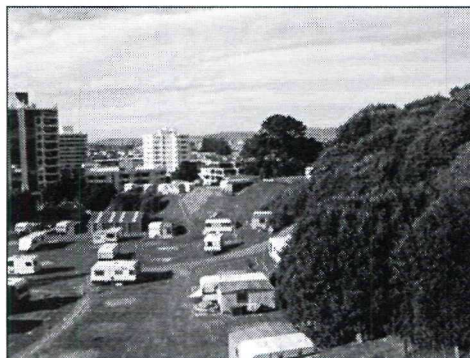


Figure 18. Camp sites on the northern side of the eastern spur showing limited contouring.



Figure 19. Excavation of hot pools has probably destroyed subsurface archaeology.

Historic Archaeology

The Pilot Houses

The first Pilot House was constructed in 1866 – 1867 on a prominent spur extending east from the base of Mauao and the boundaries of the 2 acre Pilot Reserve within the Waikorere Block were surveyed in 1868³ and Gazetted in 1889⁴.

According to the dairies of Thomas Carmichael, Pilot & Harbour Master appointed in 1864,⁵ the first Pilot House was poorly constructed from inferior materials. Notable features included shell paths and an encircling ditch. The function of the ditch is unclear but may have been used for drainage or as a livestock barrier or possibly represents a remnant of a prehistoric archaeological feature.

The first cottage appears to have been replaced in the mid 1870s by Captain Marks. This second cottage survived up until the late 1960s and appears in a number of early photos taken of Mt Maunganui. The cottage was oriented to the south with views from the veranda along Pilots Bay towards Te Papa. Several photos taken in the 1920s show a large *Macrocarpa* tree growing on the south-western side of the cottage.

A third cottage was constructed within the Pilot Reserve for Captain Marks' eldest son Hannibal in 1874 or 1879 in the general vicinity of the swimming pool complex car park and directly Opposite the western end of Maunganui Road. The house was demolished in 1964 and the area turned into a car park.

The first survey plan to illustrate the location of the second and third Pilot Reserve Houses was produced in 1941 (SO 31354). The plan also illustrates 'very old post & wire fences' extending along the reserve boundaries and two additional dwellings, outbuildings and Clarke's Store. The date of construction of the additional dwellings and store is not known but was likely in the early 20th Century.

While there are no visible archaeological features identifying the location of the pre 1900 cottages, buried subsurface features may survive on the spur and within the Hot Pools car park. Archaeological features may include building foundations, rubbish pits and evidence of out buildings. Such features can provide significant archaeological information relating to living conditions of the first European residents at Mount Maunganui.

³ ML 442

⁴ P.881

⁵ Musgrave 1989:15

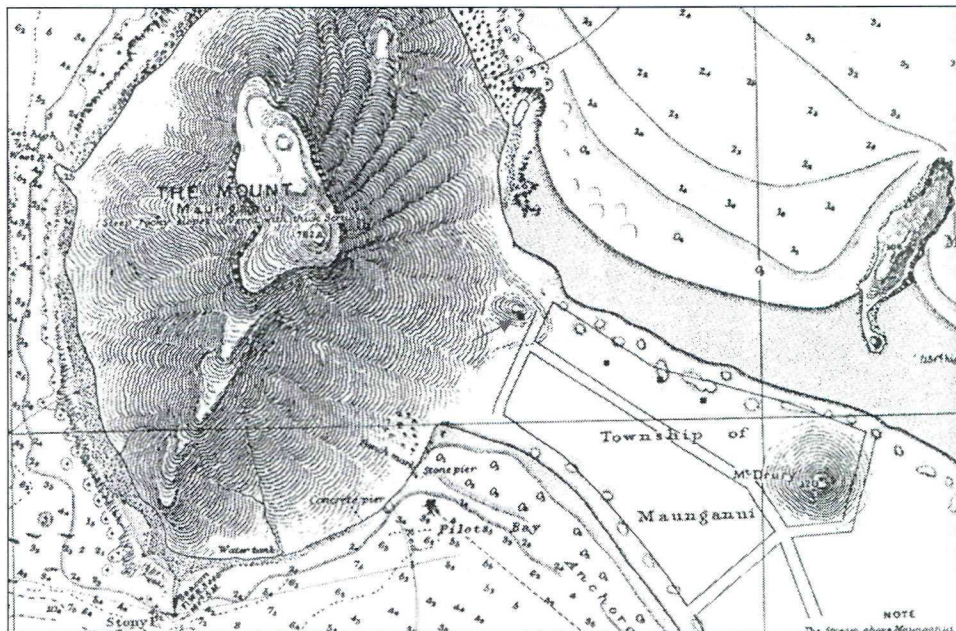


Figure 20. Early maritime plan (1880s) showing the eastern spur and location of the first Pilot House (arrowed).



Figure 21. Early 20th Century photo (c.1920s) showing the location of the second Pilot House built in the 1870s viewed from the north. Note the contour of the spur extending upslope to the north west.



Figure 22. Photo taken in the early 20th Century (c.1920s) showing the second Pilot House on the eastern spur viewed from the south east.

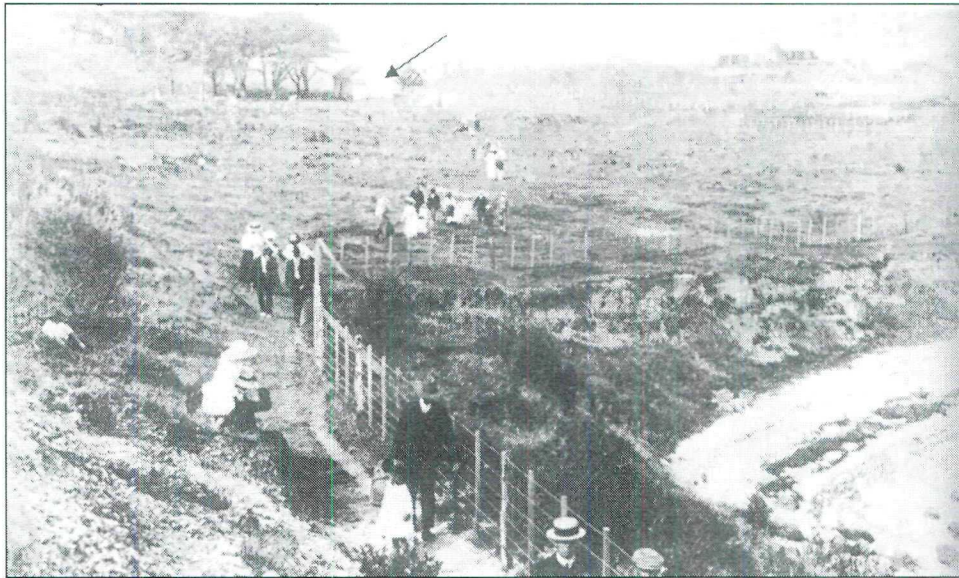


Figure 23. Photo of the southern end of the camp ground the small cottage built for Captain Marks' eldest son Hannibal in 1874 or 1879.

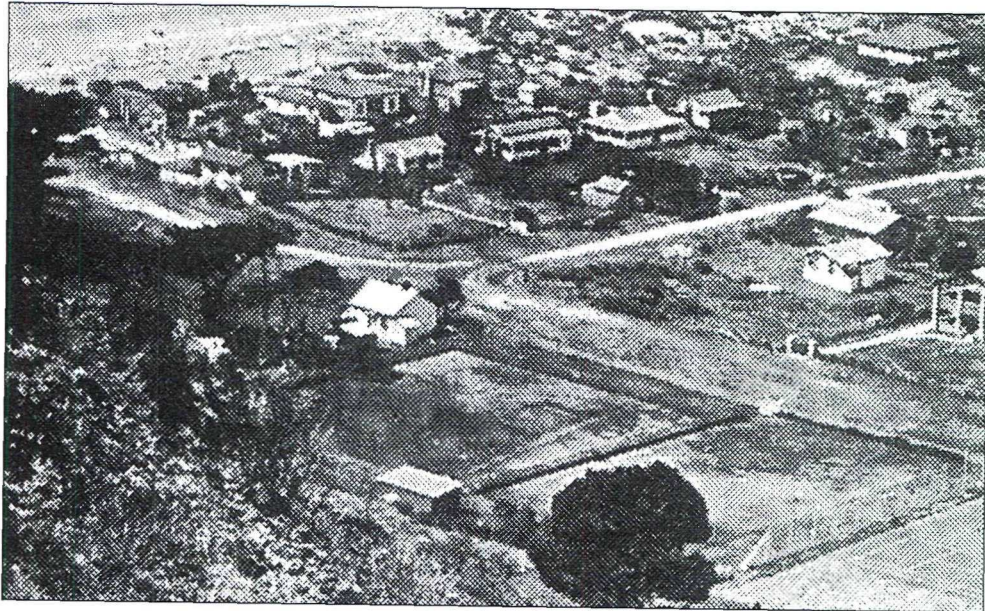


Figure 24. Photo taken in the 1920s showing the third house built in the Pilot Reserve in the late 1870s. The house is located below and to the south of the eastern spur in the vicinity of the Hot Pools car park.

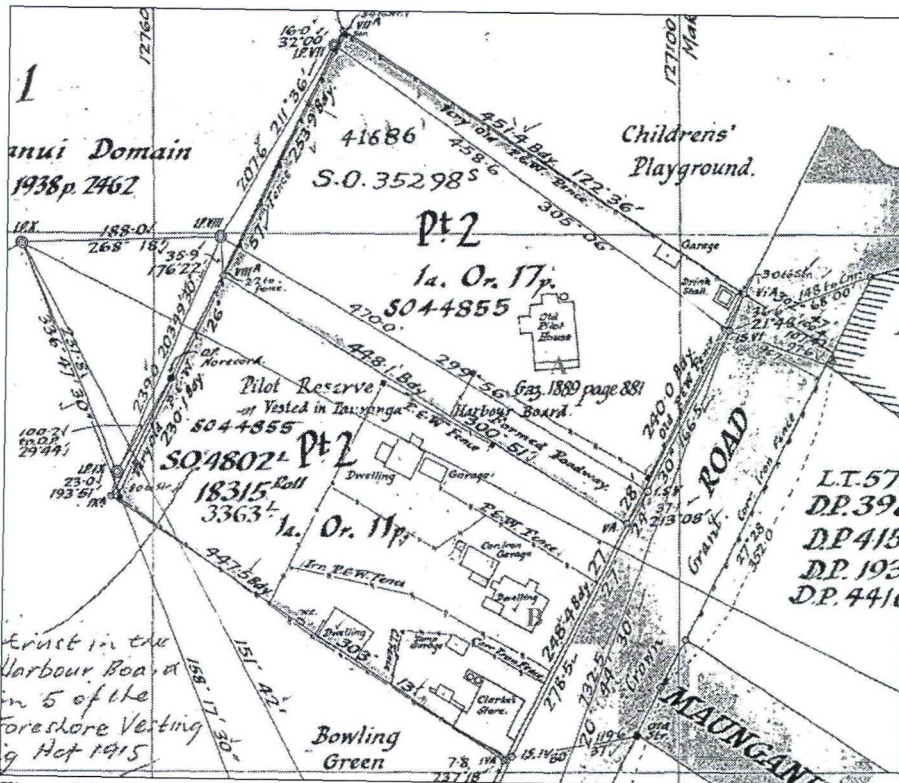


Figure 25. Survey plan SO 31354 produced in 1941 showing the second Pilot house 'A' and third house built within the reserve in the late 1870s 'B'.

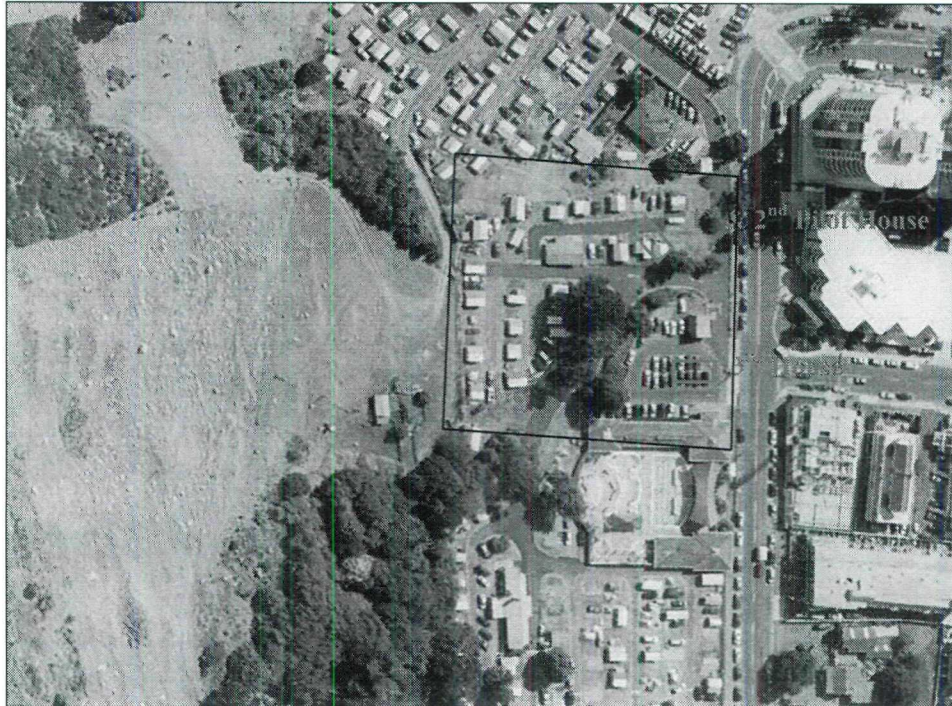


Figure 26. Aerial photo showing the approximate location of the pre 1900 cottages within the Pilot Reserve.

DISCUSSION

Summary of Results

The results of a review of available literature and archives and a ground survey of the camping grounds indicate that the land affected by the proposed Camping Ground Upgrade potentially contains significant archaeological resources relating to pre historic Maori activity and pre 1900 historic European activity.

Post 1900 recreational developments have had an impact on the survival of the archaeological resource and many features have likely been destroyed, however, there is a reasonable probability that intact subsurface archaeological features survive in less disturbed areas and that the proposed redevelopment and upgrade projects may impact on those features.

General Considerations

This report is an assessment of impact on archaeological values and does not include an assessment of Maori values. Such an assessment can only be made by the tangata whenua.

It should be noted that archaeological survey techniques based on visual inspection and minor subsurface testing cannot necessarily detect all possible subsurface archaeological features, nor identify wahi tapu and other sites of traditional significance to Maori, especially where these have no physical remains.

Significance

The integrity, extent and significance of the archaeological resource within land affected by the proposed Camp Ground upgrade cannot be determined without subsurface investigation. Recreational developments of the 20th Century have significantly modified the prehistoric landscape within the property and have probably damaged, destroyed or buried archaeological features. Archaeology of Mauao and Pilot Bay includes evidence of early Polynesian settlement on the dunes extending east along Pilot Bay possibly dating back to the 14th Century, extensive occupation and cultivation on the slopes of Mauao and defended pa occupied during the early contact period. The Mount Maunganui Camping Grounds are located in the centre of this archaeological cultural landscape therefore any intact archaeology beneath the camping grounds will have high archaeological significance.

Assessment of Effects

Ground disturbance associated with the Hot Pools redevelopment and the Camping ground upgrade will be significant and there is a high probability that intact subsurface archaeological features will be encountered during earthwork associated with the project.

Upgrading of Camp Ground Facilities

The upgrading of camp facilities including new amenity blocks and improved Roding will involve ground disturbance that may disturb intact subsurface archaeological features.

Installation of Cabins

It is proposed to located prefabricated cabins below and on the northern side of the eastern spur. Ground disturbance associated with the cabin development will include excavation of pile foundations to support the cabins and associated trenching for utility installation. Ground disturbance associated with this work may disturb archaeology relating to the prehistoric occupation of this area.

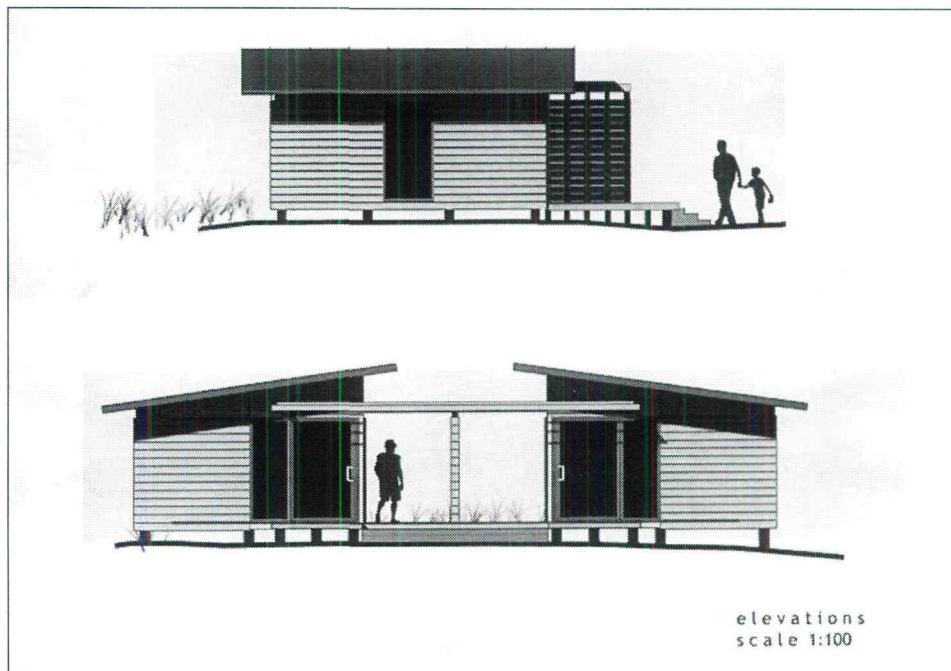


Figure 27. Mount Maunganui camping Ground cabins design proposal prepared by Ross Maguire Architects Ltd.

Historic Places Act

In addition to any requirements under the RMA 1991, the HPA 1993 protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by the NZHPT.

An archaeological site is defined by the HPA 2(a)(i) and 2(b) as: 'any place in New Zealand that was associated with human activity that occurred before 1900, and is or

may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand'.

Authorities to modify archaeological sites can be applied for either under Section 11, in respect to a particular site or sites, or under Section 12, for all sites that may be present within a specified area. Applications made under S12 require approval by the Maori Heritage Council of the NZHPT. The tangata whenua should be consulted regarding applications to modify or destroy archaeological sites which have Maori cultural associations.

Note that about 4 months should be allowed for the processing of authorities, which includes a statutory stand down period of 15 working days before an authority can be exercised.

RECOMMENDATIONS

The following recommendations for avoidance or mitigation are provided as points of discussion between the applicant, statutory agencies and tangata whenua.

1. That an NZHPT authority to modify damage or destroy any archaeological features encountered during ground disturbance associated with the Camping Ground upgrade Project is sought under the provisions of Section 12 of the Historic Places Act 1993.
2. That any intact archaeological features encountered during the ground disturbance associated with the project are recorded in detail and sampled and analysed as appropriate.
3. That all ground disturbance associated with the Camping Ground upgrade project is monitored by a suitably qualified archaeologist.
4. That if koiwi tangata (human remains) are encountered, no further modification of the site concerned shall occur until tangata whenua and the Trust have been advised and their responses received.
5. Archaeological survey cannot always detect sites of traditional value to Maori, such as wahi tapu. Tangata whenua should be consulted regarding the possible existence of such sites and informed of the recommendations of this report.

REFERENCES

- Musgrave, K.
1989 *A History of Mount Maunganui*. Mount Maunganui Borough Council.
- Phillips, K.J.S.
2003 Preliminary Archaeological Survey and Identification of Threats to Archaeological Resources, Mauao Historic Reserve, Tauranga. Unpublished report to Tauranga District Council.

Other Sources

Mauao – Mount Maunganui, Main Beach, Moturiki – Leisure Island, Hopukiore – Mount Drury, Waikorire – Pilot Bat Reserves Management Plan. Report prepared by Tauranga District Council 1998.

The Mount Management Plan 1980. Report prepared by Department of Lands and Survey and Mount Maunganui Borough Council.

Carmicheal, T.S. MS 2 – Tauranga Public Library.

Survey Plans

ML 442
SO 31354
SO 4802
ML 5000
SO 35298
SO 55311
SO 41686
SO 44855
SO 51477

s 7(2)(a) - Privacy

From: s 7(2)(a) - Privacy
Sent: Monday, 25 May 2020 3:43 PM
To: s 6(c) - Maintenance of Law
Cc: s 7(2)(a) - Privacy
Subject:

CAUTION: External Email.

Kia ora s 6(c) - Maintenance of Law

I've opened up for feedback from Ngai Tukairangi Hapu Trust and s 7(2)(a) - Privacy our s 7(2)(a) - Privacy
s 7(2)(a) - Privacy No objections with Option 1 as the way forward from us.

Thanks for your patience s 6(c) - Maintenance of Law

Nga mihi

s 7(2)(a) - Privacy

On Wed, May 20, 2020 at 12:49 PM s 6(c) - Maintenance of Law wrote:

Kia ora koutou,

My apologies for the delay in getting back to you, thank you to all that attended

Attached minutes of our meeting which was held at Mt Beachside Holiday Park.

Actions from meeting;

Hapu to discuss further Cabins and Extension to Ocean facility, as mentioned at the meeting there were concerns around potential contamination of the Maunga with raw sewage.

s 7(2)(a) - Privacy discussed the opportunity to enhance the cultural recognition of local Iwi (interpretation panels, the story of Mauao, naming the different facilities etc) Hapu to discuss and provide the appropriate information for this work.

Option 1;

Proceed with the extension to the Ocean facility and Cabins with service connections. We will need your approval to progress with consents and archaeological authority.

Option 2;

Proceed with extension to the Ocean facility and Cabins with no services

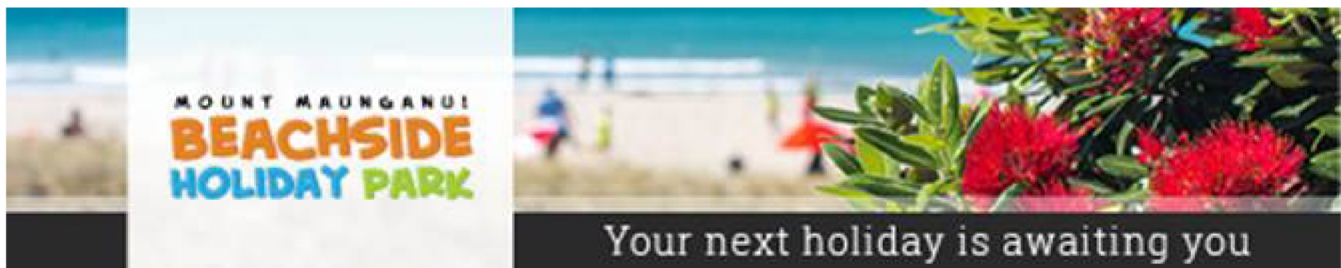
If you still have concerns regarding the serviced cabins, we will remove the serviced cabins and replace with the basic cabin no services.

The next financial year, we would apply for funding to add ensuited cabins or the following year, in the same area beside the Surf Club, up to five ensuited cabins in total for that space, relocate the existing basic cabins to make way for the installation of sewage pipes and ensuited cabins. This will give both parties more time to discuss further. When we apply for the archaeological authority now, we would like to include serviced cabins in that application for future proofing as these authorities are valid for five years . We need your approval to progress with this for consents and archaeological authority. It would be appreciated if you could come back to us by 29 May 2020.

Nga mihi nui

s 6(c) - Maintenance of Law

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