

# Application for change or cancellation of resource consent condition (S.127)

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — [both available on the Council's web page](#).

## 1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement?

Yes  No

If yes, who have you spoken with? \_\_\_\_\_

## 2. Type of Consent being applied for

Change of conditions (s.127)

## 3. Consultation:

Have you consulted with Iwi/Hapū?  Yes  No

If yes, which groups have you consulted with?

Who else have you consulted with?

*For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council [tehonosupport@fndc.govt.nz](mailto:tehonosupport@fndc.govt.nz)*

## 4. Applicant Details:

Name/s:

Ngati Kuri Trust Board Incorporated

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

Office Use Only  
Application Number:

## 5. Address for Correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s:

Steven Sanson

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

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

## 6. Details of Property Owner/s and Occupier/s

Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s:

Te Urungi o Ngati Kuri Limited

Property Address/  
Location:

5399 Far North Road, Ngataki, RD4 Kaitaia

Postcode

## 7. Application Site Details

Location and/or property street address of the proposed activity:

Name/s:

Rarawa Beach Road, Ngataki

Site Address/  
Location:

Postcode

Legal Description:

Lot 1 DP 413140

Val Number:

Certificate of title:

NA121C/469 / 448867

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

Site visit requirements:

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

Is there a dog on the property?  Yes  No

## 7. Application Site Details (continued)

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details.

*This is important to avoid a wasted trip and having to re-arrange a second visit.*

## 8. Detailed description of the proposal:

This application relates to the following resource consent:

Specific conditions to which this application relates:

Describe the proposed changes:

## 9. Would you like to request Public Notification?

Yes  No

## 10. Other Consent required/being applied for under different legislation

*(more than one circle can be ticked):*

Building Consent

Regional Council Consent (ref # if known)

National Environmental Standard consent

Other (please specify)

## 11. Assessment of Environmental Effects:

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

Your AEE is attached to this application  Yes

## 12. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision?  Yes  No

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days?  Yes  No

## 13. Billing Details:

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

**Name/s:** (please write in full)

**Email:**

**Phone number:**

**Postal address:**

(or alternative method of service under section 352 of the act)

### Fees Information:

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

### Declaration concerning Payment of Fees:

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

**Name:** (please write in full)

**Signature:** (signature of bill payer)

**MANDATORY**



## 14. Important Information:

### Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

### Privacy Information:

Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive

information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, [www.fndc.govt.nz](http://www.fndc.govt.nz). These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

### Declaration

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

Name: (please write in full)

Signature:

Date

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

### Checklist (please tick if information is provided)

- Payment (cheques payable to Far North District Council)
- Details of your consultation with Iwi and hapū
- A current Certificate of Title (Search Copy not more than 6 months old)
- Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- Applicant / Agent / Property Owner / Bill Payer details provided
- Location of property and description of proposal
- Assessment of Environmental Effects
- Written Approvals / correspondence from consulted parties
- Reports from technical experts (if required)
- Copies of other relevant consents associated with this application
- Location and Site plans (land use) AND/OR
- Location and Scheme Plan (subdivision)
- Elevations / Floor plans
- Topographical / contour plans

Please refer to chapter 4 (Standard Provisions) of the Operative District Plan for details of the information that must be provided with an application. This contains more helpful hints as to what information needs to be shown on plans.

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

- Building Consent (BC ref # if known)                       **Regional Council Consent** (ref # if known)
- National Environmental Standard consent                       Other (please specify)

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

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

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)  yes  no  don't know

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle).  yes  no  don't know

- Subdividing land                       **Changing the use of a piece of land**
- Disturbing, removing or sampling soil                       Removing or replacing a fuel storage system

**12. Assessment of Environmental Effects:**

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

**Please attach your AEE to this application.**

**13. Billing Details:**

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

Name/s: (please write all names in full)                      Ngāti Kuri Trust Board Incorporated

Email:

Postal Address:

Phone Numbers:



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

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

Name: Harry Burkhardt (please print)

Signature:  (signature of bill payer – **mandatory**)      Date: 20-June 2023

**Kerikeri House**  
**Suite 3, 88 Kerikeri Road, Kerikeri**

Email – [office@bayplan.co.nz](mailto:office@bayplan.co.nz) Website - [www.bayplan.co.nz](http://www.bayplan.co.nz)

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19 February 2025

Far North District Council

Section 127 Variation – Ngataki RC 2230585

Please find attached a s127 application in relation to a proposed variation of consent conditions associated with RC 2230585.

That application approved a papakainga development of up to 82 dwellings, inclusive of 38 principle and 38 minor residential units and 6 kaumatua units with associated internal access and services, earthworks and landscaping.

Wastewater has been re-designed to suit the entire development which differs to that originally approved.

Changes are also proposed to specific conditions to assist with practical workability.

The conditions to be varied are sought under s127 of the Resource Management Act 1991 (**RMA**), which is a **Discretionary Activity**.

Yours sincerely,



Steven Sanson  
Consultant Planner

## APPLICANT & PROPERTY DETAILS

Applicant	Ngati Kuri Trust Board
Address for Service	Bay of Islands Planning [2022] Limited Kerikeri House Suite 3 88 Kerikeri Road Kerikeri C/O – Steven Sanson  <a href="mailto:steve@bayplan.co.nz">steve@bayplan.co.nz</a> 021-160-6035
Legal Description	Lot 1 DP 193960
Physical Address	5428 Far North Road, Ngataki
Site Area	263.6620ha
Owner of the Site	Te Urungi o Ngati Kuri
Operative District Plan Zone / Features	Rural Production
Proposed District Plan	Rural Production
Archaeology	Nil known
NRC Overlays	Localised River Flood Hazard
Soils	Class 4
Protected Natural Area	Nil
HAIL	No

### Schedule 1

## SUMMARY OF PROPOSAL

Proposal	A variation to consent conditions of RC 2230585 is sought to support changes to the design and location of 6 wastewater and to improve workability of the overall consent.
Reason for Application	<p>The proposed variation is required because of the amended design / location of wastewater as well as changes sought to those relevant consent conditions.</p> <p>An application under s127 of the RMA is needed.</p>
Appendices	<p><b>Appendix A</b> – Record of Title &amp; instruments</p> <p><b>Appendix B</b> – Wastewater Report</p> <p><b>Appendix C</b> – Existing Approval</p>
Consultation	Not applicable
Pre Application Consultation	Not applicable

## 1.0 INTRODUCTION & PROPOSAL

### 1.1 Report Requirements

This report has been prepared for Ngati Kuri Trust Board in support of a s127 application in relation to the proposed variation of a consent conditions 1 and 7 of RC 2230585.

Section 127 allows the holder of a resource consent to apply to the consent authority for a change or cancellation of a condition of the consent.

Sections 88 to 121 apply, with all necessary modifications, as if—

- a) the application was an application for a resource consent for a discretionary activity; and
- b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.

Section 127(4) also applies including:

- 
- (4) For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who—
    - (a) made a submission on the original application; and
    - (b) may be affected by the change or cancellation.

The conditions sought to be changed with the proposed wording is outlined below.

- Condition 1 – in relation to referring to new approved plans for wastewater disposal.
- Condition 7 – in relation to proposed changes to enhance practical workability of the consent.

The proposed variation to read as follows (refer underlined for additions and ~~striketrough~~ for deletions):

#### General Conditions

1. That the proposed activities provided for under this consent shall be carried out in general accordance with the documentation and plans that form part of the application as follows:
  - AEE prepared by Sanson and Associates Limited dated June 2023 provided under cover of email dated 5th July 2023.
  - The plans prepared by Resilio Studio entitled 'Te Paki Dunes Papakainga Resource Consent – Revision 2 September 2023 identifying the building locations and typologies.
  - The Site Suitability Engineering Report – Revision 3 prepared by Geologix Limited dated September 2023, inclusive of the development drawings provided in Appendix

A referenced as Sheets 1000, 1001, 1010 – 1014, ~~1020~~, 1030, 1050, 1051, 1100, and 1101.

- The Wastewater Report prepared by Waterflow NZ Ltd, dated 25 November 2024.
- Transport Assessment Report prepared by Flow Ltd dated 13 July 2023
- Wetland Assessment Report – Revision 3 prepared by Geologix Ltd dated 6 September 2023.
- Landscape Visual Impact Assessment report prepared by Resilio Studio Limited dated 19th September 2023 including appendices

7. Prior to the ~~issuing of any building consent for a~~ occupation of any dwelling on the site (where ‘dwelling’ includes any minor unit), the consent holder shall provide suitable evidence by way of suitably qualified and experienced Chartered Professional Engineer to confirm that all services, including road access, are physically completed such that they are readily able to be utilised by the proposed dwelling at the time of lodgement of the building consent.

~~For avoidance of doubt, this condition will not be deemed to be met where any/all services including road access are yet to be constructed and certified as completed in order to service any dwelling at the time of lodgement of any building consent.~~

*Advice note: While the application does not record any intention to stage construction of the services and access for the development, the above condition provides for dwellings to be constructed during the construction phase, and before overall construction is completed, where adequate servicing and access is available to any proposed dwelling.*

The rationale behind the changes are self-explanatory to a certain extent but revolve around the following:

- Condition 1: The proposal has gone through design changes which require FNDC approval / consideration.
- Condition 7: As currently drafted, the condition frustrates progress on the site as a building consent cannot be lodged for a dwelling. The proposal seeks to carry out building consents via off-site manufacturing. Therefore, the site consents for foundations and wastewater for example cannot be executed without this condition frustrating progress.

Should there be any other changes (consequential or otherwise) that arise during process, we retain the right to make further alternations and also provide FNDC staff with discretion to make changes that assist in workability and better implementation of consent conditions.



## 2.0 SECTION 127 OF THE RMA

The RMA establishes that a request under s127 is deemed to be discretionary activity and Section 88 to 121 apply with the necessary modifications. Additionally, in considering the request to change the condition Council is limited to only considering what is being sought within the condition change and the effects there from.

The original resource consent application was not the subject of a publicly notified process with the approval being issued under delegated authority.

The decision was not the subject of an appeal. In terms of the effects created by this variation these factors are addressed as follows.

### 2.1 Application Comparison

The original application sought the following layout for wastewater.

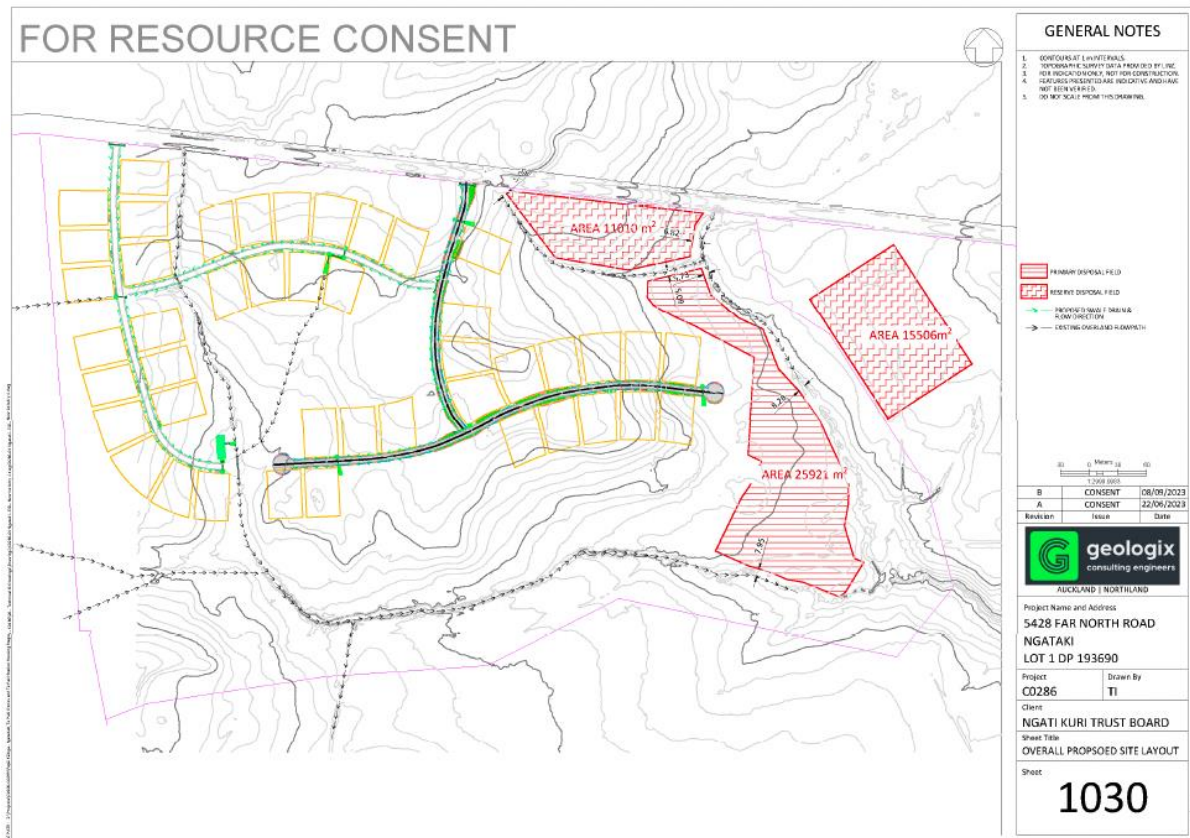


Figure 1 – Approved Wastewater Plan

The changes sought through this proposal are outlined below and in **Appendix B**.





Figure 2 – Proposed Wastewater Plan

Condition 7 does not necessitate any formal changes other than wording changes to the condition.

## 2.2 Application Process

The Council retains the discretion to determining whether a discretionary activity should be notified. In determining this factor, it is the change in the effects of the consent conditions which are assessed against any possible adverse effects upon any person.

The RMA also requires Council to consider the effect of the change on those persons who lodged a submission to the original application. As above, the original consent was processed non-notified. Therefore, there are no submissions to consider or no persons to be considered as potentially adversely affected.

The change of conditions would not in our opinion create any adverse effects that are more than minor. The changes are associated with minor layout changes to better reflect local topography and to better execute the overall consent.

Overall, it is considered that the application to change the condition can be processed without notification.

## 2.3 Potential Effects

For this application, the potential adverse effects to be assessed are those arising from aspects of the proposal that have been identified as differing from the consented proposal.

### Wastewater Matters

Wastewater has been addressed through the Waterflow Report provided in **Appendix D**. This provides an amended approach to the disposal of wastewater as originally designed and intended. This is due to better understanding of on the ground conditions and detailed design. The methods of disposal and quality of treatment are unchanged and meet all necessary environmental obligations.

Accordingly, there are no adverse effects arising from the proposal.

### Building Consent Alignment

The proposed change to Condition 7 means that building consents for foundation and site works can be applied for which will eventually serve a future dwelling brought in / delivered to each housing allotment. The current consent condition frustrates progress towards achieving the intent which is to provide site servicing for dwellings.

## Conclusion

Based on the above assessment, it is considered that the actual and potential adverse effects of the proposal that would be no more than minor.

There are no effects to surrounding persons.

## 3.0 STATUTORY CONTEXT

### 3.1 Policy Statements, Environmental Standards, Regional Policy Statements

All of these relevant matters were assessed and provided in the original application. The proposal is of such a small scale that reconsideration is not considered warranted.

### 3.2 Objectives, Policies and Rules

Section 104B requires the consideration of any relevant objectives and policies in addition to the effects of the activity. It is considered these factors have been addressed within the original land use application [both the ODP and PDP]. Reconsideration of these factors are not undertaken due to the minor nature and scale of changes proposed.

## 4.0 PART 2 ASSESSMENT

### 4.1 Section 5 – Purpose of The RMA

Section 5 in Part 2 of the RMA identifies the purpose as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being which sustain those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding remedying or mitigating adverse effects on the environment.

It is considered that proposal represents a sustainable use of existing resources that allow people and the community to provide for its social and economic wellbeing in a manner that mitigates adverse effects on the environment.

#### 4.2 Section 6 – Matters of National Importance

In achieving the purpose of the RMA, a range of matters are required to be recognised and provided for. This includes:

- a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
- c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
- d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
- e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:
- f) the protection of historic heritage from inappropriate subdivision, use, and development:
- g) the protection of protected customary rights:
- h) the management of significant risks from natural hazards.

In context, the relevant items to the proposal have been recognised and provided for in the design of the development.

#### 4.3 Section 7 – Other Matters

In achieving the purpose of the RMA, a range of matters are to be given particular regard. This includes:

- (a) kaitiakitanga:
  - (aa) the ethic of stewardship:
  - (b) the efficient use and development of natural and physical resources:
    - (ba) the efficiency of the end use of energy:
    - (c) the maintenance and enhancement of amenity values:
    - (d) intrinsic values of ecosystems:

- (e) [Repealed]
- (f) maintenance and enhancement of the quality of the environment:
- (g) any finite characteristics of natural and physical resources:
- (h) the protection of the habitat of trout and salmon:
- (i) the effects of climate change:
- (j) the benefits to be derived from the use and development of renewable energy.

These matters have been given particular regard through the design of the proposal.

#### 4.4 Section 8 – Treaty of Waitangi

The Far North District Council is required to take into account the principles of the Treaty of Waitangi when processing this consent. This consent application may be sent to local iwi and hapū who may have an interest in this application.

#### 4.5 Part 2 Conclusion

Given the above, it is considered that the proposal meets the purpose of the RMA.

### 5.0 CONCLUSION

This application seeks a consent notice variation under s127 to amend existing consent conditions in relation to wastewater and consent workability along Rarawa Beach Road.

The original proposal was considered to be consistent with the purpose of relevant national policy statements and national environmental standards. This proposal is considered to align with those same documents for the same reasons.

Objectives and policies of relevant plans were also considered as part of the original. For the same reasons, the proposal is considered to align with their aims and intent.

An assessment of Part II of the RMA has been completed with the proposal generally able to satisfy this higher order document also.

We look forward to receiving acknowledgment of the application and please advise if any additional information is required.

Yours sincerely,



Steve Sanson  
*Consultant Planner*



**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** NA121C/469  
**Land Registration District** North Auckland  
**Date Issued** 02 December 1998

**Prior References**  
NA82C/772

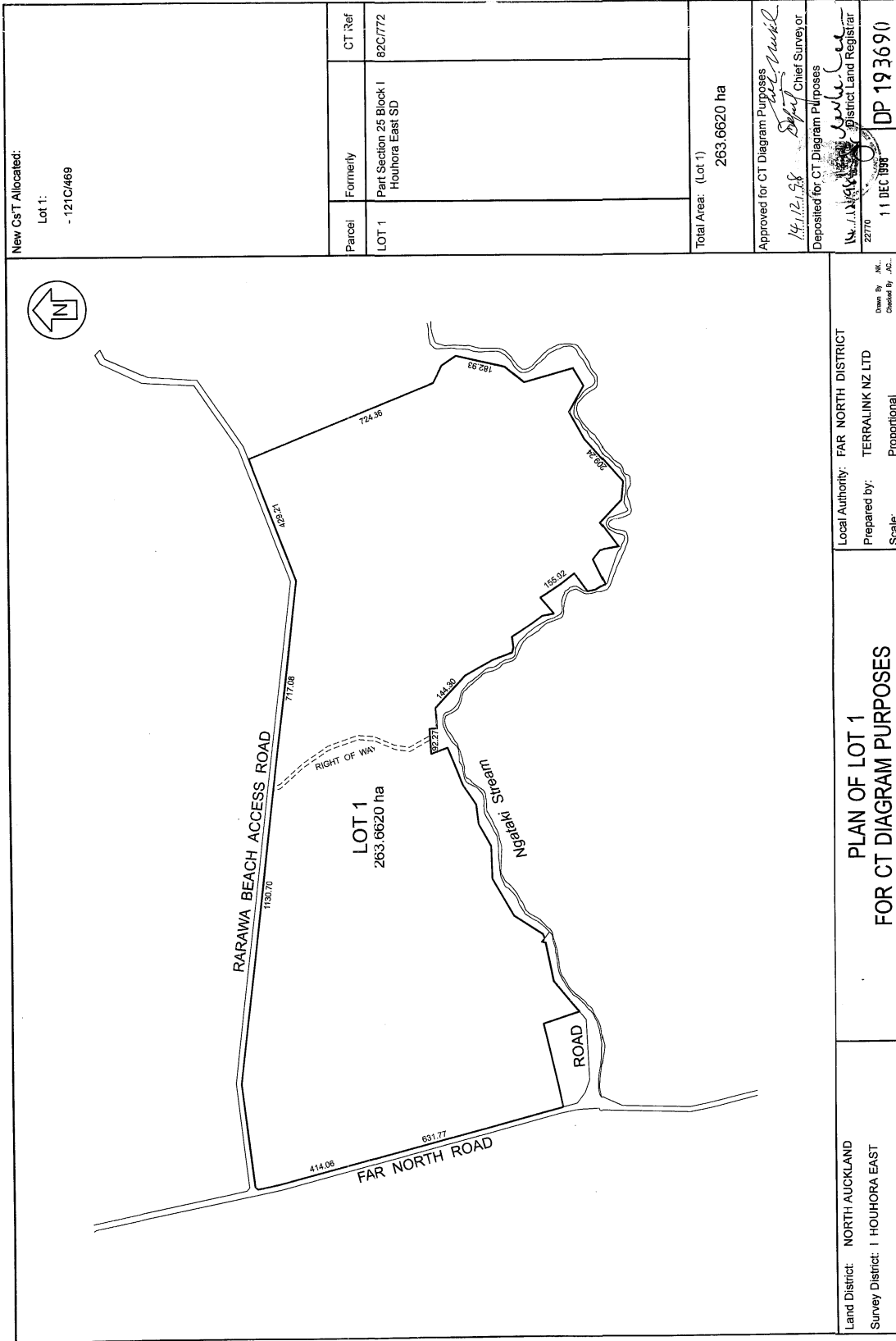
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**Estate** Fee Simple  
**Area** 263.6620 hectares more or less  
**Legal Description** Lot 1 Deposited Plan 193690

**Registered Owners**  
Te Urungi O Ngati Kuri Limited

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**Interests**  
Subject to Part IV A Conservation Act 1987  
Subject to Section 11 Crown Minerals Act 1991  
9373856.3 Mortgage to Westpac New Zealand Limited - 1.5.2013 at 11:02 am  
10575524.1 Variation of Mortgage 9373856.3 - 20.12.2016 at 10:29 am



17 DEC 1998





## STATEMENT OF DESIGN - PS1

**Issued by:** Dean Hoyle

**To:** NGATI KURI TRUST BOARD

**Copy to be supplied to:** Far North District Council

**In Respect of:** Econotreat Domestic Onsite Wastewater and Sewage System Design

**At:** Rarawa Beach Road, Ngataki

**Legal Description:** Lot 1 DP 193690

Waterflow NZ Ltd has been engaged by NGATI KURI TRUST BOARD to provide the technical design services and details in respect of the requirements of G13/VM4 and B2 Durability of the Building Code 2004, for an Onsite Wastewater and Sewage System for their building at the above location.

The Design has been carried out in accordance with Auckland Council TP-58 Guidelines and Clause B2, G13 and G14 of the Building Regulations 2004.

The proposed building work covered by this producer statement is described on the drawings titled: NGATI KURI TRUST BOARD Onsite Wastewater Design Report, and numbered 1-42 together with the specification, and other documents set out in the schedule attached to this statement.

**On behalf of the Design Firm,** and subject to:

- (i) Site verification of the following design assumptions: correct installation of the system and drainage fields
- (ii) All proprietary products meeting their performance specification requirements;

As an independent design professional covered by a current policy for Professional Indemnity Insurance, no less than \$200,000\*, I **believe on reasonable grounds** the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

Signed by: Dean Hoyle - PS Author '3037' Auckland Council, NZQA Onsite Wastewater Training/Opus, BOINZ OWM, HBRC & FNDC Approved Designer

Date: 25/11/2024

Signature:



Waterflow NZ Ltd  
1160 State Highway 12  
Maungaturoto 0520

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

**Date:** 25.11.2024

**Client:** Ngati Kuri Trust Board

**Project:** Rarawa Beach Road Papakainga

**Address:** Rarawa Beach Road, Ngataki

As requested by the Consultant (Myles Gordon, Rubix) we (Waterflow NZ Ltd), were engaged to assess the environmental and soil conditions for a suitable Onsite Wastewater Treatment System and Disposal field system for the proposed Papakainga development at Ngataki on Rarawa Beach Rd. We understand it is proposed to establish a papakainga involving 5 new two bedroom Kaumatua flats and 39 additional lots each with either a four bedroom dwelling and potentially a two bedroom studio or a three bedroom dwelling and potentially a one bedroom studio. Water supply for all lots is to be via roof collected rainwater stored in water tanks.

**Is the site suitable for an on-site effluent treatment and disposal system?**

Yes, the site is suitable for the discharge of the wastewater production as per Auckland Council TP-58 Guidelines, Australia New Zealand Standard 1547:2012 and Discretionary Activity Rule C.6.1.5 of the Proposed Regional Plan for Northland. This design report is generally in accordance with the conditions of NRC Resource Consent AUT.045423.01 however some consent conditions may need to be changed to suit the final onsite wastewater management design.

The project will consist of three separate onsite wastewater management systems to manage wastewater from different areas of the development. Each of the 44 lots will drain to an EconoTreat VBB-C-2200 Secondary Wastewater Treatment System located adjacent to each lot. The Econotreat wastewater systems have a capacity of up to 2200 litres per day and will pump advanced secondary treated effluent to one of three central 22,500 litre pump stations. From each pump station secondary treated effluent will pump to one of three land application systems.



Discharge calculations are based on the below:

**System 1:**

- 6 x 2-bedroom dwellings (4 people) = 6 x 4 people @ 160L per person per day = 3840 litres per day;
- 9 x 4 bedroom dwelling + two bedroom studio (9 people) = 9 x 9 people @ 160L per person per day = 12,960 litres per day;
- **System 1 Design Flow: 16,800 litres per day**

**System 2:**

- 8 x 4 bedroom dwelling + two bedroom studio (9 people) = 8 x 9 people @ 160L per person per day = 11,520 litres per day;
- 6 x 3 bedroom dwelling + one bedroom studio (6 people) = 6 x 6 people @ 160L per person per day = 5760 litres per day;
- **System 2 Design Flow: 17,280 litres per day**

**System 3:**

- 7 x 4 bedroom dwelling + two bedroom studio (9 people) = 7 x 9 people @ 160L per person per day = 10,080 litres per day;
- 8 x 3 bedroom dwelling + one bedroom studio (6 people) = 8 x 6 people @ 160L per person per day = 7680 litres per day;
- **System 3 Design Flow: 17,760 litres per day**

**Total Design Flow (System 1 + System 2 + System 3): 51,840 Litres/day.**

**What are the disposal field requirements?**

Each of the three systems will apply advanced secondary quality effluent to land via a pressure compensating dripline system at a design loading rate of 3L/m<sup>2</sup>/day for silty clay loam soils. The total land disposal area is 17,280m<sup>2</sup> and will be made up of three separate land disposal areas of 5600m<sup>2</sup>, 5760m<sup>2</sup> and 5920m<sup>2</sup>.

The disposal area will be installed at least 200mm subsurface and at an average of 1.0m parallel row spacings and with emitters at 0.6m centres. The disposal areas will be installed more than 20m from any surface water and more than 15m from any surface water and more than 10m from any wetlands and more than 1.5m from property boundaries.

**Is Discharge Consent required?**

Yes, the total design flow of 51,840 litres per day is a Discretionary Activity as per Rule C.6.1.5 of the Proposed Northland Regional Plan and therefore requires a Discharge Consent. NRC have already issued Resource Consent AUT.045423.01 however some consent conditions may need to be changed to suit the final onsite wastewater management design. This report is prepared to support the S127 application to change consent conditions.



**WaterFlow**  
Bringing Clarity to Wastewater

**2024**

**Waterflow NZ Ltd**  
Certified Designer

**NGATI KURI TRUST BOARD**  
**Rarawa Beach Road**  
**Ngataki**  
**Lot 1 DP 193690**

**Reference Number: WF11614**

**Issued 25/11/2024**

**ONSITE WASTEWATER DESIGN REPORT**



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## **Attachments**

- PS1
- Land Application System Schematics
- Pump Specification
- Electrical Diagram
- Assessment of Environmental Effects
- System & Installation Specifications
- Home Owners Care Guide

**PART A: CONTACT AND PROPERTY DETAILS****A 1. Consultant / Evaluator**

<b>Name:</b>	Matt Riddell
<b>Company/Agency:</b>	Waterflow New Zealand Ltd
<b>Address:</b>	4/525 Great South Road, Penrose, Auckland 1061
<b>Phone:</b>	09 431 0042
<b>Fax:</b>	
<b>Email Address:</b>	<a href="mailto:matt@waterflow.co.nz">matt@waterflow.co.nz</a>

**A 2: Applicant Details**

<b>Applicant Name:</b>	NGATI KURI TRUST BOARD
<b>Company Name:</b>	
<b>Property Owner:</b>	NGATI KURI TRUST BOARD
<b>Owner Address:</b>	Rarawa Beach Road, Ngataki
<b>Phone:</b>	
<b>Mobile:</b>	
<b>Email Address:</b>	myles.gordon@rubix.nz

**A 3: Site Information**

<b>Sited Visited by:</b>	Caleb Pirini	<b>Date:</b>	Wednesday, 6 March 2024
<b>Physical Address:</b>	Rarawa Beach Road, Ngataki		
<b>Territorial Authority:</b>	Far North District Council		
<b>Regional Council:</b>	Northland Regional Council		
<b>Regional Rule</b>	C.6.1.5		
<b>Legal Status of Activity:</b>	<b>Permitted:</b>	<b>Control</b>	<b>Discretionary:</b> x
<b>Total Property Area (m<sup>2</sup>):</b>	2636620m <sup>2</sup>		
<b>Map Grid Reference:</b>	34°43'42.0"S 173°02'47.5"E		
<b>Legal Description of Land (as on Certificate of Title):</b>			
<b>Lot No:</b>	1		
<b>DP No:</b>	193690		
<b>CT No:</b>	NA121C/469		



**A 4: Are there any previous existing discharge consents relating to this proposal or other waste discharge/disposal on the site?**

Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
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**If yes, give reference No's and description:**

NRC Resource Consent AUT.045423.01 - Wastewater discharge:
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**A 5: Dwelling(s) for which on-site wastewater service is to be provided**

<b>Status of dwelling(s) to be serviced:</b>	<b>New</b>	<input checked="" type="checkbox"/>	<b>Existing</b>	<input type="checkbox"/>	<b>Multiple</b>	<input type="checkbox"/>
<b>How many dwellings on the property?</b>	44					
<b>Capacity of dwellings:</b>	<b>Dwelling 1</b>	6 x 2 bdrm Kaumatua flats				
<b>(or number of bedrooms)</b>	<b>Dwelling 2</b>	14 x 3 bedroom units with 1 bedroom studio				
	<b>Dwelling 3</b>	24 x 4 bedroom units with 2 bedroom studio				
	<b>Other:</b>					
<b>Notes:</b>	See design brief attached.					

**PART B: SITE ASSESSMENT - SURFACE EVALUATION****B 1: Site Characteristics**

Performance of adjacent systems:	(Unknown)		
Estimated annual rainfall (mm):	1000 - 1250 (as per NIWA statistics)		
Seasonal variation (mm):	300-400mm		
Vegetation cover:	Grass		
Slope shape:	Flat		
Slope angle:	5 °		
Surface water drainage characteristics:	Broad overland to wetland areas		
Flooding potential?	Yes:	No:	x
If Yes, specify relevant flood levels relative to disposal area:			
Site characteristics:	The proposed development is located on the southern side of Rarawa Rd part of a 35 hectare lot with a legal description of Lot 1, DP 193690. The site is flat to undulating and mainly covered in grass. There are several overland flow paths and ponds throughout the development.		

**B 2: Slope Stability**

Has a slope stability assessment been carried out on the site?

Yes:		No:	x
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If no, why not?

Low slope:	x	No signs of instability:	x	Other:
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If yes, give brief details of report:

Details:	
Author:	
Company/Agency:	
Date of report:	

**B 3: Site Geology**

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**B 4: Slope Direction**

What aspect does the proposed disposal system face?

North		West	
North-West		South-West	
North-East	x	South-East	
East		South	

**B 5: Site Clearances if applicable (also on site plan)**

	Treatment Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries:	>1.5	>1.5
Surface Water:	>15	>15
Ground Water:	>1.2	>1.2
Stands of Trees / Shrubs:	n/a	n/a
Wells/Water Bores:	>20	>20
Embankments / Retaining Walls:	>3	>3
Buildings:	>3	>3
Other:		

**B 6: Please identify any site constraints applicable for this property, and indicate how the design process is to deal with these.**

Constraints	Explain how constraints are being dealt with
1 Site constraints:	n/a

**PART C: SITE ASSESSMENT - SOIL INVESTIGATION****C 1: Soil Profile Determination Method**

Test pit:		Depth (mm):		No. of Test pits:	
Bore hole:	x	Depth (mm):	1200	No. of Bore holes:	2
Other:					

**C 2: Fill Material**

Was fill material intercepted during the subsoil investigation?

Yes:		No:	x
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If yes, please specify the effect of the fill on wastewater disposal:

**C 3: Permeability Testing**

Has constant head Permeability Testing (Ksat) been carried out?

Yes:		No:	x
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If yes, please indicate the details (test procedure, number of tests):

Test report attached?

Yes:		No:	x
------	--	-----	---

**C 4: SURFACE WATER CUT OFF DRAINS**

Are surface water interception/diversion drains required?

Yes:		No:	x
------	--	-----	---

**C 5: DEPTH OF SEASONAL WATER TABLE:**

Winter (m):	>1.2
Summer (m):	>1.2

Was this:

Measured:	✓ no sign of ground water or mottling in bore holes
Estimated:	

**C 6: SHORT CIRCUITS**

Are there any potential short circuit paths?

Yes:		No:	x
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If yes, how have these been addressed?



**C 7: SOIL CATEGORY**

Is topsoil present?

Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
------	-------------------------------------	-----	--------------------------

If yes, what is the topsoil depth &amp; soil description?

250mm dark brown silty topsoil overlying silty clay loam.

Indicate the disposal field soil category (as per AC TP-58, Table 5.1)

Category	Description	Drainage	(x)
1	Gravel, coarse sand	Rapid draining	
2	Coarse to medium sand	Free draining	
3	Medium-fine & loamy sand	Good draining	
4	Sandy loam, loam & silt loam	Moderate draining	
5	Sandy clay-loam, clay loam & silty clay-loam	Moderate to slow draining	
6	Sandy clay, non-swelling clay & silty clay	Slow draining	x
7	Swelling clay, grey clay & hardpan	Poorly or non-draining	

Reason for placing in stated category:

Result of bore hole/test pit sample	<input checked="" type="checkbox"/>
Profile from excavation	<input type="checkbox"/>
Geotech report	<input type="checkbox"/>
Other:	<input type="checkbox"/>

**C 8: SOIL STRUCTURE**

Based on results of the in-situ soil profile investigation above (C7) please indicate the disposal (land application) field soil structure:

Massive	<input type="checkbox"/>
Single grained	<input type="checkbox"/>
Weak	<input type="checkbox"/>
Moderate	<input checked="" type="checkbox"/>
Strong	<input type="checkbox"/>

C 9: As necessary, provide qualifying notes on the relationship of Soil Category (C7) to Soil Structure (C8) and the effect this relationship will have on design loading rate selection:

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## PART D: DISCHARGE DETAILS

### D 1: Water supply source for the property:

Rain water (roof collection)	x
Bore/well	
Public supply	

### D 2: Are water reduction fixtures being used?

Yes:	<input type="checkbox"/>	No:	x	(according to our knowledge at time of design report)
------	--------------------------	-----	---	---

If 'yes' Please state:

Standard Fixtures include dual flush 11/5.5 or 6.3 litre toilet cisterns, and includes standard automatic washing machine, but a low water use dishwasher, no garbage grinder.
--

### D 3: Daily volume of wastewater to be discharged:

No. of bedrooms/people:	1: (see attached design brief) 2: 3:
Design occupance (people): (as per AC TP-58, Table 6.1)	1: 2: 3:
	<b>Black / Grey water</b>
Per capita wastewater production (litres/person/day) (as per ARC TP-58, Table 6.2)	1: 2: 3:
<b>Total daily wastewater production (litres per day):</b>	51840 L/day

### D 4: Is daily wastewater discharge volume more than 2000 litres?

Yes:	x	No:	<input type="checkbox"/>
------	---	-----	--------------------------

### D 5: Gross lot area to discharge ratio:

Gross lot area:	3E+06 m <sup>2</sup>
Total daily wastewater production (litres/day):	51840 L
Lot area to discharge ratio:	50.86

### D 6: Net Lot Area

Area of lot available for installation of the disposal (land application) field and reserve area:

Net lot area (m <sup>2</sup> ):	3E+06 m <sup>2</sup>
Reserve area (m <sup>2</sup> ):	30%

**PART E: LAND DISPOSAL METHOD****E 1: Indicate the proposed loading method:**

	Black / Grey Water
Gravity Dose:	
Dosing Siphon:	
Pump:	D53A/B

**E 2: If a pump is being used please provide following information:**

Total Design Head (m):	26.2
Pump Chamber Volume (litres):	22500
Emergency Storage Volume (litres):	15000

Is a high water level alarm being installed in pump chambers?

Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
------	-------------------------------------	-----	--------------------------

**E 3: Identify the type(s) of Land Disposal method proposed for this site:**

	Black / Grey Water
P.C.D.I. Dripper Irrigation:	PCDI sub-surface laid
L.P.E.D. System:	
Evapo-Transpiration Beds:	
Other:	
(as per Schematics attached)	

**E 4: Identify the Loading Rate proposed for option selected in E3:**

as per ARC TP-58, Table 9.2 & Table 10.3	Black / Grey Water
Loading Rate (litres/m <sup>2</sup> /day):	3
Disposal Area Basal (m <sup>2</sup> ):	
Areal (m <sup>2</sup> ):	17280

**E 6: Details and dimensions of the disposal (land application) field:**

Length (m):		No. Lines:		Hole Size:	N/A
Width (m):		Spacing (m)	1.0	Hole Spacing:	N/A
Notes:	17280sqm of Sub-Surface laid PCDI dripline buried at 1m centers and covered with a minimum covering of 100mm topsoil. Installed in three separate areas. See design brief, site plan and schematic drawing attached.				



## **PART F: PROPOSED WASTEWATER TREATMENT SYSTEM**

An Econotreat VBB-C-2200 will be installed at each of the 44 lots in the development. The VBB-C-2200 has a capacity of 2200 litres per day so the design flow at each lot will be well within the capacity of each treatment plant. Secondary treated effluent from each VBB-C-2200 will pump via a pressure sewer network to one of three 22500 litre pump stations. Each pump station pumps to a separate land application system.

## **PART G: OPERATION AND MAINTENANCE OF SYSTEM**

The operation of this complete system will be explained verbally to the owner by the Installer or Agent on Completion of Installation; also provided with Waterflow's Home Owner's Manual.

Waterflow NZ Ltd encourages the Home Owner to monitor and care for your Econotreat system yourself, with our backing and support, and by doing so you will learn how your system works and operates and how to keep it in top working order.

It is also recommended that a Maintenance Program contract is in place at all times to ensure this system is maintained at top performance at all times.

All on site wastewater systems require regular maintenance; in this case once annually is suffice and may be specified within the consent process by the Building Department of Far North District Council. This Maintenance will be recorded on hard copy and supplied to both the Owner and Far North District Council Compliance Officer if requested.

**NOTE TO OWNER:** All written records pertaining to the wastewater system should be retained in a safe place. When a change of ownership occurs, a full and complete history is able to be passed to the new owners.

Animals are to be physically excluded from the installed effluent field to avoid damage, and to reduce the risk of soil compaction in the vicinity of the bed.

Planting within this area is encouraged to assist with evapotranspiration by plants.



**PART H: SOIL LOG PROFILE**

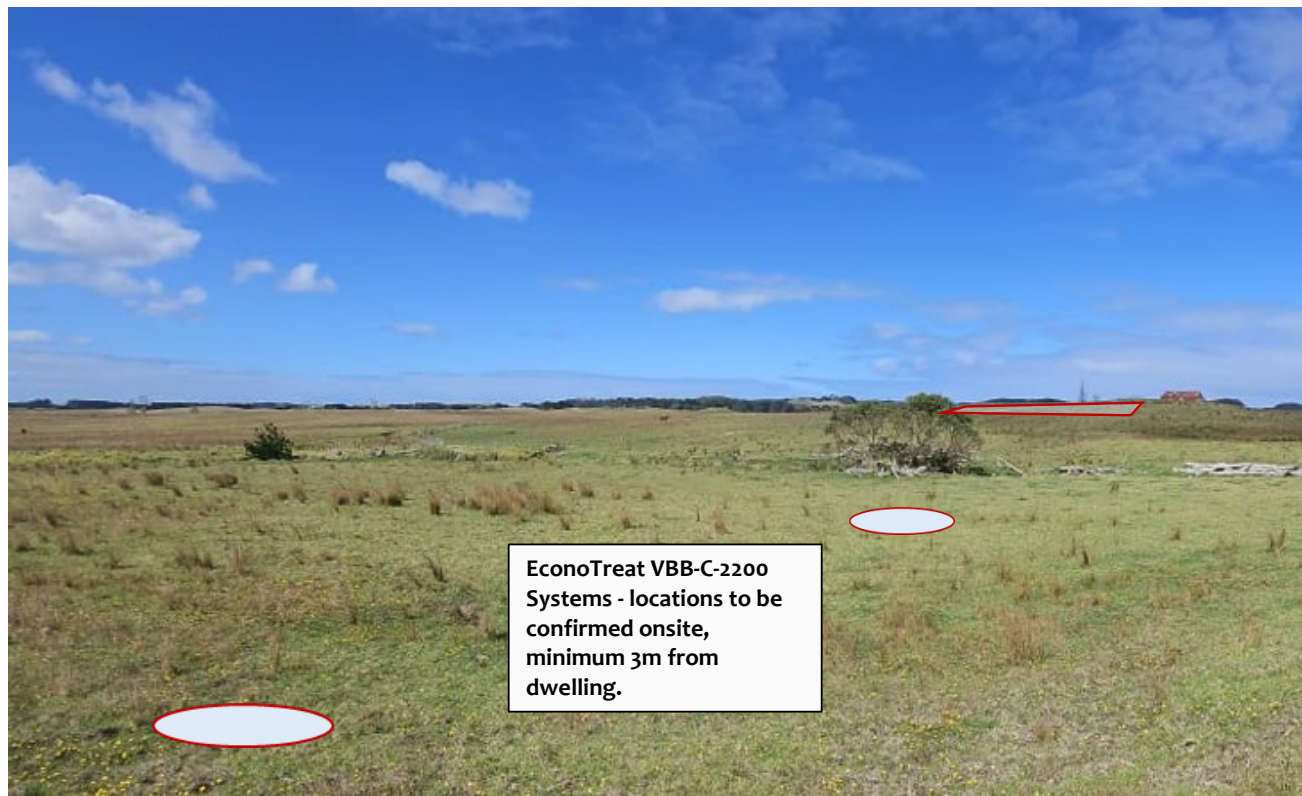


250mm dark brown silty topsoil overlying silty clay loam. Class 6, (as per AC TP-58, Table 5.1)






**PART I: SITE IMAGES**






## DECLARATION

I, hereby certify that, to the best of my knowledge and belief, the information given in this application is true and complete.

<b>Prepared By:</b>	
<b>Name:</b>	Matt Riddell - Approved Designer
<b>Signature:</b>	
<b>Date:</b>	25/11/2024

<b>Reviewed By:</b>	
<b>Name:</b>	Dean Hoyle - PS Author '3037' Auckland Council, NZQA Onsite Wastewater Training/Opus, BOINZ OWM, HBRC & FNDC Approved Designer
<b>Signature:</b>	
<b>Date:</b>	25/11/2024

**NOTE:** The Waterflow Systems are to be installed by a registered drainlayer to the designs supplied by Waterflow NZ Ltd. All work to comply with Regional Council Water and Soil Plans.

### Comments/Summary:

The disposal field will need to be protected from traffic and animal grazing. Planting this area is recommended to increase Evapotranspiration.

Suitable plants for the disposal field can be found on our website [www.naturalflow.co.nz](http://www.naturalflow.co.nz)

Waterflow Treatment systems to be installed by accredited installer unless other arrangements have been made by Waterflow NZ Ltd

For more information do not hesitate to contact the team at Waterflow NZ Ltd on 0800 628 356





Enlargement on next page

Legend



SITE LOCATION PLAN:

NGATI KURI TRUST BOARD  
Rarawa Beach Road  
Ngataki  
Lot 1DP 193690  
263.662HA

SCALE:

1 : 37625

@ A3



DESIGN CALCULATIONS - FULL DEVELOPMENT:  
 44 LOTS. LOTS CONSIST OF:  
 6 x 2 BDRM DWELLING (UP TO 4 OCCUPANTS) = 24 OCCUPANTS  
 24 x (4 BDRM + 2 BDRM STUDIO (UP TO 9 OCCUPANTS)) = 216 OCCUPANTS  
 14 x (3 BDRM + 1 BDRM STUDIO (UP TO 6 OCCUPANTS)) = 84 OCCUPANTS  
 324 OCCUPANTS @ 160 L/P/D = 51,840 L/DAY  
 CATEGORY 5 SOILS @ 3mm/DAY DLR  
 17,280m<sup>2</sup> DISPOSAL AREA

DESIGN CALCULATIONS (SYSTEM 2):  
 14 LOTS CONSISTING OF:  
 6 x (3 BDRM + 1 BDRM STUDIO (UP TO 6 OCCUPANTS))  
 8 x (4 BDRM + 2 BDRM STUDIO (UP TO 9 OCCUPANTS))  
 108 OCCUPANTS @ 160 L/P/D = 17,280 L/DAY  
 CATEGORY 5 SOILS @ 3mm/DAY DLR  
 5,760m<sup>2</sup> DISPOSAL AREA

DESIGN CALCULATIONS (SYSTEM 3):  
 15 LOTS CONSISTING OF:  
 8 x (3 BDRM + 1 BDRM STUDIO (UP TO 6 OCCUPANTS))  
 7 x (4 BDRM + 2 BDRM STUDIO (UP TO 9 OCCUPANTS))  
 111 OCCUPANTS @ 160 L/P/D = 17,760 L/DAY  
 CATEGORY 5 SOILS @ 3mm/DAY DLR  
 5,920m<sup>2</sup> DISPOSAL AREA

DESIGN CALCULATIONS (SYSTEM 1):  
 15 LOTS CONSISTING OF:  
 6 x 2 BDRM DWELLING (UP TO 4 OCCUPANTS)  
 9 x (4 BDRM + 2 BDRM STUDIO (UP TO 9 OCCUPANTS))  
 105 OCCUPANTS @ 160 L/P/D = 16,800 L/DAY  
 CATEGORY 5 SOILS @ 3mm/DAY DLR  
 5,600m<sup>2</sup> DISPOSAL AREA

LAND DISPOSAL AREA:  
 5600m<sup>2</sup> PRESSURE COMPENSATING DRIPLINE  
 e.g. 66 x 85m LATERALS AT 1.0m ROW SPACING.  
 INSTALLED SUBSURFACE - 100mm BELOW GROUND  
 AREA TO BE PLANTED WITH SUITABLE WATER  
 TOLERANT PLANT SPECIES.



PO Box 24  
 Maungaturoto  
 www.waterflow.co.nz

CLIENT

NGATI KURI TRUST BOARD

PROJECT

RARAWA BEACH PAKAINGA

TITLE

PROPOSED ONSITE  
 WASTEWATER LAYOUT

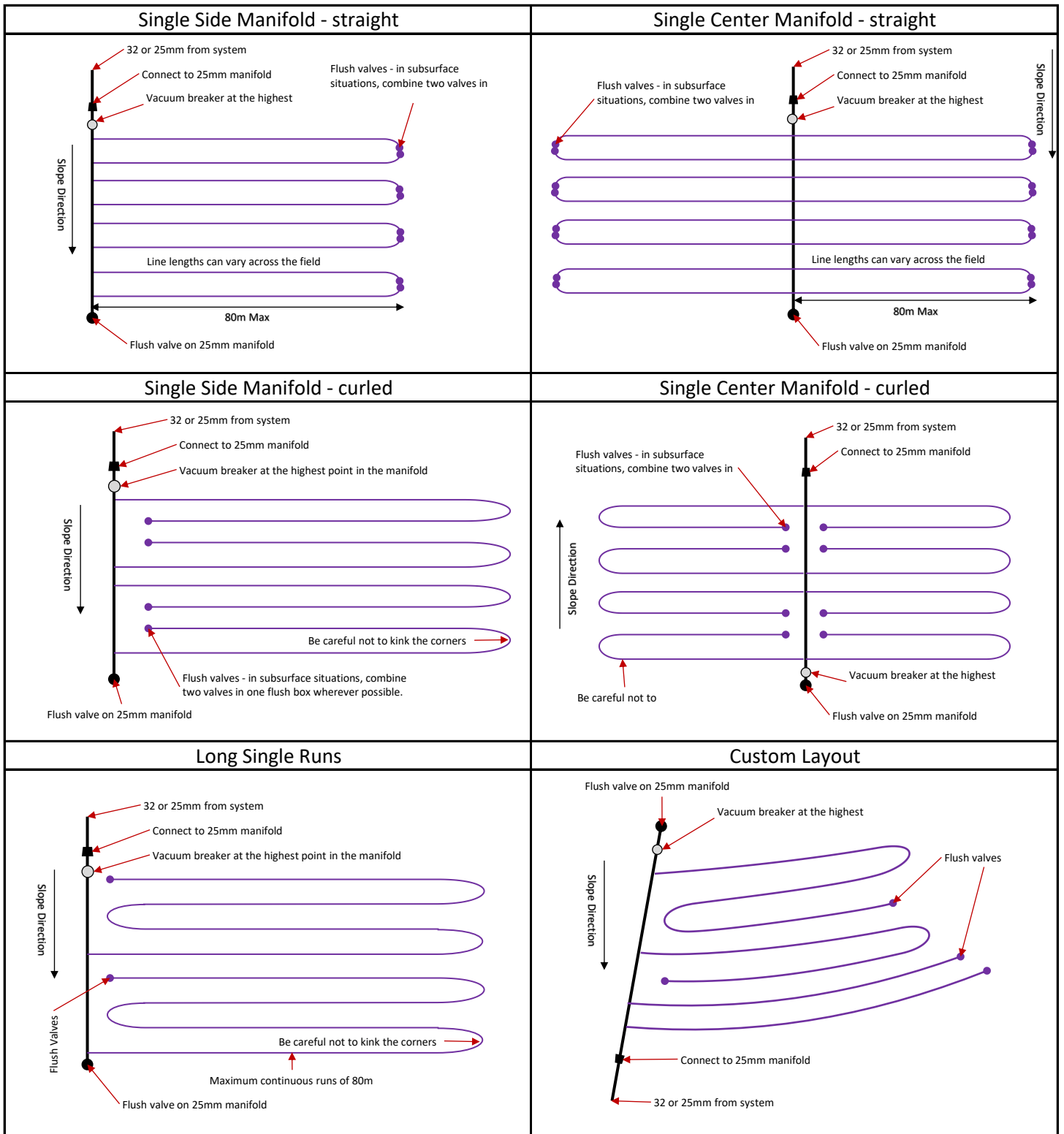
DATE	26/11/24	
DRAWN	MR	
DESIGN	CP	
CHECKED	KH	

JOB No.	SCALE.
WF11614	1:2000@A3

DWG No.	REV.
WF11614-01	G



# Common PCDI Layouts

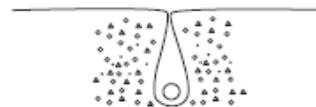


## Cross Sections of PCDI installation

150mm Mulch or Leaf Litter



Subsoil Buried @ 100-150mm





# METZERPLAS

## ADI

Cylindrical PC  
(Pressure  
Compensated)  
dripper.

- Cylindrical PC dripper, with unique regulating labyrinth with self-flushing operation at the beginning and the end of each irrigation cycle.
- Triple inlet filter with filtering area 10 times larger than any other dripper.
- High clog resistance.
- Suitable for poor quality and effluent water.
- Large pressure compensation range up to 4.3 bars.
- Dripline diameter: 16, 18 and 20 mm.
- Dripper flow rate: 1.6, 2.2 and 3.5 l/h.
- *Rootguard*® configuration available for extra root protection in SDI (Subsurface Drip Irrigation).



### ADI Dripline Technical Data:

Model	Inside Diameter (mm)	Wall Thickness (mm)	Min. Working Pressure (bars)	Max. Working Pressure (bars)	KD
ADI 16	13.8	0.9	0.8	3.5	1.12
		1.15	0.8	4.3	0.95
ADI 18	15.8	1.2	0.8	4.3	0.95
ADI 20	17.4	1.0	0.8	3.5	0.85
		1.25	0.8	4.3	0.6



# METZERPLAS

**ADI**

Cylindrical PC (Pressure Compensated) dripper.

ADI 16 mm. Maximum lateral length (I.D. 13.8 mm, W.T 0.9 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
1.6	86	122	156	188	218	260	324
2.2	72	103	131	157	182	216	269
3.5	51	73	94	113	131	156	195

ADI 18 mm. Maximum lateral length (I.D. 15.8 mm, W.T 1.2 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
2.0	93	134	171	205	238	284	355
3.5	65	92	118	142	166	198	247

ADI 20 mm. Maximum Lateral length (I.D. 17.4 mm, W.T 1.0 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
1.6	128	182	234	281	325	388	484
2.2	113	159	202	242	279	331	409
3.5	76	109	140	168	196	233	291

For additional tables and data please contact Metzerplas Technical Department or visit our website: [www.metzerplas.com](http://www.metzerplas.com)

## Packaging Data

Model	Roll Length (m)	Quantity Per Container (Rolls)		
		20	40	40 h
ADI 16	400	150	300	350
ADI 18	300	150	300	333
ADI 20	300	133	266	300

## APPLICATIONS

- > Non-potable rainwater applications
- > Lawn and garden irrigation
- > Sump emptying to higher heads
- > Treated effluent disposal
- > Water transfer from wells



D42A/B



D53A/B

## Submersible Drainage Pumps

Model Numbers: D42A/B, D53A/B

Submersible sump pump with two and three impeller designs for higher pressure, up to 45m head.

## WHY CHOOSE DAVEY SUBMERSIBLE DRAINAGE PUMPS?

Double mechanical seal, one in oil bath on motor and extra mechanical seal on pump

- Superior reliability
- Long service life

Corrosion resistant 304 stainless steel shaft, motor shell and fasteners

- Long service life

Cast 316 stainless steel motor caps and super tough engineered thermo plastic pump casing

- Outstanding corrosion resistance
- Long life

Centrifugal multistage 2 and 3 impeller designs

- Higher pressures and increased efficiency

Closed vane impellers with long engagement "D" drives

- Positive operation
- Long service life

Patented independently floating neck rings

- Outstanding pump performance
- Long pump life

Corrosion resistant hard wearing polycarbonate impellers

- Long service life

Corrosion resistant stainless steel fine mesh suction strainer with large surface area

- Prevents blockages of the pump by solids

In-built automatic thermal overload

- Protects the motor in the event of blockage or voltage supply problems

HO7RNF oil resistant leads, 10 metres long with 3 pin power plug

- Easy to connect to power supply
- Longer life in dirty water

## OPERATING LIMITS

Type	D42A/B	D53A/B
Capacities to	120 lpm	130 lpm
Maximum total head	32m	45m
Maximum submergence	12m	
Maximum pumped water temperature	40°C	
Maximum soft solids	1.9mm O.D.	
Outlet size (BSP)	1" F	

## SUITABLE FLUIDS

Clean water of neutral pH containing up to 1% small solids. Some wear should be expected while pumping hard solids in suspension.

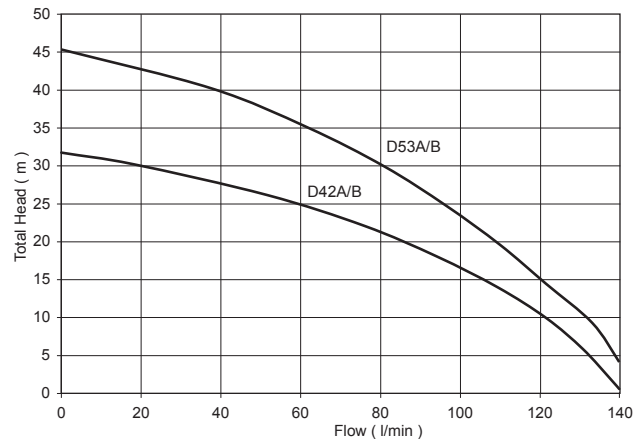
## MATERIALS OF CONSTRUCTION

PART	MATERIAL
Impeller	Glass filled polycarbonate
Lock nut	304 stainless steel
Pump casing	Glass filled polycarbonate
Diffuser and blanking ring	Glass filled noryl
Mechanical seal – pump	Carbon / ceramic
Mechanical seal – motor	Silicon carbide / ceramic oil in bath
Shaft seal elastomer	Nitrile rubber
Pump shaft	304 stainless steel
O-rings	Nitrile rubber
Motor shell	304 stainless steel
Bottom bearing housing	Cast 316 stainless steel
Upper motor cover	Cast 316 stainless steel
Handle	304 stainless steel
Fasteners	304 stainless steel
Float and power supply leads	HO7RN-F oil resistant

## ELECTRICAL DATA

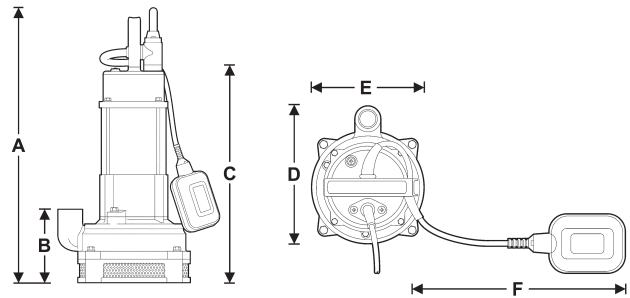
Type	D42A/B	D53A/B
Supply voltage	220-240V	
Supply frequency	50Hz single phase	
Speed	2 pole, 2850rpm	
Full load current (Run)	4.3A	5.7A
Locked rotor current (Start)	14A	
Input power (P <sub>1</sub> )	1.00kW	1.31kW
Output power (P <sub>2</sub> )	0.60kW	0.84kW
IP rating	X8	
Insulation class	Class F	
Starting	P.S.C.	
Lead	10m long	

## HYDRAULIC PERFORMANCE



## DIMENSIONS (MM)

Type	A	B	C	D	E	F	Outlet B.S.P.	Net Weight (kg)
D42A/B	475	130	370	235	195	330	1" F	10.8
D53A/B	535	170	430	235	195	330	1" F	16.5



## INSTALLATION AND PRIMING

Use a rope to position and retrieve the pump. Do not lower or retrieve the pump using the power lead as this may damage the cable entry seals, causing water leaks and unsafe operation.

Do not use this product for recirculating or filtering swimming pools, spas, etc. While these pumps are built to high safety standards, they are not approved for installations where people will be in the water while they are operating.

Do not pump abrasive materials. Sand and grit in the water being pumped will accelerate wear, causing shortened pump life.

Keep your pump clean, particularly in situations where lint, hair or fibrous materials may get bound around the pump shaft. Regular inspection and cleaning will extend pump life.

Make room for the float switch to operate. Automatic models have a float switch to turn them on when the water level rises and turn them off again when it has been pumped down to the safe operating level of the pump. If the float switch is not free to rise and fall, correct pump operation may not be possible.

Do not run your pump dry. Non-automatic models must be switched off manually or by way of an external float/level switch when the water level is reduced to the top of the pump housing.





# econo-treat

## Econotreat VBB-C-2200 Treatment System

System Specifications & Installation Instructions



# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

*New Zealand's Leaders in Advanced Secondary Treatment Systems*

### The Treatment Process

#### Primary Chamber / Tank

Influent enters the chamber via the source whereby scum and solids capable of settling are separated from the raw influent. Primary treated effluent flows through a transfer port to the aeration tank. This primary tank will also act as a storage chamber for sludge returned from the Clarification Chamber.

After primary settling, the sewage passes through a ReIn outlet filter.

#### Aeration Chamber

Water enters from the Primary Chamber. Air is introduced into this chamber via an air blower to create an environment for aerobic bacteria and other helpful organisms to consume the organic matter present. The aeration tank is designed in a manner to help prevent short circuiting of the wastewater to ensure extended aeration. Media is present in the tank to support the growth of bacteria.

#### Clarification Chamber

The Clarification chamber is essentially a quiescent zone where suspended particles/solids are settled out of the water. These particles are returned to the Primary chambers via a sludge return which aids in further biological reduction, denitrification and providing a constant food supply rich in microbes supporting the system through periods of limited flows.

#### System Performance

The Econotreat VBB-C-2200 system is capable of treating up to 2200L per day peak flow to an advanced secondary standard. The effluent is suitable for UV disinfection where required.

#### Benchmark Ratings

The **Waipapa Tanks Econo-Treat® VBB C-2200-2** system achieved the following effluent quality ratings:

Indicator Parameters	Median	Std Dev.	Rating	Rating System				
				A+	A	B	C	D
BOD (g/m <sup>3</sup> )	3.4	1.5	A+	<5	<10	<20	<30	≥30
TSS (g/m <sup>3</sup> )	4.98	3.49	A+	<5	<10	<20	<30	≥30
Total nitrogen TN (g/m <sup>3</sup> )	13.6	1.3	A	<5	<15	<25	<30	≥30
Ammonia Nitrogen NH <sub>4</sub> -N (g/m <sup>3</sup> )	1.1	1.8	A	<1	<5	<10	<20	≥20
Total phosphorus TP (g/m <sup>3</sup> )	4.2	0.5	B	<1	<2	<5	<7	≥7
Faecal Coliforms FC (cfu/100mL)	11,200	50,196	B-	<10	<200	<10,000	<100,000	≥100,000
Energy (kWh/d) (mean)	1.8	-	B	0	<1	<2	<5	≥5

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### Compliance Requirements

All Econotreat Treatment Systems meet the requirements of the NZ Building Code G13-VM4.

Section 9 of AS/NZS 1546.1:2008 state that tanks constructed to these Standards will meet the requirements of the Code for Clauses B1 and B2, structure and durability.

Compliance with Section 9 of AS/NZS 1546.1:2008 and also Clauses G13.3.4 relating to on-site treatment and disposal systems and G14.3.1 and 14.3.2 relating to the control of foul water as an industrial waste.

### Tank Specifications

Tanks are made of 50mpa Fiber Reinforced Concrete, which is suitable material for wastewater treatment containment meeting all the requirements of Section 4.3.3 of AS/NZS 1547:2012. These tanks have an expected lifespan of 50 years.

#### **Dual Chamber Septic Tank**

5200L Nominal Capacity  
2500mm Long  
1700mm Wide  
1975mm High  
- 3100kg

#### **Aeration Tank**

5200L Nominal Capacity  
2500mm Long  
1700mm Wide  
1975mm High  
- 2900kg

#### **System Information**

500L Pump Chamber  
2120L Emergency Storage

### Installation Location and Certification

These tanks are not designed for vehicle loads and shall be located no closer than 2m to a driveway, road frontage or a building. If for any reason the tank is located where vehicle traffic may drive over the tank or approach closer than 2m, or where it may be trampled on by farm stock then the tank should be protected by a concrete slab designed to support these loads. Surface water must also be diverted from flowing into the installation.

Installation must be certified to AS/NZS 1547:2012, the certificate to be issued and held by the regulatory authority.

### High Water Table Installations

All tanks have been engineered and designed for maximum strength, in accordance with the NZC 3604. Clauses B1 and B2 for structure and durability, to withstand any hydraulic pressures, both lateral and uplift, created by high water table conditions.

In high water table installations, it is important to fill the tanks with water. This removes the hydraulic uplift and simplifies the installation. In extremely high-water tables, a concrete foot can be added to the tank during manufacture. Waterflow must be made aware of this early on in view of supplying a tank that is fit for purpose.

***If in doubt contact the experts on 0800 SEWAGE or sales@waterflow.co.nz***

# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

*New Zealand's Leaders in Advanced Secondary Treatment Systems*

### Plumbing Pipes and Fittings

All internal plumbing is done with PVC pipes with appropriate connections according to AS/NZS 1260 and AS/NZS 4130.

### Backfill and Bedding

Place and bed to NZBC G13/AS2, using compacted granular metal, in layers not exceeding 100mm.

### Electrical

Where a pump is required on a flat site electrical connection must be installed according to AS/NZS 3000 and the control and alarm system must be in a weatherproof housing located in a readily visible position.

### Warranty

WATERFLOW NZ LTD warrants that the Econotreat System will be free from defects in material and workmanship for the following periods of time from the date of installation as set out in the following conditions:

1. Concrete Tank 15yrs
2. Roto-Molded Tanks 15yrs
3. Nitto Blower 3yrs
4. Irrigation Pumps 2yrs
5. Warranty of Operation covers the performance of the Econotreat System as connected to the effluent inflow for which they are designed, and has been installed to the criteria as set out in the relative installation instructions and procedures, and has an assigned Service/Maintenance contract in place with Waterflow NZ Ltd or it's appointed agent/s.

#### Warranty excludes defects due to:

- A) Failure to use the system in accordance with owner's manual.
- B) A force majeure event outside the reasonable control of WATERFLOW NZ LTD such as (but not limited to) earthquake, fire, flood, soil subsidence, ground water table variations or plumbing fault.
- C) Modifications to surrounding landscape contour after installation
- D) The actions of a third party
- E) The system required to bear loads (either hydraulic or biological) greater than that for which it was designed
- F) Any modifications or repairs undertaken without the consent of WATERFLOW NZ LTD
- G) Failure, where applicable, to fence and plant disposal field.

1st June 2014  
Dean Hoyle  
Managing Director



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# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

### *Econotreat VBB-C-2200 Installation Instructions*

The Econotreat system is to be installed or signed off by a registered Drain layer to the design specified by Waterflow NZ Ltd.

The following installation instructions and procedures followed correctly will ensure System performance is not compromised in any way.

1. Excavate two 3m x 2m level platforms at an appropriate depth to ensure adequate fall for inlet pipe from the source. This has to be installed on virgin ground. The two platforms are ideally on the same level and next to each other, either side-by-side or end-on-end.
2. Lay 100mm of bedding metal on platform and place the Septic and Aeration tanks next to each other. As close as practically possible to minimize the connection distance between the tanks.
3. Connect the two tanks with 100mm PVC. If the tanks are side-by-side the connection will need supporting. This is done by tying it back to the wire on the lids with a length of rope supplied. The rope can be found in the top of the treatment tank.



Sludge return 25mm



Supported with rope

4. Next connect the sludge return. This is a 25mm PVC pipe that come out of the central riser on the treatment tank. This must be plumbed back to the second 100mm PVC at the start of the septic tank. It is important that this pipe is falling slightly or at minimum flat.
5. Trench from Dose Chamber outlet to disposal field and lay the 25mm alkathene feed line.
6. Take a minimum of 3 photos at this point to showing connections and back fill, to ensure correct installation for sign off.
7. Back fill around tanks. Using spoil from the excavation is fine, be aware that this will settle over time though.

**Caution:** System must be protected from excessive super imposed loads both lateral and top loads. E.g. loads from vehicular traffic. There needs to be at least 2m of clearance maintained around system.

***If in doubt contact the experts on 0800 SEWAGE or sales@waterflow.co.nz***

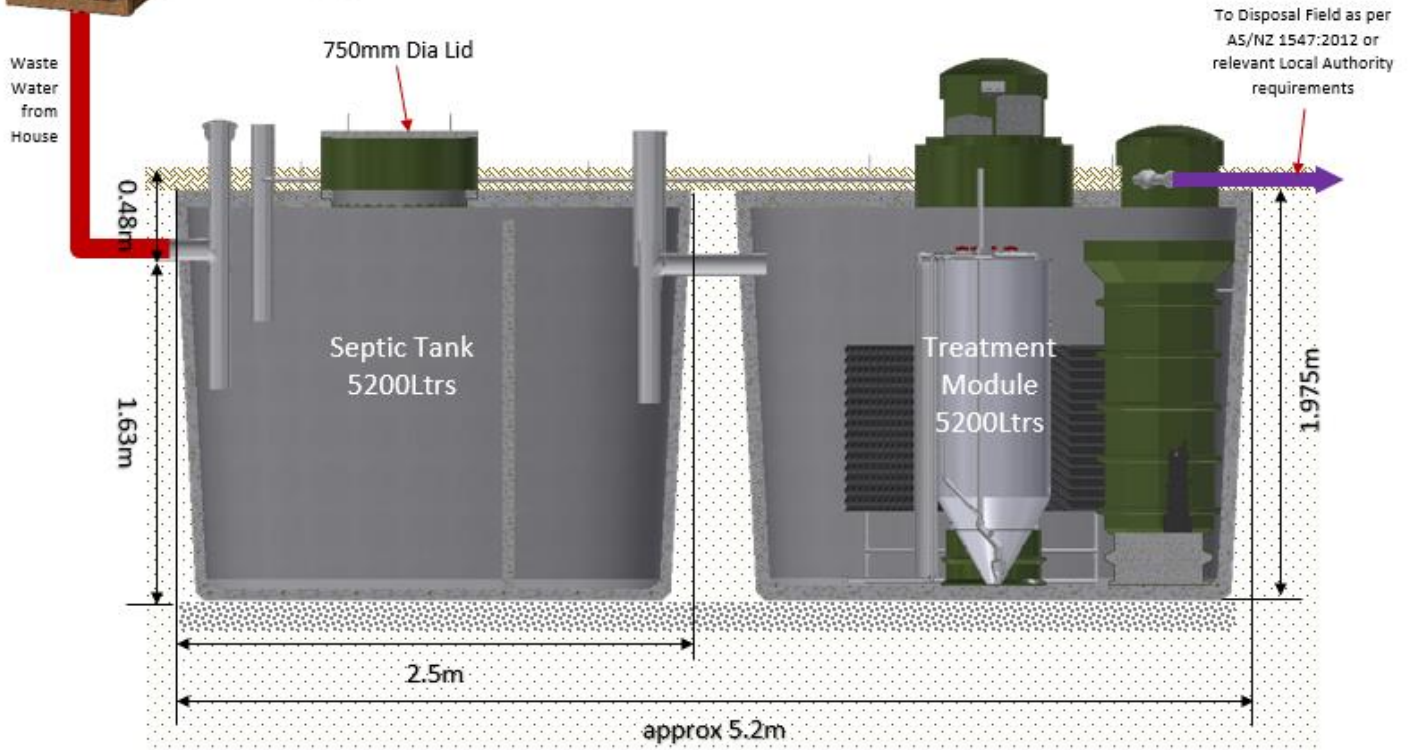
# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

### Econotreat VBB-C-2200 Schematic Drawings



### Econotreat VBB-C-2200



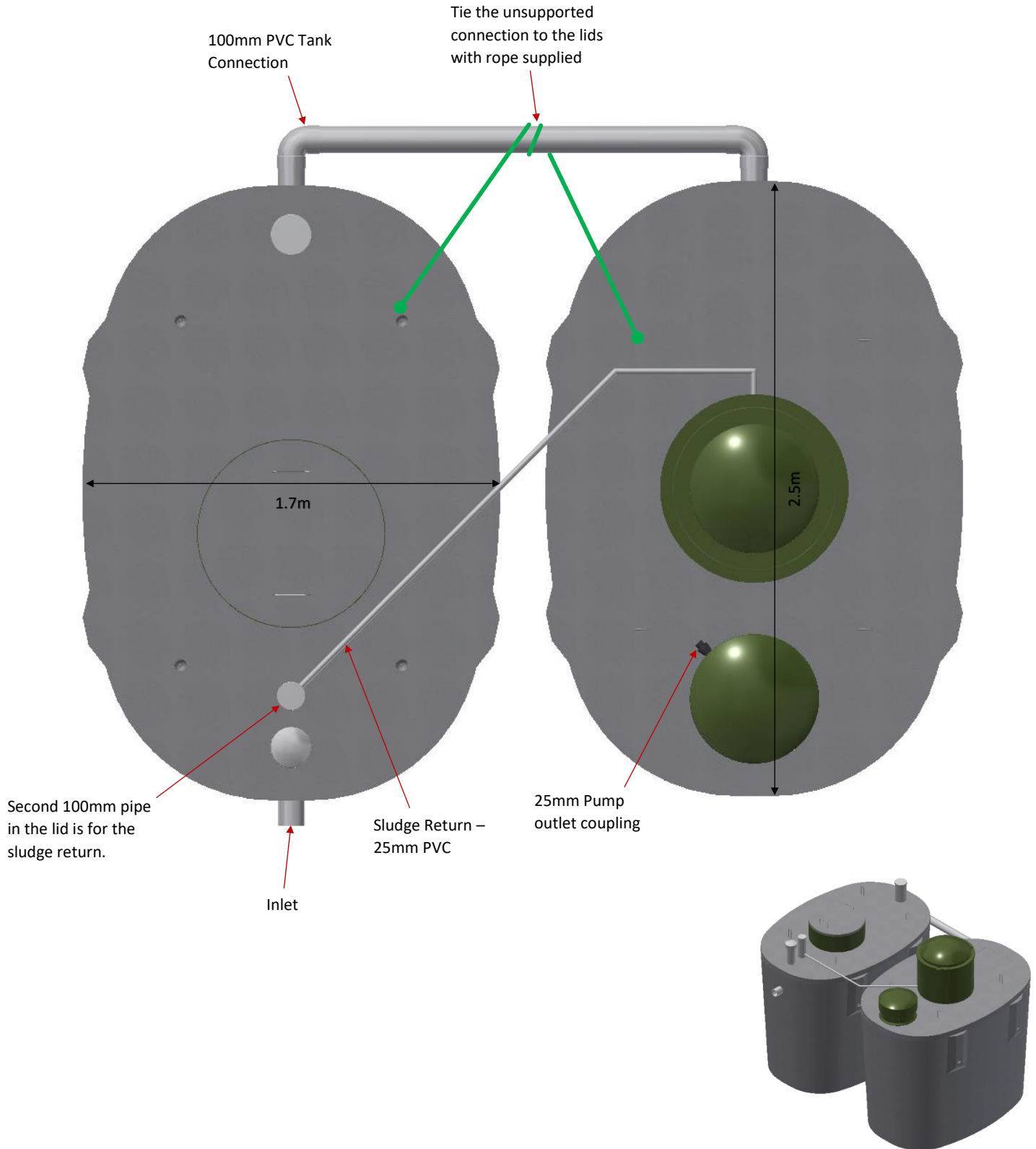
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# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

### Econotreat VBB-C-2200 Schematic Drawings

#### Side by Side Installation



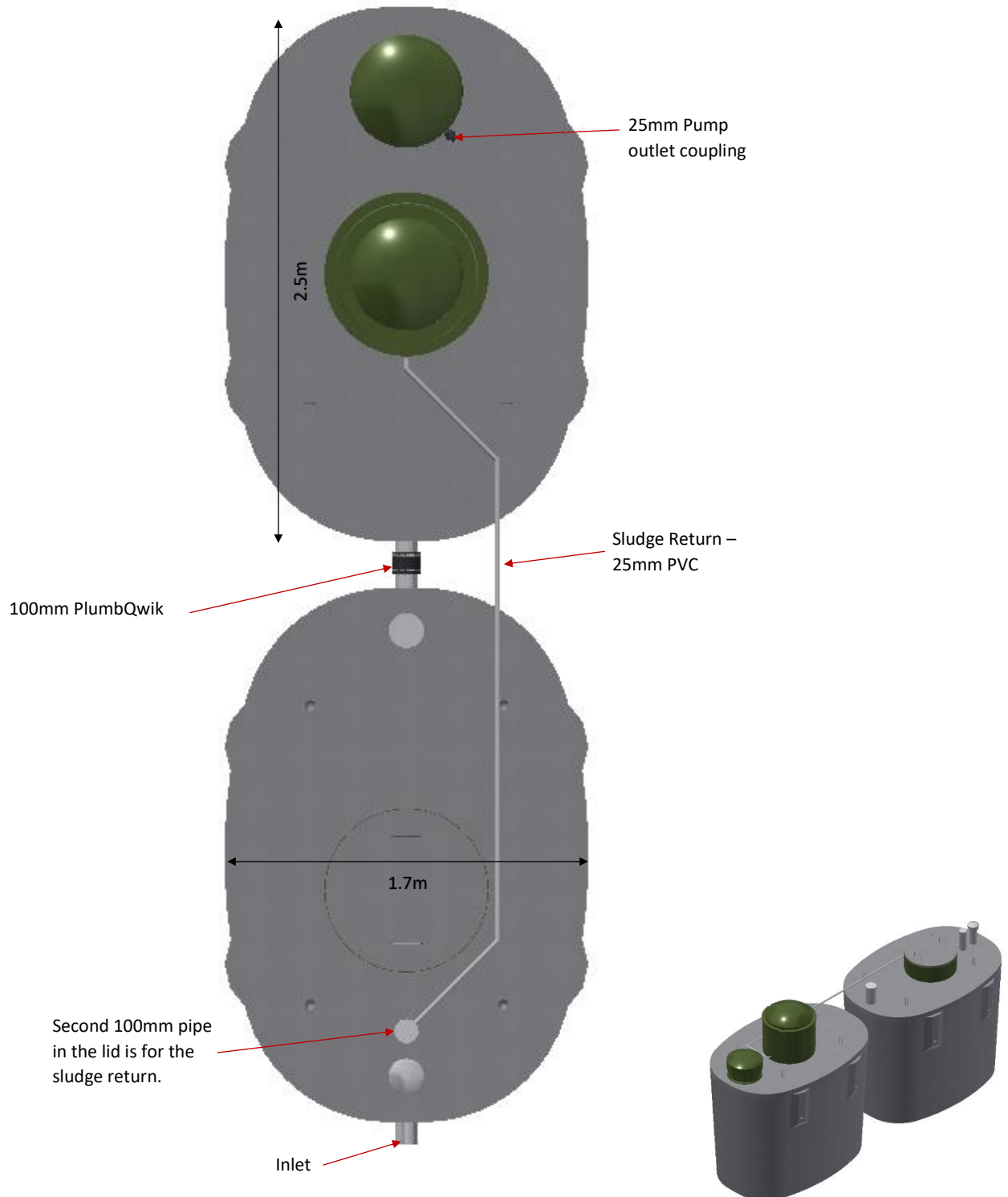


# ECONOTREAT VBB-C-2200

## System Specification & Installation Instructions

### Econotreat VBB-C-2200 Schematic Drawings

#### End on End Installation





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**0800 SEWAGE**

**Or for more information [www.waterflow.co.nz](http://www.waterflow.co.nz)**



Head Office	Waipapa Branch
Waterflow NZ Ltd	Waterflow NZ Ltd
1160 State Highway 12,	166 Waipapa Road,
Maungaturoto	Kerikeri
P. 09 431 0042	P. 09 407 8323

FF. 0800 SEWAGE  
E. [sales@waterflow.co.nz](mailto:sales@waterflow.co.nz)  
[www.waterflow.co.nz](http://www.waterflow.co.nz)

# **Assessment of Environmental Effects**

## **NGATI KURI TRUST BOARD of Rarawa Beach Road, Ngataki Lot 1 DP 193690**

### **1.1 Description of Proposal**

The proposed development includes the construction of 44 new two, three and four bedroom dwellings as a part of a Papakainga development. There will also be some communal buildings which will be used by the occupants of the new dwellings. Wastewater from each dwelling will drain to its own onsite wastewater treatment plant. Each of the wastewater treatment plants will pump secondary treated wastewater to one of three pump stations. Each pump station will pump a separate land application system.

### **1.2 Site Description**

The proposed development is located on the southern side of Rarawa Rd part of a 35 hectare lot with a legal description of Lot 1, DP 193690. The site is flat to undulating and mainly covered in grass. There are several overland flow paths and ponds throughout the development.

### **1.3 Wastewater Volume**

In calculating the wastewater flows we have allowed for a maximum occupancy of 324 persons in 44 new dwellings (as per AC TP-58, Table 6.1). Total wastewater production for the development of 51,840 litres per day is based on an allowance of 160 litres per person per day (as per ARC TP-58, Table 6.2), which is conservative given that water supply is roof collected rain water and standard water fixtures will be used throughout the new houses.

### **1.4 Wastewater Treatment**

An Econotreat VBB-C-2200 will be installed at each of the 44 lots. The VBB-C-2200 has a capacity of 2200 litres per day so the design flow at each lot will be well within the capacity of each treatment plant. Secondary treated effluent from each VBB-C-2200 will pump via a pressure sewer network to one of three 22500 litre pump stations. Each pump station pumps to one of three land application systems.

The system will be capable of producing reductions in Biochemical Oxygen Demand, Total Suspended Solids, Nitrogen, and Coliforms to a standard that meets the requirements (see details below). The system will cater for the wastewater requirements of the private dwellings (domestic wastewater) and will not service any commercial or trade waste sources. Risk Minor to Nil.

## 1.5 Proposed Treatment System

The objective of the treatment system is to reduce and remove much of the contaminants from the wastewater prior to discharge into the receiving soil. This will improve the long-term performance of the disposal field as well as reducing the risk to the receiving environment. The system will consist of:

- Septic Tank Module
- EconoTreat VBB-C-2200
- Land Application System

The system is constructed using concrete tanks. The system produces treated effluent with BOD <20mg/l, Suspended solids <20mg/l.

## 1.6 Land Application System

The proposed irrigation system uses pressure-compensating dripper lines ensuring an even delivery of moisture over the entire irrigation field and a conservative DLR of 3mm. We propose the use of Metzerplas unibioline ADI16/2.2 @ 0.6m/c with the Dripline laid out at 1m centres. This Dripline will then be covered by 100mm topsoil. Densely planting this area will greatly enhance evapo-transpiration and be very beneficial especially in the wetter months of the year. This irrigation can be installed in conjunction with existing or proposed landscaping.

## 1.7 Surface & Ground Water

It is proposed to treat the water to a high standard prior to discharge and the proposed irrigation system will introduce the water into the topsoil horizon using PCDI irrigation. A low application rate of treated effluent into the topsoil will significantly reduce the likelihood of, any breakout or runoff or any risk of surface water contamination. With the ground water levels being >1.2m this conservative DLR also means the risk of ground water contamination is virtually nil. A majority of the undeveloped areas of this site are suitable for a PCDI disposal field when the necessary setbacks are observed. Risk Minor to Nil.

## 1.8 Air Quality

The proposed EconoTreat VBB-C-2200 system will produce no noticeable odour when functioning correctly. Any odour will be contained within the tanks. The PCDI irrigation system will load the soil at a rate that should not cause ponding, spraying or aerosol of the effluent that could potentially cause odours. Risk Minor to Nil.

## 1.9 Visual Impact

The tanks are installed wholly below ground level with only the lids being visible. The lids will protrude approximately 100mm to prevent egress of storm water into the system. The disposal field will be located in a purpose designed mulched and intensively planted disposal area. Warning signs may be installed to indicate the presence of the disposal area, although probably not necessary in a domestic situation, also the area may be fenced to restrict access.

### 1.10 Environmental Risks

Risks associated with this proposal are minor. The treatment system will be automated, and the Home Owner will be given a 'Home Owners Care Guide' which explains the necessary visual checks to ensure no issues arise with the system, specifically – solids build-up - high water level – discharge failure – filter blockage.

Peak flow into the system are not expected to be significant and the system includes a large emergency storage volume.

### 1.11 Maintenance Requirements

The maintenance requirement of this system is minimal, with the system fully automated. The system requires little input from the operator apart from the regular cleaning of the outlet filter between the treatment system and the Dripline field. All other maintenance interventions must be carried out by service persons familiar with the operation of the system and approved by the manufacturer. Maintenance may include checking of the dissolved oxygen levels, cleaning of effluent outlet filter, removal of excess sludge volume, checking of control panel function, etc....

The disposal field is quite possibly the most important and sensitive part of the treatment system and requires a reasonable amount of maintenance to keep it functioning well. Any leaking or damaged Dripline must be fixed quickly using the appropriate materials, the planting must be maintained, weeds removed and grass kept cut. The Dripline should be kept covered with a suitable bark, mulch, or topsoil.

Warning signs such as ponding, odours, and signs of excessive growth act as an indicator to possible problems. A disk filter is fitted to help prevent blockage of the drippers and to protect the Dripline. This filter will require cleaning during servicing of the system. The owners will be verbally informed at the commissioning of this system of all maintenance requirements and strongly advised to have a service contract in place prior to final sign off of the system installation.





**econo-treat**  
Advanced Secondary Treatment

**Econotreat Aerated Wastewater Systems**

Home Owners Guide



# ECONOTREAT AERATED WASTEWATERSYSTEMS

Home Owners Care Guide

*Trusted Wastewater Management Solutions*

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# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

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### To the Home Owner

Thank you for choosing an Econotreat System to treat and care for your on-site sewage and wastewater.

Your Econotreat System is fully automatic in operation and requires little owner intervention to ensure years of service. It is useful that the owner/operator of the system understand some of the broad concepts of the system operation. This manual has been written to provide this simple explanation and to serve as a future reference so that you can ensure that the system is operating effectively at all times.

We would encourage you to monitor and care for your Econotreat system with our backing and support and by doing so you will learn how your system works and operates and how to keep it in top working order. Waterflow promises consistent results year after year.

Kind regards,  
The Waterflow Team

### Warranty

WATERFLOW NZ LTD warrants that the Econotreat System will be free from defects in material and workmanship for the following periods of time from the date of installation as set out in the following conditions:

1. Concrete Tank 15yrs
2. Roto-Molded Tanks 15yrs
3. Nitto Blower 2yrs
4. Irrigation Pumps 2yrs
5. Warranty of Operation covers the performance of the NaturalFlow System as connected to the effluent inflow for which they are designed, and has been installed to the criteria as set out in the relative installation instructions and procedures, and has an assigned Service/Maintenance contract in place with Waterflow NZ Ltd or it's appointed agent/s.

#### Warranty excludes defects due to:

- A) Failure to use the system in accordance with owner's manual.
- B) A force majeure event outside the reasonable control of WATERFLOW NZ LTD such as (but not limited to) earthquake, fire, flood, soil subsidence, ground water table variations or plumbing fault.
- C) Modifications to surrounding landscape contour after installation
- D) The actions of a third party
- E) The system required to bear loads (either hydraulic or biological) greater than that for which it was designed
- F) Any modifications or repairs undertaken without the consent of WATERFLOW NZ LTD
- G) Failure, where applicable, to fence and plant disposal field.

# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

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### How it Works

#### Primary Chamber / Tank

Influent enters the chamber via the source whereby scum and solids capable of settling are separated from the raw influent. Primary treated effluent flows through a transfer port to the aeration tank. This tank will also act as a storage chamber for sludge returned via the Clarification Chamber.

#### Aeration Chamber

Water enters via the Primary Chamber. Air is introduced into this chamber via an air blower to create an environment for aerobic bacteria and other helpful organisms to consume the organic matter present. The aeration tank is designed in a manner to help prevent short circuiting of the wastewater to ensure extended aeration. Media is also present in the tank to support the growth of bacteria.

#### Clarification Chamber

The Clarification chamber is essentially a quiescent zone where suspended particles/solids are settled out of the water. These particles are returned to the Primary chambers via a sludge return which aids in further biological reduction, denitrification and providing a constant food supply rich in microbes supporting the system through periods of limited flows.



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# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

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### **Servicing**

Your Econotreat System requires annual service and maintenance inspections (this can vary depending on local council regulations). This will need to be done by our trained technicians. We will phone to arrange a suitable time to attend to your servicing needs.

A record sheet (in triplicate) will be completed by our technician at the time of service. One copy is for you the customer and available upon payment, another is sent off to Council and the third copy will be retained for our records.

Please call our office on the number listed at the back of this manual for the cost of servicing after the initial 12-month period.

1. A general inspection of tank area, irrigation and drainage.
2. Inspection of electrical equipment including timer, Low powered Blower, irrigation pump, warning lights and connections.
3. Inspection of Pump-out Chamber and septic tank, checking air lines, adjusting air supply (if necessary), operating de-sludging unit, resetting air control, operating submersible switch, checking bio-mass growth, checking sludge level.
4. Inspection of irrigation including lines, jets and outlets. Between 4 - 9 years the tank will need to be de-sludged (pumped out) as with any septic tank. We will notify you of this requirement, as the service technicians will be monitoring sludge depth annually.

### **Holiday Precautions**

There are no precautions to take. Your Econotreat can be left to function automatically for 6 to 12 months. However, if you are likely to be away from home for more than six months you may like to contact our office, so we can make a routine check.

### **Responsibility**

As the owner of the system, you are responsible for the correct operation and maintenance and to conform to Council's requirements.

Slowly remove irrigation cap (unscrew anti-clockwise). It is important to unscrew slowly to allow any built-up pressure to be relieved. Watch out for the O-ring inside the cap, be careful not to drop this in the tank.



# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

### Trusted Wastewater Management Solutions

## Problem Solving

To ensure the most effective operation of your Econotreat System you should familiarize yourself with the contents of this manual. The Econotreat has been designed to include additional safety margins and minor mishaps and normal household usage will not usually affect the operation of the system.

However, if the alarm sounds or strong odors persist Please call your service agent.

Area of Concern	Potential Cause	Remedial Action
Alarm sounds	Irrigation pump not working	Check water levels
	Air supply not working	Listen for the air compressor
	No power at the tank	Check power supply source
Water around tank	Irrigation pump not working	Check water levels
	Irrigation lines blocked or kinked	Check irrigation lines and clear sprinklers
Excessive foaming	Too much laundry detergent	Use recommended quantities
	Too many washes	Spread wash loads over different days
Persistent odors	Too much water usage	Add biologic starter pack
	Excessive chemicals in use	Install water saving devices
		System will recover
Irrigation system not working	Pump failure	Check water level
	Irrigation lines blocked	Clear irrigation lines
Water ponding on irrigation field	Irrigation line blocked	Installation should comply with original approval
	Excessive water use	Install water saving devices
	Broken irrigation pipe	Repair irrigation pipe

**Do not flush baby wipes down toilets**

## Caring for Your Wastewater System

### Components of Your Complete Wastewater Septic System

A typical wastewater septic system has two main components: a Wastewater Treatment System and a Land Application System (or disposal field). This is simply treatment then discharge.

### Efficient Water Use – ‘it does make a difference’

Average indoor water use in the typical single-family home is approximately 180ltrs per person per day. The more water a household conserves, the less water enters the septic system. Efficient water use can improve the operation of the wastewater system and reduce any risk of disposal field overload.

### High-efficiency toilets

Toilet use accounts for 25 to 30 percent of household water use.

Do you know how many liters of water your toilet uses to flush? Most older homes have toilets with 11+ liter reservoirs, while newer high-efficiency dual flush toilets use 6.3/5.5ltrs or down to 4.5/3ltrs of water per flush. N.B. Did you know leaky toilets can waste as much as 700ltrs each day.

Consider reducing the volume of water in the toilet tank with a volume displacer (fancy name for a brick, stone etc!) if you don't have a high-efficiency model or replacing your existing toilets with high efficiency models.

Check to make sure your toilet's reservoir isn't leaking into the bowl. Add five drops of liquid food coloring to the reservoir before bed. If the dye is in the bowl the next morning, the reservoir is leaking, and repairs are needed.

### Water fixtures

A small drip from a faucet may add many liters of unnecessary water to your system every day. To see how much a leak adds to your water usage, place a cup under the drip for 10 minutes. Multiply the amount of water in the cup by 144 (the number of minutes in 24 hours, divided by 10). This is the total amount of clean water travelling to your septic system each day from that little leak.

### Faucet aerators and high efficiency showerheads

Faucet aerators help reduce water use and the volume of water entering your septic system. High-efficiency showerheads also reduce water use.

### Washing machines

By selecting the proper load size, you'll reduce wastewater. Washing small loads of laundry on the large-load cycle wastes precious water and energy. If you can't select load size, run only full loads of laundry. N.B. A new Energy Star washing machine uses 35 percent less energy and 50 percent less water than a standard model.

# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

### *Trusted Wastewater Management Solutions*

#### **Watch your drains!**

What goes down the drain can have a major impact on how well your wastewater system works.

#### **What shouldn't you flush down your toilet?**

Dental floss, feminine hygiene products, diapers, cotton swabs, cigarette butts, cat litter, and other kitchen and bathroom items that can clog and potentially damage septic system components if they become trapped. Flushing household chemicals, gasoline, oil, pesticides, antifreeze, and paint can also stress or destroy the biological treatment taking place in the system or might contaminate surface or ground waters.

#### **Care for your Land Application System**

Your land application system is an important part of your wastewater system. Here are a few things you should do to maintain it:

- Flush driplines regularly – every 3 months recommended
- Plant only recommended wetland plants over and near your wastewater system. Roots from nearby trees or shrubs might clog and damage the drain field
- Don't drive or park vehicles on any part of your wastewater system. Doing so can compact the soil in your drain field or damage the pipes, tank, or other septic system components
- Do not build any structures over it or seal it with concrete, asphalt etc.
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the drain field. Flooding the drain field with excessive water slows down or stops treatment processes and can cause plumbing fixtures to back up
- Trees with very aggressive roots, such as willows, should be kept well away from the disposal system, see page 11 for list of recommended planting
- A soggy drain field won't absorb and neutralize liquid waste. Plan landscaping, roof gutters and foundation drains so that excess water is diverted away from the Land Application System

## Household Cleaning Chemicals

### Effects on Wastewater and Disposal System Receiving Environments

Use of many cleaning chemicals in facilities served by on-site disposal systems, can result in high concentrations of the constituents in those cleaning agents being discharged into the receiving soils. These chemicals and constituents can have a massive impact on the quality and condition of the receiving soils over time.

Many of the chemicals can disrupt soil structure and decrease hydraulic conductivity while others can act as bactericides, destroying the essential micro-organisms required to achieve the high level of biodegradation in the treatment and disposal systems.

### The following matters need to be considered when using cleaning agents in a domestic situation:

- Laundry powders are often extremely high in sodium which will destroy the salt balance in the soils. Check the labels for low sodium and phosphorous contents.
- Wastewater flow from dishwashing machines can have an impact on wastewater treatment systems, in terms of the strong cleaning chemicals used, so check labels for low sodium products
- Highly corrosive cleaners (such as toilet and drain cleaners) that have precautionary labels warning users to minimize direct contact, are an indication that they can adversely affect the wastewater treatment system. Up to 1 cup of bactericides such as bleach can be sufficient to impact on all the microorganisms/bugs in a septic system.

### Recommended Cleaning Brands:



earthwise  
caring for your world

## **Cleaning Substitutes**

### **Substitutes for Household Cleaning Chemicals (Ref TP58)**

Use of the following readily biodegradable substitutes for common potentially harmful household cleaning chemicals will reduce the stress on any wastewater system, significantly enhance the performance of the whole system and increase the life of the land application system, while reducing the potential effects of the receiving soils.

#### **General Cleaners**

Use soft soap cleaners and bio-degradable cleaners and those low in chlorine levels.

#### **Ammonia-Based Cleaners**

Instead sprinkle baking soda on a damp sponge.

#### **Disinfectants**

In preference use Borax (sold in most Bin Inn stores): ½ cup in 4-litres of water.

#### **Drain De-Cloggers**

Avoid using de-clogging chemicals. Instead use a plunger or metal snake or remove and clean trap.

#### **Scouring Cleaners and Powders**

Instead sprinkle baking soda on a damp sponge or add 4-Tbs baking soda to 1-Litre warm water. It's cheaper and won't scratch.

#### **Toilet Cleaners**

Sprinkle on baking soda, then scrub with toilet brush.

#### **Laundry Detergent**

Choose one with a zero-phosphate content and low in alkaline salts (in particular, a low sodium level) and no chlorine.

#### **Oven Cleaners**

Sprinkle salt on drips, then scrub. Use baking soda and scouring pads on older spills.



# ECONOTREAT AERATED WASTEWATERSYSTEMS

## Home Owners Care Guide

### *Trusted Wastewater Management Solutions*

## In a Nutshell

Because your system is fully automatic there is no need for the owner to be concerned. However, there are some simple precautions to observe:

## DO

- Avoid using strong acids, alkalis, oils and chemicals in your toilet, bathroom, laundry and kitchen (too much can kill off the working “bugs”).
- Limit the use of water in the dwelling.
- Try to spread wash loads over different days.
- Try to avoid using the washing machine and shower at the same time.
- Front loader washing machines reduce water usage.
- If your system requires power supply make sure this remains on continuously, unless system is being serviced.
- Check faucets and toilets for leaks; make repairs if necessary.
- Use low flush toilets where possible.
- Use a ‘displacer’ to reduce the amount of water needed to flush older toilets.
- Use aerators on faucets and flow reducer nozzles on showers to help lower water consumption.
- Reduce water levels for small loads of laundry.
- Wait until the dishwasher is full to run it.
- Densely plant your field to maximize transpiration.
- Perform regular monthly visual checks of your system and field.
- Grass should be mowed or trimmed regularly to optimize growth and prevent the grass from becoming rank.
- Use signs, fences and/or plantings to prevent any vehicle or stock access.
- Keep records of all maintenance undertaken on the wastewater systems.
- Monitor and care for your Wastewater System as per instructions in the home owner’s manual.

## DON'T

- Switch off power unless servicing
- Use chlorine-based disinfectant & cleaning products in the toilets or kitchen sink (Cleaners high in chlorine, phosphorous or ammonia must not be used)
- Over use heavy cleaners that kill beneficial bacteria in the septic system
- Pour any toxic/strong chemicals (paint, oil, grease, paint thinners or pesticides) down any drains
- Flush down your toilet – Dental floss, feminine hygiene products, diapers, cotton swabs, cigarette butts, cat litter, and other kitchen and bathroom items
- Discard any drugs down the sink or toilet
- Alter or add any part of your system without Waterflow NZ LTD’s approval
- Never turn the system off, even when away on holidays.

# ECONOTREAT AERATED WASTEWATERSYSTEMS

Home Owners Care Guide

*Trusted Wastewater Management Solutions*

## Plants Suitable for Onsite Wastewater Disposal Systems

Plantings that will soon have your field looking magnificent!

Below are some of the most common of native and other plant species that are tolerant or fond of moist conditions, such as those associated with wastewater disposal fields.



Cordyline australis



Apodasia similis



Alocasia nigrescens



Carex secta

- Alocasia nigrescens (Black Taro)
- Apodasmia similis (Oioi)
- Arthropodium Matapouri Bay  
(Rengarenga Lily)
- Carex dispacea
- Carex dissita
- Carex maorica
- Carex secta
- Carex tenuiculmis
- Carex virgata
- Cordyline australis (Cabbage Tree)
- Cordyline Midnight Star
- Leptospermum Burgundy Queen  
(Flowering Ti Tree)
- Lomandra Tanika
- Phomium Surfer

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Head Office  
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Maungaturoto 0547  
P. 09 431 0042  
E. [sales@waterflow.co.nz](mailto:sales@waterflow.co.nz)

Waipapa Branch  
166 Waipapa Road,  
Kerikeri  
P. 09 407 8323  
E. [kerry@waterflow.co.nz](mailto:kerry@waterflow.co.nz)

[www.waterflow.co.nz](http://www.waterflow.co.nz)

**FAR NORTH DISTRICT COUNCIL**

**FAR NORTH OPERATIVE AND PROPOSED DISTRICT PLANS  
DECISION ON RESOURCE CONSENT APPLICATION**

**Resource Consent Number: 2230585-RMALUC**

**Pursuant to Sections 104, 104B, and 108 of the Resource Management Act 1991 (the Act), the Far North District Council hereby grants resource consent to undertake the following activities:**

Establish a papakainga development, consisting of a maximum of 82 residential dwellings, inclusive of 38 principle dwellings, 38 minor dwellings and 6 kaumatua units, a communal building, with associated internal access and services, earthworks, and landscaping.

**Subject Site Details**

Address: State Highway 1 / Rarawa Beach Road, Ngataki  
Legal Description: Lot 1 DP 193960

**Pursuant to Section 108 of the Act, this consent is subject to the following conditions:**

**General Conditions**

**General Conditions**

1. That the proposed activities provided for under this consent shall be carried out in general accordance with the documentation and plans that form part of the application as follows:
  - AEE prepared by Sanson and Associates Limited dated June 2023 provided under cover of email dated 5<sup>th</sup> July 2023.
  - The plans prepared by Resilio Studio entitled Ngataki Papakainga Resource Consent – Revision 2 dated September 2023 identifying the building locations and typologies.
  - Plans prepared by Design Tribe Architects referenced as Project 18001 Sheets R-09 and R10 dated 14 May 2018 illustrating the communal building.
  - The Site Suitability Engineering Report – Revision 1 prepared by Geologix Limited dated June 2023, inclusive of the development drawings provided in Appendix A referenced as Sheets 1001, 1010 – 1022, 1050 - 1052, 1100 – 1101, 1200 and 1300.
  - Transport Assessment Report prepared by Flow Ltd dated 13 July 2023
  - Wetland Assessment Report – Revision 1 prepared by Geologix Ltd dated June 2023.
  - Landscape Visual Impact Assessment report prepared by Resilio Studio Limited dated 16<sup>th</sup> October 2023 including appendices
2. Prior to commencement of any construction works, including earthworks, the consent holder shall:
  - a) Provide to the Councils Development Engineer a Construction Management Plan prepared by the Developer's Representative in accordance with Section 1.6.2 of the FNDC Engineering Standards May 2023.

- b) Provide to the Councils Development Engineer design details and drawings illustrating the sealing of a portion of Rarawa Beach Road between 395m - 980m RP from SH1 intersection, inclusive of any earthworks, drainage, and flag lighting, with the proposed access intersections designed as 'Give-way' intersections with the appropriate signage and markings. All work is to be designed in accordance with Chapter 3 of the Councils Engineering Standards 2023 and undertaken by a Suitability Qualified and Experienced (CPEng) Engineer.
- c) Provide to the Council's Development Engineer details of internal lighting design suitable to meet subcategories PR5 of PR6 of AS/NZS 1158.3.1:2020 Lighting for Roads and Public Spaces. This lighting is to remain in private ownership.
- d) Provide to the Councils resource consents monitoring team ([RCmonitoring@fndc.govt.nz](mailto:RCmonitoring@fndc.govt.nz)) a copy of any resource consent issued by the Northland Regional Council for all works associated with the development approved under this consent.
- e) Provide to the Councils resource consents monitoring team ([RCmonitoring@fndc.govt.nz](mailto:RCmonitoring@fndc.govt.nz)) for approval a Planting Plan that is in general accordance with the Ngataki Papakainga Resource Consent Package Rev 2, prepared by Resilio Studios (dated September 2023). The drawing package must include landscape design drawings, specifications and maintenance requirements including:
  - i. An annotated planting plan(s) which communicates the proposed location, timing / staging, and extent of all areas of planting, including any revegetation, reinstatement planting, mitigation planting and natural revegetation (if relevant). With specific regard to timing of planting, that shall specify any/all planting that should be completed prior to any building works commencing (such 'perimeter planting' in Appendix 8 of the LVIA) so that planting is established to mitigate visual amenity effects - See Condition 6.
  - ii. Annotated cross-sections and/or design details with key dimensions to illustrate that adequate widths and depths are provided for planter boxes / garden beds
  - iii. A plant schedule based on the submitted planting plan(s) which details specific plant species, plant sourcing, the number of plants, height and/or grade (litre) / Pb size at time of planting, and estimated height / canopy spread at maturity
  - iv. Details of draft specification documentation for any specific drainage, soil preparation, tree pits, staking, irrigation and mulching requirements
  - v. An annotated pavement plan and related specifications, detailing proposed site levels and the materiality and colour of all proposed hard surfacing
  - vi. An annotated street furniture plan and related specifications which confirm the location and type of all fences, walls and other structural landscape design elements
  - vii. A landscape maintenance plan (report) and related drawings and specifications for all aspects of the finalised landscape design, including in relation to the following requirements:
    - a. Irrigation
    - b. Weed and pest control
    - c. Plant replacement
    - d. Inspection time frames
    - e. Contractor responsibilities



The finalised landscape design must be consistent with the landscape design intent / objectives identified in the conceptual plans and information referenced above and confirm responsibilities for ongoing maintenance requirements.

*Advice Note: It is recommended that the consent holder consider a minimum three-year management / maintenance programme for plant establishment and provide, in particular, details of maintenance methodology and frequency, allowance for fertilising, weed removal / spraying, replacement of plants, including specimen trees in case plants are severely damaged / die over the first five years of the planting being established and watering to maintain soil moisture.*

- f) Provide to the Council's resource consents monitoring team ([RCmonitoring@fndc.govt.nz](mailto:RCmonitoring@fndc.govt.nz)) road names in accordance with the Council's Naming Policy dated 22 September 2023, where each of the identified private access roads servicing the development require road names.
3. During construction works, the consent holder shall comply at all times with the Construction Management Plan provided to the Council and certified under Condition 2 a) above.
  4. All construction works associated with access and servicing (but not works subject to any building consent) shall be undertaken and completed in general accordance with the Site Suitability Engineering Report – Revision 3 prepared by Geologix Limited dated September 2023, inclusive of the development drawings provided in Appendix A referenced as Sheets 1001, 1010 – 1022, 1050 - 1052, 1100 – 1101, 1200 and 1300 and designs and plans approved under Conditions 2(b) – (d) above.
  5. On completion of construction works specified under Condition 4. above, the consent holder shall provide to the Council's Development Engineer documentation required under Section 17 of the FNDC Engineering Standards May 2023 as it relates to any works undertaken on Council's road reserve and/or any assets identified to vest to the Council, inclusive of road sealing and erection of approved private road name signs. All internal works to be completed that are not intended to vest in the Council shall be certified as completed by a suitably qualified and experienced Chartered Professional Engineer as being constructed and completed in accordance with the plans and design details that form part of this consent and conditions.

For avoidance of doubt, the sealing and associated works on Rarawa Beach Road, including construction of intersections into the site as required under Condition 2(b) above, are to be completed in accordance with this condition 5 prior to occupation of the first dwelling on the site.

6. Prior to the issuing of any building consent for any dwelling on the site, the consent holder shall provide suitable certification in writing from a landscape architect to confirm that any planting or works identified under Condition 2(e) to be established prior to commencement of any building works to mitigate visual amenity effects, has been undertaken and completed.
7. Prior to the lodgement of any building consent for a dwelling on the site (where 'dwelling' includes any minor unit), the consent holder shall provide suitable evidence by way of written confirmation from a suitably qualified and experienced Chartered Professional Engineer to confirm that all services, including road access, are physically completed such that they are readily able to be utilised by the proposed dwelling at the time of lodgement of the building consent.

For avoidance of doubt, this condition will not be deemed to be met where any/all services including road access are yet to be constructed and certified as completed in order to service any dwelling at the time of lodgement of any building consent.

*Advice note: While the application does not record any intention to stage construction of the services and access for the development, the above condition provides for dwellings to be constructed during the construction phase, and before overall construction is completed, where adequate servicing and access is available to any proposed dwelling.*

8. At the time of lodgement of any building consent for a dwelling on the site (where 'dwelling' includes any minor unit), the consent holder shall provide evidence that the building exterior colours and finishes comply with Appendix 21 Development Colours contained in the Landscape Visual Impact Assessment report prepared by Resilio Studio Limited dated 19th September 2023. For avoidance of doubt, any exterior colours and finishes shall not exceed 30% Light Reflectance Value.
9. All works identified on the Planting Plan provided and approved under Condition 2 (e), are to be completed prior to the occupation of the last dwelling to be constructed on the site (where 'dwelling' includes any minor unit) or in accordance with planting / staging as outlined in Condition 2(e). The consent holder shall provide suitable certification in writing from a landscape architect to confirm that all works have been undertaken and completed.
10. The consent holder shall retain and maintain all the planting implemented under condition 9 of this consent in a weed and pest free condition in perpetuity, with any plant failures to be replaced with the same species, to the satisfaction of Council. All maintenance and ongoing management shall be in accordance with the approved landscape design drawings and specifications.
11. The consent holder shall ensure that all internal communal private infrastructure (inclusive of access, lighting, stormwater, water, and wastewater services) are maintained in accordance with all specifications and requirements, including any consents issued by the Northland Regional Council. As all services are private infrastructure, the Far North District Council shall not be responsible for any maintenance or repairs to infrastructure servicing the development unless it determines of its own volition to do so.
12. The consent holder shall be responsible for ensuring that any dust nuisance associated with traffic utilising the unsealed portion of Rarawa Beach Road affecting residents within the development is managed appropriately. As a minimum, the consent holder shall ensure that any/all residents of the development are aware of the potential for dust nuisance arising from Rarawa Beach Road, and that the Far North District Council will not be responsible for mitigating any such dust nuisance unless it determines of its own volition to do so.
13. As recorded in the application, the communal building to be constructed on Lot 27 as illustrated on the plans approved under Condition 1 above shall be used solely by the residents of the papakainga generally for laundry and storage and any internal community gatherings. It shall not be made available to or used by any persons who do not reside within the papakainga development.
14. Each of the principle dwellings shall have available to it a potable water supply consisting of a minimum of 50,000 litres water storage. This is to ensure that adequate

on-site potable water is available for each dwelling, particularly during dry / drought conditions.

15. The ultimate built development on the site shall not exceed the following:
- Thirty-eight (38) principal dwellings identified as 'Section Typology Option A' and 'Section Typology Option B' with associated studios (being accessory buildings not minor dwellings) and corresponding floor plans Options A1 and B1 in Appendix 3 of the plans prepared by Resilio Studio entitled 'Te Paki Dunes Papakainga Resource Consent – Revision 2' dated September 2023
  - Thirty-eight (38) minor dwellings identified as either 'Section Typology Option D' and referred to as 'Whare Pai' or 'Whare Kahui' and corresponding floor plans in Appendix 3 of the plans prepared by Resilio Studio entitled 'Te Paki Dunes Papakainga Resource Consent – Revision 2' dated September 2023; or Section Typology Option B with corresponding floor plan Options B2 in Appendix 3 of the plans prepared by Resilio Studio entitled 'Te Paki Dunes Papakainga Resource Consent – Revision 2' dated September 2023.
  - Six (6) principal dwellings identified as 'Kaumatua Whare Minor Dwelling' and corresponding floor plans in Appendix 3 of the plans prepared by Resilio Studio entitled 'Te Paki Dunes Papakainga Resource Consent – Revision 2' dated September 2023

*Note: For avoidance of doubt, no more than 38 minor dwellings using either Section Typology Option D or Section Typology Option B as set out above can be established on the site.*

#### **Advice Notes**

1. Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This should be made available to all person(s) working on site.
2. The consent holder is responsible for ensuring that any and all conditions of any consent issued by the Northland Regional Council for the development are adhered to.
3. The consent holder should consult with Fire and Emergency New Zealand regarding the provision of suitable fire-fighting water supply, access, and fixtures as part of the papakainga development.
4. The consent holder is responsible for ensuring that any / all land covenant and easement requirements that relate to the site are adhered to.
5. The conditions of consent addressing landscape planting have been approved on the basis that staging of landscaping may be implemented. This has been accepted but where staging is proposed, the staging of the plans must ensure that landscape and visual effects are minimised as any built development progresses. The Council reserves the right to review any plans illustrating staged landscaping if it has concerned that it may not be effective in mitigating or avoiding such effects.

#### **Reasons for the Decision**

1. The Council has determined (by way of an earlier report and resolution) that the application is precluded from public and limited notification under Sections 95A and 95B.
2. For the purposes of Section 104(1)(a), the assessment of actual and potential effects provided in the Notification Report is relevant. That assessment constitutes a detailed analysis of the adverse effects, an applicable permitted baseline, and consideration of conditions offered as avoidance and mitigation measures as part of the application.
3. In terms of Section 104(2), the permitted baseline and existing environment assessment provided in the Notification Report sets out those activities that are permitted in the District Plan. The assessment is adopted for the purpose of Section 104(2). It is recorded that there is no readily applicable and credible permitted baseline for the extent of built development proposed.
4. As recorded in the Notification Report, the majority of potential adverse effects can be managed such that they will not extend beyond the subject site. Earthworks, stormwater and wastewater discharge activities, and effects on wetlands, will be subject to any consent granted by the Northland Regional Council. The on-site servicing and traffic effects have been addressed by provision of engineering information that has been reviewed and accepted by the relevant Council engineers and NTA, subject to conditions.
5. Written approval has been provided by Waka Kotahi NZTA such that Section 104(3)(a)(ii) applies. No regard is given to any adverse effects on Waka Kotahi NZTA.
6. Careful consideration has been given to the extent of potential adverse effects on landscape and visual amenity. The scale of the proposed development is not anticipated in the Rural Production Zone, noting that the proposal is a discretionary activity under the Integrated Development Rule. Despite this, it is recognised that papakainga development is appropriate in the Zone, noting the controlled activity rule 8.6.5.2.2 Papakainga Housing. The nature of the receiving environment is such that it is considered that the development can be accommodated while minimising or avoiding adverse effects. Extensive landscape planting is required to avoid and mitigate the built form associated with the development and conditions of consent can be imposed to achieve this such that the adverse effects will be minor and acceptable.
7. A number of conditions are required to avoid and mitigate potential adverse effects. Many of these have been offered as part of the application, while other matters such as compliance with the plans provided and provision of adequate servicing are necessary. A condition requiring a Construction Management Plan to be provided prior to any works (including earthworks) commencing on the site will assist in defining the hours of operation, compliance with construction noise standards, traffic management, and potential impacts on road integrity.
8. It is noted that NTA have requested the sealing of the portion of Rarawa Beach Road that will service the development from SH1, and provision of internal street lighting and flag lighting at the two crossings. These requirements can be included as conditions of consent. It is noted that the written approval from Waka Kotahi NZTA does not require any works on the State Highway.
9. The effects assessment provided in the application details the positive effects arising from the proposal. These are relevant when considering effects under Section 104(1)(a). Those identified positive effects are significant and weigh heavily in favour of the effects of the proposal being considered acceptable overall.

10. Overall, the extent of potential positive and adverse effects on the environment associated with granting the activity are considered to be acceptable in the receiving environment.
11. Section 9 of the application provides an assessment of the national, regional, and district level documents that are relevant to the proposal. The assessment provided of the Regional Policy Statement for Northland, and Operative and proposed Far North District Plan is accepted and adopted for the purpose of this report. It is recorded that there are strong directives in planning documents at the regional and district level regarding the recognition and provision for the relationship of tangata whenua and their culture and traditions with their ancestral land. Chapter 2 - Tangata Whenua contained in the Operative District Plan includes objectives 2.7.1 and 2.7.2 and supporting policies which reflect Te Tiriti principles and development and management of land in a manner which is consistent with sustainable management. Similarly, the proposed District Plan includes a Tangata Whenua Chapter that includes Objective TW-05 which states *'The economic, social and cultural well-being of tangata whenua is enhanced through the development of Māori land administered under Te Ture Whenua Māori Act 1993 and land returned in the Treaty settlement process.'*
12. It is noted that there are no National Policy Statements that are relevant to the proposal that require detailed consideration. The application lodged with the Northland Regional Council will require detailed consideration under the National Policy Statement for Freshwater, National Environmental Standard for Freshwater, Regional Policy Statement and Proposed Regional Plan for Northland. On that basis, no further assessment of those provisions is provided in this report.
13. An important component of the proposal is the use of land that was obtained following the Treaty Settlement between the Crown and Ngāti Kuri. The land is considered to be Maori ancestral land. The application details the current status of the land, whereby it is identified as commercial redress property forming part of the wider Wharepaku Farm land holdings. The proposed papakainga development *'...provides a financial tool for those who whakakpapa (have ancestry) to Ngāti Kuri to promote a lifetime interest in housing on the Papakāinga. Where these leasehold areas are surrendered, it can only be back to the Ngāti Kuri Trust Board. This aspect ensures land remains within Ngāti Kuri control.'*
14. The approach of developing Maori ancestral land for such purposes aligns with a number of objectives and policies contained in the Regional Policy Statement for Northland and Operative and proposed District Plans.
15. It is considered that the proposal is consistent with the relevant planning provisions.
16. Section 104(1)(c) requires consideration of Other Matters. In this case, there is one matter that is considered relevant and reasonably necessary in determining the application.
17. The applicant was advised as part of the Section 92 request to consider the possibility of the development complying with Rule 8.6.5.2.2 Papakainga Housing in the Rural Production Zone. The applicant responded on the basis that the proposal would not comply with the rule due to the intended density of development. Nevertheless, the provision of a papakainga development rule in the zone is considered to be relevant and reasonably necessary to consider in determining the application. It is considered that the inclusion of the rule in the Rural Production Zone is an appropriate signal that development that may otherwise be considered residential in nature is appropriate where it is located on Maori ancestral land for papakainga purposes.



18. As defined under current case law, an assessment of Part 2 matters is not required unless there are issues of invalidity, incomplete coverage or uncertainty in the planning provisions. The Operative District Plan contains provisions that are relevant to the proposal, and there is no evidence to suggest the relevant provisions are invalid, incomplete or present uncertainty in making any decision. No assessment of the application against Part 2 provisions is therefore required.
19. As assessed in this report, it is considered that the proposal will result in acceptable environmental effects subject to conditions either offered in the application or as can be imposed under Section 108. The relevant provisions of the Operative and proposed District Plan have been assessed as part of the application, and the proposal is considered to be consistent with the majority of the provisions, notably those that relate to development of Maori ancestral land.
20. It is considered that the activity is consistent with the sustainable management purpose of the Resource Management Act. Consent can therefore be granted subject to conditions.

**Approval**

This resource consent has been prepared by A Hartstone, Consultant Planner, and is granted under delegated authority (pursuant to Section 34A of the Resource Management Act 1991) from the Far North District Council by:



**Independent Commissioner**

**Date: 22<sup>nd</sup> February 2024**

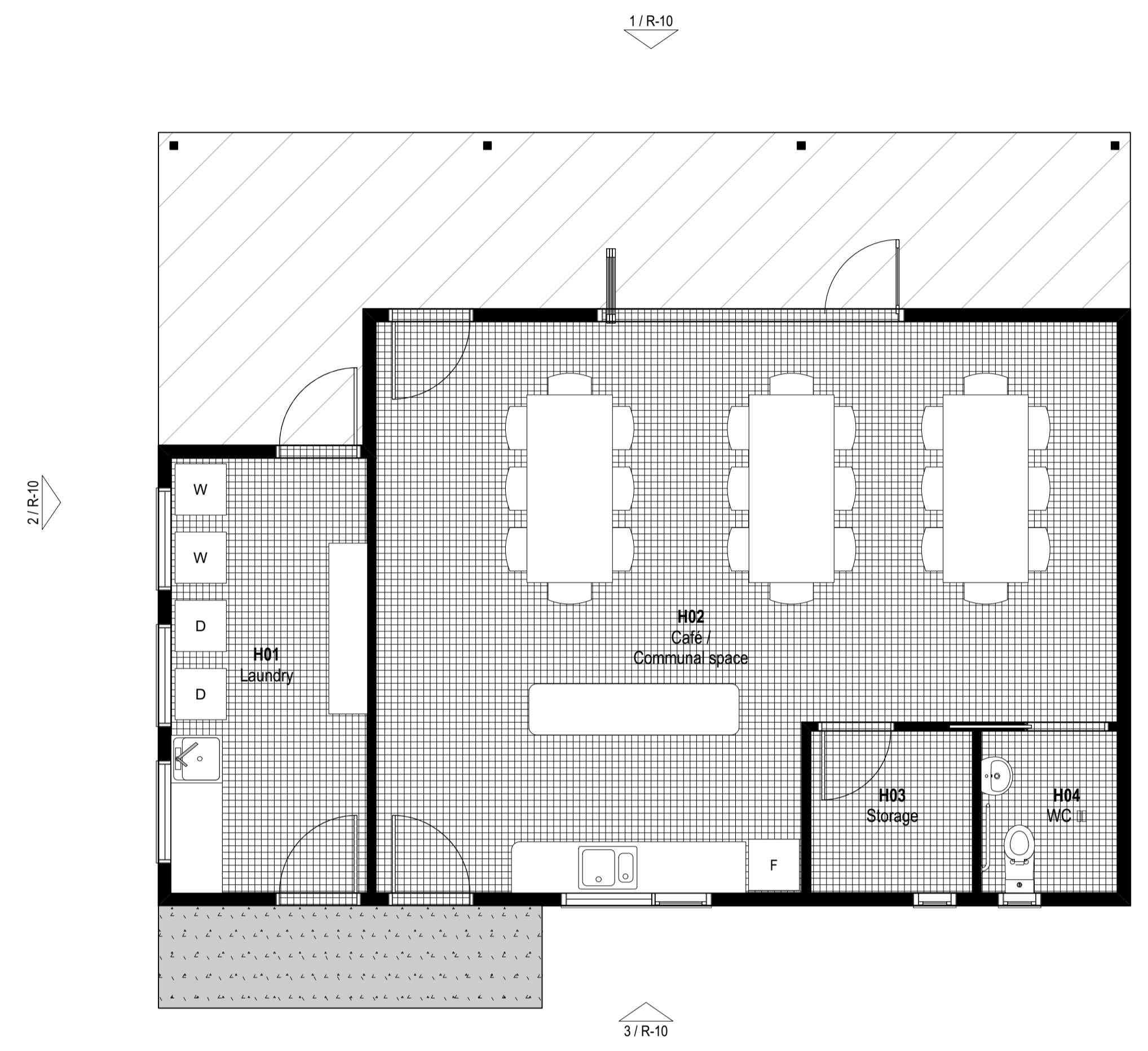
**Right of Objection**

If you are dissatisfied with the decision or any part of it, you have the right (pursuant to section 357A of the Resource Management Act 1991) to object to the decision. The objection must be in writing, stating reasons for the objection and must be received by Council within 15 working days of the receipt of this decision.

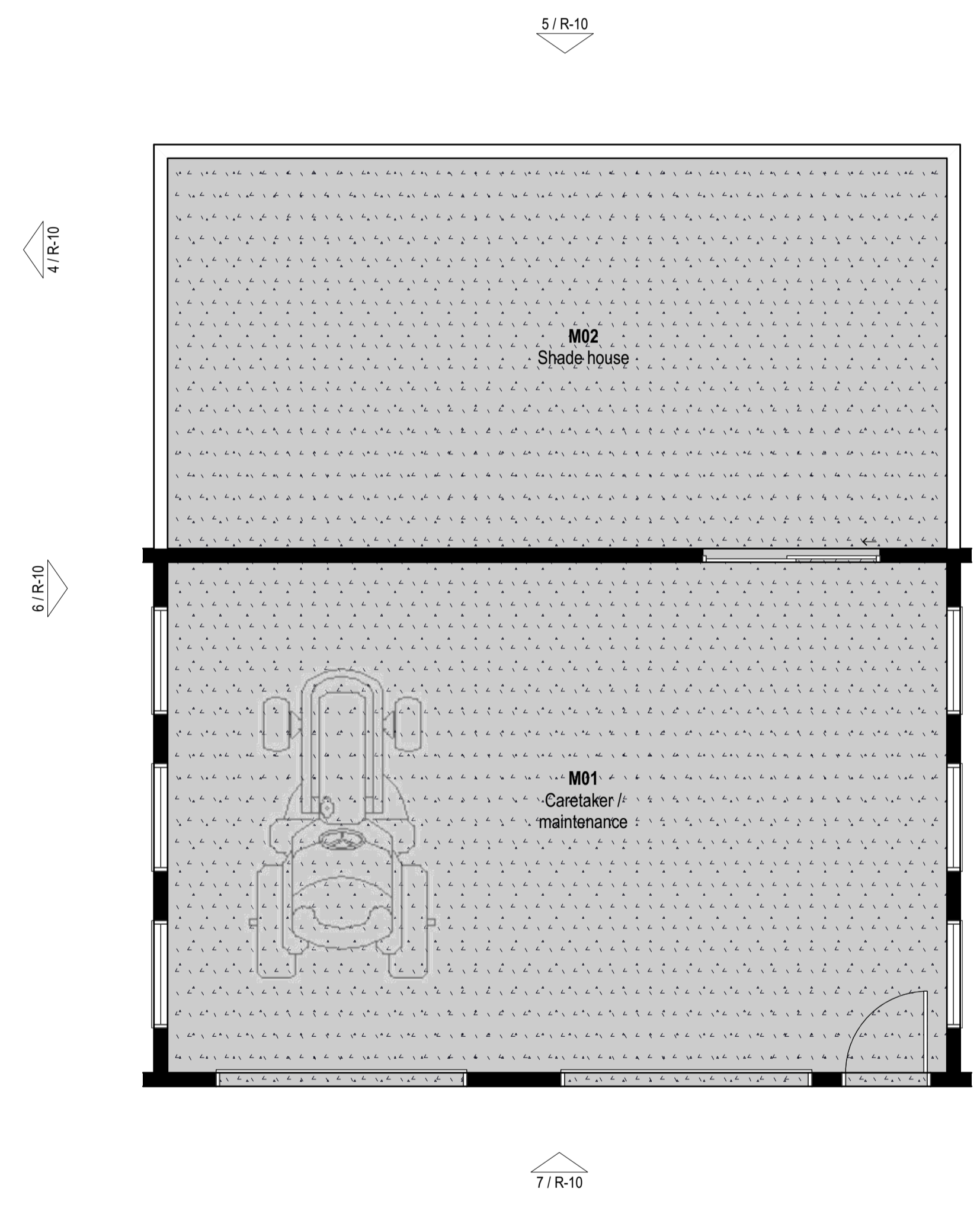
**Lapsing Of Consent**

Pursuant to section 125 of the Resource Management Act 1991, this land use consent will lapse 5 years after the date of commencement of consent unless, before the consent lapses;

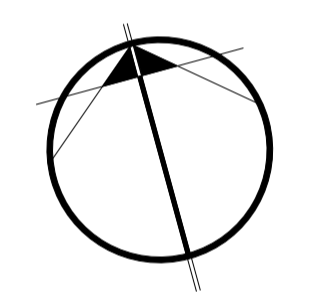
- a) The consent is given effect to; or
- b) An application is made to the Council to extend the period of consent, and the council decides to grant an extension after taking into account the statutory considerations, set out in section 125(1)(b) of the Resource Management Act 1991.



1 Communal laundry / - floor plan  
 Scale: 1:50  
 Gross floor area 76 m<sup>2</sup>



2 Utility shed / shade house - floor plan  
 Scale: 1:50  
 Gross floor area 95 m<sup>2</sup>



REVISION | DATE | NOTES  
 ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED. CHECK ALL DIMENSIONS AND LEVELS ON SITE PRIOR TO WORK COMMENCING. DO NOT SCALE OFF DRAWINGS. USE FIGURED DIMENSIONS ONLY.



Design Tribe Limited  
 553 Richmond Rd, Grey Lynn, Auckland 1021  
 PO Box 47-311, Ponsonby, Auckland 1144  
 PH 09 376 6975 designtribe.co.nz

CLIENT  
 Ngāti Kuri Trust Board

PROJECT  
 Ngāti Kuri Papakāinga

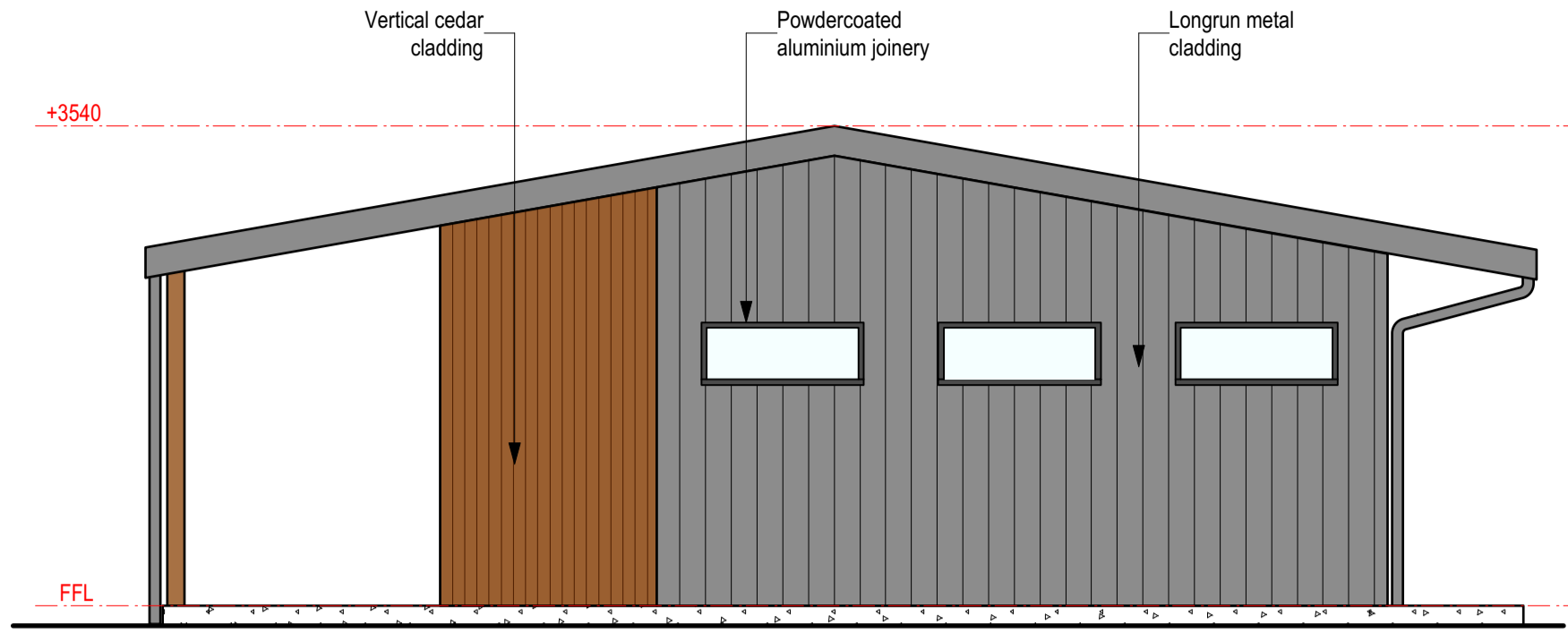
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 Ngātaki, Rarawa Beach  
 Road

SHEET  
 Communal laundry / cafe and utility shed /  
 shade house - floor plans

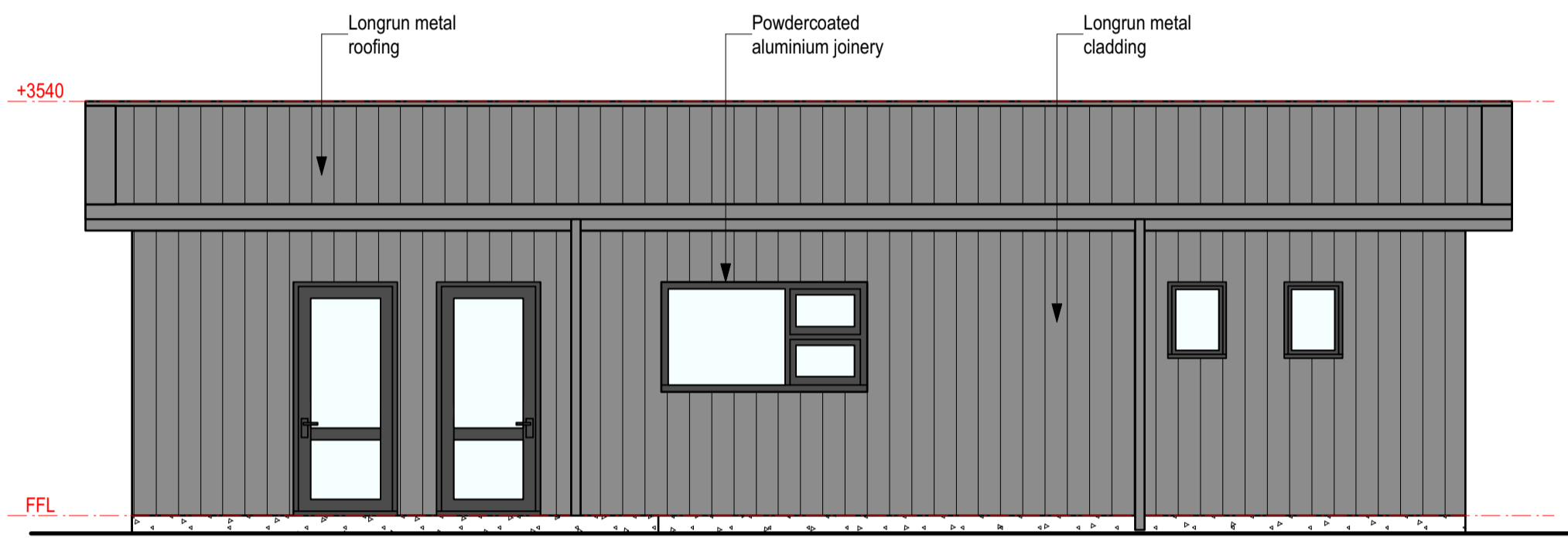
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Resource consent	5		
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DRAWN	CHECKED		
DT	DT		
PROJECT No.	DRAWING No.	REV	DRAWING Status
18001	R-09		



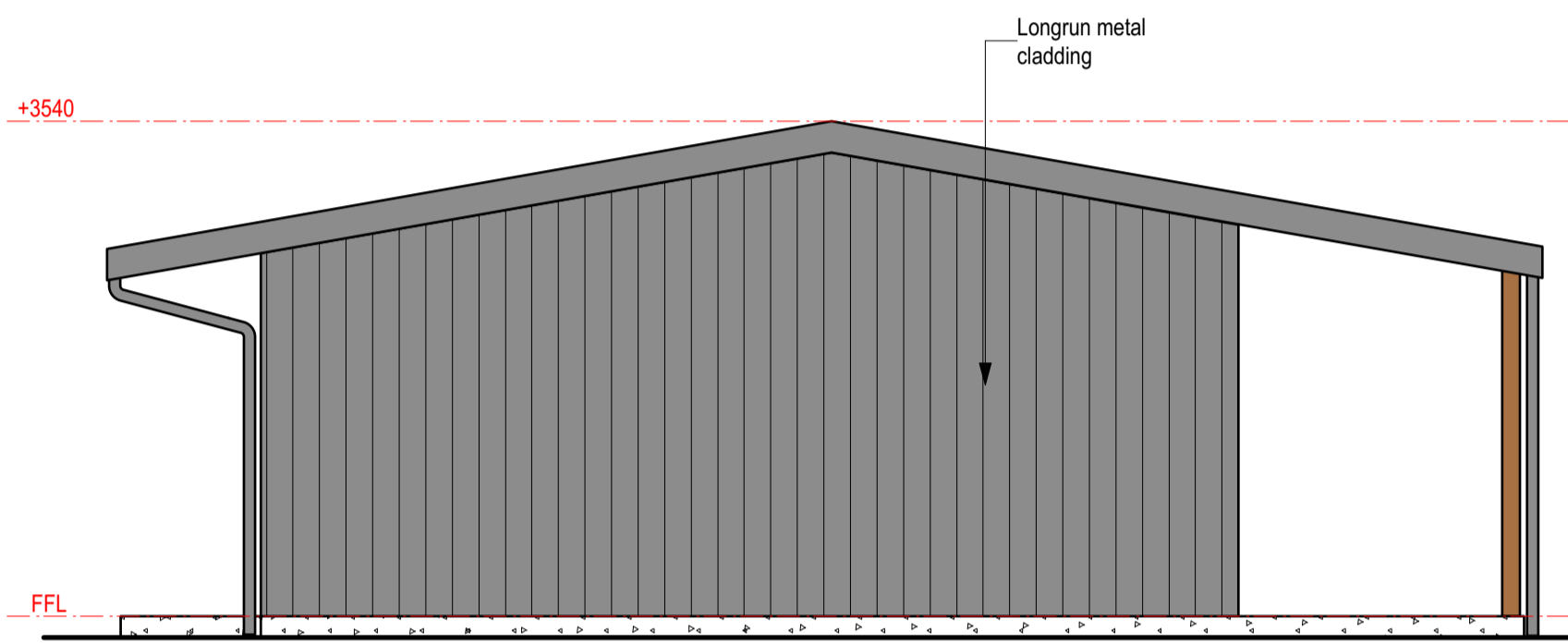
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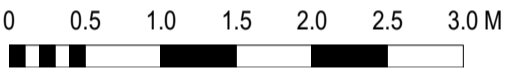
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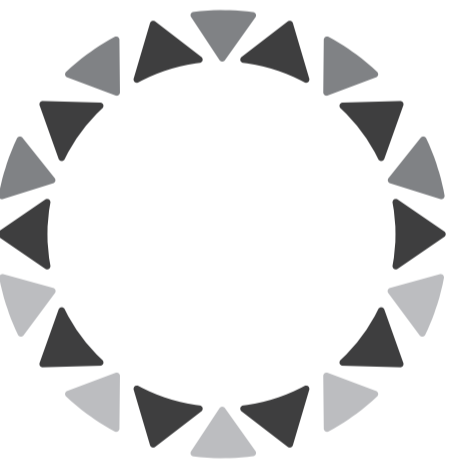
3 Communal laundry - south elevation  
 R-09 Scale: 1:50



4 Communal laundry / east elevation  
 R-09 Scale: 1:50



REVISION | DATE | NOTES  
 ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED. CHECK ALL DIMENSIONS AND LEVELS ON SITE PRIOR TO WORK COMMENCING. DO NOT SCALE OFF DRAWINGS. USE FIGURED DIMENSIONS ONLY.



design tribe  
 ARCHITECTS

Design Tribe Limited  
 553 Richmond Rd, Grey Lynn, Auckland 1021  
 PO Box 47-311, Ponsonby, Auckland 1144  
 PH 09 376 6975 designtribe.co.nz

CLIENT  
 Ngāti Kuri Trust Board

PROJECT  
 Ngāti Kuri Papakāinga

ADDRESS  
 Ngātaki, Rarawa Beach Road

SHEET  
 Communal laundry / utility shed / shade house - elevations

ISSUE  
 Resource consent

ISSUE No.  
 5

DATE  
 14/5/18

SCALE  
 1:50 @ A1 1:100 @ A3

DRAWN  
 DT

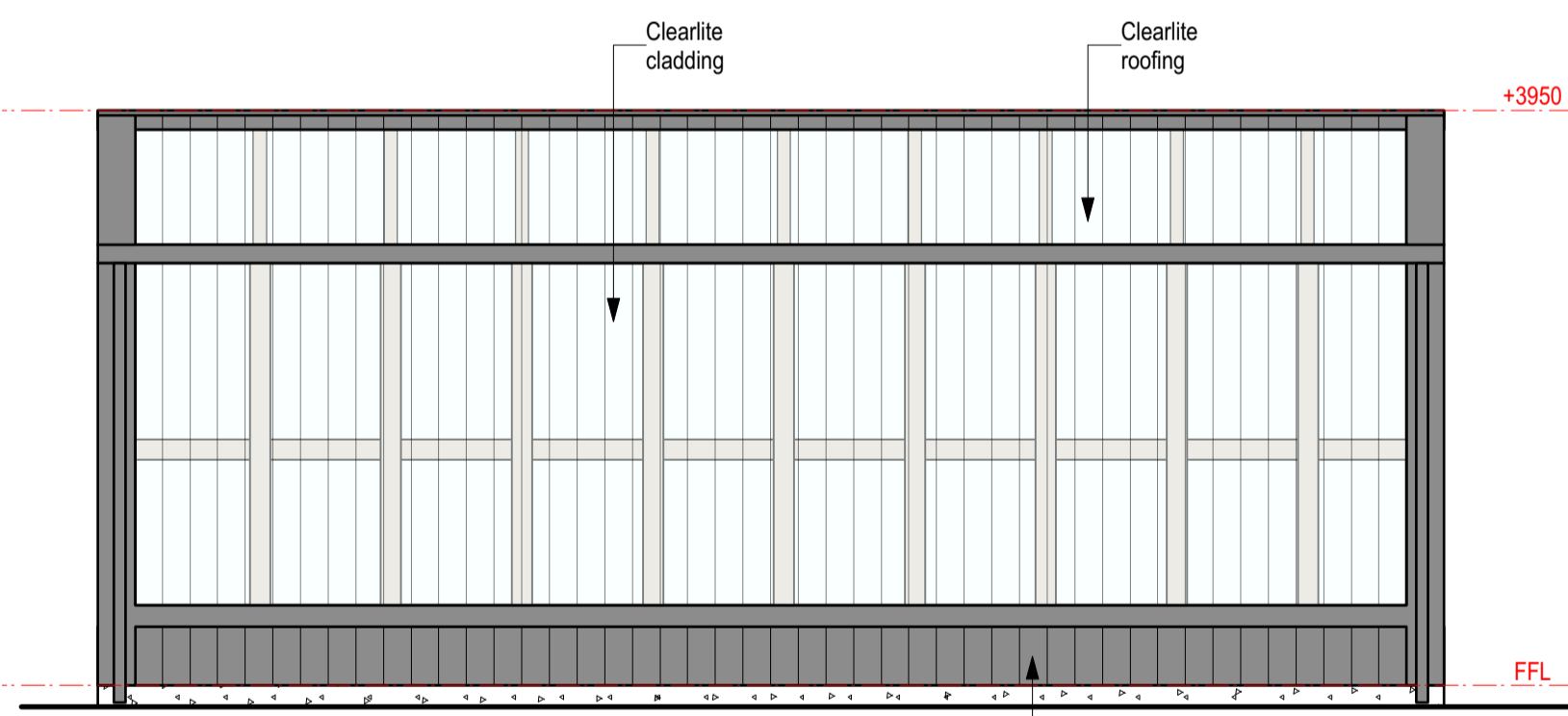
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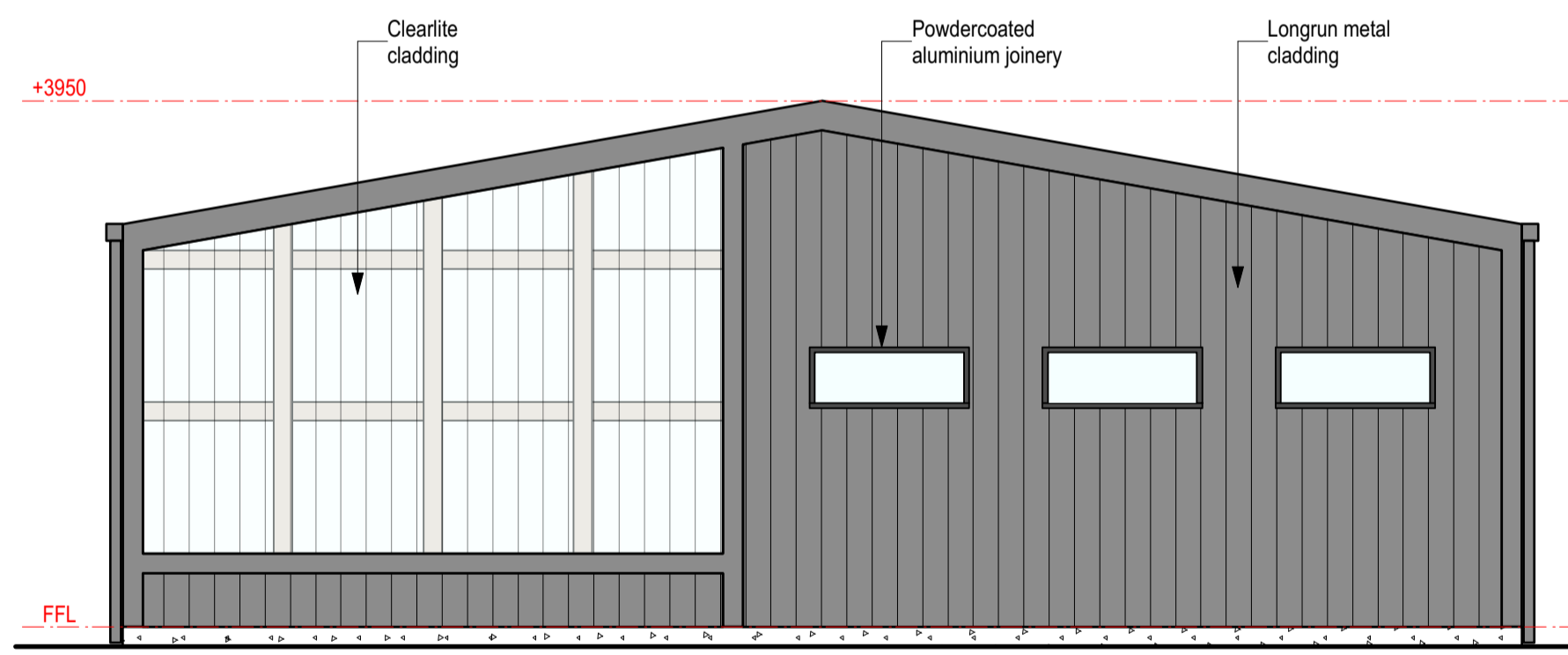
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REV

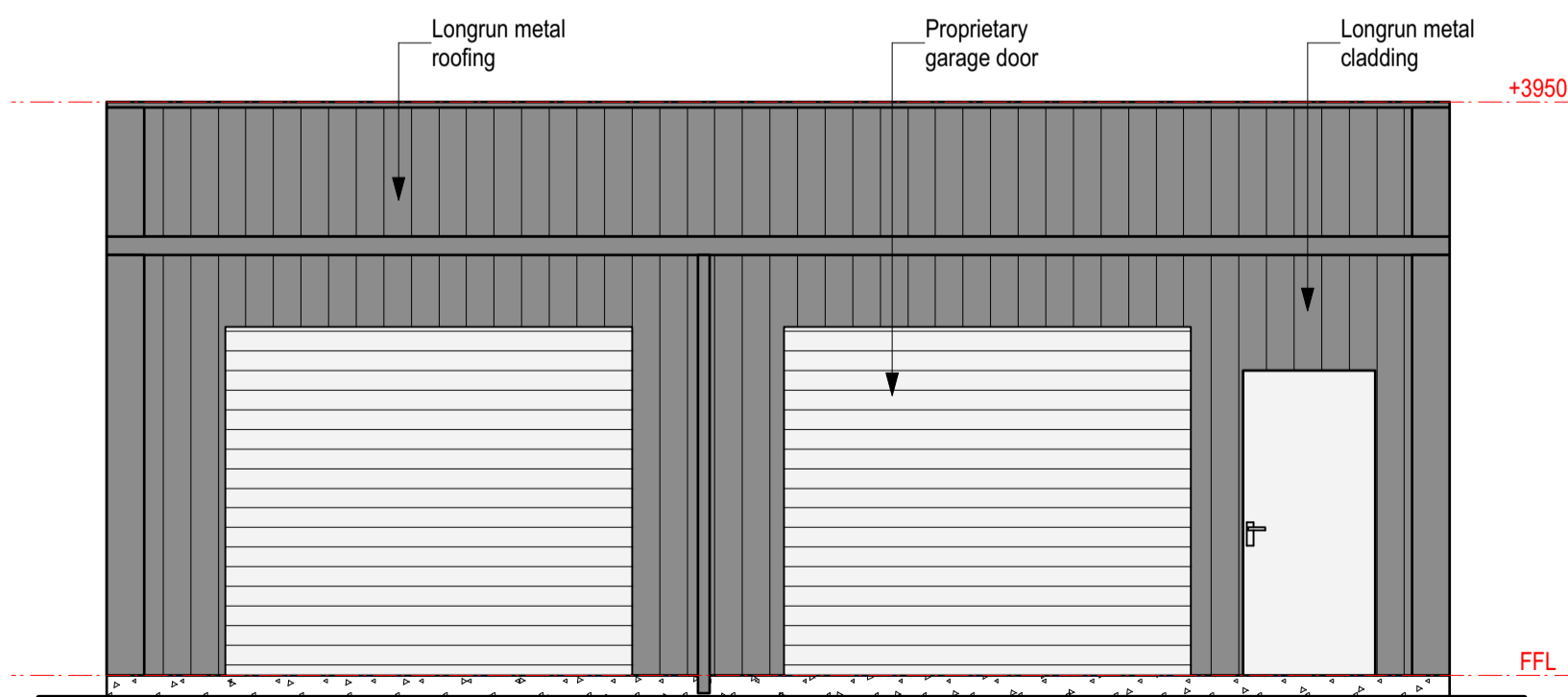
DRAWING Status



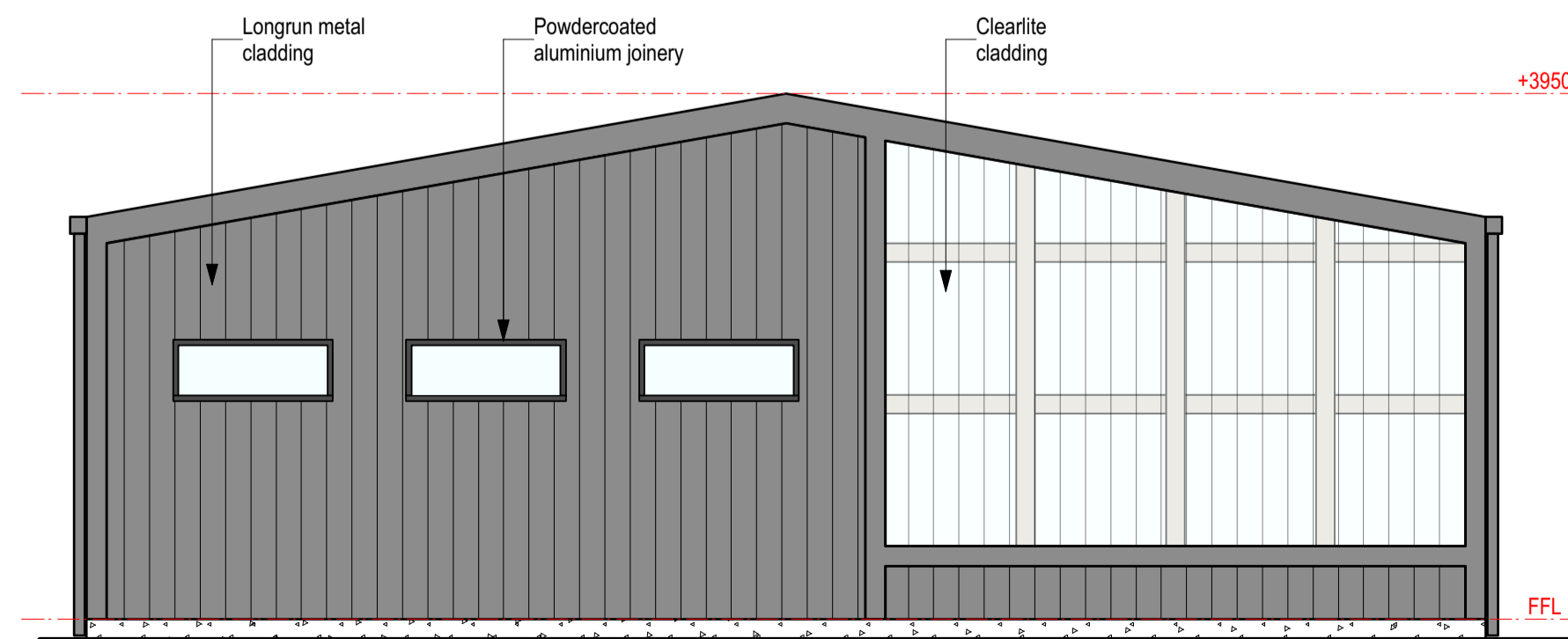
5 Utility shed / shade house - north elevation  
 R-09 Scale: 1:50



6 Utility shed / shade house - west elevation  
 R-09 Scale: 1:50



7 Utility shed / shade house - south elevation  
 R-09 Scale: 1:50



8 Utility shed / shade house - east elevation  
 R-09 Scale: 1:50



APPROVED PLAN

Planner: Pat Killalea  
pp: I Maxwell  
RC: RC 2230585  
Date: 23/02/2024

# NGATAKI PAPA KĀINGA RESOURCE CONSENT PACKAGE - REV 2

Revision 2 | September 2023

Prepared by  
 RESILIOSTUDIO



Prepared for  


Ngāti Kuri Trust Board | Ngāti Kuri Papakāinga

## Document Quality Statement

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## Document Control

The following person(s) shall receive a copy of this document upon each subsequent release:

Name	Title/Group	Organisation
Tammy Tauroa	Director	Ngāti Kuri Trust Board
Gary Marshall	Director	Resilio Studio

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### Prepared by



#### Resilio Studio

21 Scanlan Street  
Grey Lynn  
Auckland 1021

[www.resilio.nz](http://www.resilio.nz)

+64 0272555383

[info@resilio.nz](mailto:info@resilio.nz)



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# SITE CONTEXT

# ROHE AND SITE LOCATIONS

## NGĀ TAKINGA O MOKOHŌREA (NGATAKI)

- 44 Sections
- 80 Dwellings
- 35 Hectares

### KEY

- Site location
- ⚓ State Highway 1
- 🏠 Marae
- ⚠️ Significant maunga

Scale: 1\_250 000@A3



### APPROVED PLAN

Planner: Pat Killalea  
 pp: I Maxwell  
 RC: RC 2230585  
 Date: 23/02/2024



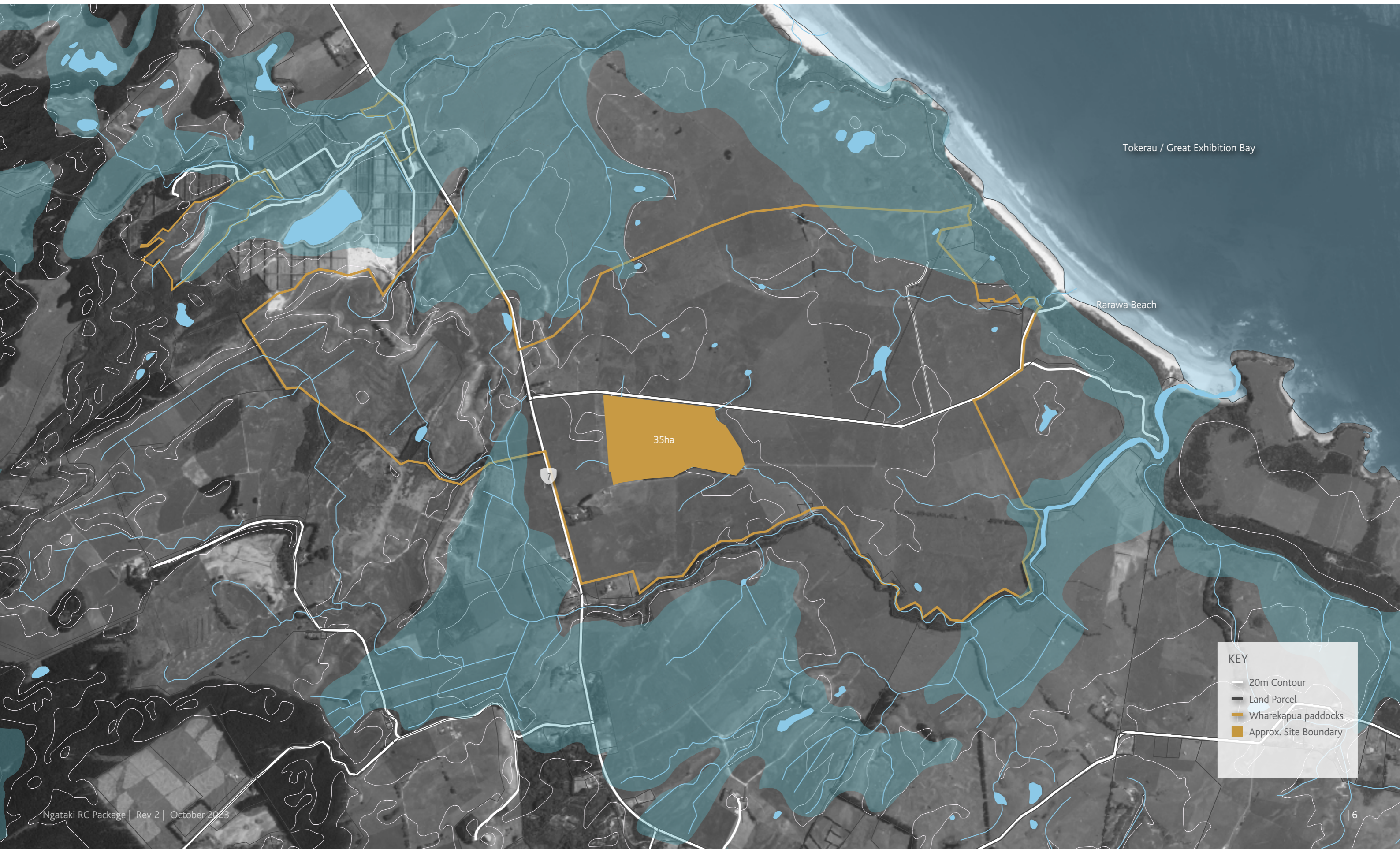


# NGATAKI CONTEXT

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Scale: 1\_20 000@A3



Tokerau / Great Exhibition Bay

Rarawa Beach

35ha

**KEY**

- 20m Contour
- Land Parcel
- Wharekapua paddocks
- Approx. Site Boundary

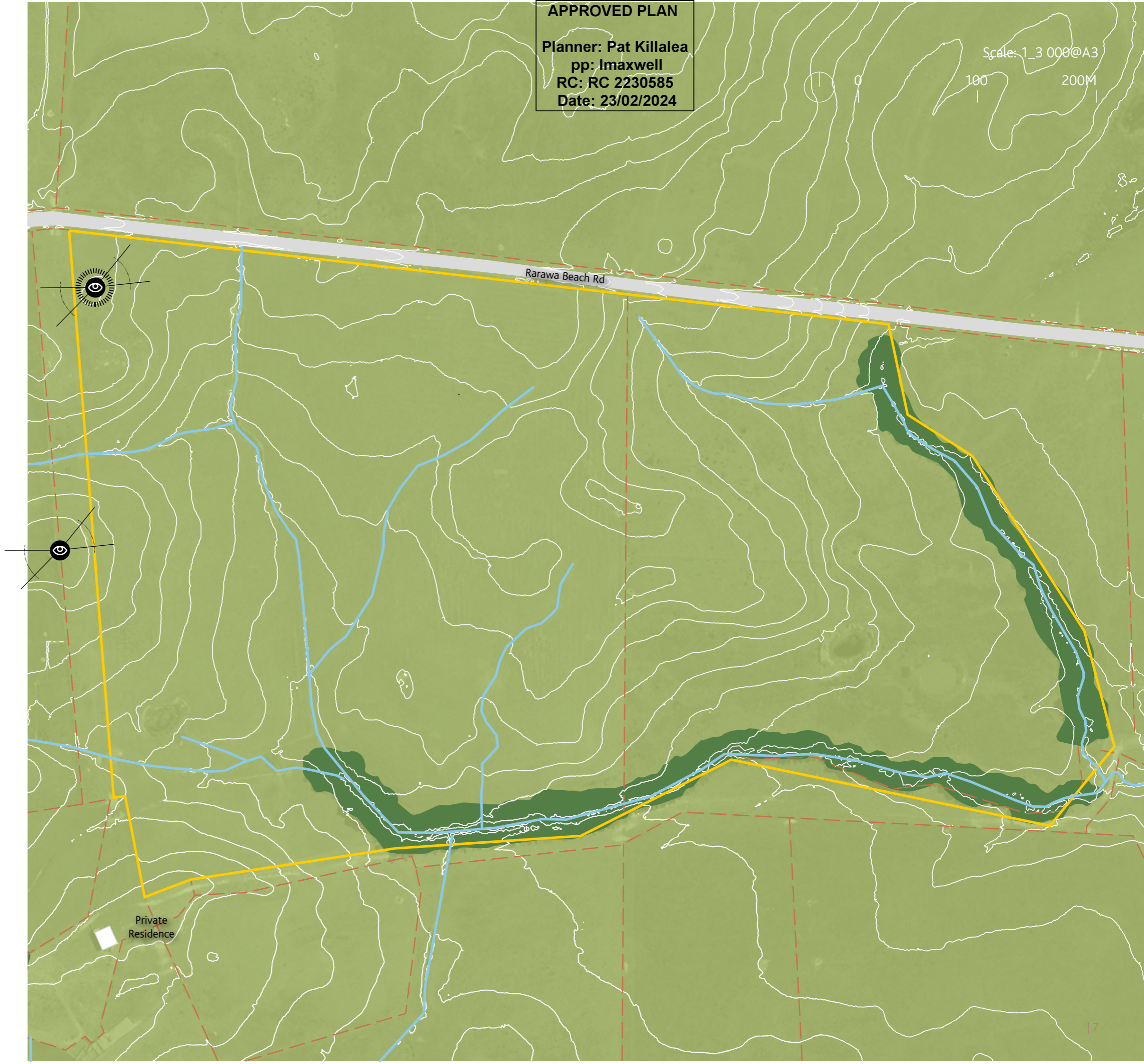


# NGATAKI SITE ANALYSIS

**APPROVED PLAN**  
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pp: lmaxwell  
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Date: 23/02/2024

Scale: 1\_3 000@A3

100 200M



## KEY

- Site
- Vehicle route
- Overland flow path/waterways
- Fence
- Building footprints
- Existing vegetation
- Open space
- Knoll
- Views



Ngāti Kuri Papakāinga

# NGATAKI MASTERPLAN

**APPROVED PLAN**  
 Planner: Pat Killalea  
 pp: lmaxwell  
 RC: RC 2230585  
 Date: 23/02/2024

Scale: 1\_3 000@A3  
 100 200M



**KEY**

- Proposed Route
- Overland flow path/waterways
- Building footprints
- Ngahere Revegetation
- Open space
- Play ground
- Wetland area
- Stream Restoration
- Māra Kai / Māra Kumara
- Taonga Species
- Seedling nursery
- Walking Tracks



# NGATAKI HOUSING LOTS

**APPROVED PLAN**

**Planner: Pat Killalea**

**pp: I Maxwell**

**RC: RC 2230585**

**Date: 23/02/2024**



**KEY**

- 14 Section Typology A - Primary Dwelling
- 24 Section Typology B - Primary Dwelling
- 6 Kaumātua Whare - Primary Dwelling
- 38 Typology D - Secondary Dwelling

# PAPAKĀINGA ELEMENTS

1. Overview of Papakāinga development
2. Lot typologies and Streetscapes
3. Taiao and natural environment
4. Whenua
5. Whare

# OVERVIEW OF PAPA KĀINGA DEVELOPMENT

**APPROVED PLAN**  
**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
**Date: 23/02/2024**

The papakāinga layout is in response to the taiao and Ngāti Kuri whānau residential and recreational needs. This diagram provides an overview of the typical papakāinga layout for Ngā Takinga o Mokohōrea. Each dwelling has provisions for māra kai, outlier kai preparations, recreation and respite as well as passive observation.



- KEY
- (A) Housing Section Typology A
  - (B) Housing Section Typology B
  - (D) Housing Section Typology D



# SECTION TYPOLOGY OPTION A

The housing lots will consist of either 3, 4 or 5 bedroom homes with many of the lots being large enough to accommodate a minor dwelling in the future.

The houses are proposed to be built from a mixture of feature timber, concrete block and profiled metal claddings with natural recessive colours inspired by the whenua including natural timber, concrete block and powder coated metal claddings.

## KEY

- ① Low - Medium Amenity Planting / Passive Surveillance
- ② Mara Kai
- ③ Orchard Planting
- ④ Screening of Water Tanks
- ⑤ Shelter Belt
- ⑥ Rain Garden
- ⑦ Vegetated screening between homes
- ⑧ Specimen Trees



0

10

20

Scale: 1\_250@A3





# SECTION TYPOLOGY OPTION A

APPROVED PLAN

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# SECTION TYPOLOGY OPTION B

The housing lots will consist of either 3, 4 or 5 bedroom homes with many of the lots being large enough to accommodate a minor dwelling in the future.

The houses are proposed to be built from a mixture of feature timber, concrete block and profiled metal claddings with natural recessive colours inspired by the whenua including natural timber, concrete block and powder coated metal claddings.

KEY

- ① Vegetated Screening
- ② Māra Kai
- ③ Orchard Planting
- ④ Screening of Water Tanks
- ⑤ Shelter Belt / Grey Water Dispersal Areas
- ⑥ Rain Garden
- ⑦ Low - Medium Amenity Planting / Passive Surveillance
- ⑧ Specimen Trees
- ⑨ Taonga Species



0

10

Scale: 1\_250@A3

20

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# SECTION TYPOLOGY OPTION B

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Date: 23/02/2024



# SECTION TYPOLOGY OPTION D

**APPROVED PLAN**

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**Date: 23/02/2024**

## Whare Pai

1 bedroom self contained kaupapa māori tiny house with a mix of feature timber and profiled metal claddings with natural recessive colours inspired by the whenua, ngahere and repo.

- Familiar vernacular 'whare' design with modern twist
- Mahau / porch as core living space
- Compact living, dining kitchen
- Bed alcove
- Wheel chair accessible Ensuite



## Whare Kāhui

1 bedroom self contained kaupapa māori tiny house with a mix of feature timber and profiled metal claddings with natural recessive colours inspired by the whenua, ngahere and repo.

- Familiar vernacular 'whare' design
- Mahau / porch as core living space
- Compact living, dining and kitchen
- Separate bedroom





# KAUMĀTUA WHARE

The Kaumātua housing will consist of 2 bedroom homes built from a mixture of feature timber, Axon panel and profiled metal claddings with natural recessive colours inspired by the whenua, ngahere and repo.

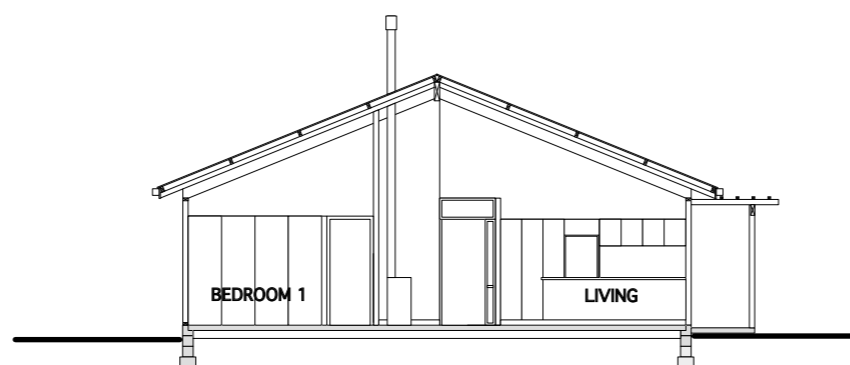
**APPROVED PLAN**  
Planner: Pat Killalea  
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Date: 23/02/2024



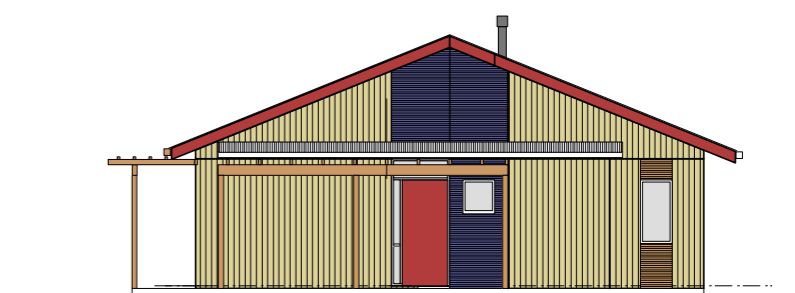
**NORTH ELEVATION**



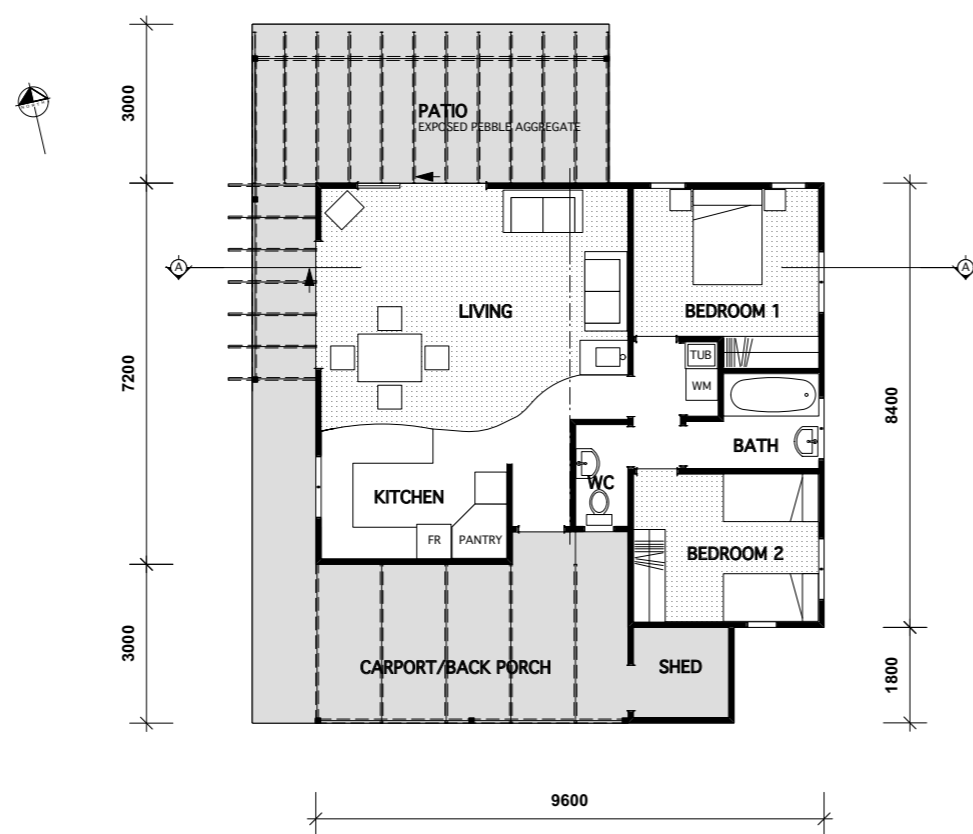
**WEST ELEVATION**



**SECTION A-A**



**SOUTH ELEVATION**



**FLOOR PLAN**



**EAST ELEVATION**

# TYPICAL STREETScape

APPROVED PLAN

Planner: Pat Killalea

pp: I Maxwell

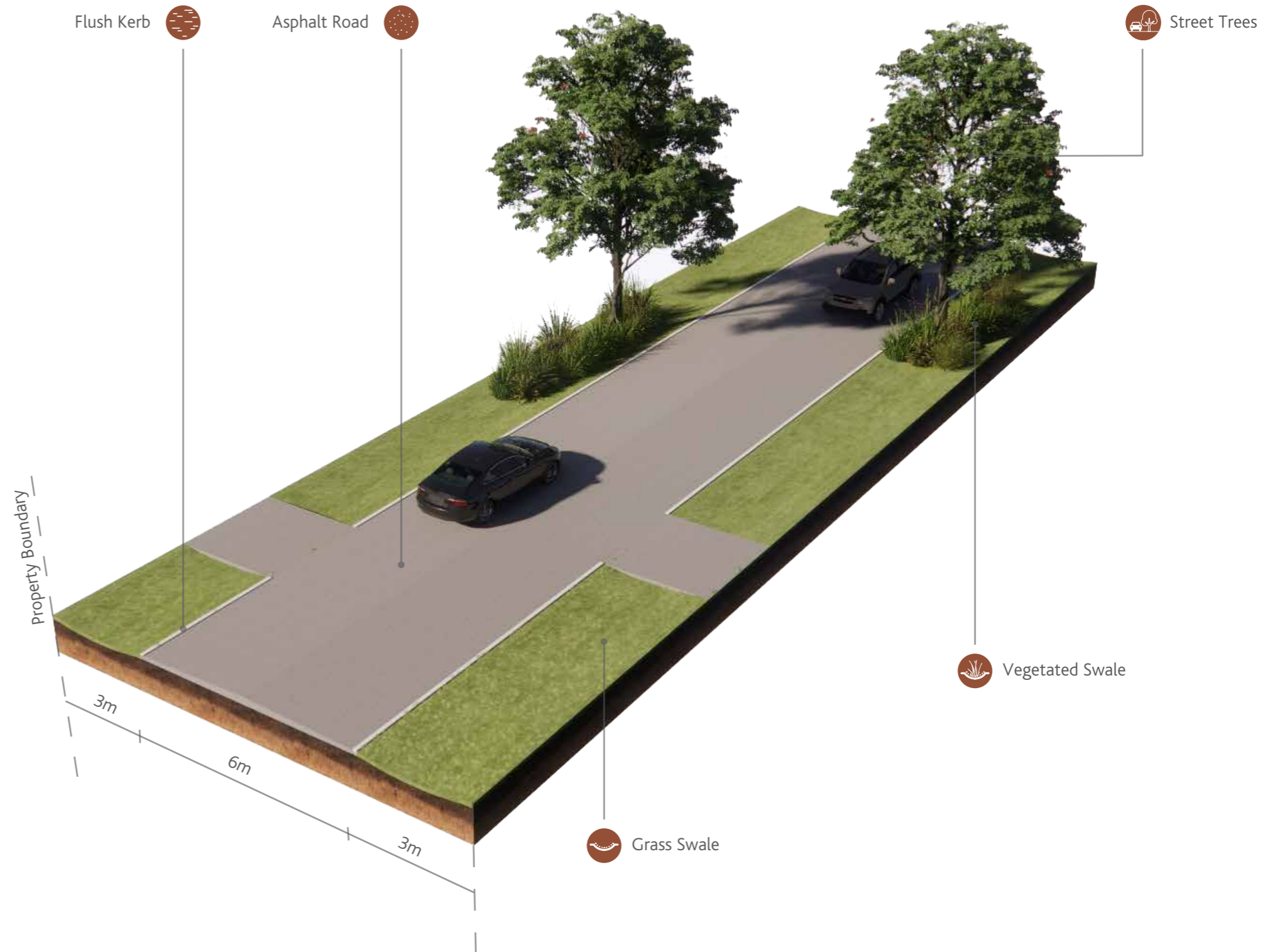
RC: RC 2230585

Date: 23/02/2024

The streets are designed to maintain a 'low key', slow speed rural environment.

The flush kerbs, grass swale, rain gardens and street trees all contribute towards achieving this outcome.

The sealed surface is important for reducing negative health effects of dust during dry conditions.





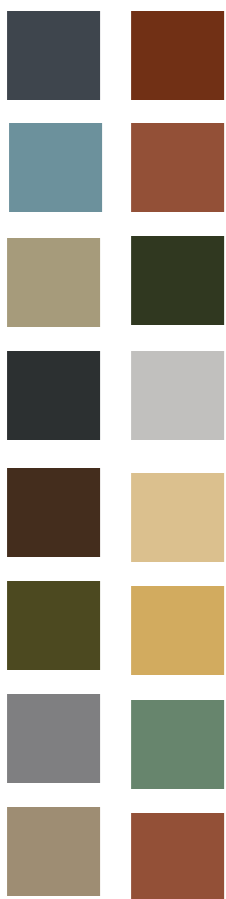
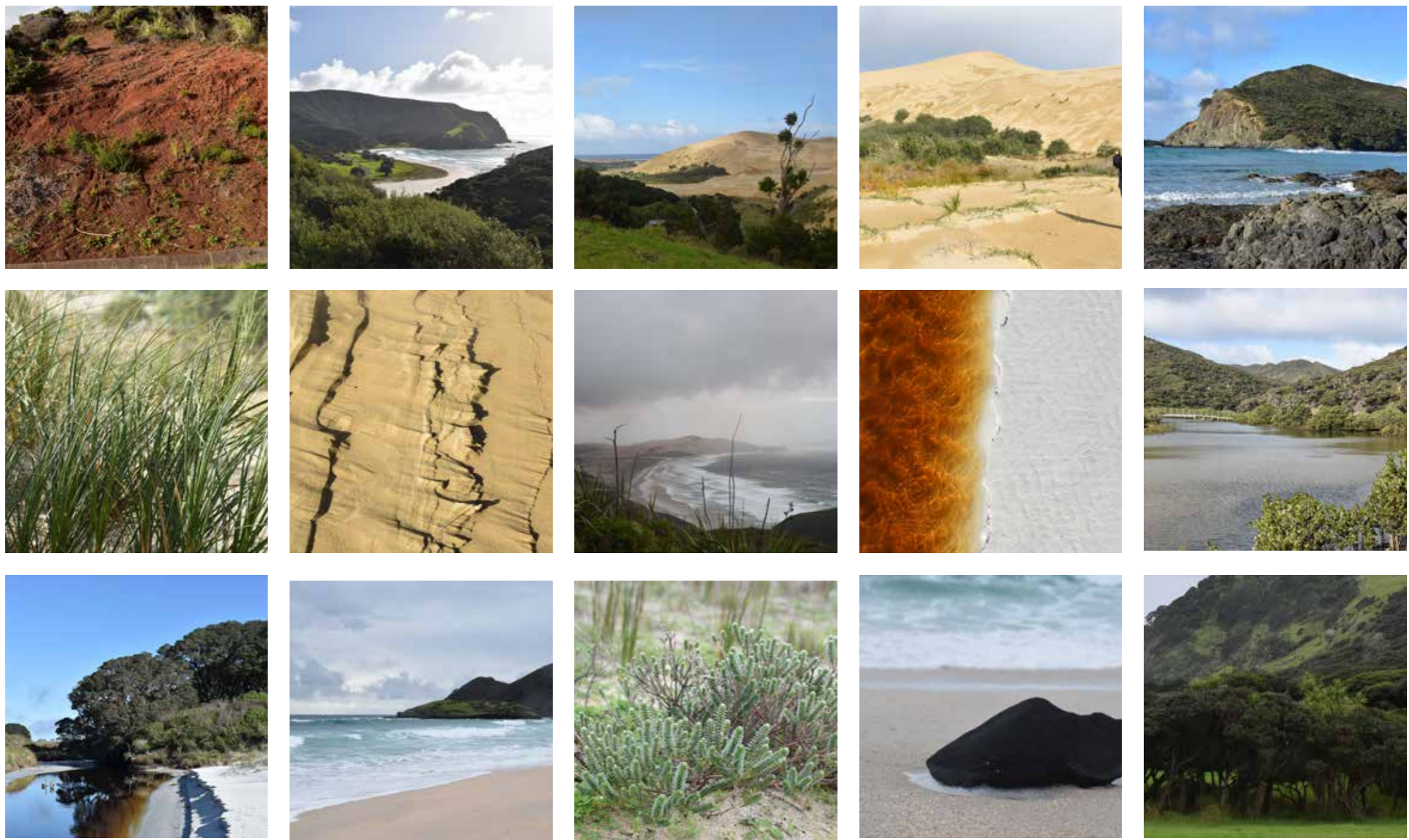
# COLOURS OF NGĀTI KURI WHENUA AND ROHE

APPROVED PLAN

Planner: Pat Killalea  
pp: I Maxwell  
RC: RC 2230585  
Date: 23/02/2024

Natural recessive colours inspired by the whenua will be for all used for building materials, including house façades, roofs, tanks and communal buildings with associated facilities will adhere to this colour scheme.

Natural building materials such as timber from local sources are given preference where available.





# TAONGA SPECIES - NGAHERE

**APPROVED PLAN**

**Planner: Pat Killalea**

**pp: I Maxwell**

**RC: RC 2230585**

**Date: 23/02/2024**

Taonga species will be planted within dedicated areas of the papakāinga to be protected and nurtured. These taonga include the rare Manawatāwhi Kaikōmako and Ratā moehau.

MANAWATĀWHI  
KAIKŌMAKO



RĀTĀ MOEHAU



TŌTARA



KAHIKA



KOHEKOHE



KARAKA



TAWAPOU



KAURI



KAWAKA



MĀTAI





# INTRODUCTION TO PRODUCTIVE LANDSCAPES

**APPROVED PLAN**  
**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
**Date: 23/02/2024**

## PRODUCTIVE LANDSCAPE ZONES

Productive Landscape Zones (PLZ) is a permaculture concept that organizes a site such as a garden, a farm or papakāinga into areas requiring similar types and amounts of management and maintenance. On a practical level, a PLZ is determined by how often the area and the elements in it need to be used and maintained. Organising different types of food systems using PLZs helps to understand the indicative size and scale of land area, resources, labour and investment required to establish and maintain the food system. The PLZ should also reflect the underlying environmental patterns and natural processes of a site including climate, landform, soils, water and vegetation. The PLZs are numbered 1 to 5. Zones 1 and 2 are intensive systems requiring frequent access, management and maintenance. Zones 3 and 4 are extensive systems while zone 5 are lightly managed areas for wild harvest.

**● ZONE 1 - MĀRA KAI**



This is the most intensively managed area of the garden that requires daily interaction. Social spaces can be intergrated such as decks, courtyards and lawns and play areas. Seasonal produces might include annual vegetables, salad mixes, herbs and flowers for cutting. An additional layer oto this zone eneficial insects; small fruit plants, dwarf and espalier fruit trees; some small livestock such as worms; bees; and poultry.

**● ZONE 2 - URU HUARĀKAU**



Areas of intensive seasonal food production which includes annual and perennial vegetables and staple crops with long growing seasons; flowers for cutting and beneficial insects; larger shrubs and fruit bushes; orchards and forest gardens;

**● ZONE 3 - AHUWHENUA MĀORI**



Extensive productive areas for large sites, typically in rural and rural residential areas. Land uses include terracing, contour planting, forest gardens and orchards of larger fruit eg avocados and nut trees; large scale berry crops, some commercial market and field crops; fire retardant and shelter planting; as well as animal shelters, workshops and larger composting systems.

**● ZONE 4 - RONGOĀ RĀKAU**



Extensive productive areas for large rural sites which typically involves a combination of grazing and forestry. Land uses include pasture for larger grazing animals such as horses, sheep, and cows and a wide range of forestry systems including agroforestry, native and analogue forestry for timber and firewood, large nut trees; shelter planting; dams lakes, wetlands and natural waterways; and vehicle and foot access.

**● ZONE 5 - MAHINGA KAI AND NGAHERE**



Areas providing for core and broad scale ecosystem functions that provide sovereignty and education in alignment with tikanga and includes small but not insignificant yields of food, fibre and fuel. Zone 5 includes patches of remnant vegetation and native ecosystems, riparian corridors, wetlands and natural waterways as well as vacant sites, fragmented, disturbed, neglected or unused areas of land that are under a process of succession and are likely to be reverting back to a temperate forest.



## MĀRA KAI

Daily managed gardens for annual and perennial vegetables, salad mixes, herbs and materials as well as staple crops with long growing seasons and flowers for cuttings, beneficial insects and pollination for small fruit-bearing plants and shrubs.

Diversification of structure, layout and contents of garden areas such as horizontal and vertical gardens will help to save on space.

Introducing wide range of produce will provide a sustainable year round food source while improving biodiversity within the papakāinga.

## URU HUARĀKĀU

A wide selection of fruit and nut species that provide seasonal yields and are easily accessible on site and appropriate for the climatic conditions of Te Tai Tokerau.

Species that would be included; Orchard and perennial cropping; some market crops; larger composting areas; mushroom cultivation; animals such as bees, poultry, pigs, goats; and fire retardant and shelter planting.

TAEWA / RIWAI



KŪMARA



UWHIUWHI



PIKO PIKO



RAU RĒTIHI



KANGA



KŌKIHI



PUANANĪ / POROKARI



PAUKENA



KAMOKAMO



MANARINI



RĒMANA



KOTAKOTA



PARAMU



WHĪTOA





# NGAHERE AND MAHINGA KAI STRATEGY

**APPROVED PLAN**  
**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
**Date: 23/02/2024**

Ngahere and Mahinga Kai species will be planted throughout the papakāinga so that there is easy access and an abundance of resource for all to utilise. These species will reproduce in large numbers as to keep the populations of these species thriving.



COASTAL KARAMU



KĀNUKA



MĀNUKA



POROKAIWHIRI



NGAIO



TARATARA



HAEKARO



HANGEHANGE



HOUPARA



MAHOE



KARO



MAPOU



AKEAKE



WHAUWHAUPAKU



TOETOE

# SHARED FACILITIES

**APPROVED PLAN**  
**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
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A variety of shared facilities will be provided on the sites for the specific activities required. Facilities will be light on the land and in keeping with the aesthetic of the rural / bush context.

EDUCATIONAL HUTS / SHELTER



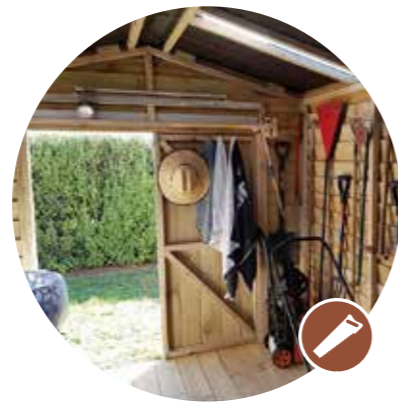
WATER TANKS AND REFUSE STORAGE



WALKING TRACKS



GARDEN UTILITY SHEDS



SEEDLING NURSERIES



COMPOSTING STATIONS





# APPENDIX 1 - PLANTING PLAN & SCHEDULE

# NGATAKI PLANTING PLAN

**APPROVED PLAN**  
Planner: Pat Killalea  
pp: lmaxwell  
RC: RC 2230585  
Date: 23/02/2024

Scale: 1\_3 000@A3

100 200M



## KEY

- Overland flow path/waterways
- Ngahere Revegetation
- Open space
- Taonga Species / Seedling nursery
- Māra Kai / Māra Kumara
- Street, field and fruit trees



# NGATAKI PLANTING SCHEDULE

**APPROVED PLAN**

**Planner: Pat Killalea**  
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## Perimeter Planting - Area 4.6ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Centers (M)	Quantity
Ku_eri	Kānuka	Kunzea ericoides	15%	3L	1.5	3583
Le_sco	Mānuka	Leptospermum scoparium	10%	3L	1.5	2388
Me_ram	Māhoe	Melicytus ramiflorus	15%	3L	1.5	3583
He_arb	Pigeonwood, porokaiwhiri	Hedycarya arborea	10%	3L	1.5	2388
My_lae	Ngaio	Myoporum laetum	10%	3L	1.5	2388
Pi_eug	Tarata	Pittosporum eugenoides	10%	3L	1.5	2388
My_aus	Red mapou, Red matipo	Myrsine australis	10%	3L	1.5	2388
Pi_cra	Karo	Pittosporum crassifolium	10%	3L	1.5	2388
Do_vis	Akeake	Dodonea viscosa	10%	3L	1.5	2388
					<b>Total</b>	<b>23884</b>

## Specimen Trees within Ngahere and Housing Area - Area 13.5ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Centers (M)	Quantity
Ag_aus	Kauri	Agathis australis	6%	5L	5.0	375
Be_tar	Tarairi	Beilschmiedia tarairi	5%	5L	5.0	313
Be_taw	Tawa	Beilschmiedia tawa	5%	5L	5.0	313
Co_lae	Karaka	Corynocarpus laevigatus	5%	5L	5.0	313
Da_cup	Rimu	Dacrydium cupressinum	5%	5L	5.0	313
Da_dac	Kahikatea	Dacrycarpus dacrydioides	6%	5L	5.0	375
Dy_spe	Kohekohe	Dysloxlum spectabile	6%	5L	5.0	375
El_den	Hinau	Elaeocarpus dentatus	5%	5L	5.0	313
El_hoo	Pōkākā	Elaeocarpus hookerianus	5%	5L	5.0	313
Kn_exc	Rewarewa	Knightia excelsa	5%	5L	5.0	313
Li_plu	Kawaka	Libocedrus plumosa	5%	5L	5.0	313
Me_exc	Pōhutukawa	Metrosideros excelsa	6%	5L	5.0	375
Ne_ape	Coastal maire	Nestigis apetala	5%	5L	5.0	313
Pl_con	Tawāpou	Planchonella constata	5%	5L	5.0	313
Po_tot	Tōtara	Podocarpus totara	5%	5L	5.0	313
Pr_fer	Miro	Prumnopitys ferruginea	5%	5L	5.0	313
Pr_tax	Mataī	Prumnopitys taxifolia	5%	5L	5.0	313
Vi_luc	Pūriri	Vitex lucens	6%	5L	5.0	375
We_sil	Towai	Weinmannia silvicola	5%	5L	5.0	313
					<b>Total</b>	<b>3535</b>

## Ngahere Revegetation - Area 10.85ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Centers (M)	Quantity
Co_mac	Coastal Karamū	Coprosma macrocarpa subsp. minor	10%	3L	1.5	5573
Ku_eri	Kānuka	Kunzea ericoides	15%	3L	1.5	8360
Le_sco	Mānuka	Leptospermum scoparium	10%	3L	1.5	5573
Me_ram	Māhoe	Melicytus ramiflorus	15%	3L	1.5	8360
He_arb	Pigeonwood, porokaiwhiri	Hedycarya arborea	10%	3L	1.5	5573
My_lae	Ngaio	Myoporum laetum	10%	3L	1.5	5573
Pi_eug	Tarata	Pittosporum eugenoides	10%	3L	1.5	5573
My_aus	Red mapou, Red matipo	Myrsine australis	10%	3L	1.5	5573
Pi_cra	Karo	Pittosporum crassifolium	10%	3L	1.5	5573
Do_vis	Akeake	Dodonea viscosa	10%	3L	1.5	5573
					<b>Total</b>	<b>61306</b>

# NGATAKI PLANTING SCHEDULE

## Taonga Species Grove - Area 1.68ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Centers (M)	Quantity
Pe_bay	Manawatāwhi Kaikōmako	Pennantia baylisiana	20%	8L	2.0	928
Me_bar	Rātā moehau, Bartlett's rātā,	Metrosideros bartlettii	20%	5L	2.0	928
EL_joh	Elingamita	Elingamita Johnsonii	20%	5L	2.0	928
Ge_lig	Pāhange	Geniostoma ligustrifolium var. crassum	20%	3L	2.0	928
Ve_ada	Puāwai Rua / Unuwahao	Veronica adamsii	20%	3L	2.0	928
					Total	4638

## Stream Revegetation - Area 0.25ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Centers (M)	Quantity
Au_ful	Toetoe	Austroderia fulvida	15%	2L	192	192
Ca_sec	Purei	Carex secta	12%	2L	346	346
Ma_sin	Tūhara / Pēpepe	Machaerina sinclairii	13%	2L	375	375
Ma_jun	Tussock Swamp Twig Rush	Machaerina Juncea	15%	2L	433	433
Co_au	Cabbage Tree	Cordyline australis	10%	3L	128	128
Co_rob	Karamū	Coprosma robusta	10%	2L	128	128
Ca_ser	Putaputawētā	Carpodetus serratus	10%	3L	128	128
					Total	1732

**APPROVED PLAN**

**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
**Date: 23/02/2024**

## Māra Hūpara - Area 2069m<sup>2</sup>

Code	Māori name	Botanical Name	Percentage Mix %	Area
		Mixed mediums	100	2069m <sup>2</sup>

## Open Space - Area 4.4ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Area
		Mixed turf species	100	1L	4.4 ha

## Māra Kūmara - Area 0.55ha

Code	Māori name	Botanical Name	Percentage Mix %	Grade (L)	Area
	Kūmara	Various Species	100	1L	0.55 ha



# APPENDIX 2 - SUSTAINABILITY STRATEGY

# PASSIVE DESIGN

*Passive design describes design strategies that allow a building to respond to local climate and site conditions to maximise building users' comfort and health while minimising energy use.*

For more information <https://www.nzgbc.org.nz/GreenStar>

<http://www.level.org.nz/passive-design>

<https://living-future.org/lbc/>

<https://www.smarterhomes.org.nz/>

Source: James Lunday TBC

**APPROVED PLAN**

**Planner: Pat Killalea**  
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## BUILDING ORIENTATION

Buildings should be oriented north and/or designed in a way that captures light and warmth from the sun. Consideration should be made to seasonal variations of the sun's path, as well as prevailing winds, for shelter and natural ventilation.

## GLAZING

Glazing is required to allow light and heat into a building. Glazing and glazing units (frames) should be designed to admit light while controlling heat gain and heat loss. The Window Energy Efficiency Rating System (WEERS) is a useful 6-star rating programme that compares the thermal performance of windows in buildings.

In order to balance solar gain with insulation, on average, no more than 40% of a building should be glazed.

## THERMAL MASS

Thermal mass works by absorbing heat and re-radiating it as temperatures drop. By utilising the thermal mass of a heavyweight material, temperature fluctuations can be reduced, resulting in a more constant indoor temperature.

The ideal material is:

- Dense and heavy, so it can absorb and store significant amounts of heat.
- A reasonably good heat conductor (heat has to be able to flow in and out).
- Has a dark surface, a textured surface or both (helping it absorb and re-radiate heat).

## INSULATION

Inadequate insulation and air leakage are the main causes of heat loss in homes. Insulating the ceiling, under the floor, walls and windows creates a secure thermal envelope and forms the barrier between heated and unheated spaces.

Check for brands that have the Environmental Choice N.Z licence.

Environmental Choice New Zealand (ECNZ) is an environmental labelling programme which has been created to help businesses and consumers find products and services that ease the burden on the environment.

## NATURAL VENTILATION

Effective ventilation is necessary for temperature control and air quality. Creating an indoor environment where there is no damp or mould requires an effective combination of ventilation and heating.

Natural ventilation is driven by pressure differences between one part of a building and another, or pressure differences between the inside and outside.

Natural ventilation is generally achieved through:

- Wind-driven (or wind-induced) cross ventilation
- or
- Buoyancy-driven stack ventilation

[https://www.designingbuildings.co.uk/wiki/Natural\\_ventilation\\_of\\_buildings](https://www.designingbuildings.co.uk/wiki/Natural_ventilation_of_buildings)

*Consider energy in a holistic manner\_ use less energy and reduce consumption.*

There are many different ways to reduce your household and neighbourhood energy use, ranging from simple behavioural adjustments to extensive home improvements. The two major motives for conserving energy are to save on utility bills and protect the environment.

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**Planner: Pat Killalea**

**pp: I Maxwell**

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## CONSERVATION

Energy conservation is important and beneficial for many reasons. It can save money, increase property value, and protect the environment, all through simple energy-saving measures.

Following sustainable building practice with scrupulous attention to the siting of buildings, choices of building materials, insulation/thermal mass and renewable energy sources for electricity production, will all assist in the long-term reduction of energy use.

- Install energy-efficient windows
- Weatherise buildings by sealing air leaks
- Insulation of attics, ceilings, floors and walls
- Low energy appliances
- Replace light bulbs - LED Lights use 25% - 80% less electricity and last longer than traditional bulbs

## PRODUCTION

Remote area power systems can be used to meet the electricity needs of an individual property or group of properties, by generating electricity close to where it will be used and using sustainable energy sources such as sun, water, wind and biowaste. The low density rural and coastal nature of the Far North District offers a number of renewable energy opportunities. For example:

- **Solar Panels**  
The three main types of solar panels are; monocrystalline, polycrystalline and thin film. Choice of panel depends on the size of roof available. Panels with higher efficiency produce more power per m2.
- **Micro-Hydro**  
Hydroelectricity systems use the force of running water to turn turbine blades, which spin a shaft connected to a generator. If there is access to a stream or waterway, micro-hydro can be a reliable and economic way to generate off-grid electricity.
- **Micro Digester**  
Micro digesters produce biogas using own biomass resources (waste) from farms, where livestock manure is the main substrate. The gas can be used to run machinery directly to replace mineral diesel or can be used to generate heat and electricity.

*Building materials have an environmental impact at every step of the building process.*

Appropriate selection of materials can ensure efficient use, low environmental impact and minimising of waste generated. This will result in improvements to the cost-effectiveness, energy efficiency and, ultimately, the comfort of a building.

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## EMBODIED ENERGY

Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site.

Buildings should be designed, and materials selected, to balance embodied energy with factors such as climate, availability of materials and transport costs.

## THE DURABILITY OF BUILDING MATERIALS

Durability and maintenance requirements of building materials should be considered together across the expected service life of a building.

Materials that require more maintenance may turn out to be preferable if their original manufacturing produces very few greenhouse gases, such as timber.

Examples - recycled steel, bamboo, precast concrete, reclaimed or recycled wood and earth.

## USE OF LOCALLY SOURCED MATERIALS

The source of materials needs to be considered to keep transport costs and resultant CO2 emissions to a minimum. In particular, heavy and bulky materials should be sourced locally where possible.

Choosing local materials not only reduces the building's energy footprint, it can lead to a more vernacular architectural design style that reflects the uniqueness of the Kaipara District.

## USE OF RECYCLED / UPCYCLED MATERIALS

Sourcing recycled materials can influence the design of the building, creating unique qualities they may not have been achieved through standard purchasing behaviour. It is also a good way to avoid the Materials Petal Red List, which contains the worst materials prevalent in the building industry.

## TOXICITY

The Living Building Challenge 'Materials Petal Red List' of materials and chemicals provides a comprehensive list of products that should be avoided. <https://living-future.org/declare/declare-about/red-list/>

## AVOIDING WASTE

Reducing or eliminating the production of waste during design, construction, operation, and end of life is vital to conserve natural resources and minimise waste sent to landfills.

Explore ways to integrate waste back into either an industrial loop or a natural nutrient loop, such as donating clean materials to organisations like 'Habitat for Humanity' or using excavated soils on site.



# APPENDIX 3 - WHARE FLOOR PLANS



# OPTION A1

SOUTH ENTRANCE  
3 BEDROOM  
15.3m x 8m  
108sqm  
  
+ 1 BED STUDIO

50000

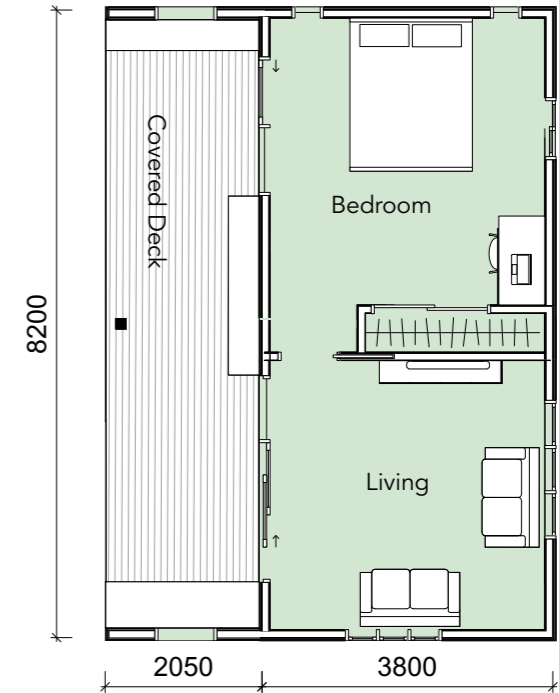


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1 Option A1 - Site Plan  
Scale: 1:100

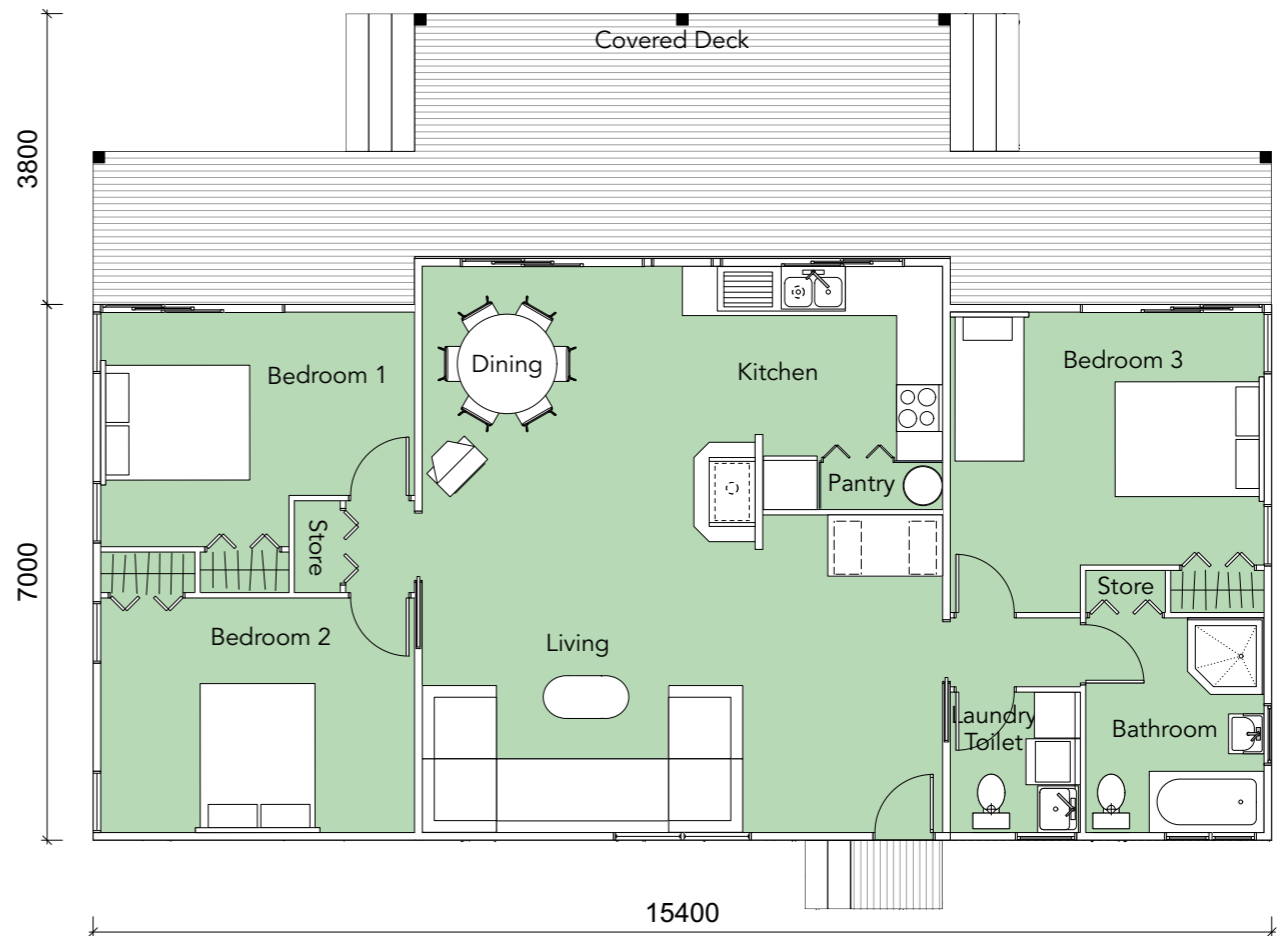
APPROVED PLAN

Planner: Pat Killalea  
pp: Imaxwell  
RC: RC 2230585  
Date: 23/02/2024



08208

3 Secondary Dwelling  
Scale: 1:50



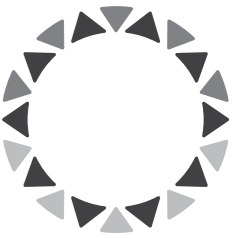
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7000

15400

2 Primary Dwelling  
Scale: 1:50

REVISION DATE NOTES  
ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED. CHECK ALL DIMENSIONS AND LEVELS ON SITE PRIOR TO WORK COMMENCING. DO NOT SCALE OFF DRAWINGS. USE FIGURED DIMENSIONS ONLY.



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ARCHITECTS

Design Tribe Limited  
553 Richmond Rd, Grey Lynn, Auckland 1021  
PO Box 47-311, Ponsanby, Auckland 1144  
PH 09 376 6975 designtribe.co.nz

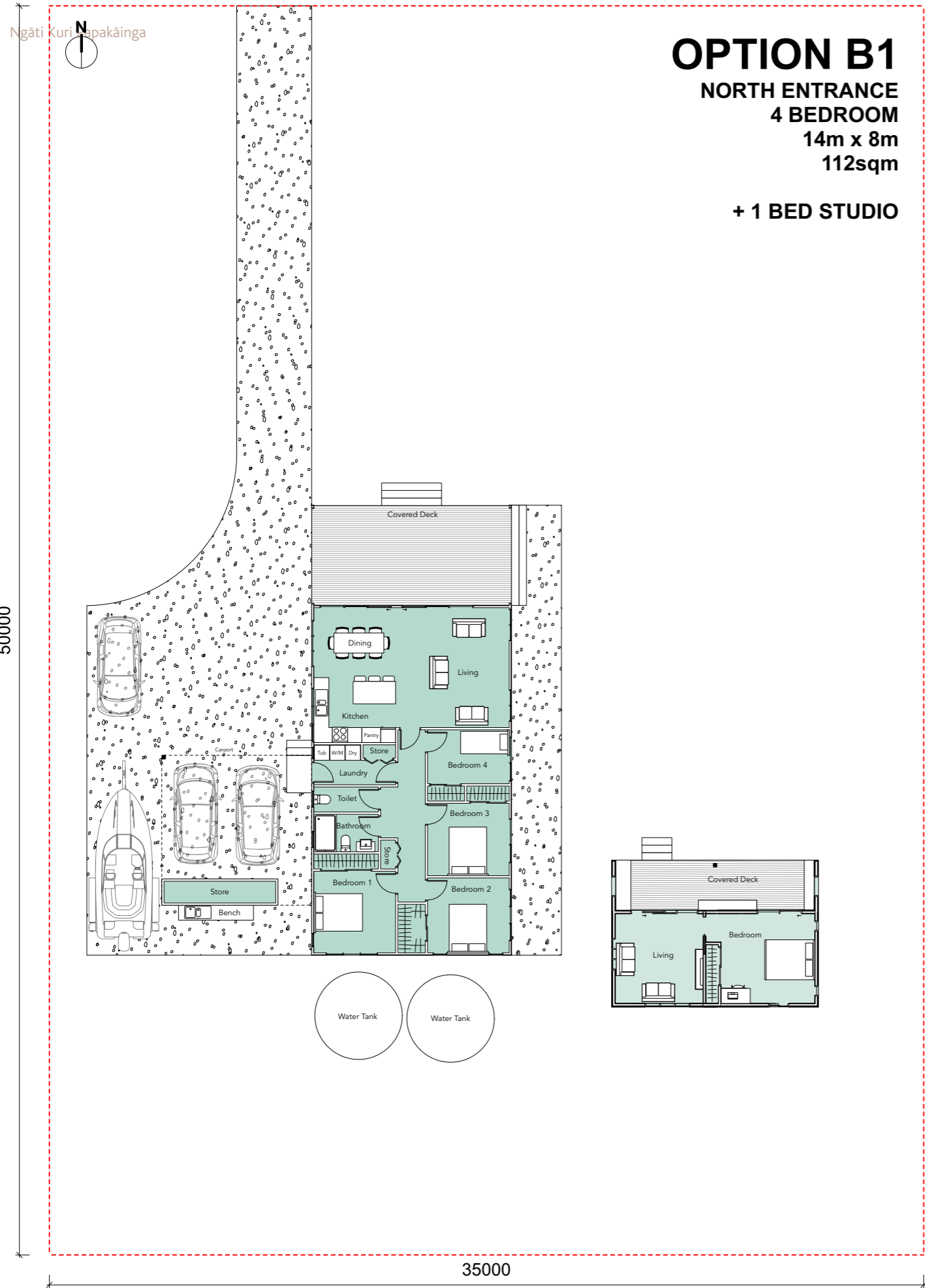
CLIENT  
Ngāti Kuri

PROJECT

ADDRESS

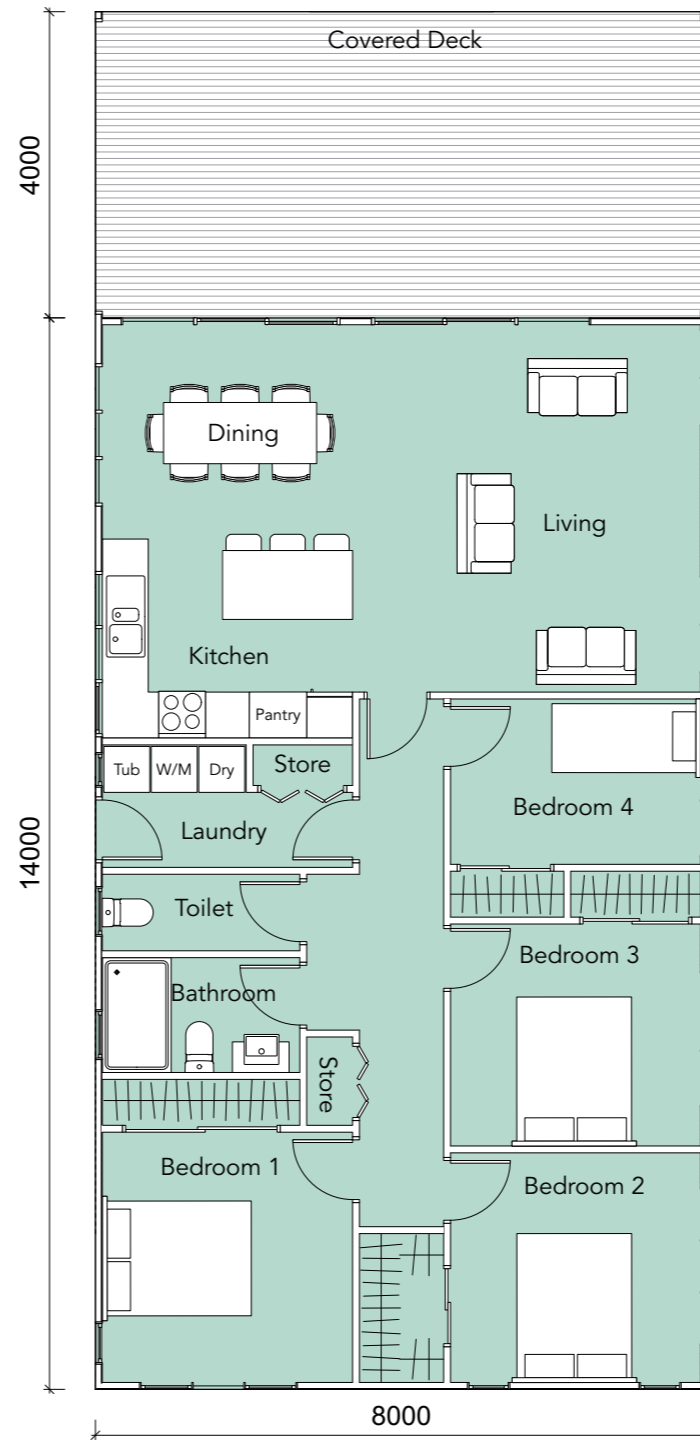
SHEET  
Option A1 - South Entrance

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DATE	7/6/22	SCALE	Half scale
DRAWN	DT	CHECKED	DT
PROJECT No.	22006	DRAWING No.	A1

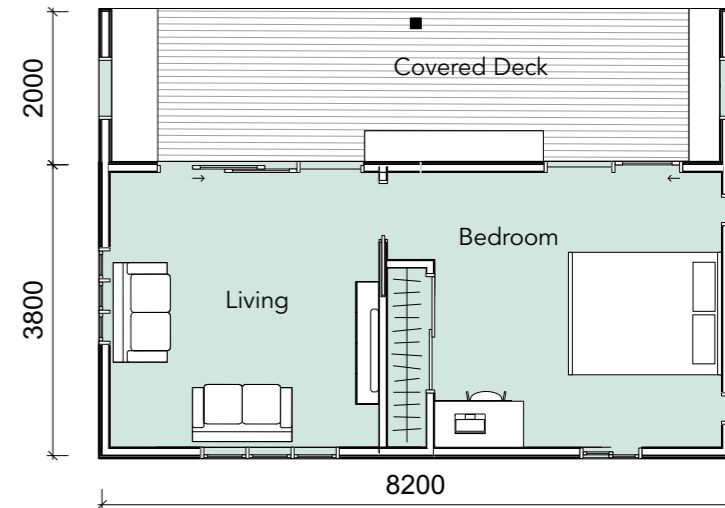


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Planner: Pat Killalea  
 pp: I Maxwell  
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 Date: 23/02/2024

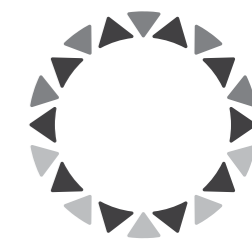


2 Primary Dwelling  
 Scale: 1:50



3 Secondary Dwelling  
 Scale: 1:50

REVISION | DATE | NOTES  
 ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED. CHECK ALL DIMENSIONS AND LEVELS ON SITE PRIOR TO WORK COMMENCING. DO NOT SCALE OFF DRAWINGS. USE FIGURED DIMENSIONS ONLY.



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 PO Box 47-311, Ponsbury, Auckland 1144  
 PH 09 376 6975 designtribe.co.nz

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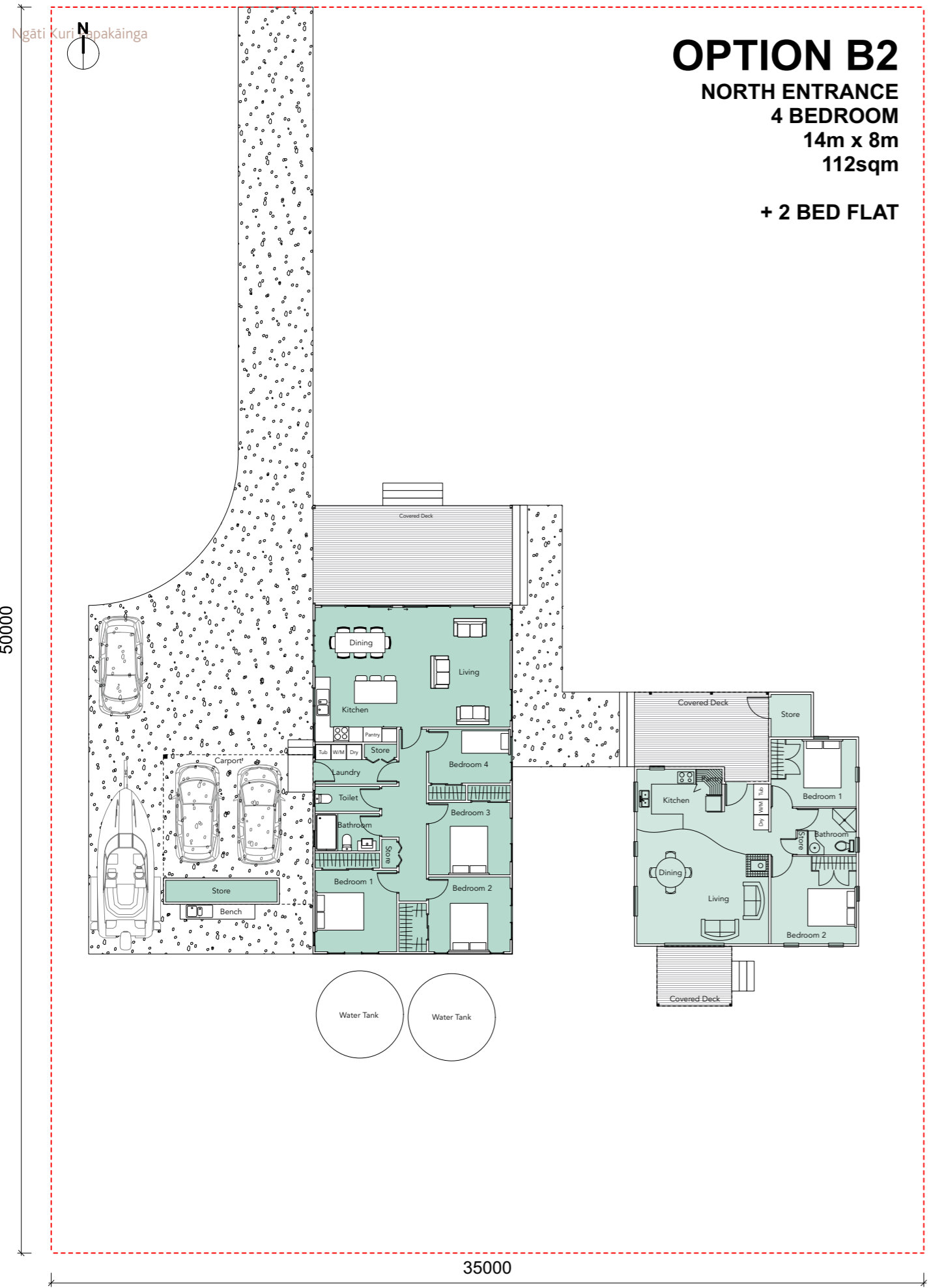
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SHEET  
 Option B1 - North Entrance

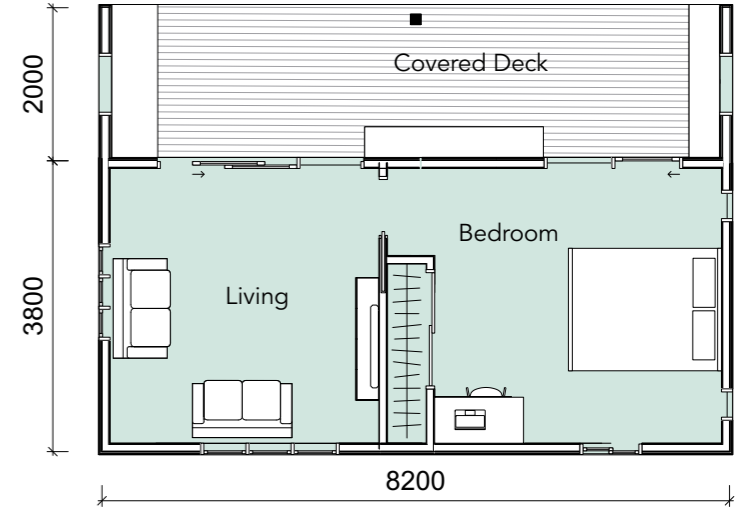
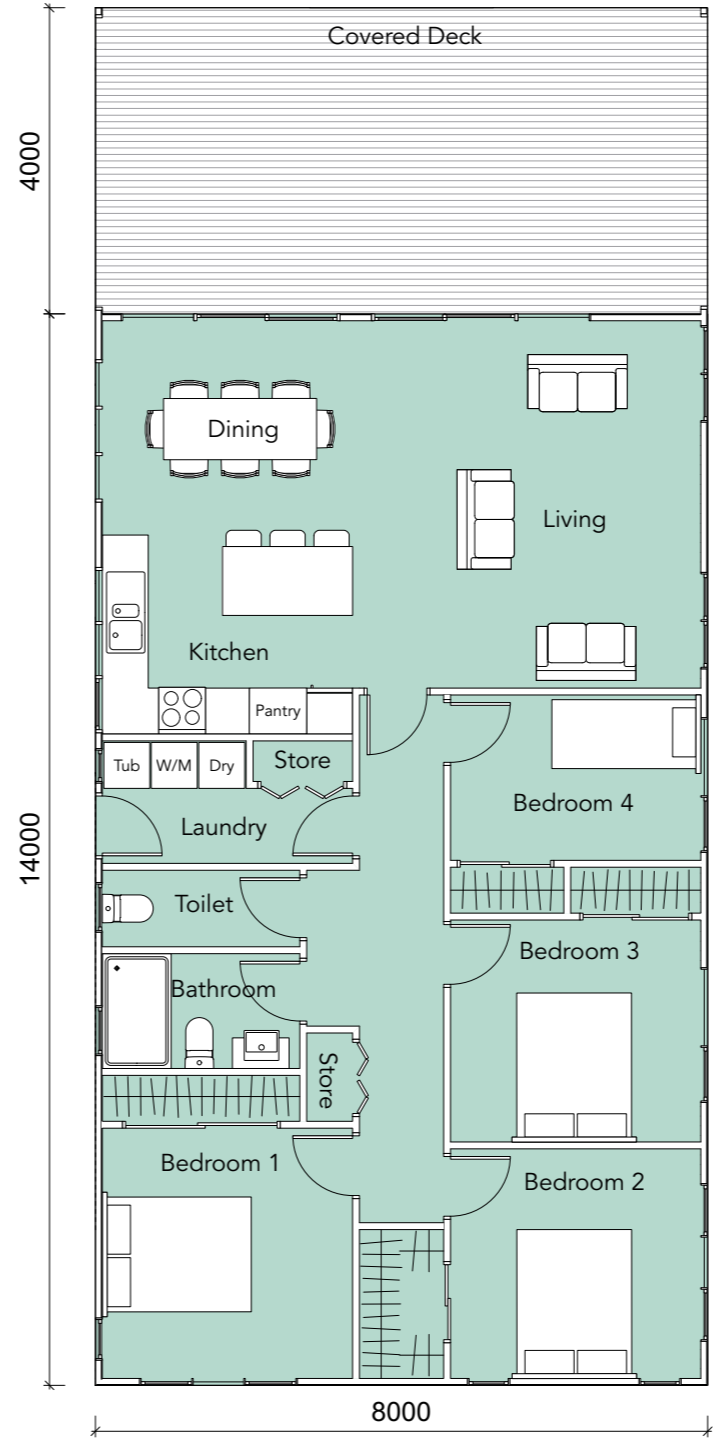
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Master Planning	7/6/22	1:100 @A1	4
		1:200 @A3	
DRAWN	DT	CHECKED	DT
PROJECT No.	DRAWING No.	REV	DRAWING Status
22006	B1		

1 Option B1 - Site Plan  
 Scale: 1:100  
 Ngataki RC Package | Rev 2 | October 2023



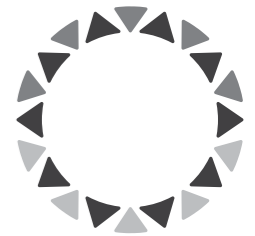


**APPROVED PLAN**  
 Planner: Pat Killalea  
 pp: I Maxwell  
 RC: RC 2230585  
 Date: 23/02/2024



3 Secondary Dwelling  
 Scale: 1:50

REVISION | DATE | NOTES  
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**design tribe**  
 ARCHITECTS

Design Tribe Limited  
 553 Richmond Rd, Grey Lynn, Auckland 1021  
 PO Box 47-311, Ponsbury, Auckland 1144  
 PH 09 376 6975 designtribe.co.nz

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PROJECT

ADDRESS

SHEET  
 Option B2 - North Entrance

1 Option B2 - Site Plan  
 Scale: 1:100

2 Primary Dwelling  
 Scale: 1:50



ISSUE	ISSUE No.
Master Planning	4
DATE	SCALE
7/6/22	Half scale
DRAWN	CHECKED
DT	DT
PROJECT No.	DRAWING No.
22006	B2



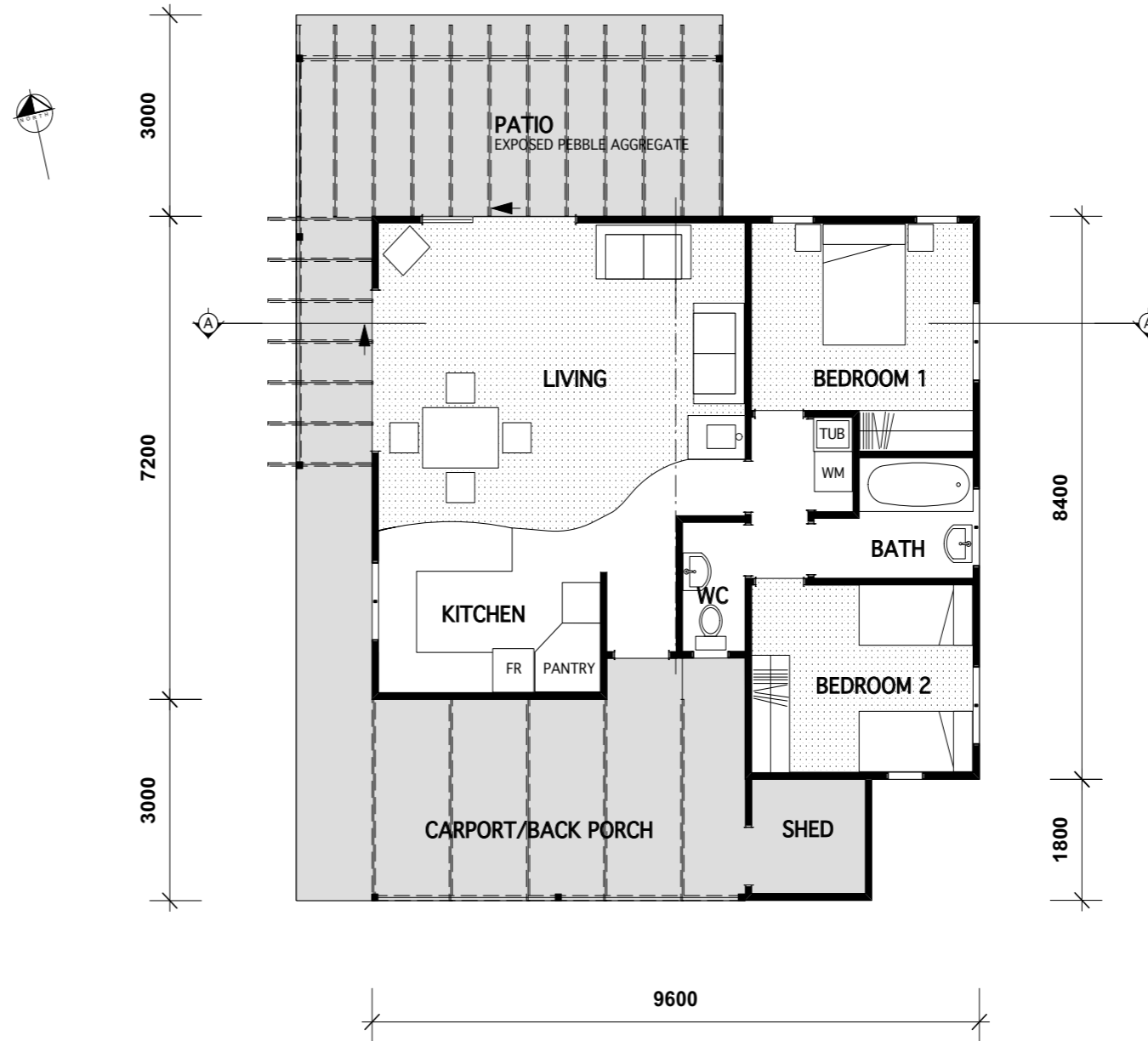
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**Planner: Pat Killalea**

**pp: I Maxwell**

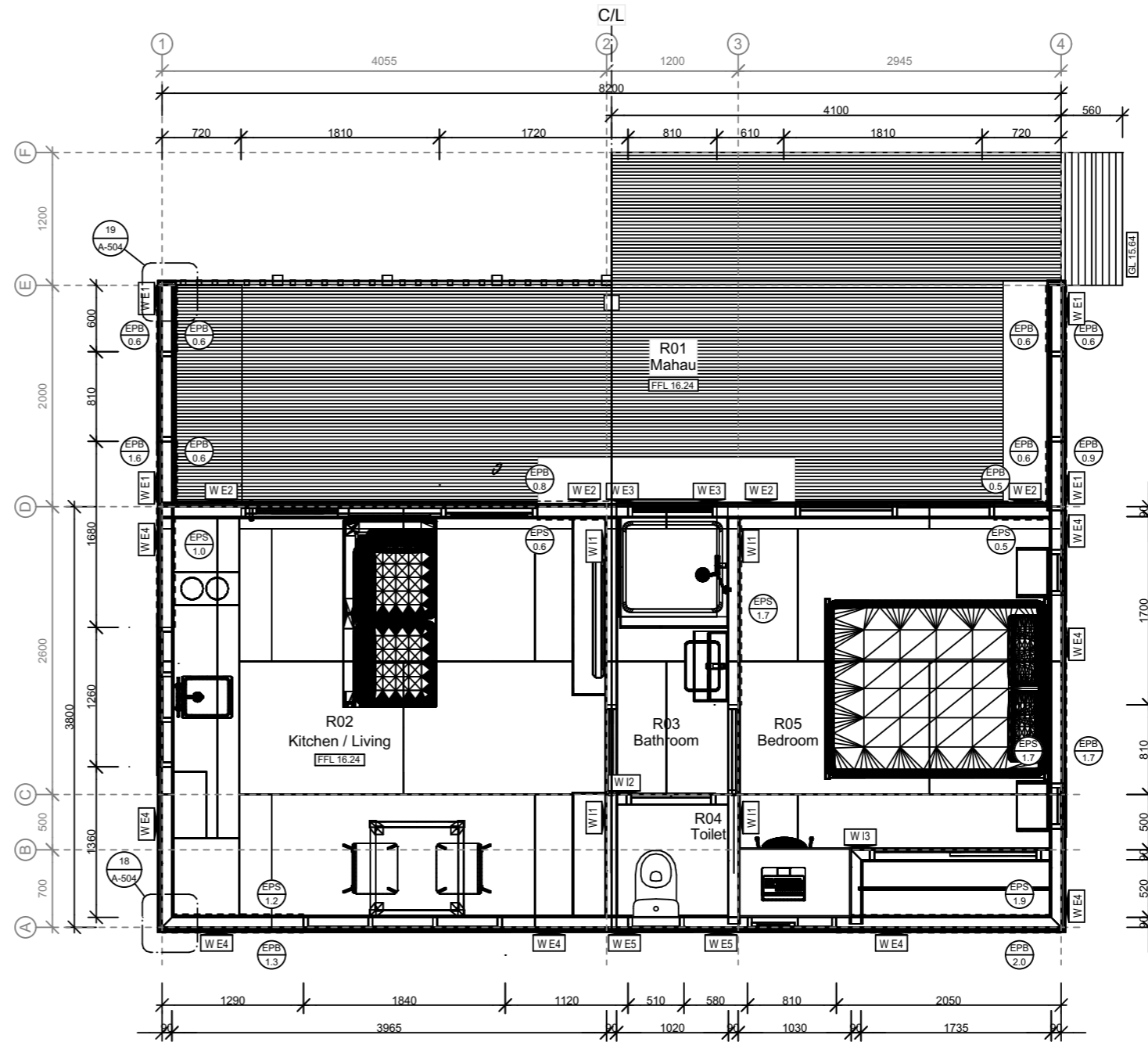
**RC: RC 2230585**

**Date: 23/02/2024**



**FLOOR PLAN**

**APPROVED PLAN**  
**Planner: Pat Killalea**  
**pp: I Maxwell**  
**RC: RC 2230585**  
**Date: 23/02/2024**



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Planner: Pat Killalea  
pp: I Maxwell  
RC: RC 2230585  
Date: 23/02/2024

