THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10299.1 (FNDC)

14 May 2025

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed Subdivision at Waiaua Road, Hihi – B & A Jarvis

I am pleased to submit application on behalf of B & A Jarvis, for a proposed two lot subdivision (one additional) on land at Waiaua Road, Hihi, zoned Rural Production (additional lot) and General Coastal (balance lot with existing development). The application is a discretionary activity.

The application fee of $2,967 has been paid separately via direct credit.

Regards

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

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After Hours: Director: Denis Thomson 09 4071372
After Hours: Office Manager: Sam Lee 021 1370060

Te Kaunihera o Te Hiku o te Ika
Far North District Council

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). 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**

2. Type of Consent being applied for

(more than one circle can be ticked):

- ◯ **Land Use**
- ◯ **Fast Track Land Use***
- ✓ **Subdivision**
- ◯ **Consent under National Environmental Standard** (e.g. Assessing and Managing Contaminants in Soil)
- ◯ **Discharge**
- ◯ **Change of Consent Notice (s.221(3))**
- ◯ **Extension of time (s.125)**
- ◯ **Other (please specify)** _____

** The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

3. Would you like to opt out of the Fast Track Process?

✓ **Yes** ◯ **No**

4. 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

5. Applicant Details

Name/s: Bruce & Andrea Jarvis

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: Lynley Newport

Email: [redacted]

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.*

7. 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: As per item 5 above

Property Address/ Location:

Postcode

8. Application Site Details

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

Name/s:	As per item 5 above
Site Address/ Location:	60 Waiaua Road Hihi MANGONUI Postcode 0494
Legal Description:	Lot 2 DP 495153
Val Number:	
Certificate of title:	726001

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**

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.

Contact Bruce Jarvis on 0274935017 for gate code.

9. Description of the Proposal:

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Subdivision to create one additional lot as a discretionary activity.

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

10. Would you like to request Public Notification?

◯ **Yes** ✓ **No**

11. Other Consent required/being applied for under different legislation

(more than one circle can be ticked):

- ◯ **Building Consent** Enter BC ref # here (if known)
- ◯ **Regional Council Consent (ref # if known)** Ref # here (if known)
- ◯ **National Environmental Standard consent** Consent here (if known)
- ◯ **Other (please specify)** Specify 'other' here

12. 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:

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? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result. ✓ **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**

13. 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.

Your AEE is attached to this application ✓ **Yes**

13. 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**

14. 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) Bruce Jarvis

Email: [redacted]

Phone number: [redacted]

Postal address: [redacted]
(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) Bruce Jarvis

Signature: (signature of bill payer)

Date 13/5/25

MANDATORY

15. 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 may apply for 2 or more resource consents that are needed for the same activity on the same form.

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

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.

A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

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. 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.

15. Important information continued...

Declaration

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

Name: (please write in full) Bruce Jarvis

Signature: Date 13/5/25

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

Checklist (please tick if information is provided)

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

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

14. 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) Bruce Jarvis

Email: [redacted]

Phone number: [redacted]

Postal address:
(or alternative method of service under section 352 of the act) [redacted]

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.

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Name: (please write in full) Bruce Jarvis

Signature:
(signature of bill payer [redacted]

Date 13/5/25

MANDATORY

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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.
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B & A Jarvis

PROPOSED SUBDIVISION PURSUANT TO FNDC OPERATIVE DISTRICT PLAN

78 Waiaua Road, Hihi, Mangonui

PLANNER'S REPORT & ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 THE PROPOSAL

The applicants propose to subdivide their property to create one additional 4.07ha lot, leaving a balance Lot 2 of 54.6192ha. There is existing built development within the large balance lot, at its southern end, with the proposed 4ha lot currently vacant.

Refer to Appendix 1 for copies of the Scheme Plans. Refer to Appendix 2 for a copy of the Locality Plan.

The property accommodates a telecommunications cell tower. The cell tower site is within its own 12m x 14m separate title, within proposed Lot 1, with an existing access and service easement in place from Waiaua Road to the cell tower site. This will remain unchanged, with the likely house site within Lot 1 utilising the majority of the existing access, before a driveway will split off to the west just below the cell tower.

1.2 Scope of this Report

This assessment and report accompanies the Resource Consent Application made by the applicant, and is provided in accordance with Section 88 and Schedule 4 of the Resource Management Act 1991. The application seeks consent to subdivide an existing site to create a total of two lots (one additional), as a discretionary activity subdivision. The information provided in this assessment and report is considered commensurate with the scale and intensity of the activity for which consent is being sought. Applicant details are contained within the Application Form 9.

2.0 PROPERTY DETAILS

Location:	78 Waiaua Road, Hihi Mangonui
Legal description & RT's:	Lot 2 DP 495153; held in Record of Title 726001, copy attached in Appendix 3, along with relevant legal interests.

3.0 SITE DESCRIPTION

3.1 Site Characteristics

The site is located at Waiaua Road, 20m legal metalled road, and is approximately 6.4km from SH10, via Hihi Road.

Both lots contain substantial areas of indigenous bush. The site is considered moderately to steeply sloping overall, with proposed Lot 1 featuring a central flat hilltop area. Lot 1 is vacant, with an easement providing access into a small utility lot, Lot 1 DP 495153. Lot 2 contains a dwelling with shed and landscaped gardens, all at the southern end of the lot. The rest of the property is in bush, predominantly indigenous, with small clearances in several areas.

The property is rolling to steep gullies within volcanic hill country. The land generally slopes downwards from northeast to southwest. Soils are Awapuku clay loam (hill type, AKH), consisting of two LUC classes. The northern half of the property is LUC class 7e1, and the southern half is LUC class 6e2.

There are no water courses within proposed Lot 1. The balance lot has tributary minor water courses joining the Waitetoki Stream which flows along the eastern boundary to the sea. The stream is mapped as being subject to flooding. No development is proposed in this area.

The site has a split zoning of General Coastal and Rural Production in the Operative District Plan (ODP). The proposed additional lot is entirely within the Rural Production zoned portion. No resource feature (as mapped in the ODP) applies. The site is zoned Rural Production in the Proposed District Plan (PDP), with the southern half of the site, including most of the proposed additional lot, mapped as being within the coastal environment.

The area within the coastal environment is mapped in the PDP as having High Natural Character, specifically HNC 143 – "several values & associated hill slopes with kanuka-mixed broadleaved forest with the occasional native conifer; manuka-kanuka shrubland and low forest". This notation does not include the existing built development at the property's southern end, nor any of the northern half of the property.

Part of the large Protected Natural Area (PNA) Whakaangi – O04/210 is mapped as being within the site, both forest and shrubland portions. The site is mapped as High Density Kiwi.

To the south of the property, at the beginning of Waiaua Road, is the Waitetoki Site and Area of Significance to Maori (MS05-43), no part of which extends into the application site. The title within which MS05-43 lies is zoned Maori Purposes – Rural in the PDP. The property is within a Treaty Settlement Area of Interest (a non district plan layer, with no rules associated with it).

Far North Maps Historic Sites layer shows three NZAA recorded archaeological sites within the property. One of these (O04/812) is within the proposed additional lot while the other two are in bush within the large balance lot. The proposed building site within the additional lot is not in the vicinity of O04/812.

3.2 Legal Interests

Lot 2 DP 495153 is subject to the following:

D263605.2 Consent notice protecting the indigenous trees and bush, registered in December 1997

10401561.3 Easement Instrument, registered in 2016

10420892.2 Land covenant, registered in May 2016

10420892.3 Land covenant, also registered May 2016

The latter three instruments are all in regard to the telecommunications facilities and separate utility lot. Relevant legal interests are attached in Appendix 3.

3.3 Consent History

The property file shows the following relevant to the property:

8287731-TCPMSP Implement shed, dated 16 November 1987

RC 2160198 2 lot subdivision, issued 24 November 2015

EBC-2021-1131-0 Wood burner, dated 22 April 2021
Subdivision consent history shows:

4.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

Clauses 2 & 3: Information required in all applications

(1) An application for a resource consent for an activity must include the following:	
(a) a description of the activity: .	Refer Sections 1 and 5 of this Planning Report.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this Planning Report.
(b) a description of the site at which the activity is to occur:	Refer to Section 3 of this Planning Report.
(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	No other activities are part of the proposal. The application is for consent pursuant to the FNDC's ODP.
(e) a description of any other resource consents required for the proposal to which the application relates:	None are required.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 7 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): (*a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	Refer to Sections 5 and 7 of this Planning Report.
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted	Refer to section 5.

activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.
(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:* *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):* *(g) the locations and areas of land to be set aside as new roads.*	Refer to Scheme Plans in Appendix 1.

Clause 6: Information required in assessment of environmental effects

(1) An assessment of the activity's effects on the environment must include the following information:	
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of	Refer to Section 6 of this planning report. The activity will not result in any significant adverse effect on the environment.

any possible alternative locations or methods for undertaking the activity:	
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this planning report.
(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:	Not applicable as the application does not involve hazardous installations.
(d) if the activity includes the discharge of any contaminant, a description of— *(i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and* *(ii) any possible alternative methods of discharge, including discharge into any other receiving environment:*	The subdivision does not involve any discharge of contaminant.
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 8 of this planning report. No affected persons have been identified.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	No monitoring is required as the scale and significance of the effects do not warrant it.
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	No protected customary right is affected.

Clause 7: Matters that must be addressed by assessment of environmental effects (RMA)

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the	Refer to Sections 6 and 8 of this planning report and also to the

neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	assessment of objectives and policies in Section 7.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 6. The site has no high or outstanding landscape values, but is mapped as partially within a high natural character area (PDP).
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 6. The subdivision has no effect on ecosystems or habitat.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	Refer to Section 6. The site has no aesthetic, recreational, scientific, historical, spiritual or cultural values that I am aware of, that will be adversely affected by the proposal.
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to hazard. The proposal does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Operative District Plan

The site is zoned General Coastal and Rural Production, with the additional lot entirely within the Rural Production Zone. The site has no resource features.

Table 13.7.2.1: Minimum Lot Sizes

(i) RURAL PRODUCTION ZONE

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
The minimum lot size is 20ha.	1. The minimum lot size is 12ha; or 2. The minimum lot size is 12ha; or 3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing	**1. The minimum lot size is 4ha**; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m² and there is at least 1 lot in the subdivision with a minimum size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 3. A subdivision in terms of a management plan as per Rule

	at or prior to 28 April 2000; or 4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is 2ha, and where the subdivision is created from a site that existed at or prior to 28 April 2000; Option 5. N/A as the proposal does not utilise remaining rights.	13.9.2 may be approved. Option 4 N/A

(viii) GENERAL COASTAL ZONE

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
Subdivision is not a controlled activity in this zone.	The minimum lot size is 20ha. **Note 1:** There is no restriction on the number of 20ha lots in a subdivision. **Note 2:** Reference should also be made to the minimum lot size applying to land within an Outstanding Landscape, Outstanding Landscape Feature or Outstanding Natural Feature (see below in this Table and Rule 13.7.2.5).	A subdivision in terms of via a management plan as per Rule 13.9.2 may be approved.

The portion of the site zoned General Coastal is all within a 54.619ha lot – meeting the restricted discretionary activity minimum lot size in the above table. The proposed additional lot is entirely within the Rural Production Zone. The Title is younger than April 2000 and the lot is greater than 4ha in area. The subdivision is therefore a **discretionary** subdivision activity.

Other Rules:

Zone Rules:

The proposal does not result in any breaches of either the General Coastal or Rural Production Zone rules. The buildings within the large balance Lot 2 are all well away from boundaries.

District Wide Rules:

Chapter 12.1 Landscapes and Natural Features does not apply as there is no landscape or natural feature overlay applying to the site.

Chapter 12.2 Indigenous Flora and Fauna does not apply as no clearance of indigenous vegetation is proposed as part of the subdivision. The proposed house site to be within Lot 1 is already partially cleared and in maintained 'lawn'. There is a central 'clump' of non indigenous vegetation in the centre of the clearing, that will be cleared away to

accommodate a building. Some peripheral indigenous vegetation clearance may be required to ensure a suitable buffer between a future residential unit and the bush line of the bush. This clearance will not exceed the Rural Production Zone's permitted clearance thresholds specified in Rule 12.2.6.1.2:

> *Clearance of indigenous vegetation in the Rural Production and Minerals Zones which is more than 10 years old is a permitted activity where:*
> *(a) it is not in a remnant forest, not within 20m of a lake (as scheduled in Appendix 1C), indigenous wetland or continually flowing river, and the clearance does not exceed 2ha per site existing as at 1 February 2005 in any 10 year period while this rule is in force; or*
> *(b) if in a remnant forest, it is not within 20m of a lake (as scheduled in Appendix 1C), indigenous wetland or continually flowing river, and the clearance does not exceed 500m2 per site existing as at 1 February 2005 in any 10 year period while this rule is in force.*

Any necessary clearance to provide for a 20m buffer between a residential unit and dripline of bush will not exceed 2ha. The bush is not remnant forest and not within 20m of a lake, indigenous wetland or continually flowing river.

This application does not include the construction of any residential dwelling in any event.

Rules in Chapter 12.3 Soils and Minerals can likely be complied with. Access is existing and only a minimal amount of surface scraping / earthworks will be required to perhaps increase clearance (from trees) on the last portion of driveway access to the proposed house site.

Chapter 12.4 Natural Hazards: the site is not subject to any coastal hazard as currently mapped in the Operative District Plan. Currently there is an area of vegetation (largely non indigenous) in the centre of the building site. This will likely be cleared to make way for an eventual building area. The total clearing is currently not large enough to accommodate a dwelling with a 20m buffer to the dripline of any area of bush. Refer to above commentary under Chapter 12.2. As this application does not include the building of a residential unit, there is no breach.

Rules in Chapters 12.5, 5A and 5B Heritage do not apply as the site contains no heritage values or sites, no notable trees, no Sites of Cultural Significance to Maori and no registered archaeological sites. The site is not within any Heritage Precinct.

Chapter 12.7 Waterbodies does not apply as the subdivision does not include any buildings or other impermeable surfaces, nor on-site wastewater system, breaching the setback requirements specified in this chapter and there is no indigenous wetland within which works are being proposed.

Chapter 12.8 Hazardous Substances does not apply as the activity being applied for is not a hazardous substances facility.

Chapter 12.9 does not apply as the activity does not involve renewable energy.

Chapter 14 Financial Contributions (esplanade reserve) is not relevant as there is no qualifying water body.

Chapter 15.1 Traffic, Parking and Access

Rules in Chapter 15.1.6A are not considered relevant to the proposal. This is because the traffic intensity rules apply to land use activities, not subdivisions. Similarly rules in Chapter 15.1.6B (parking requirements) also relate to proposed land use activities, not subdivisions. Notwithstanding this, no breaches of either traffic intensity, or parking, rules have been identified.

Chapter 15.1.6C (access) is the only part of Chapter 15.1 relevant to a subdivision. Waiaua Road is a Council maintained metal surface public road of generous width in most places. Operating speed is very low and the number of traffic movements is also very low. The access into the existing built development on the large lot is existing, as is the access into proposed Lot 1 and telecommunications tower. Existing use rights therefore apply.

In summary, I have not identified any land use breaches, and the subdivision remains a discretionary subdivision activity.

5.2 Proposed District Plan

The FNDC publicly notified its PDP on 27th July 2022. Whilst the majority of rules in the PDP will not have legal effect until such time as the FNDC publicly notifies its decisions on submissions, there are certain rules that have been identified in the PDP as having immediate legal effect and that may therefore need to be addressed in this application and may affect the category of activity under the Act. These include:

Rules HS-R2, R5, R6 and R9 in regard to hazardous substances on scheduled sites or areas of significance to Maori, significant natural areas or a scheduled heritage resource.

There are no scheduled sites or areas of significance to Maori, significant natural areas or any scheduled heritage resource on the site, therefore these rules are not relevant to the proposal.

Heritage Area Overlays – N/A as none apply to the application site.

Historic Heritage rules and Schedule 2 – N/A as the site does not have any identified (scheduled) historic heritage values.

Notable Trees – N/A – no notable trees on the site.

Sites and Areas of Significance to Maori – N/A – the site does not contain any site or area of significance to Maori.

Ecosystems and Indigenous Biodiversity – Rules IB-R1 to R5 inclusive.

Minimal indigenous vegetation clearance is proposed along the last section of driveway into a house site in order to provide greater clearance for vehicles. This is minor and unlikely to exceed 100m^2. In any event IB-R1 provides for indigenous vegetation pruning, trimming and clearance associated with on-site infrastructure and access for a single residential unit, and for the maintenance of lawfully established driveways an access, as a permitted activity.

Future clearance to enable the establishment of a residential dwelling on Lot 1 is also provided in IB-R1, clause 7:

To allow for the construction of a single residential unit on a title and essential associated on-site infrastructure and access and it does not exceed 1,000m^2;

Subdivision (specific parts) – only subdivision provisions relating to land containing Significant Natural Area or Heritage Resources have immediate legal effect. The site contains no scheduled or mapped Significant Natural Areas or Heritage Resources.

Activities on the surface of water – N/A as no such activities are proposed.

Earthworks – Only some rules and standards have legal effect. These are Rules EW-R12 and R13 and related standards EW-S3 and ES-S5 respectively. EW-R12 and associated EW-S3 relate to the requirement to abide by Accidental Discovery Protocol if carrying out earthworks and artefacts are discovered. EW-R13 and associated EW-S5 refer to operating under appropriate Erosion and Sediment Control measures. The only earthworks required to give effect to the subdivision is minor upgrade of access. This can be carried out in compliance with the above referenced rules/standards.

Signs – N/A – signage does not form part of this application.

Orongo Bay Zone – N/A as the site is not in Oronga Bay Zone.

There are no zone rules in the PDP with immediate legal effect that affect the proposal's activity status.

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Allotment Sizes and Dimensions

The proposed additional lot is large and can easily accommodate a 30m x 30m square building envelope. The Site Suitability Report in Appendix 5 confirms that the proposed 4ha lot is suitable for its intended use, in regard to onsite wastewater and stormwater.

6.2 Natural and Other Hazards

As stated in the Site Suitability Report accompanying this application (refer Appendix 5), there is a mapped flood hazard area within the site's eastern proximity, all within large

balance Lot 2 and 200m away from Lot 1's nearest boundary. This poses no threat to the Lot 1 site in terms inundation. The Site Suitability Report confirms no anticipated effects and less than minor impact in regard to all types of hazard.

6.3 Water Supply

There is no Council reticulated water supply available to the property and the Council can impose its standard requirement in regard to potable and fire fighting water supply for the vacant Lot 1.

6.4 Energy Supply & Telecommunications

Power and phone is not a requirement for rural subdivision. Council can impose a consent notice advising the future owner of Lot 1 that the provision of power and telecoms to the lot boundaries was not a requirement of the subdivision and remains the responsibility of the lot owner. The applicant advises that the telco tower has power, hence electricity included in the easement, and that at the time of providing that, Top Energy also installed future connection capability to the proposed vacant Lot 1.

6.5 Stormwater Disposal

Refer to the Site Suitability Report in Appendix 5. The impermeable surfaces already within the balance Lot 2 account for only 0.2% of total lot area. There is no requirement for any further attenuation.

Future development within Lot 1 has been assessed using parameters of a 300m^2 roof area, and 200m^2 driveway/turning area. Runoff from both can be appropriately managed and attenuated, compliant with relevant engineering standards. The existing unsealed gravel driveway within the lot is water tabled. No specific attenuation is required.

6.6 Sanitary Sewage Disposal

Refer to the Site Suitability Report in Appendix 5. The report bases its assessment on a standard five bedroom dwelling and on secondary treatment, and shows that on site wastewater treatment and disposal is achievable complying with the Regional Plan's permitted activity standards. It may also be possible to utilise primary treatment and disposal and the level of treatment is something for a future lot owner to determine at time of building consent. The purpose of a Site Suitability Report is to prove feasibility, which it does.

6.7 Easements for any purpose

The property is subject to existing easements and these will remain. No new easements are proposed or required.

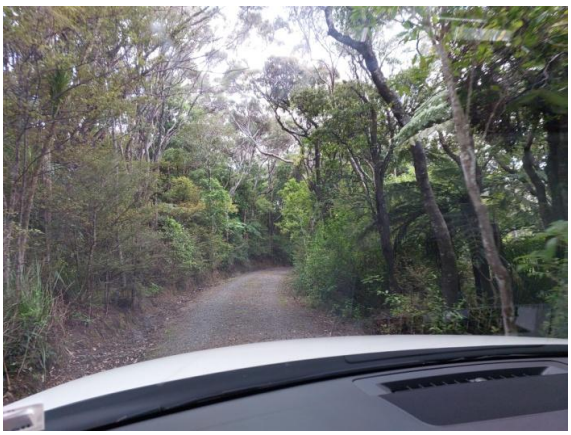
6.8 Property Access

Property access into the lots is directly off Waiaua Road. Both lots have existing crossings. The crossing into the proposed new lot has limited visibility to the north and it is proposed to install

a mirror across from the entranceway such that someone leaving the site will be able to ascertain if any vehicle is approaching from the north corner. Traffic numbers and speed are very low. There is no issue with visibility to the south. Internal to Lot 1, a residence will utilise the existing access road to the telco tower, and then private driveway to a house site. The 'shared' portion is 3m wide metal surface.

Start of ROW A leading to telco tower and house site on proposed Lot 1

Looking from clearing within Lot 1, along proposed driveway alignment



Typical formation of ROW A within site

No change is proposed to the existing external or internal access to and within the large balance lot. This is all well established, with good surface.

6.9 Earthworks & Utilities

The subdivision will not require any on site earthworks. Minor earthworks may be required for access works, with volumes well within the ODP's permitted activity standards. No above ground utilities are proposed as part of the subdivision.

6.10 Building Locations

The flat hill top area within Lot 1 is the logical choice for a future building. The slopes are gentle to the south and east of the flat area, but steeper to the west and north. There is no need to impose minimum floor levels. There are no hazards and ground conditions are good. This part of the site is within the Rural Production Zone of the ODP with no Visual Amenity rule applying.

6.11 Preservation and enhancement of heritage resources (including cultural), vegetation, fauna and landscape, and land set aside for conservation purposes

Vegetation, fauna and landscape

The site has no resource feature overlays. It contains no features mapped in the Regional Policy Statement (or PDP) as having any high or outstanding landscape or natural values and there are no mapped biodiversity wetlands. The site does contain substantial areas of mixed species indigenous & exotic vegetation, all within the large balance Lot 2 and not affected by the subdivision or future development. A peripheral area, with connectivity to the denser coverage, lies within Lot 1 to the south of the access track. This is proposed for bush protection, along with the entire northern area of bush within Lot 2 – refer to areas C and D on the scheme plan. Area marked E on the scheme plan is already subject to bush protection. The proposed consent notice wording for areas C and D is proposed to be the same as that already applying to area E, but with provision for the ongoing maintenance and use of the existing track network (non vehicular) within areas C and D.

The property is mapped as 'high density kiwi'. The applicants do not want to see dogs that may be a danger to kiwi kept on the lots. They do, however, note that trained pest control dogs, including pig dogs, are a useful means of controlling pests injurious to habitat and fauna and would therefore like provision made for such trained dogs to be present on the lots.

Heritage/Cultural

The site does not contain any historic sites. It is adjacent to a Site of Cultural Significance to Maori (as scheduled in the ODP or PDP), however this at the southern end of the property and not in the vicinity of the proposed additional lot.

The site is mapped as containing archaeological sites. Two of these, O04/771 and O04/769, are well to the east of the proposed additional lot, situated within isolated parts of the large balance Lot 2 and not impacted by the proposal. The third, O04/812, described as "Pits and terrace", is located on the access track leading up to the trig and concrete tank, and now accommodating the telco tower, with the pit on the southwestern side of the tank and two terraces extending further in a southwesterly direction. The site record is attached in Appendix 4. A copy of the telco, trig and concrete tank, looking south, is shown below.

The proposed house site, and any earthworks, is well to the north and at a slightly lower elevation. No soil disturbance will be taking place in the vicinity of O04/812.

6.12 Soil

The soils on the property are not LUC Class 1, 2 or 3 and the site is almost entirely in bush/vegetative cover in any event. The proposed subdivision does not adversely affect the life supporting capacity of soil.

6.13 Access to, and protection of, waterbodies

There is no qualifying water body along which, or around which, public access is required to be provided. Water quality will not be adversely impact by the act of subdivision. An on-site wastewater treatment and disposal system can be established in compliance with permitted activity standards in the Regional Plan.

6.14 Land use compatibility (reverse sensitivity)

The proposal is consistent with rural character where residential living is interspersed with larger holdings, and where there are areas of bush. The establishment of one additional dwelling in the proposed location does not adversely increase the risk of reverse sensitivity issues arising.

6.15 Proximity to Airports

The site is outside of any identified buffer area associated with any airport.

6.16 Natural Character of the Coastal Environment

The site is partially within the coastal environment. The coastal environment's landward boundary at the northern end, where proposed Lot 1 is located, incorporates the proposed house site on its periphery. It also includes the telco tower and the access track, i.e. there is existing built development in this location. The proposal will not adversely affect natural character values associated with the coastal environment because the future built development is a considerable distance inland of the coastal marine area boundary, and the built outline of future development within Lot 1 can be visually softened from any distant views from the coastal marine area by way of vegetation.

6.17 Energy Efficiency and renewable Energy Development/Use

The proposal has not considered energy efficiency.

6.18 National Grid Corridor

The National Grid does not run through the application site.

6.19 Effects on Rural Character and Amenity

The proposed vacant lot is consistent with the ODP's discretionary lot size. The property is not actively (productively) farmed so has more of a bush block character/amenity than 'rural' as such. The overall density of development is 1:26ha, well within the Rural Production Zone's permitted standard. In my opinion, the proposal will have no adverse effects on whatever rural character currently exists.

6.20 Effects on Landscape & Natural Values

The site does not have any outstanding landscape notation applying to it, in either the ODP or the PDP. It is mapped, in part, as High Natural Character (Regional Policy Statement and PDP), with the proposed additional lot within HNC143, described as "*several valleys & associated hill slopes with kanuka-mixed broadleaved forest with the occasional native conifer; manuka-kanuka shrubland and low forest*". The access and house site for proposed Lot 1 is already cleared (and has been for some time). There is existing built development in the vicinity, specifically a telco tower and ancillary buildings.

The setting is such that the establishment of a residential dwelling in the proposed location will not have more than minor adverse effects on the natural values associated with the site – which is predominantly associated with the existing vegetative cover, proposed for the most part to be protected.

6.21 Cumulative and Precedent Effects

Cumulative Effect:

The proposal will create one additional lot of over 4ha, and easily able to internalise potential effects of any future built development. The proposal does not create an adverse cumulative effect, noting:

(a) Scarcity of built development in the wider area;
(b) The site is not overly visible from public views;
(c) Overall residential intensity over the site is 1:26ha.

Precedent Effect:

Precedent effects are a matter for consideration when a consent authority is considering whether or not to grant a consent. Determining whether there is an adverse precedent effect is, however, generally reserved for non complying activities, which this is not. In any event, the proposed subdivision does not set an adverse precedent effect and does not threaten the integrity of the ODP or those parts of the PDP with legal effect.

7.0 STATUTORY ASSESSMENT

7.1 Operative District Plan Objectives and Policies

Objectives and policies relevant to this proposal are considered to be primarily those listed in Chapters 8.6 (Rural Production Zone) and 10.6 (General Coastal); and Chapter 13 (Subdivision), of the District Plan. Objectives and policies relating to indigenous vegetation also have some limited relevance.

Subdivision Objectives & Policies

Objectives

13.3.1 To provide for the subdivision of land in such a way as will be consistent with the purpose of the various zones in the Plan, and will promote the sustainable management of the natural and physical resources of the District, including airports and roads and the social, economic and cultural well being of people and communities

13.3.2 To ensure that subdivision of land is appropriate and is carried out in a manner that does not compromise the life-supporting capacity of air, water, soil or ecosystems, and that any actual or potential adverse effects on the environment which result directly from subdivision, including reverse sensitivity effects and the creation or acceleration of natural hazards, are avoided, remedied or mitigated.

13.3.1 is an enabling objective. The proposed vacant lot is within the Rural Production Zone which is predominantly, but not exclusively, a working productive rural zone. The application site is an example of a site that is not in a working productive rural use, instead largely bush covered. Its productivity for arable use is severely restricted. The creation of one additional lot is considered a sustainable use of the land.

In regard to 13.3.2, the Assessment of Environmental Effects and supporting report conclude that the proposed subdivision is appropriate for the site and that the subdivision can avoid, remedy or mitigate any potential adverse effects.

Objectives 13.3.3 and 13.3.4 refer to outstanding landscapes or natural features; and scheduled heritage resources; and to land in the coastal environment. The site is not mapped as outstanding landscape. Whilst the proposed new lot is not zoned coastal, it is just within the PDP's coastal environment landward boundary. For the reasons outlined in the AEE, I do not believe the proposal adversely affects the natural character of the coastal environment.

13.3.5 To ensure that all new subdivisions provide a reticulated water supply and/or on-site water storage and include storm water management sufficient to meet the needs of the activities that will establish all year round.

The proposed vacant lot will be required to be self sufficient in terms of on-site water storage and appropriate stormwater management. The supporting Site Suitability Report confirms this is achievable.

13.3.7 To ensure the relationship between Maori and their ancestral lands, water, sites, wahi tapu and other taonga is recognised and provided for.

And related Policy

13.4.11 That subdivision recognises and provides for the relationship of Maori and their culture and traditions, with their ancestral lands, water, sites, waahi tapu and other taonga and shall take into account the principles of the Treaty of Waitangi.

The site is not known to contain any Sites of Cultural Significance to Maori, or wahi tapu. There is a recorded archaeological site within Lot 1's boundaries, and potential effects on this are addressed in the AEE. The proposed house site is outside of, and well away from, the archaeological site, which is predominantly pits/terraces, and no soil disturbance will be carried out near the site.

13.3.8 To ensure that all new subdivision provides an electricity supply sufficient to meet the needs of the activities that will establish on the new lots created.

The provision of power is not a requirement for rural allotments. Notwithstanding this the new lot has the ability to connect.

13.3.9 To ensure, to the greatest extent possible, that all new subdivision supports energy efficient design through appropriate site layout and orientation in order to maximise the ability to provide light, heating, ventilation and cooling through passive design strategies for any buildings developed on the site(s).

13.3.10 To ensure that the design of all new subdivision promotes efficient provision of infrastructure, including access to alternative transport options, communications and local services.

The subdivision has not considered energy efficiency, however, the vacant lot can provide a building site with good access to sunlight. Access is existing.

Policies

13.4.1 That the sizes, dimensions and distribution of allotments created through the subdivision process be determined with regard to the potential effects including cumulative effects, of the use of those allotments on:
(a) natural character, particularly of the coastal environment;
(b) ecological values;
(c) landscape values;
(d) amenity values;
(e) cultural values;
(f) heritage values; and
(g) existing land uses.

Of the values listed in 13.4.1, most have relevance.

(a) Effects on natural character and the coastal environment are discussed in the AEE with the conclusion the subdivision will not adversely affect either;
(b) Ecological values will be maintained, and enhanced, through existing and proposed bush protection;
(c) Landscape values – the site is not mapped as outstanding landscape;
(d) Amenity values – the proposal will not adversely affect amenity values;
(e) Cultural and heritage values – these are addressed in the AEE. The proposed subdivision will not adversely impact on cultural or heritage values;
(f) The proposed new lot will not adversely affect existing land uses.

13.4.2 That standards be imposed upon the subdivision of land to require safe and effective vehicular and pedestrian access to new properties. And

13.4.5 That access to, and servicing of, the new allotments be provided for in such a way as will avoid, remedy or mitigate any adverse effects on neighbouring property, public roads (including State Highways), and the natural and physical resources of the site caused by silt runoff, traffic, excavation and filling and removal of vegetation.

Access is directly off Waiaua Road. No change is proposed to the access to the existing dwelling to be within Lot 2. Neither is any change proposed to the access into Lot 1, currently to the telco tower site. The AEE addresses property access and concludes that access can be safely provided, subject to conditions. The matters in 13.4.5 have been addressed in the AEE and Subdivision Suitability Report. Minimal vegetation clearance is required, minimal excavation is required and stormwater can be appropriately managed.

13.4.3 That natural and other hazards be taken into account in the design and location of any subdivision.

The proposed vacant lot is not identified as being subject to any hazard.

13.4.4 That in any subdivision where provision is made for connection to utility services, the potential adverse visual impacts of these services are avoided.

Provision of telecommunications is not a requirement for rural allotments. Neither is power, however the applicant advises that connection is available. This would be in-ground.

13.4.6 That any subdivision proposal provides for the protection, restoration and enhancement of heritage resources, areas of significant indigenous vegetation and significant habitats of indigenous fauna, threatened species, the natural character of the coastal environment and riparian margins, and outstanding landscapes and natural features where appropriate.

The site does not contain any heritage resources as mapped or scheduled in the ODP. Areas of indigenous vegetation within the site are proposed for protection. The applicant is not in favour of allowing domestic dogs on the lots. As stated in the AEE, the proposed subdivision is not anticipated to create any adverse effects on natural character values. The proposed new lot has no riparian margins and no outstanding landscape.

13.4.8 That the provision of water storage be taken into account in the design of any subdivision.

The proposed new lot will require on-site water supply and storage.

Policies 13.4.9 and 13.4.10 are not discussed further. The former relates to bonus development donor and recipient areas, which are not contemplated in this proposal; whilst the latter only applies to subdivision in the Conservation Zone.

13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to ***s6 matters****. In addition subdivision, use and development shall avoid adverse effects as far as practicable by using techniques including:*
(a) clustering or grouping development within areas where there is the least impact on natural character and its elements such as indigenous vegetation, landforms, rivers, streams and wetlands, and coherent natural patterns;
(b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area;
(c) providing for, through siting of buildings and development and design of subdivisions, legal public right of access to and use of the foreshore and any esplanade areas;
(d) through siting of buildings and development, design of subdivisions, and provision of access that recognise and provide for the relationship of Maori with their culture, traditions and taonga including concepts of mauri, tapu, mana, wehi and karakia and the important contribution Maori culture makes to the character of the District (refer Chapter 2 and in particular Section 2.5 and Council's "Tangata Whenua Values and Perspectives" (2004);
(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension, enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;
(f) protecting historic heritage through the siting of buildings and development and design of subdivisions.
(g) achieving hydraulic neutrality and ensuring that natural hazards will not be exacerbated or induced through the siting and design of buildings and development.

S6 matters (National Importance) are addressed later in this report.

In addition:

(a) The proposal subdivides off a bush block with an already cleared buildable area, and provides for an appropriate type and scale of activity for the zone;
(b) The proposal is within an area noted as having high natural character values, and is on the periphery (and within) the coastal environment. However, the distance from

the coast, and existing vegetative over means effects on natural character and coastal values are minimal;

(c) The site contains significant indigenous vegetation, most of which is proposed for protection;
(d) The proposal enables the maintenance of amenity and rural character values;
(e) The proposal is not believed to negatively impact on the relationship of Maori with their culture;
(f) There are no identified heritage values within the site other than one archaeological site, mapped as outside of the area proposed for built development. As such it can be avoided; and
(g) The site is not subject to any natural hazards.

I consider the proposal to be consistent with Policy 13.4.13.

13.4.14 That the objectives and policies of the applicable environment and zone and relevant parts of Part 3 of the Plan will be taken into account when considering the intensity, design and layout of any subdivision.

The subdivision has had regard to the underlying zone's objectives and policies – see below.

13.4.15 That conditions be imposed upon the design of subdivision of land to require that the layout and orientation of all new lots and building platforms created include, as appropriate, provisions for achieving the following: (a) development of energy efficient buildings and structures; (b) reduced travel distances and private car usage; (c) encouragement of pedestrian and cycle use; (d) access to alternative transport facilities; (e) domestic or community renewable electricity generation and renewable energy use

The subdivision layout has taken the above matters into account.

In summary, I believe the proposal to be more consistent than not with the above Objectives and Policies.

<u>Rural Production Zone Objectives and Policies</u>

Objectives:

8.6.3.1 To promote the sustainable management of natural and physical resources in the Rural Production Zone.

8.6.3.2 To enable the efficient use and development of the Rural Production Zone in a way that enables people and communities to provide for their social, economic, and cultural well being and for their health and safety.

8.6.3.3 To promote the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.

8.6.3.4 To promote the protection of significant natural values of the Rural Production Zone.

8.6.3.6 To avoid, remedy or mitigate the actual and potential conflicts between new land use activities and existing lawfully established activities (reverse sensitivity) within the Rural Production Zone and on land use activities in neighbouring zones.

8.6.3.7 To avoid remedy or mitigate the adverse effects of incompatible use or development on natural and physical resources.

8.6.3.8 To enable the efficient establishment and operation of activities and services that have a functional need to be located in rural environments.

8.6.3.9 To enable rural production activities to be undertaken in the zone.

And policies

8.6.4.1 That a wide range of activities be allowed in the Rural Production Zone, subject to the need to ensure that any adverse effects on the environment, including any reverse sensitivity effects, on the environment resulting from these activities are avoided, remedied or mitigated and are not to the detriment of rural productivity.

8.6.4.2 That standards be imposed to ensure that the off site effects of activities in the Rural Production Zone are avoided, remedied or mitigated.

8.6.4.3 That land management practices that avoid, remedy or mitigate adverse effects on natural and physical resources be encouraged.

8.6.4.4 That the type, scale and intensity of development allowed shall have regard to the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.

8.6.4.5 That the efficient use and development of physical and natural resources be taken into account in the implementation of the Plan.

8.6.4.7 That although a wide range of activities that promote rural productivity are appropriate in the Rural Production Zone, an underlying goal is to avoid the actual and potential adverse effects of conflicting land use activities.

8.6.4.8 That activities whose adverse effects, including reverse sensitivity effects cannot be avoided remedied or mitigated are given separation from other activities

8.6.4.9 That activities be discouraged from locating where they are sensitive to the effects of or may compromise the continued operation of lawfully established existing activities in the Rural production zone and in neighbouring zones.

Objective 8.6.3.5 and Policy 8.6.4.6 are not considered relevant as they are solely related to Kerikeri Road.

The proposed subdivision promotes an efficient use and development of the land (Objective 8.6.3.2). Amenity values can be maintained (8.6.3.3). Reverse sensitivity effects are not considered to be a significant risk (Objectives 8.6.3.6-8.6.3.9 inclusive and Policies 8.6.4.8 and 8.6.4.9).

Policy 8.6.4.7 anticipates a wide range of activities that promote rural productivity, and that the underlying goal is to avoid any actual and potential adverse effects of conflicting land

use activities. I believe in the case of this proposal that given the site's location and characteristics, there is no existing rural productivity and no conflicting land use activities will arise. The site does not contain highly versatile soils.

The proposal provides for sustainable management of natural and physical resources (8.2.4.1). Off site effects can be avoided, remedied or mitigated (8.6.4.2 and 8.6.4.3). Amenity values can be maintained and enhanced (8.6.4.4). The proposal enables the efficient use and development of natural and physical resources (8.6.4.5).

In summary, I believe the proposal to be consistent with the objectives and policies as cited above.

In terms of the ODP, the General Coastal Zone objectives and policies only apply to activities taking place within that zone. The General Coastal zoning only applies to the southern portion of the site, totally within Lot 2, which supports the existing built development within the site. No additional development, or change, within the land zoned General Coastal, will result if the subdivision proceeds. My conclusion is that the proposal is consistent with the objectives and policies applying to the General Coastal Zone.

Objectives and policies in Chapter 12.2 of the ODP relate to the protection and enhancement of indigenous vegetation and habitat. I believe the proposal, which includes bush protection and control of predators of kiwi, to be entirely consistent with the objectives and policies of Chapter 12.2, specifically Objectives 12.2.3.1-12.2.3.4 inclusive and Policies 12.2.4.1, 12.2.4.4, 12.2.4.5, 12.2.4.10, and 12.2.4.11.

7.2 Proposed District Plan Objectives and Policies

An assessment against the relevant objectives and policies in the Subdivision section of the Proposed District Plan (PDP) follows:

SUB-O1
Subdivision results in the efficient use of land, which:
a. achieves the objectives of each relevant zone, overlays and district wide provisions;
b. contributes to the local character and sense of place;
c. avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;
d. avoids land use patterns which would prevent land from achieving the objectives and policies of the zone in which it is located;
e. does not increase risk from natural hazards or risks are mitigates and existing risks reduced; and
f. manages adverse effects on the environment.

SUB-O2
Subdivision provides for the:
a. Protection of highly productive land; and
b. Protection, restoration or enhancement of Outstanding Natural Features, Outstanding Natural Landscapes, Natural Character of the Coastal Environment, Areas of High Natural Character, Outstanding Natural Character, wetland, lake and river margins, Significant Natural Areas, Sites and Areas of Significance to Māori, and Historic Heritage.

SUB-O3 *Infrastructure is planned to service the proposed subdivision and development where:*
a. there is existing infrastructure connection, infrastructure should provided in an integrated, efficient, coordinated and future-proofed manner at the time of subdivision; and

b.where no existing connection is available infrastructure should be planned and consideration be give n to connections with the wider infrastructure network.

SUB-O4
Subdivision is accessible, connected, and integrated with the surrounding environment and provides for:
a. public open spaces;
b. esplanade where land adjoins the coastal marine area; and
c. esplanade where land adjoins other qualifying water bodies

I consider the subdivision to achieve the objectives of the relevant zone, and district wide provisions. Local character is not adversely affected; significant additional reverse sensitivity issues will not result; risk from natural hazards will not be increased. Adverse effects on the environment are considered to be less than minor and not requiring mitigation (SUB-O1).

The site contains no land that is mapped as meeting the definition of 'highly productive land' The site contains no ONF's or ONL's, but does have areas of high natural character. The values associated with such areas can be maintained as the development to be within the proposed vacant lot is entirely within land already cleared of vegetative cover. There are no wetlands affected and no lakes or rivers, nor Sites and Areas of Significance to Maori and no Historic Heritage areas. Significant indigenous vegetation is proposed for protection (SUB-O2).

The proposal is consistent with SUB-O3 and SUB-O4 does not apply.

SUB-P1
Enable boundary adjustments that:

Not relevant – application is not a boundary adjustment.

SUB-P2
Enable subdivision for the purpose of public works, infrastructure, reserves or access.

Not relevant – application does not involve public works, infrastructure, reserves or access lots.

SUB-P3
Provide for subdivision where it results in allotments that:
a. are consistent with the purpose, characteristics and qualities of the zone;
b. comply with the minimum allotment sizes for each zone;
c. have an adequate size and appropriate shape to contain a building platform; and
d. have legal and physical access.

The land is zoned for Rural Production yet cannot sustain productive arable use, being almost entirely under bush cover. The land has poor soils and is steep, and not suitable for arable use. In short, the land is not suitable for rural production. It is therefore difficult to be 'consistent with the purpose, characteristics and qualities of the zone' when the land is already at odds with those purposes and characteristics. Neither is the proposed new lot compliant with the zone's minimum lot size. However, given that the zone's minimum lot sizes are far from being confirmed or beyond challenge in the PDP process to date, I do not afford a lot of weight to part (b) of SUB-P3.

The proposal is consistent with both parts (c) and (d) and in summary I find the proposal to be consistent with the *relevant* parts of the policy.

SUB-P4
Manage subdivision of land as detailed in the district wide, natural environment values, historical and cultural values and hazard and risks sections of the plan

The subdivision has had regard to all the matters listed, where relevant.

SUB-P5
Manage subdivision design and layout in the General Residential, Mixed Use and Settlement zoneto provide for safe, connected and accessible environments by.....:

Not relevant. The site is not zoned any of the zones referred to.

SUB-P6 *Require infrastructure to be provided in an integrated and comprehensive manner by:*
a. demonstrating that the subdivision will be appropriately serviced and integrated with existing and planned infrastructure if available; and
b. ensuring that the infrastructure is provided is in accordance the purpose, characteristics and qualities of the zone.

The subdivision is rural with no nearby Council administered or operated infrastructure except for the road.

SUB- P7
Require the vesting of esplanade reserves when subdividing land adjoining the coast or other qualifying water bodies.

No qualifying water body and no lot less than 4ha in area.

SUB-P8 *Avoid rural lifestyle subdivision in the Rural Production zone unless the subdivision:*
- *a. will protect a qualifying SNA in perpetuity and result in the SNA being added to the District Plan SNA schedule; and*
- *b. will not result in the loss of versatile soils for primary production activities.*

The proposal includes the permanent protection of indigenous vegetation. The site contains no versatile soils.

SUB-P9
Avoid subdivision [sic] rural lifestyle subdivision in the Rural Production zone and Rural residential subdivision inthe Rural Lifestyle zone unless the development achieves the environmental outcomes required in the management plan subdivision rule.

A management plan proposal is not considered warranted given only one additional lot is proposed and that the proposal includes the permanent protection of indigenous vegetation in any event.

SUB-P10
To protect amenity and character by avoiding the subdivision of minor residential units from Principal residential
units where resultant allotments do not comply with minimum allotment size and residential density.

Not relevant. No minor residential units exist.

SUB-P11
Manage subdivision to address the effects of the activity ***requiring resource consent*** *including (but not limited to) consideration of the following matters where relevant to the application:*
a.consistency with the scale, density, design and character of the environment and purpose of the zone;
b. the location, scale and design of buildings and structures;
c.the adequacy and capacity of available or programmed development infrastructure to accommodate the proposed activity; or the capacity of the site to cater for on-site infrastructure associated with the proposed activity;
d. managing natural hazards;
e. Any adverse effects on areas with historic heritage and cultural values, natural features and landscapes, natural character or indigenous biodiversity values; and
f. any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

The subdivision does not require resource consent under the PDP. Notwithstanding that, the subdivision has considered the above matters, where relevant.

In summary I believe the proposed subdivision to be consistent with the PDP's objectives and policies in regard to subdivision.

The site is zoned Rural Production in the Proposed District Plan (PDP), with a partial coastal environment overlay and partial High Natural Character Area notation. The site also contains indigenous vegetation. The relevant objectives and policies in the PDP are addressed below.

Objectives

RPROZ-O1 requires the zone to be managed to ensure its availability for primary production activities and its long-term protection for current and future generations. RPROZ-O2 seeks to ensure the zone is used for primary production purposes. For reasons outlined earlier in this report, the land is already unsuitable for primary production activities and the proposal therefore is not contrary to either objective.

RPROZ-O3
Land use and subdivision in the Rural Production zone:
a.protects highly productive land from sterilisation and enables it to be used for more productive forms of primary production;
b.protects primary production activities from reverse sensitivity effects that may constrain their effective and efficient operation;
c.does not compromise the use of land for farming activities, particularly on highly productive land;
d.does not exacerbate any natural hazards; and
e. is able to be serviced by on-site infrastructure.

RPROZ-O4
The rural character and amenity associated with a rural working environment is maintained.

There is no highly productive land, and there are no productive land use activities and therefore no rural working environment. The proposal does not exacerbate natural hazards and the site can be serviced by on-site infrastructure. The new site can be serviced by on-site infrastructure.

Policies

RPROZP3
Manage the establishment, design and location of new sensitive activities and other non-productive activities in the Rural Production Zone to avoid where possible, or otherwise mitigate, reverse sensitivity effects on primary production activities.

No new 'sensitive' activity is proposed in the vicinity of any primary production activity.

RPROZP4
Land use and subdivision activities are undertaken in a manner that maintains or enhances the rural character and amenity of the Rural Production zone, which includes:
a. a predominance of primary production activities;
b. low density development with generally low site coverage of buildings or structures;
c. typical adverse effects such as odour, noise and dust associated with a rural working environment; and
d. a diverse range of rural environments, rural character and amenity values throughout the District.

The site is largely in bush cover. The proposal is extremely low density and low site coverage. Amenity values will be maintained.

RPROZP5
Avoid land use that:
.....

The proposal is not a land use.

RPROZP6
Avoid subdivision that.
a. results in the loss of highly productive land for use by farming activities;
b. fragments land into parcel sizes that are no longer able to support farming activities, taking into account:
i. the type of farming proposed; and
ii. whether smaller land parcels can support more productive forms of farming due to the presence of highly productive land.
c. provides for rural lifestyle living unless there is an environmental benefit.

The site contains no highly productive land and is not capable of supporting farming activities. Indigenous vegetation is to be protected. The proposal is consistent with this policy.

RPROZP7
Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:
a. whether the proposal will increase production potential in the zone;
b. whether the activity relies on the productive nature of the soil;
c. consistency with the scale and character of the rural environment;
d. location, scale and design of buildings or structures;
e. for subdivision or non-primary production activities:
i. scale and compatibility with rural activities;

ii. potential reverse sensitivity effects on primary production activities and existing infrastructure;
iii. the potential for loss of highly productive land, land sterilisation or fragmentation
f. at zone interfaces:
i. any setbacks, fencing, screening or landscaping required to address potential conflicts;
ii.the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable;
g.the capacity of the site to cater for on-site infrastructure associated with the proposed activity, including whether the site has access to a water source such as an irrigation network supply, dam or aquifer;
h. the adequacy of roading infrastructure to service the proposed activity;
i.Any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity;
j.Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

No resource consent is required under the PDP and the above policy is therefore of limited relevance. Part (e) applies to subdivisions. The proposal does not result in additional reverse sensitivity effects and there is no highly productive land.

Historic heritage and cultural values, and effects on natural features, landscapes and indigenous vegetation have all been carefully considered.

Coastal Environment Objectives and Policies:

CE-O1 *The natural character of the coastal environment is identified and managed to ensure its long-term preservation and protection for current and future generations.*

CE-O2 *Land use and subdivision in the coastal environment:*

a. *preserves the characteristics and qualities of the natural character of the coastal environment;*
b. *is consistent with the surrounding land use;*
c. *does not result in urban sprawl occurring outside of urban zones;*
d. *promotes restoration and enhancement of the natural character of the coastal environment; and*
e. *recognises tangata whenua needs for ancestral use of whenua Māori.*

I believe the proposal has no adverse effects on natural character values. It maintains the characteristics and qualities of the coastal environment *in this location*. It is consistent with the surrounding land use and does not represent urban sprawl. Natural character values are maintained and the application recognises tangata whenua needs.

Only some policies applying to the coastal environment have relevance to the application site and proposal. Policy CE-P1 is not relevant to a specific development within a specific site. Policies CE-P2 and P3 refer to outstanding natural character and outstanding landscape areas, and the area proposed for development is not mapped as either. Policy CE-P5 applies to urban zones, which the application site is not. Policy CE-P6 relates to enabling farming activities and for the reasons outlined earlier, is not considered a relevant policy to this development. Policy CE-P7 refers to Maori Purpose and Treaty Settlement land only and is not

relevant to this proposed development. Policy CE-P9 refers to areas of outstanding natural character value of which there are none in the area proposed for development.

CE-P4 *Preserve the visual qualities, character and integrity of the coastal environment by:*

a. *consolidating land use and subdivision around existing urban centres and rural settlements; and*
b. *avoiding sprawl or sporadic patterns of development.*

The proposal is extremely low density and does not represent sprawl of sporadic development.

CE-P8 *Encourage the restoration and enhancement of the natural character of the coastal environment.*

Natural character values associated with the site are maintained through the proposed bush protection.

CE-P10 *Manage land use and subdivision to preserve and protect the natural character of the coastal environment, and to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:*

a. *the presence or absence of buildings, structures or infrastructure;*
b. *the temporary or permanent nature of any adverse effects;*
c. *the location, scale and design of any proposed development;*
d. *any means of integrating the building, structure or activity;*
e. *the ability of the environment to absorb change;*
f. *the need for and location of earthworks or vegetation clearance;*
g. *the operational or functional need of any regionally significant infrastructure to be sited in the particular location;*
h. *any viable alternative locations for the activity or development;*
i. *any historical, spiritual or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6;*
j. *the likelihood of the activity exacerbating natural hazards;*
k. *the opportunity to enhance public access and recreation;*
l. *the ability to improve the overall quality of coastal waters; and*
m. *any positive contribution the development has on the characteristics and qualities.*

The proposal has taken into account any relevant matters above. Policy CE-P10 reads along very similar lines to the ODP's Policy 10.6.4.3, already addressed earlier in this report.

In summary I believe the proposed development to be consistent with the PDP's coastal environment objectives and policies where these are relevant.

High natural character value areas are mapped in the PDP and include the land to be in Lot 1. However, the objectives and policies associated with areas of High Natural Character in the Natural Character section of the PDP are all in regard to wetland, lake and river margins, none of which exist on Lot 1. Natural character values associated with the coastal environment are addressed in the objectives and policies relating to the coastal environment – refer above.

The proposal is consistent with the objectives and policies associated with indigenous biodiversity for the same reasons that it is consistent with the ODP's objectives and policies relating to indigenous vegetation.

7.3 Part 2 Matters

5 Purpose

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The proposal provides for peoples' social and economic well being, and for their health and safety, while sustaining the potential of natural and physical resources, safeguarding the life-supporting capacity of air, water, soil and the ecosystems; and avoiding, remedying or mitigating adverse effects on the environment.

6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(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 Maori 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.

The proposal does not adversely affect natural character values in the coastal environment for the reasons outlined earlier in this report. The subdivision is appropriate for the site. Significant vegetation is to be protected. No public access is required. Heritage and cultural values are not adversely affected and there are no significant risks form natural hazards.

7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

(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.

Regard has been had to any relevant parts of Section 7 of the RMA, "Other Matters". These include 7(b), (c), (d), (f) and (g). Proposed layout and lot size, along with appropriate waste water and stormwater management, will ensure the maintenance of amenity values and the quality of the environment. The proposal has had regard to the values of ecosystems. The subdivision does not materially affect the productive capacity of any rural zoned land.

8 Treaty of Waitangi

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The principles of the Treaty of Waitangi have been considered and it is believed that this proposed subdivision does not offend any of those principles.

In summary, it is considered that all matters under s5-8 inclusive have been adequately taken into account.

7.4 NZ Coastal Policy Statement

The NZ Coastal Policy Statement (NZCPS) has relevance to this proposal due to the property's location. The following objectives and policies are considered relevant to the proposal.

Objective 2: *To preserve the natural character of the coastal environment and protect natural features and landscape values through.....*

Part of the site, including proposed Lot 1, is mapped as being within the coastal environment. For the reasons outlined earlier in this report, I do not believe the proposal will adversely impact on the natural character of the coastal environment. The proposed house site is a

considerable distance from the coastal marine area and barely visible. There is already a telecommunications tower on the highest point of the site. The natural features of the site, predominantly relating to bush cover, will be protected.

Objective 6: *To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:*

- *the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;*

I consider the development to be an appropriate use of the site that provides for people's social and economic wellbeing.

Policy 6: *Activities in the coastal environment*
(1) In relation to the coastal environment:
……(h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects; …..
(i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and……

I believe that the proposed development is consistent with both of parts (h) and (i) above. Whilst Lot 1 is at the high end of the property, it is a considerable distance from the water. Vegetative cover will enable the outline of built environment to be largely screened from view.

Policy 11: *Indigenous biological diversity (biodiversity)*
To protect indigenous biological diversity in the coastal environment:
(a) avoid adverse effects of activities on:
(i) indigenous taxa4 that are listed as threatened5 or at risk in the New Zealand Threat Classification System lists;
(ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;
(iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;
(iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;
(v) areas containing nationally significant examples of indigenous community types; and
(vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and
(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:
(i) areas of predominantly indigenous vegetation in the coastal environment;
(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;
(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;
(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes; (v) habitats, including areas and routes, important to migratory species; and (vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy

***Policy 13**: Preservation of natural character*
(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:
(a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and
(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;

***Policy 14** Restoration of natural character*
Promote restoration or rehabilitation of the natural character of the coastal environment, including by :
….
And

***Policy 15** Natural features and natural landscapes*
To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:
(a) avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and
(b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;

The proposal includes protection of indigenous vegetation and habitat, as well as control of kiwi predators. The area to support new built development is already cleared. In summary, the proposal will not adversely impact on natural character, biodiversity or coastal character values.

I believe the proposal gives effects to the relevant objectives and policies in the NZ Coastal Policy Statement.

7.5 Other National Policy Statements and National Environmental Standards

I have not identified any relevant NPS or NES other than the NPS Indigenous Biodiversity, with which the proposal is consistent.

7.6 Regional Policy Statement

The Regional Policy Statement for Northland contains objectives and policies related to infrastructure and regional form and economic development. These are enabling in promoting sustainable management in a way that is attractive for business and investment. The proposal is consistent with these objectives and policies.

Objective 3.6 Economic activities – reverse sensitivity and sterilisation

The viability of land and activities important for Northland's economy is protected from the negative impacts of new subdivision, use and development, with particular emphasis on either:

(a) Reverse sensitivity for existing:

(i) Primary production activities; .....

The associated Policy to the above Objective is ***Policy 5.1.1 – Planned and coordinated development***.

Subdivision, use and development should be located, designed and built in a planned and co-ordinated manner which: ....

(c) Recognises and addresses potential cumulative effects of subdivision, use, and development, and is based on sufficient information to allow assessment of the potential long-term effects; ...

(e) Should not result in incompatible land uses in close proximity and avoids the potential for reverse sensitivity;

(f) Ensures that plan changes and subdivision to / in a primary production zone, do not materially reduce the potential for soil-based primary production on land with highly versatile soils, or if they do, the net public benefit exceeds the reduced potential for soil-based primary production activities; and ...

Policy 5.1.1 seeks to ensure that subdivision in a primary production zone does not "*materially reduce the potential for soil-based primary production on land with highly versatile soils, or if they do, the net public benefit exceeds the reduced potential for soil-based primary production activities*".

This has been discussed at length elsewhere in this planning report. The subdivision does not involve highly versatile soils and does not "*materially reduce the potential for soil-based primary production on land with highly versatile soils*".

5.1.3 Policy – Avoiding the adverse effects of new use(s) and development

Avoid the adverse effects, including reverse sensitivity effects of new subdivision, use and development, particularly residential development on the following:

(a) Primary production activities in primary production zones (including within the coastal marine area);.....

In regard to this subdivision, it is considered that no additional adverse reverse sensitivity issues are likely to arise as a result.

The RPS also contains policy in regard to the coastal environment with the primary focus being on avoiding adverse effects where the land is also outstanding landscape – which the application site is not; and avoiding, remedying or mitigating adverse effects where the land is not outstanding landscape. The proposal can adequate mitigate adverse effects.

8.0 s95A-E ASSESSMENT & CONSULTATION

8.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. No such circumstances exist. Step 2 of s95A specifies the circumstances that preclude public notification. No such circumstance exists and Step 3 of s95A must be considered. This specifies that public notification is required in certain

circumstances. The application is not subject to a rule or national environmental standard that requires public notification. This report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. In summary public notification is not required pursuant to Step 3 of s95A.

8.2 S95B Limited Notification Assessment

A consent authority must follow the steps set out in s95B to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified pursuant to s95A. Step 1 identifies certain affected groups and affected persons that must be notified. None exist in this instance. Step 2 of s95B specifies the circumstances that preclude limited notification. No such circumstance exists and Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified. The application is not for a boundary activity. The s95E assessment below concludes that there are no affected persons to be notified. There is no requirement to limited notify the application pursuant to Step 3.

8.3 S95D Level of Adverse Effects

The AEE in this report assesses effects on the environment and concludes that these will be no more than minor.

8.4 S95E Affected Persons

A person is an 'affected person' if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor). A person is not an affected person if they have provided written approval for the proposed activity.

The activity is a discretionary activity and within the expected outcomes of subdivision and development of the Rural Production Zone. Built development can occur within the proposed new lots in compliance with all bulk and location rules applying to the zone. The proposal does not unduly increase reverse sensitivity effects. No dispensation is being sought in terms of internal access standards and therefore there are no adverse effects on the other user of the internal access. I have reached the conclusion that the proposal will not have any minor or more than minor effects on adjacent properties.

The site does not contain any mapped or scheduled heritage or cultural sites or values and areas of significant indigenous vegetation are proposed to be protected. The site is not accessed off state highway. No pre lodgement consultation has been considered necessary with tangata whenua, Heritage NZ, Department of Conservation or Waka Kotahi.

9.0 CONCLUSION

The site is considered suitable for the proposed subdivision. Effects on the wider environment are no more than minor. The proposal is not considered contrary to the relevant objectives and policies of the Operative and Proposed District Plans, and is considered to be consistent

with relevant objectives and policies of National and Regional Policy Statements. Part 2 of the Resource Management Act has been had regard to.

There is no District Plan rule or national environmental standard that requires the proposal to be publicly notified. No affected persons have been identified.

It is requested that the Council give favourable consideration to this application and grant consent.

Signed Dated 14th May 2025
Lynley Newport,
Senior Planner
Thomson Survey Ltd

10.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Location Plan

Appendix 3 Records of Title & Relevant Instruments

Appendix 4 Archaeological Site Record

Appendix 5 Site Suitability Report

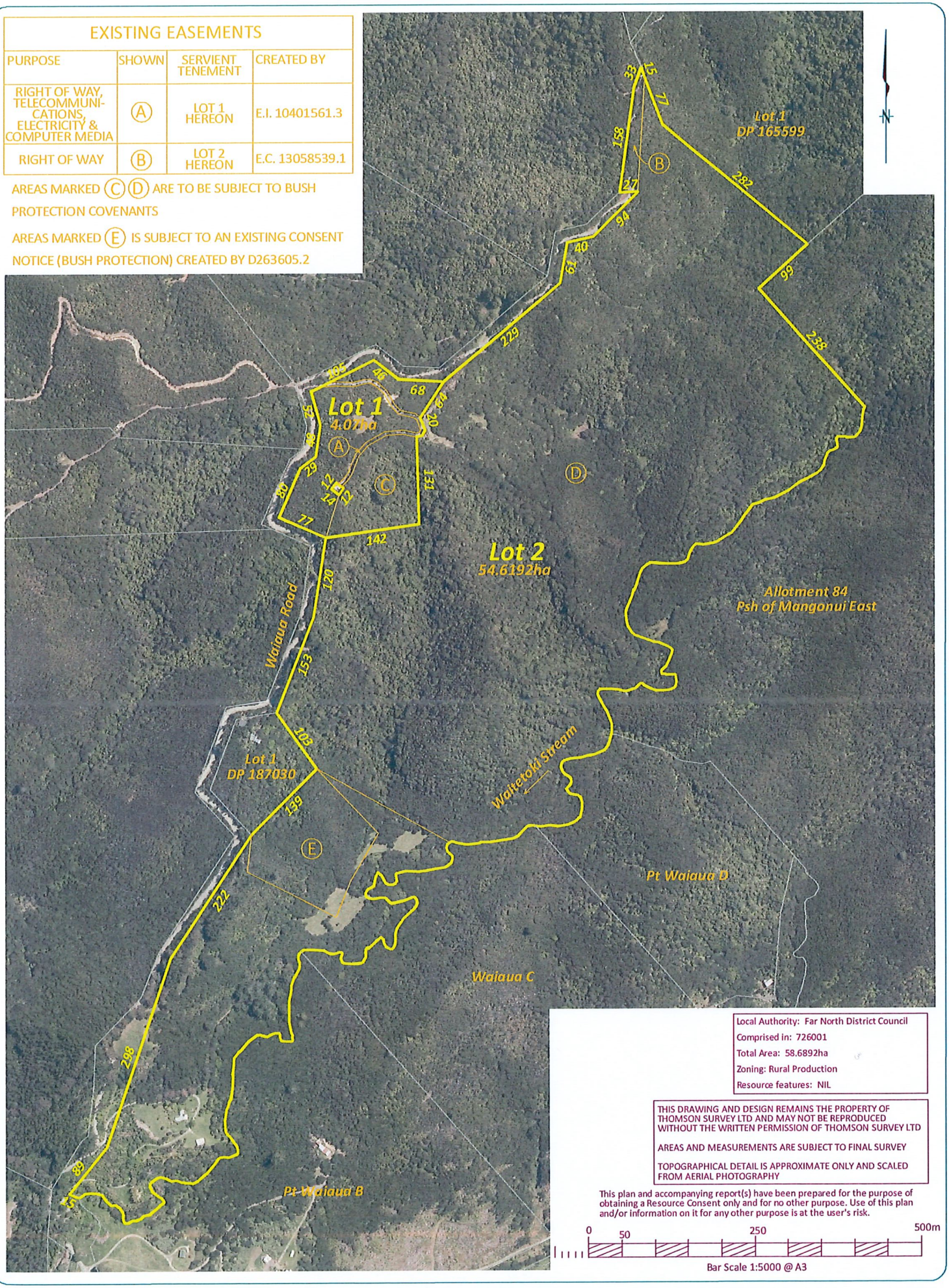
Appendix 1

Scheme Plan(s)

EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & COMPUTER MEDIA	(A)	LOT 1 HEREON	E.I. 10401561.3
RIGHT OF WAY	(B)	LOT 2 HEREON	E.C. 13058539.1

AREAS MARKED (C) (D) ARE TO BE SUBJECT TO BUSH PROTECTION COVENANTS

AREAS MARKED (E) IS SUBJECT TO AN EXISTING CONSENT NOTICE (BUSH PROTECTION) CREATED BY D263605.2



Local Authority:	Far North District Council
Comprised in:	726001
Total Area:	58.6892ha
Zoning:	Rural Production
Resource features:	NIL

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.

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Bar Scale 1:5000 @ A3

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PROPOSED SUBDIVISION OF LOT 2 DP 495153

60 WAIAUA ROAD, MANGONUI

PREPARED FOR: B & A JARVIS

	Name	Date
Survey		
Design		
Drawn	KY	12.08.22
Approved		
Rev	KY	03.03.25

ORIGINAL | SCALE 1:5000 | SHEET SIZE A3

10299 Scheme 20250303.lcd

Surveyors Ref. No: 10299

Sheet 1 of 1

EXISTING EASEMENTS			
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RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & COMPUTER MEDIA	(A)	LOT 1 HEREON	E.I. 10401561.3
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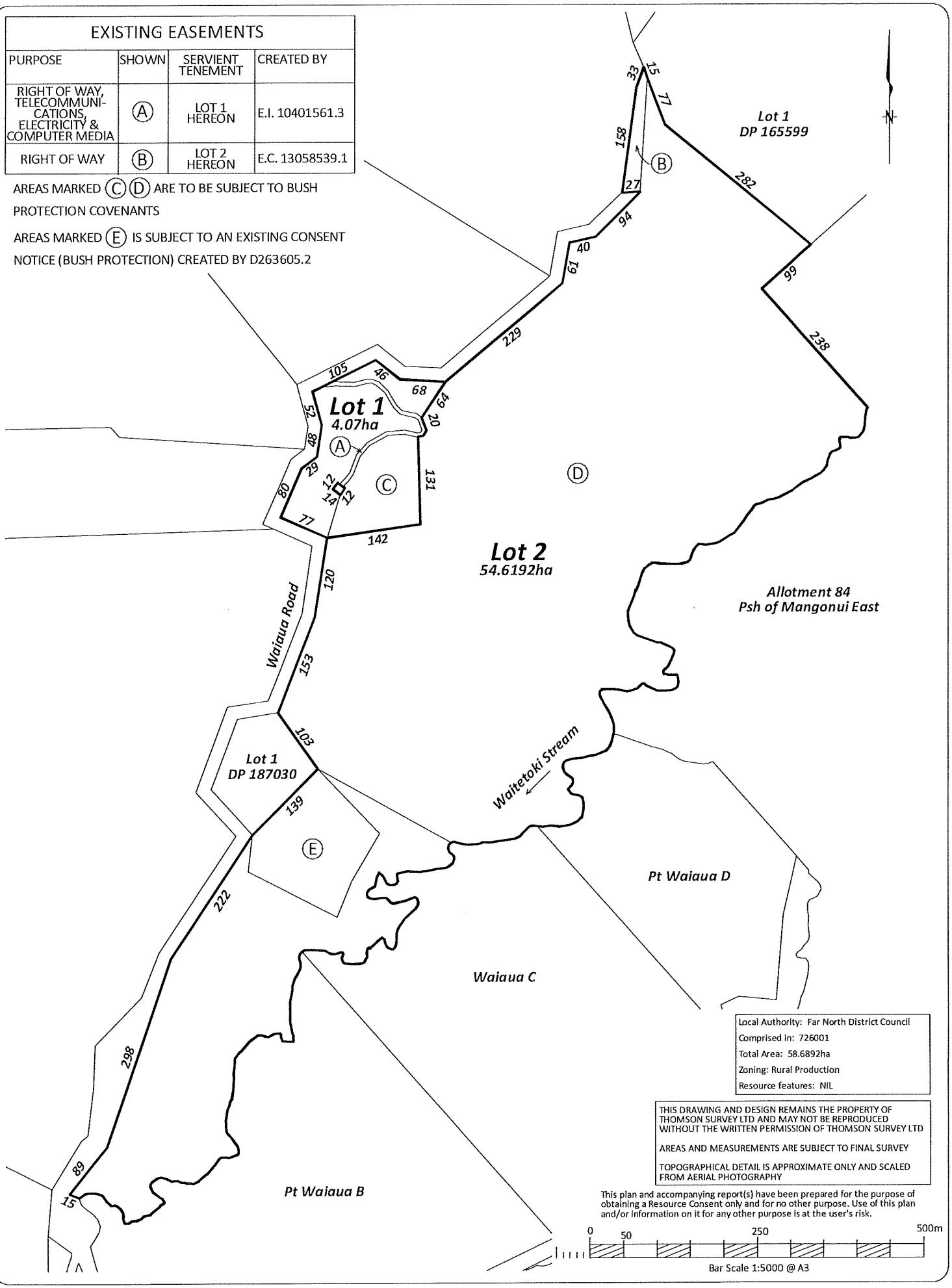

Local Authority: Far North District Council
Comprised in: 726001
Total Area: 58.6892ha
Zoning: Rural Production
Resource features: NIL

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

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PROPOSED SUBDIVISION OF LOT 2 DP 495153

60 WAIAUA ROAD, MANGONUI

PREPARED FOR: B & A JARVIS

	Name	Date
Survey		
Design		
Drawn	KY	12.08.22
Approved		
Rev	KY	03.03.25

ORIGINAL
SCALE 1:5000
SHEET SIZE A3

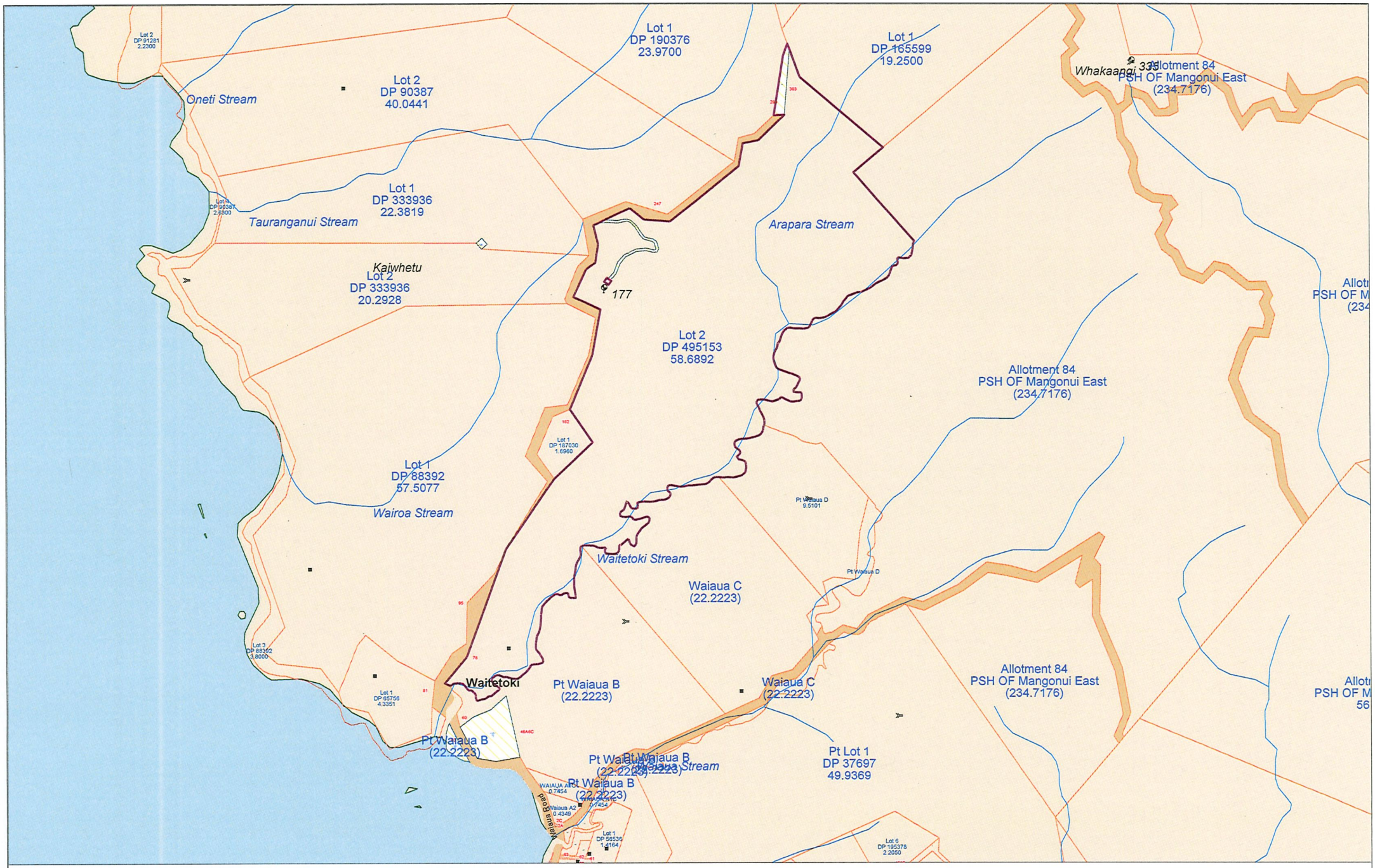
10299 Scheme 20250303.lcd

Surveyors Ref. No: 10299

Sheet 1 of 1

Appendix 2

Location Plan



QuickMap
Custom Software Ltd

Any person wishing to rely on the information shown on this map must independently verify the information

Scale 1:12500 Topographical and Cadastral map derived from LINZ data. Printed: 14-Jan-2025 03:03.

Appendix 3

Records of Title &

Relevant Instruments

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**726001**
Land Registration District	**North Auckland**
Date Issued	19 April 2016

Prior References
NA117B/92

Estate	Fee Simple
Area	58.6892 hectares more or less
Legal Description	Lot 2 Deposited Plan 495153

Registered Owners
Bruce John Jarvis and Andrea Jane Jarvis

Interests

Subject to a right of way over part marked B on DP 495153 specified in Easement Certificate B008124.2

D263605.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 21.4.1998 at 2.58 pm (affects part formerly Lot 2 DP 187030)

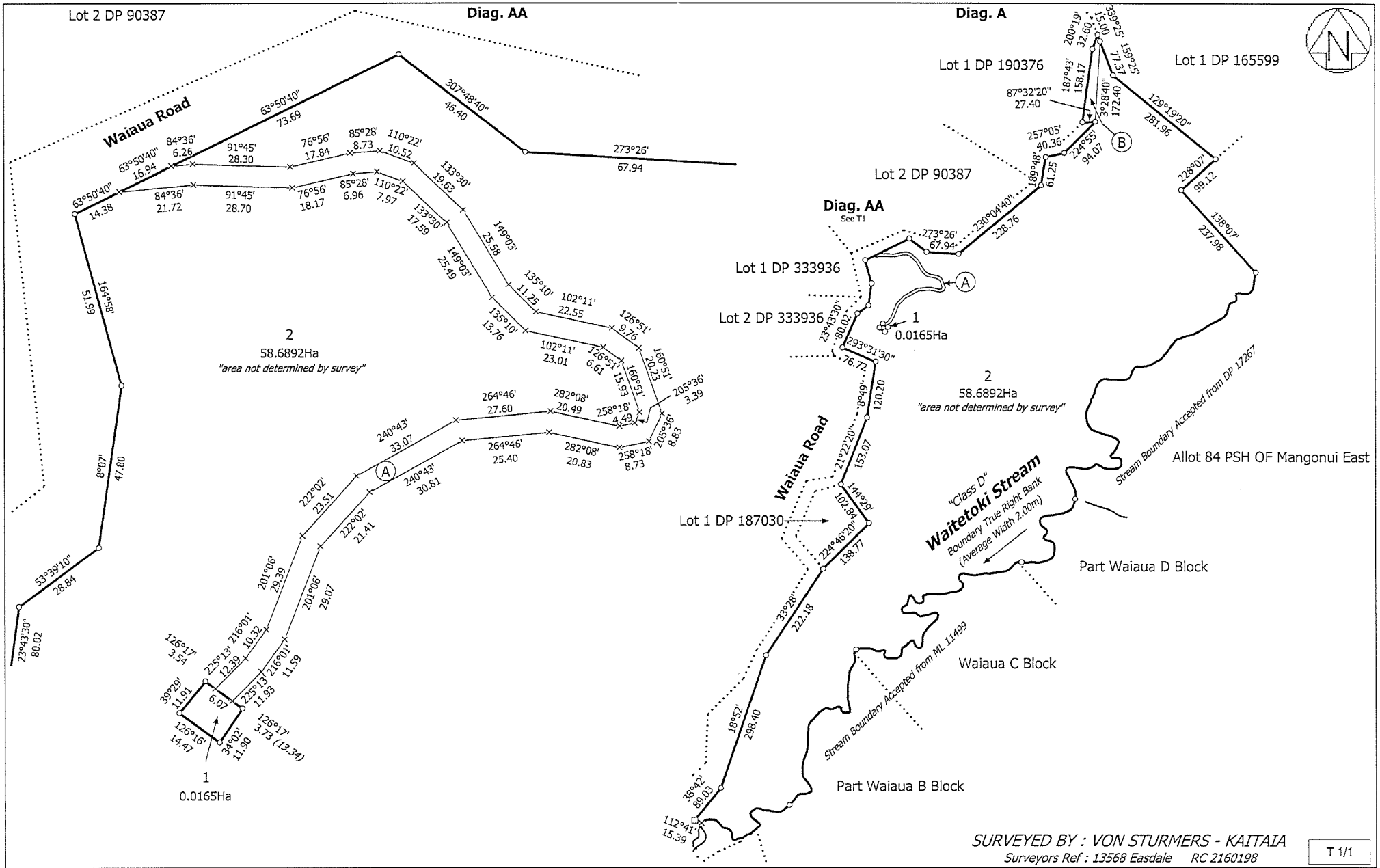
Subject to a right of way and a right to convey electricity, telecommunications and computer media over part marked A on DP 495153 created by Easement Instrument 10401561.3 - 19.4.2016 at 3:16 pm

The easements created by Easement Instrument 10401561.3 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 10420892.2 - 13.5.2016 at 12:38 pm

Land Covenant in Easement Instrument 10420892.3 - 13.5.2016 at 12:38 pm

Subject to a right of way over part marked B on DP 495153 created by Easement Instrument 13058539.1 - 18.7.2024 at 6:18 pm



Land District: North Auckland Digitally Generated Plan Generated on: 02/05/2016 1:30pm Page 3 of 3	Lots 1 & 2 Being a Subdivision of Lot 1 DP 189586 & Lot 2 DP 187030	Surveyor: David Brett King Firm: Survey & Planning Solutions (2010) L	Title Plan DP 495153 Deposited on: 19/04/2016

B008124.2 EC

Approved by the District Land Registrars: North Auckland 422/175, South Auckland H.008116/1974, Canterbury 957768, Marlborough 75776, Gisborne 112239.9, Hawkes Bay 303051, Taranaki 217464.1, Wellington A038045, Westland 45629.

EASEMENT CERTIFICATE

(IMPORTANT: Registration of this certificate does not of itself create any of the easements specified herein).

I, JAN DARRELL BREWER of Big Sur, California, United States of America, Rancher.

being the registered proprietor of the land described in the Schedule hereto hereby certify that the easements specified in that Schedule, the servient tenements in relation to which are shown on a plan of survey deposited in the Land Registry Office at Auckland on the 6th day of July 19 81 under No. 93485 are the easements which it is intended shall be created by the operation of section 90A of the Land Transfer Act 1952.

SCHEDULE

DEPOSITED PLAN NO. 93485

Nature of Easement (e.g., Right of Way, etc.)	Servient Tenement: Lot No.(s) or other Legal Description	Servient Tenement: Colour, or Other Means of Identification, of Part Subject to Easement	Dominant Tenement Lot No.(s) or other Legal Description	Title Reference
Right of Way	part Lot 2 Deposited Plan 17267	shown marked A on Deposited Plan 93485	Lot 3 Deposited Plan 17267	425/171 (Dominant Tenement) 425/170 (Servient Tenement)
Right of Way	part Lot 1 Deposited Plan 17267	shown marked B on Deposited Plan 93485	Lots 2 and 3 Deposited Plan 17267	425/170 425/171 (Dominant Tenements) 49A/427 (Servient Tenement)

N.B. On no account should this margin be used

N.B. On no account should this margin be used

LT31

executed

State whether any rights or powers set out here are in addition to or in substitution for those set out in the Seventh Schedule to the Land Transfer Act 1952.

1. Rights and powers: as set out in the Seventh Schedule to the Land Transfer Act 1952.

N.B. On no account should this margin be used

N.B. On no account should this margin be used

N.B. On no account should this margin be used

2. Terms, conditions, covenants, or restrictions in respect of any of the above easements:

The Rights of Way to be forever appurtenant to the Dominant Tenements.

Dated this 25th day of August 19 81

Signed by the above-named

JAN DARRELL BREWER

Jan Darrell Brewer

in the presence of

Witness D Reynolds

Occupation Clerk to J.F. Leaming Solicitor

Address Mangonui

N.B. On no account should this margin be used

LT31

EASEMENT CERTIFICATE

DP 93485

IMPORTANT: Registration of this certificate does not of itself create any of the easements specified herein.

Correct for purposes of the Land Transfer Act

(Solicitor for) the registered proprietor

N.B. On no account should this margin be used

Particulars entered in the Register as shown in the schedule of land herein on the date and at the time stamped below

....

District Land Registrar
Assistant
of the District of ....

11. 4. 85 ... 30C 1242

PARTICULARS ENTERED IN THE REGISTER

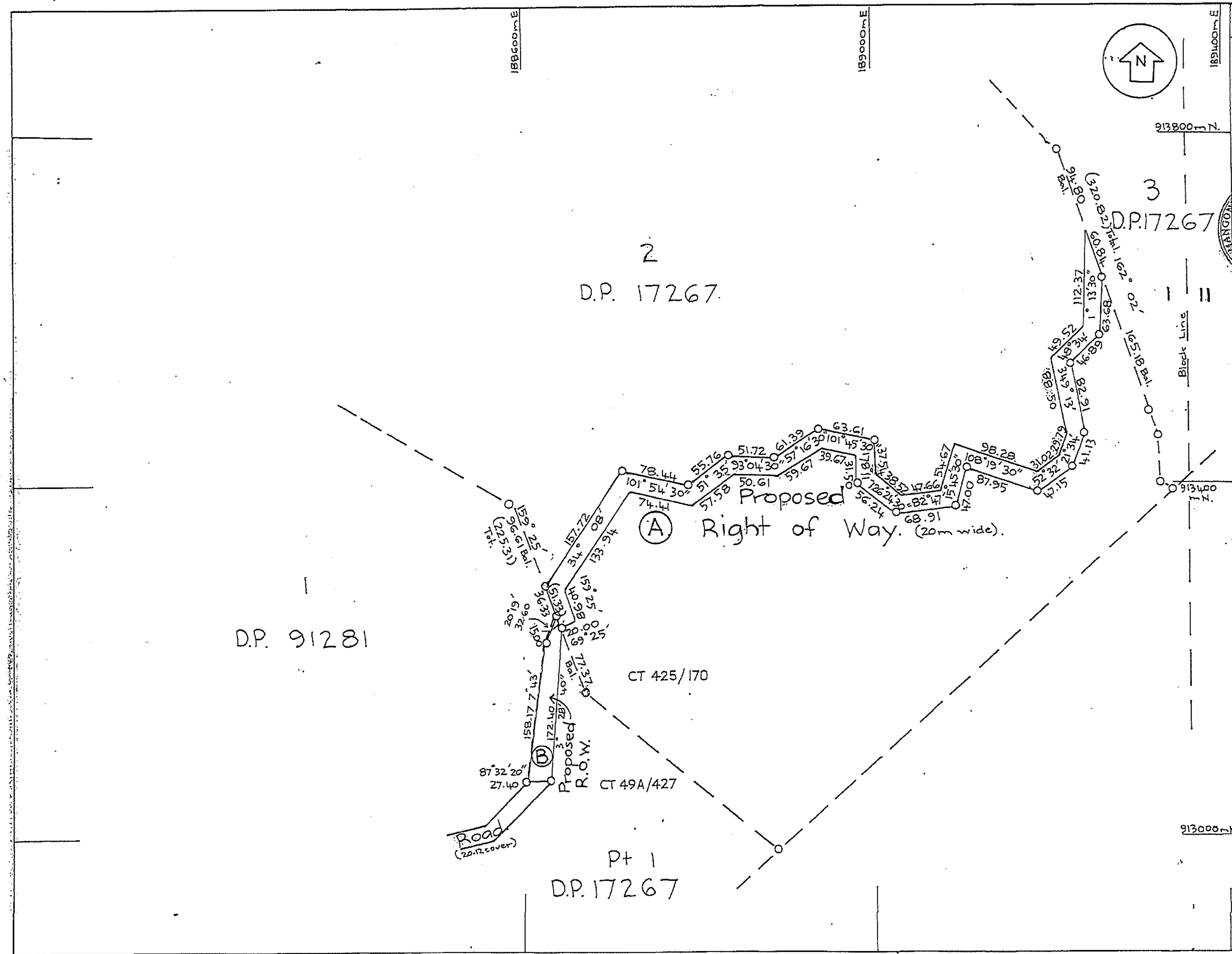
425/170
425/171
49A/427

ASST. LAND REGISTRAR

LAND ... PAGE

Fountain, Manning & Co.,
Solicitors,
KAITAIA.

LT31 Avon Publishing Ltd., P.O. Box 736, Auckland 4



Approvals

Road shown is legal.

Pursuant to a resolution of the Mangonui County Council passed on the 20th day of May 1981 approving pursuant to Sec. 348 of the Local Government Act the Rights of Way shown hereon, the Common Seal of the Mangonui County Council was affixed hereto in the presence of:—

THE COMMON SEAL OF MANGONUI COUNTY COUNCIL

Chairman

A Councillor

Deputy County Clerk

Note:- All boundaries are E.B. unless shown otherwise.

Schedule of Proposed Easements

Purpose	Shown	Serv. Ten.	Dom. Ten.
R.O.W.	(A)	Pt Lot 2 D.P.17267	Lot 3 D.P.17267
R.O.W.	(B)	Pt Lot 1 D.P.17267	Lot 3 D.P.17267

Approved. J. D. Brewer by his duly authorised agent acting under Power of Attorney.

Registered Owner

Total Area

Comprised in 425/170 (Pt) 49A/427(Pt)

I, Donald Barrington von Sturmer of Kaitaia Registered Surveyor and holder of an annual practising certificate hereby certify that this plan has been made from Surveys executed by me or under my direction; that both plan and Survey are correct and have been made in accordance with the regulations under the Surveyors Act 1966

Dated at Kaitaia this 21st day of April 1981 Signature

Field Book p. Traverse Book p.

Reference Plans

Examined C Cruickshank. Correct

Approved as to Survey

1 / 7 / 1981 for Chief Surveyor

Deposited this 6 day of June 1981

District Land Registrar

File

Received

Instructions

DP 93485

LAND DISTRICT North Auckland.

SURVEY BLK.& DIST. I Mangonui.

NZMS SHEET No.

Proposed R.O.W. over Pt Lots 1 & 2, D.P.17267

LOCAL AUTHORITY Mangonui County

Surveyed by D.B. von Sturmer

Scale 1:3000 Date April 1981.

P. D. HASSELBERG, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1979

I. F. Stirling, Surveyor-General, Department of Lands and Survey, Wellington.

D 263605.2 Cons

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING:
The subdivision of Lot 1 DP 145588
Block I Mangonui Survey District
(North Auckland Registry)
DP 187030

PURSUANT to Section 221 and for the purposes of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in Schedule 1 below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and this Notice is to be registered on the new titles.

SCHEDULE

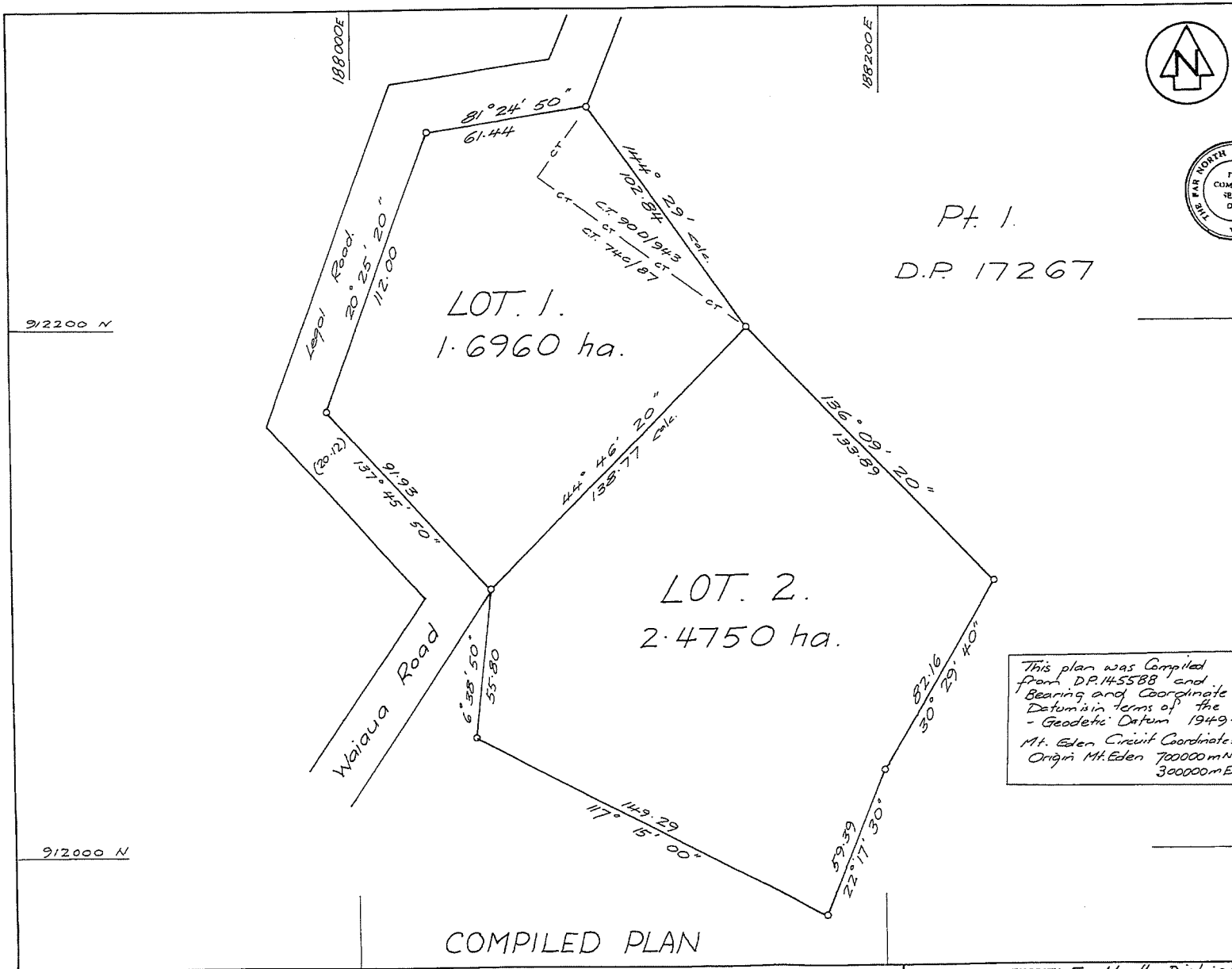
The owner shall preserve the indigenous trees and bush now on the allotments (Lots 1 and 2) and shall not without the prior written consent of the Council and then only in strict compliance with any conditions imposed by the Council, cut down, damage or destroy any of such trees or bush or suffer or permit the cutting down, damaging or destruction of any of such trees or bush. The owner shall be deemed to be not in breach of this prohibition if any of such trees or bush shall die from natural causes not attributable to any act or default by or on behalf of the owner or for which the owner is responsible.

Signed:
Environmental Services Manager

Dated 12th DECEMBER 1997

SIGNED by the registered proprietor)
BRUCE JOHN JARVIS)
in the presence of:)

E:/CLIENT/JARVIS/CONSENT



This plan was Compiled from D.P. 145588 and Bearing and Coordinate Datum is in terms of the - Geodetic Datum 1949 - Mt. Eden Circuit Coordinates Origin Mt. Eden 700000 mN. 300000 mE.

COMPILED PLAN

LAND DISTRICT North Auckland
SURVEY BLK. & DIST. 1 Mangonui
NZMS 261 SHT ..... RECORD MAP No .....

LOTS 1 & 2 BEING SUBDIVISION OF LOT. 1. D.P 145588 & PT. LOT. 1. DP. 17267.

TERRITORIAL AUTHORITY Far North District
Surveyed by D.B. von Sturmer
Scale 1:1000 Date November 1997

A.J. BEVIN, SURVEYOR GENERAL, LAND INFORMATION, NEW ZEALAND.

Approvals

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 15th day of December 1997

Subject to the Amalgamation Condition Setout hereon.

The Common Seal of the Far North District Council is affixed hereto in the presence of :-

THE FAR NORTH DISTRICT COUNCIL THE COMMON SEAL OF

Authorised Officer (Under Delegated Authority)

Amalgamation Condition

That Lot 2. hereon and Pt. Lot 1. DP. 17267 (Residue CT 90D/943) be held in the same certificate of Title.

See A 632828

New CsT Allocated

Lot. 1. 1178/91

Lot. 2. 1178/92

RL 1971099

Approved.

B.J. Jarvis

Registered Owner.

Total Area 4·1710 h.a.

Comprised in C.T. 74C/87 (All)
C.T. 90 D/943 (Pt)

I, Donald Barrington von Sturmer Registered Surveyor and holder of an annual practising certificate (or who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.

Dated at Kaitaia this 12th day of January 1998 Signature

Field Book ..... p. ..... Traverse Book ..... p. .....
Reference Plans D.P. 145588
Examined D.D. JURY Correct

Approved as to Survey
16.3.98
Chief Surveyor

Deposited this 21 day of APR 1998
District Land Registrar

File
Received 14 JAN 1998
Instructions

DP 187030

L.I.N.Z. FORM DIS "APPROVED 1/02/03"

AARQUE

19 MAY 1998

View Instrument Details

Instrument No.	10401561.3
Status	Registered
Date & Time Lodged	19 Apr 2016 15:16
Lodged By	Sweetman, Anthony John
Instrument Type	Easement Instrument

Affected Computer Registers	Land District
726000	North Auckland
726001	North Auckland

Annexure Schedule: Contains 2 Pages.

Grantor Certifications

I certify that I have the authority to act for the Grantor and that the party has the legal capacity to authorise me to lodge this instrument ☑

I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument ☑

I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply ☑

I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period ☑

Signature

Signed by Anthony John Sweetman as Grantor Representative on 19/04/2016 03:08 PM

Grantee Certifications

I certify that I have the authority to act for the Grantee and that the party has the legal capacity to authorise me to lodge this instrument ☑

I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument ☑

I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply ☑

I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period ☑

Signature

Signed by Anthony John Sweetman as Grantee Representative on 19/04/2016 03:08 PM

***** End of Report *****

Easement instrument to grant easement or *profit à prendre*, or create land covenant

(Sections 90A and 90F Land Transfer Act 1952)

2015/6246
APPROVED
Registrar-General of Land

Page 1 of ____ pages

Grantor

Bruce John Jarvis and Andrea Jane Jarvis

Grantee

Bruce John Jarvis and Andrea Jane Jarvis

Grant of Easement or *Profit à prendre* or Creation of Covenant

The Grantor being the registered proprietor of the servient tenement(s) set out in Schedule A **grants to the Grantee** (and, if so stated, in gross) the easement(s) or *profit(s) à prendre* set out in Schedule A, **or creates** the covenant(s) **set out** in Schedule A, with the rights and powers or provisions set out in the Annexure Schedule(s)

Schedule A *Continue in additional Annexure Schedule, if required*

Purpose (Nature and extent) of easement; *profit* or covenant	Shown (plan reference)	Servient Tenement (Computer Register)	Dominant Tenement (Computer Register) or in gross
Right of way, right to convey electricity, telecommunications & computer media	DP495153 Marked A	**CT 726001**	**CT 726000**

Page 2 of pages

Easements or *profits à prendre* rights and powers (including terms, covenants and conditions)

Delete phrases in [ ] and insert memorandum number as required; continue in additional Annexure Schedule, if required

Unless otherwise provided below, the rights and powers implied in specified classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or Schedule Five of the Property Law Act 2007

~~The implied rights and powers are hereby [varied] [negatived] [added to]~~ or ~~[substituted]~~ by:

~~[Memorandum number , registered under section 155A of the Land Transfer Act 1952]~~

~~[the provisions set out in Annexure Schedule]~~

Covenant provisions

Delete phrases in [ ] and insert Memorandum number as required; continue in additional Annexure Schedule, if required

~~The provisions applying to the specified covenants are those set out in:~~

~~[Memorandum number , registered under section 155A of the Land Transfer Act 1952]~~

~~[Annexure Schedule]~~

Appendix 4

Archaeological Site Record

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE DESCRIPTION FORM

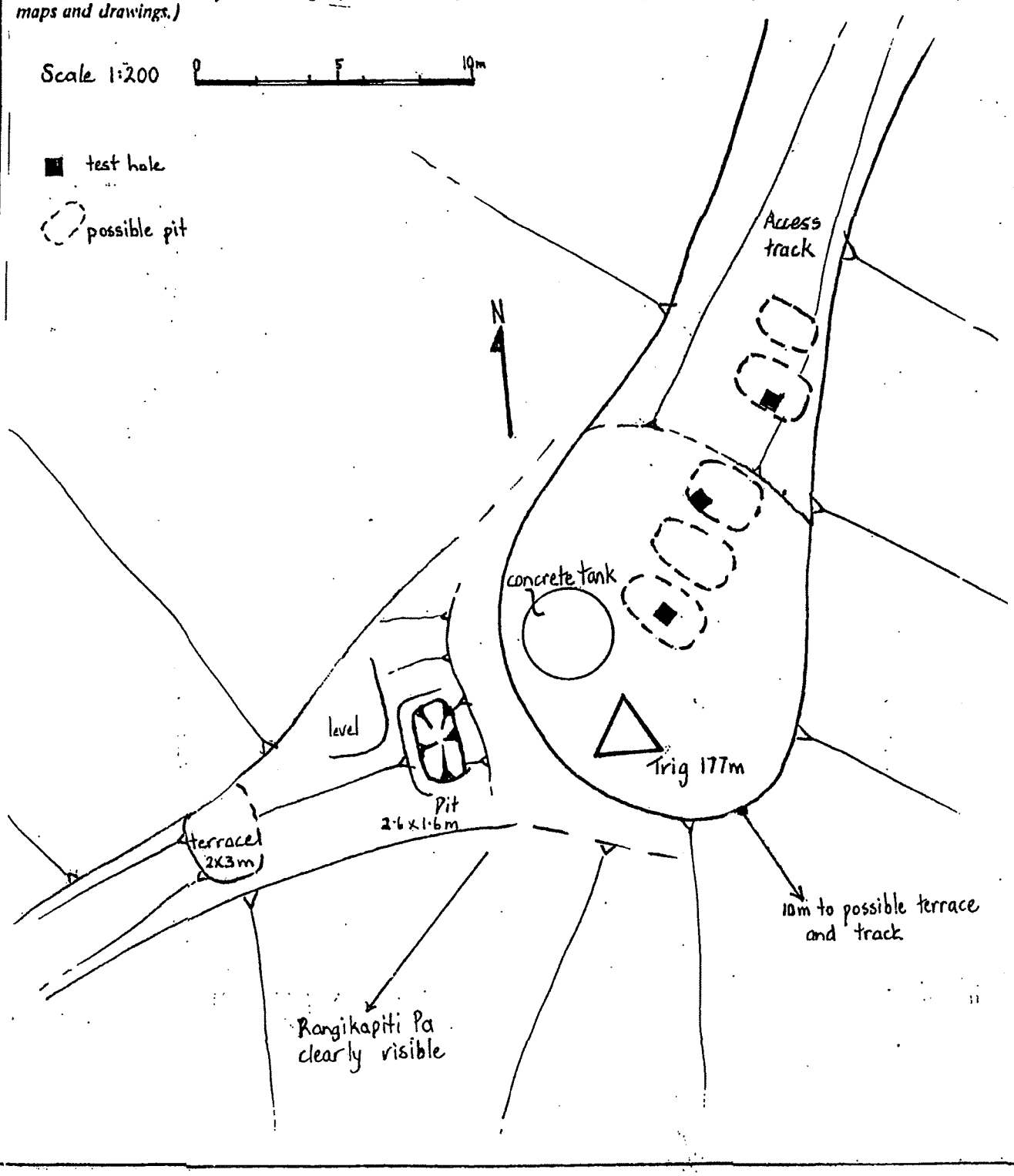
Map Number 004
Map Name Kaitaia
Map Edition 1st, 1984
Grid Reference 602.5-937.5

SITE NUMBER 004/812

SITE NAME: MAORI Kaiwhetu
OTHER

SITE TYPE Pits & terrace

(This form may be used for recording any descriptive information or other supplementary information on the site, or for maps and drawings.)



Appendix 5

Site Suitability Report

geologix
consulting engineers

SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

PROPOSED SUBDIVISION OF LOT 2 DP 495153, 60 WAIAUA ROAD, MANGONUI

BRUCE & ANDREA JARVIS

C0597-S-01
MAY 2025
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Subdivision Site Suitability Engineering Report
Site Reference	Proposed subdivision of Lot 2 DP 495153
Client	Bruce and Andrea Jarvis
Geologix Reference	C0597-S-01
Issue Date	May 2025
Revision	01
Prepared by (Civil)	Fred Sennoga Intermediate Civil Engineer BSc.Eng (Honours), MBA, CMEngNZ
Reviewed	Sebastian Hicks Principal Civil Engineer, CPEng Reg. 1168062, CMEngNZ, IntPE(NZ) /APEC Engineer
Approved by	Edward Collings Managing Director, CEnvP, CPEng. CMEngNZ
File Reference	Z:\Projects\C0500-C0599\C0597 - 60 Waiaua Road, Hihi, Mangonui\06 - Reports\C0597-S-01-R01.docx

REVISION HISTORY

Date	Issue	Prepared	Reviewed	Approved
May 2025	First Issue – For Consent	LW, FS	SH	EC

geologix
consulting engineers

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1 INTRODUCTION

This Site Suitability Engineering Report has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Bruce and Andrea Jarvis as our Client in accordance with our standard short form agreement and general terms and conditions of engagement.

Our scope of works has been undertaken to assist with Resource Consent application in relation to the proposed subdivision of a rural property (Lot 2 DP 495153) comprising a total net area of 58.6892 Hectares (Ha) off Waiaua Road, Mangonui, the 'site'.

Specifically, this assessment addresses engineering elements of natural hazards, wastewater, stormwater, and associated earthwork requirements to provide safe and stable building platforms with less than minor effects on the environment as a result of the proposed activities outlined in Section 1.1.

1.1 Proposed Development

This scope of works forms part of a future subdivision division proposal. A proposed scheme plan was presented to Geologix at the time of writing, prepared by Thomson Survey[1] and reproduced within Appendix A. It is understood the Client proposes to subdivide the site to create one new residential lot (proposed lot 1) in the north-western part of the site, with existing buildings remaining on the remaining balance lot (proposed lot 2).

The above is outlined in Table 1 below. Amendments to the referenced scheme plan may require an update to the recommendations of this report which are based on conservative, typical rural residential development concepts.

Table 1: Summary of Proposed Scheme

Proposed Lots	Size	Purpose
1	4.07 ha	New residential
2	54.6192 ha	Existing residential

Access to the new residential Lot 1 is to be provided via an existing gravel access road off Waiaua Road that traverses a hill to service a communications tower. Lot 2 access will remain at the properties' western aspect, separate from the Lot 1 access.

A specific Traffic Impact Assessment (TIA) is outside the scope of this report.

2 DESKTOP APPRAISAL

The proposed development lot is located on the eastern aspect of Waiaua Road which has an irregular alignment that also defines the south-western boundaries of the proposed lot 1. Topographically, the general site area is undulating with ridges and gullies trending in all directions through the site, however predominantly trend from west to east. The proposed

[1] *Williams and King, Scheme Plan Ref. 23457.01 and 23457.02, dated August 2021.*

site for Lot 1 is generally a central flat hilltop located in the northern area of the proposed lot and surrounded by steeper slopes to the west and east.

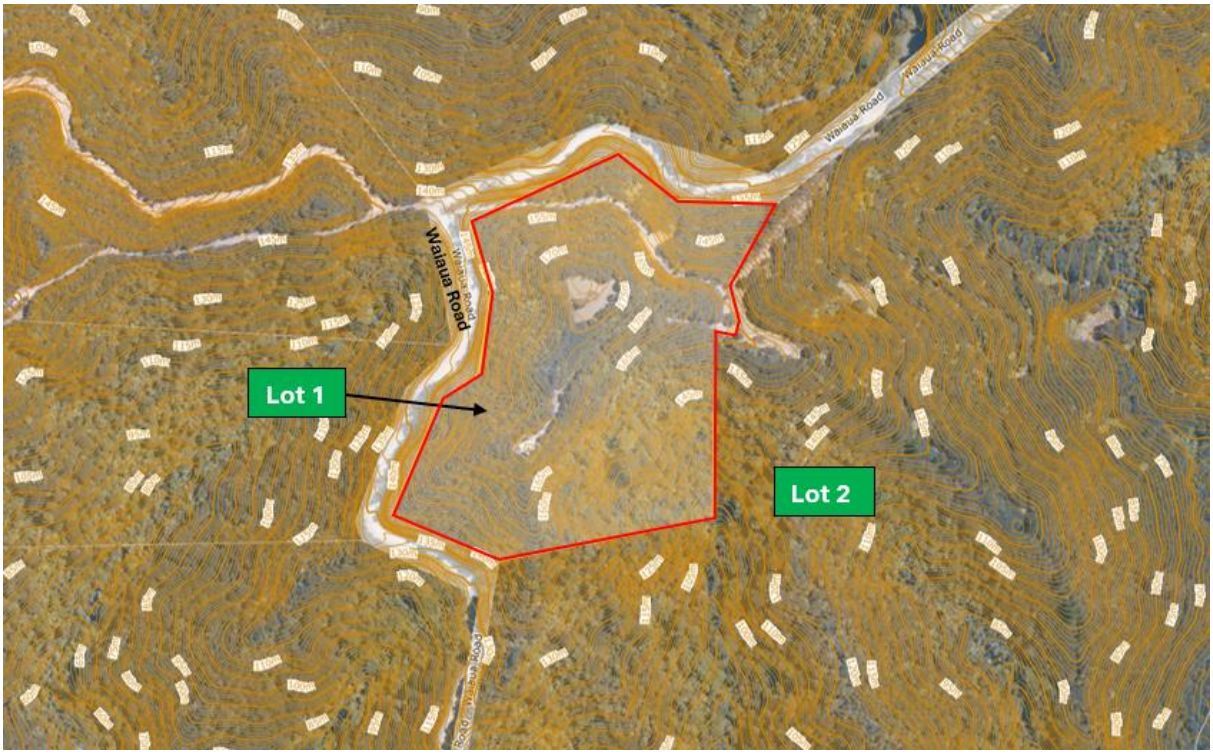
The site is considered moderately to steeply sloping, with steep angles of up to 31° is present in proposed lot 2. The location of the new proposed residential lot is generally the highest area on the entire site, refer to Figure 1 below, with average slope angles across the proposed lot to be at 8.5° and 21° degrees.

The site is generally bounded by Waiaua Road along the south-western boundary of the site, and other rural lots in all other directions. The site setting is presented schematically as Figure 1 and Figure 2 below.

Figure 1: Site Setting[2]

[2]*Natural Hazards (arcgis.com)*

Figure 2: Site locality



The site area is currently in well-established pine trees/ bush across a predominant amount of the site, with a single clearing that has some grass. There is an existing telco tower located on the southern portion of the proposed lot 1. A detailed review of existing watercourses and overland flow paths is presented as Section 3.

2.1 Existing Reticulated Networks

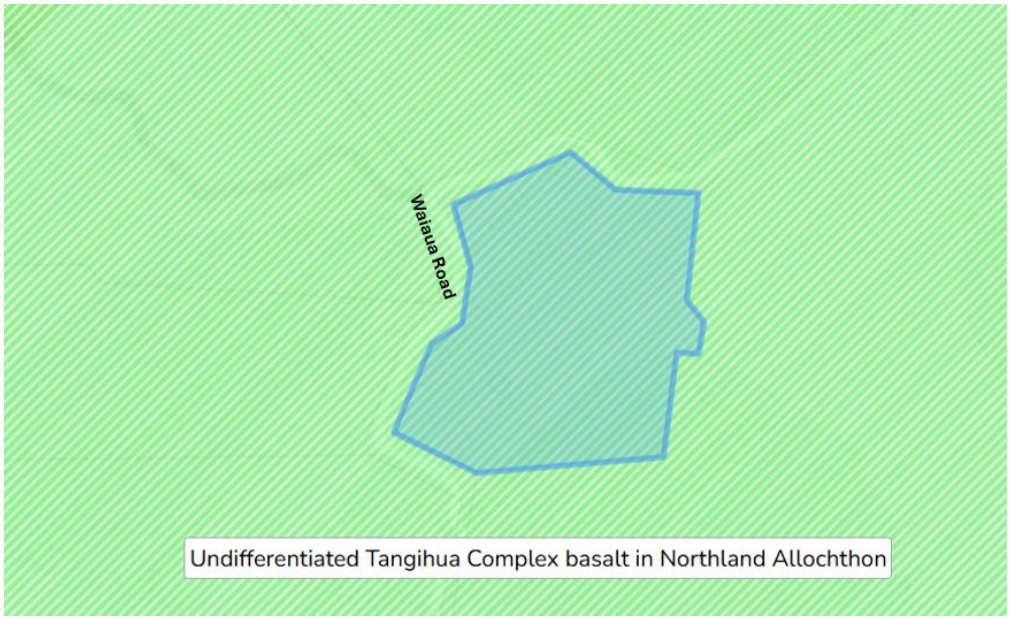
Far North District Council (FNDC) GIS mapping indicates that no existing 3 water infrastructure or reticulated networks are present the site boundaries. This report has been prepared with the goal of the subdivision being self-sufficient for the purpose of wastewater, stormwater, and potable water management.

2.2 Geological Setting

Available geological mapping[3] indicates the site is predominantly underlain by Undifferentiated Tangihua Complex basalt in Northland Allochthon described as "Basaltic pillow lava and pillow breccia, with sills and dikes of basalt and dolerite.". Refer to Figure 3 below:

[3] *Source: Geology 2.0.0 (gns.cri.nz)*

Figure 3: Geological Map with highlighted site boundaries



The proposed building envelope is located in the northwestern part of the proposed site and is expected to include Northland Allochthon soils only and non-alluvial soil deposits. The risk of encountering low-strength alluvial deposits at the proposed building platform is considered low based on the mapped geology and high elevation of the proposed lots.

2.3 Existing Geotechnical Information

Existing subdivision and/ or Building Consent ground investigations were not made available to Geologix at the time of writing. Additionally, a review of available GIS databases, including the New Zealand Geotechnical Database[4] did not indicate borehole records within 500 m of the site.

3 SURFACE WATER FEATURES AND OVERLAND FLOWPATHS

During our site walkover and desktop appraisal of the supplied topographic data, Geologix have developed an understanding of the surface water features and overland flow paths influencing the site. The developed understanding summarised in the following sections is shown schematically on Drawing No. 100 with associated off-set requirements.

3.1 Surface Water Features

The general site, comprising of Lots 1 and 2, is located within natural forest. The proposed Lot 1 is located along the western edge of the plantation and east of the existing Waiaua Road, that runs along the western boundary of the site.

[4] https://www.nzgd.org.nz/

A prominent ridgeline extends from the eastern quarter of Lot 1 site from west to southeast into the Lot 2 site. It falls from the eastern boundary of Lot 1 into Lot 2 in a south easterly direction. The ridge in Lot 1 has a maximum elevation of about 162m, and this falls down to about 60m within Lot 2.

The proposed Lot 1 site is located in the vicinity of hilltop location. As a high point any rainwater runoff from the site is shed as sheet flow in all directions. Runoff from Lot 1's eastern aspect will flow towards Lot 2 into natural wide gulleys that are currently densely vegetated. Runoff from Lot 1's western aspect will flow toward Waiaua Road, through the densely vegetated slope.

Future lot development will need to consider the management of this sheet flow runoff to ensure good drainage of any development.

3.2 Overland Flow Paths

Clearly defined flow paths are not evident within the Lot 1 site boundaries although there are broad, shallow depressions that drain the ridge. Thick vegetation is prominent and will currently obstruct flows.

Generally, runoff appears to flow as sheet flow from the ridge across Lot 1 approximately from the centre of the lot and radiates outwards to the surrounding catchments beyond the site towards Waiaua Road and Lot 2. The flow will be broadly concentrated to the depressions mentioned above. There are no clear paths for significantly concentrated runoff flows evident within Lot 1.

3.3 Mapped Flood Hazard

The Northland Regional Council GIS indicates mapped Priority Rivers flood hazard zones within the site's eastern proximity (within Lot 2), about 200m away from Lot 1's nearest boundary. The hazard is presented for the 10 year (10% AEP) , 50 year (2% AEP) and 100 year (1% AEP) return events. These pose no threat to the Lot 1 site in terms of inundation.

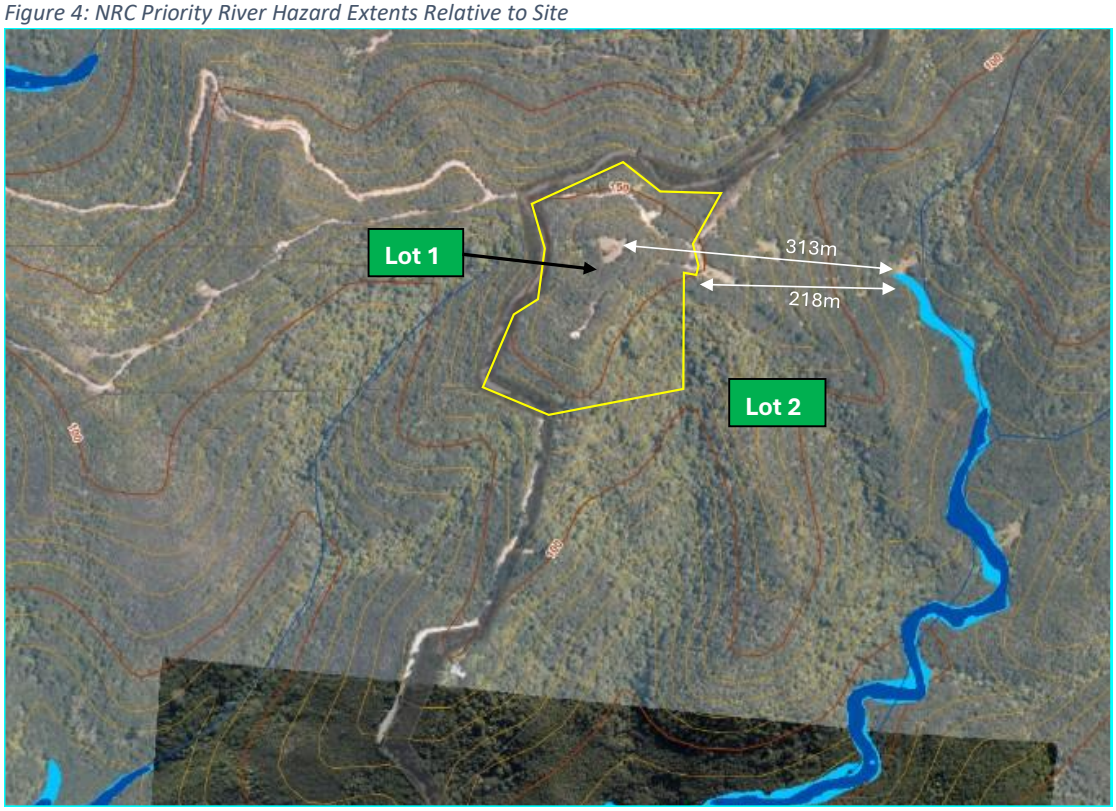
3.3.1 Effect on Downstream Property

It is noted that the flood hazard within Lot 2 does pose a hazard on downstream property, including the existing development within Lot 2. It is considered that the flood hazard is well confined to the stream bed, and once passed through the Lot 2 southern boundary, the stream discharges to the CMA within 150m.

However, Lot 1's new impervious area will generally contribute runoff to the west of the ridge it is situated upon, toward Waiaua Road and perhaps only marginally to the stream to the east of the site (with the flood hazard). It is also considered that the flood hazard is over 300m away from Lot 1's new impervious area, across an area that is densely vegetated which will promote obstruction and infiltration of runoff.

Due to the insignificant effect of Lot 1's new impervious area runoff to the mapped flood hazard it is recommended that the proposed development will have less than minor effect to flooding of any downstream property (see Figure 4 below).

Figure 4: NRC Priority River Hazard Extents Relative to Site



4 GROUND INVESTIGATION

A site-specific walkover survey and intrusive ground investigation was undertaken by Geologix on 20 February 2025. The ground investigation was scoped to confirm the findings of the above information and to provide parameters for the geotechnical wastewater assessment for the site. The ground investigation comprised:

- Two shallow hand augured boreholes designated HA01 and HA02, inclusive formed within suitable areas of wastewater disposal fields on the proposed residential lot with a target depth of 1.2 m below ground level (bgl), see figure 5 for location of the boreholes.

Figure 5: NRC Priority River Hazard Extents Relative to Site

4.1 Site Walkover Survey

A visual walkover survey of the property confirmed:

- Topography data supplied is in general accordance with that outlined in Section 2 and observed site conditions.
- Proposed lot 1 is predominantly in dense trees and average bush located at a north western central portion of the lot.
- The site is bound by Waiaua Road along the south-western boundary, and similar farming, forestry or rural lifestyle block properties to all other directions.
- Adjacent to Lot 1, Waiaua Road has no formal swale drains along its edges. No pipe culverts or other stormwater structure were observed along the extent of the road adjacent Lot 1
- No existing dwelling related structures were noted on proposed lot 1 during our geotechnical investigation. However existing Telco structures were noted approximately 90m southwest of the proposed building envelope location on slightly elevated ground relative to the Lot 1 envelope. This structure is accessed via an existing driveway (approximately 390m in length) from Waiaua road.

4.2 Ground Conditions

Arisings recovered from the exploratory boreholes were logged by a suitably qualified geotechnical engineering professional in general accordance with New Zealand Geotechnical Society guidelines[6]. Engineering borehole logs are presented as Appendix B to this report and approximate borehole positions recorded on Drawing No. 100 within Appendix A. Strata identified during the ground investigation can be summarised as follows:

- **Topsoil encountered ranging between 0.1 and 0.4 m bgl.** Topsoil was encountered at test locations HA01 and HA02, in proposed lot 1, described as brown topsoil with trace rootlets contents, low plasticity, moist to dry and friable.
- **Northland Allochthon Residual Soil to depths between > 0.2 and > 1.2 m bgl.** The residual soil was typically cohesive, described as clayey silt or silt with minor clay and sand, orange brown to brownish orange with occasional whit specks, low plasticity and moist.

A summary of the above strata horizons and wastewater properties is presented as Table 2.

Table 2: Summary of Ground Investigation

Hole ID	Proposed Lot	Hole Depth	Topsoil Depth	Groundwater	Refusal Depth	Wastewater Category
HA01	1	1.2 m	0.2 m	NE	NE	6 – slow draining
HA02	1	1.2 m	0.4 m	NE	NE	6 – slow draining

1. *All depths recorded in m bgl unless stated.*
2. *Groundwater measurements taken on day of drilling.*
3. *NE – Not Encountered.*
4. *Wastewater category in accordance with Auckland Council TP58[7].*

4.2.1 Groundwater

Groundwater was not encountered during our geotechnical investigation.

Groundwater levels commonly fluctuate according to the season and rainfall events. Therefore, groundwater levels may vary and be identified at higher levels than monitored during this ground investigation, particularly in wet, winter conditions. The groundwater shall also be monitored at the ground investigation conducted during the building consent stage.

[6] *New Zealand Geotechnical Society, Field Description of Soil and Rock, 2005.*
[7] *Auckland Council, Technical Publication 58, On-site Wastewater Systems: Design and Management Manual, 2004, Table 5.1.*

5 WASTEWATER ASSESSMENT

The scope of this wastewater assessment comprised a ground investigation to ascertain a lot-specific wastewater disposal classification for concept design of suitable systems for a probable future rural residential development. Relevant design guideline documents adopted include:

- Auckland Council, Technical Publication 58, On-site Wastewater Systems: Design and Management Manual, 2004.
- NZS1547:2012, On-site Domestic Wastewater Management.

The concept rural residential development within this report assume that the proposed new residential lot may comprise up to a five-bedroom dwelling with a peak occupancy of eight people[8]. This considers the uncertainty of potential future Building Consent designs. The number of usable bedrooms within a residential dwelling must consider that proposed offices, studies, gyms, or other similar spaces maybe considered a potential bedroom by the Consent Authority.

5.1 Existing Wastewater Systems

Proposed Lot 2 has an existing wastewater treatment and disposal system identified within the site boundaries which services the existing buildings. This system and associated disposal fields are situated well away from proposed Lot 1's boundary.

No other existing wastewater treatment or disposal systems have been identified or surveyed within the site boundaries.

5.2 Wastewater Generation Volume

In lieu of potable water infrastructure servicing the site, roof rainwater collection within on-lot tanks has been assumed for this assessment. The design water volume for roof water tank supply is estimated at 160 litres/ person/ day[9]. This assumes standard water saving fixtures[10] being installed within the proposed future developments. This should be reviewed for each proposed lot at the Building Consent stage.

For the concept wastewater design this provides a total daily wastewater generation of 1,280litres/ day per proposed lot.

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[8] TP58 Table 6.1.

[9] TP58 Table 6.2, AS/ NZS 1547:2012 Table H3.

[10] Low water consumption dishwashers and no garbage grinders.

5.3 Treatment System

Selection of a wastewater treatment system will be provided by future developers at Building Consent stage. This will be a function of a refined design peak occupancy.

It is recommended within the concept solution provided that to meet suitable minimum treated effluent output, secondary treatment systems are accounted for across the site. The concept solution is detailed further in the following sections.

In the Building Consent design phase, a higher treated effluent output standard such as UV disinfection to tertiary quality may be required should specifically controlled zones such as the prescribed offsets of this report are encroached upon. Moreover, a primary treatment solution may also be considered for the Lot development, provided that the system complies with the proposed Northland Regional Plan. Specifically, controlling rules include:

- Rule C.6.1.3 6), discharge of wastewater from primary systems is to slopes less than 10°.
- Rule C.6.1.3 9)a), 100 % reserve disposal area where the wastewater has received primary treatment.
- Table 9, exclusion areas and setback distances for primary treated domestic type wastewater.

No specific treatment system design restrictions and manufacturers are currently in place. However, the developer will be required to specify the treatment system proposed at the Building Consent stage.

5.4 Land Disposal System

To provide even distribution, evapotranspiration assistance and to minimise effluent runoff it is recommended that treated effluent is conveyed to land disposal via Pressure Compensating Dripper Irrigation (PCDI) systems, a commonplace method of wastewater disposal.

The proposed PCDI systems may be surface laid and covered with minimum 150 mm mulch and planted with specific evapotranspiration species with a minimum of 80 % species canopy cover or subsurface laid to topsoil with minimum 200 mm thickness and planted with lawn grass. Site-won topsoil during development from building and/ or driveways footprints may be used in the area of land disposal systems to increase minimum thicknesses. Specific requirements of the land disposal system include the following which have been complied with for this report.

Table 3: Disposal Field Design Criteria

Design Criteria	Site Conditions
Topography at the disposal areas shall not exceed 25°. Exceedances will require a Discharge Consent.	Concept design complies
On shallower slopes >10 ° compliance with Northland Regional Plan (NRP) rule C.6.1.3(6) is required.	Concept design for Lot 1 complies.
On all terrain irrigation lines should be laid along contours.	Concept design complies
Disposal system situated no closer than 600 mm (vertically) from the winter groundwater table (secondary treated effluent).	Concept design complies
Separation from surface water features such as stormwater flow paths (including road and kerb channels), rivers, lakes, ponds, dams, and natural wetlands according to Table 9, Appendix B of the NRP.	Concept design complies. There are no such overland flow paths nearby.
The effluent is treated and disposed of on-site such that each site has its own treatment and disposal system no part of which shall be located closer than 30m from the boundary of any river, lake, wetland, or the boundary of the coastal marine area. FNDC rule 12.7.6.1.4	Concept design complies. There are no such surface water features nearby.

5.4.1 Soil Loading Rate

Based on the results of the ground investigation, conservatively the shallow soils are inferred to meet the drainage characteristics of TP58 Category 6, sandy clay, non-swelling clay, and silty clay – slowly draining. This correlates to NZS1547 Category 5, poorly drained described as light clays. For a typical PCDI system, a Soil Loading Rate (SLR) of 2 mm/ day is recommended within NZS1547 Table 5.2 and TP58 Table 9.2.

To achieve the above SLR, technical guidance documents require the following compliance within the final design.

- 100 to 150 mm minimum depth of good quality topsoil (NZS1547 Table M1, note 1) to slow the soakage and assist with nutrient reduction.
- Minimum 30 % reserve disposal field area to enact 2.0 mm/ day SLR.

5.4.2 Disposal Areas

The sizing of wastewater system disposal areas is a function of soil drainage, the loading rate and topographic relief. For each proposed lot a primary and reserve disposal field is required as follows. The recommendations below are presented on Drawing No. 100.

- **Primary Disposal Field.** A minimum PCDI primary disposal field of 640 m^2 laid parallel to the natural contours.
- **Reserve Disposal Field.** A minimum reserve disposal field equivalent to 30 % of the primary disposal field is required under NRP rule C.6.1.3(9)(b) for secondary or tertiary

treatment systems. It is recommended each proposed lot provides a 192 m^2 reserve disposal area to be laid parallel to the natural contours.

- Concept disposal field locations require the provision of surface water cut-off drains to meet the provisions of NRP rule C.6.1.3.
- Disposal fields discharging secondary treated effluent are to be set at the 20-year ARI (5% AEP) flood inundation height to comply with the above NRP rule. Flood hazard potential has not been identified within the Lot 1 boundaries.

5.5 Summary of Concept Wastewater Design

Based on the above design assumptions a concept wastewater design is presented in Table 4 and presented schematically upon Drawing No. 100. It is recommended that each lot is subject to Building Consent specific review and design amendment according to final development plans.

Table 4: Concept Wastewater Design Summary

Design Element	Specification
Concept development	Five-bedroom, peak occupancy of 8 (per lot)
Design generation volume	160 litres/ person/ day
Water saving measures	Standard. Combined use of 11 litre flush cisterns, automatic washing machine & dishwasher, no garbage grinder[1]
Water meter required?	No
Min. Treatment Quality	Secondary
Soil Drainage Category	TP58 Category 6, NZS1547 Category 5
Soil Loading Rate	2.0 mm/ day
Primary disposal field	Surface/ subsurface laid PCDI, min. 640 m^2
Reserve disposal field	Surface/ subsurface laid PCDI, min. 30 % or 192 m^2
Dosing Method	Pump with high water level visual and audible alarm. Minimum 24-hour emergency storage volume.
Stormwater Control	Divert surface/ stormwater drains away from disposal fields. Cut off drains not required. Stormwater management discharges downslope of all disposal fields.

1. Unless further water saving measures are included.

5.6 Assessment of Environmental Effects

An Assessment of Environmental Effects (AEE) is required to address two aspects of wastewater disposal. These include the effect of treated wastewater disposal for an individual lot and the cumulative or combined effect of multiple lots discharging treated wastewater to land as a result of subdivision.

The scale of final development is unknown at the time of writing and building areas, impervious areas including driveways, ancillary buildings, landscaped gardens, and swimming pools may reduce the overall area for on-site wastewater disposal. For the purpose of this report, the above impervious features are considered to be comprised within the conceptual

30 x 30 m square building envelope shown on Drawing 100, Appendix A. The conceptual wastewater disposal field areas are clear of this indicative building envelope area.

It is recommended that the AEE is reviewed at the time of Building Consent once specific development plans, final disposal field locations and treatment systems are established. The TP58 guideline document provides a detailed AEE for Building Consent application. Based on the proposed scheme, ground investigation, walkover inspection and Drawing No. 100, a site-specific AEE is presented as Appendix C to demonstrate the proposed wastewater disposal concept will have a less than minor effect on the environment.

6 STORMWATER ASSESSMENT

Considering the nature of rural subdivision and residential development, increased storm water runoff occurs as pervious surfaces such as pasture are converted to impervious features such as roads or future on-lot buildings and driveways.

6.1 Impervious Surfaces and Activity Status

A summary of the impervious areas of the proposed lots is provided as below which has been developed from our observations and the provided Scheme Plan. For the proposed lots, this has been taken as conceptual maximum probable development of typical rural residential scenarios. Refer Section 6.2.

The activity status reflected in Table 9 is with respect to Operative FNDC Plan Section 8.6.5.1.3 only.

Table 5: Summary of Impervious Surfaces

Surface	Proposed Lot 2 (Existing development)		Proposed Lot 1	
Existing Condition	**(586,892 m²)**		**NA**	
Roof	321 m²	0.055 %		
Driveway and other hardened area	780 m²	0.133 %		
Driveway access to ex.Telco tower	1170 m²	0.2 %		
Total impervious	2,271 m²	0.388 %		
Proposed Condition	**(546,192 m²)**		**(40,700 m²)**	
Roof	321 m²	0.059 %	300 m²	0.74 %
Driveway and surround	780 m²	0.143 %	200 m²	0.49 %
Total	1,101 m²	0.202 %	500 m²	1.23 %
Activity Status	Permitted		Permitted	

6.2 Stormwater Management Concept

The stormwater management concept considered in this report has been prepared to meet the requirements of the local and regional consent authorities considering the design storm event as follows:

- **Probable Future Development (Proposed Lots 1).** The proposed application includes subdivision formation only and not lot-specific residential development at this stage. However, a conservative proposal for probable future on-lot development has been developed for this assessment considering variation of scale in typical rural residential development.

  The probable future on-lot development concept includes up to 300 m^2 potential roof area and up to 200 m^2 potential driveway or parking areas. The runoff from the latter area has been modelled as an offset within the lot-specific roof rainwater attenuation devices to ensure site runoff neutrality targets are achieved.

- **Existing On-site Development (Proposed Lot 2).** An existing dwelling including accompanying farm structure with a total roof area of 321 m^2 and impervious gravel driveway area and hardened areas of approximately 780m^2 is located within the boundaries of proposed lot 2. Impervious areas are below the permitted activity threshold as indicated above in Table 5, therefore attenuation for compliance in this regard is not necessary.

- **Subdivision Development.** Access to the proposed lot will be established by an existing unsealed gravel access road. This will present no increase in post development runoff from the subdivision and therefore specific attenuation is not proposed (other than that included for future lot development).

6.3 Design Storm Event

Relevant design rainfall intensity and depths have been ascertained for the site location from the NIWA HIRDS meteorological model[13]. The NIWA HIRDS rainfall data is presented in full within Appendix D. Provision for climate change has been adopted by means of applying a factor of 20 % to rainfall intensities, in accordance with FNDC Engineering Standards 2023.

As per the discussion outcomes in Section 3.3, there is no considerable increase to flooding hazard on downstream property as a result of the future development on the site. and therefore there is no requirement to provide flood control in compliance with FNDC Engineering Standard Table 4-1.

Furthermore, the Table 4-1 stipulates that flow attenuation controls reduce the post-development peak discharge to 80 % of the pre-development condition for the 50% and 20 % AEP storm event. The concept design proposes to attenuate the post-development

[13] *NIWA High Intensity Rainfall Data System, https://hirds.niwa.co.nz.*

stormwater runoff peak discharge to 80 % of the pre-development condition for the 20 % and 50 % AEP storm event as a provision for flow control. This provision also complies with NRP Rule C6.4.2(2).

The attenuation modelling within this report has been undertaken for all of the above storm events. The results are summarised in Table 5 and provided in full in Appendix D.

Outlet dispersion devices have been designed to manage the 20 % AEP event to reduce scour and erosion at discharge locations which may otherwise result in concentrated discharge. These are detailed further in Section 6.4.1 of this report.

6.4 Concept Attenuation Model

Based on the design storm events indicated above and the corresponding modelling results (included in Appendix D) an attenuation concept to suit the maximum storage requirement has been provided. In this case the concept limits the post-development peak discharge to 80 % of the pre-development condition for the 20 % AEP storm event. This is achievable by installing specifically sized low-flow orifices into the attenuation devices. The rational method has been adopted by Geologix with run-off coefficients as published by FNDC Engineering Standards to provide a suitable attenuation design.

- Roof Runoff Tanks

Conceptual storage and outlet requirements within the tanks are included in Table 7 and a typical schematic retention/ detention tank arrangement detail is presented as Drawing No. 400 within Appendix A.

Calculations to support the concept design are presented as Appendix D to this report.

A summary of the probable future development concept design is presented as

Table 6, with a specific summary of the roof tanks concept provided in Table 7.

Table 6: Summary of Probable Future Development Concept

Item	Pre-development Impervious Area	Post-development Impervious Area	Proposed Concept Attenuation Method
Future Concept Development – Lot 1			
Potential buildings	0 m^2	300 m^2	Detention within roof water tanks
Potential driveways	0 m^2	200 m^2	Off-set detention in roof water tanks
Total	**0 m^2**	**500 m^2**	

Table 7: Probable Future Development Attenuation Concept – Roof Tanks

Design Parameter	Flow Attenuation: 50 % AEP (80% of pre dev)	Flow Attenuation: 20 % AEP (80% of pre dev)
Proposed Development		
Regulatory Compliance	FNDC Engineering Standards Table 4-1	FNDC Engineering Standards Table 4-1
Pre-development peak flow	5.34 l/s	6.93 l/s
80 % pre-development peak flow	4.27 l/s	5.55 l/s
Post-development peak flow	8.69 l/s	11.27 l/s
Total Storage Volume Required	5,348 litres	6,970 litres
Concept Summary:	- Attenuation storage calculation accounts for offset flow from driveway (not indicated explicitly in summary above. Refer Appendix D for calcs in full) - Attenuation to 80 % of pre-development condition for 20 % AEP storm represents maximum storage requirement and is adopted for the concept design tank storage. - 2 x 25,000 litre tank is sufficient for attenuation (6,970l) + potable storage (43,030l) - 20 % AEP attenuation in isolation requires a 40 mm orifice 0.35 m below overflow. However regulatory requirements are to consider an additional orifice to control the 50 %. We note this may vary the concept orifice size and invert level indicated above. This should be provided with detailed design for building consent approval.	

6.4.1 On-Lot Discharge – Roof tank outlets

The direct discharge of concentrated runoff can cause scour and erosion in addition to excessive saturation of shallow soils.

It is recommended that overflow from rainwater detention tanks is conveyed in sealed pipes to a designated discharge point downslope of proposed building footprints and wastewater disposal fields.

Typical rural residential developments may construct either above ground level spreader or an equivalent in-ground dispersion trench. Feeding pipes can be either buried or pinned to the surface as desired. It is recommended that all pipes are designed to accommodate the design storm event peak overflows from the attenuation tank. A concept above ground level spreader is presented as Table 8. Calculations to derive this are presented within Appendix D, derived from Auckland Council TR2013/018 document.

It is recommended that the conceptually sized dispersion devices are subject to specific assessment at the Building Consent stage to limit scour and erosion from tank overflows.

Table 8: Summary of Concept Dispersion Devices

Concept Impervious Area to Tank	Tank Outlet Velocity (m/s)	Tank outlet pipe diameter (mm)	Spreader Pipe length, diameter	Spreader orifice size, spacing	Spreader orifices outlet Velocity	Concept
Proposed Lot 1						
300 m^2 (roof area only)	7.44 m/s (max)	100 Ø	6m long, 150 mm Ø	41No. 20mm Ø at 150mm centres	0.92m/s	Above-ground level spreader (or equivalent in-ground trench)

6.5 Subdivision Development Management

There are no stormwater devices required to be provided at subdivision formation stage.

6.6 Stormwater Quality

The proposed application is for a rural residential subdivision and future development. The key contaminant risks in this setting include:

- Sediments and minor contaminants washed from impervious surfaces.
- Leaf matter, grass, and other organic debris.

Stormwater treatment requirements are minor to maintain good quality stormwater discharge. Stormwater quality will be provided by:

- Leaf guards on roof guttering/ first flush devices on roof guttering and downpipes.
- Rainwater tank for potable use onsite only to be filled by roof runoff.
- Room for sedimentation (minimum 150 mm according to Auckland Council GD01) within the base of the stormwater attenuation roof runoff tanks as dead storage volume.
- Grassed swale drains from rainwater inception (road surfaces) to discharge points.

The risk of other contaminants being discharged out of the site boundaries (hydrocarbons, metals etc.) as a result of the proposed activities once stormwater has been processed through the above measures that will affect the downstream water quality is considered low.

7 POTABLE WATER & FIRE FIGHTING

In the absence of potable water infrastructure within Waiaua Road or within the site it is recommended that the roof runoff water tanks are adopted for potable water supply with appropriate filtration and UV disinfection at point of use. The volume of potable water supply on the proposed lot should consider the required stormwater detention volume identified within Table 7.

Furthermore, the absence of potable water infrastructure and fire hydrants within Waiaua Road require provision of the on-lot roof water supply tanks to be used for firefighting purposes, if required. Specific analysis and calculation for firefighting is outside the scope of this report and may require specialist input. Supply for firefighting should be made in accordance with SNZ PAS4509:2008.

8 EARTHWORKS

There are no earthworks required for the subdivision formation.

9 NATURAL HAZARD ASSESSMENT

To satisfy the Resource Management Act, 1991 the proposed subdivision must plan for and manage the risk from natural hazards to reduce the potential adverse effects to less than minor. Regulatory assessment of natural hazards at the site location are managed under the jurisdiction of the FNDC District Plan[17], Northland Regional Council (NRC) Proposed Regional Plan for Northland[18] and Regional Water and Soil Plan for Northland. Following our ground investigation and considering the measures presented in this report, a summary of the proposed activities against defined natural hazards is presented as Table 9.

Table 9: Summary of Natural Hazards

Natural Hazard	Applicability	Mitigation & Effect on Environment
Erosion	NA	No anticipated effects, less than minor.
Overland flow paths, flooding, inundation	Yes	No anticipated effects, less than minor.
Landslip	NA	No anticipated effects, less than minor.
Rockfall	NA	No anticipated effects, less than minor.
Alluvion	NA	No anticipated effects, less than minor.

[17] *Operative District Plan Rule 13.7.3.2.*

[18] *Proposed Regional Plan for Northland, Appeals Version, July 2021, Chapter D.6.*

Avulsion	NA	No anticipated effects, less than minor.
Unconsolidated fill	NA	No anticipated effects, less than minor.
Soil contamination	NA	No anticipated effects, less than minor.
Subsidence	NA	No anticipated effects, less than minor.
Fire hazard	NA	No anticipated effects, less than minor.
Sea level rise	NA	No anticipated effects, less than minor.

NA – Not Applicable.

10 LIMITATIONS

This report has been prepared for Bruce & Andrea Jarvis as our Client. It may be relied upon by our Client and their appointed Consultants, Contractors and for the purpose of Consent as outlined by the specific objectives in this report. This report and associated recommendations, conclusions or intellectual property is not to be relied upon by any other party for any purpose unless agreed in writing by Geologix Consulting Engineers Ltd and our Client. In any case the reliance by any other party for any other purpose shall be at such parties' sole risk and no reliability is provided by Geologix Consulting Engineers Ltd.

The opinions and recommendations of this report are based on plans, specifications and reports provided to us at the time of writing, as referenced. Any changes, additions or amendments to the project scope and referenced documents may require an amendment to this report and Geologix Consulting Engineers should be consulted. Geologix Consulting Engineers Ltd reserve the right to review this report and accompanying plans.

The recommendations and opinions in this report are based on arisings extracted from exploratory boreholes at discrete locations and any available existing borehole records. The nature and continuity of subsurface conditions, interpretation of ground condition and models away from these specific ground investigation locations are inferred. It must be appreciated that the actual conditions may vary from the assumed ground model. Differences from the encountered ground conditions during subdivision construction may require an amendment to the recommendations of this report.

APPENDIX A

Drawings

NOTES:

- CONTOUR INTERVAL IS 20 m MAJOR, 5 m MINOR EXTRACTED FROM LINZ
- AERIAL PHOTOGRAPH, EXTRACTED FROM GRIP
- HORIZONTAL DATUM IN MT EDEN CIRCUIT 2000
- VERTICAL DATUM IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016
- EXISTING SITE BOUNDARIES EXTRACTED FROM GRIP.CO.NZ
- PROPOSED BOUNDARIES PROVIDED BY THOMSON SURVEY PLAN 10519 DATED AUGUST 2023

LEGEND:

—75.0— MAJOR CONTOUR

MINOR CONTOUR

SUBJECT LOT

PROPOSED LOTS

EXISTING ROAD RESERVE BOUNDARY

EXISTING ABUTTAL LOT BOUNDARY

PROPOSED PRIMARY WASTE DISPOSAL FIELD

PROPOSED SECONDARY WASTE DISPOSAL FIELD

CONCEPT BUILDING ENVELOPE (30m x 30m)

CONCEPT 2 x 25,000 LITRE WATER TANK ATTENUATING TO DISPERSION DEVICE TO CONTROL 500m² AREA

HAXX GEOLOGIX HAND AUGER

1 DP 165599

2 DP 90387

1 DP 333936

2 DP 333936

LOT 1

REFER DRAWING C0597-S- 101

LOT 2

Waiaua Road

1 DP 187030

ALLOTMENT 84
PSH OF MAGONUI EAST

PRT WAIAUA D

PRT WAIAUA C

PRT WAIAUA B

GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 102997, DATED AUGUST 2022.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
DAILY WASTEWATER GEN.	160 LITRES/PERSON/ DAY
TOTAL WASTEWATER GEN.	1,280 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 6
SOIL CATEGORY (NZS1547)	CATEGORY 5
SOIL LOADING RATE	3.0 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	427 m²
RESERVE DISPOSAL AREA	214 m² (50 %)
FINAL DESIGN	NO - SUBJECT TO BUILDING CONSENT DESIGN
CUT OFF DRAINS LOT 1 & 2	NO
DISCHARGE CONSENT	NO

0.7 0 Meters 0.7 1.4

1:7000

Revision	Issue	Date
A	FIRST ISSUE	07/03/2025

geologix consulting engineers

AUCKLAND | NORTHLAND

Project Name and Address

60 WAIAUA ROAD
MANGONUI
NORTH LAND
LOT 2 DP 495153

Project	Drawn By
C0597	B.NEL

Client

BRUCE & ANDREA JARVIS

Sheet Title

SITE SUITABILITY OVERALL LAYOUT

Sheet

100

FILE PATH: D:\Synology Drive\Projects\C0500-C0599\C0597 - 60 Waiaua Road, Hihi, Mangonui\07 - Technical & Drawings\Drawings\C0597-S-100-411-A.dwg C0597-S-100-411-A.dwg

PLOTTED: 06/03/2025

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LEGEND:

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- MINOR CONTOUR
- SUBJECT LOT
- PROPOSED LOTS
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- EXISTING ABUTTAL LOT BOUNDARY
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- HAXX GEOLOGIX HAND AUGER

Waiaua Road

HA01

HA02

130.0 135.0 140.0 145.0 150.0 155.0 160.0 165.0 170.0 175.0 170.0 165.0 160.0 155.0 150.0 145.0 140.0

LOT 1

LOT 2

2
DP 333936

Waiaua Road

GENERAL NOTES

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CUT OFF DRAINS LOT 1 & 2	NO
DISCHARGE CONSENT	NO

0.1 0 Meters 0.1 0.2
1:1000

Revision	Issue	Date
A	FIRST ISSUE	07/03/2025

geologix consulting engineers
AUCKLAND | NORTHLAND

Project Name and Address

60 WAIAUA ROAD
MANGONUI
NORTH LAND
LOT 2 DP 495153

Project	Drawn By
C0597	B.NEL

Client

BRUCE & ANDREA JARVIS

Sheet Title

SITE SUITABILITY ENLARGED LAYOUT

Sheet

101

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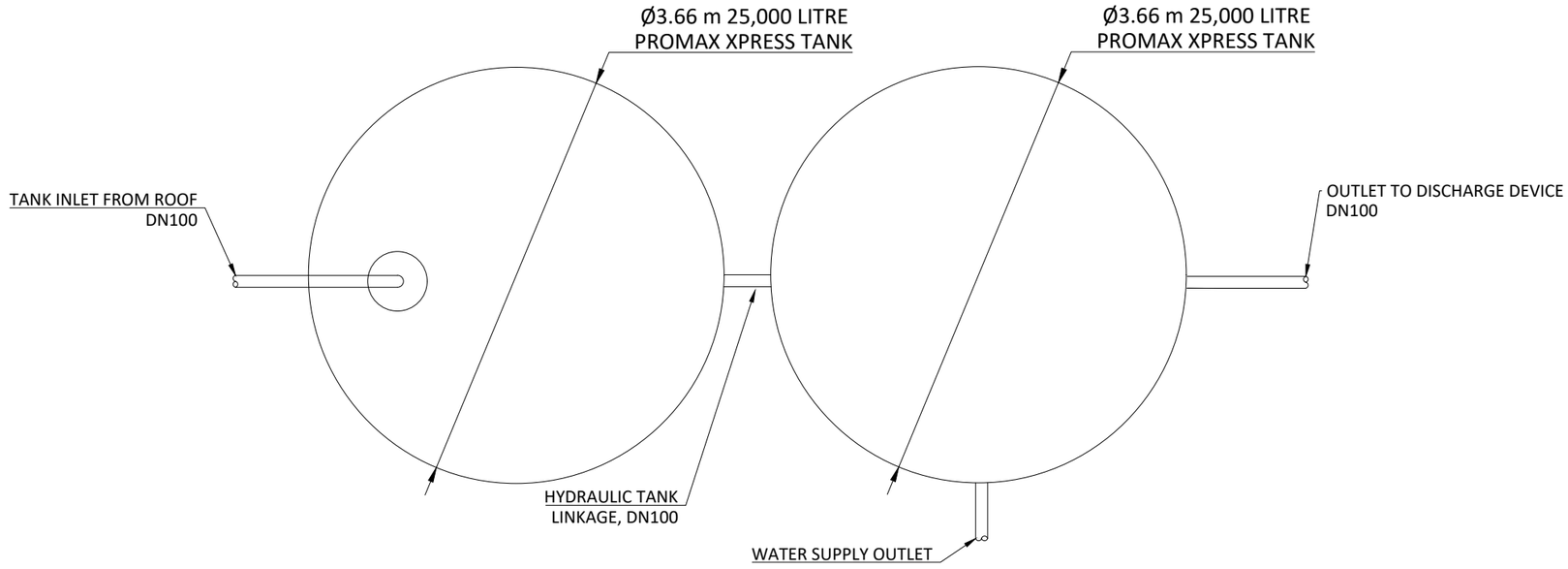
PLOTTED: 06/03/2025

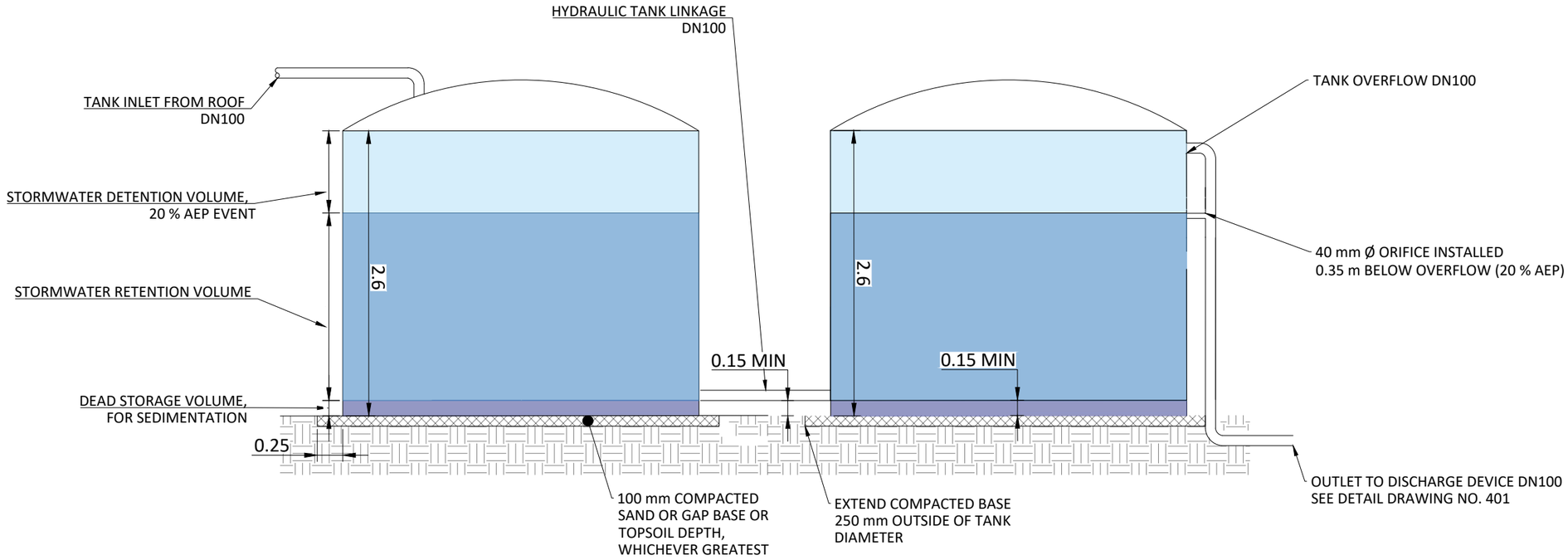
PROPOSED TANK PLAN VIEW

1:50, A3



PROPOSED TANK SIDE VIEW

1:50, A3



GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 10519, DATED AUGUST 2023.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

A	FIRST ISSUE	07/05/2025
Revision	Issue	Date

geologix
consulting engineers
AUCKLAND | NORTHLAND

Project Name and Address

60 WAIAUA ROAD
MANGONUI
NORTH LAND
LOT 2 DP 495153

Project	Drawn By
C0597	B.NEL

Client

BRUCE & ANDREA JARVIS

Sheet Title

STORMWATER TANK DETAILS

Sheet

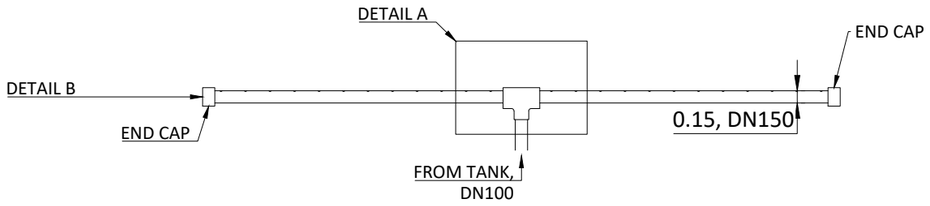
400

FILE PATH: D:\Synology\Drive\Projects\C0500-C0599\C0597 - 60 Waiaua Road, Hihi, Mangonui\07 - Technical & Drawings\Drawings\C0597-S-100-411-A.dwg\C0597-S-100-411-A.dwg

PLOTTED: 06/03/2025

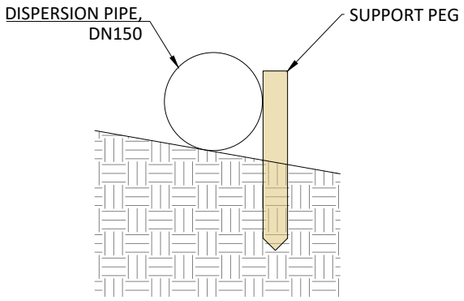
OPTION 1: DISPERSION VIA ABOVE GROUND PIPE

NOT TO SCALE



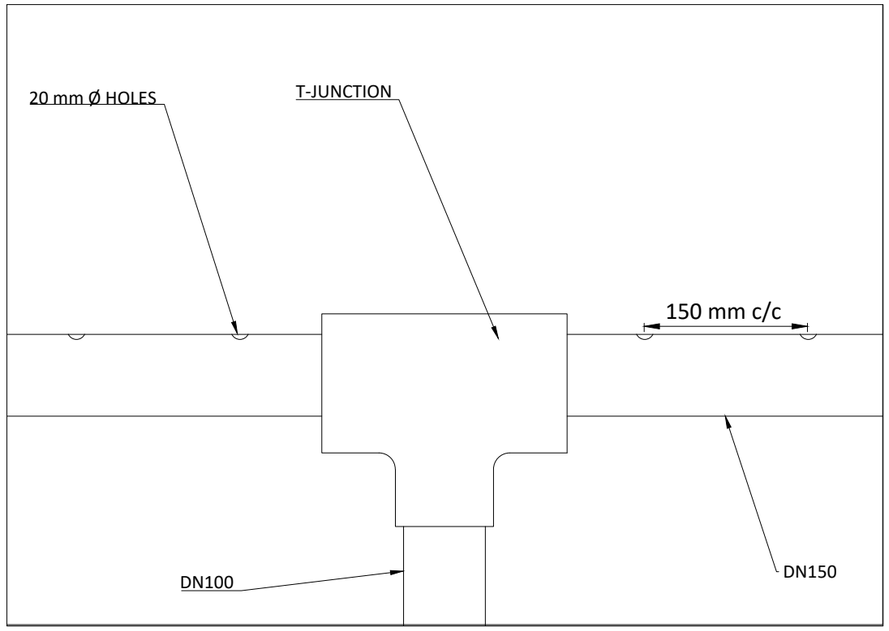
DETAIL B - SIDE VIEW

NOT TO SCALE



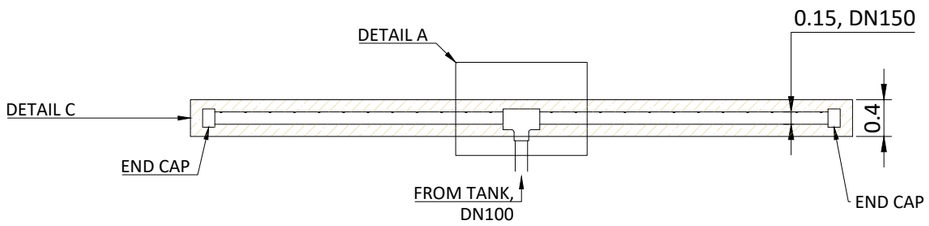
DETAIL A - T JUNCTION AND PERFORATIONS

NOT TO SCALE



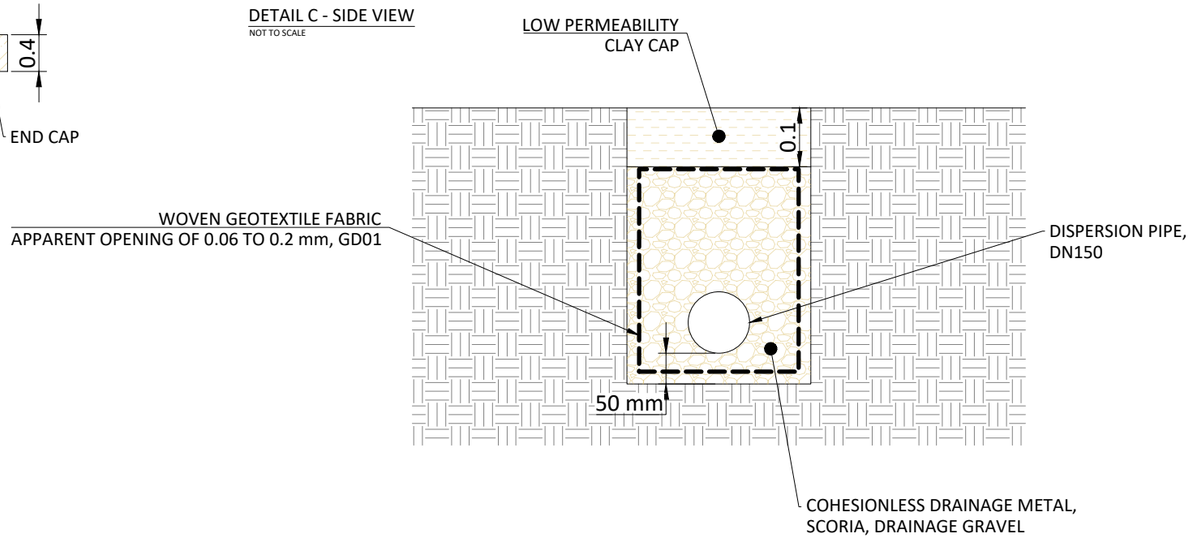
OPTION 2: DISPERSION VIA BELOW GROUND TRENCH

NOT TO SCALE



DETAIL C - SIDE VIEW

NOT TO SCALE



GENERAL NOTES

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4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

A	FIRST ISSUE	07/05/2025
Revision	Issue	Date

geologix consulting engineers

AUCKLAND | NORTHLAND

Project Name and Address

60 WAIAUA ROAD
MANGONUI
NORTH LAND
LOT 2 DP 495153

Project	Drawn By
C0597	B.NEL

Client

BRUCE & ANDREA JARVIS

Sheet Title

STORMWATER TANK DETAILS

Sheet

401

FILE PATH: D:\Synology Drive\Projects\C0500-C0599\C0597 - 60 Waiaua Road, Hihi, Mangonui\07 - Technical & Drawings\Drawings\C0597-S-100-411-A.dwg C0597-S-100-411-A.dwg

PLOTTED: 06/03/2025

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APPENDIX B

Engineering Borehole Records

INVESTIGATION LOG

HOLE NO.: HA01

CLIENT: Bruce & Andrea Jarvis

JOB NO.: C0597

PROJECT: 60 Waiaua Road, Hihi, Mangonui

SITE LOCATION: North of Waiaua Road

START DATE: 20/02/2025

CO-ORDINATES: 1649372.180mE, 6131848.030mN

ELEVATION: Ground

END DATE: 20/02/2025

CONTRACTOR: Internal

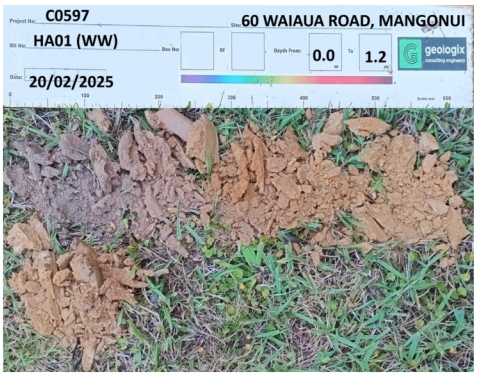
RIG: 50mm Hand Auger

DRILLER: GB

LOGGED BY: GB

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa)	WATER
TOPSOIL comprising organic SILT; trace rootlets; brown; dry; friable.		0.0	TS	2 4 6 8 10 12 14 16 18	Vane: 50 100 150 200 Values	Groundwater Not Encountered
Clayey SILT; orange brown. Moist; low plasticity; [Northland Allochthon Residual Soils].		0.2				
SILT, with minor clay and sand; brownish orange with white specks. Moist; low plasticity; sand, fine; [Northland Allochthon Residual Soils].		0.4				
		0.6				
		0.8				
		1.0				
End Of Hole: 1.20m		1.2				
		1.4				
		1.6				
		1.8				
		2.0				
		2.2				
		2.4				
		2.6				
		2.8				

PHOTO(S)



REMARKS

1. Hand auger completed at target depth 1.2m bgl.
2. Groundwater not encountered at the time of drilling.

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

INVESTIGATION LOG

HOLE NO.: HA02

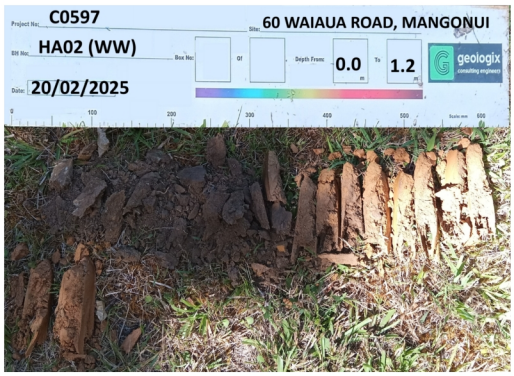
CLIENT: Bruce & Andrea Jarvis
PROJECT: 60 Waiaua Road, Hihi, Mangonui
JOB NO.: C0597

SITE LOCATION: North of Waiaua Road
START DATE: 20/02/2025
CO-ORDINATES: 1649377.150mE, 6131860.680mN
ELEVATION: Ground
END DATE: 20/02/2025
CONTRACTOR: Internal
RIG: 50mm Hand Auger
DRILLER: TW
LOGGED BY: TW

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa)	WATER
TOPSOIL comprising organic SILT; trace rootlets; brown; moist; low plasticity.		0.0 – 0.4	TS	2 4 6 8 10 12 14 16 18	Vane: 50 100 150 200 Values	Groundwater Not Encountered
Clayey SILT; orange brown. Moist; low plasticity; [Northland Allochthon Residual Soils]. 1.0m - 1.2m: Trace sand appears.		0.4 – 1.2				
End Of Hole: 1.20m		1.2				

0.2, 0.6, 0.8, 1.0, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8

PHOTO(S)



REMARKS

1. Hand auger completed at target depth 1.2m bgl.
2. Groundwater not encountered at the time of drilling.

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

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APPENDIX C

Assessment of Environmental Effects and Assessment Criteria

Table 10: Wastewater Assessment of Environmental Effects

Item	NRC Separation Requirement[2]	FNDC Separation Requirement	Site Assessment[3]
Individual System Effects			
Flood Plains	Above 5 % AEP	NR	Complies according to available GIS data and visual assessment.
Stormwater Flowpath[4]	5 m	NR	Complies
Surface water feature[5]	15 m	15 m (3x feature area in ha)	Complies.
Coastal Marine Area	15 m	30 m	Complies
Existing water supply bore.	20 m	NR	Complies. None recorded within or within 20 m of the site boundaries.
Property boundary	1.5 m	1.5	Complies. Including proposed subdivision boundaries.
Winter groundwater table	0.6 m	0.6 m	Complies.
Topography			Ok – chosen disposal areas are gently sloping to < 15 °.
Cut off drain required?			No
Discharge Consent Required?			No
	TP58	**NZS1547**	
Cumulative Effects			
Biological Oxygen Demand	≤20 g/m^3		Complies – secondary treatment.
Total Suspended Solids	≤30 g/m^3		Complies – secondary treatment.
Total Nitrogen	10 – 30 g/m^3	15 – 75 g/m^3	Complies – secondary treatment.
Phosphorous	NR	4 – 10 g/m^3	Complies – secondary treatment.
Ammonia	NR	Negligible	Complies – secondary treatment.
Nitrites/ Nitrates	NR	15 – 45 g/m^3	Complies – secondary treatment.
Conclusion: Effects are less than minor on the environment.			

1. AEE based on proposed secondary treated effluent.
2. Northland Regional Plan Table 9.
3. Based on the recommendations of this report and Drawing No. 100.
4. Including any formed road with kerb and channel, and water-table drain that is down-slope of the disposal area.
5. River, lake, stream, pond, dam, or natural wetland.

AEP Annual Exceedance Probability.
NR No Requirement.

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APPENDIX D

Stormwater Calculations

Project Ref:	C0597	**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	78 Waiaua Road,Hihi, Mangonui		
Design Case:	CONCEPT FUTURE DEVELOPMENT	**50 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	22 April 2025 REV 01		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS).
PRE-DEVELOPMENT RUNOFF IS FACTORED BY 80% TO SUIT FNDC STANDARDS
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A			
IMPERVIOUS B	0	0	
IMPERVIOUS C	0	0	
EX. PERVIOUS	500	0.67	PASTURE
TOTAL	**500**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	200	0.83	DRIVEWAY - METAL
PERVIOUS	0	0	
EX. CONSENTED	0	0	
TOTAL	**500**	TYPE C	

RAINFALL INTENSITY, 50% AEP, 10MIN DURATION

50 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	57.4	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
50 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	68.88	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 50%AEP, VARIOUS DURATIONS

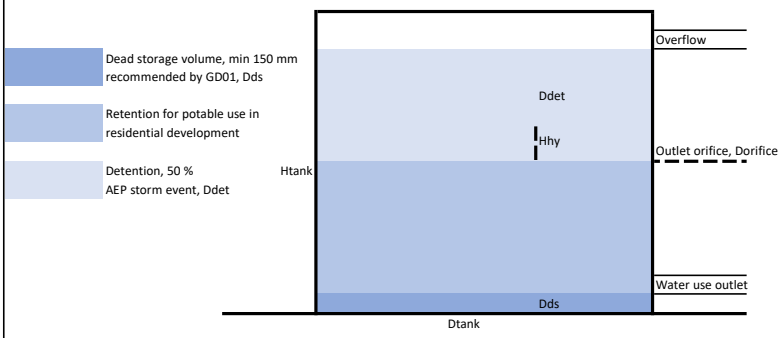
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	57.40	1.2	68.88	8.69	5.34	4.27	*Critical duration (time of concentration) for the catchments is 10min*
20	44.10	1.2	52.92	6.67	4.10	3.28	
30	37.10	1.2	44.52	5.61	3.45	2.76	
60	26.90	1.2	32.28	4.07	2.50	2.00	
120	18.70	1.2	22.44	2.83	1.74	1.39	*Pre-dev calculated on Intensity without CC factor*
360	9.75	1.2	11.70	1.48	0.91	0.73	
720	6.15	1.2	7.38	0.93	0.57	0.46	
1440	3.74	1.2	4.49	0.57	0.35	0.28	
2880	2.18	1.2	2.62	0.33	0.20	0.16	
4320	1.57	1.2	1.88	0.24	0.15	0.12	

ATTENUATION ANALYSIS, VARIOUS DURATIONS

DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre(80%) - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	3.18	5.51	1.10	1.10	4.41	2648	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	2.44	4.23	0.84	1.10	3.14	3764	
30	2.05	3.56	0.71	1.10	2.46	4436	
60	1.49	2.58	0.51	1.10	1.49	5348	
120	1.03	1.80	0.36	1.10	0.70	5027	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.54	0.94	0.19	1.10	No Att. Req.	0	
720	0.34	0.59	0.12	1.10	No Att. Req.	0	
1440	0.21	0.36	0.07	1.10	No Att. Req.	0	
2880	0.12	0.21	0.04	1.10	No Att. Req.	0	
4320	0.09	0.15	0.03	1.10	No Att. Req.	0	

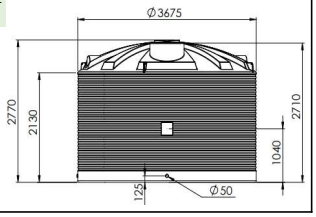
ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	5.348	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.5	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.57	m	No. of Tanks 2
TANK AREA, Atank	20.02	m2	Area of 2 tanks
TANK MAX STORAGE VOLUME, Vtank	50049	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.27	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.42	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00110	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.13	m	
AREA OF ORIFICE, Aorifice	1.09E-03	m2	
ORIFICE DIAMETER, Dorifice	37	mm	
VELOCITY AT ORIFICE	2.29	m/s	At max. head level



Project Ref:	C0597	**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	78 Waiaua Road,Hihi, Mangonui		
Design Case:	CONCEPT FUTURE DEVELOPMENT	**20 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	22 April 2025 REV 01		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS).
PRE-DEVELOPMENT RUNOFF IS FACTORED BY 80% TO SUIT FNDC STANDARDS
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0	
IMPERVIOUS B	0	0	
IMPERVIOUS C	0	0	
EX. PERVIOUS	500	0.67	PASTURE
TOTAL	**500**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	200	0.83	DRIVEWAY - METAL
PERVIOUS	0	0	
EX. CONSENTED	0	0	
0	0	0	
TOTAL	**500**	TYPE C	

RAINFALL INTENSITY, 20% AEP, 10MIN DURATION

20 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	74.5	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
20 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	89.4	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 20%AEP, VARIOUS DURATIONS

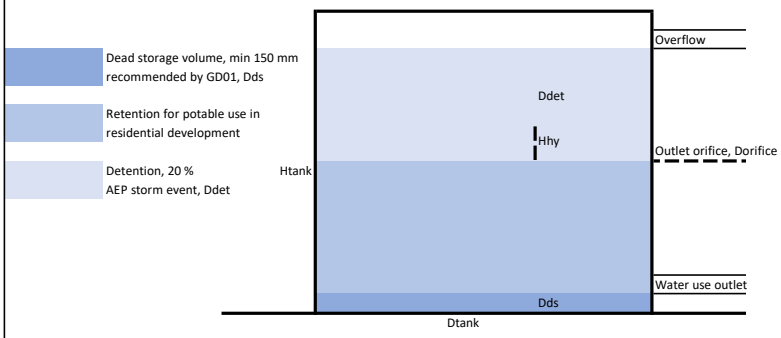
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	74.50	1.2	89.40	11.27	6.93	5.55	*Critical duration (time of concentration) for the catchments is 10min*
20	57.30	1.2	68.76	8.67	5.33	4.27	
30	48.30	1.2	57.96	7.31	4.49	3.60	
60	35.00	1.2	42.00	5.30	3.26	2.61	
120	24.40	1.2	29.28	3.69	2.27	1.82	*Pre-dev calculated on Intensity without CC factor*
360	12.70	1.2	15.24	1.92	1.18	0.95	
720	8.05	1.2	9.66	1.22	0.75	0.60	
1440	4.90	1.2	5.88	0.74	0.46	0.36	
2880	2.87	1.2	3.44	0.43	0.27	0.21	
4320	2.06	1.2	2.47	0.31	0.19	0.15	

ATTENUATION ANALYSIS, VARIOUS DURATIONS

DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre(80%) - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	4.12	7.15	1.42	1.42	5.73	3437	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	3.17	5.50	2.16	1.42	4.08	4892	
30	2.67	4.64	1.82	1.42	3.21	5783	
60	1.94	3.36	1.32	1.42	1.94	6970	
120	1.35	2.34	0.92	1.42	0.92	6614	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.70	1.22	0.48	1.42	No Att. Req.	0	
720	0.45	0.77	0.30	1.42	No Att. Req.	0	
1440	0.27	0.47	0.18	1.42	No Att. Req.	0	
2880	0.16	0.28	0.11	1.42	No Att. Req.	0	
4320	0.11	0.20	0.08	1.42	No Att. Req.	0	

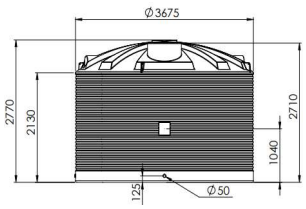
ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	6.970	m3	Select largest storage as per analysis	
TANK HEIGHT, Htank	2.5	m	Concept sizing for 25,000 litre tank	
TANK DIAMETER, Dtank	3.57	m	No. of Tanks	2
TANK AREA, Atank	20.02	m2	Area of 2 tanks	
TANK MAX STORAGE VOLUME, Vtank	50049	litres		
REQUIRED STORAGE HEIGHT, Ddet	0.35	m	Below overflow	
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum	
TOTAL WATER DEPTH REQUIRED	0.50	m		
SELECTED TANK OUTFLOW, Qout, l/s	0.00142	m3/s	Selected tank outflow	
AVERAGE HYDRAULIC HEAD, Hhy	0.17	m		
AREA OF ORIFICE, Aorifice	1.24E-03	m2		
ORIFICE DIAMETER, Dorifice	40	mm		
VELOCITY AT ORIFICE	2.61	m/s	At max. head level	



Project Ref:	C0597	**STORMWATER DISPERSION PIPE/ TRENCH**	geologix consulting engineers
Project Address:	78 Waiaua Road,Hihi, Mangonui		
Design Case:	CONCEPT FUTURE DEVELOPMENT	**DISCHARGE DEVICE - LEVEL SPREADER OR TRENCH**	
Date:	22 April 2025 REV 01		

DESIGN BASED ON REFERENCED DEVELOPMENT PLANS TO PROVIDE A MINIMUM LENGTH OF ABOVE OR BELOW GROUND STORMWATER TANK OVERFLOW DISCHARGE DISPERSION DEVICE. IN GENERAL ACCORDANCE WITH MODIFIED RATIONAL METHOD AND AUCKLAND COUNCIL TR2013/018.

DESIGN STORM EVENT **1%** AEP EVENT

SLOPE BETWEEN SOURCE & DISPERSION DEVICE

ELEVATION	h	CHAINAGE, x	Δ x	h bar	Δ A
m	m	m	m	m	m2
169.5	0	0	0	0	0
161	8.5	18	18	4.25	76.5
	TOTALS	18	18		76.5
	SLOPE, Sc	0.472	m/m		

MANNINGS PIPE FLOW - INCOMING PIPE

Dia, m	d/D	α, rad	P, m	A, m^2	R	1:S	n	V, m/s	Q, m^3/s	Q, l/s	
0.1	0.000	6.283	0.0000	0.0000	0.000	2.1176	0.009	0.000	0.0000	0.000	**0 % full**
0.100	0.050	5.381	0.0451	0.0001	0.003	2.1176	0.009	1.677	0.0002	0.246	
0.100	0.100	4.996	0.0644	0.0004	0.006	2.1176	0.009	2.619	0.0011	1.070	
0.100	0.150	4.692	0.0795	0.0007	0.009	2.1176	0.009	3.374	0.0025	2.492	
0.100	0.200	4.429	0.0927	0.0011	0.012	2.1176	0.009	4.015	0.0045	4.490	
0.100	0.250	4.189	0.1047	0.0015	0.015	2.1176	0.009	4.574	0.0070	7.023	
0.100	0.300	3.965	0.1159	0.0020	0.017	2.1176	0.009	5.067	0.0100	10.041	
0.100	0.350	3.751	0.1266	0.0024	0.019	2.1176	0.009	5.503	0.0135	13.481	
0.100	0.400	3.544	0.1369	0.0029	0.021	2.1176	0.009	5.890	0.0173	17.278	
0.100	0.450	3.342	0.1471	0.0034	0.023	2.1176	0.009	6.230	0.0214	21.356	
0.100	0.500	3.142	0.1571	0.0039	0.025	2.1176	0.009	6.528	0.0256	25.636	**50 % full**
0.100	0.550	2.941	0.1671	0.0044	0.026	2.1176	0.009	6.785	0.0300	30.031	
0.100	0.600	2.739	0.1772	0.0049	0.028	2.1176	0.009	7.001	0.0344	34.447	
0.100	0.650	2.532	0.1875	0.0054	0.029	2.1176	0.009	7.176	0.0388	38.783	
0.100	0.700	2.319	0.1982	0.0059	0.030	2.1176	0.009	7.310	0.0429	42.927	
0.100	0.750	2.094	0.2094	0.0063	0.030	2.1176	0.009	7.399	0.0468	46.754	
0.100	0.800	1.855	0.2214	0.0067	0.030	2.1176	0.009	7.440	0.0501	50.117	
0.100	0.850	1.591	0.2346	0.0071	0.030	2.1176	0.009	7.425	0.0528	52.833	
0.100	0.900	1.287	0.2498	0.0074	0.030	2.1176	0.009	7.340	0.0546	54.646	
0.100	0.950	0.902	0.2691	0.0077	0.029	2.1176	0.009	7.148	0.0551	55.093	
0.100	1.000	0.000	0.3142	0.0079	0.025	2.1176	0.009	6.528	0.0513	51.272	**Flowing full**

DISPERSION SPECIFICATION

INCOMING PIPE PROPERTIES:

TANK OUTFLOW, 1 % AEP	7.15	l/s	
MAXIMUM PIPE FLOW	55.09	l/s	
SUFFICIENT CAPACITY IN PIPE	YES		
LONGITUDINAL SLOPE	0.472	m/m	
DESIGN VELOCITY, Dv	7.440	m/s	

LEVEL SPREADER SPECIFICATIONS:

PIPE DIAMETER, m	0.15	m	
MANNINGS PIPE ROUGHNESS	0.009		
NUMBER OF ORIFICES	41	No.	
DIA. OF ORIFICE, D	20	mm	
ORIFICE INTERVALS, C/C	150	mm	
DISPERSION PIPE LENGTH, L	**6**	**m**	Adopt 6m standard pipe length minimum

ORIFICE DESIGN FLOW CHECK:

AREA OF SINGLE ORIFICE, A	0.00031	m2		
FLOW OUT OF 1 ORIFICE	0.000289379	m3/s	0.29 l/s	
FLOW OUT OF ALL ORIFICES	0.01186455	m3/s	11.86 l/s	**DESIGN OK**
VELOCITY FROM SINGLE ORIFICE	0.92	m/s		

BROAD CRESTED WEIR DESIGN FLOW CHECK:

FLOW DEPTH, h	0.1125	m		
BASE WIDTH = L	6	m		
FLOW AREA	0.68	m2		
WEIR FLOW	0.01595	m3/s	15.95 l/s	**DESIGN OK**
WEIR VELOCITY	0.024	m/s		

INCOMING PIPE & SPREADER SUMARY:

	LOT 1	
INCOMING PIPE DIAMETER, m	0.100	m
SPREADER PIPE DIAMETER, m	0.150	m
MANNINGS PIPE ROUGHNESS	0.009	
NUMBER OF ORIFICES	41	No.
DIA. OF ORIFICE, D	20	mm
ORIFICE INTERVALS, C/C	150	mm
DISPERSION PIPE LENGTH, L	**6**	**m**

HIRDS V4 Intensity-Duration-Frequency Results
Sitename: Waiaua Roa Hihi
Coordinate system: WGS84
Longitude: 173.5364
Latitude: -34.9643

DDF Mode Parameters:	c	d	e	f	g	h	i
Values:	0.00168139	0.50450126	-0.03961275	0	0.25332004	-0.01065862	3.19927401

Example:	Duration (hrs)	ARI (yrs)	x	y	Rainfall Rate (mm/hr)
	24	100	3.17805383	4.600149227	8.924520512

Rainfall intensities (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	52.4	40.3	33.9	24.5	17.1	8.88	5.6	3.4	1.99	1.43	1.12	0.922
2	0.5	57.4	44.1	37.1	26.9	18.7	9.75	6.15	3.74	2.18	1.57	1.23	1.01
5	0.2	74.5	57.3	48.3	35	24.4	12.7	8.05	4.9	2.87	2.06	1.62	1.33
10	0.1	87.3	67.2	56.7	41.1	28.7	15	9.48	5.77	3.38	2.43	1.91	1.57
20	0.05	100	77.4	65.3	47.4	33.1	17.3	11	6.68	3.92	2.82	2.21	1.82
30	0.033	108	83.5	70.5	51.1	35.7	18.7	11.9	7.23	4.24	3.05	2.4	1.98
40	0.025	114	87.9	74.2	53.9	37.6	19.7	12.5	7.62	4.48	3.22	2.53	2.09
50	0.02	118	91.4	77.1	56	39.2	20.5	13	7.94	4.66	3.35	2.63	2.17
60	0.017	122	94.2	79.5	57.8	40.4	21.2	13.4	8.19	4.81	3.46	2.72	2.25
80	0.013	128	98.7	83.3	60.6	42.4	22.2	14.1	8.6	5.05	3.64	2.86	2.36
100	0.01	132	102	86.3	62.7	43.9	23.1	14.6	8.92	5.24	3.78	2.97	2.45
250	0.004	151	117	98.6	71.7	50.2	26.4	16.8	10.3	6.03	4.34	3.42	2.82

Intensity standard error (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	6.7	4.4	3.3	2.3	1.7	1	0.7	0.56	0.35	0.28	0.21	0.18
2	0.5	7.4	4.8	3.6	2.5	1.8	1.1	0.77	0.63	0.39	0.31	0.24	0.2
5	0.2	10	6.8	5.2	3.6	2.6	1.5	1.1	0.85	0.53	0.41	0.32	0.27
10	0.1	13	9.1	6.9	4.7	3.4	1.9	1.3	1	0.63	0.49	0.38	0.33
20	0.05	17	12	9.1	6.2	4.4	2.5	1.7	1.2	0.74	0.58	0.45	0.38
30	0.033	19	14	11	7.3	5.2	3	2	1.3	0.81	0.64	0.5	0.42
40	0.025	21	16	12	8.2	5.8	3.3	2.2	1.4	0.87	0.68	0.53	0.45
50	0.02	23	17	13	8.9	6.3	3.6	2.4	1.5	0.91	0.72	0.56	0.47
60	0.017	25	19	14	9.6	6.8	3.9	2.6	1.6	0.95	0.75	0.59	0.49
80	0.013	27	21	16	11	7.6	4.4	2.9	1.7	1	0.8	0.63	0.53
100	0.01	29	23	17	12	8.3	4.8	3.1	1.8	1.1	0.84	0.66	0.55
250	0.004	41	32	24	17	12	7	4.4	2.2	1.3	1	0.81	0.68