THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10657

17 June 2026

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed subdivision and land use application – R Davies Trust – 60 Kerikeri Inlet Road, Kerikeri

I am pleased to lodge on behalf of the Roger Davies Trust, application for subdivision and land use consent for the above referenced property, zoned Rural Living in the Operative District Plan and Rural Residential in the Proposed District Plan.

The application is a discretionary activity and creates two additional lots, one containing the existing residential dwelling on the property.

Payment has been made separately.

Regards

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

315 Kerikeri Road, Kerikeri
P.O. Box 372, Kerikeri 0245, New Zealand.
Email: Kerikeri@tsurvey.co.nz
denis@tsurvey.co.nz, sam@tsurvey.co.nz

Telephone: **09 4077360**
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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
For 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 Form 9). 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***

◯ **Change of Consent Notice (s.221(3))**

◯ **Certificate of Compliance (s.139)**

◯ **Extension of time (s.125)**

◯ **Discharge:** Total volume = ____ m³
Note; volumes >3m³ requires NRC Consent.

☑ **Subdivision**

◯ **Existing Use Certificate (s.139A)**

◯ **Consent under National Environmental Standard**
(e.g. Assessing and Managing Contaminants in Soil)

◯ **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:
The Resource Consents Planning Technicians, **planning_technicians@fndc.govt.nz**

5. Applicant details

Name/s:	Roger Davies Trust
Email:	dhs.ltd@xtra.co.nz
Phone number:	Work Home 0272792731
Postal address: (or alternative method of service under section 352 of the act)	PO Box 823 KERIKERI Postcode 0245

Have you been the subject of abatement notices, enforcement orders, infringement notices and/or convictions under the Resource Management Act 1991? ◯ **Yes** ◯ **No**

If yes, please provide details.

6. Address for correspondence

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

Name/s:	Lynley Newport at Thomson Survey Ltd
Email:	lynley@tsurvey.co.nz
Phone number:	Work 021 684 077 Home
Postal address: (or alternative method of service under section 352 of the act)	P O Box 372 KERIKERI Postcode 0245

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
Property address/ location:	

8. Application site details

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

Name/s:	see item 5
Site address/ location:	60 Kerikeri Inlet Road KERIKERI Postcode
Legal description:	Lot 2 DP 61878 **Val Number:**
Certificate of title:	NA17C/272

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.

PLEASE CONTACT RHAD DAVIES PRIOR TO VISIT

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 of land zoned Rural Residential, to create two additional lots, as a discretionary activity; land use consent breaches of the zone's Stormwater Management thresholds.

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.

The proposal has been prepared in accordance with the following version of the FNDC Engineering Standards:

◯ **2009** ⊘ **2023**

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. Natural hazards (National Policy Statement for Natural Hazards 2025)

Is the site subject to known or potential natural hazards (for example, flooding, coastal inundation, erosion, or unstable land), as contemplated by the National Policy Statement for Natural Hazards 2025? ◯ Yes ☑ No

If yes, please identify the relevant natural hazard(s) by ticking the applicable box(es) below.

- ◯ Flooding
- ◯ Landslips
- ◯ Coastal Erosion
- ◯ Coastal Inundation
- ◯ Active Faults
- ◯ Liquefaction
- ◯ Tsunami

Please ensure all relevant technical reports are submitted with the application.

14. 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

15. Draft conditions:

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

If yes, please be advised that the timeframe will be suspended for 5 working days as per s107G of the RMA to enable consideration for the draft conditions.

16. 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) ROGER DAVIES FAMILY TRUST

Email: dhs.ltd@xtra.co.nz

Phone number: Work 027 279 2731 Home

Postal address: (or alternative method of service under section 352 of the act) PO Box 823 KERIKERI Postcode 0245

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) BRADLEY RAE DAVIES

Signature: (signature of bill payer) MANDATORY Date 20/6/26

17. 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.

18. Declaration

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

Name (please write in full) BRADLEY RAE DAVIES

Signature Date 20/6/26

ctronic means

if for a checklist of your information...

Checklist of your information

Please tick if information is provided

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

Please refer to Chapter 4 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.

Roger Davies Trust

PROPOSED SUBDIVISION

60 Kerikeri Inlet Road, Kerikeri

PLANNER'S REPORT & ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The proposal is to carry out the subdivision of Lot 2 DP 61878, containing one existing dwelling and associated ancillary buildings and horticulture activity, to create two additional rural residential lots, one containing existing built development and the other vacant. The balance, at just over 4ha in area, will continue to support horticultural activity. The site is zoned Rural Living under the Operative District Plan (ODP) and Rural Residential under the Proposed District Plan (PDP).

Proposed lot sizes are as shown on the draft scheme plan attached in Appendix 1, where Lot 1 is proposed to be 4864m^2 and contain the existing dwelling and other buildings; and Lot 2 is proposed to be 3100m^2 (vacant).

Access to all lots will remain the same as currently utilised, via the application's site existing entrance/access to Kerikeri Inlet Road. This access is contained within a 322m long 'leg-in', and no other properties have rights of way over it.

In addition to the subdivision, the reduction in land area around existing built development results in a breach of the zone's permitted activity stormwater management threshold of 12.5% on Lot 1. Consent is also being sought for a breach of that same threshold for future development to occur within proposed Lot 2.

<u>National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS)</u>

Given the site's historic and current use as horticulture, the application is supported by a Preliminary Site Investigation (PSI). This confirms that the area within which Lots 1 & 2 are proposed is not a "piece of land" as defined under the NES-CS, and whilst Lot 3 is such a "piece

of land", it is not subject to any change of use and is remaining in horticulture. The PSI concludes that no consent is required pursuant to the NES-CS.

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 land in one title to create 3 lots (2 additional); and for land use consent for breaches of stormwater management. Overall the application is assessed as a discretionary activity, under both the ODP and PDP.

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:	60 Kerikeri Inlet Road, Kerikeri. A location map is attached in Appendix 2.
Legal description:	Lot 2 DP 61878
Record of Title:	NA17C/272 with an area of 4.841ha. A copy is attached in Appendix 3, along with relevant legal interests.

3.0 SITE DESCRIPTION

3.1 Physical & Mapped characteristics

The property is accessed off Kerikeri Inlet Road via an existing formed access driveway to the current orchard and dwelling. The site's built development consists of that driveway, and access tracks beyond (to service the orchard), and an existing dwelling with swimming pool and out buildings.

The site is, for the most part, reasonably level, in particular the area proposed for additional separate titles. This area is centrally located within the site, with horticulture activity to the north and south of the area proposed for rural residential use. This reflects the existing situation, where the existing dwelling is centralised within the site.

The area around that existing dwelling is attractively landscaped with mature plantings; gardens; and expansive lawn area.

The site's southern boundary is with the Okura Stream, separated from horticultural activity by riparian vegetation.

As stated previously the site is zoned Rural Living under the ODP and Rural Residential under the PDP. There is no resource overlay applying to the site in either plan. The site is not mapped as being subject to any hazard.

The site does not have public 3 waters services available.

The site does not contain any scheduled or mapped heritage sites or Sites of Significance to Maori, nor any archaeological sites. The site contains no areas of indigenous vegetation. It is within a large area mapped as 'kiwi present'.

3.2 Legal Interests on Titles

The property is subject to a water right in Transfer A183337 and has appurtenant water rights in Transfer A183338. The former is shown A and B on the Scheme Plan attached in Appendix 1.

3.3 Consent History

The property file shows the following consent history:

BP54362, issued in 1980 for new dwelling;
BP49580, issued in 1981 for a garage;
BC-19993-3400, issued in 2000 for a storage shed, however the file shows that this is on the adjacent title (also owned by the Applicant);
BC-2002-774, issued in 2002 for a garage; and associated
RC 2020465-RMALUC for breach of boundary setback for that same garage;
BC-2011-1130, issued in 2011 for internal renovations and alterations to the dwelling; and
BC-2012-1174, issued in 2012 for extensions to the dwelling.

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:	Refer to Sections 3 and 5 of this Planning Report for existing activities within the site. The application is for subdivision & land use under the ODP.

(e) a description of any other resource consents required for the proposal to which the application relates:	No other consents are required other than that being applied for pursuant to the Far North Operative District Plan.
(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 & 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 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)):	Refer sections 3 and 5. The site supports a residential dwelling and ancillary buildings, all of which have been legally established. The application includes breaches for impermeable surface coverage.
(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.

Clause 4: Additional information required in application for subdivision consent

(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 5: Additional information required for application for reclamation – not applicable.

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 any possible alternative locations or methods for undertaking the activity:	Refer to Section 7 of this planning report. The activity will not result in any significant adverse effect on the environment.
(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*	The subdivision does not involve any discharge of contaminant.

discharge into any other receiving environment:	
(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 are 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 effects does not warrant any.
(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 neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 6 and 8 of this planning report and also to the 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 proposed activity will have no more than minor effects on the physical environment and landscape and visual amenity values.
(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 proposal will have no more than minor effects on habitat and ecosystems.
(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, and above comments
(e) any discharge of contaminants into the environment, including any	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.

unreasonable emission of noise, and options for the treatment and disposal of contaminants:	
(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 natural hazards and does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Weighting of the Plans

The PDP is at the point where the Council has confirmed recommended decisions on submissions and will be notifying those decisions at the end of June 2026. This application is likely to still be in process at that time, so includes assessment against the Rural Residential Zone of the PDP. As it happens there is very little difference in rules or activity status between the two plans, with the major difference being the PDP has a less restrictive discretionary activity minimum lot size of 2,000m^2 as opposed to the ODP's 3,000m^2.

There have been very few submissions in opposition to the Rural Residential Zone or its provisions. It will very likely be carried through as being applicable to the property and area around it without significant Appeal. However, that Appeal period will not have expired by the time this application should have had its processing completed and decision issued. Therefore there remains a degree of uncertainty as to whether all parts of the Rural Residential zone provisions will be as recommended. I believe the PDP and ODP could be afforded equal weight until such time as the Appeal period is over and there is more certainty as to whether the zone and its provisions are beyond challenge.

This application is assessed under both plans.

5.2 Operative District Plan

The site is zoned Rural Living with no resource overlays applying.

Subdivision:

Table 13.7.2.1: Minimum Lot Sizes

(i) RURAL LIVING 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 4,000m^2		The minimum lot size is 3,000m^2

One of the lots created is less than 4,000m^2 but greater than 3,000m^2 - discretionary activity.

Zone Rules

Existing development to be within Lot 1 is existing and consented. Total impermeable surface coverage, as a percentage of new proposed lot area is estimated at approximately 15%, breaching the zone's permitted activity standard of 12.5%,

Estimated future percentage coverage on proposed Lot 2 is 17.77%, also breaching the zone's permitted activity threshold.

Consent is sought for both breaches as part of this application.

The existing building coverage to be within Lot 1 complies with the permitted activity threshold and I have not identified any other zone rule breaches.

District Wide Rules:

12.3.6.1.2 Excavation and/or Filling – Zone provides for up to 300m^3 in any 12 month period. Only minimal earthworks will be required at time of subdivision, if any. No rule breach has been identified.

The site contains nothing to which other rules in Chapter 12 relate to in terms of landscape, natural character, indigenous vegetation or scheduled heritage items, or hazardous facilities or storage.

Rules in Chapter 15.1 Traffic, Parking and Access:

All access is existing. I have not identified any breaches of Chapter 15.1.6C. The existing access to become right of way is formed, metal carriageway of approximately 3m width. The required passing bays can be accommodated and installed by way of conditions of consent. The existing driveway to the house, where it crosses proposed Lot 2, is already formed to standard.

The crossing off Kerikeri Inlet Road is concrete surface over footpath. There is a culvert under the driveway, just internal to the site. Any shortfall in crossing width required because of increased usage, can be done by way of conditions of consent.

Esplanade Reserve (Chapter 14)

Okura Stream forms the site's southern boundary. Its average width along this boundary has not been confirmed/surveyed. However, there is no lot of less than 4ha with a stream boundary so no requirement for esplanade in any event.

Summary

The subdivision is a discretionary activity overall in terms of the ODP.

5.3 Proposed District Plan

The Proposed District Plan (PDP) was publicly notified on 27th July 2022 and a limited number of rules had immediate legal effect. These are assessed below. Because of the imminent notification of decisions on submissions to the PDP, an assessment against all relevant Rural Residential Zone and district wide rules from the PDP follows after that.

There were no rules applying to the Rural Residential Zone that had immediate legal effect when the PDP was first notified. In regard to district wide considerations in the PDP, the only rules in the Subdivision chapter that are marked as having immediate legal effect are those pertaining to Environmental Benefit Subdivisions (not applicable in this instance); Subdivision of a site within a heritage area overlay (not applicable); Subdivision of a site that contains a scheduled heritage resource (again not applicable); Subdivision of a site containing a scheduled site and area of significance to Maori (not applicable); and Subdivision of a site containing a scheduled SNA (not applicable).

There are two earthworks rules and associated standards in the PDP that have legal effect. The requirements of those rules – related to observance of the ADP, and G05 Erosion and Sediment Control standards, can be achieved via conditions of consent.

Provisions that will have legal effect once decisions on submissions are notified:

Subdivision:

Minimum lot size as a controlled activity 4,000m^2
Minimum lot size as a discretionary activity 2,000m^2
One of the lots created is less than 4,000m^2 but greater than 2,000m^2 - discretionary activity.

Zone Rules

Existing development to be within Lot 1 is existing and consented. Total impermeable surface coverage, as a percentage of new proposed lot area is estimated at approximately 15%, breaching the zone's permitted activity standard of 12.5%,

Estimated future percentage coverage on proposed Lot 2 is 17.77%, also breaching the zone's permitted activity threshold. In both instances, the impermeable surface breach results in restricted discretionary activity status in the PDP.

Consent is sought for both breaches as part of this application.

Were the residential intensity rule in the PDP to apply, it states that residential intensity should be at the rate of 1: 4000m2. In creating a lot of less than that, one might technically consider there to be a breach. However, in the absence of actually establishing a residential unit at this point in time, one could also argue that there is no rule breach. In any event, if a breach is considered to exist, it defaults to discretionary activity status, just as the subdivision lot size does. In other words, in addressing the effects of one, the effects of the other are automatically considered as well.

I have not identified any other zone rule breaches.

District Wide Rules:

The PDP's earthworks thresholds are similar to those in the ODP and no breach is identified.

The site contains no outstanding landscape or features; no indigenous vegetation/habitat; no sites of cultural or heritage value; and no development is proposed near any waterbody. The site is not subject to any mapped hazards.

Transport:

In terms of shared access, the requirements of the PDP are similar to those in the ODP. Access upgrades insofar as passing bays and crossing to Kerikeri Inlet Road can be conditions of consent.

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Allotment Sizes and Dimensions

The required square building envelope, to be able to be accommodated in any new vacant lot, is 30m x 30m in both the ODP and PDP (as first notified). However, in the latest rendition of the Subdivision chapter, responding to submissions, the dimensions of the required square building envelope are reduced to 20m x 20m for the Rural Residential Zone.

Proposed Lot 2 is the only vacant rural residential lot proposed. The zone requires a 3m boundary setback and for the most part Lot 2 has a depth of 41m. This means a 30m x 30m square building envelope can be accommodated. The application proposes an area F "no build covenant" parallel to the part of Lot 3 that contains the existing access, in the event that at some point in the future, the access road is widened. This is 6m width and reduces the depth to 36m – still providing scope for a 30m x 30m square building envelope. In any event it is rare that a building is perfectly square and there is easily 900m^2 of buildable area within Lot 2.

6.2 Natural and Other Hazards

The site is not subject to any natural hazard. The site is level and well drained. It is not subject to flood hazard and has no overland flowpaths. The site is not coastal. There is no indication of unconsolidated fill, subsidence or slippage.

6.3 Water Supply

The property is not serviced by any Council operated 3 waters services. The Subdivision Site Suitability Report in Appendix 4 addresses potable and fire fighting water supply in its sections 4 and 5. Lot 1 contains existing residential development and does not require any consent notice in regard to provision of fire fighting water supply. Lot 3 is to remain in horticultural use

and similarly does not require any consent notice in regard to fire fighting water supply. Lot 2, being proposed vacant rural residential use, will require a consent notice.

6.4 Energy Supply & Telecommunications

The property is zoned Rural Living and Rural Residential, classified as a 'rural' zone in both the ODP and PDP. The former does not require power and telecommunications connections to rural allotments. The PDP, however, did require such connections as publicly notified. However, in the latest version of the PDP's subdivision chapter, responding to submissions on the matter, sees the deletion of the Rural Residential Zone from the requirement to provide connections.

6.5 Stormwater Disposal

The Subdivision Site Suitability report in Appendix 4, addresses stormwater management (including rule breaches), in its section 3. Given that Lot 1 contains existing development, with existing stormwater management mechanisms in place, the report recommends attenuation be adopted for only impermeable surfaces that exceed the permitted activity threshold. This may include an additional attenuation tank be installed. These measures can be finalised in terms of design and installation, as conditions of consent at s223 and s224c stage.

The report proposes mitigating additional / future impermeable surfaces by attenuation within roof water tanks to 80% of pre-development peak flows in accordance with Council standards. The report contains preliminary design. The proposed lot can support its intended use.

The report also examined runoff from existing access and determined that no additional attenuation is required.

6.6 Sanitary Sewage Disposal

The Subdivision Site Suitability Report addresses on-site wastewater in its section 2. Wastewater from the existing dwelling is currently serviced by an on-site septic tank and disposal area to the west of the existing dwelling. The system appeared in good working order and is contained within the proposed Lot 1 boundaries.

A preliminary design and compliance assessment for the vacant Lot 2 is provided in the report, based on a five bedroom scenario. The report concludes that on-site wastewater treatment and disposal can be provided for Lot 2, in compliance with the Regional Plan's permitted activity standards.

6.7 Easements for any purpose

The scheme plan(s) attached in Appendix 1 show the existing water right easement along with a Memorandum of Easements showing new easements to provide for access and services to the lots, as applicable.

6.8 Property Access

All access is existing. The main entrance into the property is off Kerikeri Inlet Road, across a footpath. It is concrete surface. If any widening is required, this can be accommodated. There

is a culvert under the driveway just internal to the site. The existing driveway, to be shared, is currently metal surface and approximately 3m in width. The required passing bays can be installed as a condition of consent. ROW D to the existing house is already constructed to a suitable standard.

6.9 Effects of Earthworks

Very little earthworks will be required to give effect to the subdivision, if any.

6.10 Building Locations

There are no constraints as to the location of a building within the vacant lot, in terms of natural hazards or ground level.

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

The property is not subject to any outstanding landscape overlay, does not contain any archaeological, heritage or culture features, and does not contain any significant indigenous vegetation.

The site is mapped as kiwi present, however is in a built up semi-urban environment, with no nearby habitat. It is sufficient, therefore, to require any dogs and/or cats on a lot to be kept indoors at night.

6.12 Soil

The site is zoned for large lot residential living as opposed to productive use, despite the latter being present on the site. The PDP reinforces this with a proposed Rural Residential zoning and it is clear that the intent of Council is to eventually see large lot residential development along this portion of Kerikeri Inlet Road. The proposal enables one additional large lot residential development, whilst retaining horticultural use on other parts of the site. The life supporting capacity of soils will not be unduly compromised.

6.13 Access to, and protection of, waterbodies

The site has a boundary with a water body, but no lot of less than 4ha is being created with such a boundary.

6.14 Land use compatibility (reverse sensitivity)

There is a relatively small amount of land along Kerikeri Inlet Road still in horticultural use, with the majority now converted to residential use. This is in line with the stated purpose of the Rural Living and Rural Residential zones. Separating off the existing dwelling onto its own title does not increase the risk of reverse sensitivity, noting existing uses, Although the creation of one additional rural residential use in proximity to horticultural use might appear to increase the risk of reverse sensitivity issues arising, the fact of the matter is that there are already a dozen or

more residential homes established in the surrounding area. One more represents only a very minor increase in reverse sensitivity risk, if any.

Existing well established shelter planting effectively 'encloses' the existing dwelling within an enclave separate from the horticultural activity. This vegetation will remain. The extensive shelter planting along the property's entire eastern boundary, right along the existing access into the site will also remain in place. These existing shelter / screening plantings mitigate the risk of reverse sensitivity issues arising.

6.15 Proximity to Airports

The site is outside of any identified buffer area associated with the Bay of Islands Airport.

6.16 Natural Character of the Coastal Environment

The site is not within the coastal environment.

6.17 Energy Efficiency and renewable Energy Development/Use

Individual future lot owners may take the opportunity to install energy efficiency devices when they build.

6.18 National Grid Corridor

The National Grid does not run through the application site.

6.19 Potential Cumulative and/or Precedent Effects

I believe the site can absorb the effects of additional built development without adverse cumulative effects. The level of density proposed is consistent with the existing level of density in the area.

Precedent effects are not amongst those effects to be considered when determining the level of effects on the wider environment for the purposes of assessing whether notification is required. They are instead a matter for consideration when a consent authority is considering whether or not to grant a consent. Consideration of precedent effects is generally restricted to non complying activities, which this application is not. There are numerous lots in the vicinity of same or similar size. This proposal does not create an adverse precedent 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 8.7 (Rural Living Zone); and 13 (Subdivision), of the District Plan.

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

This is an enabling objective. The Rural Living Zone is a transition zone designed to provide a transition from rural land use to urban, predominantly located adjacent to existing urban areas. Kerikeri Inlet Road epitomises this insofar as the progressive shift from horticultural use to large lot residential, with an increasing number of properties now also less than 3,000m^2 in area. The creation of an additional lot in this location provides for the social and economic well being of people and communities.

Significant adverse effects on the natural and physical environment can be avoided, remedied or mitigated. The proposed subdivision promotes sustainable management and is an efficient use and development of the land. In providing for residential use in the circumstances outlined above, I do not believe the proposal to be contrary to Objective 13.3.1.

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.

The Assessment of Environmental Effects, and supporting site suitability reports, conclude that the proposed subdivision is appropriate for the site and that any actual or potential adverse effects can be avoided, remedied or mitigated.

13.3.3 To ensure that the subdivision of land does not jeopardise the protection of outstanding landscapes or natural features in the coastal environment.

The site is not mapped as containing any outstanding landscape or natural feature. It is not in the coastal environment.

13.3.4 To ensure that subdivision does not adversely affect scheduled heritage resources through alienation of the resource from its immediate setting/context.

The site is not within a heritage precinct and contains no scheduled heritage resources.

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 additional rural residential lot will be self sufficient in terms of water storage. The proposal includes recommendations as to appropriate stormwater management on site.

13.3.6 To encourage innovative development and integrated management of effects between subdivision and land use which results in superior outcomes to more traditional forms of subdivision, use

and development, for example the protection, enhancement and restoration of areas and features which have particular value or may have been compromised by past land management practices.

The proposal is not a Management Plan.

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 are no archaeological sites and no heritage resources.

Whilst the site adjoins the Okura Stream, it is the large balance lot, where the existing land use is continuing, that will have that water boundary.

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.

There is existing reticulated power connection to the property. Neither the ODP nor PDP require power connections to the lot boundary.

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.

A future lot owner will have sufficient scope within the site to include energy efficiencies within their individual home designs, via active means such as solar panels, or passive design strategies such as sky lights and orientation.

The subdivision adjoins a Council road and is close to the Kerikeri township, road network and walking and cycling networks.

Objective 13.3.11 is not discussed further as there is no National Grid on or near the subject site.

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.

The values outlined above, along with existing uses, have been discussed earlier in this report. I believe regard has been had to items (a) through (g), where relevant, in the design of the subdivision.

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 to the site is off an existing public road (sealed). The entrance is existing, can be widened if necessary, and has excellent visibility in both directions.

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

The site is not subject to any hazard that precludes future development.

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.

Connection to utility services are not a requirement of the subdivision.

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 of the above listed resources or features other than having a stream boundary. However, the subdivision does not create any new lot or development opportunity in proximity to that water boundary, with the additional lot proposed some distance away (200m).

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

This is discussed earlier. The site is not connected to any Council 3 waters systems. Lots will support on site water storage.

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 will create the opportunity for one additional dwelling within an area that already has an abundance of residential dwellings. The proposal can occur in a manner that has little or no impact on natural character values, indigenous vegetation, landforms, rivers, streams or wetlands;
(b) The additional lot does not adjoin any stream or river and the only lot that does adjoin a water body is a large balance lot in excess of 4ha. Therefore no public access is required;
(c) The proposal is not believed to negatively impact on the relationship of Maori with their culture;
(d) There are no existing significant habitat or areas of significant indigenous vegetation;
(e) There are no scheduled heritage resources on the site;
(f) Stormwater management had been / can be appropriate designed; and
(g) The site is not subject to any hazard that prevents future development.

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.

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 additional lot can readily provide for a house site with good access to sunlight and the ability to utilise energy efficiency measures. The site is close to transport networks.

In summary, I believe the proposal to be consistent with the above Objectives and Policies.

Rural Living Zone Objectives and Policies

Objectives:

8.7.3.1 To achieve a style of development on the urban periphery where the effects of the different types of development are compatible.

8.7.3.2 To provide for low density residential development on the urban periphery, where more intense development would result in adverse effects on the rural and natural environment.

I believe the proposed subdivision to be capable of providing for development that will be in keeping with, and compatible with, the character and amenity of the area.

And policies

8.7.4.1 That a transition between residential and rural zones is achieved where the effects of activities in the different areas are managed to ensure compatibility.

8.7.4.2 That the Rural Living Zone be applied to areas where existing subdivision patterns have led to a semi-urban character but where more intensive subdivision would result in adverse effects on the rural and natural environment.

See above comments under Objectives.

8.7.4.3 That residential activities have sufficient land associated with each household unit to provide for outdoor space, and where a reticulated sewerage system is not provided, sufficient land for onsite effluent disposal.

The proposed vacant rural residential lot will have sufficient land associated with a future household to provide outdoor space and sufficient land for onsite effluent disposal.

8.7.4.7 That provision be made for ensuring that sites, and the buildings and activities which may locate on those sites, have adequate access to sunlight and daylight.

A dwelling can be constructed on the vacant lot with adequate access to sunlight and daylight.

8.7.4.8 That the scale and intensity of activities other than a single residential unit be commensurate with that which could be expected of a single residential unit.

8.7.4.9 That activities with effects on amenity values greater than a single residential unit could be expected to have, be controlled so as to avoid, remedy or mitigate those adverse effects on adjacent activities.

The above policies relate to land use activities, not subdivision.

8.7.4.10 That provision be made to ensure a reasonable level of privacy for inhabitants of buildings on adjoining sites.

The privacy of inhabitants of buildings on adjoining sites is not adversely affected.

In summary, I believe the proposal to be consistent with the Rural Living Zone objectives and policies.

7.2 Proposed District Plan Objectives and Policies

The following is an assessment of the proposal against relevant objectives and policies in the PDP.

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.

The proposal achieves all of the above.

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.

The site is not zoned production so there is no requirement to protect highly productive land. The site does not contain any Outstanding Natural Features, Outstanding Natural Landscapes, or Natural Character area; and is not in the coastal environment.

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 given to connections with the wider infrastructure network.

The proposal involves on-site servicing for 3 waters. Whilst not a requirement in rural zones, the site has the ability to connect to power. The site has access to public rood.

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 waterbodies

None of a-c are relevant to the proposal.

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.

I believe the proposed allotments are consistent with the purpose, characteristics and qualities of the zone. The lots can support a building platform and have legal and physical access.

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 site has existing access, contains no waterbodies, or areas of biodiversity, or hazards, or historical or cultural values.

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

The site is not zoned any of the zones referenced by this Policy.

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 site is not serviced by Council reticulated 3 waters and will be self sufficient in this regard.

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

There is no requirement for esplanade reserve.

SUB-P8 *Avoid rural lifestyle subdivision in the Rural Production zone unless the subdivision: ....*

Site is not zoned Rural Production.

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.

The site is not zoned either Rural Production or Rural Lifestyle and the subdivision is not a Management Plan.

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

Not applicable. There are no minor residential units.

SUB-
P11 *Manage subdivision to address the effects of the activity requiring resource consent including (bu t 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.

I believe the proposal has adequately taken into account all of the matters listed above.

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

Rural Residential Zone Objectives:

RRZ-O1 *The Rural Residential zone is used predominantly for rural residential activities and small scale farming activities that are compatible with the rural character and amenity of the zone.*

RRZ-O2 *The predominant character and amenity of the Rural Residential Zone is maintained and enhanced, which includes:*
a. peri-urban scale residential activities;
b. small-scale farming activities with limited buildings and structures;
c. smaller lot sizes than anticipated in the Rural Production or Rural Lifestyle Zones; and
d. a diverse range of rural residential environments reflecting the character and amenity of the adjacent urban area.

RRZ-O3 *The Rural Residential zone helps meet the demand for growth around urban centres while ensuring the ability of the land to be rezoned for urban development in the future is not compromised.*

RRZ-O4 *Land use and subdivision in the Rural Residential zone:*
a. maintains rural residential character and amenity values;
b. supports a range of rural residential and small-scale farming activities; and
c. is managed to control any reverse sensitivity issues that may occur within the zone or at the zone interface.

The site is utilised for residential living, albeit also supports horticultural production (RRZ-O1). The predominant character and amenity of the zone and immediate vicinity is not adversely affected (RRZ-O2). The site is already partially developed, supporting residential living (RRZ-O3). There is high demand for residential living in locations such as this, with ready access to road and footpaths and not far from the town centre. I do not believe the proposal significantly adds to reverse sensitivity effects (RRZ-O4).

RRZ-P1 *Enable activities that will not compromise the role, function and predominant character and amenity of the Rural Residential Zone, while ensuring their design, scale and intensity is appropriate, including:*
a. rural residential activities;
b. small-scale farming activities;
c. home business activities;
d. visitor accommodation; and
e. small-scale education facilities.

RRZ-P2 *Avoid activities that are incompatible with the role, function and predominant character and amenity of the Rural Residential Zone including:*
a. activities that are contrary to the density anticipated for the Rural Residential Zone;
b. primary production activities, such as intensive indoor primary production or rural industry, that generate adverse amenity effects that are incompatible with rural residential activities; and
c. commercial or industrial activities that are more appropriately located in an urban zone or a Settlement Zone.

RRZ-P3 *Avoid where possible, or otherwise mitigate, reverse sensitivity effects from sensitive and other non-productive activities on primary production activities in adjacent Rural Production Zones and Horticulture Zones.*

RRZ-P4 *Require all subdivision in the Rural Residential zone to provide the following reticulated services to the boundary:*
a. telecommunications:
i. fibre where it is available;
ii. copper where fibre is not available;
iii. copper where the area is identified for future fibre deployment.
b. local electricity distribution network.

RRZ-P5 *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. consistency with the scale and character of the rural residential environment;
b. location, scale and design of buildings or structures;
c. 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;
d. the capacity of the site to cater for on-site infrastructure associated with the proposed activity;
e. the adequacy of roading infrastructure to service the proposed activity;
f. managing natural hazards;
g. any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity; and
h. any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

The land use on the site is residential and horticultural. The likely use of the additional lot will also be residential. This is an activity expected in the zone (RRZ-P1). The existing land use is not incompatible with the role, function and predominant character and amenity of the zone (RRZ-P2). Reverse sensitivity effects are not significantly added to given the existing land uses around the site (RRZ-P3). In addition the area is not 'zoned' under the PDP for continued rural production use even if it is currently utilised for that. Lots will be largely reliant on on-site servicing (RRZ-P4). All of the matters in RRZ-P6, where relevant, have been considered and the proposal is considered consistent with the policy.

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 application site is in an area zoned (and developed) for low density housing. It is not in the coastal environment and does not exhibit any of the features/values espoused in s6 of the Act. The subdivision is appropriate for the site. There is no significant risk of hazard.

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) and (f). Waste water and stormwater management can be accommodated on-site. Amenity values will be maintained. The proposal has had regard to the values of ecosystems.

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 National Policy Statements & Environmental Standards

I have not identified any National Policy Statement or Environmental Standard relevant to the proposal other than the NES-CS, addressed earlier in this report. No consent is required under the NES-CS.

7.5 Regional Policy Statement for Northland

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.

The RPS also has policies ensuring that productive land is not subject to fragmentation and/or sterilisation to the point where productive capacity is materially reduced, and that reverse sensitivity effects be avoided, remedied or mitigated, however noting the area within which

the site is located is no longer predominantly utilised for any productive use, and is not zoned Rural Production, these policies have limited relevance.

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; .....

In regard to this subdivision, it is considered that no significant additional reverse sensitivity issues arise as a result. The area around the site already supports residential use. The proposed additional lot can be well screened from adjacent sites.

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;

I believe the creation of additional lots in an area already predominantly large lot residential in character, to be consistent with the above. In fill development such as that proposed has positive effects in that a future lot owner can utilise existing infrastructure already in place to support the area.

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. None of these circumstances exist and public notification is not mandatory. Step 2 of s95A specifies the circumstances that preclude public notification. None of these exist, and public notification is therefore not precluded. Step 3 of s95A must then be considered. This specifies that public notification is required in certain circumstances, neither of which exist. 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. No such groups or persons exist in this instance. Step 2 of s95B specifies the circumstances that preclude limited notification. No such circumstances exist and therefore limited notification is not precluded.

Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified, in certain circumstances. The activity is not a boundary activity and no affected persons have been identified.

8.3 S95D Level of Adverse Effects

The AEE in this report assesses effects on the environment and concludes that these will be less than minor. As such public notification is not required.

8.4 S95E Affected Persons & Consultation

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 there are breaches of the zone's Stormwater Management rule. However, supporting reports show that stormwater can be appropriately managed on-site with no off-site effects. Built development can be internalised within the vacant lot and largely already screened from adjacent sites by vegetation. The access is not shared by any other property and can be formed to the appropriate standard. In summary, I do not consider that the proposal will create minor or more than minor adverse effects on adjacent properties.

The site has no heritage values, no cultural values and no biodiversity values. As such, no pre lodgement consultation has been considered necessary with tangata whenua or Heritage NZ, There is no esplanade requirement and no consultation has been considered necessary with Department of Conservation.

9.0 CONCLUSION

The site is considered suitable for the proposed subdivision. Effects on the wider environment are, I believe, capable of remedy and mitigation through conditions of consent, such that they will be no more than minor. The proposal is considered consistent with the relevant objectives and policies of the Operative and Proposed District Plans, and relevant objectives and policies of the National and Regional Policy Statements, and consistent with Part 2 of the Resource Management.

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 17th June 2026

Lynley Newport,
Senior Planner
Thomson Survey Ltd

10.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Location Plan

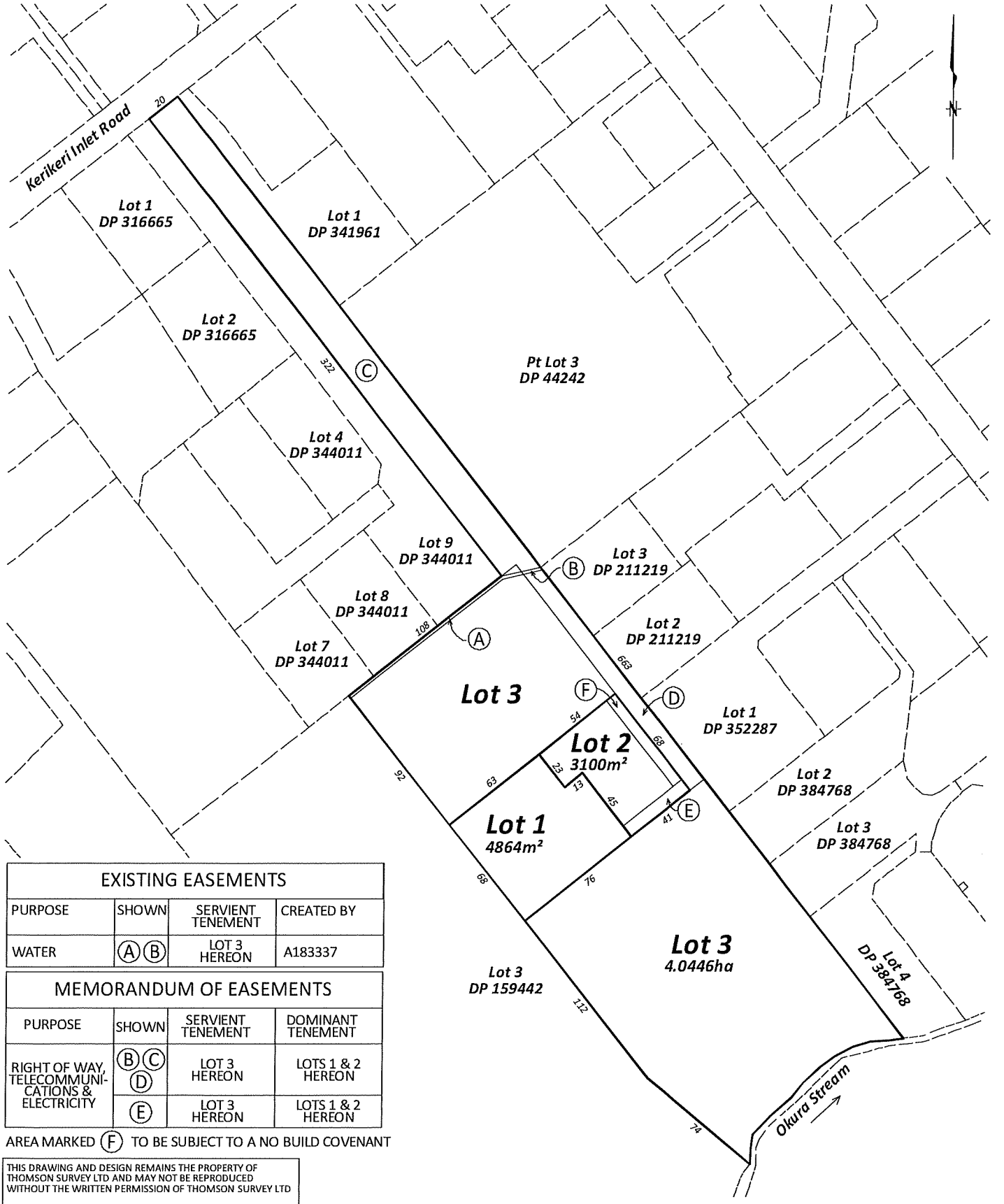
Appendix 3 Record of Title & Easement Instruments

Appendix 4 Subdivision Site Suitability Report

Appendix 5 Preliminary Investigation Report

Appendix 1

Scheme Plan(s)



EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
WATER	(A) (B)	LOT 3 HEREON	A183337

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS & ELECTRICITY	(B) (C) (D)	LOT 3 HEREON	LOTS 1 & 2 HEREON
	(E)	LOT 3 HEREON	LOTS 1 & 2 HEREON

AREA MARKED (F) TO BE SUBJECT TO A NO BUILD COVENANT

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: NA17C/272
Total Area: 4.8410ha
Zoning: Rural Living
Resource features: NIL

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.

0 20 100 200m

Bar Scale 1:2000 @ A3

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360
www.tsurvey.co.nz
Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 61878

60 KERIKERI INLET ROAD, KERIKERI

PREPARED FOR: B. DAVIES

	Name	Date
Survey		
Design		
Drawn	KY	23.03.26
Approved		
Rev		

10657 Scheme 20260323

ORIGINAL
SCALE 1:2000
SHEET SIZE A3

Surveyors Ref. No: 10657

Sheet 1 of 1

EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
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0 20 100 200m

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Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 61878

60 KERIKERI INLET ROAD, KERIKERI

PREPARED FOR: B. DAVIES

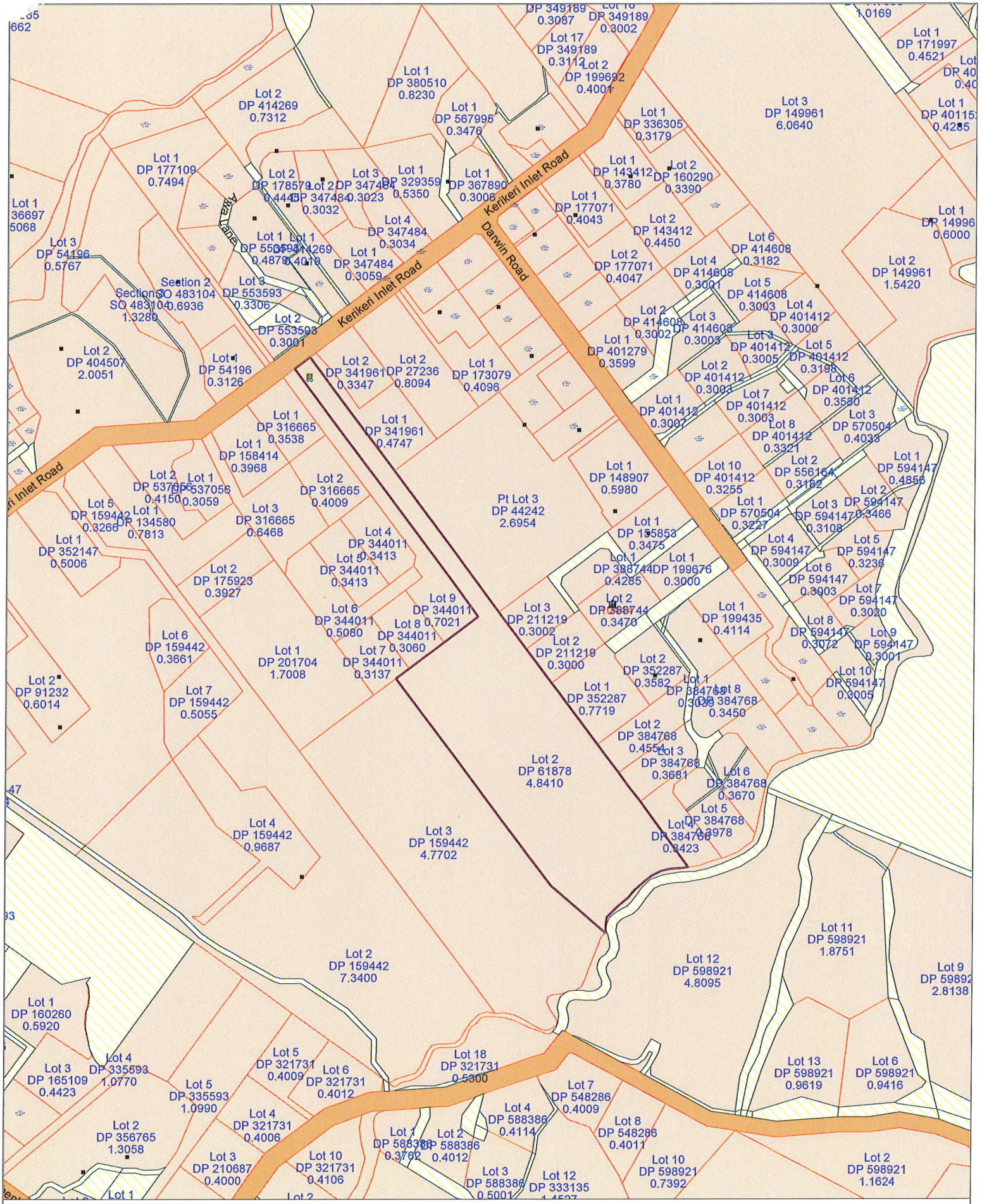
	Name	Date
Survey		
Design		
Drawn	KY	23.03.26
Approved		
Rev		

ORIGINAL
SCALE 1:2000
SHEET SIZE A3
10657 Scheme 20260323

Surveyors Ref. No: 10657
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 1:5000 Topographical and Cadastral map derived from LINZ data. Printed: 05-Mar-2026 09:40.

Appendix 3

Record of Title & Easement Instruments

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**NA17C/272**
Land Registration District	**North Auckland**
Date Issued	25 September 1969

Prior References
NA642/1

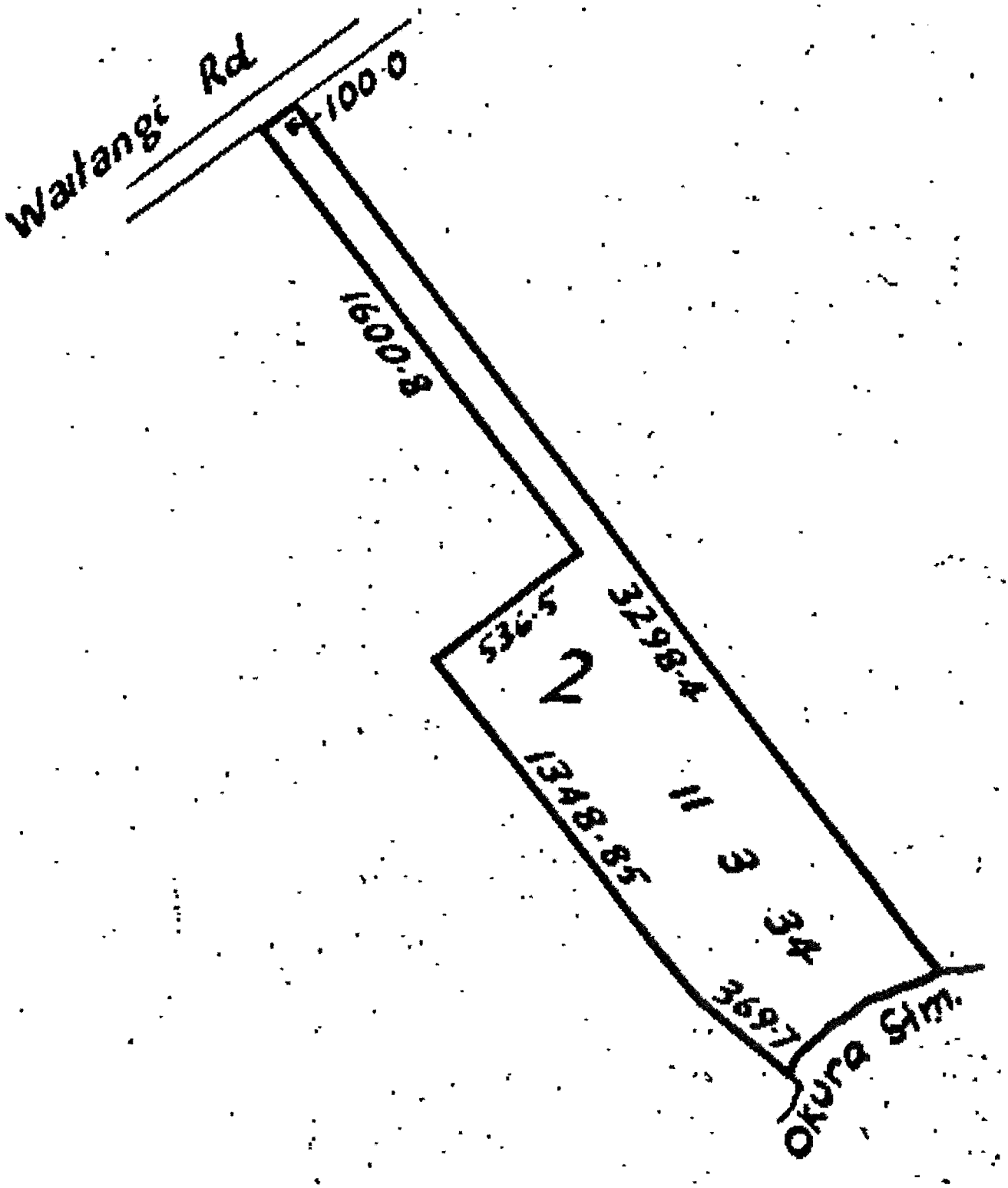
Estate	Fee Simple
Area	4.8411 hectares more or less
Legal Description	Lot 2 Deposited Plan 61878
Registered Owners	

Davies Kerikeri Family Trustee Company Limited

Interests

Subject to a water right over part coloured blue on DP 61878 created by Transfer A183337

Appurtenant hereto is a water right created by Transfer A183338


Waitangi Rd
100.0
1600.8
536.5
3298.4
2
11
3
34
1348.85
369.7
Okura Stm.

A183337TE

(Approved by the District Land Registrar, Auckland, No. 3360)

(New Zealand) *(C)*

Under the Land Transfer Act, 1962

Memorandum of Transfer

WHEREAS JAMES FREDERICK LEYDEN of Kerikeri Farmer (hereinafter called "the grantor")

is ~~being~~ registered as proprietor of an estate in fee simple

subject however to such encumbrances, liens and interests as are notified by memoranda underwritten or endorsed hereon in those pieces of land situated in the Land District of North Auckland containing :-

FIRST: 7 acres 6.1 perches more or less situated in Block XI of the Kerikeri Survey District being Lot 1 Deposited Plan 30037. ~~more or less being~~ being portion of Old Land Claim No. 3 and being the whole of the land comprised in Certificate of Title Volume 843 Folio 166 Auckland Registry (hereinafter called "the first servient tenement").

SECONDLY: 23 acres 3 roods 7 perches more or less being Lot 37 Deposited Plan 21496 being portion of Old Land Claim No. 3 situated in Block XI of the Kerikeri Survey District and being the whole of the land comprised in Certificate of Title Volume 642 Folio 1 Auckland Registry (hereinafter called "the second servient tenement").

AND WHEREAS COLIN GRAHAM MacDIARMID of Kerikeri Orchardist (hereinafter called "the grantee") is registered as proprietor of an estate in fee simple subject as aforesaid in all that piece of land situated in the Land District of North Auckland containing 5 acres more or less situated in Block XI of the Kerikeri Survey District being Lot 15 Deposited Plan 27236 being part of Old Land Claim No. 3 and being the whole of the land comprised in Certificate of Title Volume 707 Folio 370 Auckland Registry SUBJECT TO Agreement as to fencing contained in Transfer No. 304016 (hereinafter called "the dominant tenement")

AND WHEREAS the grantor has agreed at the request of the grantee to execute the grant of water rights in favour of the grantee hereinafter set out

NOW THIS TRANSFER WITNESSETH that pursuant to the said verbal agreements and in consideration of the premises it is hereby covenanted agreed and declared by and between the parties as follows:-

1. THE grantor DOTH HEREBY TRANSFER AND GRANT unto the grantee his executors administrators and assigns and other the owner or owners for the time being of the dominant tenement his and their tenants and licensees (hereinafter together called "the grantee") (in common with any other person to whom similar rights

16 IX 66 6950 -00000.

are or may be granted) the full free and uninterrupted rights following that is to say:-

(i) To convey water in free and unimpeded flow by pipes hereinafter mentioned through and along that portion of the first servient tenement as is shown on the diagram endorsed hereon coloured blue and through and along that portion of the second servient tenement as is shown on the said diagram coloured sepia and for such purpose to lay place and maintain a line or lines of pipes to be buried to a depth of not less than six inches below the surface of the soil and the said pipe or pipes shall have an internal diameter which in the aggregate shall not exceed one and one half inches.

(ii) From time to time by himself or by his servants agents or workmen at his own expense to enter upon the said portion of the first dominant tenement coloured blue on the said diagram and the said portion of the second servient tenement coloured sepia on the said diagram for the purpose of repairing and/or renewing the said pipe or pipes or any part thereof and inspecting cleansing and maintaining the said pipe or pipes in good and satisfactory order PROVIDED HOWEVER that in placing or laying the said pipe or pipes and opening up the soil and inspecting cleansing repairing or renewing the said pipe or pipes the grantee will cause as little damage as possible to the surface of the soil and will at his expense restore the said surface as nearly as possible to its former condition or state.

2. THE easement hereby created shall be forever appurtenant to the dominant tenement.

IN WITNESS WHEREOF these presents have been executed this 9th day of September 1966.

SIGNED by the said JAMES FREDERICK LEYDEN) J.F. Leyden
in the presence of:-
Reynolds
Solicitor
Kaikoura

SIGNED by the said COLIN GRAHAM MacDIARMID) C.G. MacDiarmid
in the presence of:-
Reynolds
Solicitor
Kaikoura

A188337 TE

NL 6125

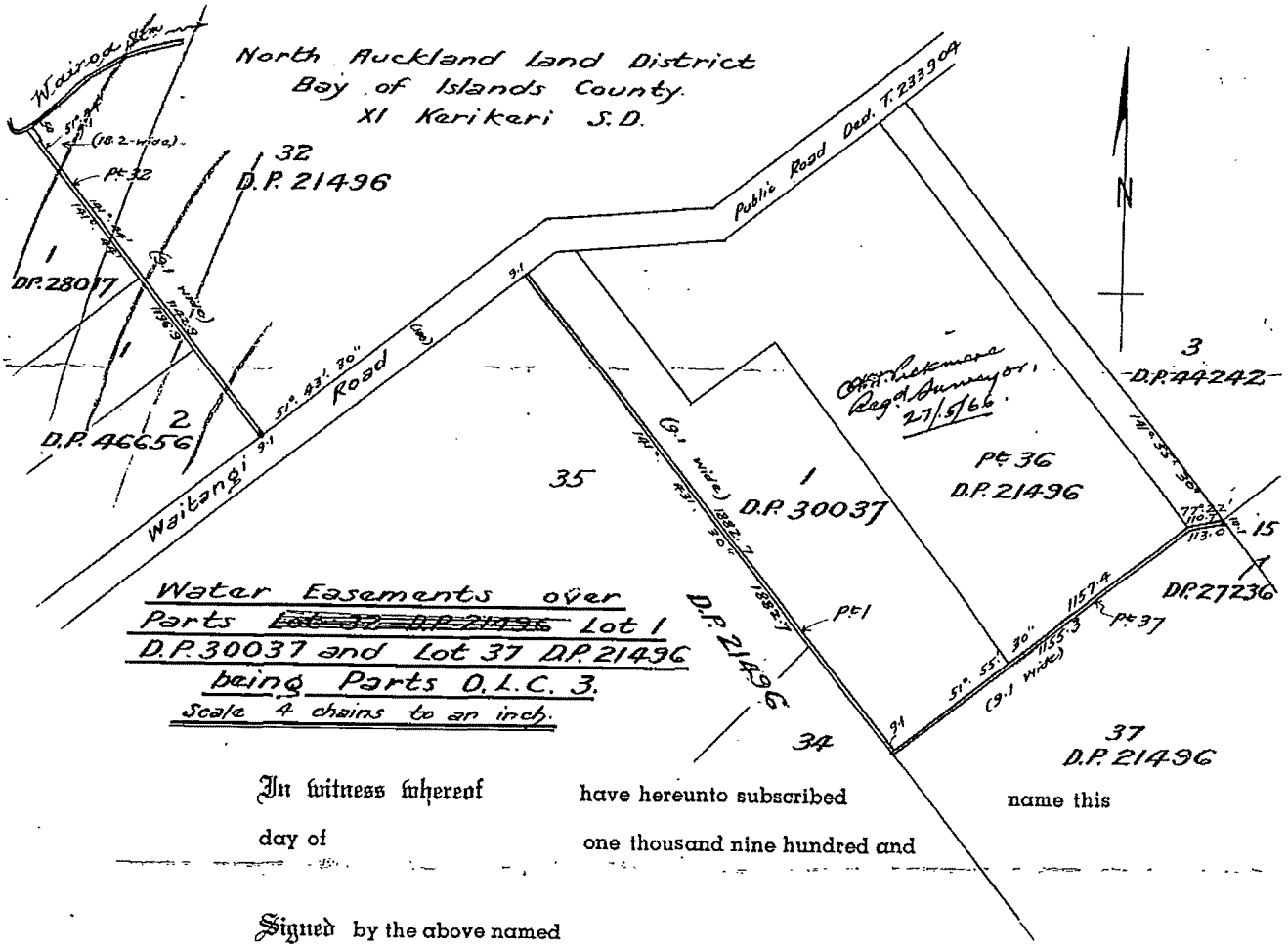
In Consideration of

(the receipt of which sum is hereby acknowledged)

Do hereby Transfer to the said

all estate and interest in the

said piece of land above described



In witness whereof have hereunto subscribed name this

day of one thousand nine hundred and

Signed by the above named

in the presence of

Correct
Draughtsman
10/11/66

A183337

No.

TRANSFER OF

340

Correct for the purposes of the Land Transfer Act.

Solicitor for the Transferee.

JAMES FREDERICK LEYDEN Grantor ~~Transferor~~

COLIN GRAHAM MacDIARMID Grantee *Transferee*

Particulars entered in the Register-Book Vol. 707
Folio 370, 642/1, 843/166
the 1st day of November 1966
at 1.33 o'clock

Assistant Land Registrar
of the District of Auckland

DISTRICT LAND REGISTRAR AUCKLAND, N.Z.

LAND & DEEDS
Nature: T
Firm: Rennie Cox
1 NOV 1966
Time: 1.33 p/c
Fee: £ 1 : - : -
Abstract No. 10641

REYNOLDS & RASMUSSEN
Solicitors,
KAITAIA.

Solicitors for the Transferee

THE LAW SOCIETY OF THE DISTRICT OF AUCKLAND
P.P.Co.Ltd.(5)—2523

Appendix 4

Subdivision Site Suitability Report

geologix
consulting engineers

SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

60 KERIKERI INLET ROAD, KERIKERI

ROGER DAVIES TRUST

C0719N-S-01
MAY 2026
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Subdivision Site Suitability Engineering Report
Site Reference	60 Kerikeri Inlet Road, Kerikeri
Client	Roger Davies Trust
Geologix Reference	C0821N-S-01
Issue Date	May 2026
Revision	01
Prepared	Emily Collings Senior Environmental Engineer, MSc, MEngNZ
Reviewed and Approved	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ
File Reference	*C:\Users\EmilyCollings\SynologyDrive\Projects\C0800-C0899\C0821N - 60 Kerikeri Inlet Road, Kerikeri\06 - Reports\Civil\C0821N-S-01-R01.dotx.docx*

REVISION HISTORY

Date	Issue	Prepared	Reviewed	Approved
May 2026	First Issue	EJC	EC	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 Roger Davies Trust, 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 the Resource Consent application in relation to the proposed three-lot subdivision of 60 Kerikeri Inlet Road, Kerikeri, the 'site', to create two residential Lots (Lots 1 and 2) and one horticultural Lot (Lot 3).

This assessment addresses preliminary engineering elements of wastewater, stormwater, water supply, firefighting and associated earthworks requirements to suitably service the proposed subdivision with less than minor effects on the environment as a result of the proposed activities outlined in Section 1.1. This report is purposed to support the Resource Consent application and guide the requirements of future detailed design. This report should be read in conjunction with other reports and documents prepared in support of the application.

1.1 Proposal

A proposed scheme plan was presented to Geologix at the time of writing, prepared Thomson Survey Ltd[1] and has been reproduced within Appendix A as Sheet 100. It is understood from the scheme plan and typical assumptions that the proposed Lots will comprise:

- Proposed Lot 1 - 4,864m^2 - rural living (existing dwelling)
- Proposed Lot 2 – 3,100m^2 - rural living (vacant rural living Lot)
- Proposed Lot 3 - 40,446m^2 (4.0446ha) – to remain horticulture/production land (part of larger horticultural activity)

The existing driveway and vehicle crossing (within proposed Lot 3) will provide access to all lots, with easements provided as necessary.

The site lies outside the area of Council reticulated stormwater, wastewater and water supply. As such, the subdivision is proposed to be serviced on site. The above is summarised in Table 1 and detailed further within this report, with reference to the Preliminary Engineering Design Plans within Appendix A. Any amendments to the

[1] *Thomson Survey Ltd, Scheme Plan Ref. Proposed Subdivision of Lot 2 DP 61878, 23.03.2026, Ref. 10657.*

referenced scheme plan may require an update to the recommendations of this report.

Table 1: Summary of Proposed Subdivision

Proposed Lot No.	Size	Purpose
1	4,864m^2	Existing residential
2	3,100m^2	New residential
3	40,446m^2	Existing horticulture / production land

1.2 Site Description

The site is legally described as Lot 2 DP 61878 with a total site area of 48,044m^2. Details of the site are listed in Table 2.

Table 2: Site Details

Address	Zone	Legal Description	Site Area
60 Kerikeri Inlet Road	Rural Living (Operative District Plan, ODP) Rural Residential (Proposed District Plan, PDP)	Lot 2 DP 61878	48,044m^2 (4.8044ha)

The site is located on the northern side of Kerikeri Inlet Road, approximately 570 m northeast of the Cobham Road and Kerikeri Inlet Road intersection. Access is via a vehicle crossing from Kerikeri Inlet Road and long 'pan-handle' private driveway (320m) from Kerikeri Inlet Road. Topographically, the site contains a central high point and generally gently slopes from RL 68m towards the north-west (Kerikeri Inlet Road) and southeast where the site borders the Okura River – the ground slope becomes steeper at the border with the Okura River. The site is bound by the Okura River to the southeast, residential dwellings (accessed off Darwin Road) to the east, residential subdivision to the northwest and horticulture to the southwest.

Available LiDAR data does not indicate any obvious overland flow paths through the site. The Okura River has an associated flood hazard, which slightly encroaches the southeastern site boundary (150m+ from residential lots). There some small downstream flooding hazard identified; however, it is not indicated to affect properties.

1.3 Existing Infrastructure

Wastewater from the existing dwelling (four-bedroom, plus study) is currently serviced by an on-site septic tank (concrete) and soakage trench located to the west of the existing dwelling (Figure 1). The tank was sited, buried, but appeared to be in good working order with no issues identified. The system is contained within the proposed Lot 1 boundaries.

Figure 1:Existing Wastewater Disposal, source: property file documents.

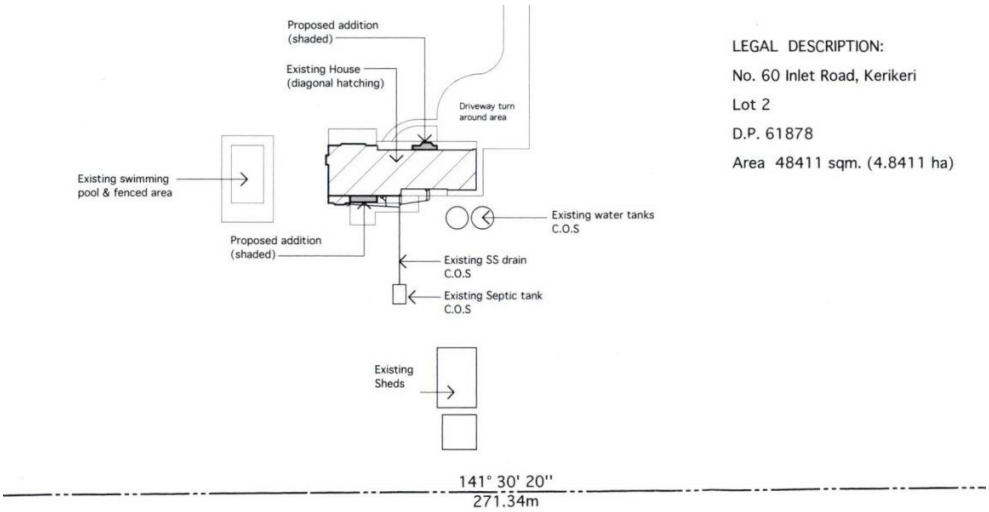
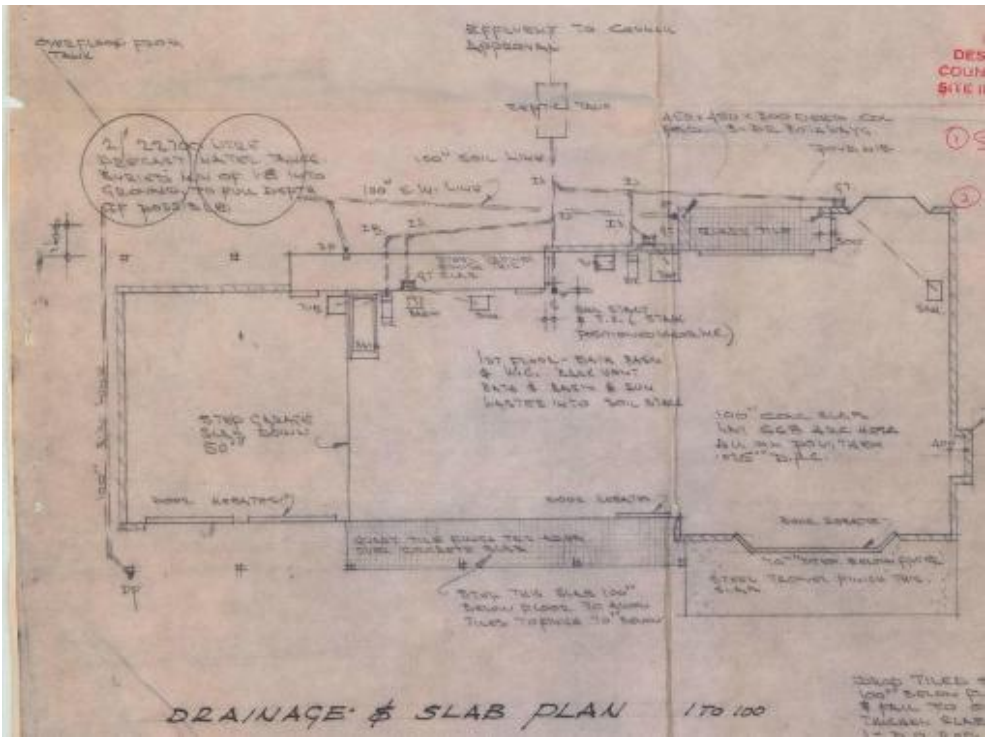


Figure 2: Existing Water Supply / Stormwater, source: property file documents.



The existing water supply is via two buried 22,700L water tanks located to the west of the dwelling (Figure 2). Tank overflow is discharged away from the wastewater disposal area, within the proposed Lot 1 boundary.

The site includes underground power supply, assumed along the proposed right of way (ROW) from an overhead power pole adjacent to the vehicle crossing within the road corridor.

According to Broadband Map NZ[2], the site has access to Fibre (Chorus); Wireless (Spark) and Satellite (Gravity) broadband.

2 WASTEWATER ASSESSMENT

As detailed above, wastewater from the existing dwelling is currently serviced by an on-site septic tank and disposal area to the west of the existing dwelling. The system appeared to be in good working order and contained within the proposed lot 1 site boundaries, consistent with the above figures. Photographs are enclosed within Appendix B.

2.1 Wastewater Volume and Treatment

It is proposed that the new residential lot, Lot 2, is also serviced by an on-site wastewater treatment system and disposal area. A preliminary design is presented in this section and on Sheet 100-101 to demonstrate the proposed new lot can support on-site wastewater management. In lieu of specific development plans, the preliminary design assumes that the proposed new lot may support up to a five-bedroom dwelling with a peak occupancy of eight people[3].

The design water volume for reticulated water supply is estimated at 180 litres/ person/ day[4] based upon standard water saving fixtures[5] being installed within the future development. This results in a total daily wastewater generation of 1,440 litres/ day for proposed Lot 2.

No specific treatment system design restrictions and manufacturers are currently in place. Future developers will be required to elect a treatment system and provide specifications at Building Consent. It is recommended that secondary treatment systems are accounted for within future developments. However, primary treatment systems may be suitable, provided the developer can demonstrate suitable treatment quality, disposal area and compliance with the NRC Regional Plan for Northland.

2.2 Wastewater Discharge

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

---

[2] https://broadbandmap.nz

[3] *TP58 Table 6.1.*

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

[5] *Low water consumption dishwashers and no garbage grinders.*

Published geological mapping[6] indicates the site to be directly underlain by Kerikeri Volcanic Group Late Miocene basalt of Kaikohe - Bay of Islands Volcanic Field. These Neogene igneous rocks (basalt) can be expected to contain basalt lava material, volcanic plugs and minor tuff material.

A site walkover survey and intrusive ground investigation was undertaken by Geologix on 28 April 2026. Two hand auger boreholes (HA01 and HA02) were formed to depths of 1.2 m bgl, in the locations recorded on Sheet 100 and engineering borehole logs presented as Appendix C. A qualified engineering geologist recorded the recovered arisings as brown silt / clayey silt with trace gravel with depth, moist and of low plasticity. Groundwater was not encountered during the ground investigation.

The shallow soils are generally inferred to meet the drainage characteristics of TP58 Category 5/ NZS1547 Category 4. For a typical PCDI discharge system, a Soil Loading Rate (SLR) of 3.5mm/ day has been adopted from NZS1547 Table 5.2.

The proposed PCDI system may be surface or subsurface laid:

- Surface laid PCDI - covered with minimum 150 mm mulch and planted with specific evapotranspiration species to provide a minimum of 80 % species canopy cover.
- Subsurface laid PCDI - installed into minimum 200 mm good-quality topsoil and planted with lawn grass. Clean, inert site-won topsoil sourced during development from building and/ or driveways footprints may be used in the land disposal system to increase minimum thicknesses.

To satisfy the preliminary design, primary and reserve disposal areas are required as follows, as presented on Sheet 100.

- **Preliminary Primary Disposal Area.** A minimum PCDI primary disposal area of 412 m^2 laid parallel to the natural contours.
- **Preliminary Reserve Disposal Area.** A minimum reserve disposal area equivalent to 30% of the primary disposal area is required under NRP rule C.6.1.3(9)(b) for secondary or tertiary treatment systems. Therefore a 124 m^2 reserve disposal area is allowed for on proposed Lot 2.

[6] *Geological & Nuclear Science, 1:250,000 scale Geological Map, Sheet 2, Whangarei, 2009.*

2.3 Summary and Assessment of Environmental Effects

Based on the above conceptual wastewater design assumptions, a summary of the concept wastewater design is presented as Table 3. It is recommended that Lot 2 is subject to Building Consent specific review and design amendment according to final development plans by a suitably qualified professional. This is typically applied as a condition of consent.

Table 3: Concept Wastewater Design Summary.

Design Element	Specification
Concept development	Five-bedroom, peak occupancy of 8 people, per lot
Concept design generation volume	180 litres/ person/ day – 1,440 litres/ day/ lot
Water saving measures	Standard fixtures. Combined use of 11 litre flush water cisterns, automatic washing machine & dishwasher, no garbage grinder[4]
Water meter required?	No
Recommended treatment quality	Secondary treatment
Soil drainage category	TP58 Category 5 / NZS1547 Category 4
Soil loading rate	3.5 mm/ day
Concept primary disposal area size	Surface/ subsurface laid PCDI. Min. 412 m^2
Concept reserve disposal area size	Surface/ subsurface laid PCDI. Min. 30 %, or 124 m^2
Concept disposal area level	Sited above 5 % AEP event. No specific site requirements.
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. Contour drains not required. Stormwater management discharges downslope of disposal area.
NRC Regional Plan for Northland Activity Status	Permitted.

A preliminary site-specific Assessment of Environmental Effects (AEE) is presented as Appendix D to demonstrate the proposed wastewater disposal concept will have a less than minor effect on the environment. It is recommended that the AEE is reviewed at the time of Building Consent once specific development plans, final disposal area locations and treatment systems are established.

3 STORMWATER ASSESSMENT

To comply with permitted activity standards for the Rural Living zone in the ODP, the maximum proportion of the gross site area covered by buildings and other

impermeable surfaces shall be 12.5 % or 3,000 m^2, whichever the lesser. Controlled activity standards raise these areas to 20 % or 3,300m^2, whichever the lesser, under the ODP. Under the PDP, impermeable surface coverage greater than 12.5% defaults to restricted discretionary activity status. Furthermore, any new impervious area shall be managed such that its effective runoff is mitigated in accordance with the ODP and FNDC Engineering Standards 2023 for Flood and Flow Control.

3.1 Impervious Surfaces and Management Concept

Existing impervious surface covering at the time of writing is summarised in Table 4.

Table 4: Summary of Existing Site Surface Covering (Total Site).

Parameter	Area	Unit
Impermeable surfaces (dwelling, garage, pool)	379	m^2
	0.79	%
Driveway/ Parking (approx.)	2,917	m^2
	6.07	%
Pervious	44,748	m^2
	93.14	%
Total Impervious	3,296	m^2
(as a percentage of total existing lot area 48,044m^2)	*6.86*	%
ODP Threshold (12.5%)	6,005.5	m^2
Meets Permitted Activity Pre-Activity	**Yes**	

The proposed activity (subdivision) will increase impervious surfaces across the site due to future development. The preliminary design accounts for the following impervious surfaces (Table 5).

Table 5: Summary of Proposed (Preliminary) Surface Covering.

Parameter		Lot 1 (existing development)	Lot 2 (future development)	Lot 3 (existing horticulture)
Roof	m^2	379	300 (concept)	0
	%	*7.80*	*9.68*	*0.00*
Driveway/ Parking	m^2	386	100 (concept)	528
	%	*7.94*	*3.23*	*1.31*
ROW	m^2	0	151 (existing, proposed easement E)	1,800 (existing, proposed easements C and D)
	%	*0*	*4.87*	*4.45*
Pervious	m^2	4,099	2,549	38,118
	%	*84.27*	*82.23*	*94.24*

Total Impervious	m^2	765	551	2,328
	%	*15.73 (of 4,864m^2)*	*17.77 (of 3,100m^2)*	*5.76 (of 40,446m^2)*
ODP Threshold (12.5%)	m^2	608	387.5	7,206.6
Permitted		No – Controlled (ODP), Restricted Discretionary (PDP)	No – Controlled (ODP), Restricted Discretionary (PDP)	Yes – Permitted (ODP and PDP)

Although impervious surfaces of the existing development on proposed Lot 1 are not anticipated to increase due to the proposed subdivision, as the parent title becomes smaller due to the proposed subdivision, the proportion of impervious surfaces to gross lot area increases. It is proposed that attenuation is to be adopted for existing impervious surfaces to be held within proposed Lot 1 that exceed the Permitted Activity threshold (12.5%). Therefore, attenuation has been accounted for 157 m^2 *(15.73% - 12.5% = 3.23% of Lot 1 area*). As the existing tanks are existing and buried, the stormwater solution may require an additional attenuation tank with orifice. It is recommended that these measures are finalised within detailed design submitted as part of 223 Conditions. A suitably qualified person should oversee installation.

It is proposed for Lot 2 that additional / future impervious surfaces will be mitigated by attenuation within roof water tanks to 80 % of pre-development peak flows in accordance with FNDC Engineering Standards 2023 Table 4-1 and ODP Section 12.7.3.4(a). The preliminary design has been prepared to account for a typical residential development scale to demonstrate the proposed lot can support the intended use. However, the preliminary design must be advanced at Building Consent stage by a future developer.

Access to the newly proposed lot will be established from ROW D. The new crossing (location to be confirmed) will produce an insignificant increase in stormwater runoff, with less than minor adverse effect on environment, requiring no attenuation. Additionally, as the concrete driveway(s) within ROW D and E is existing and in place, no additional mitigation is proposed.

3.2 Design Storm Event

FNDC Engineering Standards 2023 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. Furthermore, the concept design has also considered the 10 % AEP pre-development requirement to comply with NRP

Rule C6.4.2(2) and with the ODP 13.10.4. Attenuation modelling under this scenario avoids exacerbating downstream flooding and provides for sufficient flood control.

No 1% AEP attenuation is proposed for the subdivision as the flood hazard is generally confined to the stream channel at the site boundaries. In addition, downstream properties are above the mapped 1% hazard, therefore no adverse effects anticipated on neighbouring properties or downstream environment.

Discharge shall be suitably controlled; dispersion devices have been designed to manage the 10% AEP event to reduce scour and erosion at discharge locations.

Relevant design rainfall intensity and depths have been ascertained for the site location from the NIWA HIRDS meteorological model[7]. 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.

3.3 Preliminary Stormwater Attenuation

The rational method has been adopted by Geologix with run-off coefficients as published by FNDC Engineering Standards[8] to provide a suitable preliminary attenuation design by installing specifically sized low-flow orifices into the attenuation devices.

Overall, stormwater attenuation is proposed for:

- The balance of impervious surfaces within proposed Lot 1 above 12.5%
- Estimated roof and driveway areas internal to proposed Lot 2 (concept level only).

Calculations to support the preliminary design are presented as Appendix E to this report. A summary of the probable future development attenuation concept design is presented as Table 6 and Table 7. A typical schematic retention/ detention tank arrangement detail is presented as Sheet 400 within Appendix A. As above, it is recommended that this concept design is refined at the Building Consent/ 223 stage as required by conditions of consent.

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

[8] *FNDC Engineering Standards 2023, Version 0.6, Issued May 2023.*

Table 6: Proposed Attenuation (Lot 1).

Design Parameter	Flow Attenuation: 50 % AEP (80% of pre-dev)	Flow Attenuation: 20 % AEP (80% of pre-dev)	Flood Control: 10 % AEP
Lot 1 Preliminary Design (Permitted Activity threshold, house, garage roofs to tank)			
Regulatory Compliance	FNDC Engineering Standards Table 4-1	FNDC Engineering Standards Table 4-1	NRC Regional Plan for Northland
Pre-development peak flow (Q_{pre})	12.08 L/s	15.62 L/s	18.12 L/s
80 % pre-development peak flow ($Q_{pre80\%)}$	9.67 L/s	12.49 L/s	*N/A*
Post-development peak flow (Q_{post})	15.39 L/s	19.90 L/s	23.09 L/s
Total Storage Volume Req.	5,228 Litres	6,836 Litres	2,980 Litres
Concept Summary:	- Attenuation storage calculation considers the difference between the Permitted Activity impervious surface area (608m^2) and the existing development area (765m^2). It considers that the roof area of the existing dwelling and garage are routed to the existing 2 x 22,700 Litre roof water tanks which are buried. Refer Appendix E for calcs in full. - Attenuation for 20 % AEP storm represents maximum storage requirement and is therefore adopted. - 7,000 litre tank is sufficient for attenuation. - 20 % AEP attenuation (in isolation) requires a 49 mm orifice 0.36m below overflow and (bottom 150mm reserved for sediment retention). Regulatory requirements are to consider an additional orifice/s to control the 50 %, 20 % AEP events specifically. We note this may vary the concept orifice indicated above. Generally, this results in slightly larger volume requirements. We have allowed for a 7,000L tank in the concept, however this may increase when considering the 50 %, 20 % AEP events. This should be considered with detailed design for S223 approval.		

Table 7: Probable Future Development Attenuation Concept (Lot 2).

Design Parameter	Flow Attenuation: 50 % AEP (80% of pre-dev)	Flow Attenuation: 20 % AEP (80% of pre-dev)	Flood Control: 10 % AEP
Lot 2 Preliminary Design (300 m^2 roof, 100 m^2 driveway offset, existing ROW)			
Regulatory Compliance	FNDC Engineering Standards Table 4-1	FNDC Engineering Standards Table 4-1	NRC Proposed Regional Plan
Pre-development peak flow (Q_{pre})	6.74 L/s	8.71 L/s	10.11 L/s
80 % pre-development peak flow ($Q_{pre80\%}$)	5.39 L/s	6.97 L/s	*N/A*
Post-development peak flow (Q_{post})	11.08 L/s	14.32 L/s	16.62 L/s
Total Storage Volume Req.	7,982 Litres	10,428 Litres	4,598 Litres
Concept Summary:	- Attenuation storage calculation accounts for offset flow from 100 m^2 driveway (151 m^2 ROW is existing). Refer Appendix E for calcs in full. - Attenuation for 20% AEP (80% of pre-dev) storm represents maximum storage requirement and is adopted for the concept design tank storage. - 10,500 Litre (min.) tank is sufficient for attenuation. Promax 2 x 25,000L tanks adopted for prelim, as tanks are to supply potable water supply. - 20 % AEP attenuation (in isolation) requires a 31 mm orifice 0.5m m below overflow and bottom 150mm reserved for sediment retention (dead storage). Regulatory requirements are to consider an additional orifice(s) to control the 50% AEP event specifically. We note this may vary the concept orifice indicated above. Generally, this results in slightly larger volume requirements. This should be considered with detailed design for building consent approval.		

3.4 Stormwater Quality

The key contaminant risks of the site 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.

- Allowance of dead storage for sedimentation (minimum 150 mm recommended as per Auckland Council GD01) within the base of the stormwater attenuation roof runoff tanks.
- Stormwater discharges directed towards low points, OLFPs and roading swale drains, where possible.
- Grassed swale drains from rainwater inception (road surfaces) to discharge points, where required.

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

4 POTABLE WATER

Roof water tanks will supply water supply for Lot 1 (existing) and Lot 2 (proposed). Suitable treatment is required prior to potable use within dwellings e.g. filtration and UV disinfection.

5 FIRE FIGHTING

In the absence of potable water infrastructure and fire hydrants, the site requires provision of on-lot roof water supply tanks to be used for firefighting purposes. 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.

6 POWER AND TELECOM

Proposed Lot 1 utility services are currently provided by overhead power lines on Kerikeri Inlet Road, becoming underground connections at the site boundary. Existing services are demonstrated by BeforeUDig plans within Appendix F. The attached BeforeUDig plans show the approximate location of the existing services in the road berm. These services will need to be located before finalising the detailed design to confirm the exact location and depth, all lines should be treated as live until proven otherwise.

Power (Top Energy) and telecommunication (Chorus) networks can be provided to the proposed Lot 2 boundary, in accordance with appropriate standards, and subject to network operator approval. Alternatively, services could be sourced from renewable energy sources and alternative telecommunication service providers.

According to Broadband Map NZ[9], the site has access to Fibre (Chorus); Wireless (Spark) and Satellite (Gravity) broadband.

7 EARTHWORKS

No earthworks provisions are anticipated to form the subdivision, as access is existing (proposed ROW).

Note: earthwork volumes up to 300m³ are a Permitted Activity, as outlined by FNDC ODP Rule 12.3.6.1.2(a), and the maximum cut and fill height of <3.0 m combined cut and fill is permitted under 12.3.6.1.2(b).

8 SUMMARY

Overall, the proposed subdivision to create one new residential lot is deemed feasible. Lot 1 existing development is within proposed lot boundaries and stormwater mitigation can be provided by way of tank attenuation to manage the technical breach in impermeable surfaces (>12.5% permitted activity threshold). There is sufficient space within proposed Lot 2 to comprise future residential development (conceptual 300m^2 dwelling + 100m^2 driveway and parking) and associated water supply, stormwater and wastewater management. Power and telecom are available. Lot 3 is intended to remain as is, horticultural / production land.

9 LIMITATIONS

This report has been prepared for Roger Davies Trust 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

[9] https://broadbandmap.nz

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

Geologix Drawings

LEGEND:

- PROPOSED LOTS
- PROPOSED EASEMENTS
- CONCEPT WASTEWATER DISPOSAL AREA
- CONCEPT RESERVE AREA (30%)
- CONCEPT 25,000 LITRE WATER TANKS ATTENUATING TO DISPERSION DEVICE TO CONTROL ROOF AREA
- HAXX GEOLOGIX WASTEWATER HAND AUGER

1. DRAWING REPRODUCED FROM THOMSON SURVEY SCHEME PLAN REF. 10657, DATED 23 March 2026.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN FOR LOT 2

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
DAILY WASTEWATER GEN.	180 LITRES/PERSON/ DAY
TOTAL WASTEWATER GEN.	1,440 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 5
SOIL CATEGORY (NZS1547)	CATEGORY 4
SOIL LOADING RATE	3.5 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	412m²
RESERVE DISPOSAL AREA	124 m² (30 %)

EJC	EC	22/05/26
SIGNED		DATE
EC	EC	22/05/26
SIGNED		DATE
EC	EC	22/05/26

A 22/05/2026 FIRST ISSUE EJC EC

Lot 1
4864m²

Lot 2
3100m²

Lot 3
4.0446ha

HAD1
HAD2

55.00
56.00
57.00
58.00
59.00
60.00
61.00
62.00
63.00
64.00
65.00
66.00
68.00
67.00

9.0m
1.5m
1.5m

Okura Stream

geologix consulting engineers

DRAWN	SIGNED	DATE
EJC	EC	22/05/26
VERIFIED	SIGNED	DATE
EC	EC	22/05/26
APPROVED	SIGNED	DATE
EC	EC	22/05/26

REV.	DATE	REVISION DETAILS	BY	APP.
A	22/05/2026	FIRST ISSUE	EJC	EC

CLIENT.
ROGER DAVIES TRUST

PROJECT.
60 KERIKERI INLET ROAD
KERIKERI
NORTHLAND
LOT 2 DP 61878

DRAWING TITLE.
SUITABILITY PLAN
FOR
SUBDIVISION RESOURCE CONSENT

STATUS. FINAL
NOT FOR CONSTRUCTION

SCALE	SHEET SIZE.
1:2500	A3

PROJECT NO.	TYPE.	CLASS.	SHEET NO.	REV.
C0821N	RC		100	A

LEGEND:

- PROPOSED LOTS
- PROPOSED EASEMENTS
- CONCEPT WASTEWATER DISPOSAL AREA
- CONCEPT RESERVE AREA (30%)
- CONCEPT 25,000 LITRE WATER TANKS ATTENUATING TO DISPERSION DEVICE TO CONTROL ROOF AREA
- HAXX GEOLOGIX WASTEWATER HAND AUGER

1. DRAWING REPRODUCED FROM THOMSON SURVEY SCHEME PLAN REF. 10657, DATED 23 March 2026.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN FOR LOT 2

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
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TOTAL WASTEWATER GEN.	1,440 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 5
SOIL CATEGORY (NZS1547)	CATEGORY 4
SOIL LOADING RATE	3.5 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	412m²
RESERVE DISPOSAL AREA	124 m² (30 %)

1.5m
9.0m
HA01
Lot 2
3100m²
HA02
1.5m
68.00
68.00
0 5 10 Meters

geologix consulting engineers

DRAWN	SIGNED	DATE
EJC	EC	22/05/26
VERIFIED	SIGNED	DATE
EC	EC	22/05/26
APPROVED	SIGNED	DATE
EC	EC	22/05/26

REV.	DATE	REVISION DETAILS	BY	APP.
A	22/05/2026	FIRST ISSUE	EJC	EC

CLIENT.
ROGER DAVIES TRUST

PROJECT.
60 KERIKERI INLET ROAD
KERIKERI
NORTHLAND
LOT 2 DP 61878

DRAWING TITLE.
SUITABILITY PLAN
FOR
SUBDIVISION RESOURCE CONSENT
LOT 2 DETAIL

STATUS. FINAL
NOT FOR CONSTRUCTION

SCALE	SHEET SIZE.
1:500	A3

PROJECT NO.	TYPE.	CLASS.	SHEET NO.	REV.
C0821N	RC		101	A

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APPENDIX B

Site Photographs

Figure 3. Buried septic tank (Lot 1)

Figure 4. Buried water tanks, 2 x 25 Gallon / 22,700L (Lot 1)

APPENDIX C

Engineering Borehole Records

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APPENDIX D

Wastewater Assessment of Effects

Table 8: 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.
Stormwater flowpath[4]	5 m	*NR*	Complies.
Surface water feature[5]	15 m	15 – 30 m	Complies.
Coastal Marine Area	15 m	30 m	Complies.
Existing water supply bore.	20 m	*NR*	Complies.
Property boundary	1.5 m	1.5 m	Complies. Including proposed subdivision boundaries.
Winter groundwater table	0.6 m	0.6 m	Complies.
Topography			Complies, <10 °.
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		
Total Nitrogen	10 – 30 g/m^3	15 – 75 g/m^3	
Phosphorous	*NR*	4 – 10 g/m^3	
Ammonia	*NR*	Negligible	
Nitrites/ Nitrates	*NR*	15 – 45 g/m^3	
Conclusion: Effects on the environment are considered less than minor.			

1. AEE based on proposed secondary treated effluent.
2. Regional Plan for Northland, Table 9.
3. Based on the recommendations of this report and Sheet 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 E

Stormwater Calculations

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 1 (EXISTING DEVELOPMENT)			
Date:	28 April 2026	REV 1	**50 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	

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.

12.5% PERMITTED IMPERMEABLE SURFACES

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
ROOF AREA	379	0.96	ROOF + POOL
DRIVEWAY	229	0.8	DRIVEWAY (INC. PARK)
EX. PERVIOUS	157	0.59	PASTURE
TOTAL	**765**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	340	0.96	ROOF
OFFSET	425	0.83	DRIVEWAY (INC. PARK) + POOL
TOTAL	**765**	TYPE C	

RAINFALL INTENSITY, 50% AEP, 10MIN DURATION

50 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	68.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
50 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	81.60	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

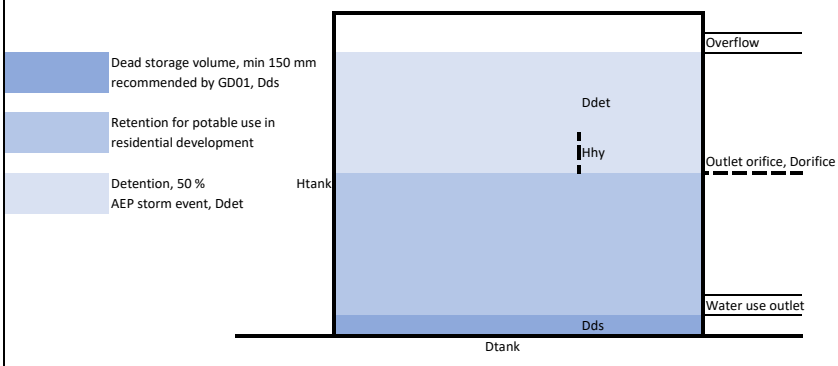
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	68.00	1.2	81.60	15.39	12.08	9.67	*Critical duration (time of concentration) for the catchments is 10min*
20	48.80	1.2	58.56	11.05	8.67	6.94	
30	40.20	1.2	48.24	9.10	7.14	5.71	
60	28.70	1.2	34.44	6.50	5.10	4.08	
120	20.30	1.2	24.36	4.60	3.61	2.89	*Pre-dev calculated on Intensity without CC factor*
360	11.20	1.2	13.44	2.54	1.99	1.59	
720	7.44	1.2	8.93	1.68	1.32	1.06	
1440	4.72	1.2	5.66	1.07	0.84	0.67	
2880	2.86	1.2	3.43	0.65	0.51	0.41	
4320	2.08	1.2	2.50	0.47	0.37	0.30	

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	8.00	7.40	1.67	1.67	5.73	3437	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	5.74	5.31	1.20	1.67	3.64	4367	
30	4.73	4.37	0.99	1.67	2.70	4866	
60	3.37	3.12	0.71	1.67	1.45	5228	
120	2.39	2.21	0.50	1.67	0.54	3875	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	1.32	1.22	0.28	1.67	No Att. Req.	0	
720	0.87	0.81	0.18	1.67	No Att. Req.	0	
1440	0.55	0.51	0.12	1.67	No Att. Req.	0	
2880	0.34	0.31	0.07	1.67	No Att. Req.	0	
4320	0.24	0.23	0.05	1.67	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 22,700 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	5.228	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.5	m	Concept sizing for 22,700 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	48106	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	0.00167	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.14	m	
AREA OF ORIFICE, Aorifice	1.65E-03	m2	
ORIFICE DIAMETER, Dorifice	46	mm	
VELOCITY AT ORIFICE	2.31	m/s	At max. head level

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 1 (EXISTING DEVELOPMENT)		**20 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	28 April 2026	REV 1		

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.

12.5% PERMITTED IMPERMEABLE SURFACES

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
ROOF AREA	379	0.96	ROOF + POOL
DRIVEWAY	229	0.8	DRIVEWAY (INC. PARK)
0	0	0	
EX. PERVIOUS	157	0.59	PASTURE
TOTAL	**765**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	340	0.96	ROOF
OFFSET	425	0.83	DRIVEWAY (INC. PARK) + POOL
0	0	0	
0	0	0	
0	0	0	
TOTAL	**765**	TYPE C	

RAINFALL INTENSITY, 20% AEP, 10MIN DURATION

20 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	87.9	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
20 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	105.5	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

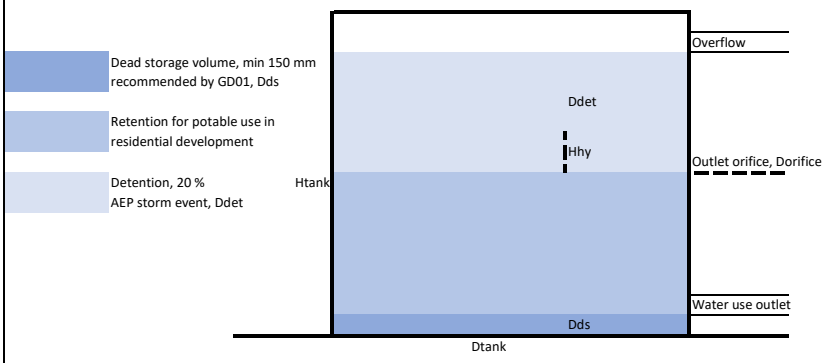
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	87.90	1.2	105.48	19.90	15.62	12.49	*Critical duration (time of concentration) for the catchments is 10min*
20	63.10	1.2	75.72	14.28	11.21	8.97	
30	52.10	1.2	62.52	11.79	9.26	7.41	
60	37.30	1.2	44.76	8.44	6.63	5.30	
120	26.40	1.2	31.68	5.98	4.69	3.75	*Pre-dev calculated on Intensity without CC factor*
360	14.70	1.2	17.64	3.33	2.61	2.09	
720	9.72	1.2	11.66	2.20	1.73	1.38	
1440	6.19	1.2	7.43	1.40	1.10	0.88	
2880	3.76	1.2	4.51	0.85	0.67	0.53	
4320	2.73	1.2	3.28	0.62	0.49	0.39	

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	10.34	9.56	2.16	2.16	7.40	4443	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	7.42	6.87	3.79	2.16	4.71	5647	
30	6.13	5.67	3.13	2.16	3.51	6317	
60	4.39	4.06	2.24	2.16	1.90	6836	
120	3.10	2.87	1.59	2.16	0.71	5134	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	1.73	1.60	0.88	2.16	No Att. Req.	0	
720	1.14	1.06	0.58	2.16	No Att. Req.	0	
1440	0.73	0.67	0.37	2.16	No Att. Req.	0	
2880	0.44	0.41	0.23	2.16	No Att. Req.	0	
4320	0.32	0.30	0.16	2.16	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 22,700 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	6.836	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.5	m	Concept sizing for 22,700 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	48106	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.36	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.51	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00216	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.18	m	
AREA OF ORIFICE, Aorifice	1.87E-03	m2	
ORIFICE DIAMETER, Dorifice	49	mm	
VELOCITY AT ORIFICE	2.64	m/s	At max. head level

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 1 (EXISTING DEVELOPMENT)		**10 % AEP STORM EVENT, TO PRE-DEVELOPMENT FLOW**	
Date:	28 April 2026	REV 1		

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). THE 10% AEP SCENARIO IS PROVIDED TO SATISFY FNDC DISTRICT PLAN RULE 13.7.3.4 (FOR CONTROLLED ACTIVITY). PRE-DEVELOPMENT RUNOFF REMAINS UNFACTORED IN THIS SCENARIO.
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

12.5% PERMITTED IMPERMEABLE SURFACES

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
ROOF AREA	379	0.96	ROOF + POOL
DRIVEWAY	229	0.8	DRIVEWAY (INC. PARK)
0	0	0	
EX. PERVIOUS	157	0.59	PASTURE
0	0	0	
TOTAL	**765**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	340	0.96	ROOF
OFFSET	425	0.83	DRIVEWAY (INC. PARK) + POOL
0	0	0	
0	0	0	
0	0	0	
TOTAL	**765**	TYPE C	

RAINFALL INTENSITY, 10% AEP, 10MIN DURATION

10 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	102.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
10 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	122.4	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, 10%AEP, VARIOUS DURATIONS

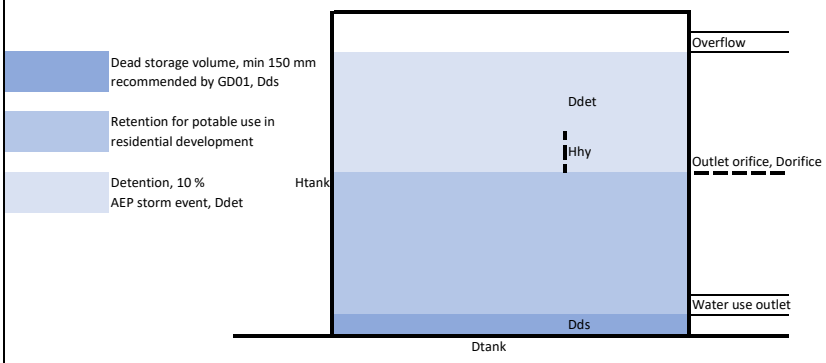
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s		COMMENTS
10	102.00	1.2	122.40	23.09	18.12		*Critical duration (time of concentration) for the catchments is 10min*
20	73.70	1.2	88.44	16.68	13.10		
30	60.80	1.2	72.96	13.76	10.80		
60	43.60	1.2	52.32	9.87	7.75		
120	31.00	1.2	37.20	7.02	5.51		*Pre-dev calculated on Intensity without CC factor*
360	17.20	1.2	20.64	3.89	3.06		
720	11.40	1.2	13.68	2.58	2.03		
1440	7.28	1.2	8.74	1.65	1.29		
2880	4.42	1.2	5.30	1.00	0.79		
4320	3.22	1.2	3.86	0.73	0.57		

ATTENUATION ANALYSIS, VARIOUS DURATIONS

DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	11.99	11.10	6.13	6.13	4.97	2980	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	8.67	8.02	4.43	6.13	1.89	2266	
30	7.15	6.62	3.65	6.13	0.48	872	
60	5.13	4.74	2.62	6.13	No Att. Req.	0	
120	3.65	3.37	1.86	6.13	No Att. Req.	0	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	2.02	1.87	1.03	6.13	No Att. Req.	0	
720	1.34	1.24	0.69	6.13	No Att. Req.	0	
1440	0.86	0.79	0.44	6.13	No Att. Req.	0	
2880	0.52	0.48	0.27	6.13	No Att. Req.	0	
4320	0.38	0.35	0.19	6.13	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 22,700 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	2.980	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.5	m	Concept sizing for 22,700 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	48106	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.15	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.30	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00613	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.08	m	
AREA OF ORIFICE, Aorifice	8.02E-03	m2	
ORIFICE DIAMETER, Dorifice	101	mm	
VELOCITY AT ORIFICE	1.74	m/s	At max. head level

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 2 (CONCEPT)		**50 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	24 April 2026	REV 1		

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
ROOF AREA	0	0	
DRIVEWAY	0	0	
ROW	151	0.8	EX. ROW
PERVIOUS	400	0.59	LAWN
TOTAL	**551**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	251	0.8	DRIVEWAY + ROW
TOTAL	**551**	TYPE C	

RAINFALL INTENSITY, 50% AEP, 10MIN DURATION

50 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	68.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
50 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	81.60	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

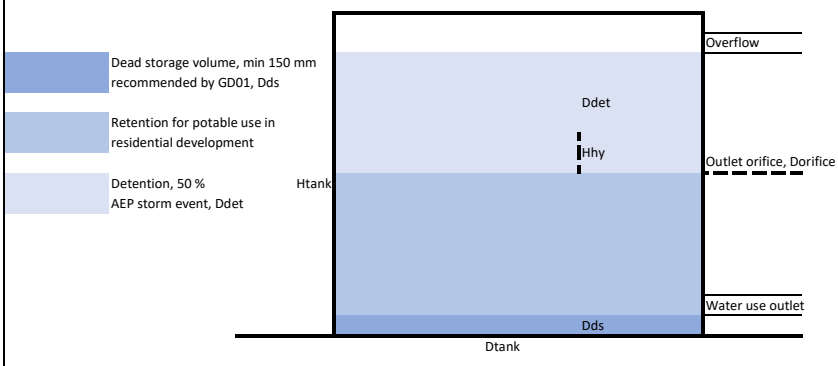
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	68.00	1.2	81.60	11.08	6.74	5.39	*Critical duration (time of concentration) for the catchments is 10min*
20	48.80	1.2	58.56	7.95	4.84	3.87	
30	40.20	1.2	48.24	6.55	3.98	3.19	
60	28.70	1.2	34.44	4.68	2.84	2.28	
120	20.30	1.2	24.36	3.31	2.01	1.61	*Pre-dev calculated on Intensity without CC factor*
360	11.20	1.2	13.44	1.82	1.11	0.89	
720	7.44	1.2	8.93	1.21	0.74	0.59	
1440	4.72	1.2	5.66	0.77	0.47	0.37	
2880	2.86	1.2	3.43	0.47	0.28	0.23	
4320	2.08	1.2	2.50	0.34	0.21	0.16	

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	4.55	6.53	0.84	0.84	5.69	3413	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	3.27	4.68	0.60	0.84	3.84	4614	
30	2.69	3.86	0.50	0.84	3.02	5434	
60	1.92	2.76	0.35	0.84	1.92	6894	
120	1.36	1.95	0.25	0.84	1.11	7982	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.75	1.08	0.14	0.84	0.24	5076	
720	0.50	0.71	0.09	0.84	No Att. Req.	0	
1440	0.32	0.45	0.06	0.84	No Att. Req.	0	
2880	0.19	0.27	0.04	0.84	No Att. Req.	0	
4320	0.14	0.20	0.03	0.84	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	7.982	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.6	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	50030	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.41	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.56	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00084	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.21	m	
AREA OF ORIFICE, Aorifice	6.72E-04	m2	
ORIFICE DIAMETER, Dorifice	29	mm	
VELOCITY AT ORIFICE	2.85	m/s	At max. head level

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 2 (CONCEPT)		**20 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	24 April 2026	REV 1		

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
ROOF AREA	0	0	
DRIVEWAY	0	0	
ROW	151	0.8	EX. ROW
PERVIOUS	400	0.59	LAWN
TOTAL	**551**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	251	0.8	DRIVEWAY + ROW
0	0	0	
0	0	0	
0	0	0	
TOTAL	**551**	TYPE C	

RAINFALL INTENSITY, 20% AEP, 10MIN DURATION

20 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	87.9	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
20 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	105.5	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

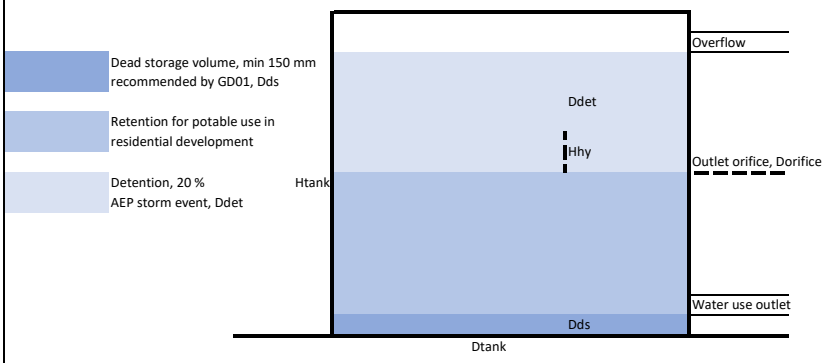
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	87.90	1.2	105.48	14.32	8.71	6.97	*Critical duration (time of concentration) for the catchments is 10min*
20	63.10	1.2	75.72	10.28	6.25	5.00	
30	52.10	1.2	62.52	8.49	5.16	4.13	
60	37.30	1.2	44.76	6.08	3.70	2.96	
120	26.40	1.2	31.68	4.30	2.62	2.09	*Pre-dev calculated on Intensity without CC factor*
360	14.70	1.2	17.64	2.40	1.46	1.17	
720	9.72	1.2	11.66	1.58	0.96	0.77	
1440	6.19	1.2	7.43	1.01	0.61	0.49	
2880	3.76	1.2	4.51	0.61	0.37	0.30	
4320	2.73	1.2	3.28	0.44	0.27	0.22	

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	5.88	8.44	1.09	1.09	7.35	4411	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	4.22	6.06	2.03	1.09	4.97	5966	
30	3.49	5.00	1.68	1.09	3.92	7048	
60	2.50	3.58	1.20	1.09	2.49	8981	
120	1.77	2.53	0.85	1.09	1.45	10428	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.98	1.41	0.47	1.09	0.33	7023	
720	0.65	0.93	0.31	1.09	No Att. Req.	0	
1440	0.41	0.59	0.20	1.09	No Att. Req.	0	
2880	0.25	0.36	0.12	1.09	No Att. Req.	0	
4320	0.18	0.26	0.09	1.09	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	10.428	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.6	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	50030	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.54	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.69	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00109	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.27	m	
AREA OF ORIFICE, Aorifice	7.60E-04	m2	
ORIFICE DIAMETER, Dorifice	31	mm	
VELOCITY AT ORIFICE	3.26	m/s	At max. head level

Project Ref:	C0821N		**STORMWATER ATTENUATION TANK DESIGN**	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri			
Design Case:	LOT 2 (CONCEPT)		**10 % AEP STORM EVENT, TO PRE-DEVELOPMENT FLOW**	
Date:	24 April 2026	REV 1		

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). THE 10% AEP SCENARIO IS PROVIDED TO SATISFY FNDC DISTRICT PLAN RULE 13.7.3.4 (FOR CONTROLLED ACTIVITY). PRE-DEVELOPMENT RUNOFF REMAINS UNFACTORED IN THIS SCENARIO.
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
ROOF AREA	0	0	
DRIVEWAY	0	0	
ROW	151	0.8	EX. ROW
PERVIOUS	400	0.59	LAWN
0	0	0	
TOTAL	**551**	TYPE C	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	251	0.8	DRIVEWAY + ROW
0	0	0	
0	0	0	
0	0	0	
TOTAL	**551**	TYPE C	

RAINFALL INTENSITY, 10% AEP, 10MIN DURATION

10 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	102.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
10 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	122.4	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, 10%AEP, VARIOUS DURATIONS

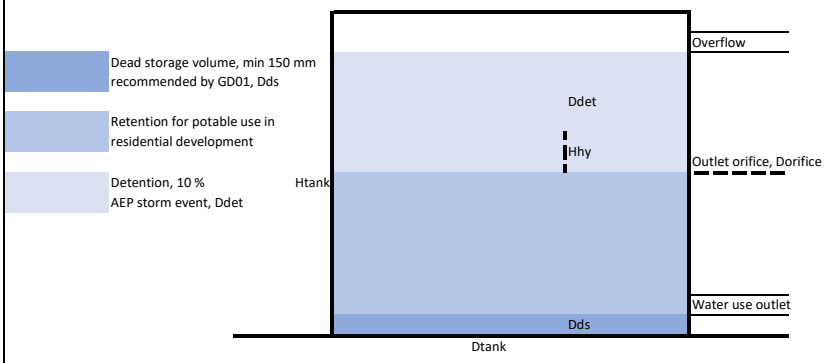
DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s		COMMENTS
10	102.00	1.2	122.40	16.62	10.11		*Critical duration (time of concentration) for the catchments is 10min*
20	73.70	1.2	88.44	12.01	7.30		
30	60.80	1.2	72.96	9.91	6.03		
60	43.60	1.2	52.32	7.10	4.32		
120	31.00	1.2	37.20	5.05	3.07		*Pre-dev calculated on Intensity without CC factor*
360	17.20	1.2	20.64	2.80	1.70		
720	11.40	1.2	13.68	1.86	1.13		
1440	7.28	1.2	8.74	1.19	0.72		
2880	4.42	1.2	5.30	0.72	0.44		
4320	3.22	1.2	3.86	0.52	0.32		

ATTENUATION ANALYSIS, VARIOUS DURATIONS

DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	6.83	9.79	3.28	3.28	6.51	3906	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	4.93	7.08	2.37	3.28	3.79	4552	
30	4.07	5.84	1.96	3.28	2.55	4598	
60	2.92	4.19	1.40	3.28	0.90	3252	
120	2.07	2.98	1.00	3.28	No Att. Req.	0	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	1.15	1.65	0.55	3.28	No Att. Req.	0	
720	0.76	1.09	0.37	3.28	No Att. Req.	0	
1440	0.49	0.70	0.23	3.28	No Att. Req.	0	
2880	0.30	0.42	0.14	3.28	No Att. Req.	0	
4320	0.22	0.31	0.10	3.28	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank



SPECIFICATION

TOTAL STORAGE REQUIRED	4.598	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.6	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.5	m	No. of Tanks 2
TANK AREA, Atank	19.24	m2	Area of two tanks hydraulically linked
TANK MAX STORAGE VOLUME, Vtank	50030	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.24	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.39	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00328	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.12	m	
AREA OF ORIFICE, Aorifice	3.46E-03	m2	
ORIFICE DIAMETER, Dorifice	66	mm	
VELOCITY AT ORIFICE	2.17	m/s	At max. head level

Project Ref:	C0821N	STORMWATER DISPERSION PIPE/ TRENCH	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri		
Design Case:	LOT 2 (CONCEPT)	DISCHARGE DEVICE - LEVEL SPREADER OR TRENCH	
Date:	24 April 2026 REV 1		

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 **10%** AEP EVENT

SLOPE BETWEEN SOURCE & DISPERSION DEVICE

ELEVATION	h	CHAINAGE, x	Δ x	h bar	Δ A
m	m	m	m	m	m2
TBC	0	0	0	0	0
TBC	0.1	6	6	0.05	0.3
	TOTALS	6	6		0.3
	SLOPE, Sc	0.017	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	60	0.009	0.000	0.0000	0.000	**0 % full**
0.100	0.050	5.381	0.0451	0.0001	0.003	60	0.009	0.315	0.0000	0.046	
0.100	0.100	4.996	0.0644	0.0004	0.006	60	0.009	0.492	0.0002	0.201	
0.100	0.150	4.692	0.0795	0.0007	0.009	60	0.009	0.634	0.0005	0.468	
0.100	0.200	4.429	0.0927	0.0011	0.012	60	0.009	0.754	0.0008	0.844	
0.100	0.250	4.189	0.1047	0.0015	0.015	60	0.009	0.859	0.0013	1.319	
0.100	0.300	3.965	0.1159	0.0020	0.017	60	0.009	0.952	0.0019	1.886	
0.100	0.350	3.751	0.1266	0.0024	0.019	60	0.009	1.034	0.0025	2.533	
0.100	0.400	3.544	0.1369	0.0029	0.021	60	0.009	1.106	0.0032	3.246	
0.100	0.450	3.342	0.1471	0.0034	0.023	60	0.009	1.170	0.0040	4.012	
0.100	0.500	3.142	0.1571	0.0039	0.025	60	0.009	1.226	0.0048	4.816	**50 % full**
0.100	0.550	2.941	0.1671	0.0044	0.026	60	0.009	1.275	0.0056	5.642	
0.100	0.600	2.739	0.1772	0.0049	0.028	60	0.009	1.315	0.0065	6.471	
0.100	0.650	2.532	0.1875	0.0054	0.029	60	0.009	1.348	0.0073	7.286	
0.100	0.700	2.319	0.1982	0.0059	0.030	60	0.009	1.373	0.0081	8.065	
0.100	0.750	2.094	0.2094	0.0063	0.030	60	0.009	1.390	0.0088	8.784	
0.100	0.800	1.855	0.2214	0.0067	0.030	60	0.009	1.398	0.0094	9.415	
0.100	0.850	1.591	0.2346	0.0071	0.030	60	0.009	1.395	0.0099	9.926	
0.100	0.900	1.287	0.2498	0.0074	0.030	60	0.009	1.379	0.0103	10.266	
0.100	0.950	0.902	0.2691	0.0077	0.029	60	0.009	1.343	0.0104	10.350	
0.100	1.000	0.000	0.3142	0.0079	0.025	60	0.009	1.226	0.0096	9.632	**Flowing full**

DISPERSION SPECIFICATION

INCOMING PIPE PROPERTIES:

TANK OUTFLOW, 1 % AEP	14.59	l/s	*note to designer = consider which design storm you need to allow for
MAXIMUM PIPE FLOW	10.35	l/s	
SUFFICIENT CAPACITY IN PIPE	YES		
LONGITUDINAL SLOPE	0.017	m/m	
DESIGN VELOCITY, Dv	1.398	m/s	

LEVEL SPREADER SPECIFICATIONS:

PIPE DIAMETER, m	0.15	m
MANNINGS PIPE ROUGHNESS	0.009	
NUMBER OF ORIFICES	80	No.
DIA. OF ORIFICE, D	25	mm
ORIFICE INTERVALS, C/C	100	mm
DISPERSION PIPE LENGTH, L	**7.9**	**m**

ORIFICE DESIGN FLOW CHECK:

AREA OF SINGLE ORIFICE, A	0.00049	m2		
FLOW OUT OF 1 ORIFICE	0.000426296	m3/s	0.43 l/s	
FLOW OUT OF ALL ORIFICES	0.03410367	m3/s	34.10 l/s	**DESIGN OK**
VELOCITY FROM SINGLE ORIFICE	0.87	m/s		

BROAD CRESTED WEIR DESIGN FLOW CHECK:

FLOW DEPTH, h	0.1	m	*note to designer = consider position of orifices on spreader pipe e.g. position at 1/3 of spreader Ø is an effective outcome
BASE WIDTH = L	7.9	m	
FLOW AREA	0.79	m2	
WEIR FLOW	0.01474	m3/s	14.74 l/s **DESIGN OK**
WEIR VELOCITY	0.019	m/s	

INCOMING PIPE & SPREADER SUMARY:

*note to designer = specify additional lots

INCOMING PIPE DIAMETER, m		m
SPREADER PIPE DIAMETER, m		m
MANNINGS PIPE ROUGHNESS		
NUMBER OF ORIFICES		No.
DIA. OF ORIFICE, D		mm
ORIFICE INTERVALS, C/C		mm
DISPERSION PIPE LENGTH, L	**0**	**m**

Project Ref:	C0821N	STORMWATER ATTENUATION TANK DESIGN	geologix consulting engineers
Project Address:	60 Kerikeri Inlet Road, Kerikeri		
Design Case:	LOT 2 (CONCEPT)	CLIMATE CHANGE FACTORS	
Date:	24 April 2026 REV 1		

CLIMATE CHANGE PROJECTIONS

REPRODUCED FROM NIWA HIRDS, *https://niwa.co.nz/information-services/hirds/help*

Duration/ARI	2 yr	5 yr	10 yr	20 yr	30 yr	40 yr	50 yr	60 yr	80 yr	100 yr
1 hour	12.2	12.8	13.1	13.3	13.4	13.4	13.5	13.5	13.6	13.6
2 hours	11.7	12.3	12.6	12.8	12.9	12.9	13	13	13.1	13.1
6 hours	9.8	10.5	10.8	11.1	11.2	11.3	11.3	11.4	11.4	11.5
12 hours	8.5	9.2	9.5	9.7	9.8	9.9	9.9	10	10	10.1
24 hours	7.2	7.8	8.1	8.2	8.3	8.4	8.4	8.5	8.5	8.6
48 hours	6.1	6.7	7	7.2	7.3	7.3	7.4	7.4	7.5	7.5
72 hours	5.5	6.2	6.5	6.6	6.7	6.8	6.8	6.9	6.9	6.9
96 hours	5.1	5.7	6	6.2	6.3	6.3	6.4	6.4	6.4	6.5
120 hours	4.8	5.4	5.7	5.8	5.9	6	6	6	6.1	6.1

HIRDS V4 Intensity-Duration-Frequency Results
Sitename: 60 Kerikeri Inlet Road
Coordinate system: WGS84
Longitude: 173.9654
Latitude: -35.2349

DDF Model Parameters:	c	d	e	f	g	h	i
Values:	0.00254733	0.50941713	-0.01198717	-0.00400168	0.25251016	-0.0117762	3.26739062

Example:	Duration (hrs)	ARI (yrs)	x	y	Rainfall Rate (mm/hr)
	24	100	3.17805383	4.600149227	11.11613984

Rainfall intensities (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	62.2	44.6	36.7	26.2	18.5	10.2	6.77	4.3	2.6	1.89	1.49	1.23
2	0.5	68	48.8	40.2	28.7	20.3	11.2	7.44	4.72	2.86	2.08	1.64	1.35
5	0.2	87.9	63.1	52.1	37.3	26.4	14.7	9.72	6.19	3.76	2.73	2.15	1.78
10	0.1	102	73.7	60.8	43.6	31	17.2	11.4	7.28	4.42	3.22	2.54	2.1
20	0.05	117	84.4	69.7	50.1	35.6	19.8	13.2	8.41	5.11	3.73	2.94	2.43
30	0.033	126	90.7	74.9	53.9	38.3	21.4	14.2	9.08	5.53	4.03	3.18	2.63
40	0.025	132	95.2	78.7	56.6	40.3	22.5	15	9.56	5.82	4.25	3.35	2.77
50	0.02	137	98.7	81.6	58.8	41.8	23.4	15.5	9.94	6.06	4.42	3.49	2.88
60	0.017	141	102	84	60.5	43.1	24.1	16	10.2	6.25	4.56	3.6	2.97
80	0.013	147	106	87.8	63.2	45	25.2	16.8	10.7	6.55	4.78	3.77	3.12
100	0.01	152	110	90.7	65.4	46.6	26.1	17.4	11.1	6.78	4.95	3.91	3.23
250	0.004	171	124	102	73.9	52.7	29.6	19.7	12.7	7.74	5.65	4.47	3.7

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	5.2	3.5	2.6	1.9	1.3	0.81	0.58	0.21	0.24	0.22	0.14	0.11
2	0.5	5.6	3.8	2.7	2	1.4	0.89	0.64	0.22	0.27	0.24	0.15	0.13
5	0.2	8.2	5.8	4.2	2.9	2	1.3	0.9	0.34	0.37	0.33	0.21	0.18
10	0.1	11	8.1	6	4	2.8	1.7	1.2	0.46	0.46	0.4	0.26	0.22
20	0.05	15	11	8.5	5.4	3.9	2.3	1.6	0.63	0.57	0.49	0.33	0.27
30	0.033	18	13	10	6.5	4.7	2.8	1.9	0.76	0.64	0.55	0.37	0.31
40	0.025	20	15	12	7.4	5.3	3.2	2.2	0.86	0.7	0.6	0.41	0.34
50	0.02	22	17	13	8.2	5.9	3.5	2.4	0.95	0.75	0.64	0.44	0.37
60	0.017	24	18	14	8.9	6.4	3.8	2.6	1	0.8	0.67	0.46	0.39
80	0.013	27	20	16	10	7.2	4.3	3	1.1	0.87	0.73	0.5	0.42
100	0.01	29	22	17	11	7.9	4.8	3.3	1.3	0.93	0.77	0.54	0.45
250	0.004	41	31	25	16	11	7	4.8	1.8	1.2	1	0.72	0.6

Rainfall intensities (mm/hr) :: RCP2.6 for the period 2031-2050

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	66.6	47.7	39.3	28.1	19.8	10.8	7.09	4.48	2.69	1.95	1.53	1.26
2	0.5	72.9	52.3	43.1	30.8	21.7	11.9	7.81	4.92	2.96	2.15	1.69	1.39
5	0.2	94.6	67.9	56	40.1	28.4	15.6	10.3	6.48	3.91	2.83	2.23	1.83
10	0.1	110	79.4	65.5	47	33.3	18.3	12.1	7.63	4.61	3.35	2.63	2.17
20	0.05	126	91	75.1	54	38.3	21.1	13.9	8.81	5.33	3.87	3.05	2.51
30	0.033	136	97.9	80.9	58.2	41.2	22.8	15	9.52	5.76	4.19	3.3	2.72
40	0.025	143	103	84.9	61.1	43.3	24	15.8	10	6.07	4.42	3.48	2.87
50	0.02	148	107	88.1	63.4	45	24.9	16.5	10.4	6.32	4.59	3.62	2.98
60	0.017	152	110	90.7	65.3	46.4	25.7	17	10.8	6.52	4.74	3.73	3.08
80	0.013	159	115	94.8	68.3	48.5	26.9	17.8	11.3	6.84	4.97	3.92	3.23
100	0.01	164	118	97.9	70.6	50.2	27.8	18.4	11.7	7.08	5.15	4.06	3.35
250	0.004	185	133	111	79.8	56.8	31.6	20.9	13.3	8.08	5.88	4.64	3.83

Rainfall intensities (mm/hr) :: RCP2.6 for the period 2081-2100

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	66.6	47.7	39.3	28.1	19.8	10.8	7.09	4.48	2.69	1.95	1.53	1.26
2	0.5	72.9	52.3	43.1	30.8	21.7	11.9	7.81	4.92	2.96	2.15	1.69	1.39
5	0.2	94.6	67.9	56	40.1	28.4	15.6	10.3	6.48	3.91	2.83	2.23	1.83
10	0.1	110	79.4	65.5	47	33.3	18.3	12.1	7.63	4.61	3.35	2.63	2.17
20	0.05	126	91	75.1	54	38.3	21.1	13.9	8.81	5.33	3.87	3.05	2.51
30	0.033	136	97.9	80.9	58.2	41.2	22.8	15	9.52	5.76	4.19	3.3	2.72
40	0.025	143	103	84.9	61.1	43.3	24	15.8	10	6.07	4.42	3.48	2.87
50	0.02	148	107	88.1	63.4	45	24.9	16.5	10.4	6.32	4.59	3.62	2.98
60	0.017	152	110	90.7	65.3	46.4	25.7	17	10.8	6.52	4.74	3.73	3.08
80	0.013	159	115	94.8	68.3	48.5	26.9	17.8	11.3	6.84	4.97	3.92	3.23
100	0.01	164	118	97.9	70.6	50.2	27.8	18.4	11.7	7.08	5.15	4.06	3.35
250	0.004	185	133	111	79.8	56.8	31.6	20.9	13.3	8.08	5.88	4.64	3.83

Rainfall intensities (mm/hr) :: RCP4.5 for the period 2031-2050

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	67.7	48.5	39.9	28.5	20.1	11	7.17	4.52	2.71	1.96	1.54	1.27
2	0.5	74.2	53.2	43.8	31.3	22.1	12.1	7.9	4.98	2.99	2.16	1.7	1.4
5	0.2	96.2	69.1	57	40.9	28.9	15.8	10.4	6.55	3.94	2.86	2.25	1.85
10	0.1	112	80.8	66.7	47.9	33.9	18.6	12.2	7.72	4.65	3.38	2.65	2.19
20	0.05	129	92.7	76.5	55	38.9	21.4	14.1	8.92	5.39	3.91	3.08	2.53
30	0.033	138	99.7	82.4	59.2	42	23.1	15.2	9.64	5.82	4.23	3.33	2.74
40	0.025	145	105	86.5	62.2	44.1	24.4	16.1	10.2	6.14	4.46	3.51	2.89
50	0.02	151	109	89.8	64.6	45.8	25.3	16.7	10.6	6.39	4.64	3.65	3.01
60	0.017	155	112	92.4	66.5	47.2	26.1	17.2	10.9	6.59	4.79	3.77	3.11
80	0.013	162	117	96.6	69.6	49.4	27.3	18	11.4	6.91	5.02	3.95	3.26
100	0.01	167	121	99.8	71.9	51.1	28.3	18.7	11.8	7.16	5.2	4.1	3.38
250	0.004	188	136	113	81.3	57.8	32.1	21.2	13.5	8.16	5.94	4.68	3.86

Rainfall intensities (mm/hr) :: RCP4.5 for the period 2081-2100

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	71.2	51	42	30	21	11.4	7.42	4.66	2.78	2.01	1.57	1.29
2	0.5	78.1	56	46.1	33	23.2	12.6	8.2	5.14	3.07	2.22	1.74	1.43
5	0.2	102	72.9	60.1	43.1	30.4	16.5	10.8	6.78	4.06	2.94	2.3	1.89
10	0.1	119	85.3	70.4	50.6	35.7	19.5	12.7	8	4.8	3.48	2.73	2.24
20	0.05	136	97.9	80.9	58.1	41.1	22.5	14.7	9.24	5.56	4.02	3.16	2.6
30	0.033	146	105	87.1	62.6	44.3	24.3	15.9	9.99	6.01	4.36	3.42	2.81
40	0.025	153	111	91.5	65.8	46.6	25.6	16.8	10.5	6.34	4.6	3.61	2.97
50	0.02	159	115	95	68.4	48.4	26.5	17.4	10.9	6.6	4.78	3.76	3.09
60	0.017	164	118	97.7	70.4	49.8	27.4	18	11.3	6.8	4.94	3.88	3.19
80	0.013	171	124	102	73.6	52.2	28.7	18.8	11.8	7.14	5.18	4.07	3.35
100	0.01	177	128	106	76.1	53.9	29.7	19.5	12.3	7.4	5.36	4.22	3.47
250	0.004	199	144	119	86	61.1	33.7	22.2	14	8.44	6.12	4.82	3.97

Rainfall intensities (mm/hr) :: RCP6.0 for the period 2031-2050

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	67.2	48.2	39.7	28.4	19.9	10.9	7.14	4.5	2.7	1.96	1.54	1.26
2	0.5	73.7	52.8	43.5	31.1	21.9	12	7.86	4.96	2.98	2.16	1.69	1.39
5	0.2	95.6	68.6	56.6	40.6	28.7	15.7	10.3	6.52	3.93	2.85	2.24	1.84
10	0.1	112	80.2	66.2	47.5	33.6	18.5	12.2	7.68	4.64	3.37	2.65	2.18
20	0.05	128	92	76	54.6	38.7	21.3	14	8.87	5.36	3.89	3.06	2.52
30	0.033	137	98.9	81.8	58.8	41.7	23	15.2	9.59	5.8	4.21	3.32	2.73
40	0.025	144	104	85.9	61.8	43.8	24.2	16	10.1	6.11	4.44	3.5	2.88
50	0.02	149	108	89.1	64.1	45.5	25.1	16.6	10.5	6.36	4.62	3.64	3
60	0.017	154	111	91.7	66	46.9	25.9	17.1	10.8	6.56	4.77	3.76	3.1
80	0.013	161	116	95.9	69.1	49	27.1	17.9	11.4	6.88	5	3.94	3.25
100	0.01	166	120	99.1	71.4	50.7	28.1	18.6	11.8	7.13	5.18	4.08	3.37
250	0.004	187	135	112	80.7	57.4	31.9	21.1	13.4	8.13	5.92	4.67	3.85

Rainfall intensities (mm/hr) :: RCP6.0 for the period 2081-2100

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	74.3	53.2	43.8	31.3	21.9	11.8	7.65	4.79	2.85	2.05	1.6	1.32
2	0.5	81.6	58.5	48.2	34.5	24.2	13	8.47	5.28	3.15	2.27	1.77	1.46
5	0.2	106	76.3	62.9	45.1	31.7	17.2	11.2	6.98	4.17	3.01	2.35	1.93
10	0.1	124	89.4	73.8	53	37.3	20.2	13.2	8.25	4.93	3.56	2.79	2.29
20	0.05	143	103	84.8	60.9	43	23.4	15.3	9.53	5.71	4.13	3.24	2.66
30	0.033	153	110	91.3	65.7	46.4	25.3	16.5	10.3	6.18	4.47	3.51	2.88
40	0.025	161	116	95.9	69	48.8	26.6	17.4	10.9	6.52	4.72	3.7	3.04
50	0.02	167	120	99.6	71.7	50.7	27.7	18.1	11.3	6.79	4.91	3.85	3.16
60	0.017	172	124	102	73.8	52.2	28.5	18.6	11.7	7	5.07	3.97	3.26
80	0.013	180	130	107	77.3	54.7	29.9	19.5	12.2	7.35	5.32	4.17	3.43
100	0.01	185	134	111	79.8	56.5	30.9	20.2	12.7	7.61	5.51	4.33	3.55
250	0.004	209	151	125	90.2	64	35.1	23	14.4	8.68	6.29	4.94	4.06

Rainfall intensities (mm/hr) :: RCP8.5 for the period 2031-2050

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	68.5	49.1	40.4	28.9	20.3	11.1	7.23	4.55	2.73	1.97	1.55	1.27
2	0.5	75.1	53.8	44.3	31.7	22.3	12.2	7.97	5.01	3.01	2.18	1.71	1.41
5	0.2	97.5	70	57.7	41.4	29.2	16	10.5	6.6	3.97	2.88	2.26	1.86
10	0.1	114	81.9	67.6	48.5	34.3	18.8	12.3	7.78	4.69	3.4	2.67	2.2
20	0.05	130	93.9	77.6	55.7	39.4	21.7	14.3	8.99	5.43	3.94	3.1	2.55
30	0.033	140	101	83.5	60	42.5	23.4	15.4	9.72	5.87	4.26	3.35	2.76
40	0.025	147	106	87.7	63.1	44.7	24.6	16.2	10.2	6.18	4.49	3.53	2.91
50	0.02	153	110	91	65.5	46.4	25.6	16.9	10.6	6.44	4.67	3.68	3.03
60	0.017	157	113	93.7	67.4	47.8	26.4	17.4	11	6.64	4.82	3.79	3.13
80	0.013	164	118	97.9	70.5	50	27.6	18.2	11.5	6.96	5.06	3.98	3.28
100	0.01	169	122	101	72.9	51.7	28.6	18.9	11.9	7.21	5.24	4.13	3.4
250	0.004	191	138	114	82.4	58.6	32.5	21.4	13.6	8.23	5.98	4.72	3.89

Rainfall intensities (mm/hr) :: RCP8.5 for the period 2081-2100

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	81.3	58.2	48	34.3	23.9	12.7	8.17	5.07	2.99	2.14	1.67	1.37
2	0.5	89.5	64.1	52.8	37.8	26.5	14.1	9.07	5.6	3.31	2.37	1.85	1.52
5	0.2	117	84	69.3	49.7	34.8	18.6	12	7.44	4.41	3.17	2.47	2.03
10	0.1	137	98.6	81.4	58.4	41	22	14.2	8.81	5.22	3.76	2.93	2.41
20	0.05	157	113	93.6	67.3	47.3	25.5	16.5	10.2	6.06	4.36	3.41	2.79
30	0.033	169	122	101	72.5	51.1	27.5	17.8	11	6.57	4.73	3.7	3.03
40	0.025	178	128	106	76.2	53.7	29	18.8	11.6	6.92	4.99	3.9	3.2
50	0.02	185	133	110	79.2	55.8	30.2	19.5	12.1	7.21	5.19	4.06	3.33
60	0.017	190	137	113	81.6	57.5	31.1	20.2	12.5	7.44	5.37	4.19	3.43
80	0.013	199	143	119	85.4	60.3	32.6	21.1	13.1	7.81	5.63	4.4	3.61
100	0.01	205	148	122	88.3	62.3	33.8	21.9	13.6	8.09	5.83	4.57	3.74
250	0.004	231	167	138	99.8	70.5	38.4	24.9	15.5	9.23	6.66	5.22	4.28

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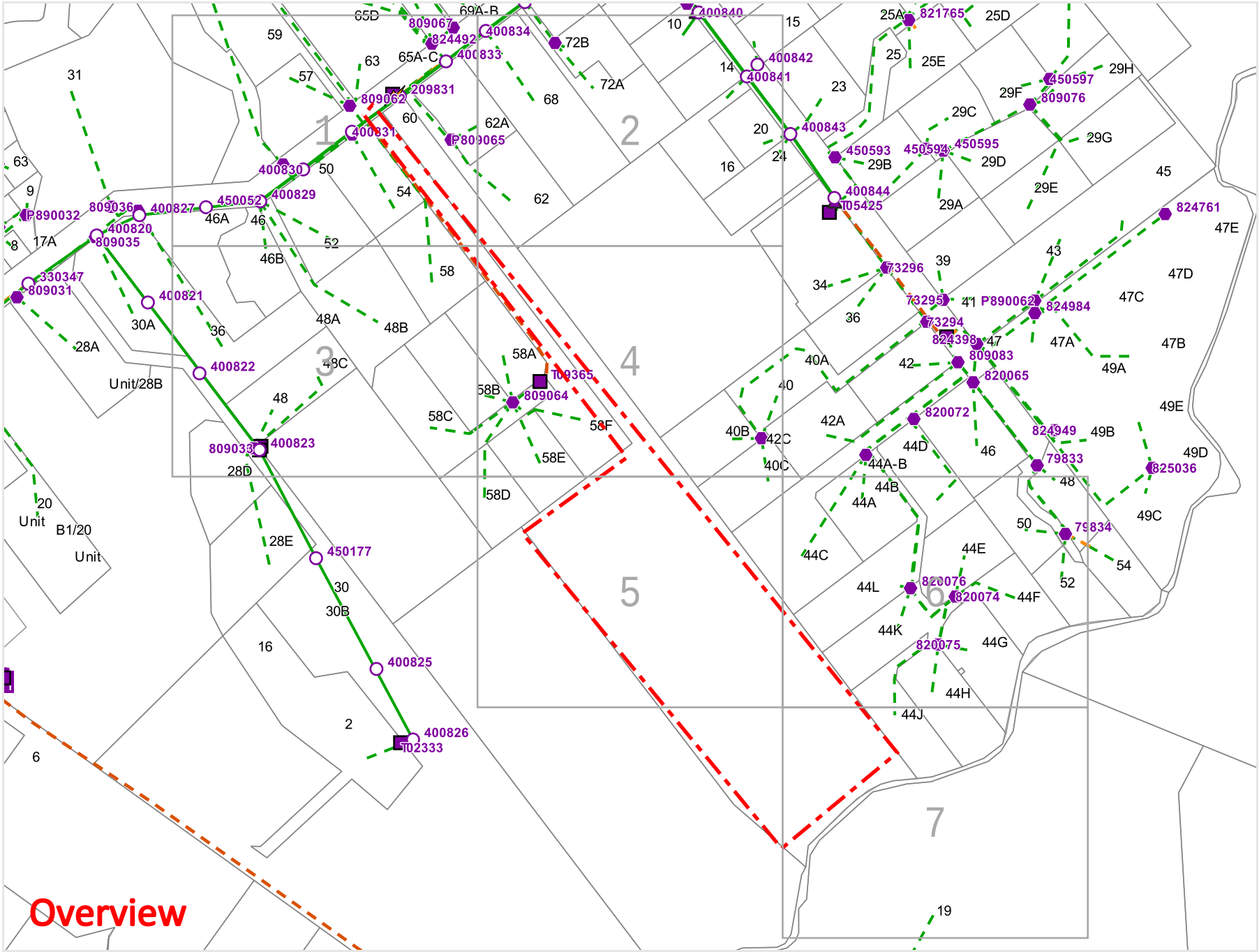
APPENDIX F

Beforeudig Plans

Sequence No: 17861453
Job No: 2769592
Location: 60 Kerikeri Inlet Rd, Kerikeri, Northland 0230



Legend

- Arrestor
- Sectionaliser
- Pole
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- Capacitor
- OH Fibre
- OH Conductor
- UG Fibre
- UG Conduit (Future Cable)
- UG Cable MV
- UG Cable LV

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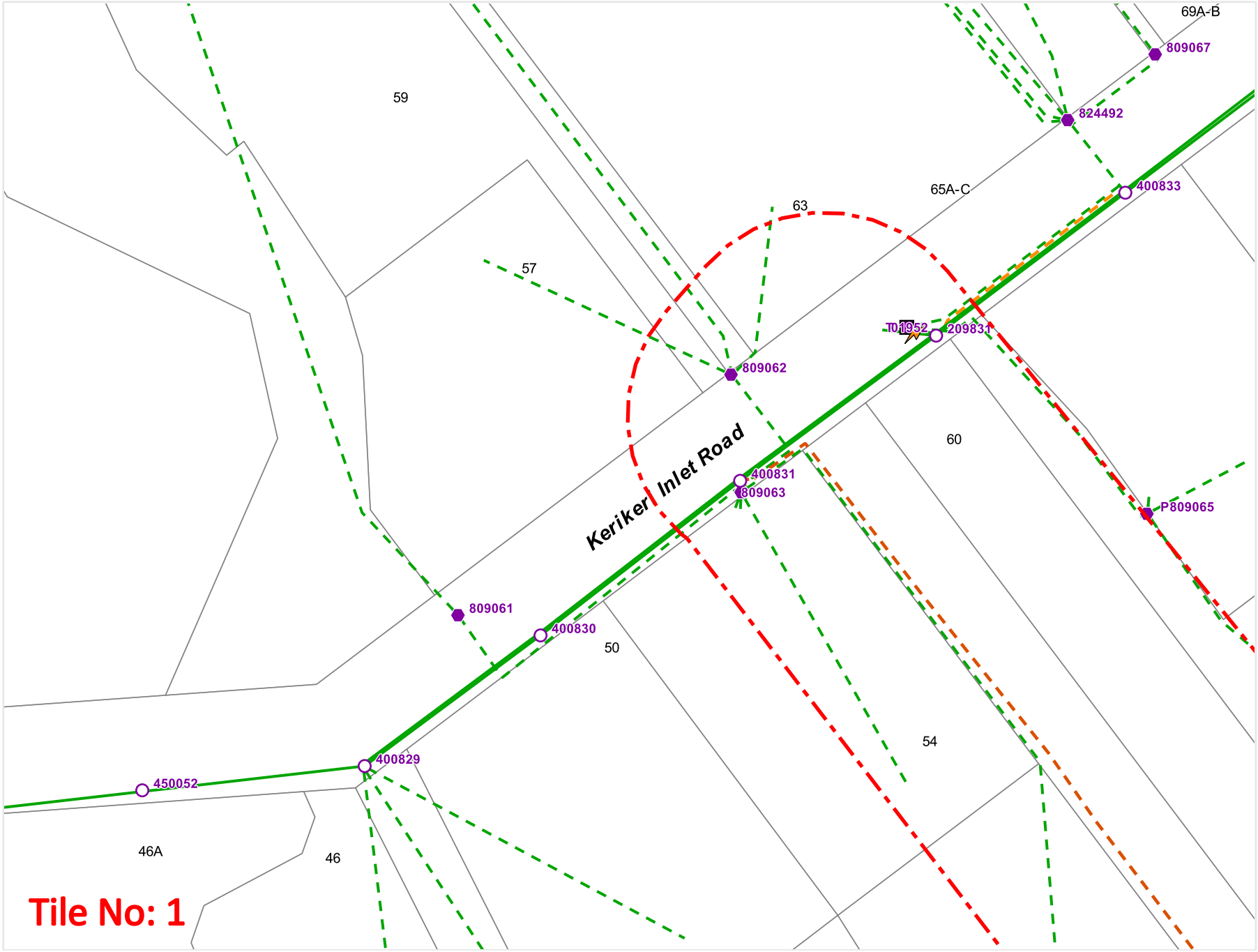
Scale: 1:4100
Expires: 22 May 2026

Sequence No: 17861453
Job No: 2769592
Location: 60 Kerikeri Inlet Rd, Kerikeri, Northland 0230



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Scale: 1:1000
Expires: 22 May 2026

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Before you undertake any works, an underground cable location is required. You can initiate a cable location request via our website; www.topenergy.co.nz/cablelocate. When undertaking works, beware that you may encounter underground cables at ANY depth.

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Sequence No: 17861453
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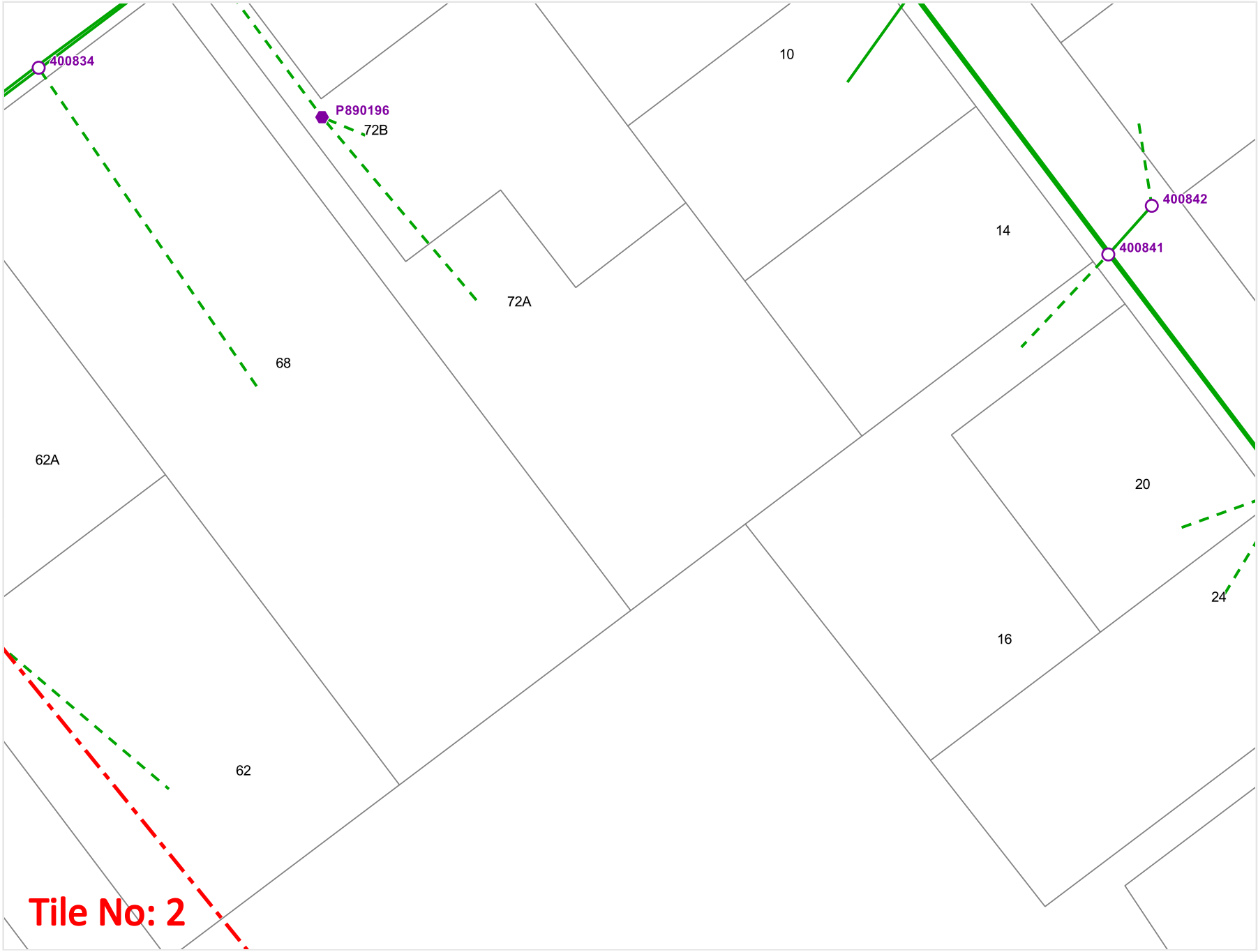
Location: 60 Kerikeri Inlet Rd, Kerikeri, Northland 0230



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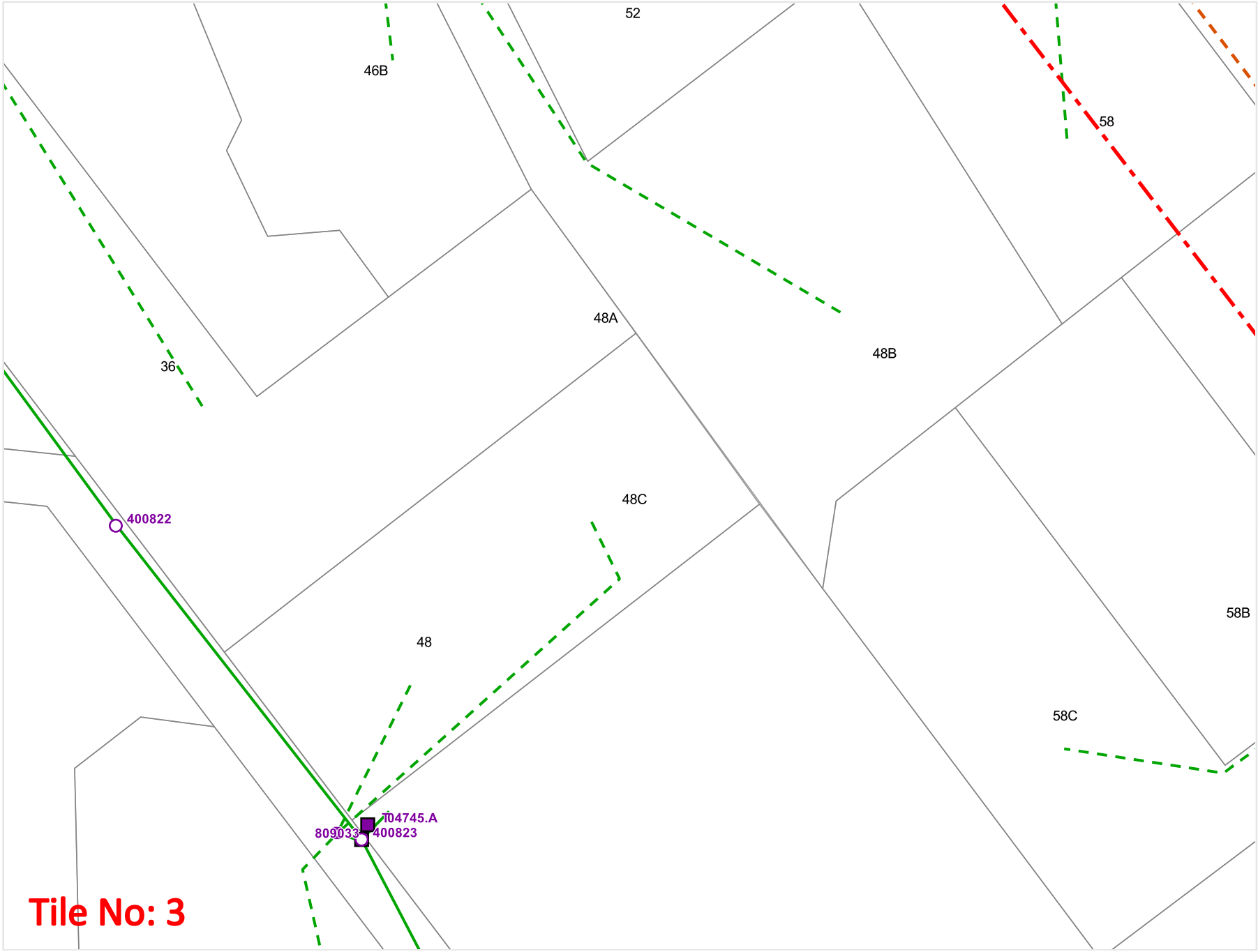

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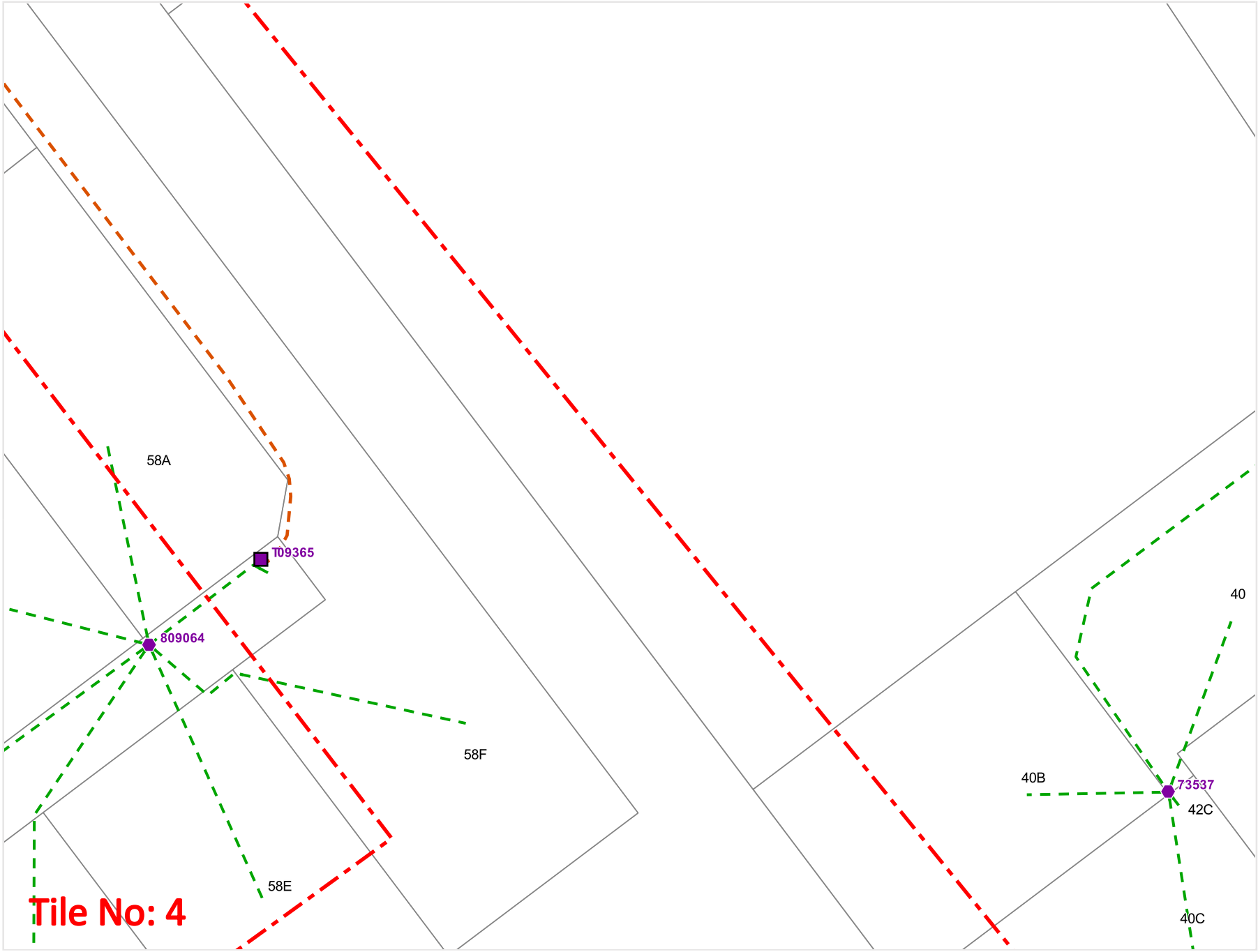

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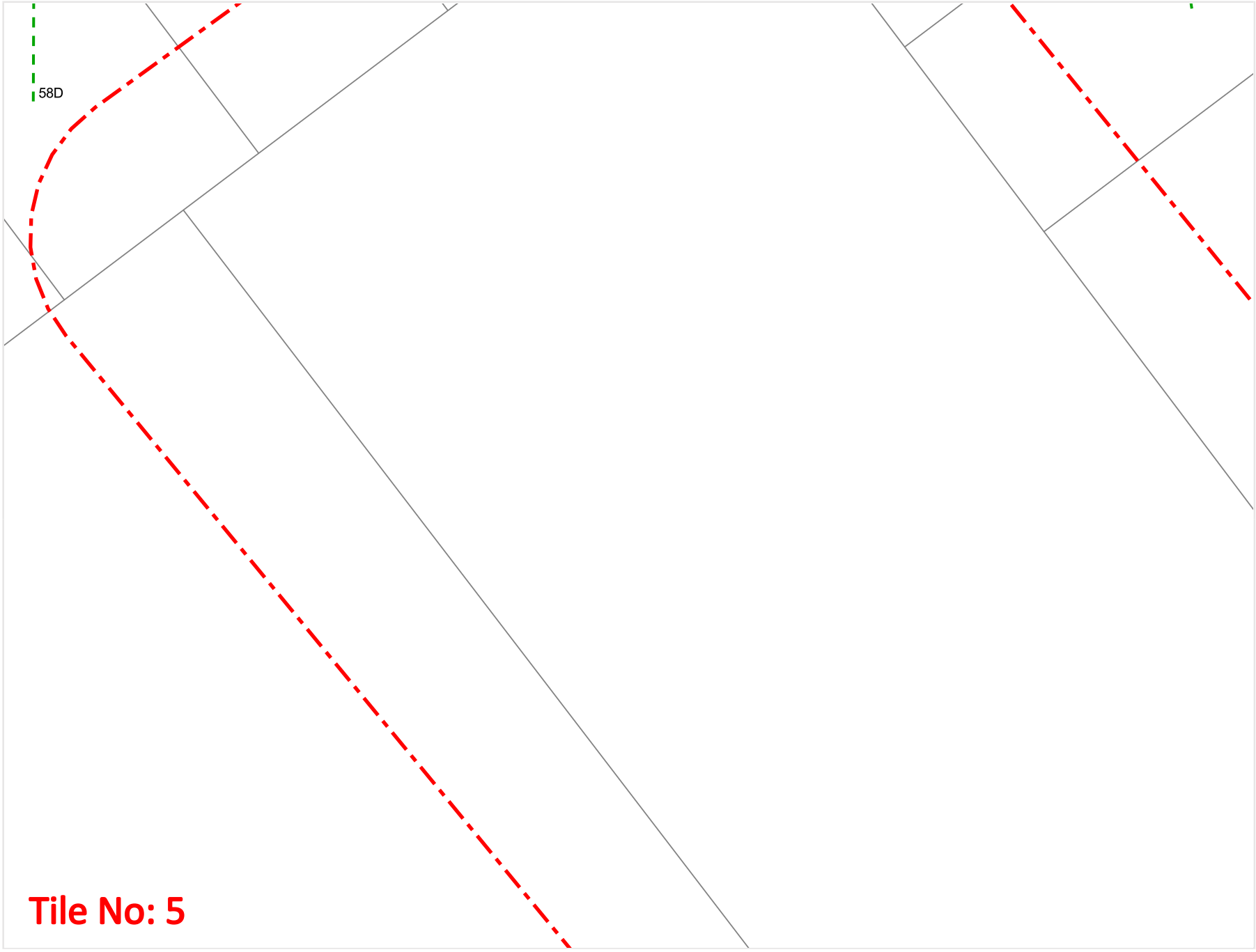

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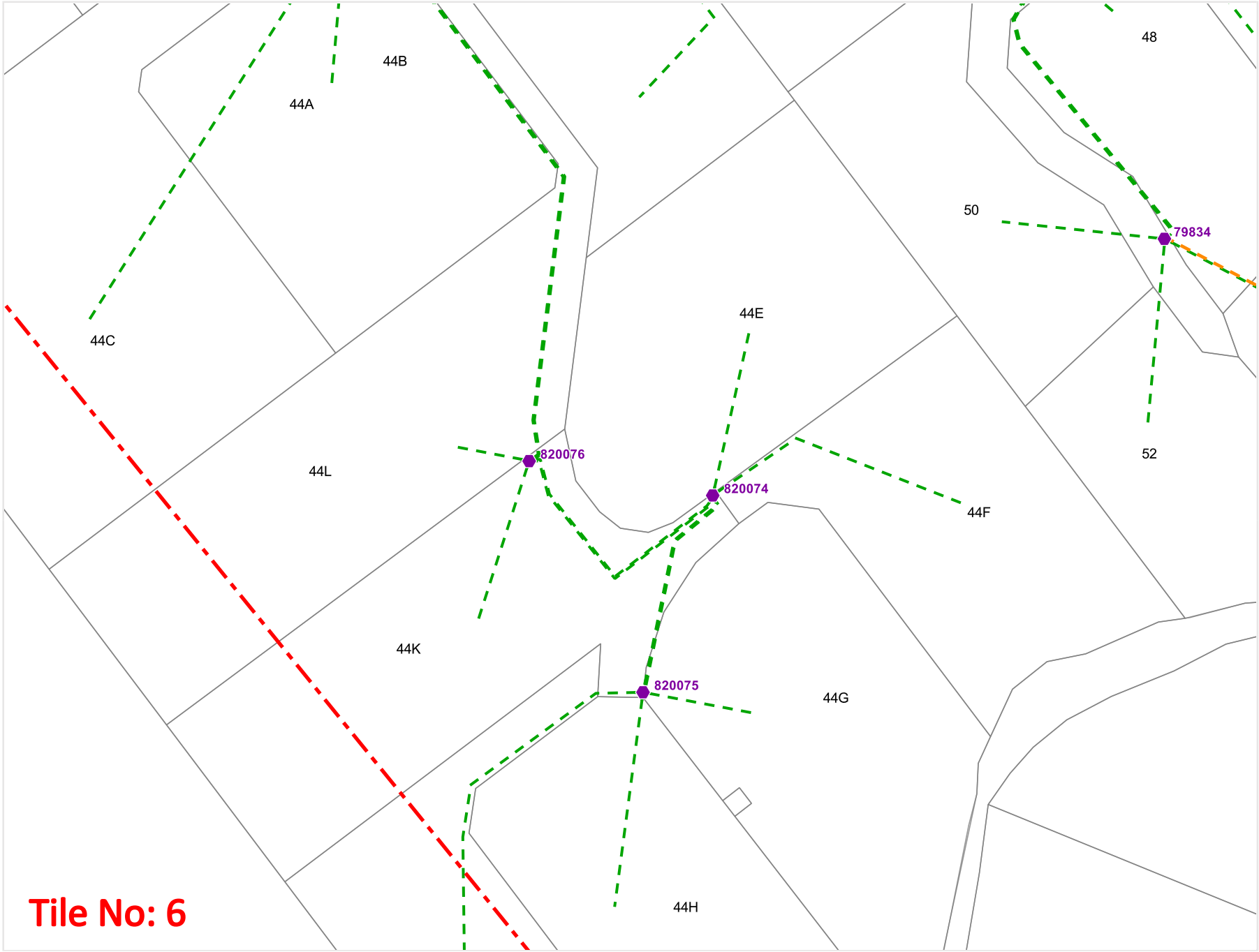
Tile No: 5

Sequence No: 17861453
Job No: 2769592
Location: 60 Kerikeri Inlet Rd, Kerikeri, Northland 0230



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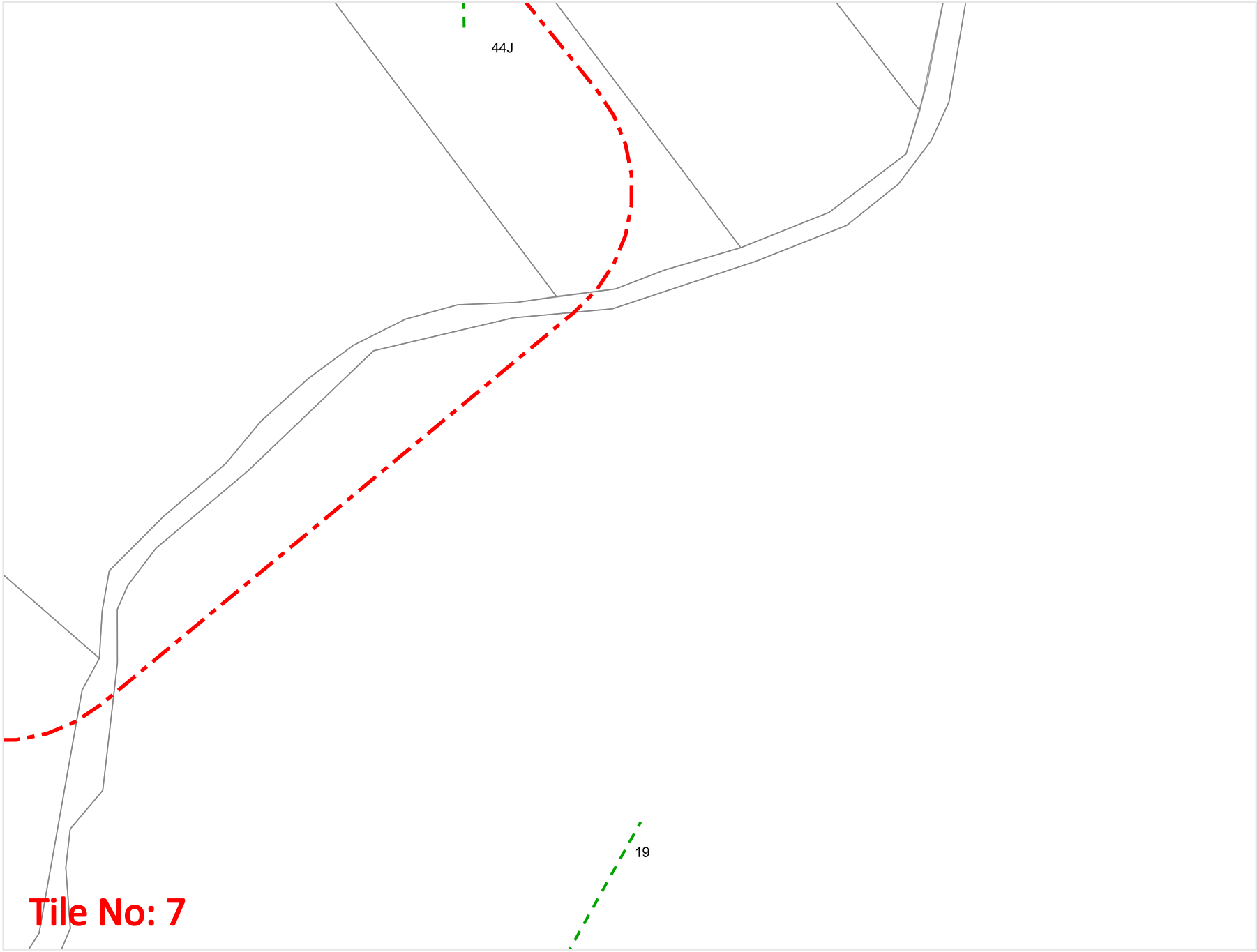

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Scale: 1:1000
Expires: 22 May 2026

Appendix 5

Preliminary Investigation Report

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PRELIMINARY SITE INVESTIGATION

60 KERIKERI INLET ROAD, KERIKERI

ROGER DAVIES TRUST

C0821N-E-01
MAY 2026
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Preliminary Site Investigation
Site Reference	60 Kerikeri Inlet Road, Kerikeri
Client	Roger Davies Trust
Geologix Reference	C0821N-E-01
Issue Date	21 May 2026
Revision	01
Prepared by	Emily Collings Senior Environmental Engineer, BSc (hons), MSc, MEngNZ
Reviewed by	Ray Mayor Senior Environmental Consultant, BEng (Env), DipEnvTech
Approved by	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ
File Reference	*Z:\Projects\C0800-C0899\C0821N - 60 Kerikeri Inlet Road, Kerikeri\06 - Reports\Environmental\C0821N-E-01-R01.docx*

REVISION HISTORY

Date	Issue	Prepared by	Reviewed by	Approved by
May 2026	First Issue – For Consent	EJC	RM	EC

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1 INTRODUCTION

This Preliminary Site Investigation (PSI) has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Roger Davies Trust as our Client in accordance with our standard short form agreement and general terms and conditions of engagement.

This investigation was undertaken solely to support the consent for a proposed subdivision, at 60 Kerikeri Inlet Road, Kerikeri (herein, referred to as the 'site', Figure 1).

1.1 Background and Objectives

At the time of writing this report, the 'site' is proposed for a three-lot subdivision, comprising two residential Lots (Lots 1 and 2) and one horticultural Lot (Lot 3). No change of use is proposed. The proposed subdivision plan by Thomson Survey Ltd[1], dated 23 March 2026 is provided in Appendix A.

The Ministry for Environment's (MfE's) Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES:CS) (MfE ,2011a) applies to all site activities that trigger the NES:CS which are defined by Regulation 5 Subclauses (2) to (6). When one or more of these activities occur within a 'piece of land' for which an activity or industry described by the Hazardous Activities and Industries List (HAIL) is either being undertaken, has previously been undertaken or is more likely than not to have occurred on it the NES:CS is enacted.

Therefore, the objective of this investigation was to:

- Identify potentially contaminating (HAIL) activities or potential sources of contamination that might have occurred or exist at the site.
- Determine the applicability of the NES:CS to the site.
- Assess the likelihood of human health risk associated with the proposed subdivision.
- Assess the requirements for potential consents in relation to the NES:CS.

1.2 Scope of Works

The following scope of works was undertaken in accordance with the staged process defined by the MfE Contaminated Land Management Guidelines (CLMG) No. 1 - *Reporting on Contaminated Sites in New Zealand*. Ministry for the Environment, Wellington, New Zealand, Revised in 2021 (MfE 2011b).

[1] *Thomson Survey Ltd, Scheme Plan Ref. Proposed Subdivision of Lot 2 DP 61878, 23.03.2026, Ref. 10657.*

- Desktop review of:
    - Provided Council property file information.
    - The Northland Regional Council's (NRC's) Selected Land Use Register (SLUR).
    - Historical aerial photography available on the Local Government Geospatial Alliance's (LGGA's) Retrolens and GRIP webpages as well as Far North District Council's (FNDC's) Far North Maps service.
- Preparation of this report in general accordance with current contaminated land guideline documents by a Suitably Qualified and Experienced Practitioner (SQEP) as defined by the NES:CS.

2 SITE INFORMATION/ DESCRIPTION

2.1 Site Identification

The site is legally described as Lot 2 DP 61878 and is located on the northern side of Kerikeri Inlet Road, approximately 4,580 m northeast of the Cobham Road and Kerikeri Inlet Road intersection. The site setting is presented in Figure 1 below with the centre of the site (existing dwelling) approximately at geographical position NZTM: E 1687855, N 6100466.

Figure 1: Site Setting, source: NRC Maps.

The site is accessed via a long 'pan-handle' private driveway (320 m) from Kerikeri Inlet Road.

Topographically, the site contains a central high point and generally gently slopes from RL 68 m towards the north-west (Kerikeri Inlet Road) and southeast where the site borders the Okura River – the ground slope becomes steeper at the border with the Okura River. The site is bound by the Okura River to the southeast, residential dwellings (accessed off Darwin Road) to the northeast, residential subdivision to the northwest and horticulture to the southwest. The site is large (48,044 m^2) and irregular in shape.

Details of the site are listed in Table 1.

Table 1: Site Details.

Address	Zone	Legal Description	Site Area
60 Kerikeri Inlet Road	Rural Living (Operative District Plan)	Lot 2 DP 61878	48,044 m^2

2.2 Current Land Use

The site is currently developed with one dwelling and associated garage / sheds, located roughly within the central portion of the site. The site is currently zoned as Rural Living under the FNDC Operative District Plan. The site is proposed to become Rural Residential zone under the Proposed District Plan).

The site appears to contain rows of established horticultural activity within four paddocks, bordered by shelterbelts. The existing dwelling is located centrally on the site and has an associated pool, sheds and large lawn area.

The future site use is proposed to remain generally as existing, e.g.

- Proposed Lot 1 - rural living (existing dwelling)
- Proposed Lot 2 - rural living (vacant rural living lot)
- Proposed Lot 3 - horticulture (part of larger horticultural production land activity)

2.3 Surrounding Land Uses

The site is bound by rural residential lots to the northeast and northwest. Horticultural production land is present to the immediate southwest of the site. The Okura River forms the sites southeastern boundary, beyond this is Okura Drive with some developed and vacant rural residential sites of varying lot sizes (zoned Rural Production).

2.4 Environmental Setting/ Ecological Receptors

To provide protection for natural resources, ecological receptors on or near a site should be considered. The Okura River forms the sites southeastern boundary, however, as land use is not changing from present use (horticulture/ production), it is considered that there is no change in environmental risk at this time.

2.5 Geology

Published geological records indicates that to be directly underlain by Kerikeri Volcanic Group Late Miocene basalt of Kaikohe - Bay of Islands Volcanic Field. These Neogene igneous rocks (basalt) can be expected to contain basalt lava material, volcanic plugs and minor tuff material (GNS Science, 2022).

3 HISTORICAL SITE USE

A review of selected publicly available information was undertaken to gain an understanding of the history of the site, particularly the nature and location of potentially contaminating activities that may have occurred within the site. This included searches of:

- Publicly available historical aerial photographs from the Local Government Geospatial Alliance's (LGGAs) Retrolens, GRIP Ltd maps, and FNDC's Far North Maps service.
- Provided council property information, and
- NRC's SLUR.

3.1 Historical Aerial Photographs

Historical aerial photographs of the site and the surrounding area taken between 1951 and 2025 were sourced from the LGGAs Retrolens, GRIP maps and FNDC's Far North Maps service. A summary of observations made from the review of these photographs is provided below. Historical aerial photographs are provided in Appendix B.

Our review comprises visually evident land-use activities within the site boundaries of the site which may pose a risk to human or environmental receptor health. Land-use history activities relevant to the site are summarised as follows:

- **1951 and 1953**: The earliest available historical arial photograph indicates that Kerikeri Inlet Road is present. The site comprises vacant rural land; grassed paddock (likely part of a larger lot, due to limited demarcation). A substantial shelter belt is present on northeastern site boundary. Lots to the north, south and west of the site appear to have horticultural site uses.

No aerial photographs of the site between 1953-1972 are readily available on Retrolens.

- **1972-1979**: The site remains undeveloped (no buildings are present). The site now appears to be delineated into approximately 3-4 large grassed paddocks/fields. A tree is visible centrally on the site. Shelterbelts are present along all site boundaries. Lots surrounding the site have widespread horticultural use.
- **1981**: A driveway has been extended into the site, to the location of the tree onsite (due to image quality/extent, it is not clear whether a building is present in the vicinity of the large tree – it may be that foundations/construction is present at this time). The site is split into smaller paddocks, with horticulture visible in most areas other than the central

paddock which is consistent with the proposed lot 1 and 2 site areas.

No aerial photographs of the site are readily available between 1981-2000.

- **2000-2003**: The site is now developed with a dwelling, shed/garage and pool centrally on the site (Lot 1), generally as per present day. Site development is within the central paddock that has not appeared to contain horticulture - this area is consistent with the proposed lot 1 and 2 site areas. Additional trees have been added to this paddock, generally along the driveway alignment to the dwelling. The remainder of the site comprises rows of horticulture.

- **2005-2006:** The site appears generally in the same condition as the 2000-2003 aerial photographs. There may be an additional shed/lean-to beside the original shed/garage.

No aerials photographs from between 2003-2014 are available via GRIP or FNDC Maps.

- **2014-2025:** The site appears generally in the same condition as the 2005-2006 aerial photographs. Horticulture remains present across the site, other than the paddock associated with the dwelling (rural living).

In summary, the site was grassed paddocks until circa 1981 when a driveway was extended into the site indicating development. Concurrently, horticulture was present at the site in 1981 and remains present across the site to date. From aerial photography, the central paddock area associated with the dwelling has never appeared to be utilised for horticulture (land use change from vacant paddock to rural residential).

3.2 Site Information

Available site information has been reviewed, and relevant information is summarised below.

3.2.1 Property File

The site property file contained consenting information pertaining to building and resource consent applications, as summarised in Table 2.

Table 2: Property File Consent Summary, source: provided Council property file information.

Consent	Date (approx.)	Proposal	Decision
BP54362	20/08/1980	Dwelling with associated plumbing and drainage (one household unit and not part of the dwelling shall be rented as a separate unit)	Issued
BC-2002-774-0/1	4/11/1981	Double garage for site	CCC issued 24/05/2010
BP49580	17/12/1981	Garage (55m^2)	Granted
BC-1999-3400-0	19/03/2000	Proposed Farm Shed on neighbouring site	-
2020465-RMALUC	14/01/2002	Proposed storage shed/garage (7m from site boundary)	Approved

BC-2011-1130-0	15/04/2011	Proposed house alterations	-
BC-2012-1174-0	14/06/2012	Proposed house additions and alterations	Authorised

Relevant information from the review determined that the dwelling and associate double garage were consented 1980-1981 which is in-keeping with the aerial imagery review. A small storage shed/garage was added to the site in approximately 2002 with additions and alterations made to the dwelling circa 2011-2012.

3.2.2 Information from Site Owner

The current site owner provided the following information regarding the sheds on site (Lot 1):

> *We have owned the property since 2010, prior to that we carried out some orcharding operations on behalf of the previous owners.*
>
> *Spraying operations of the orchard were minimal and were carried out by our orchard management company as an external contractor. Any spray products were purchased and maintained in our accredited spray shed so not on this property.*
>
> *The older of the sheds was used as a home for a tractor and mower. We now use this for vehicle storage as our equipment is based elsewhere, the smaller shed was built by the previous owners for storage when their daughter moved in to live with them. It is currently the same for us.*

Overall, is understood that horticultural sprays have always been stored off site. It is therefore considered that the sheds do not

3.2.3 Selected Land Use Register

A review of the NRC's SLUR was undertaken in April 2026. The SLUR indicates that no HAIL activities have been identified within the site, or adjacent lots in close proximity to the site (100 m+ radius).

3.3 Potential HAIL Activities

Based on the historical review of the site, it is considered that the site may have potentially been impacted by HAIL category A10; *persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds*.

This potential HAIL activity appears to have been limited to proposed Lot 3 only, approximately 31,116 m^2 – the majority of Lot 3, excluding the driveway extent.

No horticulture has been identified (via aerial imagery, property file review and SLUR search) within proposed Lots 1 and 2, which appear to have been vacant grassed paddock until

development of a house and garage circa 1981.

3.4 Potential Contaminants of Concern

Based on the above information and from our experience, it is expected that contaminants of concern (CoC), if any, would typically be contained within the topsoil/ shallow site soils and may include heavy metals and organochlorine pesticides (OCPs). These would generally relate to treated orchard posts (heavy metals e.g., arsenic), copper-based chemicals and pesticide (insecticides, herbicides and fungicides) storage and use.

4 RISK ASSESSMENT

Based on the information presented in this report and the proposed subdivision (Lots 1-3), a qualitative risk assessment of contamination potential to cause an effect upon human and/ or ecological receptors has been made. This is further developed into a regulatory assessment for Consent.

4.1 Conceptual Site Model

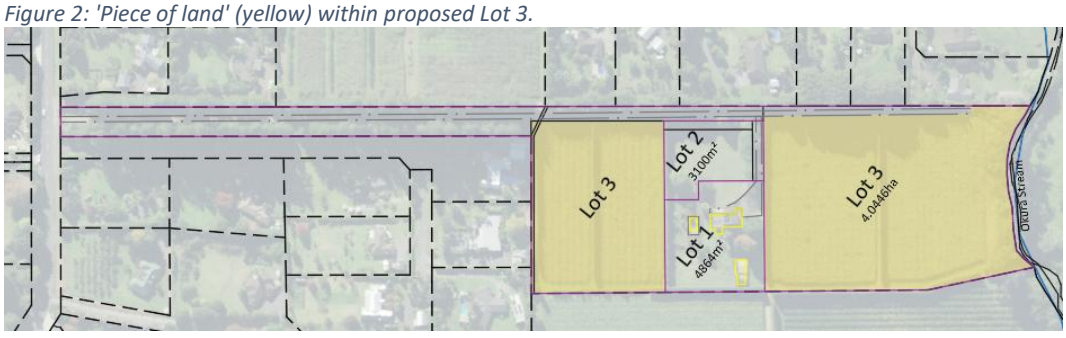
This Conceptual Site Model (CSM) has been developed based on the following assumptions:

- Land at the centre of the site (Lots 1 and 2) has been in use for residential purposes since circa 1981 to date. No horticulture has been located within the boundaries of proposed Lots 1 and 2. It is confirmed by the current site owner that the sheds on Lot 1 were used for storage only.

- The desktop study has confirmed that part of the property is defined as a *'piece of land'* under the NES:CS Regulations as follows:

    - The 'piece of land' area is Lot 3, 31,116 m^2 in area, comprising horticultural land use from circa 1981 to present (Figure 2).

Figure 2: 'Piece of land' (yellow) within proposed Lot 3.



- No analytical testing has been commissioned as part of this PSI investigation.

- No soil disturbance proposed as part of subdivision creation – the site access is formed.

The following Conceptual Site Model (CSM) has been developed for the potentially complete contaminant pathways relating to the site.

Table 3: Conceptual Site Model.

Source	Pathway	Receptor	Risk Score
Heavy metals and OCPs	• Incidental soil ingestion. • Inhalation of dusts. • Dermal absorption.	• Site users • Future site users.	**Lot 1 and 2:** Negligible risk as outside of piece of land. The dwelling was built circa 1981. **Lot 3:** Medium – Horticulture use circa 1981 to date (part of larger horticultural activity).
Heavy metals and OCPs in soil remaining on site.	• Migration	• Groundwater • Surface water	Low risk from piece of land area.

For an exposure pathway to be complete and subsequently cause a risk, there must be a contamination source, a contaminant transport mechanism (pathway) and a receptor, typically human or ecological.

4.2 Quantification of Risk and Discussion

A HAIL activity, horticulture, has been undertaken across Lot 3 only (refer to Section 3.3). Risk is potentially present from heavy metals and OCPs in soils which has been determined from a desktop review of available information.

Proposed Lots 1 and 2 have been in use for residential purposes since circa 1981 to date. Prior to this, the area was grassed paddock with no evidence of horticulture, or other HAIL activities. The risk to proposed Lots 1 and 2 is considered low to negligible for long-term human health exposure to the continued use of these lots for residential activity (i.e., low to negligible risk for subdivision). It is highly unlikely that there will be a risk to human health if the activity is done to proposed Lots 1 and 2.

As horticultural use has been identified across proposed Lot 3, circa 1981-present, Lot 3 is considered a piece of land with medium risk to site users.

5 REGULATORY CONSIDERATIONS (CONTAMINATED LAND)

5.1 NES:CS

The NES:CS regulation applies to activities of subdivision where HAIL activity is being / has been / more likely than not to have been undertaken. The results of the historical review indicated that, under subclause 5(8)(c) and (d) the NES:CS does not apply in this instance, as the residential lots (Lots 1 and 2) are wholly outside the piece of land, and there is no change

of use of production land (Lot 3).

It should be acknowledged that proposed Lot 3 constitutes a '*piece of land*' (31,116 m^2), due to a potential HAIL category A10; *persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds*, therefore, is subject to the following:

- The NES:CS allows (per year) a soil disturbance volume of 25 m^3 per 500 m^2 of `piece of land` area and soil disposal volume of 5 m^3 per 500 m^2 of piece of land area. This equates to 1,556 m^3 for soil disturbance and/ or 311 m^3 for off-site disposal per year to be able to comply with permitted activity status. Should soil disturbance on Lot 3 exceed the volumes stated in this report for either this, or future applications, then a DSI and appropriate soil sampling will be required.

- Should land use at Lot 3 change in the future, it is to be assessed under the NES:CS.

5.2 Regional Plan for Northland

In assessment of the Regional Plan for Northland (RPN) Chapter C.6.8.2 (*discharges from contaminated land*), this is not applicable to this scope of works. Should land use at Lot 3 change in the future, it should be assessed against the RPN.

6 SUMMARY AND RECOMMENDATIONS

This PSI has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Roger Davies Trust (the 'Client'). This investigation was undertaken to support the proposed subdivision of land and associated resource consent application at 60 Kerikeri Inlet Road, Kerikeri.

The 'site' is proposed for a three-lot subdivision. A review of available background information has determined that proposed Lots 1 and 2 have be utilised as residential land use since circa 1981 (no associated HAIL use). Lot 3 has been utilised as horticulture since circa 1981 and is considered a *'piece of land'* (category A10). Lot 3 is proposed to remain horticultural/ production land use following the proposed subdivision.

Based on the available information and the findings of the investigation, the NES:CS and the RPN do not apply to the subdivision activity.

Overall, it is highly unlikely that there will be a risk to human health from the subdivision activity.

It should be noted that this investigation was undertaken to support the proposed subdivision only, therefore, any proposed future redevelopment of Lot 3 (including soil disturbance) and/ or change of use will require further investigation.

7 LIMITATIONS

This report has been prepared for Roger Davies Trust 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 plan.

8 REFERENCES

Far North District Council Maps, https://www.fndc.govt.nz/Our-services/Far-North-Maps. Accessed April 2026.

GNS Science, 2022. New Zealand Geology Webmap, Scale 1:250,000, http://data.gns.cri.nz/geology/. Accessed April 2026.

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Ministry for the Environment, 2011a. Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

Ministry for the Environment, 2011b. Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand (revised 2021). Wellington, New Zealand.

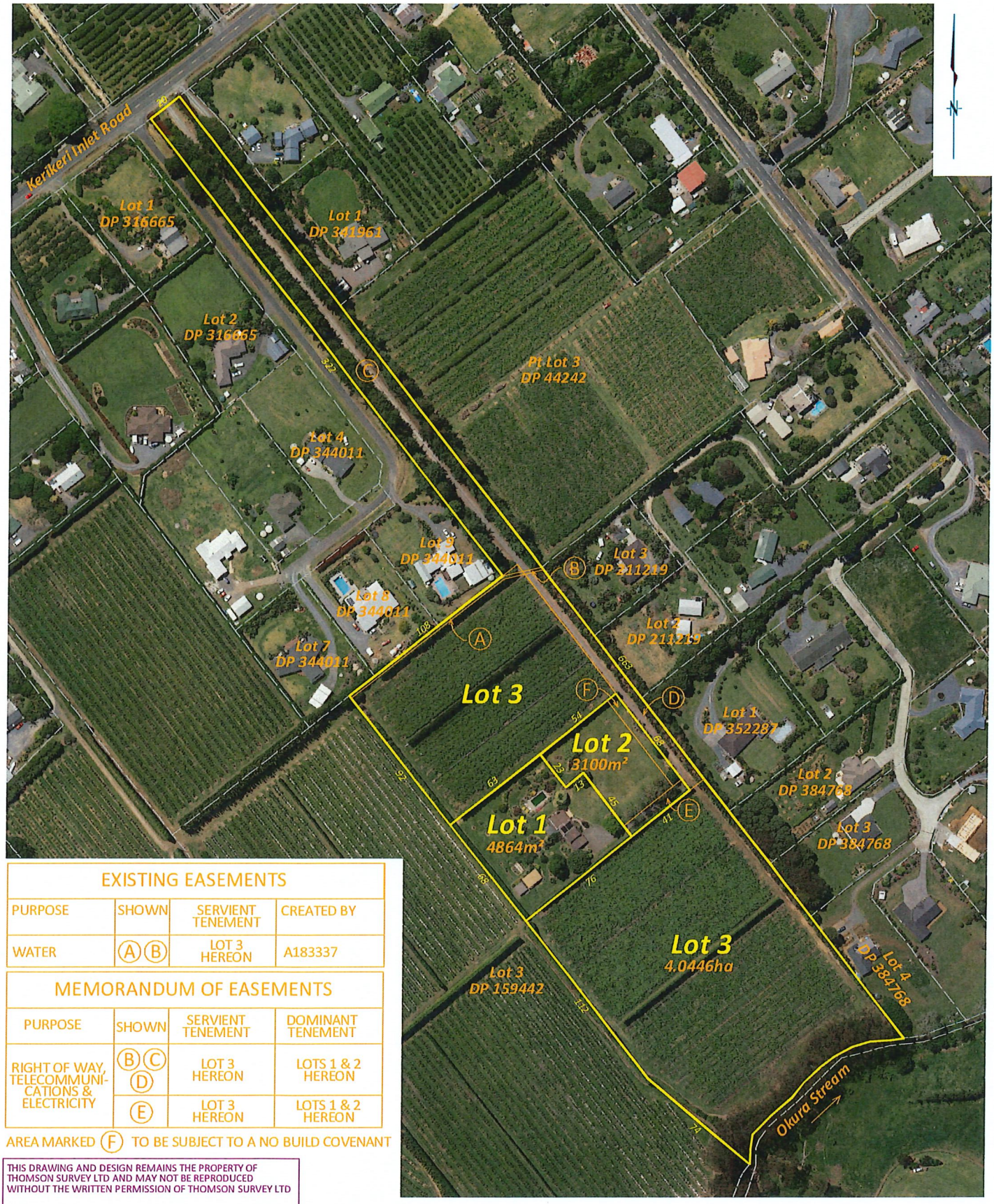
Northland Regional Council Online Maps, https://www.nrc.govt.nz/your-council/online-services/online-maps. Accessed April 2026.

Retrolens Historical Image Resource. https://retrolens.co.nz/. Accessed April 2026.

Users' guide, 2012: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. April 2012.

APPENDIX A

Scheme Plan



EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
WATER	(A) (B)	LOT 3 HEREON	A183337

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS & ELECTRICITY	(B) (C) (D)	LOT 3 HEREON	LOTS 1 & 2 HEREON
	(E)	LOT 3 HEREON	LOTS 1 & 2 HEREON

AREA MARKED (F) TO BE SUBJECT TO A NO BUILD COVENANT

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: NA17C/272
Total Area: 4.8410ha
Zoning: Rural Living
Resource features: NIL

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.

0 20 100 200m

Bar Scale 1:2000 @ A3

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315 Kerikeri Rd
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Ph: (09) 4077360
www.tsurvey.co.nz
Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 61878

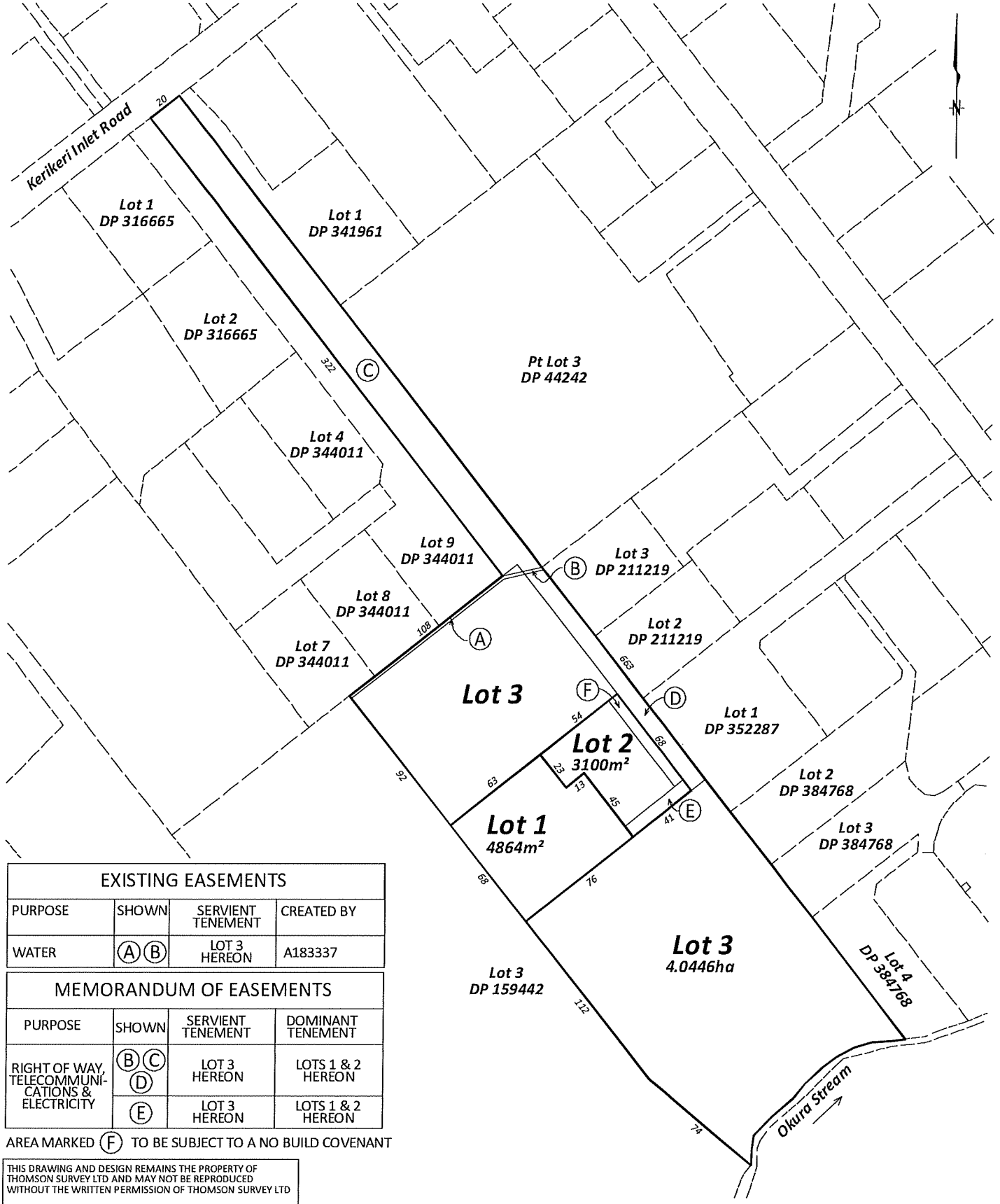
60 KERIKERI INLET ROAD, KERIKERI

PREPARED FOR: B. DAVIES

	Name	Date
Survey		
Design		
Drawn	KY	23.03.26
Approved		
Rev		

ORIGINAL
SCALE 1:2000
SHEET SIZE A3
10657 Scheme 20260323

Surveyors Ref. No: 10657
Sheet 1 of 1



EXISTING EASEMENTS			
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MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS & ELECTRICITY	(B) (C) (D)	LOT 3 HEREON	LOTS 1 & 2 HEREON
	(E)	LOT 3 HEREON	LOTS 1 & 2 HEREON

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60 KERIKERI INLET ROAD, KERIKERI

PREPARED FOR: B. DAVIES

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Rev		

10657 Scheme 20260323

ORIGINAL
SCALE 1:2000
SHEET SIZE A3

Surveyors Ref. No: 10657

Sheet 1 of 1

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APPENDIX B

Aerial Photographs

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Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 1 of 7

1951: Retrolens

1953: Retrolens

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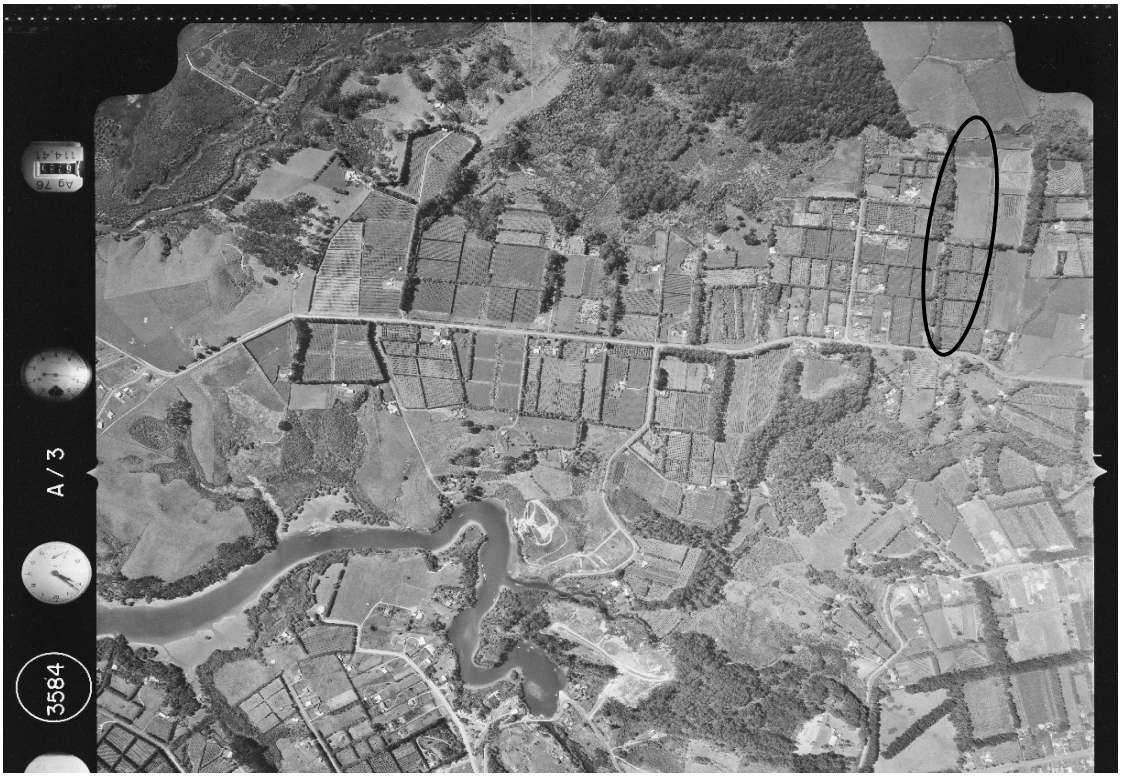
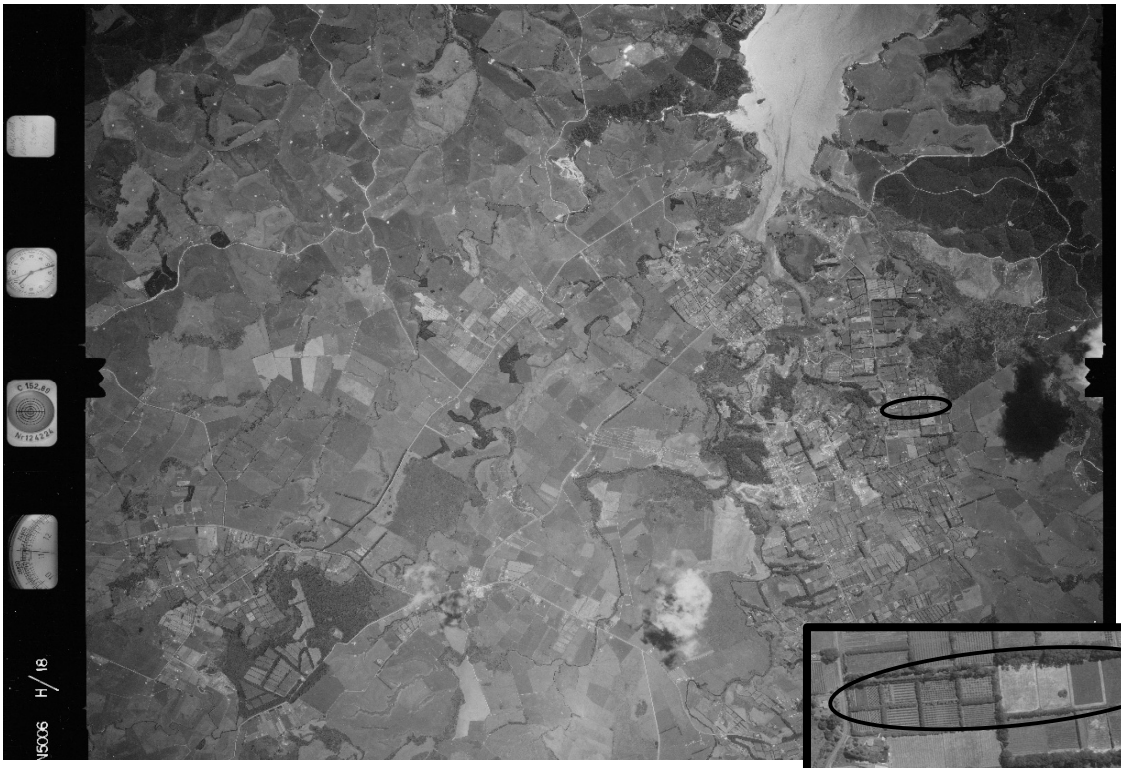
Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 2 of 7

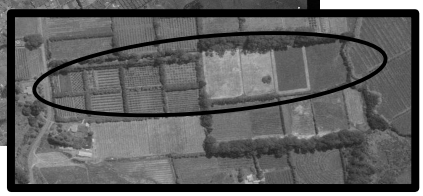
1972: Retrolens



1977: Retrolens



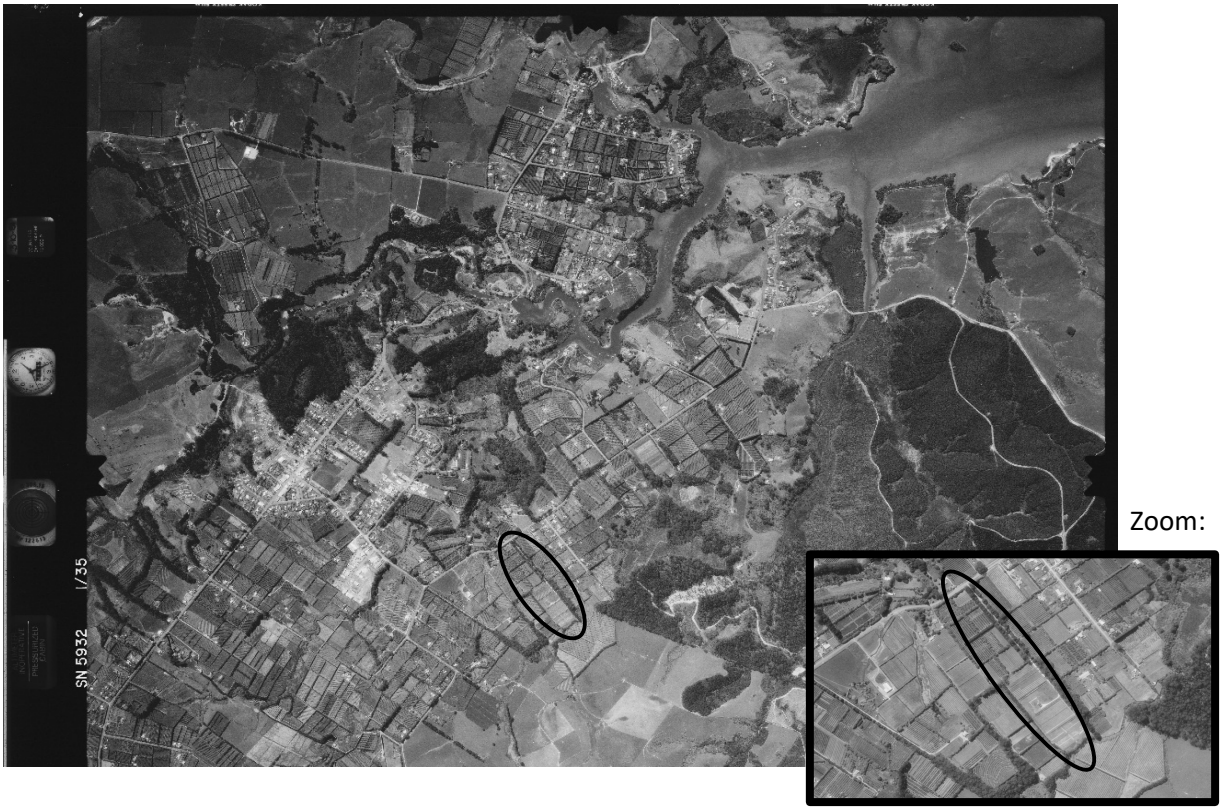
Zoom:



geologix consulting engineers	**Historical Aerial Photographs**	**Project: 60 Kerikeri Inlet Road, Kerikeri** **Project no.: C0821N** **Figure no.: 3 of 7**

1979: Retrolens

1981: Retrolens



Zoom:

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consulting engineers

Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 4 of 7

2000: FNDC Maps (LINZ Aerial Imagery)

2000-2003: GRIP

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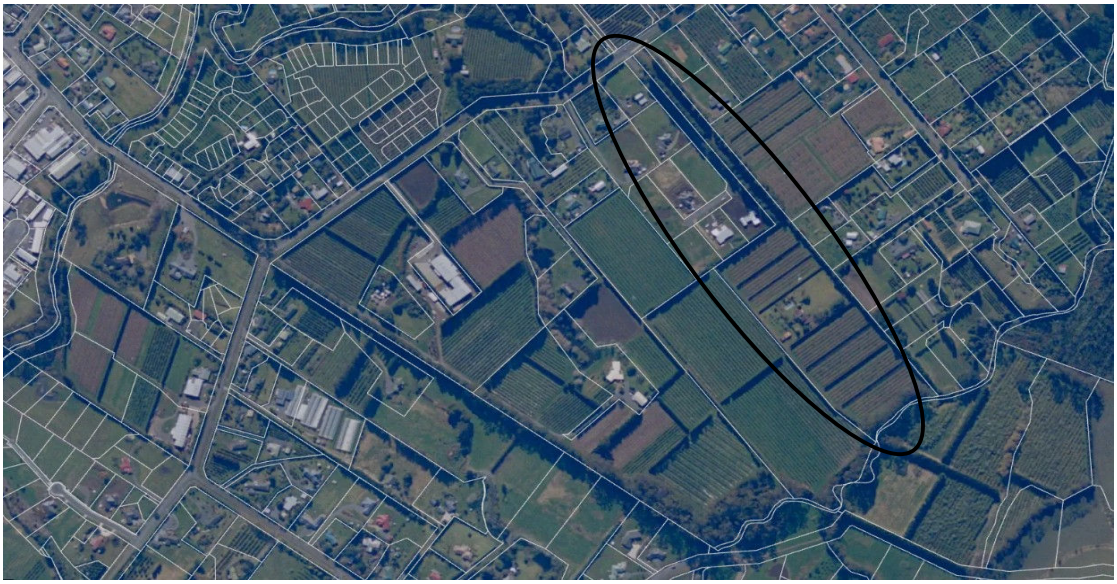
Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 5 of 7

2005: GRIP



2005-2006: FNDC Maps (LINZ Aerial Imagery)

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Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 6 of 7

2014-2015: FNDC Maps (LINZ Aerial Imagery)

2016: GRIP

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Historical Aerial Photographs

Project: 60 Kerikeri Inlet Road, Kerikeri
Project no.: C0821N
Figure no.: 7 of 7

2023-2025: FNDC Maps (LINZ Aerial Imagery)

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consulting engineers

STATEMENT OF QUALIFICATION

I, Edward John Collings, of Geologix Consulting Engineers Ltd certify that:

1. This Preliminary Site Investigation meets the requirements of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (the NES:CS) because it has been:

    a. Prepared and certified by a suitably qualified and experienced practitioner registered under the Certified Environmental Practitioner Scheme (Registration Number 0861) and Engineering New Zealand Chartered Professional Engineer (Registration Number 1033153).

    b. The SQEP has over 18 years post graduate experiencing practicing as an environmental consultant with a tertiary education qualification equivalent to a Master of Science with supporting evidence from Engineering New Zealand that the Consultant has equivalent knowledge to Washington Accord equivalence.

    c. Reported on in accordance with the current edition of Contaminated Land Management Guidelines No. 1 – Reporting on contaminated sites in New Zealand, 2021.

This investigation concludes that under NES:CS regulation 5(8)(c) and (d) the NES:CS is not applicable to the subdivision activity.

Evidence of the qualification and experience of the suitably qualified and experienced practitioner is available upon request.

Signed:

Dated: 21 May 2026

Role	Name	Relevant Experience
Report Writer	**Emily Collings** BSc Environmental Management, MSc Environmental Engineering	Emily is a Senior Environmental Engineer with more than 8 years' experience on contaminated sites. Her experience includes site walkovers and assessments, sampling and hotspot delineation, as well as reporting.
Project Manager	**Ray Mayor** Unitec New Zealand, 2010, Bachelor of Engineering (Environmental) Unitec New Zealand, 2007, Diploma in Environmental Technology	Ray is a Senior Environmental Consultant with more than 17 years' experience on contaminated sites. His project experience includes conducting site assessments, compliance monitoring, managing environmental risk and remediation across numerous sites including residential, industrial and commercial developments as well as New Zealand Defence Force sites.
Senior Technical Reviewer	**Edward Collings** MPhys (Hons) Physical Geography Certified Environmental Practitioner Chartered Professional Engineer	Edward is a Principal Engineer and Managing Director with more than 18 years' experience on geotechnical design and contaminated land remediation on a variety of residential, commercial and critical infrastructure projects in the UK and New Zealand. Edward attained recognition as a Certified Environmental Practitioner in 2016 in Australia and New Zealand with specialist knowledge in contaminated land and groundwater remediation and wastewater design. In recent years Edward has provided professional engineering assessments for prospective candidates to the scheme.