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 Covnsent representative to discuss this application prior to lodgement?

◯ **Yes** ✓ **No**

2. Type of consent being applied for

(more than one circle can be ticked):

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

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

3. Would you like to opt out of the fast track process?

✓ **Yes** ◯ **No**

4. Consultation

Have you consulted with Iwi/Hapū? ◯ **Yes** ✓ **No**

If yes, which groups have you consulted with?

Who else have you consulted with?

For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council, tehonosupport@fndc.govt.nz

5. Applicant details

Name/s: Theresa Ruddell

Email:

Phone number:

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

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

Email:

Phone number:

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

Postcode

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

7. Details of property owner/s and occupier/s

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

Name/s: as per item 5 above

Property address/
location:

Postcode 230

8. Application site details

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

Name/s: as per item 5 above

Site address/ location:

Postcode 230

Legal description: **Val Number:**

Certificate of title:

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 ring Melanie to arrange a time for site 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 Living, to create a total of 6 additional lots, two of which contain existing dwellings; land use consent for breaches of stormwater management and building coverage rules; and consent under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health

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

10. Would you like to request public notification?

○ **Yes** ☑ **No**

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

(more than one circle can be ticked):

○ **Building Consent** Enter BC ref # here (if known)

○ **Regional Council Consent (ref # if known)** Ref # here (if known)

○ **National Environmental Standard Consent** Consent here (if known)

○ **Other (please specify)** Specify 'other' here

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

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)? ☑ **Yes** ◯ **No** ◯ **Don't know**

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result? ☑ **Yes** ◯ **No** ◯ **Don't know**

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

13. Assessment of environmental effects:

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

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

14. 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.

* 15. 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) Theresa Ruddell

Email:

Phone number:

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

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

15. Billing details continued...

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) Theresa Ruddell

Signature: (signature of bill payer) Date 15-12-25

MANDATORY

16. 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.

* 17. Declaration

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

Name (please write in full) Theresa Ruddell

Signature Date 15-12-25

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

See overleaf for a checklist of your information...

Checklist

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.

THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10065.1 (FNDC)

15 December 2025

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed Combined Subdivision / Land Use / NES CS at 42 & 44 Karaka Drive – T Ruddell

I am pleased to submit application on behalf of Theresa Ruddell, for a proposed two stage subdivision on land at Karaka Drive, Kerikeri, zoned Rural Living. The application includes land use consent for impermeable surface coverage with an overall activity category of discretionary under the Operative District Plan. The subdivision also requires consent as restricted discretionary activity under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health.

The application fee of $5,143 has been paid separately via direct credit.

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**
Facsimile: **09 4077322**
*After Hours:*Director: Denis Thomson 09 4071372
*After Hours:*Office Manager: Sam Lee 021 1370060

Background picture represents a New Zealand surveying trig station, used to beacon control survey marks

Theresa Ruddell

PROPOSED SUBDIVISION
Requiring consent under the
Far North Operative District Plan
&
NES for Assessing & Managing Contaminants in Soil to Protect Human Health

42 & 44 Karaka Drive, Kerikeri

PLANNER'S REPORT &
ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

1.1.1 Subdivision

The proposal is to carry out the subdivision of land in Lot 1 DP 519192, to create 7 lots in two stages, where Lot 7 is to be amalgamated with adjacent Lot 2 DP 357808, an already developed residential site.

The property is accessed off the end of Karaka Drive, at 42 and 44 Karaka Drive. Proposed Lots 4 & 6 will both contain existing residential development and proposed Lot 7 contains existing sheds and workshop buildings.

The subdivision will be carried out in two stages as follows:

Stage 1:

Lot 3	3050m^2	vacant land
Lot 4	3660m^2	contains an existing dwelling
Lot 6	1.9385ha	contains an existing dwelling
Lot 7	1.7665ha	contains buildings and is to be amalgamated with land in adjacent Lot 3 DP 357808, which contains an existing dwelling.

Stage 2: (further subdivision of Lot 6 Stage 1)

Lot 1	3850m^2	vacant land
Lot 2	4590m^2	vacant land
Lot 5	5300m^2	vacant land
Lot 6	6560m^2	retains existing dwelling in Stage 1 Lot 6

The requested Amalgamation Condition is shown on the face of the scheme plan(s) attached in Appendix 1.

"That Lot 7 hereon and Lot 3 DP 357808 are to be held in the Same Certificate of Title."

All lots are to be accessed off the end of Karaka Drive via rights of way C-F inclusive. These easements will also provide for services.

1.1.2 Land Use

Proposed Lot 4 contains existing built development, with an impermeable surface coverage of an estimated 864m^2 (taken from EBC-2022-1524 stamped approved plans). This equates to 23.6% of proposed adjusted total site area (post subdivision). This consent therefore includes application to provide for the existing impermeable surface coverage to be within Lot 4, breaching rules 8.7.5.1.5 and 8.7.5.2.2 (stormwater management) as a discretionary activity, Further, the buildings within adjusted Lot 4 come to 508m^2, or 13.9% of adjusted lot area.

Consent is also therefore sought for existing building coverage to be within Lot 4, breaching rules 8.7.5.1.13 and 8.7.5.3.4 (building coverage).

In addition, the Subdivision Site Suitability Report supporting the application assumes 500m2 impermeable coverage per new vacant lot. This results in 13% and 16.4% impermeable coverage for Lots 1 & 3 respectively. Consent is also therefore sought for breaches of the stormwater management Rule 8.7.5.1.5 for Lots 1 & 3.

1.1.3 NES-CS

The subdivision also requires consent under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS), as a restricted discretionary activity.

1.1.4 Consent Duration

An extended lapse period for giving effect to both stages of the consent is sought. A seven year lapse period is requested. This will enable the applicant and their family to give effect to the overall subdivision in a staged and sustainable fashion.

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 two stages; for land use consent for building and impermeable coverage; and for consent pursuant to the NES-CS. Overall the application is assessed as a discretionary activity.

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:	42 & 44 Karaka Drive, Kerikeri. A location map is attached in Appendix 2.
Legal description:	Lot 1 DP 519192
Record of Title:	815034 with an area of 4.3764ha. A copy is attached in Appendix 3, along with relevant legal interests.

3.0 SITE DESCRIPTION

3.1 Physical & Mapped characteristics

The property is located at Karaka Drive, with existing large and medium density residential development on its western and northern boundaries. The property slopes very gently downwards from north to south, with the slope more moderate to the south east corner.

The site supports two existing residential units plus several sheds. Apart from those buildings, the site is in grass, with a limited amount of bamboo shelter planting remaining internal to the site. There is boundary planting on eastern and southern boundaries. A small, non commercial grove of citrus trees is located in the south western corner of Lot 7.

Looking eastwards into Lot 7 with remnant bamboo plantings at left

The property's southern boundary is with the Kerikeri River Scenic Reserve. The Quail Ridge development is across the access road from Lot 4 on the subdivision.

There is a well formed and drained access road running from Karaka Drive all the way to the existing residence on Lot 3 DP 357808 with which Lot 7 is to be amalgamated.

Internal access road, with proposed Lot 3 at right and proposed Lot 2 at left

There are no watercourses within or crossing the property. There are no areas of indigenous vegetation within the property.

The site is mapped in the Operative District Plan (ODP) as Rural Living and as Rural Residential in the Proposed District Plan (PDP). It shares a small portion of western boundary with the Quail Ridge Special Zone, and has a southern boundary with Conservation Zone. No resource features / overlays apply in either the ODP or PDP, nor in the Regional Policy Statement for Northland maps.

The site is not mapped as being subject to any hazard. It is not Erosion Prone. The site is mapped as being within a large 'kiwi present' area. The site contains no archaeological sites or Site of Significance to Maori.

3.2 Legal Interests on Titles

The property is subject to, and has appurtenant rights to, a number of easements and instruments, summarised below in tabular format.

Subject to		
Identifier	**Date Registered**	**Purpose**
D027433.4	1996	Right of way, electricity and telephone rights and water
D432086.4	1999	Right of way, electricity and telephone rights and water
7647565.5	2007	Right of way, electricity and telephone rights, water and stormwater
7647565.7	2007	Right (in gross) to convey electricity in favour of Top Energy
11361217.3	2019	Right of way, right to drain sewage and stormwater and a right to convey electricity, telecommunications and water
11361217.2	2019	Consent Notice
Appurtenant		
11361217.3	2019	Right to drain stormwater
12499102.1	2022	Right to convey electricity

Copies of relevant instruments are attached as part of Appendix 3. The property is also subject to two privately imposed Land Covenants and a Caveat imposed by Top Energy.

3.3 Consent History

The application site has been involved in a number of historic resource consents, as follows:

RC 2020674A	2002	Subdivision to create three sites – not given effect to
RC 2050496	2004	Land use consent for third residential unit on a site (equates to the cottage to be within our proposed Lot 6)
RC 2050739	2005	Subdivision to create five allotments over two stages – given partial effect to
RC 2061222	2007	Subdivision to create two lifestyle lots plus balance
RC 2070745	2007	Variation to the above, providing for staging
RC 2180372	2018	To create one additional lot and for stormwater management for existing development to be within one of the lots. The additional lot had been consented in two prior subdivision consents, but not given effect to under those earlier consents.
30001995-EWK	2022	Earthworks permit associated with the development of dwelling and shed to be within our proposed Lot 4

Building Consent history, as listed on the property file is as follows:

BP822542	issued in 1996 for dwelling
BP9035355	issued in 1978 for garage
BP9035356	issued in 1978 for implement shed
BC-2005-954	issued in 2004 for cottage to be within Lot 6
EBC-2022-1524	issued in 2022 for dwelling and shed to be within Lot 4

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; and for consent pursuant to the NES-CS.
(e) a description of any other resource consents required for the proposal to which the application relates:	Consent required pursuant to the Far North Operative District Plan and pursuant to the NES-CS.
(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 two residential dwellings and ancillary buildings, as well as separate sheds, all of which have been legally established. The application includes breaches for existing impermeable surface & building coverage for the existing development to all be within proposed Lot 4, and for new Lots 1 & 3.
(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 discharge into any other receiving environment:*	The subdivision does not involve any discharge of contaminant.
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 8 of this planning report. No affected persons 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	No protected customary right is affected.

(unless written approval for the activity is given by the protected customary rights group).	

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 unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to natural hazards and does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Operative District Plan

The site is zoned Rural Living.

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

Some of the lots proposed to be created are less than 4,000m^2 in area, but all lots are greater than 3,000m^2 in area - discretionary activity.

Zone Rules

Existing development to be within Lot 4 is existing and consented, but with a reduction in lot area resulting from the subdivision there will be breaches of both permitted and controlled Stormwater Management rules applying to the zone (8.7.5.1.5 and 8.7.5.2.2). In addition, the existing building coverage to be within Lot 4 will breach both the permitted and restricted discretionary building coverage thresholds (8.7.5.1.13 and 8.7.5.3.4).

In addition, it is anticipated that typical impermeable surface coverage for lots of this type and location, will result in breaches of the permitted stormwater management threshold (8.7.5.1.5) for Lots 1 and 3 once development occurs. Consent is sought for that future breach. Because Lot 1 is not being created until Stage 2, and future development within Lot 3 may not occur immediately, the same extended lapse period (seven years) is sought for all of the above land use consent requirements.

Existing development within Lots 6 & 7 will all comply with the zone's bulk and location rules.

District Wide Rules:

12.3.6.1.2 Excavation and/or Filling –No breach of 12.3.6.1.2 has been identified.

The site contains nothing to which other rules in Chapter 12 relate to in terms of landscape, natural character, indigenous vegetation, natural hazards 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 private access can be upgraded to the standard appropriate for serving the number of lots each section services. ROW C has the largest number of users, at 8 (when both stages are completed), including Lot 2 DP 519192, outside of the subdivision area. In Stage 1, ROW C will be serving 5 lots. The standard for 5-8 properties being served is the same in any event.

All other sections of right of way, already formed, either already are, or may need minor upgrading in order to meet the requirements of Chapter 15.1.6C.

Summary

The subdivision is a discretionary activity overall in terms of the Operative District Plan.

5.2 Proposed District Plan

The Proposed District Plan (PDP) was publicly notified on 27th July 2022. Regard must therefore be had to Objectives and Policies within the PDP relevant to the site. Legal effect must also be given to any rules that the Council has identified in the PDP as having immediate legal effect. Such rules may affect activity status of an application.

In this instance I have examined the PDP, where the application site is zoned Rural Residential. There are no zone rules that have legal effect and therefore rules applying to the Rural Residential Zone do not have to be considered in regard this application, or its activity status.

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.

5.3 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS)

Because of the site's location and historic use, a Preliminary Site Investigation (PSI) was undertaken to determine the applicability of the NES-CS. The resulting report was a combined PSI and Detailed Site Investigation (DSI) report – refer Appendix 6.

Historical aerial photographs indicate that the site was used for commercial horticultural activities, circa 1979. By 2003 (the next available aerial coverage) the majority of the orchard had been removed. Workshops and sheds have been constructed on land in Lot 7. It is the area of the sheds and workshops that became the focus of the PSI/DSI. This area was potentially used for un-bunded chemical storage and staining and/or spills.

An assessment of effects of potential contamination follows later in this report. In summary, the wider site showed no contaminants in excess of human health guidelines and no further works or investigations need take place for Lots 1-6. However, the storage shed/workshop area showed a limited number of samples as above human health criteria. NES-CS Regulation 10 is applicable and the activity of subdivision is a restricted discretionary activity pursuant to the NES-CS.

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

This AEE is supported by two reports prepared by Geologix Consulting Engineers -

- Subdivision Site Suitability Report (SSSR), dated November/December (Appendix 5); and
- Combined Preliminary and Detailed Site Investigation Report, dated October (Appendix 6).

6.1 Allotment Sizes and Dimensions

Proposed Lots 4 and 6 will contain existing development. Lot 7 is to be amalgamated with land in Lot 3 DP 357808, also containing existing development. The four proposed vacant lots (1, 2, 3 and 5) can all provide a 30m x 30m square building envelope complying with the zone's 3m boundary setback.

Potential house sites on each of these lots have been investigated in the above referenced suitability report which concluded that the lots were of a suitable size and dimension for future residential use.

Existing development to be within Lot 4

6.2 Natural and Other Hazards

The site is not subject to any natural hazards. The SSSR in Appendix 5 addresses natural hazards in its Section 10. Only two types of hazards are relevant to the site, being erosion and overland flowpaths. Mitigation against risk is readily achievable such that the effects are less than minor.

6.3 Water Supply

Reticulated water connections are not available and lots will need to be served via rainwater storage tank(s). Council can impose its standard consent notice in regard to the

provision of potable and fire fighting water supply. This consent notice need not apply to Lots 4 or 6 which both support existing development.

6.4 Energy Supply & Telecommunications

The property is zoned Rural Living, a non-urban zone where power and telecommunications are not a requirement at time of subdivision. The exception might occur where a proposed lot is of a similar size to an unsewered urban environment lot, as Lot 3 is. Both Top Energy and Chorus have been consulted, with the results of that consultation attached in Appendix 4. Services are, or can be made, available.

6.5 Stormwater Disposal

The SSSR addresses stormwater management and disposal in its Section 6. The application includes a land use component in terms of impermeable surface coverage, both existing and future, on Lots 1 & 3 (future) and Lot 4 (existing). The SSSR estimates Lot 4's existing coverage to come to 27.3% of adjusted lot area, breaching both permitted and controlled thresholds. Estimated future coverage on Lots 1 & 3 is 13% and 16.4% respectively, both within the controlled activity threshold.

The report gave consideration to attenuation by offsetting stormwater flows to the permitted activity threshold of 12.5%. However, no attenuation is considered necessary given the site discharges directly to the river and the site is situated relatively low in that river's catchment. It is therefore beneficial to release the site's peak discharge as early as possible, prior to the time of concentration the river's wider catchment.

6.6 Sanitary Sewage Disposal

The SSSR addresses on site wastewater in its section 5. Existing systems serving development to be within Lots 4 and 6 are discussed in 5.1. In both instances the SSSR concludes that the systems will be inside new proposed lot boundaries for both lots.

The SSSR uses five bedroom / 8 person occupancy for its concept design. All vacant lots can provide for future on site wastewater treatment and disposal 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 several existing easements within the application site, that provide for access and services to Lot 2 DP 519192 (adjacent) and Lot 3 DP 357808 (with which Lot 7 is to be amalgamated). These are listed in the Schedule of Existing Easements as is the existing Easement in Gross in favour of Top Energy.

New easements C-F inclusive will ensure rights of way and services to all new lots.

6.8 Property Access

All access to be shared is existing (formed). The main entrance into the property is off the end of Karaka Drive, public road.

Where Karaka Drive ends and right of way within the property begin, looking east

Opposite view, from end of right of way looking at Karaka Drive, facing west. Letterboxes and posts show where public road meets private access.

Once internal to the site the right of way continues straight for a while and then turns at right angles, due south. The straight ahead access leads to the existing dwelling to be in Lot 6 and to the adjacent Lot 2 DP 519192. The north/south access will provide access to all existing and proposed lots.

Right of way C's junction with rights of way G (straight ahead) and F (right angle turn)

As can be seen from the above picture, the existing metal carriageway is to a good standard and has abundant width. Sight distances, although this is private driveway, at the above intersection can be met (based on 40kph speed).

Looking back north along right of way. Right of Way I, stage 2 runs from the north to the gateway. The portion of accessway this side of the gateway will serve only Lot 4 (existing development) and Lot 7 / Lot 3 DP 357808 (also existing development).

In summary, the existing access is to an exceedingly high standard with very little, if any, upgrading required.

6.9 Effects of Earthworks

Very little earthworks will be required to give effect to the subdivision. The works will be well within the zone's permitted activity thresholds.

6.10 Building Locations & Amenity

There is no hazards based reason to place any restrictions on any of the lots in regard to where future dwellings might be located. The exception is if land in Lot 7 should ever undergo a change of use, particularly to residential. Due to soil testing revealing some exceedances of standards within the area of shed buildings within Lot 7, it is proposed to identify that area as an area to be avoided in terms of development, until such time as the site is appropriately remediated. This is addressed in more detail later in this report.

It should be noted that Lot 7 is not to be a stand alone title, instead being amalgamated with the adjacent Lot 3 DP 357808 (existing residential development).

With regard to building locations and amenity related issues, the existing development to be within Lot 4 requires consent under the building coverage rule applying to the zone due to the reduced lot area. Refer to photographs in earlier sections in regard to the development within the lot. The buildings are attractively landscaped, with boundary screening planting on all but a short section of eastern boundary, with existing driveway. The buildings : open space ratio is similar with that of the surrounding area, with the development within Lot 4 consistent with the existing character of the area.

The small cottage to be within Lot 6 is well established. It is screened from view from properties adjacent to the current application site, with the closest dwelling being that at Lot 2 DP 519192. The photo on pg 14 shows the two houses, with separation distance and intervening vegetation topography.

The existing cottage will not be completely screened from views from new proposed lots 1, 2 or 5. However, it is located on a lot with an area well in excess of the zone's permitted lot size, with building coverage well below the permitted threshold. I do not believe the cottage will have any adverse effects on adjacent sites.

All vacant lots can readily support built development with no requirement for consent under the building coverage rule. In doing so, all vacant lots can provide for high amenity values to be retained with a generous open space to built development ratio.

Looking southeast across buildable areas within Lots 1 & 2 (stage 2)

Proposed Lot 3's buildable area looking south across the lot

Looking north east from Lot 7 across to Lot 5's buildable area in the middle distance

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

Conservation Zoned Land

The site is zoned Rural Living under the ODP, and Rural Residential under the PDP. The site shares its southern boundary with the Kerikeri River Scenic Reserve. This boundary will be unchanged in both location and in terms of use of the application site. Lot 3 DP 357808 is already development and has been for a number of years. This will not change. Lot 7 contains shed buildings already in existence and this will not change either. In addition, the two lots – existing title and Lot 7 – are to be amalgamated, essentially representing a no change scenario in terms of adjacent Reserve land.

Vegetation/habitat & Fauna

Refer above. There is existing stock proof boundary fencing ensuring no stock intrusion into the reserve from the application site. This will remain the case. There is no indigenous vegetation or habitat of any note within the application site.

The site is within a kiwi present area and a conservative approach might be to impose a consent notice requiring any dogs and cats kept on any lot to be kept inside at night.

Heritage/Cultural

There are no listed or mapped Sites of Significance to Maori on the application site, nor any historic buildings, sites, notable trees or registered archaeological sites as mapped and/or listed in the District Plan or Far North Maps. The site is outside the Kerikeri Basin Heritage Precinct and outside the Visual Buffer Area associated with that heritage precinct, and is outside the PDP's Kerikeri Heritage Area's Part B.

6.12 Soil

The site is zoned for large lot living as opposed to productive use. The PDP reinforces this zoning and the intent of Council to see large lot residential development in the Rainbow Falls Road / Quail Ridge area. The proposal enables large lot residential development, with scope within each site for gardens and amenity planting. The life supporting capacity of soils will not be unduly compromised.

6.13 Access to, and protection of, waterbodies

The site has no boundary with a qualifying waterbody that would require the provision of access. The SSSR recommends no stormwater attenuation due to the site's location within the catchment. This enables quick release of runoff from the site prior to peak flows reaching the same point in the catchment. This has a beneficial effect on the water body receiving excess runoff at times of peak flow during and after rainfall events.

6.14 Land use compatibility (reverse sensitivity)

The area is now predominantly large lot residential in nature. The Quail Ridge retirement development, at a higher density than the zone's permitted activity standard, is adjacent to the west. The land is not zoned for production. Whilst there is a large holding immediately to the east, and this land is still in pasture, it is zoned the same as the application site, and will therefore likely be developed to a similar density level at some point in the future. I do not see any adverse reserve sensitivity issues arising from this proposal.

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 Positive Effects

When carrying out an assessment of effects, an applicant and consent authority are able to, and should, take into account positive effects both on their own merit and as offsetting any potential negative effect.

The proposal is low density and entirely appropriate for the site. It allows for people to provide for their economic and social wellbeing. The creation and availability of properties, close to town, road, cycling and pedestrian networks is essential in providing existing and future residents in the community a choice of lifestyle / residential living options throughout the District. The level of density being proposed is entirely consistent with that of the surrounding area. This development will result in the right kind of development in the right location.

6.20 Other Matters

Cumulative Effect:

I believe the site can absorb additional built development without adverse cumulative effects. The level of density proposed is well within the zone's overall residential intensity of one dwelling per 4,000m^2, representing a density of one per 6,250m^2.

Precedent Effect:

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. The proposal is entirely consistent with the character of the surrounding area.

7.0 NES-CS

Refer to combined PSI-DSI contained in Appendix 6. Lots 4 & 6 are already built on. When developing land in Lot 4, a HAIL report was commissioned. This concluded that there were no contaminated soil in the area of Lot 4 and that the soil disturbance occurring did not pose a threat to human health.

In regard to the current report, the land in vacant Lots 1, 2, 3 & 5 showed no exceedance of human health standards across relevant contaminants and these lots are therefore able to be developed without further reference to the NES-CS in terms of subdivision or residential use.

It is important to note that the land in Lot 7 is not to be a stand alone title. It is instead to be amalgamated with land in Lot 3 DP 357808, the applicant's existing residence. In this proposal, therefore, there is no change of use occurring, and this subdivision proposes no development / activity within land in Lot 7. It is only this lot, and then only a small portion of this lot, that showed results exceeding human health standards.

The combined PSI/DSI finds that this does not preclude future development within that area of Lot 7 where exceedances were found. Pursuant to NES-CS Regulation 10(3)(b), provided there is a Site Management Plan (SMP) and Remedial Action Plan (RAP) prepared by a SQEP, and the SMP and RAP provides adequate means of managing the identified contamination, the site is considered suitable for subdivision.

The need for such reports could be a condition of consent, however Lot 7 is not proposed for any development at this point in time, instead being amalgamated with the adjacent lot, a property that already supports existing residential development. In other words, the use of the land is not to change at this time.

A consent notice to apply to an identified portion of Lot 7 is considered an appropriate means of (a) identifying on a survey plan the area of potential contamination and therefore the area that would be subject to a satisfactory report, SMP and RAP to be provided prior to any development; and (b) ensuring that no development occurs within the area identified on the survey plan until such time as satisfactory reporting, site management and remediation had all occurred.

A copy of the PSI/DSI has been provided to the Northland Regional Council pursuant to Rule C.6.8.1 of the Regional Plan.

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. Rainbow Falls Road and Karaka Drive are now predominantly large lot residential in nature with the "transition" from rural to urban mostly complete. The application site is one of only two remaining larger blocks. The adjacent property to the east, also zoned Rural Living is still in grazing, but is being intensified over time. The proposal to subdivide the application site is entirely consistent with the purpose of the zone. The creation of additional lots 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.

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 reports, concludes 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 within 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 proposal includes provision for future lots to provide for their own on-site water storage for potable use. Fire fighting supply can also be accommodated on the lots. Stormwater management can be (or already is in the case of lots supporting existing development) designed to ensure no off site adverse effects.

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.

This objective is likely intended to encourage Management Plan applications, and does not have a lot of relevance to this proposal.

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. The site does not adjoin any waterbody. The vacant lots can accommodate an onsite wastewater treatment and disposal system in compliance with Regional Plan requirements and with no off site adverse effects. Stormwater management can also be provided for. I do not believe that the proposal adversely impacts on the ability of Maori to maintain their relationship with ancestral lands, water, sites, wahi tapu and other taonga.

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 two existing dwellings that will have their own titles once the consent is given effect to. Connections can be provided to the other lots.

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) 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). Appropriate sediment and erosion control measures will be put in place for any minimal amount of earthworks required during site works.

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.

Internal to the site, utility services will be / are underground.

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 scheduled heritage resource or area of significant indigenous vegetation or habitat. The site is not within the coastal environment. The contains no outstanding landscape or natural character features.

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

This is discussed earlier. Each lot can provide for 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 opportunity for additional dwellings within an area with an existing large lot residential character, in a manner that has little or no impact on natural character values, indigenous vegetation, landforms, rivers, streams or wetlands;
(b) The site does not directly adjoin any stream or river and no public access is therefore 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 and the site is not within a Heritage Precinct or the Kerikeri Basin Visual Buffer Area;
(f) Stormwater management has been / can be appropriate designed; and
(g) The site is not subject to any hazard that prevents the lots' 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 lots 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 lots retain 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 lots 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 future land use on the lots is likely to be residential in nature.

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. The site is not within the coastal environment and contains no riparian margins.

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 as the property does not have connections to Council reticulated services (other than 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

There are no waterbodies and there is no requirement for esplanade reserve or the creation of public open space.

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. All lots are over 3,000m^2 in area, consistent with the zone's minimum lot sizes. All 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, and no known 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 any Council reticulated 3 waters system. It can be serviced with on-site 3 waters management.

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: ....*

N/A. 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.

N/A. The site is not zoned either Rural Production or Rural Lifestyle.

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 no minor residential units.

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

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 lots will, in all likelihood, be utilised for residential living (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, with the likely use of additional lots to also be residential. This is an activity expected in the zone (RRZ-P1). The proposal 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. Consultation with service providers confirms services are available (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. As such 'natural character' values do not prevail. The subdivision is appropriate for the site. There is existing access and I do not believe the proposal affects the relationship of Maori with their culture and traditions with water. Heritage values are not adversely affected. 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). It is considered that the proposal represents efficient use and development of a site. Proposed layout and plantings, along with waste water and stormwater management proposals, will ensure the maintenance of amenity values and the quality of the environment. 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 Environmental Standards

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) is relevant given the site's historic usage. This has been addressed in this application with consent required under the NES-CS as a restricted discretionary activity. The only area affected by the NES-CS and which should have future conditions of consent applying to it, is a portion of land around the existing sheds/workshops to be within Lot 7. There is no natural inland wetland on the site to which the NES Freshwater would apply.

7.5 National and Regional Policy Statements

I have not identified any national policy statements relevant to this proposal. The site is not zoned General Rural or Rural Production in either the Operative or Proposed District Plan and therefore the NPS Highly Productive Land does not apply. No indigenous vegetation is affected and therefore the NPS Indigenous Biodiversity is not relevant.

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 additional reverse sensitivity issues arise as a result. The area around the site already supports residential use.

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 circumstance exists.

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. Neither circumstance calling for affected persons to be identified exist in this instance.

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. However, the overall level of density being proposed complies with the permitted activity threshold for residential intensity. There will not be any adverse off-site effects in regard to on-site wastewater and stormwater management. The proposal does not alter markedly alter what adjacent sites will experience in terms of the visual appearance or size/scale of the existing, or potential permitted baseline development. Vacant lots can readily support buildings consistent with, and in keeping with, the existing character of the area. Access is existing with very little, if any, subdivision works required. Given that the subdivision does not create anything beyond permitted/controlled density level, and access is existing, I do not consider that the proposal will create minor or more than minor adverse effects on adjacent properties.

The site contains no heritage or cultural resources/values. The site does not contain any areas of indigenous vegetation or habitat. The site is not accessed off state highway. As such, no pre lodgement consultation has been considered necessary with tangata whenua, Department of Conservation or Waka Kotahi.

9.0 POSSIBLE DRAFT CONDITIONS

Because this is to be a staged development I have suggested below which conditions might apply to each of the stages. This is not intended to be exhaustive, instead focusing on matters relating to scheme plans, physical works and ongoing conditions (consent notice).

Decision A: Subdivision

Stage One – Lots 3, 4, 6 & 7

1. *The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Thomson Survey, referenced Proposed Subdivision of Lot 1 DP 519192, dated 06.08.2025, and attached to this consent with the Council's "Approved Stamp" affixed to it.*

2. *The survey plan, submitted for approval pursuant to Section 223 of the Act shall show:*

    (a) All easements in the Memorandum to be duly granted or reserved;
    (b) Area of land identified in the combined PSI/DSI provided with the application within Lot 7 to be subject to consent notice;
    (c) The endorsement of the following conditional amalgamation, pursuant to Section 220(1)(b)(i) of the Resource Management Act 1991:
    That Lot 7 hereon and Lot 3 DP 357808 are to be held in the same Certificate of TItle. LINZ reference: ……..

3. *Prior to the issuing of a certificate pursuant to Section 224(c) of the Act, the consent holder shall:*

(a) Upgrade / form vehicle entrance into Lot 3 in compliance with FNDC Vehicle Crossing – Rural Type 1A-Light Vehicles.

(b) Provide evidence that power and telephone services have been reticulated to the boundary of Lot 3.

Explanation: The reason for limiting physical works to Lot 3 is because that is the only additional/new vacant lot created at stage 1. Lots 4 & 6 have existing development and access/crossings; and Lot 7 is to be amalgamated with Lot 3 DP 357808, which also already has development and access/crossing. Lot 3 is a similar size to an unsewered residential lot, hence the inclusion of a power and telephone condition – to apply to only Lot 3.

(b) Secure the condition below by way of a Consent Notice issued under Section 221 of the Act, to be registered against the titles of the affected allotment. The costs of preparing, checking and executing the Notice shall be met by the Applicant.

Insert the Council's standard conditions in regard to on-site wastewater design at time of building consent; water supply (including fire fighting) at time of building consent; and requirement for stormwater management, also at time of building consent – all only to apply to Lot 3 given that all other lots created at stage 1 contain, or will be amalgamated with, existing development. Note that the stormwater management consent notice is the only condition relating to Lot 3's Stormwater Management land use that is necessary.

Insert consent notice condition to apply to Lot 7 as an ongoing condition:

Prior to any development, change of use or soil disturbance occurring within the area marked "X" on the survey plan, the lot owner shall submit, for approval of Council, a Site Management Plan and Remediation Action Plan, and following implementation of that approved Remediation Action Plan, provide a Site Validation Report, demonstrating satisfactory remediation has taken place.

Stage Two – Further subdivision of Lot 6 Stage 1, creating Lots 1, 2, 5 & 6

1. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Thomson Survey, referenced Proposed Subdivision of Lot 6 (Stage 1) & Easements over Lot 7 (Stage 1), dated 25.07.2025, and attached to this consent with the Council's "Approved Stamp" affixed to it.

2. The survey plan, submitted for approval pursuant to Section 223 of the Act shall show:

(a) All easements in the Memorandum to be duly granted or reserved;
(b) Drainage easement over Lots 5 & 7 as identified in the Subdivision Site Suitability Report by Geologix, referenced C0694N-S-02.

3. *Prior to the approval of the survey plan pursuant to section 223 of the Act the consent holder shall: ….. insert condition in regard to preferred road name, given that Stage 2 will result in a total of more than 5 properties utilising private accessway.*

4. *Prior to the issuing of a certificate pursuant to Section 224(c) of the Act, the consent holder shall:*

   (a) Upgrade / form vehicle entrance into Lots 1, 2 & 5 in compliance with FNDC Vehicle Crossing – Rural Type 1A-Light Vehicles;
   (b) Upgrade, where necessary, rights of way C, D, F, G, H and I to the required standard, as stated in Appendix 3B-1 of the Operative District Plan for the number of lots being served.

   (c) Secure the condition below by way of a Consent Notice issued under Section 221 of the Act, to be registered against the titles of the affected allotment. The costs of preparing, checking and executing the Notice shall be met by the Applicant.

   Insert the Council's standard conditions in regard to on-site wastewater design at time of building consent; water supply (including fire fighting) at time of building consent; and requirement for stormwater management, also at time of building consent – to apply to Lots 1, 2 and 5.

Decision B - Landuse Consent:

No conditions required (subdivision conditions adequate).

Decision C – National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

No additional conditions required – consent notice imposed at Stage 1 of subdivision.

As stated earlier, the above is not an exhaustive list of conditions, but rather a guide as to the conditions that might apply to each individual stage.

10.0 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 15th December 2025
Lynley Newport,
Senior Planner
Thomson Survey Ltd

11.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Location Plan

Appendix 3 Record of Title & Easement Instruments

Appendix 4 Consultation with Top Energy and Chorus

Appendix 5 Subdivision Site Suitability Report

Appendix 6 Combined PSI/DSI Report

Appendix 1

Scheme Plan(s)

EXISTING EASEMENTS

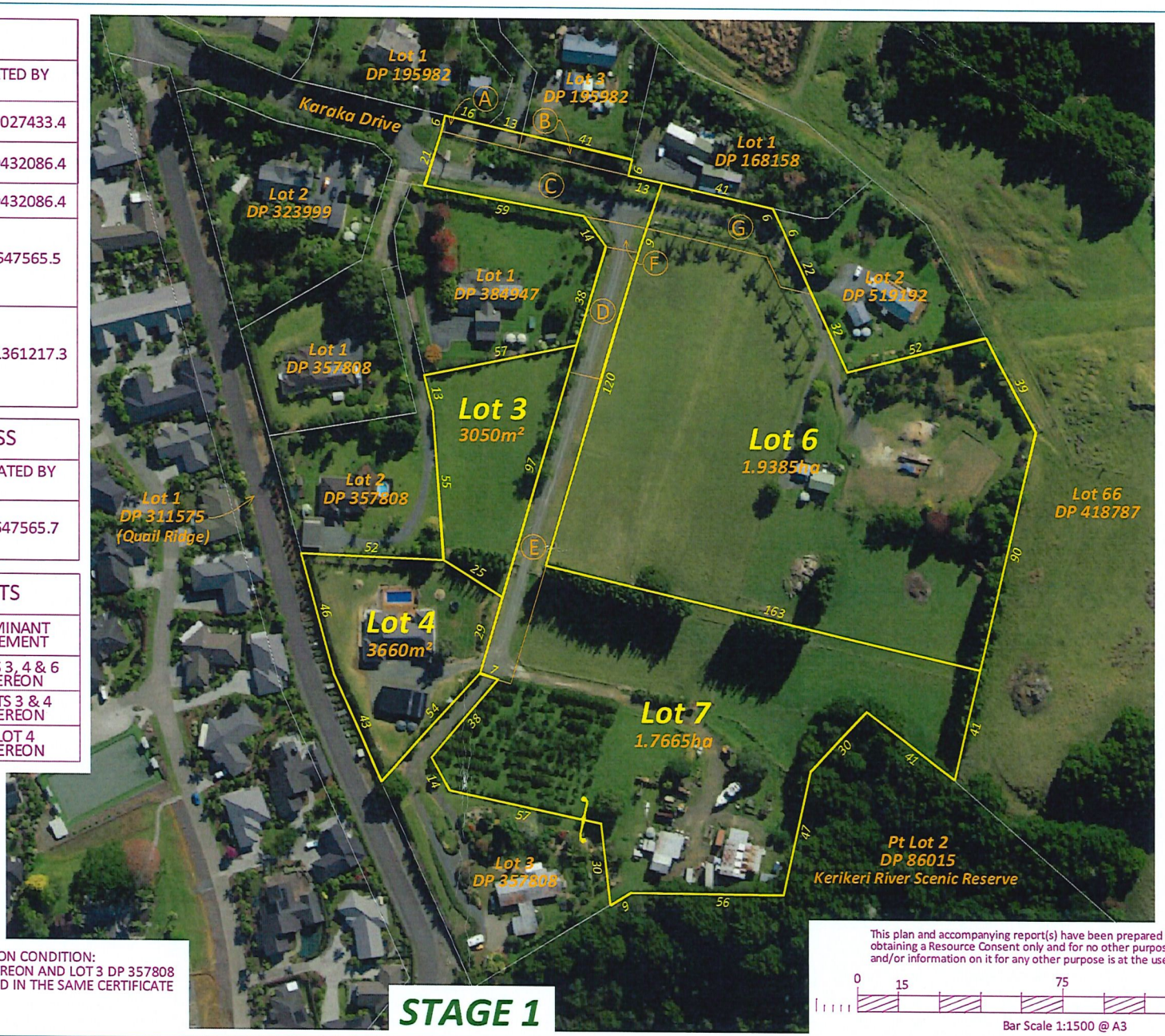
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(A) (B)	LOT 7 HEREON	E.C. D027433.4
	(A)	LOT 7 HEREON	E.C. D432086.4
TELECOMMUNICATIONS	(B)	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (D) (E) (F)	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	(C)	LOT 7 HEREON	E.I. 11361217.3
	(G)	LOT 6 HEREON	

EXISTING EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	(A) (B) (C) (F)	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (F)	LOT 7 HEREON	LOTS 3, 4 & 6 HEREON
	(D)	LOT 7 HEREON	LOTS 3 & 4 HEREON
	(E)	LOT 7 HEREON	LOT 4 HEREON



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: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.

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 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	06.08.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

10065 Scheme 20250806 Stage 1

Surveyors Ref. No: 10065

Sheet 1 of 1

EXISTING EASEMENTS

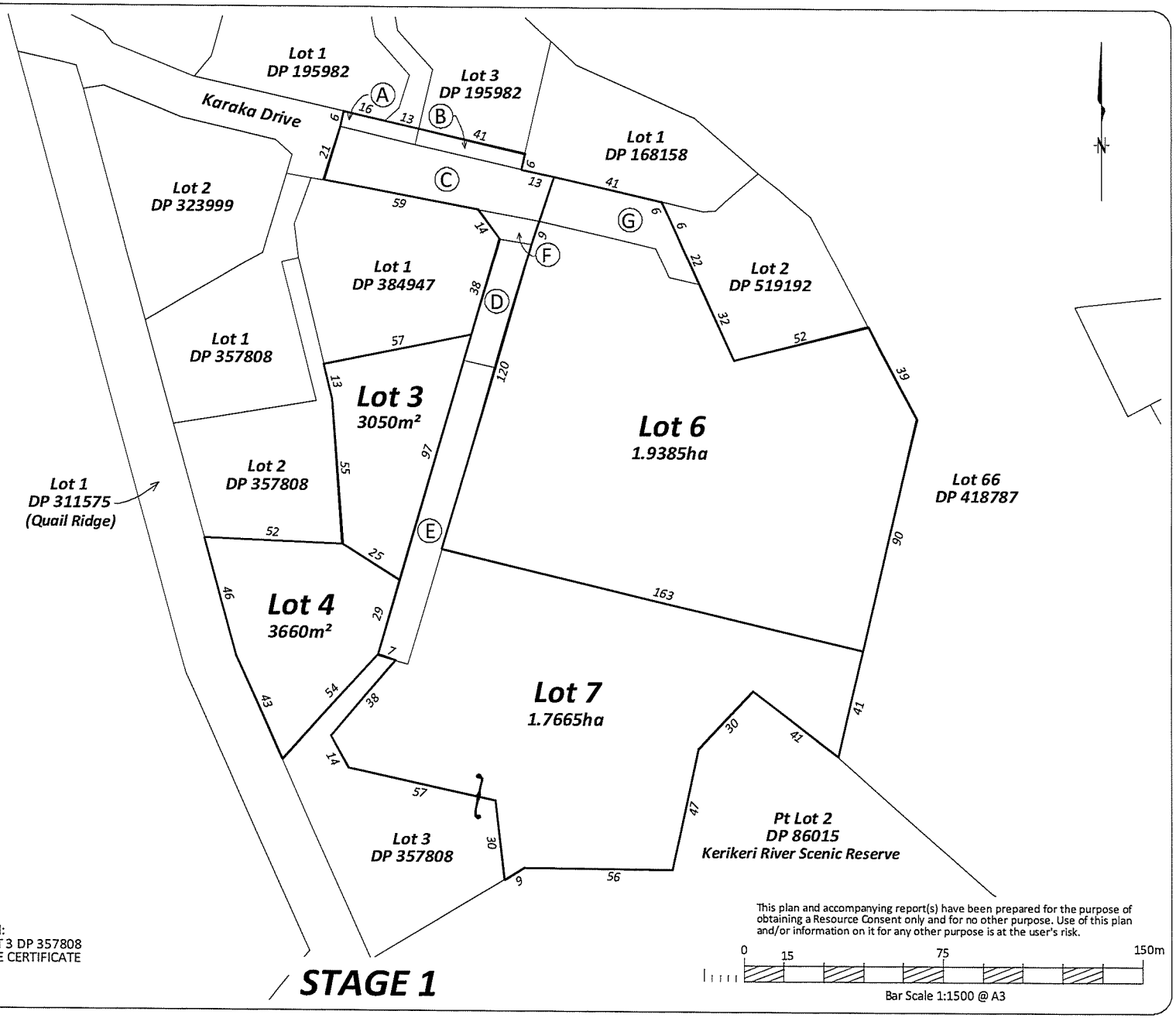
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	A B	LOT 7 HEREON	E.C. D027433.4
	A	LOT 7 HEREON	E.C. D432086.4
TELECOMMUNICATIONS	B	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C D E F	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	C	LOT 7 HEREON	E.I. 11361217.3
	G	LOT 6 HEREON	

EXISTING EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	A B C F	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C F	LOT 7 HEREON	LOTS 3, 4 & 6 HEREON
	D	LOT 7 HEREON	LOTS 3 & 4 HEREON
	E	LOT 7 HEREON	LOT 4 HEREON



Local Authority: Far North District Council
Comprised in: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.

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 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	06.08.25

10065 Scheme 20250806 Stage 1

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

Surveyors Ref. No: 10065

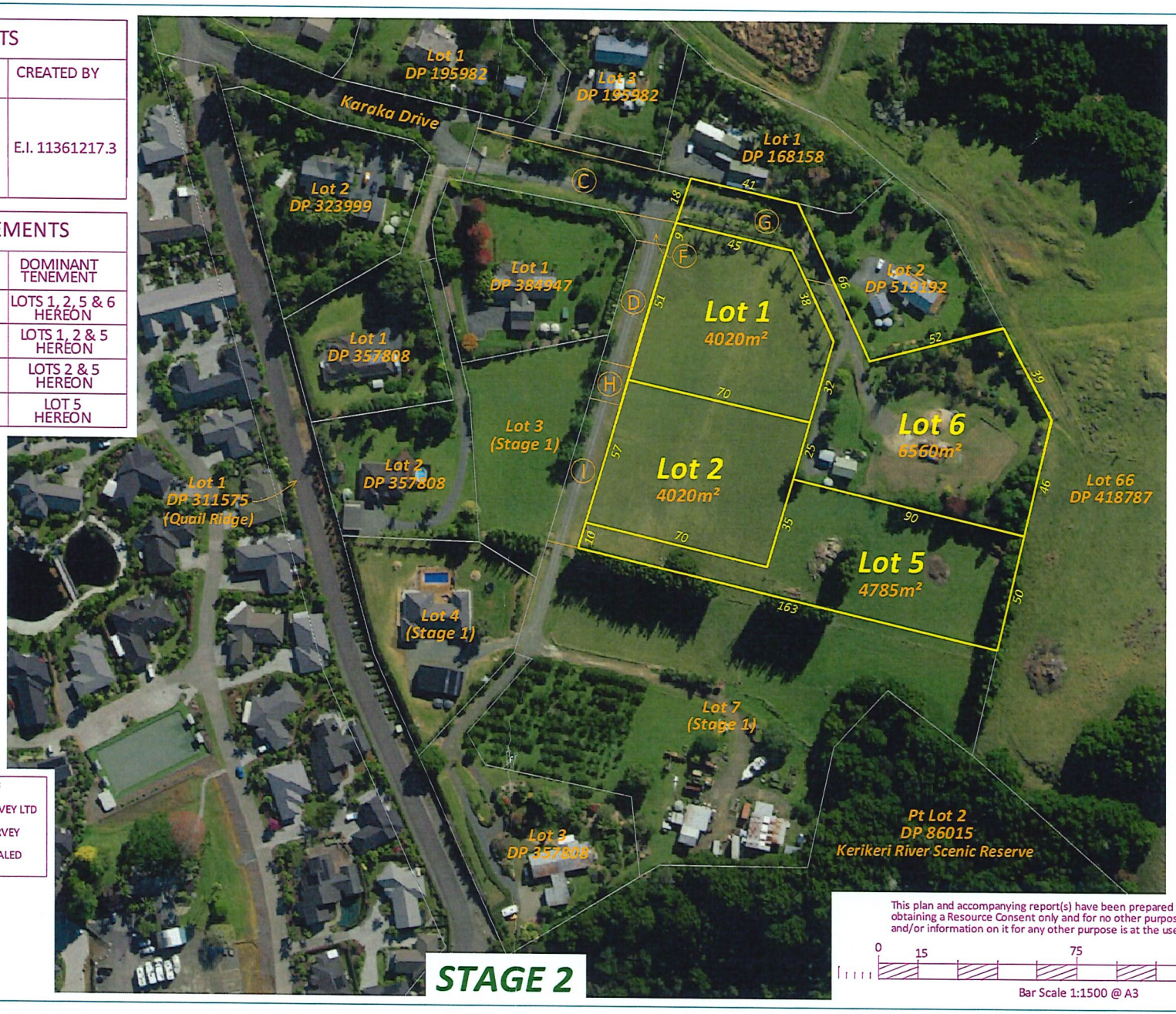
Sheet 1 of 1

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	Ⓖ	LOT 6 HEREON	E.I. 11361217.3

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	Ⓒ	LOT 7 (STAGE 1)	LOTS 1, 2, 5 & 6 HEREON
	Ⓕ	LOT 7 (STAGE 1)	LOTS 1, 2 & 5 HEREON
	Ⓗ Ⓓ	LOT 7 (STAGE 1)	LOTS 2 & 5 HEREON
	Ⓘ	LOT 7 (STAGE 1)	LOT 5 HEREON



Local Authority: Far North District Council
Comprised in: Lot 6 (Stage 1)
Total Area: 2.0300ha
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 15 75 150m

Bar Scale 1:1500 @ 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 6 (STAGE 1) & EASEMENTS OVER LOT 7 (STAGE 1)

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	25.07.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

10065 Scheme 20250725 Stage 2

Surveyors Ref. No: 10065

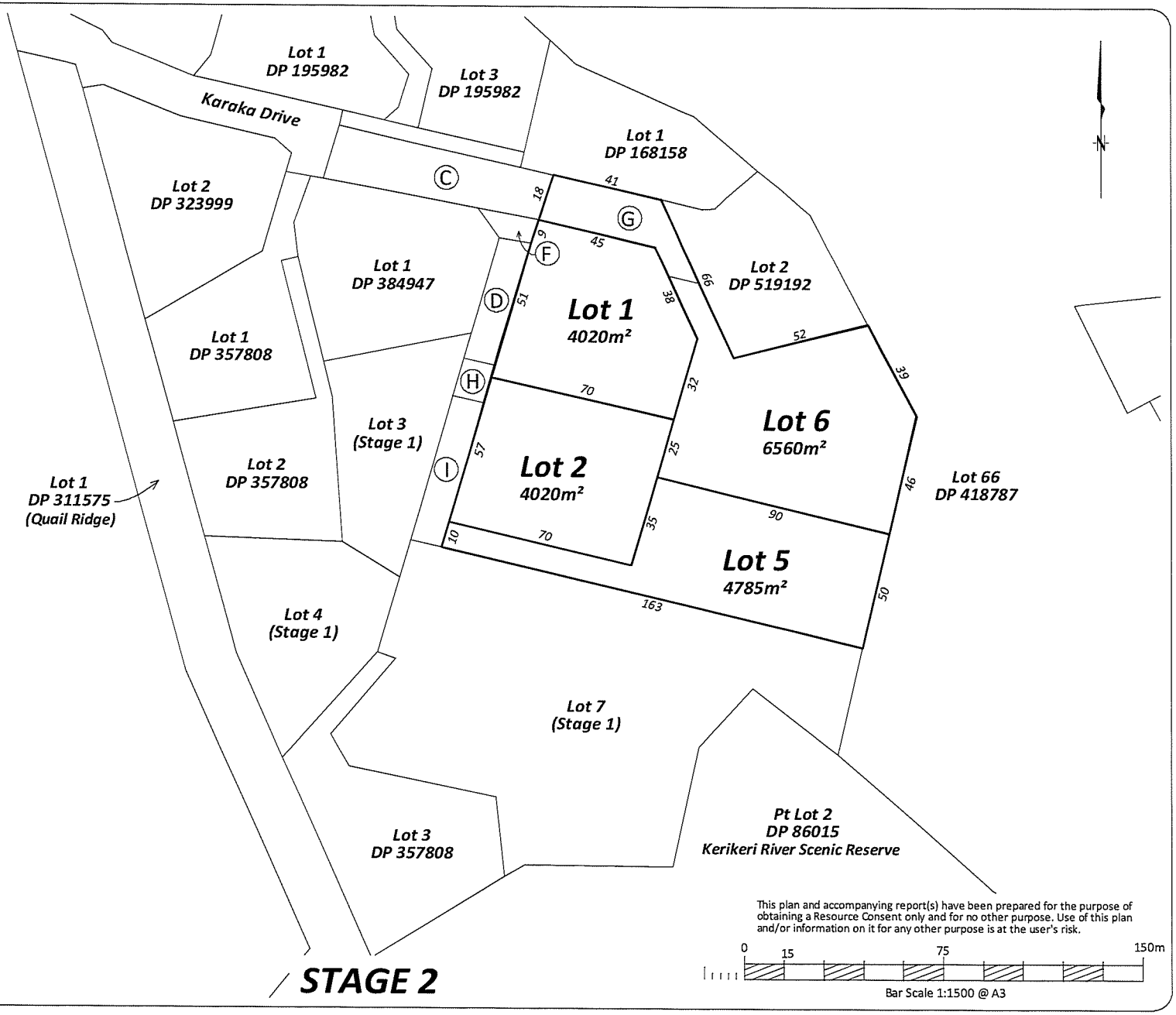
Sheet 1 of 1

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	(G)	LOT 6 HEREON	E.I. 11361217.3

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C)	LOT 7 (STAGE 1)	LOTS 1, 2, 5 & 6 HEREON
	(F)	LOT 7 (STAGE 1)	LOTS 1, 2 & 5 HEREON
	(H) (D)	LOT 7 (STAGE 1)	LOTS 2 & 5 HEREON
	(I)	LOT 7 (STAGE 1)	LOT 5 HEREON



Local Authority: Far North District Council
Comprised in: Lot 6 (Stage 1)
Total Area: 2.0300ha
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 15 75 150m

Bar Scale 1:1500 @ 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 6 (STAGE 1) & EASEMENTS OVER LOT 7 (STAGE 1)

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	25.07.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3
10065 Scheme 20250725 Stage 2

Surveyors Ref. No: 10065

Sheet 1 of 1

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	(A) (B)	LOT 7 HEREON	E.C. D027433.4
	(A)	LOT 7 HEREON	E.C. D432086.4
TELECOM-MUNICATIONS	(B)	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (D) (E) (F) (H) (I)	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	(C)	LOT 7 HEREON	E.I. 11361217.3
	(G)	LOT 6 HEREON	

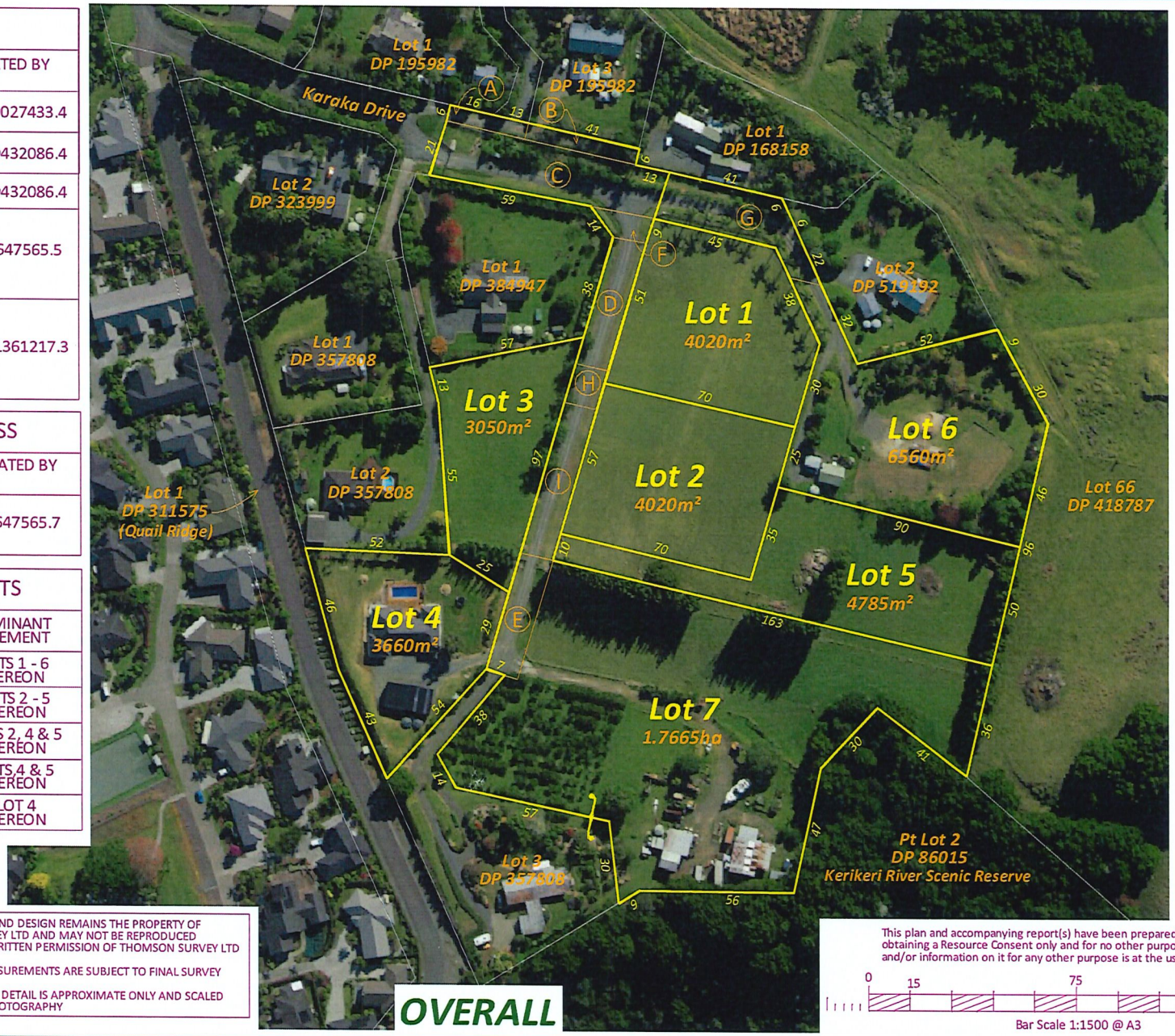
EXISTING EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	(A) (B) (C) (F)	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (F)	LOT 7 HEREON	LOTS 1 - 6 HEREON
	(D)	LOT 7 HEREON	LOTS 2 - 5 HEREON
	(H)	LOT 7 HEREON	LOTS 2, 4 & 5 HEREON
	(I)	LOT 7 HEREON	LOTS 4 & 5 HEREON
	(E)	LOT 7 HEREON	LOT 4 HEREON

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.



Local Authority: Far North District Council
Comprised in: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

0 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	06.08.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3
10065 Scheme 20250806 Overall

Surveyors Ref. No: 10065

Sheet 1 of 1

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(A) (B)	LOT 7 HEREON	E.C. D027433.4
	(A)	LOT 7 HEREON	E.C. D432086.4
TELECOMMUNICATIONS	(B)	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (D) (E) (F) (H) (I)	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	(C)	LOT 7 HEREON	E.I. 11361217.3
	(G)	LOT 6 HEREON	

EXISTING EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	(A) (B) (C) (F)	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

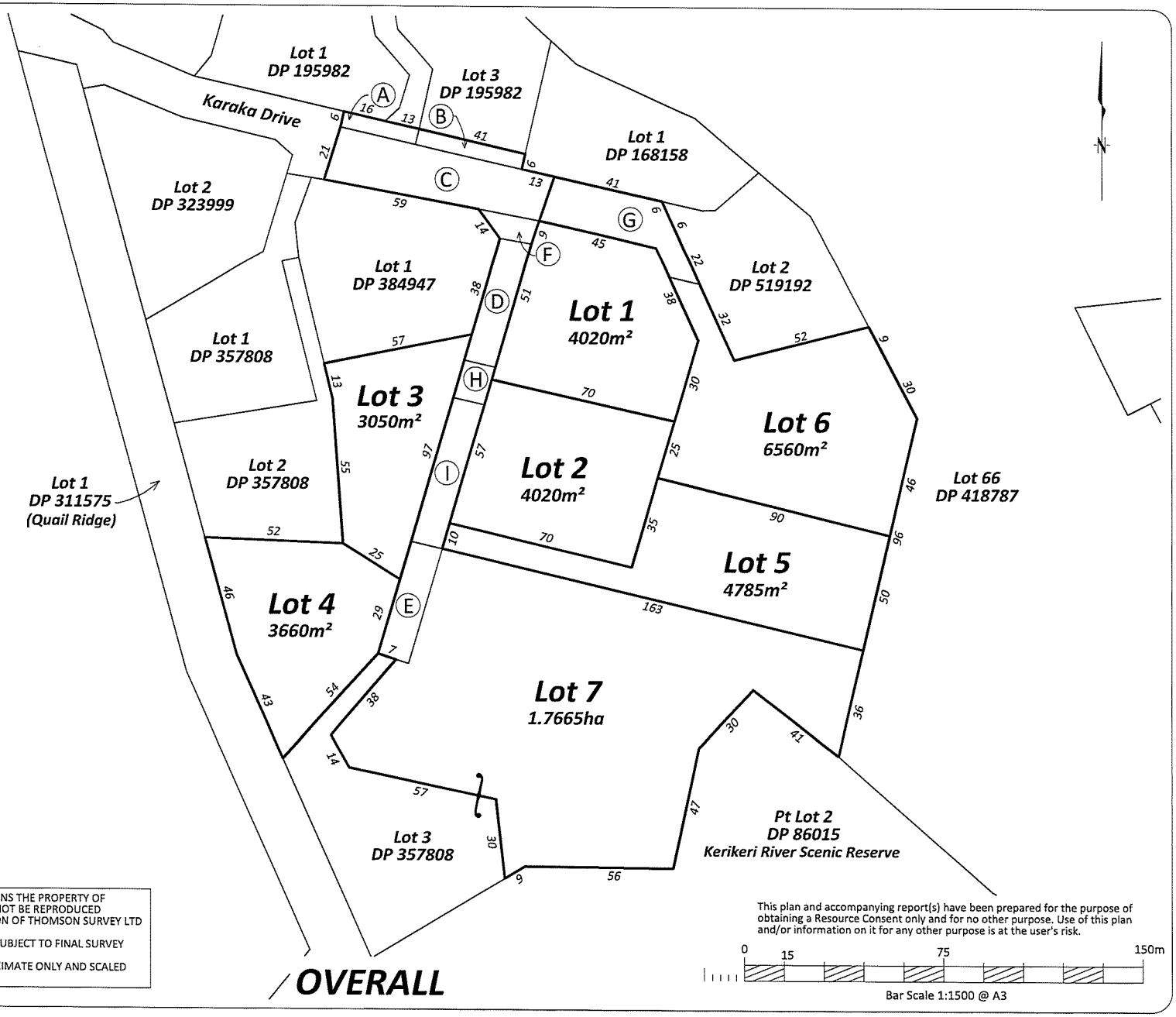
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	(C) (F)	LOT 7 HEREON	LOTS 1 - 6 HEREON
	(D)	LOT 7 HEREON	LOTS 2 - 5 HEREON
	(H)	LOT 7 HEREON	LOTS 2, 4 & 5 HEREON
	(I)	LOT 7 HEREON	LOTS,4 & 5 HEREON
	(E)	LOT 7 HEREON	LOT 4 HEREON

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.

Local Authority: Far North District Council
Comprised in: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY



0 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	06.08.25

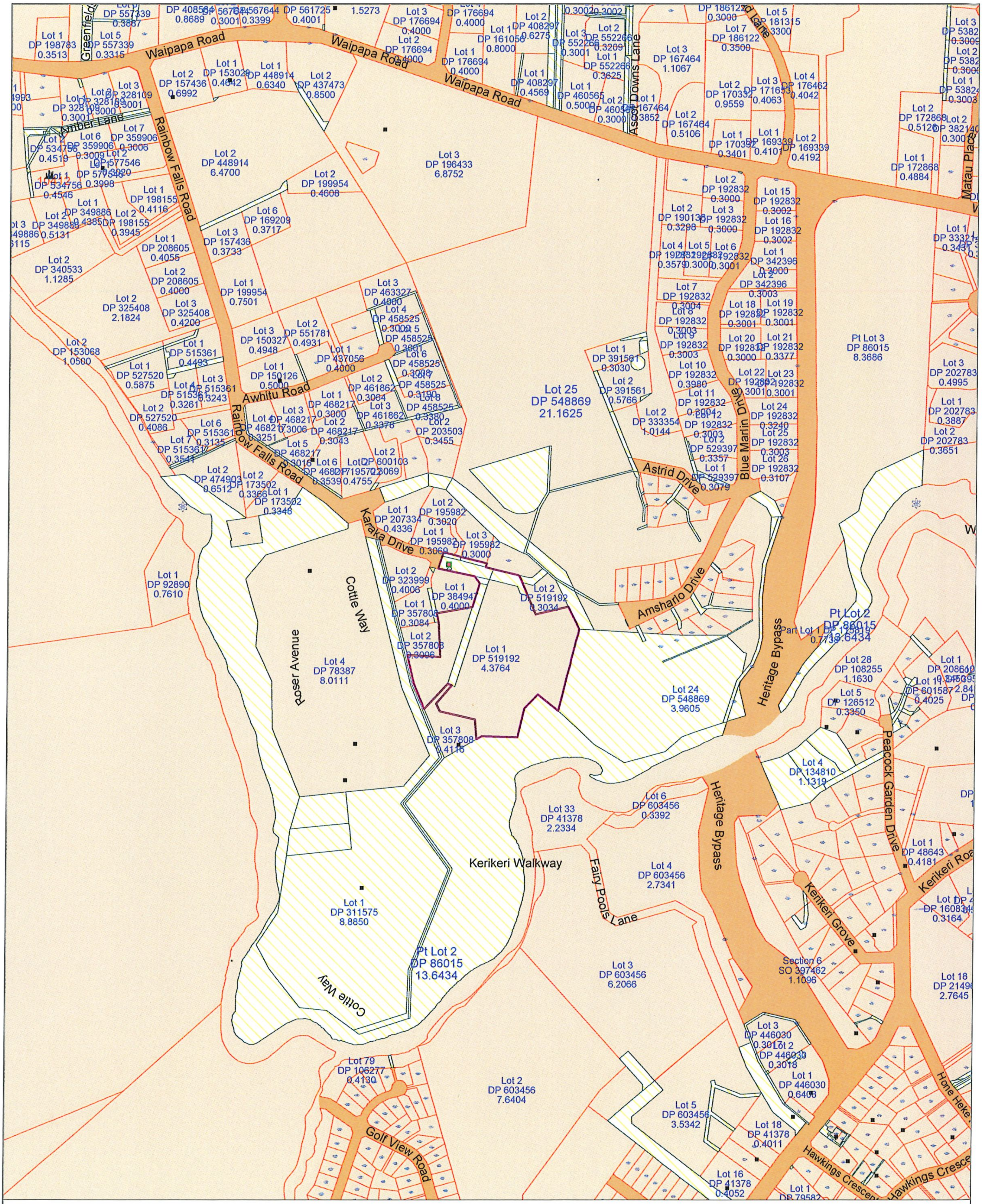
ORIGINAL
SCALE 1:1500
SHEET SIZE A3
10065 Scheme 20250806 Overall

Surveyors Ref. No: 10065

Sheet 1 of 1

Appendix 2

Location Plan



0 100 200 300 400 500 600 700 800 900m

QuickMap
Custom Software Ltd

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

Scale 1:7500 Topographical and Cadastral map derived from LINZ data. Printed: 25-Nov-2025 03:46.

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	**815034**
Land Registration District	**North Auckland**
Date Issued	01 March 2019

Prior References
339894

Estate	Fee Simple
Area	4.3764 hectares more or less
Legal Description	Lot 1 Deposited Plan 519192
Registered Owners	

Theresa Marie Ruddell

Interests

C509589.1 Mortgage to The National Bank of New Zealand Limited - 23.8.1993 at 1.48 pm and varied C913095.1 - 27.10.1995 at 1.48 pm

Subject to a right of way and a right to convey electricity, telecommunications and water over parts marked A & B on DP 519192 specified in Easement Certificate D027433.4 - 1.8.1996 at 2.38 pm

The easements specified in Easement Certificate D027433.4 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right of way and a right to convey electricity, telecommunications and water over part marked A and a right to convey telecommunications over part marked B both on DP 519192 specified in Easement Certificate D432086.4 - 20.9.1999 at 3.33 pm

The easements specified in Easement Certificate D432086.4 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 6973627.4 - 3.8.2006 at 9:00 am

Subject to a right of way, a right to transmit electricity and telecommunications and a right to convey water and stormwater over parts marked C, D & F on DP 519192 created by Easement Instrument 7647565.5 - 7.12.2007 at 9:00 am

The easements created by Easement Instrument 7647565.5 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 7647565.5 - 7.12.2007 at 9:00 am

Subject to a right (in gross) to convey electricity over parts marked A, B, C and F on DP 519192 in favour of Top Energy Limited created by Easement Instrument 7647565.7 - 7.12.2007 at 9:00 am

11361217.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.3.2019 at 9:23 am

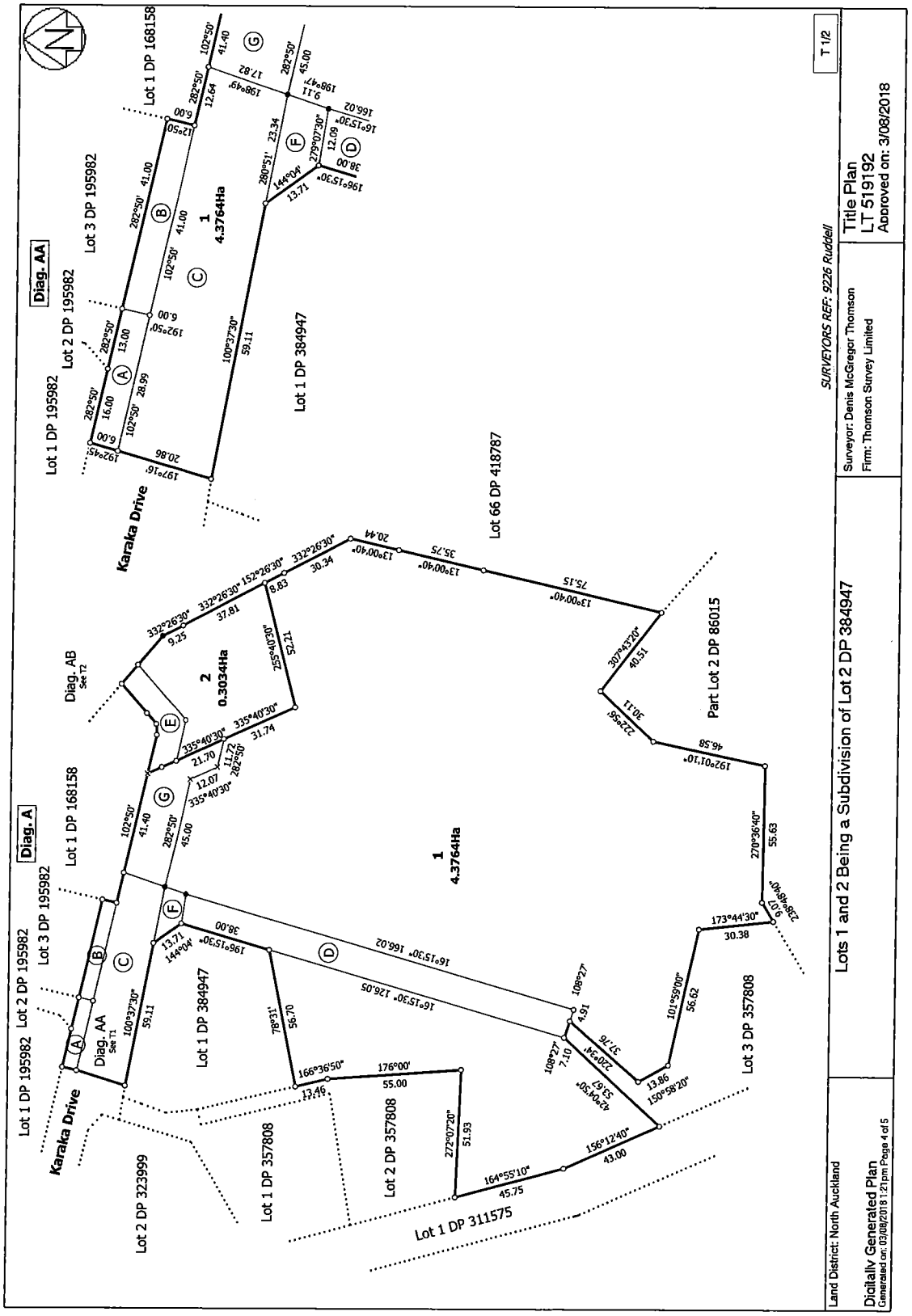
Subject to a right of way, a right to drain sewage and stormwater and a right to convey electricity, telecommunications and water over parts marked C and G on DP 519192 created by Easement Instrument 11361217.3 - 1.3.2019 at 9:23 am

Appurtenant hereto is a right to drain stormwater created by Easement Instrument 11361217.3 - 1.3.2019 at 9:23 am

The easements created by Easement Instrument 11361217.3 are subject to Section 243 (a) Resource Management Act 1991

12288647.1 CAVEAT BY TOP ENERGY LIMITED - 5.11.2021 at 10:25 am

Appurtenant hereto is a right to convey electricity created by Easement Instrument 12499102.1 - 23.8.2022 at 10:52 am


Lot 1 and 2 Being a Subdivision of Lot 2 DP 384947
Title Plan
LT 519192
Approved on: 3/08/2018
Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited
SURVEYORS REF: 9226 Ruddell
Land District: North Auckland
Digitally Generated Plan
Generated on: 03/08/2018 1:21pm Page 4 of 5
T 1/2
Karaka Drive
Lot 1 DP 195982
Lot 2 DP 195982
Lot 3 DP 195982
Lot 1 DP 168158
Lot 1 DP 384947
Lot 66 DP 418787
Part Lot 2 DP 86015
Lot 3 DP 357808
Lot 1 DP 357808
Lot 2 DP 357808
Lot 2 DP 323999
Lot 1 DP 311575
Diag. AA
Diag. AB
Diag. A
1
4.3764Ha
2
0.3034Ha

D027433.4 EC

Approved by the District Land Registrar, South Auckland No. 351560
Approved by the District Land Registrar, North Auckland, No. 4380/81
Approved by the Registrar-General of Land, Wellington, No. 436748.1/81

EASEMENT CERTIFICATE

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

I/We R.A. RUDDELL LIMITED at Dargaville

being the registered proprietor(s) of the land described in the Schedule hereto hereby certify that the easements specified in that Schedule, the servient tenements in relation to which are shown on a plan of survey deposited in the Land Registry Office at Auckland
on the day of 1996 under No. 168158
are the easements which it is intended shall be created by the operation of section 90A of the Land Transfer Act 1952.

SCHEDULE

DEPOSITED PLAN NO. 168158

Nature of Easement (e.g., Right of Way, etc.)	Servient Tenement		Dominant Tenement Lot No.(s) or other Legal Description	Title Reference
	Lot No.(s) or other Legal Description	Colour, or Other Means of Identification, of Part Subject to Easement		
Right of Way) Right to convey) Electricity,) Telecommunica-) tions and Water) supply)	Part Lot 5 DP 78387	A	Lot 1 DP 168158	102B/289

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

1. Rights and powers:

The rights and powers of the Grantee to convey electric power and telecommunication specified in the Schedule hereto are the same rights and powers as those set out in Clauses 2 and 5 of the Seventh Schedule to the Land Transfer Act 1952 as if the words "electric power and telecommunication" were inserted in lieu of the word "water" wherever the same appears in the said Clause 2 and as if the words "wires cables conduits and poles" were inserted in lieu of the words "line of pipes" "pipe or pipes" and "pipe line" wherever the same appear in the said Clause 5.

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

NIL

Dated this 30th day of July 19 96

~~Signed by the Common Seal of~~

THE COMMON SEAL of
R.A. RUDDELL LIMITED
was hereunto affixed
in the presence of M P Ruddell

Witness ..

Occupation .....

Address .....

R. A. RUDDELL LIMITED
THE

EASEMENT CERTIFICATE

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

Correct for the purposes of the Land Transfer Act

.....
Solicitor for the registered proprietor

The ~~above~~/within easements when created will be/~~are~~ subject to Section 243(a) Resource Management Act 1991

A.J.R

4F E/C
$30

238 01.AUG96 D 027433.X

PARTICULARS ENTERED IN REGISTER
LAND REGISTRY NORTH AUCKLAND
ASST LAND REGISTRAR

98/1028

McLEOD & PARTNERS
SOLICITORS
KERIKERI

D 432086.4 EC

Registrar-General of Land Approval 98/8031EF A.D.L.S.

EASEMENT CERTIFICATE

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

CONTRACTING'

~~[illegible]~~ RUDDELL LIMITED, DONALD JAMES COTTLE, JILL NOELINE COTTLE and GERALD PETER HADDON

being the registered proprietor(s) of the land described in the Schedule hereto hereby certify that the easements specified in that Schedule, the servient tenements in relation to which are shown on a plan of survey deposited in the Land Registry Office at NORTH AUCKLAND
on the day of under No. 195982
are the easements which it is intended shall be created by the operation of section 90A of the Land Transfer Act 1952.

SCHEDULE

DEPOSITED PLAN NO. 195982

Nature of Easement (e.g., Right of Way, etc.)	Servient Tenement: Lot No.(s) or other Legal Description	Servient Tenement: Colour, or Other Means of Identification, of Part Subject to Easement	Dominant Tenement Lot No.(s) or other Legal Description	Title Reference
Right of Way Right to Convey Electricity and	))Lot 4 hereon))	A	Lots 1,2,3 hereon	—
Right to Convey ~~Telecommunications~~ Telephone and Right to take and convey water and	))Lot 6)DP78387)))	F	Lots 1,2,3 & 4 hereon ~~on Lot 1~~ ~~DP168158~~ 1028/259	124C/148 149 150 151 Mar...
Right to drain water	)Lot 2 hereon	D	Lot 1 & 3 hereon	—
Right to convey ~~Telecommunications~~ Telephone	Lot 3 hereon Lot 4 hereon	C B	Lots 1,2,& 4 hereon Lots 1,2,& 3 hereon	— —
			To be cancelled later	

REF. 4050 /1

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

1. Rights and powers:

The rights and powers of the Grantee to convey electric power and telecommunications specified in the Schedule hereto are the same rights and powers as those set out in Clauses 2 and 5 of the Seventh Schedule to the Land Transfer Act 1952 as if the words "electric power and ~~telecommunications~~ telephone" were inserted in lieu of the word "water" wherever the same appears in the said Clause 2 and as if the words "wires cables conduits and poles" were inserted in lieu of the words "line of pipes" "pipe or pipes" and "pipe line" wherever the same appear in the said Clause 5.

Registrar-General of Land Approval 98/6031EF ADLS

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

NIL

SIGNED by CONTRACTING
[redacted] RUDDELL LIMITED
by its Director
Norman Phillip Ruddell

in the presence of:

ALLAN DUNCAN McLEOD
SOLICITOR
KERIKERI

Dated this 14th day of September 1999.

Signed by the above-named
DONALD JAMES COTTLE, JILL NOELINE COTTLE and GERALD PETER HADDON

in the presence of
Witness BRIAN McCALLION
Occupation CHARTERED ACCOUNTANT
Address PALMERSTON NORTH

Correct for the purposes of the Land Transfer Act 1952

(Solicitor for) the registered proprietor:

REF: 4050 /3

Approved by Registrar-General
of Land under No. 1998/6031EF

Registrar-General of Land Approval 98/6031EF A.D.L.S.

EASEMENT CERTIFICATE

Land Transfer Act 1952

PARTICULARS ENTERED IN THE REGISTER
LAND REGISTRY NO. [illegible]
for [illegible]

REGISTRAR-GENERAL OF LAND NEW ZEALAND

3.33 20.SEP99 D 432086.4

LINZ COPY ©

Law Firm Acting
McLEOD & PARTNERS SOLICITORS KERIKERI

4F EC - 43
(124C/148 to 151 inc
558/129

Auckland District Law Society
REF 4050 f4

This page is for Land Registry Office use only.
(except for "Law Firm Acting")

Approved by Registrar-General of Land under No. 2002/6055

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

Sections 90A and 90F, Land Transfer Act 1952

Registrar-General of Land Approval 02/6055EF A.D.L.S.

EI 6973627.4 Easement

Cpy - 01/01, Pgs - 006, 02/08/06, 14:39

DocID: 312589922

Land registration district

NORTH AUCKLAND

Grantor *Surname(s) must be underlined or in CAPITALS.*

Ruddell Contracting Limited

Grantee *Surname(s) must be underlined or in CAPITALS.*

Ruddell Contracting Limited

Grant* of easement or *profit à prendre* or creation or covenant

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

Dated this 1 **day of** August **2006**

Attestation

M P Ruddell **Signature [common seal] of Grantor**	**Signed in my presence by the Grantor** J D Jonson *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** JAN DOROTHY JONSON **Occupation** LEGAL EXECUTIVE TO LAW NORTH PARTNERS KERIKERI **Address**
M P Ruddell **Signature [common seal] of Grantee**	**Signed in my presence by the Grantee** J D Jonson *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** JAN DOROTHY JONSON **Occupation** LEGAL EXECUTIVE TO LAW NORTH PARTNERS KERIKERI **Address**

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Grantee

*If the consent of any person is required for the grant, the specified consent form must be used.

REF: 7003 – AUCKLAND DISTRICT LAW SOCIETY

Approved by Registrar-General of Land under No. 2002/6055

Annexure Schedule 1

Registrar-General of Land Approval 02/6055EF A.D.L.S.

Easement instrument Dated 1 August 2006 Page 1 of 3 pages

Schedule A *(Continue in additional Annexure Schedule if required.)*

Purpose (nature and extent) of easement, *profit*, or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT *or* in gross)
Right of Way Telecommunications, Electricity, Water Supply Stormwater & Computer Media	**C & D DP357808**	**Lot 4 DP357808 CT 235420**	**Lot 3 DP357808 CT 235419**
	E DP357808	**Lot 1 DP357808 CT 235417**	**Lots 2 and 4 DP 357808 CTs 235418 and 235420**
	F DP357808	**Lot 1 DP357808 CT 235417**	**Lot 2 DP357808 CT 235418**
Land Covenants		**Lots 1 to 4 DP357808 CTS 235417 to 235419 inclusive**	**Lots 1 to 4 DP357808 CTS 235417 to 235419 inclusive**

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

Delete phrases in [ ] and insert memorandum number as required.
Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

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

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

[the provisions set out in Annexure Schedule 2].

Covenant provisions
Delete phrases in [ ] and insert memorandum number as required.
Continue in additional Annexure Schedule if required.

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

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

[Annexure Schedule 3].

All signing parties and either their witnesses or solicitors must sign or initial in this box

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Easement	Dated	1 August 2006	Page	2	of	2	Pages

(Continue in additional Annexure Schedule, if required.)

Where there is a conflict between the provisions of the Fourth Schedule to the Land Transfer Regulations 2002 and the Ninth Schedule to the Property Law Act 1952, the provisions of the Ninth Schedule must prevail.

Where there is a conflict between the provisions of the Fourth Schedule and/or the Ninth Schedule and the modifications in this Easement Instrument, the modifications must prevail.

The implied rights and powers are varied as follows:

Any maintenance, repair or replacement of the right of way, stormwater drains and pipes, and telecommunication, computer media and electric power cables on the servient or dominant land that is necessary because of any act or omission by the Grantor or Grantee (which includes agents, employees, contractors, subcontractors and invitees of that Grantor or Grantee) must be carried out promptly by that owner and at that owner's sole cost. Where the act or omission is the partial cause of the maintenance, repair or replacement, the costs payable by that owner responsible must be in proportion to the amount attributable to that act or omission (with the balance payable in accordance with Clause 11 of the Fourth Schedule).

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Easement Instrument	Dated 1 August 2006	Page 3 of 3 pages

(Continue in additional Annexure Schedule, if required.)

It is the Grantor's intention to create for the benefit of the Domiment Tenements the land covenant set out in Schedule B over the Servient Tenements so that the servient lots shall be forever bound by the stipulations and restrictions set out in Schedule B hereto and that the owners and occupiers for the time being of the dominant lots may enforce the observance of such stipulations against the owners for the time being of the servient lots.

SCHEDULE B

1. Not to erect any buildings other than new residential homes and shall not permit or allow the removal onto the property of any pre-built or re-locatable house or existing house which has previously been lived in without the written consent of Ruddell Contracting Limited.

2. The minimum area of the dwelling on the land shall not be less than 115 square metres not including the garage.

3. That all flat wallboard and other similar surfaces to be painted within three (3) months of installation.

4. All roofs to be of pre-painted material or tiles.

5. The hedges on the southern boundary of Lot 1 shall be kept to a maximum height of four (4) metres above ground level.

6. Not to bring on to or to allow to remain on the land or any internal road of the subdivision any temporary dwelling except during the construction of a dwelling and such temporary dwelling and any toilet system shall comply with the Local Authority regulations and shall be removed immediately on completion of the dwelling.

7. There shall be no plantings of any type on either side of the concrete driveway marked E & F on DP357808.

8. The land shall be kept tidy and mown at all times.

9. In the event that the areas marked "A", "B" and "C" on Deposited Plan 357808 are required to vest as road the proprietor for the time being of the dominant tenement hereby consents and if required shall when called upon execute a consent to the vesting and FURTHER if required surrender of the easements herein and in the event there is a mortgage or mortgages registered over the dominant tenement the registered proprietor for the time being of the dominant tenement will obtain their mortgagees consent to the said vesting and if required the said surrender.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2003/6150

Annexure Schedule - Consent Form

Land Transfer Act 1952 section 238(2)

Registrar-General of Land Approval 03/6150EF A.D.L.S.

Insert type of instrument
"Caveat", "Mortgage" etc

Easement Instrument

Consentor *Surname must be underlined or in CAPITALS*	**Capacity and Interest of Consentor** *(eg. Caveator under Caveat no./Mortgagee under Mortgage no.)*
ANZ National Bank Limited	**Mortgagee under Mortgage number C509589.1**

Consent

Delete Land Transfer Act 1952, if inapplicable, and insert name and date of application Act.
Delete words in [ ] if inconsistent with the consent.
State full details of the matter for which consent is required.

Pursuant to ~~[section 238(2) of the Land Transfer Act 1952]~~

~~[section of the Act]~~

[Without prejudice to the rights and powers existing under the Interest of the Consentor]

the **Consentor hereby consents** to:

the within easements but without releasing or discharging the Mortgagor or any other person or persons or any other security or securities for the time being held by the Mortgagee from payment of any monies whatsoever remaining owing to it under the within obligation or any collateral instrument or otherwise.

Dated this 26th day of July 2006

Attestation

ANZ National Bank Limited by its Attorney KAPUA KATRINA GARDINER Gardiner	**Signed in my presence by the Consentor** **Signature of Witness** *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** **Occupation** WITNESS: HEATHER BLACKLAWS OCCUPATION: BANK OFFICER **Address** ADDRESS: AUCKLAND
Signature of Consentor	

An Annexure Schedule in this form may be attached to the relevant instrument, where consent is required to enable registration under the Land Transfer Act 1952, or other enactments, under which no form is prescribed.

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, Kapua Katrina Gardiner, Manager Lending Services of Auckland in New Zealand hereby certifies that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147
Blenheim	as No.	186002	Invercargill	as No.	242542.1
Christchurch	as No.	A.256503.1	Napier	as No	644654.1
Dunedin	as No.	911369	Nelson	as No.	359781
Gisborne	as No.	G.210991	New Plymouth	as No.	433509
Hamilton	as No.	B.355185	Wellington	as No.	B.530013.1

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the property being dealt with pursuant to the Deed has become the property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.

3. At the date of this certificate, I am the Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.

4. At the date of this certificate, I have not received any notice or information of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

DATED at Auckland this 26th day of July 2006

.....

KAPUA KATRINA GARDINER

Easement instrument to grant easement or *profit à prendre* or create land covenant
Sections 90A and 90F, Land Transfer Act 1952

2003/6180EF
Approved
EI 7647565.5 Easement
Cpy - 01/01, Pgs - 008, 07/12/07, 08:32
DocID: 313026023

Land registration district

NORTH AUCKLAND

Grantor *Surname(s) must be underlined or in CAPITALS.*

RUDDELL CONTRACTING LIMITED

Grantee *Surname(s) must be underlined or in CAPITALS.*

RUDDELL CONTRACTING LIMITED

Grant* of easement or *profit à prendre* or creation or covenant

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

DATED this 23rd day of November 2007.

Attestation

Norman Phillip RUDDELL, Director Theresa Marie RUDDELL, Director **Signature [Common Seal] of Grantor**	**Signed in my presence by the Grantor** Signature of Witness Witness to complete in BLOCK letters (unless legibly printed) **Witness name:** **Occupation:** **Address:**
Norman Phillip RUDDELL Theresa Marie RUDDELL **Signature [Common Seal] of Grantee**	**Signed in my presence by the Grantee** Signature of Witness Witness to complete in BLOCK letters (unless legibly printed) **Witness name:** **Occupation:** **Address:**

Certified correct for the purposes of the Land Transfer Act 1952

[Solicitor for] the Grantee

* If the consent of any person is required for the grant, the specified consent form must be used.

Annexure Schedule 1

2003/6180EF
Approved
Registrar-General of Land

Easement instrument Dated 23rd November 2007 Page 2 of 6 pages

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

Purpose (nature and extent) of easement, *profit*, or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT *or* in gross)
Right of Way Right to Convey Water, Right to transmit Electricity, Telecommunications, Computer Media and Stormwater	"C", "D" and "F" on Deposited Plan 384947	Lot 2 Deposited Plan 384947 CT 339894 Continued annexure	Lot 3 DP 357808 CT 235419 schedule 2

Easements or *profits à prendre* rights and powers (including terms, covenants, and conditions) *Delete phrases in [ ] and insert memorandum number as required.* *Continue in additional Annexure Schedule if required.*

Unless otherwise provided below, the rights and powers provided in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

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

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

[The provisions set out in Annexure Schedule 2].

Covenant provisions

Delete phrases in [ ] and insert memorandum number as required.

Continue in additional Annexure Schedule if required

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

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

[The provisions set out in Annexure Schedule 2].

All signing parties and either their witnesses or solicitors must sign or initial in this box.

JR

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Easement Instrument Land Covenant	Dated 23 November 2007.	Page 2 of 6 pages

(Continue in additional Annexure Schedule, if required.)

Purpose (nature and extent) of easement, profit or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT or in gross)
Land Covenant		Lot 1 DP 384947 Identifier	Lot 2 DP 384947 CT 339894 & Lot 3 DP357808 CT 235419

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

JR MR.

Annexure Schedule
2

2003/5038EF
Approved
Registrar-General of Land

*Easement Instrument

Dated 23 November 2007 Page 8 of 6 pages

* *Insert type of instrument.* *Continue in additional Annexure Schedule if required.*

Where there is a conflict between the provisions of the Fourth Schedule to the Land Transfer Regulations 2002 and the Ninth Schedule to the Property Law Act 1952, the provisions of the Ninth Schedule must prevail.

Where there is a conflict between the provisions of the Fourth Schedule and/or the Ninth Schedule and the modifications in this Easement Instrument, the modifications must prevail.

The implied rights and powers are varied as follows:

Any maintenance, repair or replacement of the right of way, stormwater drains and pipes, and telecommunication, computer media and electric power cables on the servient or dominant land that is necessary because of any act or omission by the Grantor or Grantee (which includes agents, employees, contractors, subcontractors and invitees of that Grantor or Grantee) must be carried out promptly by that owner and at that owner's sole cost. Where the act or omission is the partial cause of the maintenance, repair or replacement, the costs payable by that owner responsible must be in proportion to the amount attributable to that act or omission (with the balance payable in accordance with Clause 11 of the Fourth Schedule).

If this Annexure Schedule is used as an expansion of an Instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

JR MR

Annexure Schedule

2003/5038EF
Approved
Registrar-General of Land

*Land Covenant

Dated 23 November 2007 Page 4 of 6 pages

* *Insert type of instrument.* *Continue in additional Annexure Schedule if required.*

It is the Grantors intention to create for the benefit of the dominant tenements in Schedule A the Land Covenants set out in Schedule B over the servient tenement in Schedule A TO THE INTENT that the Servient tenement shall be bound by the stipulations and restrictions set out in Schedule B hereto and the owners and occupiers for the time being of the Dominant tenements may enforce the observance of such stipulations against the owners for the time being of the Servient tenements

AND the Grantors DO HEREBY COVENANT AND AGREE in the manner set out in Schedule B hereto so that the Covenants run with the Servient tenements for the benefit of the respective Dominant tenements as described in Schedule A

SCHEDULE B

1. Not to erect any buildings other than new residential homes and not to permit or allow the removal onto the Servient Tenement of any pre-built or re-locatable house or existing house which has previously been lived in without the written consent of Ruddell Contracting Limited.

2. The minimum area of the dwelling on the Servient Tenement shall not be less than 115 square metres not including the garage.

3. That all flat wallboard and other similar surfaces will be painted within three (3) months of installation.

4. That all roofs will be of pre-painted material or tiles or to be painted before completion.

5. That any hedges planted on the Southern boundary of the Servient Tenement shall be kept to a maximum height of four (4) metres above ground level.

6. Not to bring on to or to allow to remain on the Servient Tenement or any internal road of the subdivision any temporary dwelling except during the construction of a dwelling and such temporary dwelling and any toilet system shall comply with the Local Authority regulations and shall be removed immediately on completion of the dwelling.

8. The Servient Tenement shall be kept tidy and mown at all times.

9. In the event that the area marked "E" on the proposed plan of subdivision of Lot 4 DP357808 is required to vest as road the proprietor for the time being of the Servient and Dominant Tenements hereby consent and if required shall when called upon execute a consent to the vesting and FURTHER, if required, surrender of the easements herein and in the event there is a mortgage or mortgagees registered over the dominant or servient tenement the registered proprietors for the time being of the servient or Dominant Tenements will obtain their mortgagees consent to the said vesting and if required the surrender.

10. The registered proprietor for the time being of the Servient Tenement shall not subdivide the said Servient Tenement.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

JR MMR

Annexure Schedule

2003/5038EF
Approved
Registrar-General of Land

*Easement Instrument and Land Covenant

Dated 23 November 2007 Page 5 of 6 pages

* *Insert type of instrument.* *Continue in additional Annexure Schedule if required.*

SCHEDULE B Continued.....

11. To keep the fences on the Northern and Eastern Boundaries of the Servient Tenement maintained, tidy and stained or painted.

12. Not to plant or allow to be sown any planting of any type which is less than one (1) metre from the boundaries of the said Servient Tenement.

13. Not to object to the continuing operation, from its current premises, of the contracting business carried on by Ruddell Contracting Limited, established and sited at the 5th day of October 2007 on Lots 3 and 4 DP357808.

14. Not to object to the subdivision of land adjoining the said Servient Tenement in particular (but not limited to) the part of Lot 4 DP357808 not included in Lot 1 DP384947 (Lot 2 DP384947 CT 339894).

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

JR MR

MR

Approved by Registrar-General of Land under No. 2003/6150

Annexure Schedule - Consent Form

Land Transfer Act 1952 section 238(2)

Registrar-General of Land Approval 03/6150EF A.D.L.S.

Insert type of instrument
"Caveat", "Mortgage" etc

Mortgage

Consentor *Surname must be underlined or in CAPITALS*	Capacity and Interest of Consentor *(eg. Caveator under Caveat no./Mortgagee under Mortgage no.)*
ANZ National Bank Limited	**Mortgagee under Mortgage number C509589.1**

Consent

Delete Land Transfer Act 1952, if inapplicable, and insert name and date of application Act.
Delete words in [ ] if inconsistent with the consent.
State full details of the matter for which consent is required.

Pursuant to ~~[section 238(2) of the Land Transfer Act 1952]~~

~~[section of the Act]~~

[Without prejudice to the rights and powers existing under the interest of the Consentor]

the Consentor hereby consents to:

the within easement instrument but without releasing or discharging the Mortgagor or any other person or persons or any other security or securities for the time being held by the Mortgagee from payment of any monies whatsoever remaining owing to it under the within obligation or any collateral instrument or otherwise.

Dated this 23rd day of November 2007

Attestation

ANZ National Bank Limited by its Attorney KAPUA KATRINA GARDINER Signature of Consentor	Signed in my presence by the Consentor Signature of Witness *Witness to complete in BLOCK letters (unless legibly printed)* Witness name JEANNE ANN FAOAGALI Occupation BANK OFFICER Address AUCKLAND

An Annexure Schedule in this form may be attached to the relevant instrument, where consent is required to enable registration under the Land Transfer Act 1952, or other enactments, under which no form is prescribed.

REF: 7029 – AUCKLAND DISTRICT LAW SOCIETY

The ANZ National Bank Limited

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, **KAPUA KATRINA GARDINER,** Manager Lending Services of Auckland in New Zealand, certify that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147
Blenheim	as No.	186002	Invercargill	as No.	242542.1
Christchurch	as No.	A.256503.1	Napier	as No.	644654.1
Dunedin	as No.	911369	Nelson	as No.	359781
Gisborne	as No.	G.210991	New Plymouth	as No.	433509
Hamilton	as No.	B.355185	Wellington	as No.	B.530013.1

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the rights, powers and property covered by the Deed have become the rights, powers and property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.

3. On 18 August 2006 Arawata Investments Limited and Philodendron Investments Limited (**Amalgamating Companies**) among other companies, amalgamated with ANZ National Bank Limited to become ANZ National Bank Limited. Accordingly, on that date ANZ National Bank Limited (as the amalgamated company) succeeded to all the property, rights, powers, privileges, liabilities and obligations of each of the Amalgamating Companies under Part XIII of the Companies Act 1993.

4. At the date of this certificate, I am a Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.

5. At the date of this certificate, I have not received any notice of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

SIGNED by the abovenamed)
Attorney at Auckland on this)
23rd day of November 2007)

KAPUA KATRINA GARDINER

Approved by Registrar-General of Land under No. 2002/6055

Easement instrument to grant easement or *profit à prendre*, or [illegible] land covenant

Sections 90A and 90F, Land Transfer Act 1952

Registrar-General of Land Approval 02/6055EF A.D.L.S.

EI 7647565.7 Easement I

Cpy-01/01, Pgs-008, 07/12/07, 08:33

DocID: 313028026

Land registration district

NORTH AUCKLAND

Grantor *Surname(s) must be underlined or in CAPITALS.*

RUDDELL CONTRACTING LIMITED

Grantee *Surname(s) must be underlined or in CAPITALS.*

TOP ENERGY LIMITED

Grant* of easement or *profit à prendre* or creation or covenant

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

Dated this 23rd day of November 2007

Attestation

M P Ruddell Norman Phillip RUDDELL, Director T. Ruddell Theresa Marie RUDDELL, Director **Signature [~~common seal~~] of Grantor**	**Signed in my presence by the Grantor** *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** **Occupation** **Address** (Continued Annexure Schedule 6)
SIGNED BY THE GRANTEE BY ITS DULY APPOINTED ATTORNEY STEVEN RICHARD JAMES **Signature [common seal] of Grantee**	**Signed in my presence by the Grantee** K. Quickfall *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** KEVIN HUGH QUICKFALL **Occupation** ACCOUNTANT **Address** KERIKERI

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Grantee

*If the consent of any person is required for the grant, the specified consent form must be used.

REF: 7003 – AUCKLAND DISTRICT LAW SOCIETY

Approved by Registrar-General of Land under No. 2002/6055

Annexure Schedule 1

Registrar-General of Land Approval 02/6055EF A.D.L.S.

Easement instrument Dated 23rd November 2007 Page 1 of 6 pages

Schedule A *(Continue in additional Annexure Schedule if required.)*

Purpose (nature and extent) of easement, *profit*, or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT *or* in gross)
Right to convey electric power	**"A" "B", "C" and "F" on Deposited Plan 384947**	**Lot 2 Deposited Plan 384947 CT 339894**	**In Gross**

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

Delete phrases in [ ] and insert memorandum number as required.
Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

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

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

~~[the provisions set out in Annexure Schedule 2].~~

Covenant provisions
Delete phrases in [ ] and insert memorandum number as required.
Continue in additional Annexure Schedule if required.

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

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

~~[Annexure Schedule 2].~~

All signing parties and either their witnesses or solicitors must sign or initial in this box.

1. Interpretation

1.1 In this instrument, unless the context otherwise requires:

(a) "Easement Area" means that part of the Servient Land marked on Deposited Plan 384947 with the letters "A", "B", "C" and "F";

(b) "Servient Land" means the land owned by the Grantor described in Schedule A of Annexure Schedule 1;

(c) "Transmission Line" means wires or conductors of any other kind (including fibre optic or coaxial cables) used or intended to be used for the transmission of electricity and/or telecommunication signals, waves or impulses; and includes any insulators, towers, poles, ground stays, supporting structures, crossarms, foundations, casings, tubes, tunnels, minor fixtures and other items, equipment or material used or intended to be used for supporting, securing, enclosing, surrounding and protecting a Transmission Line; and also includes any buildings, towers or pole mounted transformers, fuses, fuse holders, automatic switches, voltage regulators, capacitors or other instruments, apparatus or devices used in association with a Transmission Line; and anything in replacement or substitution of any of the foregoing;

(d) words importing the singular include the plural and vice versa; and

(e) references to the Grantor and Grantee include their respective heirs, executors, administrators, successors and assigns.

2. Grant of electricity easement

2.1 The Grantor grants to the Grantee as an easement in gross an electricity supply easement over the Servient Land with the following rights and powers:

(a) to convey, send, transmit and transport electricity and telecommunications signals, waves or impulses, without interruption or impediment and in any quantity by means of the Transmission Line;

(b) to survey, investigate, lay, install and construct the Transmission Line on, over or under the Easement Area, at a depth or height and along a line determined by the Grantee;

(c) to inspect, operate, use, maintain, repair, renew, upgrade, replace, change the size of and remove, the Transmission Line;

(d) with the Grantee's agents, contractors and employees, and with any vehicles, equipment, tools and materials, to enter and remain for a reasonable time on the Servient Land for any purposes necessary or convenient for the Grantee to exercise its rights under this instrument (including the right to extinguish fires);

(e) to construct on the Servient Land whatever roads, tracks, access ways, fences, gates and other works are deemed necessary by the Grantee for it to exercise

its rights under this instrument and which are approved by the Grantor (that approval not to be unreasonably withheld);

(f) to keep the Easement Area cleared of all buildings and structures by any means the Grantee considers necessary;

(g) to keep the Easement Area cleared of all fences, trees and vegetation by any means the Grantee considers necessary where such items:

(i) breach any statutory or regulatory requirements or standards or codes of practice or otherwise breach generally accepted engineering standards as to the minimum clearance of the Transmission Line;

(ii) impede the exercise by the Grantee of its rights under this instrument or the Grantee's access over the Servient Land or the Easement Area or to the Transmission Line; or

(iii) inhibit the safe and efficient operation of the Transmission Line; and

(h) by whatever means the Grantee considers necessary, to level and grade any stockpiled soil, sand, gravel or other substance or any materials, walls or other earthworks that may exist on the Easement Area in order to ensure that the clearance above the ground level of the Transmission Line is maintained greater than any minimum clearance height that may exist from time to time in statute, regulations, code of practice or otherwise.

2.2 The Grantee has no obligation to construct the Transmission Line or convey electricity through it continuously or at all.

3 Ownership of the Transmission Line

The Transmission Line will at all times remain the property of the Grantee.

4 Restrictions on Grantee's use

4.1 The Grantee must, in exercising its rights under this instrument, cause as little disturbance as is reasonably possible to the Grantor, the Servient Land and the Grantor's stock and other property and must ensure that, where applicable, all gates on the Servient Land are left as the Grantee finds them.

4.2 The Grantee must restore any part of the surface of the Servient Land that is affected by the Grantee exercising any of its rights under this instrument to a condition equivalent, as far as reasonably practicable, to that existing before the Grantee exercised those rights.

5 Grantor's Continued Use of Servient Land

Subject to clause 6, the Grantor may use the Servient Land as long as that use does not unreasonably interfere with the enjoyment of the Grantee's rights and interests granted under this instrument.

6 Restrictions on Grantor's use

6.1 The Grantor must not do or allow any act which may interfere with or affect the rights of the Grantee or the operation of the Transmission Line and, in particular, the Grantor must not, without the consent in writing of the Grantee:

(a) On the Easement Area, or within the minimum distance from the Transmission Line as advised by the Grantee (having regard to relevant statutory or regulatory requirements, codes of practice and engineering standards applicable from time to time), erect or permit the erection of any buildings or structures, or alter or allow to be altered the overall dimensions of existing buildings or structures, or carry out any earthworks or stockpiling, or construct or permit the construction of any roads, dam, walls or driveways, or allow any vegetation to become established, or remove or permit the removal of any soil, sand, gravel or other substance;

(b) disturb the soil below the depth of 0.3 metres within a distance of 6 metres from the visible outer edge of any tower, pole, ground stay, support or foundation comprising part of the Transmission Line;

(c) cause or knowingly permit flooding of the Easement Area;

(d) burn off crops, trees or undergrowth on the Servient Land;

(e) operate or permit to be operated any machinery or equipment (including any cranes, drilling-rigs, pile-drivers and excavators) in close proximity to any tower, pole, ground stay or support comprising part of the Transmission Line;

(f) disturb any survey pegs or markers placed on the Easement Area by the Grantee;

(g) impede the Grantee's access over the Servient Land or the Easement Area or to the Transmission Line; or

(h) do anything on or in the Servient Land which would or could damage or endanger the Transmission Line.

6.2 The consent of the Grantee required under clause 6.1 will not be unreasonably withheld, but may be given subject to conditions.

6.3 The Grantee may consent in writing to certain existing buildings, structures, fences or vegetation on the Easement Area at the date of this instrument remaining there, but such consent may be given subject to conditions.

6.4 If any act or item consented to under clause 6.2 or 6.3 subsequently results in a situation described in clause 2.1 (g)(i) – (iii), then such consent may be revoked by the Grantee without compensation.

6.5 Before exercising any right under this instrument to remove a fence, the Grantee must consult with the Grantor so the Grantor is given a reasonable opportunity to co-ordinate the erection of any necessary replacement fence. The cost of any replacement fence will be borne by the Grantor and the Grantor must comply with any reasonable directions of the Grantee as to the height, materials used and location of such replacement fence.

6.6 If the Grantor does not meet its obligations under this instrument within such reasonable timeframe as is specified in a notice from the Grantee requiring it to do so then the Grantee may meet those obligations (and enter the Servient Land for that purpose) and the Grantor is liable to pay to the Grantee the costs incurred in doing so.

7 Indemnity against third party claims

Each party ("Indemnifying Party") must indemnify the other ("Indemnified Party") against all claims or demands from third parties for any loss, damage or liability in respect of, or arising out of, the use of the land by the Indemnifying Party (or any person authorised, whether expressly or impliedly by it) **EXCEPT THAT** it will not be liable to indemnify where such loss, damage or liability was caused by the Indemnified Party. Where the actions of the Indemnified Party contribute to that loss, damage or liability, the indemnity given by the Indemnifying Party will be reduced in proportion to that contribution.

8 Licence and assignment

The Grantee may assign, licence or otherwise grant any right of all or any part of any estate or interest conferred by this instrument.

9 Perpetual easement

There is no power implied in this instrument for the Grantor to terminate the easement for any breach of this instrument or for any other reason. It is the intention of the parties that the easement created by this instrument will continue forever unless surrendered.

10 Arbitration

If any dispute arises between the parties in relation to this instrument or any matter arising under it and that dispute cannot be resolved by negotiation, then the parties must submit the dispute to arbitration in accordance with the Arbitration Act 1996 (and its amendments or any statute which replaces it). The arbitration will be commenced by either party giving written notice to the other of the details of the dispute and that party's desire to have the matter referred to arbitration. The arbitration will be by one arbitrator, if the parties can agree upon one, and, if not, then by two arbitrators, one to be appointed by each party, and their umpire to be appointed by the arbitrators before they begin to consider the dispute. The award in the arbitration will be final and binding on the parties.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, STEVEN RICHARD JAMES of Kerikeri, General Manager – Corporate Services, hereby certify:

1. **THAT** by a deed dated the 3rd day of May 2005, TOP ENERGY LIMITED, a duly incorporated company having its registered office at Kaikohe, appointed me attorney on the terms and subject to the conditions set out in the deed.
2. A copy of the power of attorney is deposited in the Land Titles Office at North Auckland under No 6440969.1.
3. **THAT** as at this date I have not received any notice or information of the revocation of this appointment by the dissolution or otherwise of TOP ENERGY LIMITED.

DATED this 21st day of NOVEMBER 2007

Steven Richard James

X0504047

Approved by Registrar-General of Land under No. 2003/6150

Annexure Schedule - Consent Form

Land Transfer Act 1952 section 238(2)

Registrar-General of Land Approval 03/6150EF A.D.L.S.

Insert type of instrument
"Caveat", "Mortgage" etc

Mortgage

Consentor *Surname must be underlined or in CAPITALS*	Capacity and Interest of Consentor *(eg. Caveator under Caveat no./Mortgagee under Mortgage no.)*
ANZ National Bank Limited	**Mortgagee under Mortgage number C509589.1**

Consent

Delete Land Transfer Act 1952, if inapplicable, and insert name and date of application Act.
Delete words in [ ] if inconsistent with the consent.
State full details of the matter for which consent is required.

Pursuant to ~~[section 238(2) of the Land Transfer Act 1952]~~

~~[section of the Act]~~

[Without prejudice to the rights and powers existing under the interest of the Consentor]

the Consentor hereby consents to:

the within easement instrument but without releasing or discharging the Mortgagor or any other person or persons or any other security or securities for the time being held by the Mortgagee from payment of any monies whatsoever remaining owing to it under the within obligation or any collateral instrument or otherwise.

Dated this 23rd day of November 2007

Attestation

ANZ National Bank Limited by its Attorney KAPUA KATRINA GARDINER Gardiner	**Signed in my presence by the Consentor** Faoagali **Signature of Witness** *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** JEANNE ANN FAOAGALI **Occupation** BANK OFFICER **Address** AUCKLAND
Signature of Consentor	

An Annexure Schedule in this form may be attached to the relevant instrument, where consent is required to enable registration under the Land Transfer Act 1952, or other enactments, under which no form is prescribed.

The ANZ National Bank Limited

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, **KAPUA KATRINA GARDINER,** Manager Lending Services of Auckland in New Zealand, certify that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147
Blenheim	as No.	186002	Invercargill	as No.	242542.1
Christchurch	as No.	A.256503.1	Napier	as No.	644654.1
Dunedin	as No.	911369	Nelson	as No.	359781
Gisborne	as No.	G.210991	New Plymouth	as No.	433509
Hamilton	as No.	B.355185	Wellington	as No.	B.530013.1

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the rights, powers and property covered by the Deed have become the rights, powers and property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.

3. On 18 August 2006 Arawata Investments Limited and Philodendron Investments Limited (**Amalgamating Companies**) among other companies, amalgamated with ANZ National Bank Limited to become ANZ National Bank Limited. Accordingly, on that date ANZ National Bank Limited (as the amalgamated company) succeeded to all the property, rights, powers, privileges, liabilities and obligations of each of the Amalgamating Companies under Part XIII of the Companies Act 1993.

4. At the date of this certificate, I am a Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.

5. At the date of this certificate, I have not received any notice of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

SIGNED by the abovenamed)
Attorney at Auckland on this)
23rd day of November 2007) KAPUA KATRINA GARDINER

View Instrument Details

Instrument No.	11361217.2
Status	Registered
Date & Time Lodged	01 Mar 2019 09:23
Lodged By	Noakes, Katherine Gaye
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Records of Title	Land District
815034	North Auckland

Annexure Schedule: Contains 1 Page.

Signature

Signed by Richard Adrian Ayton as Territorial Authority Representative on 18/03/2019 02:34 PM

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

Far North District Council

Private Bag 752, Memorial Ave
Kaikohe 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

Te Kaunihera o Tai Tokerau Ki Te Raki

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **RC 2180372**
Being the Subdivision of Lot 2 DP 384947
North Auckland Registry

PURSUANT to Section 221 and for the purpose of Section 224 (c) (ii) of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and these are to be registered on the titles of the allotments specified below.

SCHEDULE

Lot 1, DP 519192

(i) In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.

(ii) Land within Lot 1 has been identified as land that will potentially be covered by 'National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011'. As it was considered production land at time of subdivision, and the subdivision did not remove the land from being production land, the developer did not address the regulations at time of subdivision. It will be the responsibility of the lot owner to address the regulations if proposing any development on the site. Activities covered by the regulations include the removing or replacing of a fuel storage system; soil sampling, disturbance and/or removal; subdivision; and changing the use of the land.

SIGNED: P.J. Killalea Mr Patrick John Killalea Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE MANAGEMENT

DATED at **KERIKERI** this 5th day of June 2018

View Instrument Details

Land

Instrument No	11361217.3
Status	Registered
Date & Time Lodged	01 March 2019 09:23
Lodged By	Noakes, Katherine Gaye
Instrument Type	Easement Instrument

Toitū Te Whenua
Land Information
New Zealand

Affected Records of Title	Land District
815033	North Auckland
815034	North Auckland

Annexure Schedule: Contains 1 Page.

Grantor Certifications

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

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

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

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

I certify that the Mortgagee under Mortgage C509589.1 has consented to this transaction and I hold that consent ☑

Signature

Signed by Richard Adrian Ayton as Grantor Representative on 01/03/2019 08:53 AM

Grantee Certifications

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

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

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

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

Signature

Signed by Richard Adrian Ayton as Grantee Representative on 01/03/2019 08:53 AM

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

EASEMENT INSTRUMENT TO GRANT EASEMENT OR *PROFIT À PRENDRE*

Section 109 Land Transfer Act 2017

Grantor

RUDDELL CONTRACTING LIMITED

Grantee

RUDDELL CONTRACTING LIMITED

Grant of Easement or *Profit à prendre*

The Grantor being the registered owner of the burdened land set out in Schedule A **grants to the Grantee** (and, if so stated, in gross) the easement(s) or *profit(s) à prendre* set out in Schedule A, with the rights and powers or provisions set out in the Annexure Schedule(s).

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

Purpose (Nature and extent) of easement; or *profit*	Shown (plan reference)	Burdened Land (Record of Title)	Benefited Land (Record of Title) or in gross
Right of Way, right to drain sewage and stormwater, right to convey electricity, right to convey telecommunications, right to convey water	**"C" and "G" on DP 519192**	**Lot 1 on DP 519192 (CT 815034)**	**Lot 2 on DP 519192 (CT 815033)**
Right to drain Stormwater	**"E" on DP 519192**	**Lot 2 on DP 519192 (CT 815033)**	**Lot 1 on DP 519192 (CT 815034)**

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

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

Unless otherwise provided below, the rights and powers implied in specified classes of easement are those prescribed by the Land Transfer Regulations 2018 and/or Schedule 5 of the Property Law Act 2007

The implied rights and powers are hereby **varied** as follows:

All rights and powers implied in the easement to drain stormwater shall be the same rights and powers implied in respect of the right to drain water set out in the 5th Schedule of the Land Transfer Regulations 2018.

~~[Memorandum number , registered under section 209 of the Land Transfer Act 2017]~~

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

Land

Toitū Te Whenua
Land Information
New Zealand

View Instrument Details

Instrument Type	Caveat against dealings with land under Section 138 Land Transfer Act 2017
Instrument No	12288647.1
Status	Registered
Date & Time Lodged	05 November 2021 10:25
Lodged By	Hickmott, Anna Louise

Affected Records of Title	**Land District**
815034	North Auckland

Registered Owner
Ruddell Contracting Limited

Caveator
Top Energy Limited

Estate or Interest claimed
Pursuant to an agreement to grant easement dated 2 November 2021 between the registered owner as grantor and the caveator as grantee for the right to convey electricity and telecommunications

Notice
Take notice that the Caveator forbids the registration of any instrument, or the recording of any matter in the register that transfers, charges, or prejudicially affects the estate or interest protected by this caveat until this caveat is withdrawn by the Caveator, removed by order of the High Court, or until the same has lapsed under the provisions of section 143 of the Land Transfer Act 2017.

Address for Service of Caveator
Top Energy Limited
C/- Taryn Collins
60 Kerikeri Road
Kerikeri
New Zealand
0230

Address for Registered Owner
Ruddell Contracting Limited
C/- Gilmore Taylor Associates Limited
Po Box 786
Whangarei
New Zealand
0140

Caveator Certifications

Land

Toitū Te Whenua
Land Information
New Zealand

View Instrument Details

Caveator Certifications

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

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

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

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

Signature

Signed by Anna Louise Hickmott as Caveator Representative on 05/11/2021 10:24 AM

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

View Instrument Details

Instrument No	12499102.1
Status	Registered
Date & Time Lodged	23 August 2022 10:52
Lodged By	Noakes, Katherine Gaye
Instrument Type	Easement Instrument

Toitū Te Whenua
Land Information
New Zealand

Affected Records of Title	Land District
235418	North Auckland
815034	North Auckland

Annexure Schedule Contains 1 Pages.

Grantor Certifications

I certify that I have the authority to act for the Grantor and that the party has the legal capacity to authorise me to lodge this instrument	☑
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	☑
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	☑
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period	☑
I certify that the Caveator under Caveat 12288647.1 has consented to this transaction, which is subject to the Caveat, and I hold that consent	☑
I certify that the Mortgagee under Mortgage C509589.1 has consented to this transaction and I hold that consent	☑
I certify that the Mortgagee under Mortgage 9519132.3 has consented to this transaction and I hold that consent	☑

Signature

Signed by Richard Adrian Ayton as Grantor Representative on 23/08/2022 09:58 AM

Grantee Certifications

I certify that I have the authority to act for the Grantee and that the party has the legal capacity to authorise me to lodge this instrument	☑
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	☑
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	☑
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period	☑

Signature

Signed by Richard Adrian Ayton as Grantee Representative on 23/08/2022 09:58 AM

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

EASEMENT INSTRUMENT TO GRANT EASEMENT OR *PROFIT À PRENDRE*

Section 109 Land Transfer Act 2017

Grantor

PORT ALBERT TRUSTEE COMPANY LIMITED

Grantee

NORMAN PHILLIP RUDDELL and THERESA MARIE RUDDELL

Grant of Easement or *Profit à prendre*

The Grantor being the registered owner of the burdened land set out in Schedule A **grants to the Grantee** (and, if so stated, in gross) the easement(s) or *profit(s) à prendre* set out in Schedule A, with the rights and powers or provisions set out in the Annexure Schedule(s).

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

Purpose (Nature and extent) of easement; or *profit*	Shown (plan reference)	Burdened Land (Record of Title)	Benefited Land (Record of Title) or In gross
Right to convey electricity	Marked A on Deposited Plan 577898	Lot 2 DP 357808 (RT 235418)	Lot 1 DP 519192 (RT 815034)

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

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

Unless otherwise provided below, the rights and powers implied in specified classes of easement are those prescribed by the Land Transfer Regulations 2018 and/or Schedule 5 of the Property Law Act 2007

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

~~[Memorandum number ..... registered under section 209 of the Land Transfer Act 2017]~~

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

Appendix 4

Consultation with Top Energy and Chorus

TOP ENERGY®
TePuna Hihiko
www.topenergy.co.nz

Top Energy Limited
Level 2, John Butler Centre
60 Kerikeri Road
P O Box 43
Kerikeri 0245
New Zealand
PH +64 (0)9 401 5440
FAX +64 (0)9 407 0611

4 December 2025

Lynley Newport
Thomson Survey
PO Box 372
KERIKERI 0245

Email: lynley@tsurvey.co.nz

To Whom It May Concern:

RE: PROPOSED SUBDIVISION
Tessa Ruddell – 23 & 42 Karaka Drive, Kerikeri. Lot 1 DP 519192.

Thank you for your recent correspondence with attached subdivision scheme plans.

Top Energy's requirement for this subdivision is that power be made available for the additional lots. Design and costs to provide a power supply would be provided after application and an on-site survey have been completed.
Link to application: Top Energy | Top Energy

In order to get a letter from Top Energy upon completion of your subdivision, a copy of the resource consent decision must be provided.

If you have any further queries, please do not hesitate to contact the writer.

Yours sincerely

Aaron Birt
Planning and Design
E: aaron.birt@topenergy.co.nz

Chorus New Zealand Limited

01 December 2025

Chorus reference: 11445403

Attention: Lynley Newport

Quote: New Property Development

4 connections at 23 Karaka Drive, Kerikeri, Far North District, 0230

Your project reference: N/A

Thank you for your enquiry about having Chorus network provided for the above development.

Chorus is pleased to advise that, as at the date of this letter, we are able to provide reticulation for this property development based upon the information that has been provided:

Fibre network	$0.00
Pre-built fibre	$0.00

The total contribution we would require from you is **$0.00 (including GST)**. This fee is a contribution towards the overall cost that Chorus incurs to link your development to our network. This quote is valid for 90 days from 01 December 2025. This quote is conditional on you accepting a New Property Development Contract with us for the above development.

If you choose to have Chorus provide reticulation for your property development, please log back into your account and finalise your details. If there are any changes to the information you have supplied, please amend them online and a new quote will be generated. This quote is based on information given by you and any errors or omissions are your responsibility. We reserve the right to withdraw this quote and requote should we become aware of additional information that would impact the scope of this letter.

Once you would like to proceed with this quote and have confirmed all your details, we will provide you with the full New Property Development Contract, and upon confirmation you have accepted the terms and paid the required contribution, we will start on the design and then build.

For more information on what's involved in getting your development connected, visit our website www.chorus.co.nz/develop-with-chorus

Kind Regards

Chorus New Property Development Team

Appendix 5

Subdivision Site Suitability Report

geologix
consulting engineers

SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

23 & 42 KARAKA ROAD, KERIKERI

T RUDDELL

C0694N-S-01
DECEMBER 2025
REVISION 1

www.geologix.co.nz 09 392 0007 Auckland | Northland

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Subdivision Site Suitability Engineering Report
Site Reference	23 42 Karaka Drive, Kerikeri
Client	T Ruddell
Geologix Reference	C0694N-S-01
Issue Date	December 2025
Revision	01
Prepared	Fred Sennoga Civil Design Engineer, BScEng Civil, MEngNZ 
Reviewed	Sebastian Hicks Principal Civil Engineer, CPEng Reg. 1168062, CMEngNZ, IntPE(NZ) /APEC Engineer 
Approved	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ
File Reference	*C0694N-S-01-R01*

REVISION HISTORY

Date	Issue	Prepared	Reviewed	Approved
Dec 2025	First Issue	FS	SH	EC

geologix
consulting engineers

TABLE OF CONTENTS

FIGURES

TABLES

1 INTRODUCTION

This Site Suitability Engineering Report has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Theresa Ruddell 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 subdivision of a rural living property legally described as Lot 1 DP 519192 situated at 23 & 42 Karaka Drive, Kerikeri. The proposal is to create six new rural residential lots, with a balance Lot 7 to be amalgamated with the adjacent Lot 3 DP 357808, the latter already supporting well established residential living .Specifically, this assessment addresses engineering elements of natural hazards, wastewater, stormwater, water supply, firefighting, internal access and associated earthworks requirements to provide safe and stable building platforms with less than minor effects on the environment as a result of the proposed activities outlined in Section 1.1.

1.1 Proposal

A proposed scheme plan was presented to Geologix at the time of writing, prepared by Thomson Survey Ltd[1] and has been reproduced within Appendix A as Drawing No 100.

It is understood the subdivision is being done in two stages, with the overall layout represented in Drawing No100. Table 1 below summarises the proposed subdivision .

The site is located in a Rural Living zone as per the FNDC Operative District Plan.

Table 1: Summary of Proposed Subdivision

Proposed Lot No.	Size	Purpose
1	0.3850 ha	New rural residential
2	0.4590ha	New rural residential
3	0.3050ha	New rural residential
4	0.3660 ha	Existing rural residential
5	0.5300 ha	New rural residential
6	0.6560 ha	New rural residential
7	1.6750 ha	Balance land to be amalgamated with Lot 3 DP 357808

Site access for the proposed lots will be provided from Karaka Drive located northwest of Lot 1 and through the proposed right of way that has an existing formed driveway that requires

upgrading to satisfy local council standards. A specific Traffic Impact Assessment (TIA) is not within the scope of this report.

[1] *Thomson Survey, PROPOSED SUBDIVISION OF LOT 1 DP 519192*

2 DESKTOP APPRAISAL

The parent site is legally described as Lot 1 DP 519192 and zoned by the FNDC Operative District Plan as a "Rural Living" zone. The site is located along the southeastern end of Karaka Drive, Kerikeri and is irregular in shape with a gross site area of approximately 4.3764ha. An existing driveway runs through the site from the northwest corner and provides access to the existing dwellings, structures and the proposed lots. Lot 4, shares a western boundary with Amokura Drive. The southeast corner of the parent site also borders the Kerikeri River Scenic Reserve that has a shallow eastern broad gulley that flows towards the Kerikeri River CMA.

Topographically, the site area is flat and gently slopes radially towards the eastern and southeast aspect of the site. There is a localised high point, level 60m, within Lot 6 near in the northeastern region of the site. The overall slope of the terrain is gentle towards the east of the site (~1.1^0 slope) from about 58m to 57m. From the local high point the site slopes gently southwards (~5^0 slope) from about 59m to 51m before reaching the legal boundary of the Kerikeri River reserve. The site setting is presented schematically below in figure 1 and 2

Figure 1: Site Setting (parent site)

Figure 2: Site Setting (proposed lots)

The site area is currently open grassed paddock with some mature bamboo shelter belts and a small area of domestic citrus orchard in the south. There are existing dwellings on proposed Lots 4 & 6. There are also existing shed structures and stored materials/equipment located near the southeast of the site (within Lot 7).

2.1 Existing Reticulated Networks

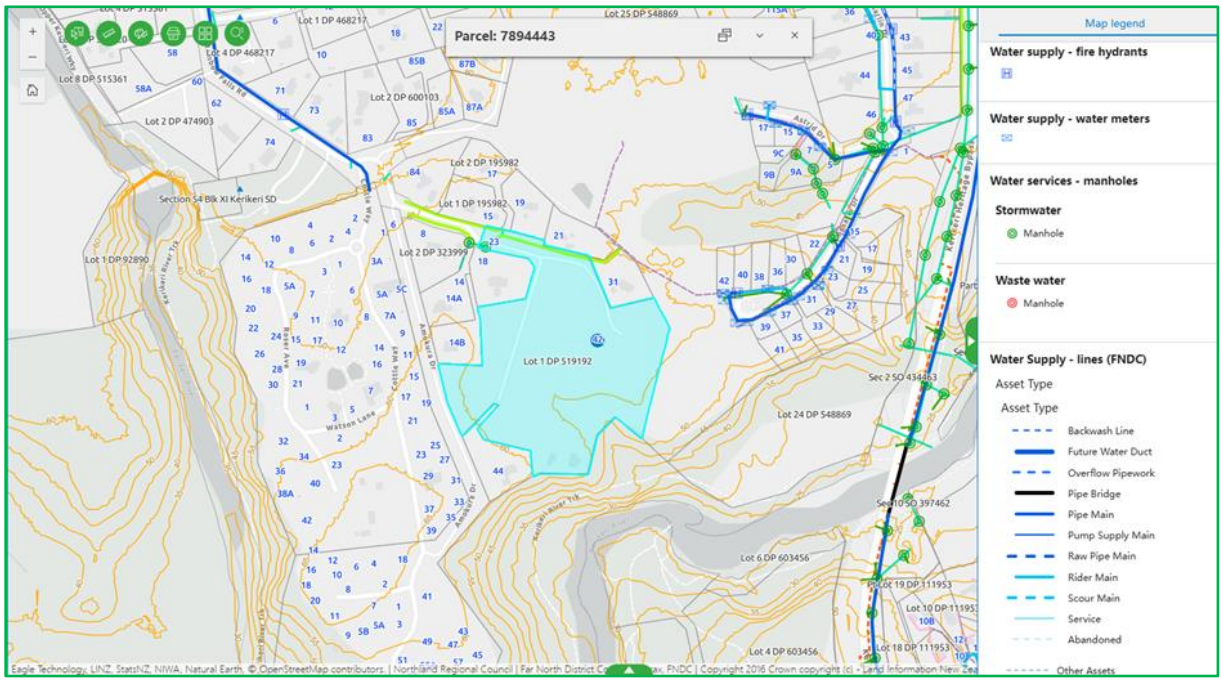
Far North District Council (FNDC) GIS mapping indicates (see figure 3) that existing public three waters infrastructure and reticulated networks are not present within 42 Karaka Drive. The nearest Water main supply pipes are located approximately 150m northwest of the site's northwest corner boundary and also 80m east of the proposed Lot 6 eastern boundary measuring 160mm and 100mm in diameter respectively.

According to council records a private 75mm sewer line can be found 30m northeast of the Lot 6 northeastern corner site boundary.

Existing Stormwater culvert drains run near and underneath the Karaka Drive entrance to the site before discharging into an unlined open channel drain that runs parallel with the parent site's northern boundary in an easterly direction towards a discharge point north of 31 Karaka Drive towards the nearby waterway.

This report has been prepared with the goal of the subdivision and future development catering for onsite wastewater, onsite stormwater, and potable water supply with suitable firefighting requirements thereof.

Figure 3. Existing Site Layout and Services (FNDC GIS)

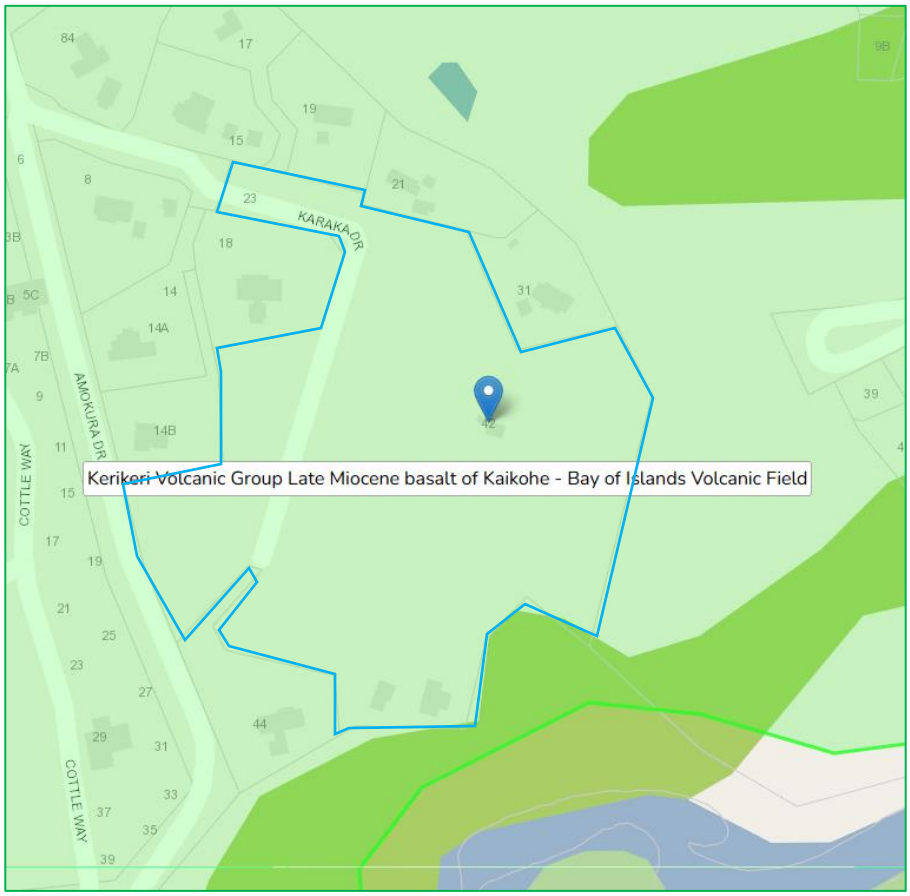


2.2 Geological Setting

Available geological mapping[2] 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. The basaltic flows, described as older flows and flow remnants in this area are indicated to cover the entirety of the site, giving rise to the gently sloping to rolling topography. The volcanic geology extends away from the site across the local area. Refer to Figure 4 below:

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

Figure 4: Geological Map on site boundaries.

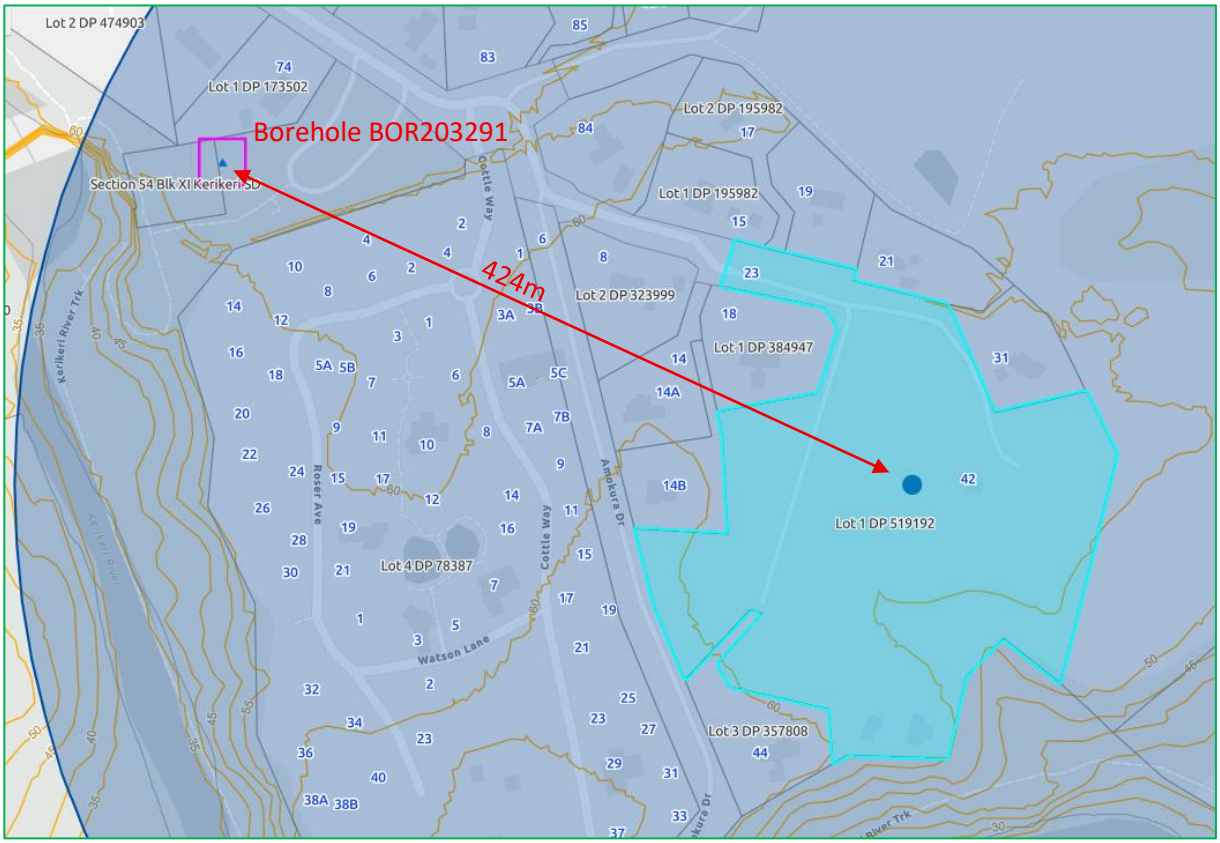


2.3 Existing Geotechnical Information

Existing ground investigations were not made available to Geologix at the time of writing. Furthermore, a review of available GIS databases, including the New Zealand Geotechnical Database,[3] did indicate a borehole record within 500 m of the site. The active borehole (BOR203291) is located approximately 424m northwest of the site. The borehole is located upstream of the site with a ground contour height of 61.5m (see figure 5 below)

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

Figure 5: Borehole location



3 SURFACE WATER FEATURES AND OVERLAND FLOWPATHS

During our site walkover and desktop appraisal of GIS topographic data, Geologix have developed an understanding of the surface water features and overland flow paths influencing the site. This is summarised in the following sections.

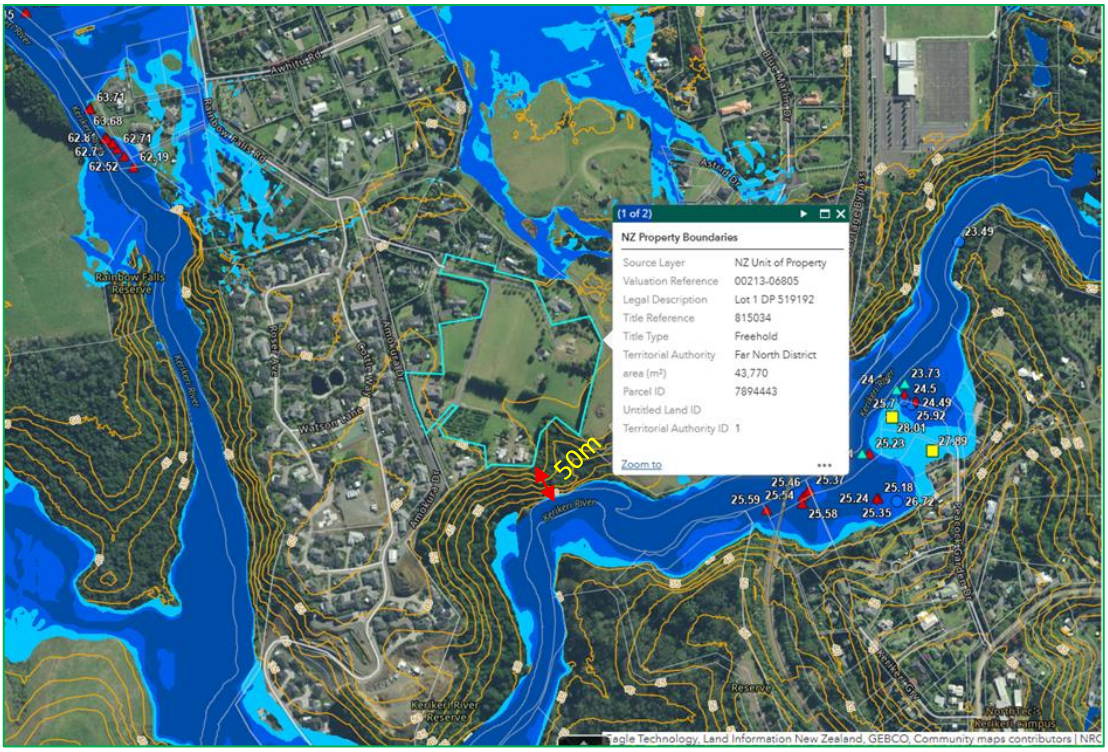
3.1 Surface Water Features

The site is at relatively lower elevations of the existing catchment with the Kerikeri River flowing immediately downstream of the site's southeast corner.

Stormwater will flow as sheet flow in an easterly and southeasterly direction across the site towards the south-eastern corner of the site. This overland flow appears to enter a shallow wide gulley within Lot 7 that discharges towards the CMA. The gulley intersects the site boundary at elevation 50m and discharges downstream into the Kerikeri river.

There is a mapped flood hazard (100year CC River Flood Regionwide Model) located around 50m southeast of the site, at around elevation 30m AMSL, within the Waipekakoura River. The nearest site corner boundary is at around elevation 55m. Refer Figure 6 below.

Figure 6: NRC River Hazard Extents Relative to Site



3.2 Sensitive Receptors

Based on GIS data, national topographic maps and survey data provided at the time of writing we do not understand there to be sensitive receptors such as wetlands at the site.

3.3 Overland Flow Paths

Our walkover survey was undertaken in October and noted here are no well-defined overland flow paths evident within the site boundaries of the relatively flat to gentle sloping land. It is anticipated that surface water could move as shallow or sheet flow following the natural topography towards the eastern and southeastern corners of the site.

A shallow wide gulley near the southeast corner of the site adjacent to the Kerikeri River reserve was observed.

4 SITE OBSERVATIONS

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

- Four hand augered boreholes designated HA01 to HA04 inclusive, formed within suitable areas for wastewater disposal fields on each proposed residential lot with a target depth of 1.2m below ground level (bgl). See figure 7 below for hand auger locations and other features.

Figure 7: Site observations sketch

4.1 Site Walkover Survey

A visual walkover survey of the property confirmed the following:

- The topographical understanding of the site developed from our desktop study, as outlined in Section 2, is in general accordance with that observed on site.
- Suitable building envelopes[4] can be formed on gently sloping land < 10°.
- The existing Karaka Drive (public road) provides access to the site's northern entrance. Access to all lots is from Karaka Drive and via existing formed metal rights of way coming

[4] *Measuring 30 m x 30 m according to FNDC District Plan Rule 13.7.2.2.*

directly off the end of public road. Karaka Drive is sealed public road, with a minimum 16m legal width.

- Nearby land to the west, north and east of the site includes similar rural residential properties with lawns or grassed paddocks and shrubbery. Recent intensification development was not evident on immediately adjacent lots. South of the site a forested conservation reserve area bordered the site on its southeastern border next to Lot 7.
- An existing single-story dwelling structure, garage and pool is located towards the southwest aspect of Lot 4.
- Existing sheds and storage materials are located towards the southern boundary of proposed Lot 7.
- Existing stormwater infrastructure is represented by public SW culvert drains run near and underneath the Karaka Drive entrance to the site that discharges into an unlined open channel drain. This drain runs parallel with the parent site's northern boundary in an easterly direction towards a discharge point north of 31 Karaka Drive towards the nearby waterway. There was no visible evidence of existing onsite attenuation at the site.
- The existing accessway that heads south through the site has a shallow, wide swale on the western side of the carriageway. There is an existing HDPE culvert that drains under the accessway from west to east into to a SW sump. This sump is connected to an east draining RC culvert that flows into a rectangular open unlined channel. SW in this channel drains in an easterly direction towards other east flowing overland flows that lead to a gulley that flows towards the eastern Kerikeri River Scenic reserve forested area.
- No concentrated flows from neighbouring properties to Lot 3 and Lot 4 (Lot 1 DP 384947, Lot 2 DP 357808 respectively) were observed. Overland flows in Lot 2 DP 519192 north of Lot 6 were observed to be directed towards a concentrated vee channel flow that headed north away from both sites.
- No existing council water supply meter was found in the site. Water supply is via roof water tanks as seen at existing dwellings within proposed Lot 4 and Lot 6.
- No existing public or private pressure sewer connections were found at the existing site Evidence of onsite wastewater treatment was visible at Lot 4 in the form of an inground wastewater system. Lot 6 has existing dwellings on it that appear to also have onsite wastewater treatment in the form of an underground septic tank.

4.2 Ground Conditions

Arisings recovered from the exploratory boreholes were logged by a suitably qualified geotechnical engineering professional in general accordance with New Zealand Geotechnical

Society guidelines[5]. Engineering borehole logs are presented as Appendix B to this report and approximate borehole positions recorded on Drawing No. 101 within Appendix A. Strata identified during the ground investigation can be summarised as follows:

- **Topsoil encountered down to 0.4 m bgl.** Described as grassed topsoil containing organic silt, dark blackish brown and moist with low plasticity.

- **Northland Allochthon residual soil to depths ranging between 0.15 m to >1.2 m bgl.** Underlaying the topsoil, we have encountered natural Northland Allochthon residual soils which were typically a cohesive soil, ranging from clay to silt, with minor organic material. The soils were found to be brown/orange to grey/ light grey. They are generally moist and generally of low plasticity.

A summary of ground investigation data is presented below as Table 2.

Table 2: Summary of Ground Investigation

Hole ID	Lot	Hole Depth	Topsoil Depth	Groundwater[2]	Wastewater Category[4]
HA01	1	1.2 m	0.2 m	NE	6 – slow draining
HA02	3	1.2 m	0.4 m	NE	6 – slow draining
HA03	4	1.2 m	0.15 m	NE	6 – slow draining
HA03	4	1.2 m	0.25 m	NE	6 – slow draining

1. *All depths recorded in m bgl unless stated.*
2. *Groundwater measurements taken on day of drilling.*
3. *NE – Not Encountered.*
4. *Wastewater category in accordance with Auckland Council TP58[6].*

5 WASTEWATER ASSESSMENT

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

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

- NZS1547:2012, On-site Domestic Wastewater Management.

The concept rural residential developments within this report assume that the proposed new lot may comprise up to a five-bedroom dwelling with a peak occupancy of eight people[7]. This considers the uncertainty of potential future Building Consent designs. The number of usable

[5] *New Zealand Geotechnical Society, Field Description of Soil and Rock, 2005.*
[6] *Auckland Council, Technical Publication 58, On-site Wastewater Systems: Design and Management Manual, 2004, Table 5.1.*
[7] *TP58 Table 6.1.*

bedrooms within a residential dwelling must consider that proposed offices, studies, gyms, or other similar spaces maybe considered a potential bedroom by the Consent Authority.

5.1 Existing Wastewater Systems, Reticulated Network

An existing private wastewater sewer system has been identified within the site boundaries at Lot 4. This system's tanks and pump are located northeast of the existing shed which pump out the generated effluent to waste disposal field in the northwest corner of the site. Evidence of dripper lines was visible. The system is located well within the Lot 4 boundary. A desktop review of BC documents site plan[8] shows that the approved plans align with the insitu system placement recommendations.

Another existing private wastewater sewer system is found at the proposed Lot 6 dwelling. There is evidence that an underground septic tank system type is used at this location. The septic tank is located east of the existing dwelling unit. The tank is located well within the Lot 6 boundary at a minimum of 5m away from the proposed southern boundary. It is inferred that the wastewater disposal field is located east of the septic tank.

FNDC GIS infrastructure data maps indicate that the existing site is not directly serviced by public infrastructure as indicated in section 2.1 of this report.

5.2 Wastewater Proposal

The proposed wastewater infrastructure associated to the establishment of the subdivision includes the provision of onsite wastewater treatment. Refer Drawing Sheet 100 in Appendix A.

This will involve appropriate sizing and positioning of wastewater disposal fields within each proposed lot as detailed in section 5.5.

5.3 Wastewater Generation Volume

In lieu of potable water infrastructure servicing the site, roof rainwater collection within on-lot tanks has been proposed for this assessment. The design water volume for roof water tank supply is estimated at 160 litres/ person/ day[9]. This assumes standard water saving fixtures[10] being installed within the proposed future developments. This should be reviewed for each proposed lot at the Building Consent stage. For the concept wastewater design this provides a total daily wastewater generation of 1,280litres/ day per proposed lot.

5.4 Treatment System

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

---

[8] *FNDC-Approved Building Consent Document – EBC-2022-1524-0-Pg 3 of 31 -16/06/2022-NZBTC*

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

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

that to meet suitable minimum treated effluent output, secondary treatment systems are accounted for across the site. In Building Consent design, considering final disposal field topography and proximity to controlling site feature, a higher treated effluent output standard such as UV disinfection to tertiary quality maybe required.

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

5.5 Land Disposal System

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

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

Table 3: Disposal Field Design Criteria (Lots 1,2,3 & 5)

Design Criteria	Site Conditions
Topography at the disposal areas shall not exceed 25°. Exceedances will require a Discharge Consent.	Concept design complies
On shallower slopes <25 ° but >10 °, compliance with Northland Regional Plan (NRP) rule C.6.1.3(6) is required.	Concept design complies, disposal fields can be sited on slopes of <10 °, cutoff drains not required.
On all terrain irrigation lines should be laid along contours.	Concept design complies
Disposal system situated no closer than 900 mm (vertically) from the winter groundwater table (secondary treated effluent).	Concept design complies
Separation from surface water features such as stormwater flow paths (including road and kerb channels), rivers, lakes, ponds, dams, and natural wetlands according to Table 9, Appendix B of the NRP.	Concept design complies. All overland flow paths separation distances to disposal areas are 15 m.
The effluent is treated and disposed of on-site such that each site has its own treatment and disposal system no part of which shall be located closer than 30m from the boundary of any river, lake, wetland, or the boundary of the coastal marine area. FNDC rule 12.7.6.1.4	Concept design complies.

- Soil Loading Rate

Based on the results of the ground investigation, conservatively the shallow soils are inferred to meet the drainage characteristics of TP58 Category 6, sandy clay, non-swelling clay, and silty clay – slowly draining. This correlates to NZS1547 Category 5, poorly drained described as light clays. For a typical PCDI system, a Soil Loading Rate (SLR) of 3 mm/ day is recommended within NZS1547 Table 5.2 and TP58 Table 9.2.

- Disposal Areas

The sizing of wastewater system disposal areas is a function of soil drainage, the loading rate and topographic relief. For each proposed lot a primary and reserve disposal field is required as follows. The recommendations below are presented on Drawing No. 101.

Primary Disposal Field. A minimum PCDI primary disposal field of 427 m^2 laid parallel to the natural contours.

Reserve Disposal Field. A minimum reserve disposal field equivalent to 30 % of the primary disposal field is required under NRP rule C.6.1.3(9)(b) for secondary or tertiary treatment systems. It is recommended each proposed lot provides a 128 m^2 reserve disposal area to be laid parallel to the natural contours.

Concept disposal field locations require the provision of surface water cut-off drains to meet the provisions of NRP rule C.6.1.3.

Disposal fields discharging secondary treated effluent are to be set at the 20-year ARI (5% AEP) flood inundation height to comply with the above NRP rule. Flood hazard potential has not been identified within the site boundaries and as such the site can provide freeboard above the 1 % AEP flood height to comply with this rule.

5.6 Summary of Concept Wastewater Design

Based on the above design assumptions a concept wastewater design is presented in and presented schematically upon Drawing No. 101. It is recommended that each lot is subject to Building Consent specific review and design amendment according to final development plans.

Table 4: Concept Wastewater Design Summary (Lots 1,2,3 & 5)

Design Element	Specification
Concept development	Five-bedroom, peak occupancy of 8 (per lot)
Design generation volume	160 litres/ person/ day
Water saving measures	Standard. Combined use of 11 litre flush cisterns, automatic washing machine & dishwasher, no garbage grinder[1]
Water meter required?	No
Min. Treatment Quality	Secondary
Soil Drainage Category	TP58 Category 6, NZS1547 Category 5
Soil Loading Rate	3 mm/ day
Primary disposal field	Surface/ subsurface laid PCDI, min. 427 m^2
Reserve disposal field	Surface/ subsurface laid PCDI, min. 30 % or 128 m^2
Dosing Method	Pump with high water level visual and audible alarm.

	Minimum 24-hour emergency storage volume.
Stormwater Control	Divert surface/ stormwater drains away from disposal fields. Cut off drains required for Lot 2.

1. Unless further water saving measures are included.

5.7 Assessment of Environmental Effects

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

The scale of final development is unknown at the time of writing and building areas, impervious areas including driveways, ancillary buildings, landscaped gardens, and swimming pools may reduce the overall area for on-site wastewater disposal.

For the purposes of confirming the feasibility of each proposed residential lot's development, as required by FNDC District Plan Rule 13.7.2.2, an indicative 30 x 30 m square building envelope has been positioned on each lot on the appended drawing sheet 101. This indicated building envelope is not necessarily where the final building envelope will be positioned. Similarly, the wastewater disposal fields are indicated on the plans to show feasibility only.

It is recommended that the AEE is reviewed at the time of Building Consent once specific development plans, final disposal field locations and treatment systems are established. The TP58 guideline document provides a detailed AEE for Building Consent application. Based on the proposed scheme, ground investigation, walkover inspection and Drawing No. 101, a site-specific AEE is presented within Appendix C to demonstrate the proposed wastewater disposal concept will have a less than minor effect on the environment.

6 STORMWATER ASSESSMENT

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

6.1 Impervious Surfaces and Activity Status

Pursuant to the FNDC District Operative Plan guidelines for Rural Living Zone activities (Section 8.7) the existing and proposed impervious surfaces have been assessed as presented in Table 5.

Table 5: Summary of Impervious Surfaces

Surface	Lot 1	Lot 2	Lot 3	Lot 5	Lot 6	Lot 7	Lot 4
Existing Condition	**(0 m²)**	**(0 m²)**	**(0 m²)**	**(0 m²)**	**(0 m²)**	**(0 m²)**	**(43,764m²)**
Roof/s (m²)	0 m²	0 m²	0 m²	0 m²	77 m²	348 m²	357 m² 1%
Driveways(m²)	0 m²	0 m²	0 m²	0 m²	559.5 m²	375.6 m²	313 m² 1%
Sheds (m²)	0 m²	0 m²	0 m²	0 m²	0 m²	0 m²	151 m² 0%
Pool (m²)	0 m²	0 m²	0 m²	0 m²	0 m²	0 m²	43 m² 0.001
Total impervious(m²)	0 m²	0 m²	0 m²	0 m²	636.5 m² 0%	723.6 m² 0%	864 m² 2%
Proposed Condition	**(3850 m²)**	**(4590 m²)**	**(3050 m²)**	**(5300 m²)**	**(6560 m²)**	**(16750 m²)**	**(3660 m²)**
Roof/s (m²)	300 m² 7.79%	300 m² 6.54%	300 m² 9.84%	300 m² 5.66%	77 m² 1.17%	348 m² 2.08%	357 m² 9.75%
Driveways(m²)	200m² 5.19%	200m² 4.36%	200m² 6.56%	200m² 3.77%	559.5 m² 8.53%	375.6 m² 2.24%	313 m² 8.55%
Sheds (m²)	0 m²	0 m²	0 m²	0 m²	0 m²	0 m²	151 m² 4%
Pool (m²)	0 m²	0 m²	0 m²	0 m²	0 m²	0 m²	43 m² 0.0117
Total impervious(m²)	500 m² 13.00% (< CA = 20%)	500 m² 10.89% (< PA = 50%)	500 m² 16.40% (< CA = 20%)	500 m² 9.43% (< PA = 50%)	636.5 m² 9.70% (< PA = 12.5%)	723.6 m² 4.32% (< PA= 12.5%)	864 m² 23.70% (> CA = 20%)
Activity Status	**Controlled**	**Permitted**	**Controlled**	**Permitted**	**Permitted**	**Permitted**	**Discretionary**

With regard to the case of proposed Lot 4 (comprising existing development):

The existing impervious area represents **27.3% coverage** and is therefore triggers as a discretionary activity.

To compensate for the stormwater flows from the relatively concentrated impervious area, it was considered to attenuate by offsetting SW flows to the permitted activity threshold of 12.5% (from section 8.7.5.1.5 of the Operative Plan). However, no attenuation is recommended as explained further in Section 6.4.

6.2 Stormwater Management Concept

The proposed application includes subdivision formation only and not lot-specific residential development at this stage. However, a conservative model of probable future on-lot development has been developed for this assessment considering variation of scale in typical rural residential development. The stormwater management concept considered in this report has been prepared to meet the requirements of the local and regional consent authorities considering the design storm event. This concept is as follows:

- **Existing Development (Lot 4, 6 & 7).**

  The discharge from existing SW tanks and/or devices shall remain in Lot 4, 6 & 7.

Lot 4:

Existing water tanks collect roof water and discharge any overflow into an underground dispersion device located near the lot's northeast boundary. An overflow pipe outlet from this device discharges into the roadside swale in near easement E flowing northward towards an existing SW culvert.

Lot 6:

Lot 6 has a localised high point that sheds runoff towards the north and south of the site. Sheetflow discharge in Lot 6 will generally flow towards its eastern boundary and also northwards down the existing driveway towards easement G. Existing water tanks collect roof water and discharge any overflow to the southwest corner area. It is proposed to incorporate a right to drain easement adjacent to Lot 5's western boundary, that allows for conveyance of flows south towards Lot 5's southern boundary and the OLFP within Lot 7.

Lot 7:

Runoff discharge in Lot 7 consists primarily of a dispersed sheet flow that flows in a northeasterly direction towards existing overland flow paths. These OLFPs trend from Lot 7's northern boundary in an easterly direction towards an existing gulley that drains into the southeastern Kerikeri River Scenic reserve.

Concentrated flows from Lot 5's driveway and a culvert drain from the existing road, flow into existing OLFPs located within Lot 7. It is proposed that right to drain easements be created over these existing Lot 7 OLFPs for the formalised conveyance of this discharge emanating from Lots 5 (and upstream lots).

- **Probable Future Development (Lot 1,2,3 & 5).**

  The probable future on-lot development concept includes up to 300 m^2 potential roof area and up to 200 m^2 potential driveway or parking areas per lot.

  Generally, the stormwater discharge from each lot will be as follows:

  Lot 1: Overflow roof rainwater from tank by controlled discharge from level spreader directly to Lot 1 northern boundary to roadside swale.

  Lot 2: Overflow roof rainwater from tank by controlled discharge from level spreader in a southwest direction towards an existing central overland flowpath .

  Lot 3: Overflow roof rainwater from tank by controlled discharge from level spreader directly to Lot 3 eastern boundary to roadside swale .

  Lot 5: Overflow roof rainwater from tank by controlled discharge from level spreader directly to Lot 5 eastern boundary.

- **Subdivision Development.**

Access to each of proposed lots 1, 2, 3, 4, 5 & 7 will be established by the upgrade of the existing vehicle accessway to the western entrance from Karaka Drive. These impervious surfaces will produce an insignificant increase in runoff, with less than minor adverse effect on environment, therefore requiring no attenuation.

6.3 Design Storm Event

Relevant design rainfall intensity and depths have been ascertained for the site location from the NIWA HIRDS meteorological model[11]. The NIWA HIRDS rainfall data is presented in full within Appendix D. Provision for climate change has been adopted by means of applying a factor of 20 % to rainfall intensities, in accordance with FNDC Engineering Standards 2023.

The primary system shall be designed to accommodate the 10 % AEP storm event. This meets the 10 % AEP pre-development requirement to comply with NRP Rule C6.4.2(2) and also with the Operative District Plan 13.7.3.4 (a).

Secondary system (overland flow) shall accommodate the 1% AEP storm event.

6.4 Stormwater Attenuation

It is recommended that no flood attenuation is provided on the on the basis that the site discharges directly to the Waipekakoura River. This is because the site is situated relatively low in the Waipekakoura River catchment and it is therefore beneficial to release the site's peak discharge early as possible, prior to the time of concentration of the river's wider catchment.

No flow control attenuation on basis of negligible downstream effects and primary conveyance structures are either existing or proposed to be installed. It is recommended that proposed devices shall be suitably sized and stabilised within a detailed design submission as a condition of consent.

6.5 Subdivision Development Management

6.5.1 ROW drainage

It is proposed that a new grass lined channel drain be constructed adjacent to the existing accessway, on both its sides, within the proposed ROW F, D H and I. These channels will provide a formal stormwater connection and outlet for proposed Lot 1, 2 & 3.

6.5.2 Lot 5 Accessway (future development consideration)

It is noted that Lot 5's future accessway will traverse an existing open stormwater channel drain flowing from west to east along the Lot 5 southern boundary. The future driveway will require a minimum 3m width as it runs alongside this existing channel drain. It is

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

recommended that stormwater discharge from Lot 6 that drains parallel with lot 5's western boundary, be diverted through a stormwater culvert beneath the Lot 5 entrance driveway.

6.5.3 Rainwater Tank Overflow (future development consideration)

The direct discharge of water tank overflow in a concentrated manner can cause scour and erosion in addition to excessive saturation of shallow soils. Roof water will be captured in tanks and used for drinking supply needs. It is recommended that overflow from rainwater tanks is conveyed in sealed pipes to a designated discharge point downslope of proposed building footprints and any wastewater disposal fields. It is recommended that outlet dispersion devices be designed to manage the 10% AEP event to reduce scour and erosion at discharge locations.

A specific design accommodating this is presented within Appendix A on Drawing No 401. The specific design is only applicable within the parameters that are defined below.

The maximum gradient of the tank outlet pipe in the various proposed Lot's slopes is typically 5.5% (3.1^0). For a typical design the outlet pipe shall be a min. of 100mm dia. whilst the discharge dispersion pipe is 150mm dia.

It is recommended that above or below ground discharge dispersion pipes may be applied. Feeding pipes can be either buried or pinned to the surface as desired, provided that any areas of reduced cover are not trafficable areas. A concept dispersion pipe or trench length is presented as Table 6 to suit the concept development provided. Calculations to derive this are presented within Appendix D. Typical details of these options are presented within Appendix A as Drawing No. 152.

It is recommended that specific design be applied at the Building Consent stage.

Table 6: Summary of Concept Dispersion Devices

Concept Impervious Area to Tank	Velocity at single spreader orifices	Tank outlet pipe diameter	Spreader pipe diameter	Dispersion Pipe/ Trench Length	Spreader orifice size	Concept
Proposed Lots 1,2,3,5						
300 m^2	0.92 m/s	0.1 m	0.15 m	8 m	20 mm, spaced at 150 mm intervals	Above ground dispersion device

The approximate rainwater tank outfall on-lot discharge locations are approximated as follows in table 4 below:

Table 7: Dispersion Device Discharge location

Proposed Lots	Dispersion Device length m	Tank Outflow Discharge location	Discharge to Receiving Environment

Lots 1,2,3,5			
Lot 01	8	North of building	Pasture northeast of building towards easement G
Lot 02	8	Southeast of building	Pasture southwest downslope of building towards central OLFP
Lot 03	8	Southeast of building	Pasture east of building towards easement I road swale
Lot 05	8	Northeast of building	Pasture east downslope of building

6.6 Stormwater Quality

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

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

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

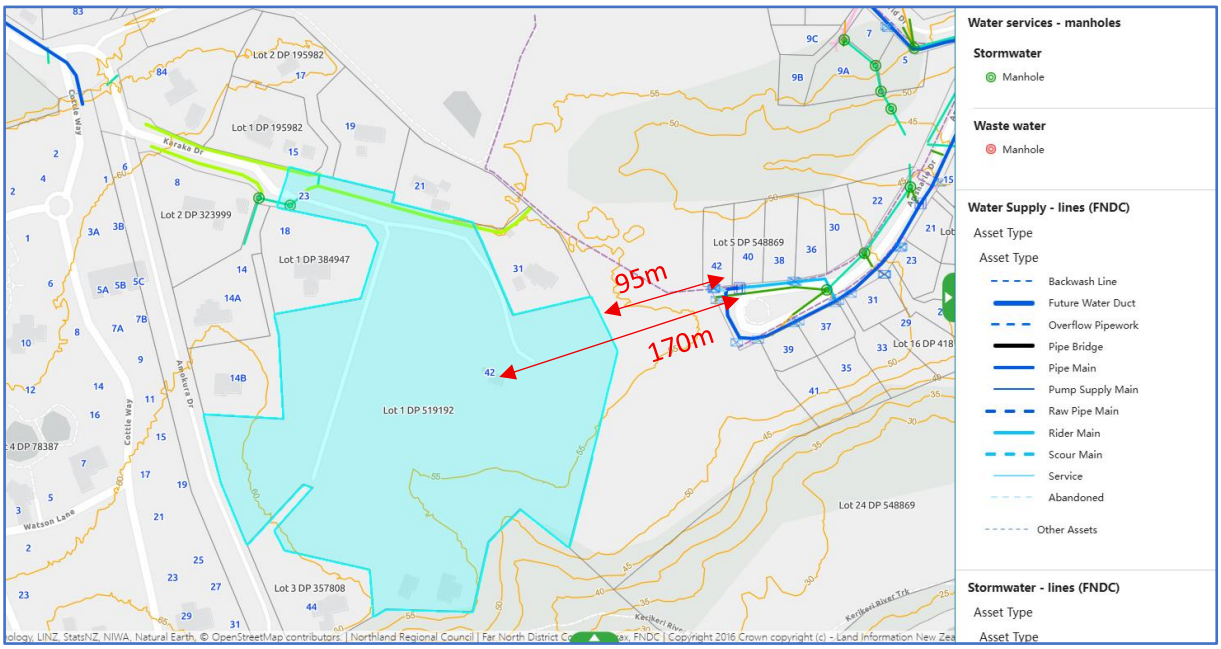
- Leaf guards on roof guttering/ first flush devices on roof guttering and downpipes.
- Rainwater tank for potable use onsite only to be filled by roof runoff.
- Room for sedimentation (minimum 150 mm recommended as per Auckland Council GD01) within the base of the stormwater attenuation roof runoff tanks as dead storage volume.
- Stormwater discharges directed towards roading swale drains where possible or towards a stormwater discharge spreader device.
- Grassed swale drains from rainwater inception (road surfaces) to discharge points, where required.

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

7 POTABLE WATER & FIRE FIGHTING

FNDC GIS infrastructure data maps indicate that the existing site is not directly serviced by public infrastructure:

- The nearest in service water main supply pipes are located approximately 150m northwest of the site's northwest corner boundary (Asset ID: WS00689) and 80m east of the proposed Lot 6 eastern boundary (Asset ID: 20071213162044) measuring 160mm and 100mm in diameter respectively.
- The nearest fire hydrant is located beyond the eastern boundary of Lot 6. It is located within Amsharlo drive, approximately 95 m east of the edge of the Lot 6 boundary and 170m to the existing dwellings in Lot 6.



The fire-fighting requirements for the proposed development are determined to be FW2 in accordance with the SNZ PAS 4509:2008, New Zealand Fire Service Firefighting Water Supplies Code of Practice. The standard requires a minimum of two fire hydrants – one within 135 m, and the second within 270m to the entrance of the furthest property.

According to above assumption, the proposed developments do not comply with the SNZ PAS 4509:2008, New Zealand Fire Service Firefighting Water Supply Code of Practice.

Specific analysis and calculations for firefighting is outside the scope of this report and may require specialist input. Supply for firefighting should be made in accordance with SNZ PAS4509:2008.

8 EARTHWORKS

The following earthworks provisions are anticipated for subdivision formation only:

- **New swale drain along ROW.** Grass lined vee channel to be formed alongside existing private accessway (ROW) eastern edge. Formed at subdivision formation.
- **Vehicle crossings.** For Lots 1, 2, 3, 5. Allow for a strip to formation subgrade and import fill layerworks. Esimated earthworks < 12m^3 per crossing.

The above earthworks will be limited to approximately 100m^3.

Proposed earthwork volumes are within the 200m^3 permitted activity volume limit outlined by FNDC District Plan Rule 12.3.6.1.3(a) and the maximum cut and fill height of <3m to comply with 12.3.6.1.3(b).

Furthermore, this level of earthworks during subdivision formation is less than the permitted activity soil disturbance threshold.

8.1 General Recommendations

Bulk fill with site-won earth can be moderately sensitive to disturbance when exposed to rain or runoff which may cause saturation or vehicle movements and trafficking during earthworks. Accordingly, care should be taken during construction, including probable future developments to minimise degradation of any earth fill due to construction traffic and to minimise machinery on site.

Any areas of proposed bulk fill which are required to meet specific subgrade requirements within should be subject to a specific earthwork specification prepared by a professional Engineer such as Geologix.

Due to the scope of work and topography of the site, significant excavations are not anticipated. However, to reduce the risk of instability of excavations during construction, it is recommended that **temporary** unsupported excavations have a maximum vertical height of 0.5 m. Excavations >0.5 m should be battered at 1V:1H or 45°. Permanent batter slopes may require a shallower angle to maintain long term stability and if proposed these should be assessed at the Building Consent stage within a specific geotechnical investigation report.

Temporary batters should be covered with polythene sheets secured to the surface with pins or batons to prevent saturation. All works within close proximity to excavations should be undertaken in accordance with Occupational Safety and Health regulations.

All earthworks should be carried out in periods of fine weather within the typical October to April earthwork season. Consent conditions commonly prescribe working restrictions.

8.2 Erosion and Sediment Control

Specific erosion and sediment control measures are required to control sediment runoff from areas of proposed earthworks within the scope of this application. It is recommended that

specific on-lot development is assessed at the time of Building Consent by the future developer. To form the subdivision the following erosion and sediment control measures are recommended:

• Silt fence around the downslope face of the proposed ROW widening, vehicle crossing and right of way channel construction.

•Clean water diversion channel and bund upslope of the proposed ROW widening, vehicle crossing to divert potential overland flows away and around construction works zones.

9 ROADING AND ACCESS

It should be noted that we are not traffic engineers, and no specific Traffic Impact Assessment is included within the scope of these works.

9.1 Traffic Intensity Factor and Household Equivalents

According to Appendix 3A of the Operative District Plan, providing for one standard residential unit per lot, each accounting for up to 10 traffic movements per unit per day the following Traffic Intensity Factor (TIF) and Household Equivalents have been calculated. This analysis has been applied up to the existing end of Karaka drive.

- **Existing Condition:** TIF of 40 from four HE.
- **Total Proposed Condition:** TIF of 80 from eight HE.

9.2 Existing Access Suitability

9.2.1 Karaka Drive

Karaka Drive is an existing low volume public access road that is 168m in length (according to Council's records). The legal road width (reserve) is minimum 16m wide and the surface is a thin sealed flexible surface that is in reasonably good condition. The road's carriageway width is >6.0m and therefore it meets the requirements of a public Type A road as per FNDC District Plan Appendix 3B-2.

Furthermore, with reference to Waka Kotahi One Network Road classification, Karaka Drive is designated as an Access road having an estimated traffic volume (AADT) of about 153 with an estimated heavy vehicle % of 3.9%.

9.2.2 Site Private Way

Karaka Drive provides access to the site boundary. The site's existing privateway is a metal surfaced carriagway that extends 248.5m from the boundary into the site (see Figure 6 for relative location). The width was observed to be a minimum of 5m up to Easement E where it reduced to < 5m. The road surface is well drained and was determined to be in reasonably good condition.

The existing private accessway (within existing Right of Way easements) provides access for all existing lots within the site and two neighbouring lots, one of which Lot 7 is to be amalgamated with.

Figure 6: Location of Karaka drive in relation to proposed easements

9.3 Sight Distances

According to NZTA's National Speed Limit Register, Karaka Drive's posted speed limit is 40km/h. Given the continuity of Karaka Drive into the site's ROW C, it was considered prudent to assess the ROW easements C /F/ G intersection for a similar speed.

In terms of FNDC Engineering Standards Sheet 4 requirements for vehicle entrances, the minimum sight distance for a 40km/h Access type road is 45m. Looking east of the intersection of the proposed ROWs C/F/G toward Karaka drive, a sight distance of approximately 65m was observed (see figure 7 & fig 8). Looking west from the same intersection towards Lot 6, a sight distance of approximately 50m was observed (see figure 7 & fig 9).

The sight line distances are acceptable for this intersection as they meet the minimum requirements.

Figure 7: Sight distances (also see Fig 8 & Fig 9)

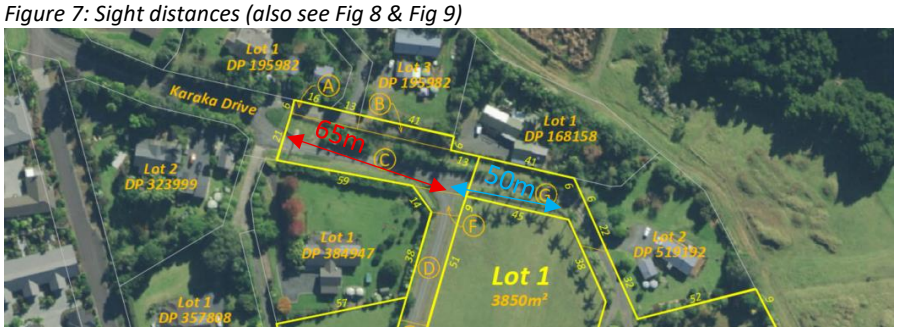


Figure 8: Proposed ROW intersection (Easement F) looking east towards Easement C and Karaka drive entrance beyond (Sight distance = 65m approx..)

Figure 9: Proposed ROW intersection looking west towards Easement G towards Lot 6 (Sight distance = 50m approx.)

9.4 Proposed Right of Way

The existing private accessway requires only minor works to suit the proposed scheme plan as described in Table 8. The ROW easements will be reconfigured to suit. The private accessway will be constructed to the standards specified in Appendix 3B-1 of the Operative District Plan.

Table 8: Summary of Proposed ROW Specification

Location	Servicing Lots	H.E.	Standard	Min. Legal Width	Min. Carriageway Width	Maximum Gradient
ROW, Easement E (within Lot 7)	4, 7/Lot 3 DP 357808 (amalgamated)	2	Private access 2 HE, unsealed	5 m	3.0 m with swale	1:5
ROW, Easement I (within Lot 7)	3, 4, 5, 7/Lot 3 DP 357808	4	Private access 4 HE, unsealed	7.5 m	3.0 m with swale	1:5
ROW, Easement H (within Lot 7)	2, 3, 4, 5, 7/Lot 3 DP 357808	5	Private access 5 HE, unsealed	7.5 m	5.0 m with swale	1:5
ROW, Easement D (within Lot 7)	3, 2, 5, 4, 7, Lot 3 DP 357808	6	Private access 6 HE, unsealed	7.5 m	5.0 m with swale	1:5
ROW, Easement F (within Lot 7)	1, 2, 3, 4, 5, 7/ Lot 3 DP 357808	6	Private access 6 HE, unsealed	7.5 m	5.0 m with swale	1:5
ROW, Easement G (within Lot 6)	6, Lot 2 DP 519192	2	Private access 2 HE, unsealed	5 m	3.0 m with swale	1:5
ROW, Easement C (within Lot 7)	6, Lot 2 DP 519192, 1, 2, 3, 4, 5, 7/Lot 3 DP 357808	8	Private access 8 HE, unsealed	7.5 m	5.0 m with swale	1:5

H.E – Household Equivalents

The existing private accessway meets the requirements of the right of way standards above.

The only upgrade that is proposed is to construct a new swale drain along the eastern side of the accessway within the proposed ROW F, D, H and I.

9.5 Vehicle Crossings

Vehicle crossings are recommended to be formed at subdivision stage. A summary of proposed vehicle crossings is presented as Table 9.

Table 9: Summary of Proposed Vehicle Crossings

Location	Type	Detail	Formation
Lots 1, 2, 3, 5	FNDC Vehicle Crossing -Rural Type 1A-Light Vehicles [13]	Construct to typical detail with minimum 300mm dia. RC pipe culvert and 3 m width at boundary.	Subdivision

RCP – Reinforced Concrete Pipe

10 NATURAL HAZARD ASSESSMENT

To satisfy the Resource Management Act, 1991 the proposed subdivision must plan for and manage the risk from natural hazards to reduce the potential adverse effects to less than minor. Regulatory assessment of natural hazards at the site location are managed under the jurisdiction of the FNDC District Plan[14], Northland Regional Council (NRC) Proposed Regional Plan for Northland[15] and Regional Water and Soil Plan for Northland. Following our ground investigation and considering the measures presented in this report, a summary of the proposed activities against defined natural hazards is presented as Table 10.

Table 10: Summary of Natural Hazards

Natural Hazard	Applicability	Mitigation & Effect on Environment
Erosion	Yes	Risk of erosion particularly during earthworks activities is created. Mitigation provided by means of adopting lined channels, stormwater dispersion control from lots into common drains, and erosion and sediment control measures during earthworks activities; resultant effects are less than minor.
Overland flow paths, flooding, inundation	Yes	A minor risk of concentrated flows through overland flow paths is created with discharge into common drains and OLFP. Proposed house sites are clear of these hazards. Mitigation otherwise provided by means of managing impervious runoff with controlled

[13] *Far North District Council Engineering Standards, May 2023, Drawing Sheets 20-21*

[14] *Operative District Plan Rule 13.7.3.2.*

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

		attenuation; resultant effects are less than minor.
Landslip	NA	No mitigation required, less than minor.
Rockfall	NA	No mitigation required, less than minor.
Alluvion	NA	No mitigation required, less than minor.
Avulsion	NA	No mitigation required, less than minor.
Unconsolidated fill	NA	No mitigation required, less than minor.
Soil contamination	NA	No mitigation required, less than minor.
Subsidence	NA	No mitigation required, less than minor.
Fire hazard	NA	No mitigation required, less than minor.
Sea level rise	NA	No mitigation required, less than minor.

NA – Not Applicable.

11 LIMITATIONS

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

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

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

APPENDIX A

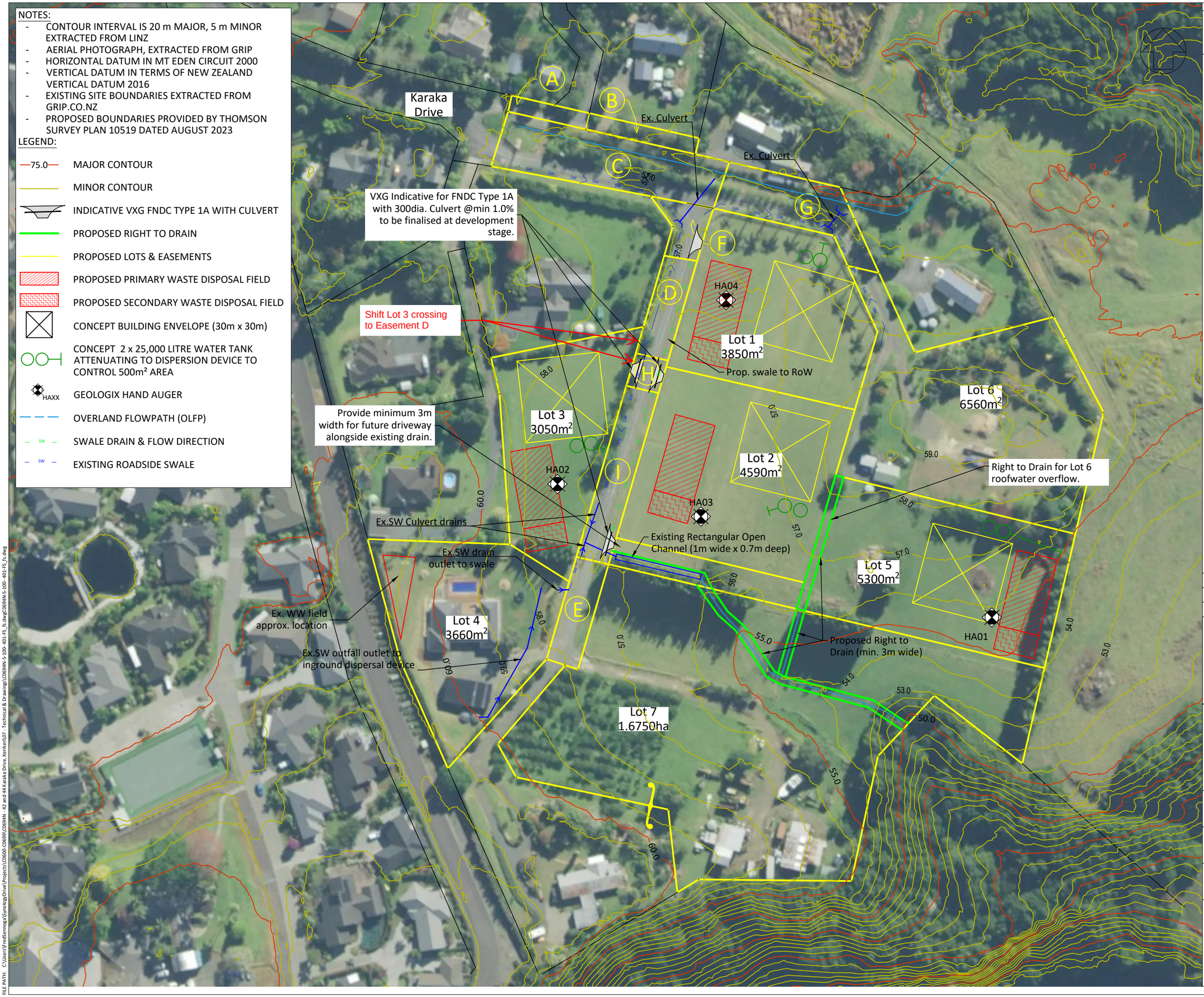
Drawings

NOTES:

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

LEGEND:

- 75.0 — MAJOR CONTOUR
- MINOR CONTOUR
- INDICATIVE VXG FNDC TYPE 1A WITH CULVERT
- PROPOSED RIGHT TO DRAIN
- PROPOSED LOTS & EASEMENTS
- PROPOSED PRIMARY WASTE DISPOSAL FIELD
- PROPOSED SECONDARY WASTE DISPOSAL FIELD
- CONCEPT BUILDING ENVELOPE (30m x 30m)
- CONCEPT 2 x 25,000 LITRE WATER TANK ATTENUATING TO DISPERSION DEVICE TO CONTROL 500m² AREA
- HAXX GEOLOGIX HAND AUGER
- OVERLAND FLOWPATH (OLFP)
- SW SWALE DRAIN & FLOW DIRECTION
- SW EXISTING ROADSIDE SWALE



GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 10696, DATED OCTOBER 2024.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
DAILY WASTEWATER GEN.	160 LITRES/PERSON/ DAY
TOTAL WASTEWATER GEN.	1,280 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 6
SOIL CATEGORY (NZS1547)	CATEGORY 5
SOIL LOADING RATE	3.0 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	427 m²
RESERVE DISPOSAL AREA	129 m² (30 %)

Meters
20 0 20 40
1:1250

Revision	Issue	Date
A	FOR CONSENT	17/11/25

geologix consulting engineers
AUCKLAND | NORTHLAND

Project Name and Address
CO694
23 & 42 KARAKA DRIVE,
KERIKERI
PROP. SUBDIVISION OF LOT 1 DP 519192

Project	Drawn By
C0694	BN/FS

Client
T RUDDEL

Sheet Title
SITE SUITABILITY LAYOUT

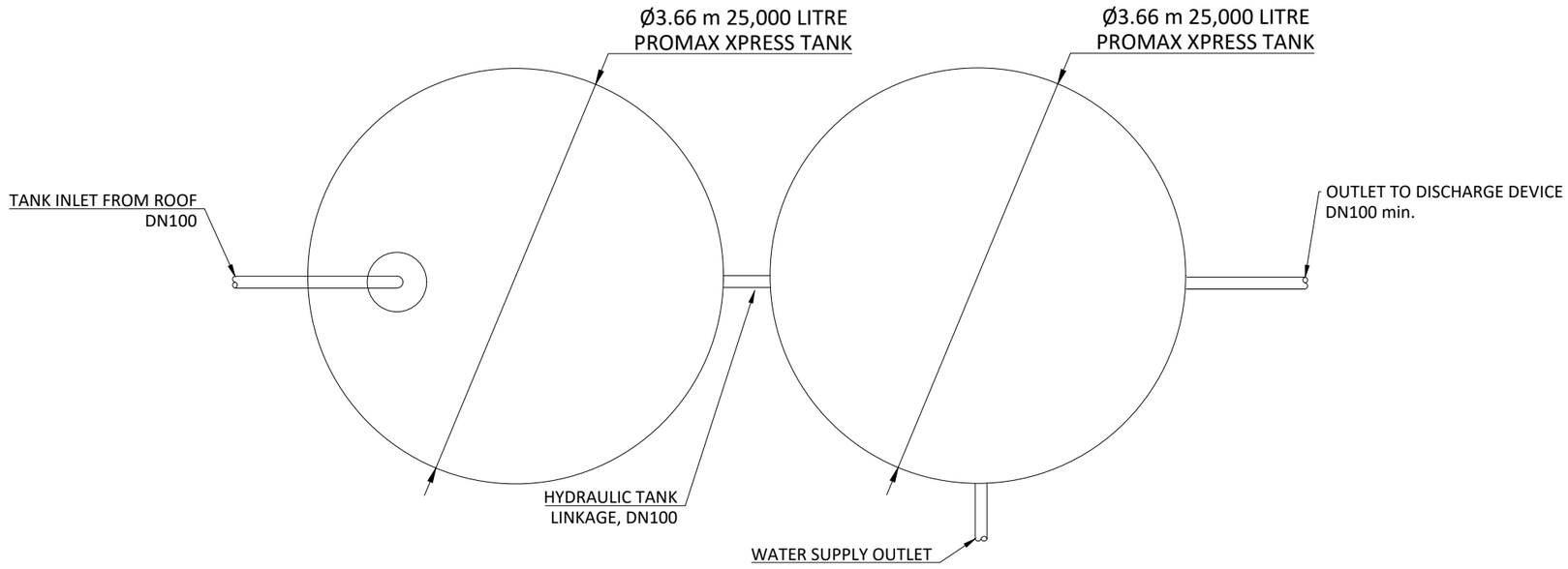
Sheet
100

FILE PATH: C:\Users\FredSennog\Synology\Drive\Projects\C0600-C0699\C0694N - 42 and 44 Karaka Drive, Kerikeri\07 - Technical & Drawings\C0694N-S-100- 401-FS_fs.dwgC0694N-S-100- 401-FS_fs.dwg

PLOTTED: 09/04/2022

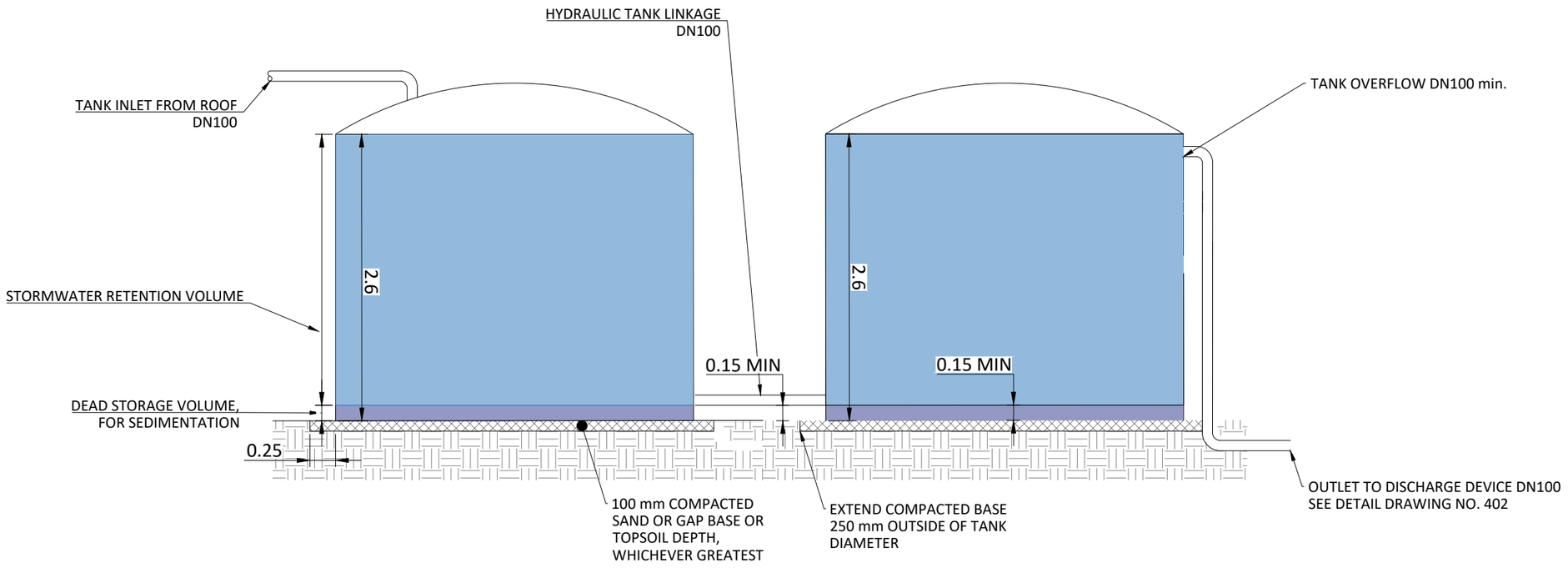
PROPOSED TANK PLAN VIEW

1:50, A3

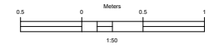


PROPOSED TANK SIDE VIEW

1:50, A3



GENERAL NOTES



A	FOR CONSENT	17/11/25
Revision	Issue	Date

geologix
consulting engineers

AUCKLAND | NORTHLAND

Project Name and Address

CO694
23 & 42 KARAKA DRIVE,
KERIKERI
PROP. SUBDIVISION OF LOT 1 DP 519192

Project	Drawn By
C0694	BN/FS

Client

T RUDDEL

Sheet Title

STORMWATER TANK DETAILS

Sheet

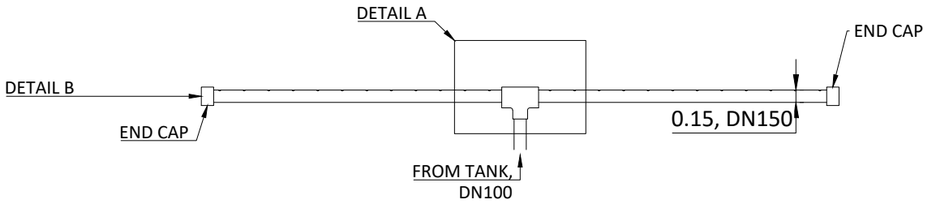
400

FILE PATH: C:\Users\FredSennoga\Synology\Drive\Projects\C0600-C0699\C0694N - 42 and 44 Karaka Drive, Kerikeri\07 - Technical & Drawings\C0694N-S-100- 401-FS_fs.dwgC0694N-S-100- 401-FS_fs.dwg

PLOTTED: 09/04/2022

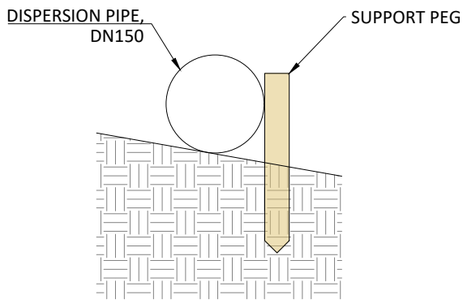
OPTION 1: DISPERSION VIA ABOVE GROUND PIPE

NOT TO SCALE



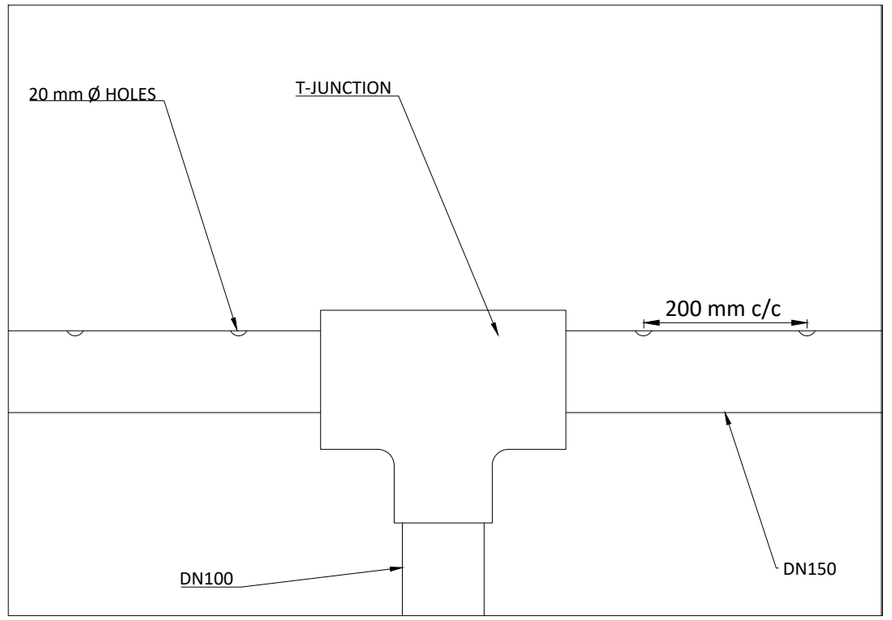
DETAIL B - SIDE VIEW

NOT TO SCALE

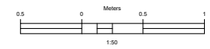


DETAIL A - T JUNCTION AND PERFORATIONS

NOT TO SCALE



GENERAL NOTES



A	FOR CONSENT	17/11/25
Revision	Issue	Date

geologix
consulting engineers

AUCKLAND | NORTHLAND

Project Name and Address

CO694
23 & 42 KARAKA DRIVE,
KERIKERI
PROP. SUBDIVISION OF LOT 1 DP 519192

Project	Drawn By
C0694	BN/FS

Client

T RUDDEL

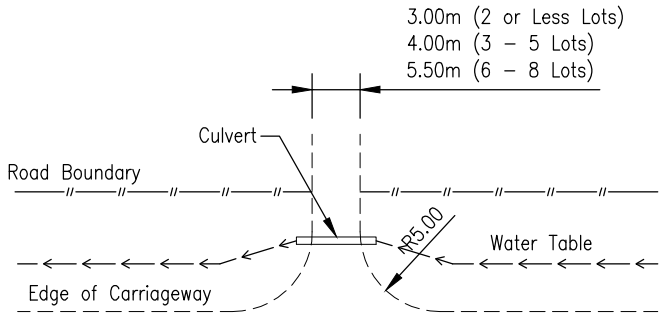
Sheet Title

STORMWATER DETAILS

Sheet

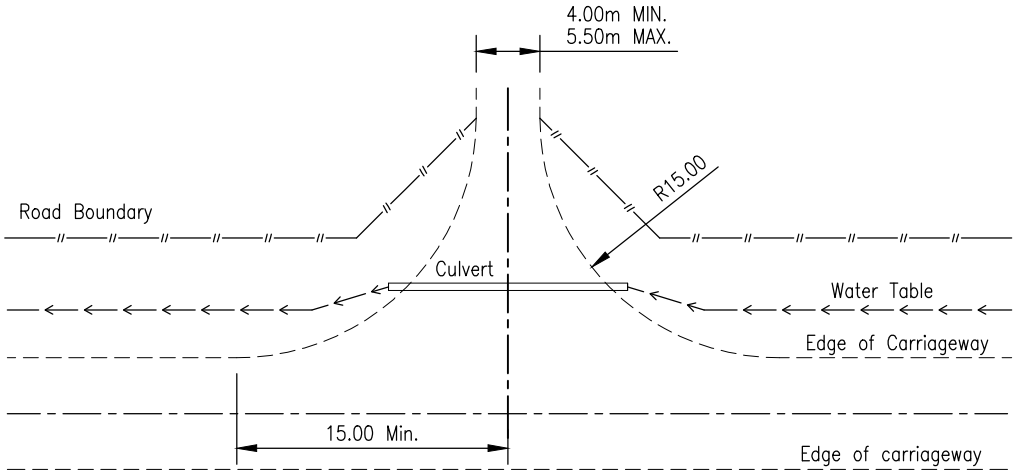
401

PLOTTED: 03/04/2022



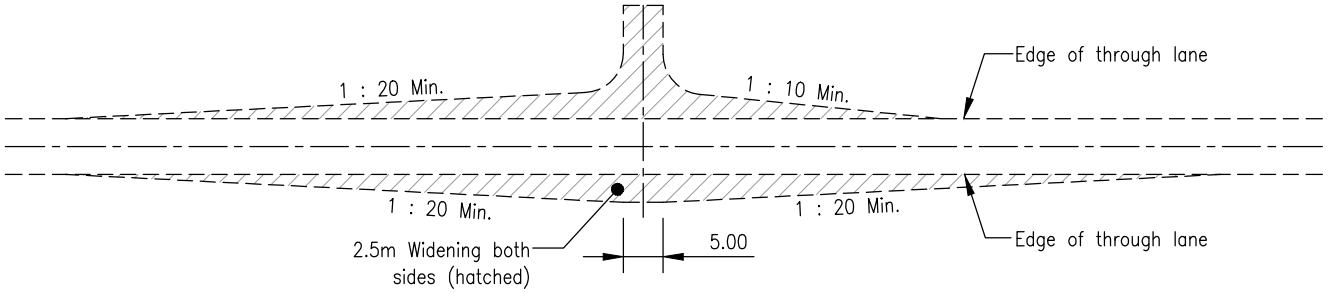
TYPE 1A – LIGHT VEHICLES

1:500 (A4)



TYPE 1B – HEAVY VEHICLE

1:500 (A4)



TYPE 2 – CROSSING WITH LOCAL WIDENING

1:1000 (A4)

NOTES:
1. Refer to Sheet 22 and Section 1.2.27.4.
2. For Types 3 and 4 refer to Section 1.2.27.4

VEHICLE CROSSING – RURAL

FAR NORTH DISTRICT COUNCIL
ENGINEERING STANDARDS

Date:	JAN 2021
Revision:	0.1
Scale:	AS SHOWN
SHEET No.	21

RESIDENTIAL, COMMERCIAL AND INDUSTRIAL CROSSINGS

1. All concrete to be 30 MPa strength at 28 days.
2. Crossings to be constructed to match existing footpath and channel levels and be graded to give sufficient clearance to the underside of all vehicles.
3. The alternative channel crossing detailed on Sheet 20 may only be used with specific approval. It is for use only where thick overlay of existing seal precludes the standard option.
4. If no footpath, allowance shall be made for such with a 3% crossfall to the kerb.
5. Kerb transitions to be constructed of similar materials to the adjacent kerb or cast insitu concrete. See Sheet 12 for details.
6. Where the footpath or adjacent property level is below the channel level, ramp the crossing up from the channel to control surface water while maintaining vehicle clearance. A freeboard of 200mm above the channel is required to contain stormwater within the road.
7. Gradient of crossing not to exceed 12.5% (1 in 8)
8. Crossings for all private accessways shall be commercial grade to Sheet 19.
9. Edges of footpath and back of channel to be saw cut.
10. All crossings require council inspection prior to pouring concrete.
11. If the edge of the crossing is within 1m of a crack or joint in an existing footpath then that section of footpath shall be replaced.
12. Commercial and industrial channels to be reinforced with an extension of the 668 mesh.
13. Where a street sump is located within the proposed crossing, the sump shall be relocated to the side of the crossing and reconnected to the council storm water system.
14. Refer to Sheet 16 for vehicle crossing over a drainage swale.
15. Stormwater kerb connections generally not permitted. (See Section 4.3.17.2).
16. Splay width may need to be increased in some circumstances to accommodate an 11.5m rigid truck.

RURAL CROSSINGS

1. Pipes are to be RCRRJ Class "4".
2. Pipes are to be adequate for the upstream catchment, but not less than 300mm dia or the downstream culvert and shall be constructed to the correct line and level to maintain drainage paths.
3. Provide traversable culvert safety ends. See Section 1.2.27.4
4. Gateways shall be located to allow vehicle parking clear of the road shoulder.
5. Minimum sight distance requirements for entrance crossings are to comply with Sheet 4.
6. All crossings adjoining sealed public roads are to be sealed or concrete, to the property boundary or 10m (whichever is greater).
7. Concrete crossings shall start at least 0.5m outside of the existing edge of seal or 0.5m outside of the carriageway width required by the standard whichever is the further.
8. Concrete entrance crossings are to be 125mm of 30MPa concrete for light vehicle access. Heavy vehicle crossings shall be 150mm thick of 30MPa concrete reinforced with 665 mesh unless specifically designed.
9. Unsealed crossings shall comprise not less than 125mm GAP 65 and 75mm GAP40 or 200mm GAP 40 (compacted depths).
10. For application of Type 2 crossing refer to Section 1.2.27.4.
11. Where local widening is required (Types 2 and 3) the tapers shall be sealed.

VEHICLE CROSSING NOTES
(FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL AND RURAL USE)

FAR NORTH DISTRICT COUNCIL
ENGINEERING STANDARDS

Date:	JAN 2021
Revision:	0.1
Scale:	AS SHOWN
SHEET No.	22

geologix
consulting engineers

APPENDIX B

Engineering Borehole Records

INVESTIGATION LOG

Project: Karaka Drive, Kerikeri
Project No.: C0694N
Site Address: 42 and 44 Karaka Drive, Kerikeri
Client: Lynley Newport
Co-Ordinates
Vane No.: NA
Logged By: Tony Washington
Hole No.: HA01
Investigation Date: 2025-11-12

DEPTH (M)	MATERIAL DESCRIPTION (SEE CLASSIFICATION & SYMBOLOGY SHEET FOR DETAILS)	LEGEND	SAMPLE	SCALA PENETROMETER (Blows/100mm) 3 6 9 12 15 18 21 24 27	VANE SHEAR STRENGTH (KPA) 50 100 150	WATER
	Ground Surface at					
0	TOPSOIL Dark brown becoming orange brown; moist. 0.2 m					0
	CLAYEY SILT brown with orange specks; moist; Low plasticity. 0.5 m					
	CLAYEY SILT orange brown; moist; Low plasticity. 0.8 m					
	CLAYEY SILT light brown; moist; Low plasticity. 0.9 m					
1	CLAYEY SILT light brown; moist; Low plasticity. 1.2 m					1
	Test Hole HA01 Terminated at 1.2 m					
2						2

REMARKS

geologix consulting engineers

INVESTIGATION LOG

Project: Karaka Drive, Kerikeri
Project No.: C0694N
Site Address: 42 and 44 Karaka Drive, Kerikeri
Client: Lynley Newport
Co-Ordinates
Vane No.: NA
Logged By: Tony Washington
Hole No.: HA02
Investigation Date: 2025-11-12

DEPTH (M)	MATERIAL DESCRIPTION (SEE CLASSIFICATION & SYMBOLOGY SHEET FOR DETAILS)	LEGEND	SAMPLE	SCALA PENETROMETER (Blows/100mm) 3 6 9 12 15 18 21 24 27	VANE SHEAR STRENGTH (KPA) 50 100 150	WATER
	Ground Surface at					
0	TOPSOIL Dark brown; moist. 0.4 m					0
	CLAYEY SILT light brown with dark mottled specks; moist; Low plasticity. 0.6 m					
	CLAYEY SILT light brown with orange red specks; moist; Low plasticity. 0.9 m					
1	CLAYEY SILT light brownish orange with grey mottling; moist; Low plasticity. 1.15 m					1
	CLAYEY SILT orange with red specks; moist Low plasticity. 1.2 m					
	Test Hole HA02 Terminated at 1.2 m					
2						2

REMARKS

geologix consulting engineers

INVESTIGATION LOG

Project: Karaka Drive, Kerikeri
Project No.: C0694N
Site Address: 42 and 44 Karaka Drive, Kerikeri
Client: Lynley Newport
Co-Ordinates
Vane No.: NA
Logged By: Tony Washington
Hole No.: HA03
Investigation Date: 2025-11-12

DEPTH (M)	MATERIAL DESCRIPTION (SEE CLASSIFICATION & SYMBOLOGY SHEET FOR DETAILS)	LEGEND	SAMPLE	SCALA PENETROMETER (Blows/100mm) 3 6 9 12 15 18 21 24 27	VANE SHEAR STRENGTH (KPA) 50 100 150	WATER
	Ground Surface at					
0	TOPSOIL Dark brown brown; moist. 0.15 m					0
	CLAYEY SILT light grey brown; moist; Low plasticity. 0.3 m					
	CLAYEY SILT light orange brown; moist; Low plasticity. 0.45 m					
	CLAYEY SILT orange brown; moist; Low plasticity. 1 m					
1	CLAYEY SILT orange brown; moist; Low plasticity. 1.2 m					1
	Test Hole HA03 Terminated at 1.2 m					
2						2

REMARKS

geologix consulting engineers

INVESTIGATION LOG

Project: Karaka Drive, Kerikeri
Project No.: C0694N
Site Address: 42 and 44 Karaka Drive, Kerikeri
Client: Lynley Newport
Co-Ordinates
Vane No.: NA
Logged By: Tony Washington
Hole No.: HA04
Investigation Date: 2025-11-12

DEPTH (M)	MATERIAL DESCRIPTION (SEE CLASSIFICATION & SYMBOLOGY SHEET FOR DETAILS)	LEGEND	SAMPLE	SCALA PENETROMETER (Blows/100mm) 3 6 9 12 15 18 21 24 27	VANE SHEAR STRENGTH (KPA) 50 100 150	WATER
	Ground Surface at					
0	TOPSOIL Dark brown; moist. 0.25 m					0
	CLAYEY SILT light brown; moist; Low plasticity. 0.9 m					
	CLAYEY SILT light brown with light grey specks; moist; Low plasticity. 1 m					
1	CLAYEY SILT light brown with red specks; moist; Low plasticity. 1.2 m					1
	Test Hole HA04 Terminated at 1.2 m					
2						2

REMARKS

geologix consulting engineers

geologix
consulting engineers

APPENDIX C

Stormwater Calculations

Project Ref:	C0694N		**STORMWATER ROOF TANK DESIGN**	geologix consulting engineers
Project Address:	23 42 Karaka Drive, Kerikeri			
Design Case:	CONCEPT-Roof Rainwater-Lot 1,2,3,5		**10 % AEP STORM EVENT, TO PRE-DEVELOPMENT FLOW - Lot 1,2,3,5**	
Date:	11 November 2025	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				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0		TO TANK	300	0.96	ROOF
IMPERVIOUS B	0	0.96	Roof rainwater	OFFSET	200	0.83	DRIVEWAY - METAL
IMPERVIOUS C	0	0.83	Ex. Drive	PERVIOUS	0	0	
EX. PERVIOUS	500	0.67	PASTURE	EX. CONSENTED	0	0	
0	0	0		0	0	0	
TOTAL	**500**	TYPE D		**TOTAL**	**500**	TYPE D	

RAINFALL INTENSITY, 10% AEP, 10MIN DURATION

10 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	99.5	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.
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%	
10 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	119.4	mm/hr	

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	99.50	1.2	119.40	15.06	9.26		*Critical duration (time of concentration) for the catchments is 10min*
20	71.40	1.2	85.68	10.81	7.97		
30	58.90	1.2	70.68	8.91	6.58		
60	42.20	1.2	50.64	6.39	4.71		
120	29.90	1.2	35.88	4.52	3.34		*Pre-dev calculated on Intensity without CC factor*
360	16.60	1.2	19.92	2.51	1.85		
720	11.00	1.2	13.20	1.66	1.23		
1440	6.98	1.2	8.38	1.06	0.78		
2880	4.23	1.2	5.08	0.64	0.47		
4320	3.07	1.2	3.68	0.46	0.34		

Project Ref:	C0694N	STORMWATER DISPERSION PIPE/ TRENCH	geologix consulting engineers
Project Address:	23 42 Karaka Drive, Kerikeri		
Design Case:	Lots 1,2,3,5 - On-Lot Roof Tank Dispersal	DISCHARGE DEVICE - LEVEL SPREADER OR TRENCH	
Date:	11 November 2025 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
57	0	0	0	0	0
54	3	54.7	54.7	1.5	82.05
	TOTALS	54.7	54.7		82.05
	SLOPE, Sc	0.055	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	18.23	0.009	0.000	0.0000	0.000	**0 % full**
0.100	0.050	5.381	0.0451	0.0001	0.003	18.23	0.009	0.572	0.0001	0.084	
0.100	0.100	4.996	0.0644	0.0004	0.006	18.23	0.009	0.892	0.0004	0.365	
0.100	0.150	4.692	0.0795	0.0007	0.009	18.23	0.009	1.150	0.0008	0.849	
0.100	0.200	4.429	0.0927	0.0011	0.012	18.23	0.009	1.368	0.0015	1.530	
0.100	0.250	4.189	0.1047	0.0015	0.015	18.23	0.009	1.559	0.0024	2.394	
0.100	0.300	3.965	0.1159	0.0020	0.017	18.23	0.009	1.727	0.0034	3.422	
0.100	0.350	3.751	0.1266	0.0024	0.019	18.23	0.009	1.875	0.0046	4.594	
0.100	0.400	3.544	0.1369	0.0029	0.021	18.23	0.009	2.007	0.0059	5.888	
0.100	0.450	3.342	0.1471	0.0034	0.023	18.23	0.009	2.123	0.0073	7.278	
0.100	0.500	3.142	0.1571	0.0039	0.025	18.23	0.009	2.225	0.0087	8.737	**50 % full**
0.100	0.550	2.941	0.1671	0.0044	0.026	18.23	0.009	2.312	0.0102	10.234	
0.100	0.600	2.739	0.1772	0.0049	0.028	18.23	0.009	2.386	0.0117	11.739	
0.100	0.650	2.532	0.1875	0.0054	0.029	18.23	0.009	2.446	0.0132	13.217	
0.100	0.700	2.319	0.1982	0.0059	0.030	18.23	0.009	2.491	0.0146	14.629	
0.100	0.750	2.094	0.2094	0.0063	0.030	18.23	0.009	2.522	0.0159	15.933	
0.100	0.800	1.855	0.2214	0.0067	0.030	18.23	0.009	2.536	0.0171	17.080	
0.100	0.850	1.591	0.2346	0.0071	0.030	18.23	0.009	2.531	0.0180	18.005	
0.100	0.900	1.287	0.2498	0.0074	0.030	18.23	0.009	2.501	0.0186	18.623	
0.100	0.950	0.902	0.2691	0.0077	0.029	18.23	0.009	2.436	0.0188	18.775	
0.100	1.000	0.000	0.3142	0.0079	0.025	18.23	0.009	2.225	0.0175	17.473	**Flowing full**

DISPERSION SPECIFICATION

INCOMING PIPE PROPERTIES:

TANK OUTFLOW, 10 % AEP	15.06	l/s		
MAXIMUM PIPE FLOW	18.78	l/s		
SUFFICIENT CAPACITY IN PIPE	YES			
LONGITUDINAL SLOPE	0.055	m/m		
DESIGN VELOCITY, Dv	2.536	m/s		

LEVEL SPREADER SPECIFICATIONS:

PIPE DIAMETER, m	0.15	m		
MANNINGS PIPE ROUGHNESS	0.009			
NUMBER OF ORIFICES	54	No.		
DIA. OF ORIFICE, D	20	mm		
ORIFICE INTERVALS, C/C	150	mm		
DISPERSION PIPE LENGTH, L	**7.95**	**m**		

ORIFICE DESIGN FLOW CHECK:

AREA OF SINGLE ORIFICE, A	0.00031	m2		
FLOW OUT OF 1 ORIFICE	0.000289379	m3/s	0.29 l/s	
FLOW OUT OF ALL ORIFICES	0.01562648	m3/s	15.63 l/s	**DESIGN OK**
VELOCITY FROM SINGLE ORIFICE	0.92	m/s		

BROAD CRESTED WEIR DESIGN FLOW CHECK:

FLOW DEPTH, h	0.1125	m		
BASE WIDTH = L	7.95	m		
FLOW AREA	0.89	m2		
WEIR FLOW	0.02113	m3/s	21.13 l/s	**DESIGN OK**
WEIR VELOCITY	0.024	m/s		

INCOMING PIPE & SPREADER SUMARY:

Lots 1,2,3,5 - On-Lot Roof Tank Dispersal

INCOMING PIPE DIAMETER, m	0.100	m
SPREADER PIPE DIAMETER, m	0.150	m
MANNINGS PIPE ROUGHNESS	0.009	
NUMBER OF ORIFICES	54	No.
DIA. OF ORIFICE, D	20	mm
ORIFICE INTERVALS, C/C	150	mm
DISPERSION PIPE LENGTH, L	**7.95**	**m**

HIRDS V4 Intensity-Duration-Frequency Results
Sitename: 42 Karaka Drive Kerikeri
Coordinate system: WGS84
Longitude: 173.9479
Latitude: -35.2159
DDF Model

Parameters:	c	d	e	f	g	h	i
Values:	0.00237623	0.50755729	-0.01203257	-0.0040531	0.25375572	-0.01178547	3.23158568

Example:	Duration (hrs)	ARI (yrs)	x	y	Rainfall Rate (mm/hr)
	24	100	3.17805383	4.600149227	10.67180945

Rainfall intensities (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	60.2	43.1	35.4	25.3	17.9	9.84	6.49	4.11	2.48	1.8	1.42	1.17
2	0.5	65.9	47.2	38.8	27.7	19.6	10.8	7.13	4.52	2.73	1.98	1.56	1.28
5	0.2	85.3	61.2	50.4	36.1	25.5	14.1	9.34	5.93	3.59	2.61	2.05	1.69
10	0.1	99.5	71.4	58.9	42.2	29.9	16.6	11	6.98	4.23	3.07	2.42	1.99
20	0.05	114	81.9	67.6	48.5	34.4	19.1	12.7	8.06	4.89	3.56	2.8	2.31
30	0.033	122	88.1	72.7	52.2	37.1	20.6	13.7	8.71	5.28	3.84	3.03	2.5
40	0.025	129	92.5	76.4	54.9	39	21.7	14.4	9.17	5.57	4.05	3.19	2.64
50	0.02	133	96	79.3	57	40.5	22.5	15	9.54	5.79	4.22	3.32	2.74
60	0.017	137	98.8	81.6	58.7	41.7	23.2	15.4	9.83	5.97	4.35	3.43	2.83
80	0.013	143	103	85.3	61.3	43.6	24.3	16.2	10.3	6.26	4.56	3.6	2.97
100	0.01	148	107	88.1	63.4	45.1	25.1	16.7	10.7	6.49	4.73	3.73	3.08
250	0.004	167	120	99.6	71.7	51.1	28.6	19	12.2	7.4	5.4	4.26	3.52

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	5.3	3.4	2.5	1.9	1.3	0.81	0.57	0.18	0.23	0.2	0.12	0.11
2	0.5	5.8	3.7	2.7	2.1	1.5	0.88	0.63	0.2	0.26	0.23	0.13	0.12
5	0.2	8.6	5.8	4.4	3	2.1	1.2	0.89	0.31	0.36	0.31	0.19	0.17
10	0.1	12	8.1	6.3	4.1	3	1.7	1.2	0.44	0.44	0.38	0.23	0.21
20	0.05	15	11	8.8	5.6	4.1	2.2	1.6	0.61	0.54	0.47	0.29	0.26
30	0.033	18	13	11	6.8	5	2.7	1.9	0.74	0.61	0.52	0.32	0.3
40	0.025	20	15	12	7.7	5.7	3	2.1	0.83	0.67	0.56	0.36	0.32
50	0.02	22	16	13	8.5	6.3	3.4	2.3	0.92	0.72	0.6	0.38	0.35
60	0.017	24	18	14	9.2	6.9	3.7	2.5	0.99	0.76	0.63	0.4	0.37
80	0.013	27	20	16	10	7.8	4.1	2.9	1.1	0.82	0.69	0.44	0.4
100	0.01	29	22	18	11	8.6	4.6	3.1	1.2	0.88	0.73	0.47	0.43
250	0.004	40	30	25	16	13	6.7	4.6	1.7	1.2	0.95	0.63	0.56

Appendix 6

Combined PSI/DSI Report

geologix
consulting engineers

COMBINED PRELIMINARY AND DETAILED SITE INVESTIGATION

23 AND 42 KARAKA DRIVE, KERIKERI

THERESA RUDDELL

C0694N-E-01
OCTOBER 2025
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Combined Preliminary and Detailed Site Investigation
Site Reference	23 and 42 Karaka Drive, Kerikeri
Client	Theresa Ruddell
Geologix Reference	C0694N-E-01
Issue Date	8 October 2025
Revision	01
Reviewed by	Ray Mayor Senior Environmental Consultant, BEng (Env) 
Approved by	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ 
File Reference	*SynologyDrive\Projects\C0600-C0699\C0694N - 42 and 44 Karaka Drive, Kerikeri\06 - Reports \Environmental\ C0694N-E-01.docx*

REVISION HISTORY

Date	Issue	Prepared by	Approved
October 2025	First Issue	RM	EC

geologix
consulting engineers

TABLE OF CONTENTS

FIGURES

TABLES

1 INTRODUCTION

This combined Preliminary and Detailed Site Investigation (PSI/ DSI) report has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Theresa Ruddell as our Client in accordance with our standard short form agreement and general terms and conditions of engagement.

This investigation was to assist with the Resource Consent application in relation to the proposed residential subdivision on a rural property located at 23 and 42 Karaka Drive, Kerikeri (herein, referred to as the 'site', Figure 1, Section 2.1).

1.1 Background and Objectives

At the time of writing this report, the site is proposed for a new multi-stage residential subdivision including minor soil disturbance activities to form access roads (where required). Proposed subdivision plans by Thomson Survey Limited dated 25 July 2025 are 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:

- Determine the applicability of the NES:CS to the site.
- Assess the likelihood of human health risk associated with the proposed subdivision.
- Characterise site soils within the site (refer to Section 4), to assess the potential risks to human health and the environment; and
- 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 Site in New Zealand*. Ministry for the Environment, Wellington, New Zealand, Revised in 2021 (MfE 2011b).

- Desktop review of:
    - Provided council property information.

- The Northland Regional Council (NRC) Selected Land Use Register (SLUR).
- Historical aerial photography available on the Local Government Geospatial Alliance's (LGGA's) Retrolens webpage as well as Google Earth Pro service.

- Soil sampling comprising the collection of 51 surface soil samples (including three duplicate samples) from 48 locations within the site.
  - Noting no sampling was undertaken within proposed Lot 4 as this was previously undertaken as part of the previous consent for the construction of the existing residential dwelling, refer to Section4.2 ,
- As required by the NES:CS, three duplicate sample were collected to confirm the consistency of the analysis.
- Soil samples were sent to RJ Hill Laboratories (Hills) for analysis (with Chain of Custody documentation).
- 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 located at 23 and 42 Karaka Drive in Kerikeri, approximately 980 m south-east of the Waipapa (Twin Coast Discovery Highway) and Rainbow Falls Road intersection. Details of the site are listed in Table 1 below.

Table 1: Site Details.

Address	Zone	Legal Description	Area (m^2)
23 and 42 Karaka Drive, Kerikeri	Rural Living	Lot 1 DP 519192	43,764

The site is undulating, irregular in shape and is bound by rural properties to the north/ north-east, north-west and south-west, Amokura Drive to the south-west, pastureland to the north-east/ south-east and reserve land associated with the Kerikeri River to the south/ south-east

The site setting is presented in Figure 1 below with the centre of the site approximately at geographical position NZGD: 1686222, 6102588.

Figure 1: Site Setting.

2.2 Proposal and Proposed Site Use

It is understood that the Client proposes to subdivide the rural residential property site in a stage approach comprising a new multi-stage residential subdivision including minor soil disturbance activities to form access roads (where required). A summary of the proposed subdivision plan is outlined in Table 2 below.

Table 2: Summary of Proposed Subdivision

Proposed Subdivision of Lot 1 DP 519192 – Stage 1		
Proposed Lots	**Size Range (ha)**	**Purpose**
3	0.3050	New Rural Residential
4	0.3660	Existing Rural Residential
6	2.0300	Existing Rural Residential *
7	1.6750	Existing Rural Residential *
Proposed Subdivision of Proposed Lot 6		
1	0.3850	New Rural Residential
2	0.4590	New Rural Residential
5	0.5300	New Rural Residential
6	0.6560	Existing Rural Residential

** Noted as existing as portion of proposed new lots contain either existing residential dwelling or existing storage shed/ workshops.*

Additionally, it is understood that proposed Lot 7 is to be held in ownership associated with the 44 Karaka Drive property (Lot 3 DP 357808), with no changes in land use proposed.

This understanding has been established from the proposed subdivision plans provided by Thomson Survey Limited dated 25 July 2025, provided in Appendix A. Any amendments to the referenced proposed subdivision plans may require an update to the scope and/ or recommendations of this report.

It is expected that future soil disturbance activities will be required to potentially upgrade the existing site access roads and create a new site access/ driveway for proposed Lot 5 and to form potential future building platforms. However, no earthworks are proposed at this stage.

The current site use for the proposed rural residential subdivision is not anticipated to change.

2.3 Current Land Use

The site is currently in use for rural residential purposes. The site is zoned Rural Living under the FNDC Operative District Plan.

A small portion (south-west portion) of proposed Lot 7 contains existing horticulture (citrus trees) and equipment storage sheds/ workshops are located within the central south portion of proposed Lot 7.

The future site use is not anticipated to change following the proposed subdivision.

2.4 Surrounding Land Uses

The site is surrounded by rural residential properties to the north/ north-west, north-east and south-east, a commercial land use property to the south-west (retirement village) and a conservation area to the south/ south-east.

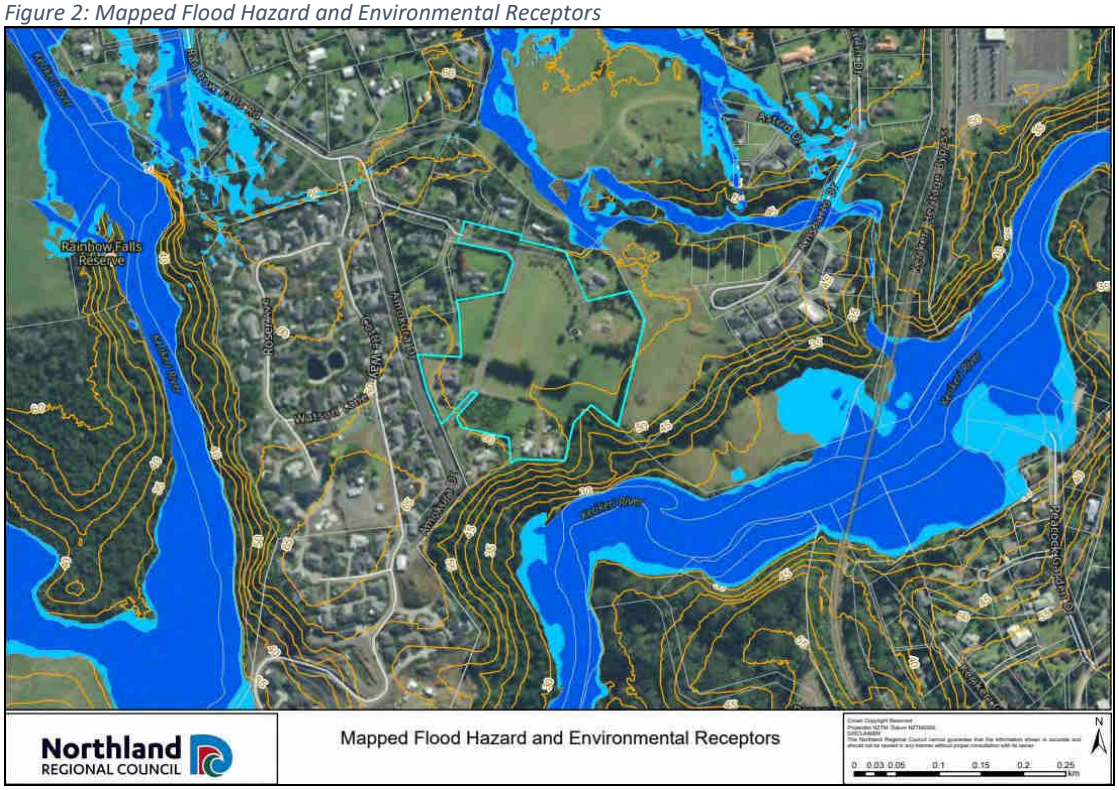
2.5 Environmental Setting/ Ecological Receptors

To provide protection for natural resources, ecological receptors on or near a site should be considered. The nearest ecological receptor is a conservation zone associated with the Kerikeri River located adjacent to the south/ south-eastern site boundary. The Kerikeri River is located approximately 50 m to the south-east of the site.

In relation to this consent application, the Kerikeri River is located within an influencing distance (i.e., less than 100 m), therefore, is considered an environmental receptor.

Additionally, Figure 2 indicates the Kerikeri River beyond the south/ south-eastern site boundary with associated flood hazard under all modelled scenarios including the 1 % AEP event inundating land is well below the site to approximately the 29 m contour.

Figure 2: Mapped Flood Hazard and Environmental Receptors



2.6 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).

2.7 Site Inspection

A site walkover in conjunction with onsite investigation works was undertaken in May 2025 and the following observations were made (selected site photographs are provided in Appendix B):

- All existing structures are present as outlined by the most recent available 2023 aerial photograph (Google Earth Pro).
- Site is undulating.
- Some evidence of horticultural activities were recorded within the site boundaries, namely remnant citrus species, particularly to the southern portion of the site. Elsewhere some shelter belts remain in place.
- No burn pits (e.g., burning of refuse) were observed on site.

- Green waste/ natural wood (untreated) piles located on the central eastern portion of the site (proposed Lot 6).

- Material stockpiles located adjacent to the central eastern boundary and within the north-eastern portion of the site.

    - Material adjacent to the central eastern boundary (proposed Lot 6) appears to be non-imported, excess material from either onsite landscaping conducted within the north-eastern portion of the site and/ or from excess material from the earthworks associated with construction of the residential dwelling (south-west portion of the site, proposed Lot 4).

    - Sand, bark and rock stockpiles observed on the north-eastern portion of the site (proposed Lot 6) appears to be used for landscaping.

- Storage sheds/ workshops are present within the southern portion of the site (proposed Lot 7) including:

    - Large portion of this area covered in hardfill.

    - Main central shed/ workshop area only has a concrete slab.

    - Small, localised staining observed within the western shed and western side of central shed/ workshop.

    - Un-bunded chemicals (e.g., oils, hydraulic fluid etc.,) were observed.

    - A small, localised hydrocarbon spill (appears recent) present in close proximity to the southern boundary, between the western and central sheds/ workshop. Refer to location on Figure 4, Section 4.2

        - Client informed of spill by Geologix following sampling works. Client not aware of the spill and informed Geologix that they would clean up spill.

        - Client informed Geologix that oil was transferred to a waste oil container to be retained on site, underlying soil was removed from site taken to the disposal facility. Refer to Photograph 8 in Appendix B showing location following clean up.

    - Refuse/ buried refuse (e.g., glass, metal/ metal fragments and plastic) observed along the south-eastern boundary.

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 reviews of:

- Publicly available historical aerial photographs from the Local Government Geospatial Alliance's (LGGAs) Retrolens and Google Earth.
- Provided council property information, and
- NRCs SLUR

3.1 Property Information

A summary of the relevant property information reviewed is provided below and selected relevant property information is provided in Appendix D.

3.1.1 Property Files

The review of the site property information provided by the client contained limited information only, no additional relevant information regarding contamination and/ or contaminating activities were noted within the provided information.

3.1.2 Selected Land Use Register

A review of the NRCs selected land use register (SLUR) was undertaken in September 2025. No HAIL activities have been identified within the property. The nearest identified HAIL area identified is associated with the existing retirement village located to the west of the site, western side of Amokura Drive.

3.2 Historical Aerial Photographs

Historical aerial photographs of the site and the surrounding area taken between 1953 and 2023 were sourced from the LGGAs Retrolens and Google Earth. A summary of observations made from the review of these photographs is provided below. Historical aerial photographs are provided in Appendix C.

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:

LGGAs Retrolens

- **1953-1977**: The earliest available historical aerial photographs indicates that the site appears to have been used for grazing land prior to 1953 to circa 1979. No significant changes are observed within the site over this period.
- **1979-1981**: The available historical arial photographs indicate that the site appears to have been used for commercial horticultural activities with the establishment of an orchard circa 1979. A large, shed type structure potentially associated with commercial horticultural activities is observed in the 1980 historical aerial photograph (central south portion of the site).

There are no available historical aerial photographs between 1981 and 2003.

Google Earth Pro

- **2003-Present:** The 2003 historical aerial photograph shows only a small portion of the site (southern portion) contains horticulture (non-commercial use); majority of the orchard has been removed. Additional sheds/ workshops have been constructed on the south-eastern portion of the site. Karaka Drive is now visible and access off Karaka Drive to the storage shed/ workshops is present.

  By 2009, a residential structure has been constructed on the north-eastern portion of the site, soil disturbance is also observed, however, appears to be associated with landscaping works, as observed during the siter inspection.

  A green waste stockpile and wood stockpiles (2018 and 2020 aerial image respectively) are observed within the central east portion of the site.

  By 2022, horticulture has been removed from the south-western portion of the site and earthworks associated with the residential dwelling and associated shed is underway. The residential structure and associate shed have been constructed by 2023.

  A soil stockpile (as observed during the site inspection) is present in the 2023 aerial image central east portion of the site, adjacent to the site boundary.

In summary, the site was in use for grazing land purposes prior to 1953 until circa 1979, where the site was then used for horticultural land use with the establishment of an orchard. The majority of the orchard was removed prior to 2003 with a small portion (southern portion) remaining to date. Residential land use began in the early to mid-2000s with the construction of a residential dwelling on the north eastern portion of the site.

3.3 Other Historical Information

Historical certificates of title (CoT) were ascertained for the property which date back to pre-1940. The CoTs generally conform to the above historical data reviewed. The prior title (NA135D/95) indicates the rural residential lots to the north-east and north-west corners of the site were subdivided from the site gradually between 2001 and 2007.

The aerial photograph review of this property indicates a similar land-use history with horticulture being re-purposed as rural residential and the approximate historic boundaries in 2001 is indicated below as Figure 3. Historical CoTs deriving these assumptions are available upon request.

Figure 3: Historical CT Boundaries

3.4 Actual/ Potential HAIL Activities

Specific land use and associated activities through the available site history can be appointed to a HAIL category as follows:

Site wide:

- Apparent commercial horticultural activities between circa 1977 to 2003. This could have included spraying of crops with pesticides, herbicides and/ or other general products across this localised area of the site. Contaminant concentrations may be higher within the vicinity to the sheds to the south-east corner due to product storage/ mixing etc. These activities are associated with HAIL category A10; persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds.

Localised: South-east portion of the site (proposed Lot 7).

- Commercial horticultural associated equipment sheds/ workshops area (including un-bunded chemical storage, staining and/ or spills) within the south-eastern portion of the site. These activities are associated with HAIL category I; any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.

- Refuse/ buried refuse (e.g., glass, metal/ metal fragments and plastic) observed along the south-eastern site boundary. This activity is associated with HAIL category G5; waste disposal to land.

The above desktop review presents current and historical potential land-use activities that may have impacted the natural environmental properties of the shallow soils. Considering the nature of these activities are surface based and significant ground disturbance has not visibly been undertaken it can be concluded that potentially impacted soils will lie within the upper 0.5 m of the soil column.

The above land use activities equate to the whole site area (i.e., horticulture over the entire site). Therefore, the entire, 43,764 m^2 area of the site can be determined as a 'piece of land' according to the definitions of the NES:CS.

4 SAMPLING AND ANALYSIS PLAN

4.1 Potential Contaminants of Concern

Based on the potential HAIL activity(s) identified and from our experience, it is expected that contaminants of concern (CoC) (if any) associated with commercial horticultural activities would typically be contained within the topsoil/ shallow site soils and may include heavy metals, organochlorine pesticides and/ or Polycyclic Aromatic Hydrocarbons (storage shed/ workshops area).

4.2 Sampling Methodology

Due to the potential HAIL activities identified (Section 3.4), the following sampling was undertaken to determine contaminant concentrations within the identified HAIL area (i.e., the entire site). Based on this, the sampling investigation has targeted the surface horizon from within the site comprising topsoil/ shallow site soils from up to 0.2 m below ground level (bgl) to target the CoCs and to quantify the nature and dispersion of any residual contamination.

Soil sampling was undertaken in general accordance with the MfE CLMG No.5 - *Site Investigation and Analysis of Soils* (revised 2021) (MfE, 2011c). The MfE sampling guidelines for a site of this size (approximately 43,764 m^2) recommend up to 52 sampling points. From our experience, the following sampling programme was undertaken:

Noting the below sampling plan (refer to Figure 4 below and attached in Appendix E) took into considered the previous sampling completed within the 42 Karaka Drive property (proposed Lot 4).

- From the wider site area, using a grid approach, a total of 27 sample locations (designated C01a, C01b, C01c to C09a, C09b, C09c), 27 shallow soil samples were collected from the surface horizon comprising topsoil from 0.0 - 0.2 m bgl and composited into nine samples (three primary subsamples per one composite sample).
    - Samples were composited within the laboratory environment.
- A further 15 individual shallow soil samples targeting the storage shed/ workshops area and other areas of interest (e.g., stockpiles) were collected from the surface horizon comprising topsoil from 0.0 - 0.2 m bgl.

- As required by the NES:CS, three duplicate soil samples from three locations were collected and labelled under a unique identification QC01-QC03.

- Sampling was undertaken in accordance with Geologix Standard Operating Procedures including:

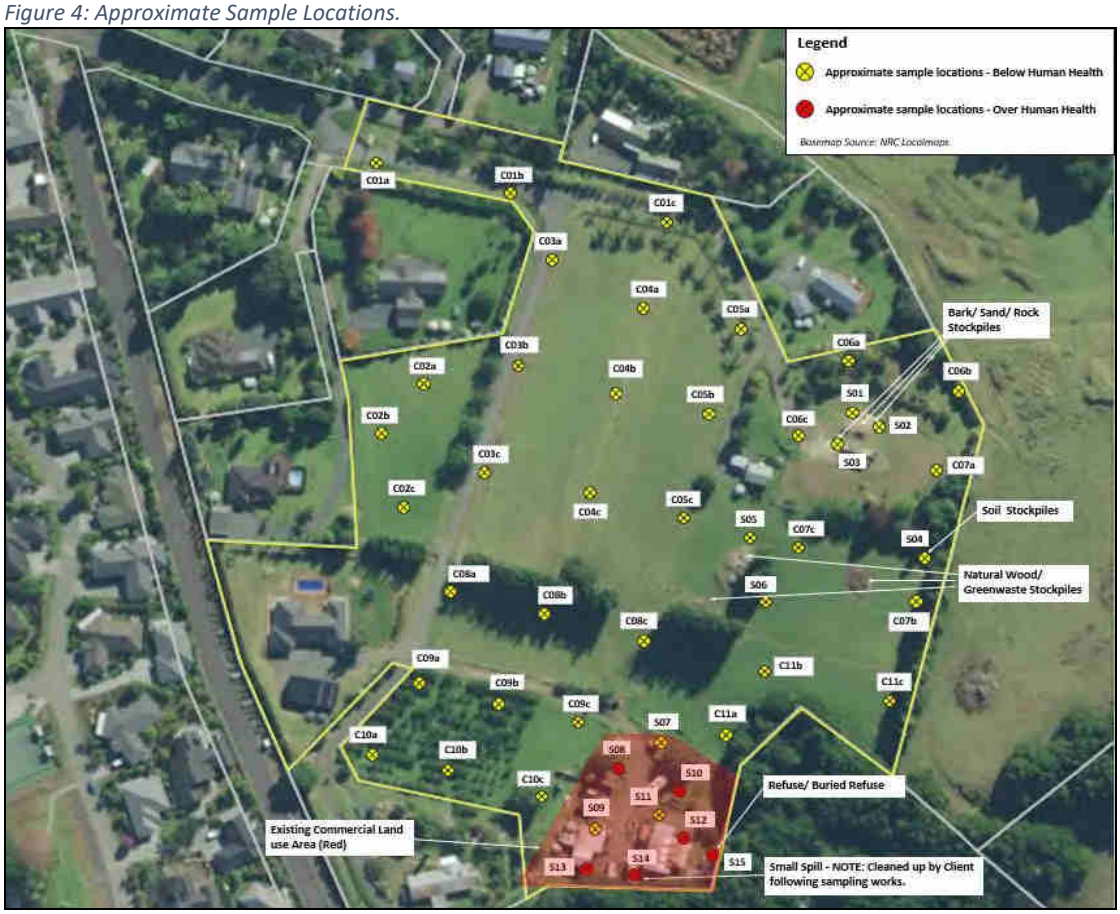
  - Each soil sample was collected using a clean pair of nitrile gloves for each sample, then placed into laboratory supplied sample containers. Prior to sampling at each location, the sampling equipment was decontaminated by washing with potable water, followed by a decontamination solution, and rinsing with deionised water.

  - The soil samples were placed in new laboratory supplied sample containers and dropped off at RJ Hill Laboratories (Hills) in Auckland alongside Chain of Custody documentation.

- On the basis of the site history and associated potential contaminating activities that were identified at the site, all samples were analysed for metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc) and OCPs and selected samples analysed for PAHs.

- The duplicate samples were analysed for metals only.

Figure 4: Approximate Sample Locations.



Note that it is expected that elevated total petoleum hydrocabons (TPH) would be present within the small localised spill area. However, due to the nature of the spill (oil spill) and to ensure no cross contamination to occur during sampling works (e.g., difficulty in cleaning oil from sampling equipment), sampling could not be completed within the actual spill material, therefore, TPH was not included in the anlysis.

Additionally, as indicated in Section 2.7, following sampling works, the Client was informed of the spill who then conduted a clean at that location; oil was transferred to a waste oil container to be retained on site, underlying soil was removed from site and taken to the disposal facility.

4.3 Quality Assurance and Quality Control

The quality assurance/ quality control (QA / QC) procedures employed during the works included:

- Collection of soil samples by suitably qualified staff in accordance with Geologix standard operating procedures.
- Submission of all samples to the analytical laboratory within the acceptable holding times for the contaminants of concern.
- Submission of three duplicate soil samples from location S07, S01 and S03. These duplicate samples were submitted under the unique identification QC01-QC03 respectively and analysed for metals only.
- Sample analysis by Hill Laboratories who are accredited by International Accreditation New Zealand (IANZ) for the analyses performed.

4.4 Soil Guideline Values

The following environmental guidelines were used to screen the sample results. Relevant guidelines values are provided in the data analysis table attached as Appendix E.

4.4.1 Background Concentrations

According to Regulation 5(9) of the NES:CS, if a DSI can demonstrate that any contaminants on a HAIL site are at, or below, background concentrations, then the NES:CS regulations do not apply. However, there are no natural background concentration available for Northland region at the time of this investigation. Therefore Regulation 5(9) of the NES:CS is not applicable.

4.4.2 Soil Contaminant Standards (NES:CS)

The NES:CS (MfE, 2011) details soil contaminant standards (SCSs) for seven inorganic substances. SCSs are available for these substances and compounds when present in land used for five land use scenarios. The contaminants analysed at this site for which SCSs are

available are arsenic, cadmium, chromium, copper and lead. For this site, a residential 10% produce land use scenario was adopted, which includes the following source-pathway-receptor assumptions:

- The selected residential SCSs assume that intended future land use will be a rural residential/ lifestyle lot, for single dwelling sites with gardens, including some home-grown produce consumption.
- Potential receptors include site workers during the redevelopment works and residents following the redevelopment.
- The NES:CS adopted standards for rural residential land-use have been used to assess risks to both site workers and end users of the site.
- It has been assumed that the soil pH is 5, and that all lead is present in inorganic form.

4.4.3 Other Applicable Human Health Standards

For contaminants of potential concern that are not priority contaminants, the NESCS references the hierarchy defined in the MfE CLMG No.2 – *Hierarchy and Application in New Zealand of Environmental Guideline Values* (MfE, 2011d).

In accordance with this hierarchy, the Australian National Environment Protection Council (NEPC) (1999 rev: 2013) National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) has been used for two metals (nickel and zinc). Health-based investigation levels for 'Residential A' land use have been selected in accordance with the proposed end use of the site and to protect site workers during the development work. 'Residential A' investigation levels are described in the ASC NEPM to include "*Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools*" (NEPC 2013).

Additionally, due to the commercial nature of the existing storage sheds/ workshops area (south-eastern portion of the site), samples collected from within the storage sheds/ workshops area were also compared against commercial/ industrial SCSs.

5 SAMPLING RESULTS

Laboratory analytical results of the samples collected are summarised in Section 5.1 below and the soil analytical results table attached as Appendix E. The full laboratory analytical reports are provided in Appendix F.

5.1 Analytical Results

As previously mentioned, all samples were analysed for metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc) and OCPs and selected samples for PAHs. The results of the laboratory analysis indicated the following:

Wider site:

- No heavy metals were detected above human health criteria.
- No OCPs detected above the laboratory level of reporting.
- No PAHs were detected above the laboratory limit of reporting in any of the samples analysed for PAHs.
- In addition, no visual or olfactory evidence of contamination was observed in any of the soil samples collected.

Storage shed/ workshops area:

- Heavy metals were detected above human health criteria in six samples (S08, S10 and S12-S15) including:
    - Arsenic in samples S08, S10, S13, S14 and S15,
    - Cadmium in sample S15, and
    - Lead in samples S12, S14 and S15.
- PAHs were detected above the laboratory limit of reporting in three of the samples (S09, S14 and S15), below human health criteria.
- No OCPs were detected above the laboratory level of reporting.
- In addition, visual or olfactory evidence of contamination was observed in three of the soil samples collected (S09, S14 and S15).

To note: no samples collected from within the storage shed/ workshops area (samples S07-S15) contained contaminant concentrations in excess of human health commercial/ industrial guidelines.

5.2.1 Confidence in Results

The analytical laboratory is required to conduct cross checking and routine duplicate sample analysis to maintain an IANZ accreditation. Discrete project specific duplicate analysis was undertaken to confirm the reliability of laboratory analysis. In accordance with CLMG, primary to secondary sample acceptable relative difference (RPD) is 50 % for soil samples.

Three duplicate samples (QC01-QC03) were analysed for metals to replicate the analysis of samples S07, S01 and S03 respectively. The relative percentage difference (RPD) between the primary and duplicate samples ranged between 0% and 24%. As such, it is considered that the precision of the sampling and analysis is well within acceptable limits. The results are presented in the data analysis table attached as Appendix E.

5.2 Summary of Results

The result of analytical testing indicates that contaminants concentrations of the CoCs are above human health guidelines for a rural residential land use scenario within the storage shed/ workshops area only. No contaminants in excess of human health guidelines were detected with the wider site area.

6 DISPOSAL DOCUMENTATION

A disposal criteria analysis for metals has been made in accordance with the MfE Hazardous Waste Acceptance Criteria (WAC) screening criteria for Class A and B landfill facilities and summarised as follows:

- Site wide exceedance of Class A landfill screening criteria for:
    - Total chromium from all sample locations except for sample locations S02, S03 and S14.
- Localised exceedance of Class A landfill screening criteria for:
    - Copper from sample locations S14 and S15.
    - Lead from sample locations S12, S14 and S15.
    - Zinc from sample locations S10, S12, S14 and S15.
- Site wide exceedance of Class B landfill screening criteria for:
    - Total chromium from all sample locations except for sample location S02.
    - Copper from all sample locations except for sample location S03.
    - Lead from sample locations C09-C11 (composite samples), S01, S02, S04, S06-S10, S12-S15.
    - Nickle from all sample locations except for sample location C09 and C10 (composite samples), S02, S03 and S04-S06.
    - Zinc from all sample locations except for sample locations C03 (composite sample) and S03.
- Localised exceedance of Class B landfill screening criteria for:
    - Arsenic from sample locations S08-S10 and S13-S15.
    - Cadmium from sample location S15.

Based on the above, and as natural background concentrations are not available for Northland, soils do not meet the requirement and definition of clean fill and any soil

proposed for removal from site shall be disposed of to an appropriate managed fill facility. Sample results should be provided to a managed fill facility to determine if they can accept.

7 RISK ASSESSMENT

Based on the information presented in this report, a quantitative risk assessment of contamination potential to cause an effect upon human and/ or ecological receptors was. This is further developed into a regulatory assessment for consent.

The available information summarised above (Sections 2 – 6) indicates the site has been predominantly used for commercial horticultural activities conducted prior to 1953. HAIL activities (category A10 (site wide) and categories I and G5 (localised)) were identified, particularly associated with contaminants associated with historical horticultural land-use, including associated storage sheds/ workshop.

The following Conceptual Site Model (CSM) has been developed for the potentially complete contaminant pathways at the site:

Table 3: Conceptual Site Model.

Source	Pathway	Receptor	Risk Score
Metals and PAHs	• Incidental soil ingestion. • Inhalation of dusts. • Dermal absorption.	• Site users/ workers of the site. • Future site users.	• Low – for the wider site area as results below human health limits • High – for the storage sheds/ workshop area as results (specifically metals) exceed human health limits.
Metals, and PAHs in soil taken away from site.	• Migration	• Groundwater • Surface water	• Low – provided taken to a suitable managed fill facility

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.

7.1 Quantification of Risk and Discussion

The actual and potential HAIL activities undertaken (refer to Section 3.4) on site identifies low potential risk to human health and ecological receptors across the wider site area site for the proposed site use. However, a high risk to human health and ecological receptors has been identified within the south-east portion of the site (storage sheds/ workshop area) under a residential setting.

To note, the storage sheds/ workshop area is part of the proposed subdivision, however, the current land use (e.g., more of a commercial use) is not proposed to change following subdivision.

As such, the following can be considered:

- Due to concentrations below human health criteria over the majority of the property in use for residential purposes, a very low risk is applied to long-term human health exposure to the continued use for residential purposes if these soils are to remain on site.
    - A high risk would need to be considered within the south-east portion of the site (storage sheds/ workshop area) under a residential setting.
- A low risk is applied to long-term human health exposure to the continued use of their storage sheds/ workshop area for commercial purposes if these soils are to remain on site.
    - Noting that, the localised spill would need to be cleaned up to comply, which was undertaken by the client following sampling works.

As previously mentioned, the storage sheds/ workshop area (refer to Figure 4) land use is not proposed to change at this time, however, should this be proposed for residential use, remediation in some form will need to be undertaken and validated to allow this area to be suitable for residential land use purposes.

8 REGULATORY CONSIDERATIONS (CONTAMINATED LAND)

Based on the findings of this investigation, the NES:CS regulations apply to the entire site area. Proposed subdivision plans by Thomson Survey Limited dated 25 July 2025 are provided in Appendix A. This section provides clarification of consent conditions against national, regional and local standards and regulations in regard to the proposed subdivision only.

8.1 National Environmental Standards

The NES:CS regulation applies to activities of subdivision and soil disturbance 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 (7) the NES:CS applies to the site due to the following HAIL Categories:

- A10; Persistent pesticide bulk storage or use including sport turfs, market garden green house or spray sheds.
- G5; waste disposal to land.
- I; any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.

Provided the assumptions of this report remain relevant and due to contamination in excess of rural residential human health guidelines, and that no change in land use is currently proposed within Lot 7 (i.e., commercial use area, Figure 4), NES:CS regulation 10 is applicable and the activity of subdivision is a Restricted Discretionary activity. Pursuant to NES:CS

Regulation 10(2)(b), the soil contamination (within storage shed/ workshop area) exceeds the applicable standard in regulation 7.

Pursuant to NES:CS Regulation 10(3)(b), provided this report is accompanied by a Site Management Plan (SMP) and Remedial Action Plan (RAP) prepared by a SQEP familiar with the findings of our investigation, and the SMP/ RAP provides adequate means of managing the identified contamination, the site is considered suitable for the proposed activity (i.e., subdivision).

The SMP/ RAP may be prepared as part of the application or a condition of consent.

To note, elevated contaminants are situated within proposed Lot 7 which is to be transferred, and held with the adjacent Lot 3 DP 357808, a title that is already developed. The land in proposed Lot 7 may or may not be subject to further residential subdivision or development, with the current site use within proposed Lot 7 (i.e. commercial use) not proposed to change at this time. However, any change of use or soil disturbance activities proposed within Lot 7, will require remediation and validation to be undertaken. This will be required to be undertaken in accordance with a SMP/ RAP prepared by a SQEP familiar with the findings of our investigation.

In relation to soil disturbance, no soil disturbance is proposed as part of the subdivision at this time, however, 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. Calculated on a 'piece of land' basis (entire site area of 43,764 m^2), allowable soil disturbance volumes are 2,188.2 m^3 for soil disturbance and/ or 437.64 m^3 for off-site disposal per year to be able to comply with this activity status.

8.2 Northland Regional Plan

In assessment of the proposed Northland Regional Plan Chapter C.6.8 and based on our investigation, the site will be considered as 'contaminated land' based on the existing HAIL and localised contamination (specifically within proposed Lot 7 only) in excess of human health guidelines. Noting that the current land use (i.e., commercial activities) within proposed Lot 7 is not proposed to change at this time.

However, in assessment of the proposed Northland Regional Plan Chapter C.6.8.2 (discharges from contaminated land), and due to the shallow nature of the contamination and that chlorinated solvents and hydrocarbons (including non-aqueous liquids) are not associated with the identified HAIL activity and are highly unlikely to be present, and this site investigation has been certified by a SQEP, and remediated in some form is undertaken prior to any change of land use and or soil disturbance is undertaken within proposed Lot 7, the activity is considered a permitted activity. In accordance with Rul C.6.8.2(9), the passive discharges from the activity are expected to comply with Conditions outlined by C.6.8.2(1) to (7).

In addition, and to be noted; Northland Regional Plan Rule C.6.8.1 (Investigating potentially contaminated land – permitted activity), the disturbance of land for a site investigation to assess the concentration of hazardous substances in soil, water or air is a permitted activity,

provided:

1) The site investigation is certified by a suitably qualified and experienced practitioner, and

2) The person or organisation initiating the site investigation provides a copy of the site investigation report to the Regional Council within three months of the completion of the investigation, and

3) Site investigations undertaken to assess the concentrations of contaminants in soil are undertaken in accordance with Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (Ministry for the Environment, 2011).

This report complies with items 1 and 3 above, therefore, to fully comply with rule C.6.8.1, this report must be submitted to the Regional Council within three months of the completion of the investigation.

9 SUMMARY AND RECOMMENDATIONS

This combined Preliminary and Detailed Site Investigation (PSI/ DSI) report has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Theresa Ruddell (the 'Client'). This investigation was to assist with the Resource Consent application in relation to the proposed rural residential subdivision of a property located at 23 and 42 Karaka Drive, Kerikeri ('site'). The following summarises the findings of the investigation:

In summary, the site was in use for grazing land purposes prior to 1953 until circa 1979, where the site was then used for horticultural land with the establishment of an orchard. The majority of the orchard was removed prior to 2003 with a small portion (southern portion) remaining to date. Residential land use began in the early to mid-2000s with the construction of a residential dwelling on the north-eastern portion of the site.

Based on the HAIL activity above, the NES:CS applies.

HAIL category A10, G5 and I was identified (as indicated in Section 3.4), and soil results confirm that:

- Heavy metals (namely arsenic, cadmium and lead) were detected over human health criteria guidelines.
    - Within proposed Lot 7 only.
- PAHs were detected above the laboratory level of reporting in three of the 10 the samples analysed for PAHs (S09, S14 and S15).
    - Within proposed Lot 7 only.
- No OCPs were detected above the laboratory level of reporting in any of the samples analysed for OCPs.

Based on the findings of the investigation, for subdivision under Regulation 10 of the NES:CS the soil contamination does exceed the applicable standard in Regulation 7. Therefore, subdivision (or any future soil disturbance) activities associated with the proposed residential subdivision regarding contaminated land will be required as a restricted discretionary activity under the NES:CS and in addition permitted activity under the proposed Northland Regional Plan.

The above assumes a SMP/ RAP is produced in support of the proposed subdivision either supporting the application or prepared as a condition of consent. However, to be noted, the Proposed Lot 7 is not proposed for change of use and no soil disturbance activities are proposed at this at this time. The SMP/ RAP may only be required prior to any change of use and or soil disturbance being undertaken within proposed Lot 7.

Geologix considers that there is a low risk (wider site) to high risk (commercial area only, Figure 4) to long-term human health exposure with the proposed subdivision if these soils are to remain on site. Site soils do not meet the requirement and definition of clean fill and any soil proposed for removal from site shall be disposed of to an appropriate managed fill facility.

Additionally, regarding proposed Lot 7 (i.e., currently in use for commercial purposes) any proposed change of use and/ or soil disturbance activities within proposed Lot 7 (specifically commercial use area), will require remediation and validation prior to undertaking. It is expected that a consent notice (or similar) will be placed on proposed Lot 7 indicating that no development/ change of use and or soil disturbance to be undertaken until such time remediation and validation has been undertaken to the satisfactory of Council.

A SMP/ RAP will be required, prior to change of use and or soil disturbance undertake within proposed Lot 7, with the remediation assumed to be removal and disposal of contaminated soils in excess of rural residential guidelines to an appropriate disposal facility.

To note: as previously indicated the small, localised hydrocarbon spill present in close proximity to the southern boundary (Figure 4), between the western and central sheds/ workshop, was cleaned up by the Client following sampling works. Oil was transferred to a waste oil container to be retained on site; underlying soil was removed from site taken to the disposal facility.

As previously mentioned, to comply with rule C.6.8.1, this report must be submitted to the Regional Council within three months of the completion of the investigation.

10 LIMITATIONS

This report has been prepared for Theresa Ruddell 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 provide 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.

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

11 REFERENCES

Far North District Council Maps, https://www.fndc.govt.nz/Our-services/Far-North-Maps. Accessed September2025.

GNS Science, 2022. New Zealand Geology Webmap, Scale 1:250,000, http://data.gns.cri.nz/geology/. Accessed September 2025.

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.

Ministry for the Environment, 2011c. Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (revised 2021). Wellington, New Zealand.

Ministry for the Environment, 2011d. Contaminated Land Management Guidelines No. 2: Hierarchy and Application in New Zealand of Environmental Guideline Values (revised 2011). Wellington, New Zealand.

Northland Regional Council Online Maps, https://www.nrc.govt.nz/your-council/online-services/online-maps. Accessed September 2025.

Retrolens Historical Image Resource. https://retrolens.co.nz/. Accessed September 2025.

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

geologix
consulting engineers

APPENDIX A

Subdivision Plans

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	A B	LOT 7 HEREON	E.C. D027433.4
	A	LOT 7 HEREON	E.C. D432086.4
TELECOM-MUNICATIONS	B	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C D E F	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	C	LOT 7 HEREON	E.I. 11361217.3
	G	LOT 6 HEREON	

EXISTING EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	A B C F	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C F	LOT 7 HEREON	LOTS 3, 4 & 6 HEREON
	D	LOT 7 HEREON	LOTS 3 & 4 HEREON
	E	LOT 7 HEREON	LOT 4 HEREON

Local Authority: Far North District Council
Comprised in: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.

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 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	25.07.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

10065 Scheme 20250725 Stage 1

Surveyors Ref. No: 10065

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	A B	LOT 7 HEREON	E.C. D027433.4
	A	LOT 7 HEREON	E.C. D432086.4
TELECOM-MUNICATIONS	B	LOT 7 HEREON	E.C. D432086.4
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C D E F H I	LOT 7 HEREON	E.I. 7647565.5
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER, DRAIN SEWAGE	C	LOT 7 HEREON	E.I. 11361217.3
	G	LOT 6 HEREON	

EXISTING EASEMENTS IN GROSS

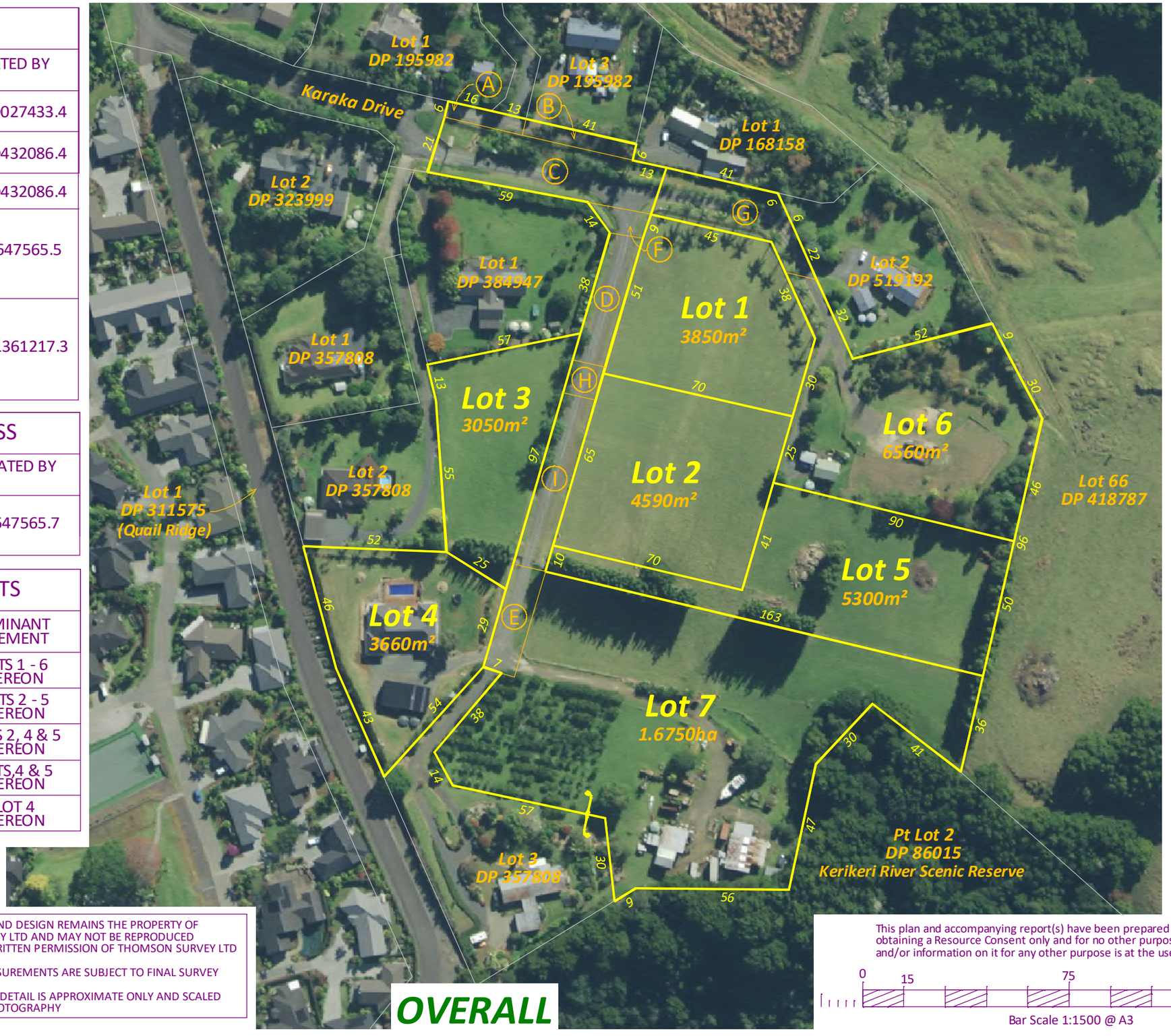
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
ELECTRICITY	A B C F	LOT 7 HEREON	E.I. 7647565.7

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY, CONVEY WATER & STORMWATER	C F	LOT 7 HEREON	LOTS 1 - 6 HEREON
	D	LOT 7 HEREON	LOTS 2 - 5 HEREON
	H	LOT 7 HEREON	LOTS 2, 4 & 5 HEREON
	I	LOT 7 HEREON	LOTS,4 & 5 HEREON
	E	LOT 7 HEREON	LOT 4 HEREON

AMALGAMATION CONDITION:
THAT LOT 7 HEREON AND LOT 3 DP 357808 ARE TO BE HELD IN THE SAME CERTIFICATE OF TITLE.

Local Authority: Far North District Council
Comprised in: 815034
Total Area: 4.3764ha
Zoning: Rural Living
Resource features: NIL



OVERALL

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 15 75 150m

Bar Scale 1:1500 @ 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 1 DP 519192

23 & 42 KARAKA DRIVE, KERIKERI

PREPARED FOR: T RUDDELL

	Name	Date
Survey		
Design		
Drawn	KY	23.06.21
Approved		
Rev	KY	25.07.25

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

10065 Scheme 20250725 Overall

Surveyors Ref. No: 10065

Sheet 1 of 1

geologix
consulting engineers

APPENDIX B

Selected Site Photographs

geologix
consulting engineers

SITE PHOTOGRAPHS

Project: 23 & 42 Karaka Drive, Kerikeri
Project no.: C0694N
Figure no.: 1 of 5

Photograph 1: Southern portion of the property, equipment/ storage area. Looking south.

Photograph 2: Western shed (equipment/ storage area). Un-bunded chemical storage. Looking south-west

Photograph 3: Central shed (equipment/ storage area). Un-bunded chemical storage. Inset showing localised spill. Looking south.

Photograph 4: Eastern shed (equipment/ storage area). Looking south-west.

Photograph 5: Potentially buried refuse/ refuse along the bank adjacent to the eastern shed (equipment/ storage area). Inset shows a close up of the refuse. Glass, metal/ metal fragments and plastic observed.

Photograph 6: Remaining horticulture (citrus trees) present. Southern portion of site. Adjacent/ west of the equipment/ storage area. Looking south-west.

Photograph 7: Bark/ rock stockpiles, north-east portion of the site. Looking south-west.

geologix
consulting engineers

SITE PHOTOGRAPHS

Project: 23 & 42 Karaka Drive, Kerikeri
Project no.: C0694N
Figure no.: 5 of 5

Photograph 8: Spill location following clean up by Client.

geologix
consulting engineers

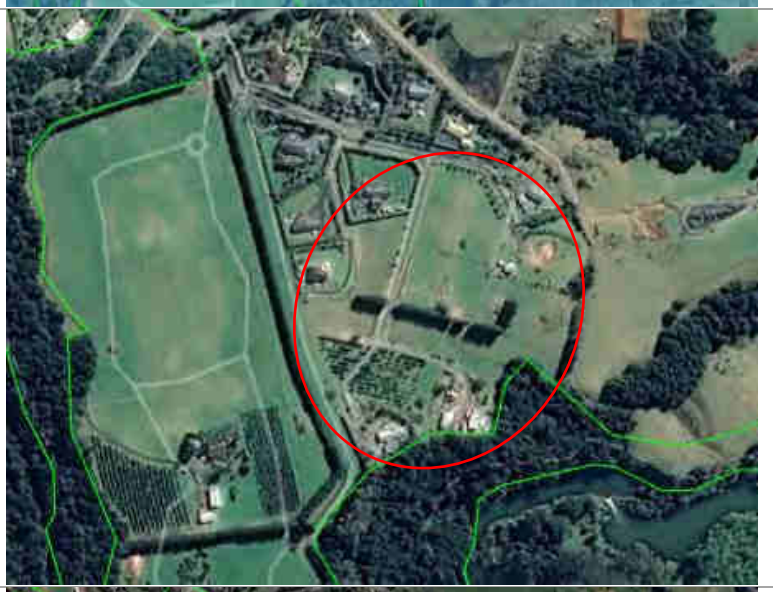
APPENDIX C

Historical aerial photographs

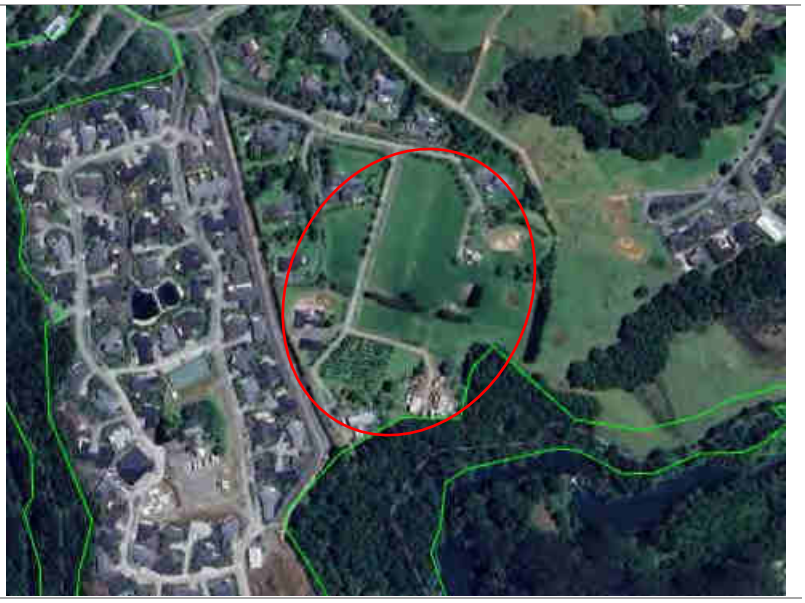
Retrolens, 1953	
Retrolens, 1968	
Retrolens, 1972	

Retrolens, 1977	
Retrolens, 1979	
Retrolens, 1980	

Retrolens, 1981	
Google Earth Pro, 2003	
Google Earth Pro, 2009	

Google Earth Pro, 2012	
Google Earth Pro, 2013	
Google Earth Pro, 2016	

Google Earth Pro, 2018	
Google Earth Pro, 2020	
Google Earth Pro, 2022	

Google Earth Pro, 2023	

geologix
consulting engineers

APPENDIX D

Selected Property Information

Northland REGIONAL COUNCIL

NRC Maps - SLUR

Projection NZTM. Datum NZTM2000.
DISCLAIMER:
The Northland Regional Council cannot guarantee that the information shown is accurate and should not be reused in any manner without proper consultation with its owner.

N

0 0.02 0.04 0.09 0.14 0.18 0.22 Kilometers

September 24 20

Kerikeri North

83

Scale 1:10000
2-12-2013

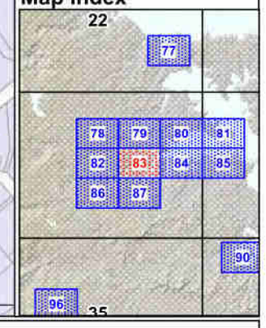
Legend

- Cemetery
- Historic Site
- Notable Tree
- Heritage Area
- Heritage Precinct
- Kerikeri Visual Buffer
- Russell Township Basin and Gateway Area
- Designations
- Coopers Beachfront Estate
- Esplanade Priority
- Pedestrian Frontage
- Maritime Exemption Area
- HV Powerline
- Railway

Zone

- Carrington Estate
- Coastal Living
- Coastal Residential
- Commercial
- Conservation
- General Coastal
- Horticultural Processing
- Industrial
- Kauri Cliffs
- Lakes & Rivers
- Minerals
- Motoroa Island
- Orongo Bay Special Purpose
- Point Veronica
- Quail Ridge Country Club
- Recreational Activities
- Residential
- Rural Living
- Rural Production
- Russell Township
- South Kerikeri Inlet Zone
- Waimate North
- Sensitive Area

Map Index



WAIPAPA ROAD
COCHRANE DRIVE
SILLWOOD LANE
RAINBOW FALLS ROAD
AWHITU ROAD
BLUE MARLIN DRIVE
WATERS LANE
LANDING ROAD
WAIPAPA LANDING PLACE
RIVERVIEW ROAD
KENDALL ROAD
TUI PLACE
EDKINS ROAD
MISSION ROAD
MARSDEN PLACE
SELWYN PLACE
R.ARERE TERRACE
KEMP ROAD
PEACOCK GARDEN DRIVE
ALBERTON DRIVE
MANGONUI DRIVE
HAWKINGS CRESCENT
RUATARA DRIVE
KING STREET
TUATAHI PLACE
GOLF VIEW ROAD
OKURA DRIVE
WENTWORTH TERRACE
PA ROAD
BLACKS ROAD
ME96
SEE HP 2
FN251
26
26

Far North District Plan - Zone Map

N

0 200 400
metres

Note:

Roads carry the same zoning as the adjoining land. If a boundary between zones follows a road, the zone boundary is located on the centerline of the formed road, or where unformed, the centerline of the legal road.

DISCLAIMER

Considerable care has been taken to avoid errors and omissions; and the latest information has been included in these District Plan maps. However, even with the greatest care inaccuracies may occur and therefore the Far North District Council cannot accept any responsibility for such errors and omissions.

geologix
consulting engineers

APPENDIX E

Summary of Soil Analytical Results

Sample Location Plan

geologix
consulting engineers

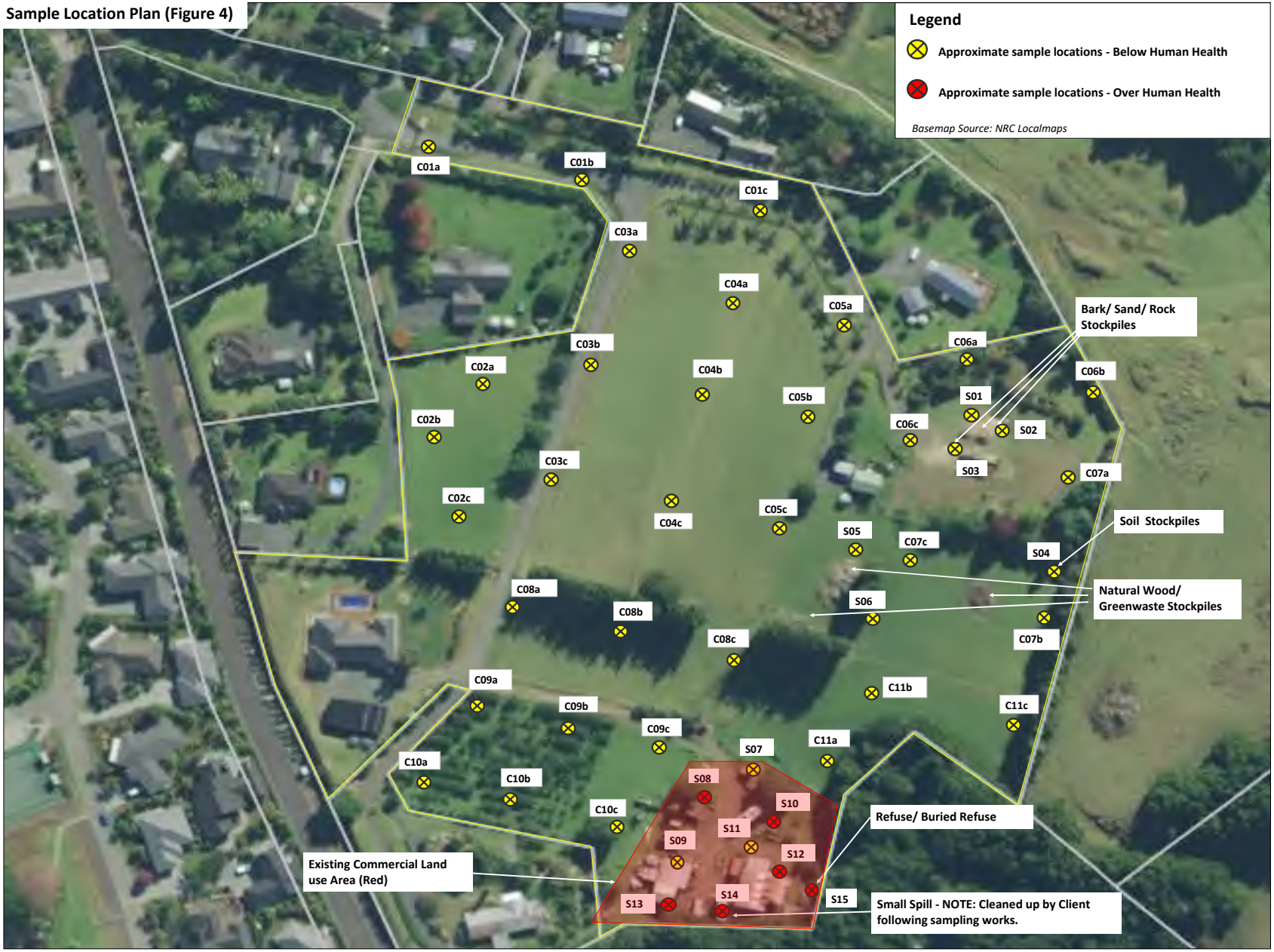
Table 1: Soil Analytical Results	Sample Name	Geologix 2022 Investigation (42 Karaka Drive)					Geologix 2025 Investigation (42 and 44 Karaka Drive)																											NES:CS [1] Human Health Rural Residential Criteria	NES:CS [1] Human Health Comercial/ Industrial Criteria
		Composite of ES01, ES02 & ES03	Composite of ES04, ES05 & ES06	Composite of ES07, ES08 & ES09	Composite of ES10, ES11 & ES12	Composite of ES13, ES14 & ES15	Composite of C01a, C01b & C01c	Composite of C02a, C02b & C02c	Composite of C03a, C03b & C03c	Composite of C04a, C04b & C04c	Composite of C05a, C05b & C05c	Composite of C06a, C06b & C06c	Composite of C07a, C07b & C07c	Composite of C08a, C08b & C08c	Composite of C09a, C09b & C09c	Composite of C10a, C10b & C10c	Composite of C11a, C11b & C11c	S01			S02	S03			S04	S05	S06	S07			S08	S09	S10	S11	S12	S13	S14	S15		
																		Primary	Duplicate (QC02)	RPD%		Primary	Duplicate (QC03)	RPD%				Primary	Duplicate (QC01)	RPD%								
Heavy Metals																																						
Arsenic		6	6	4	5	5	9	8	3	9	8	7	6	7	7	6	7	7	7	0	10	< 2	< 2	0	9	7	6	9	8	12	25	15	45	5	10	33	32	22	17	70
Cadmium		0.2	0.29	0.25	0.23	0.26	0.26	0.51	0.1	0.44	0.48	0.27	0.19	0.33	0.38	0.33	0.1	0.3	0.3	0	< 0.10	< 0.10	< 0.10	0	0.18	0.35	0.16	0.23	0.21	9	0.48	0.66	0.31	< 0.10	0.54	0.2	0.4	14.2	0.8	1,300
Chromium		137	150	157	145	119	210	230	230	191	198	157	176	230	182	189	220	183	168	9	10	5	4	22	142	192	250	104	90	14	197	151	194	195	180	167	57	230	290	6,300
Copper		35	27	22	26	25	37	41	34	37	34	43	30	43	29	28	31	33	32	3	25	< 2	< 2	0	29	26	29	84	83	1	94	80	64	36	58	68	230	156	>10,000	>10,000
Lead		8.9	18.9	11.8	11	12.5	6.6	6.8	5.8	7.5	7.1	8.3	8.3	9	11.9	10.9	13	10.2	10.8	6	21.0	1.4	1.1	24	18.8	8.3	10.1	36	32	12	19.5	33	22	9	460	41	210	720	160	3,300
Mercury		-	0.23	-	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	4,200
Nickel		18	14	15	16	16	40	39	36	36	26	32	23	44	19	20	24	26	24	8	8	2	< 2	0	18	17	19	22	20	10	27	28	33	34	42	34	16	59	400 [2]	6,000 [2]
Zinc		27	33	23	28	45	22	35	15	26	28	48	25	39	28	28	30	49	46	6	69	5	4	22	47	25	23	94	87	8	115	186	340	143	690	127	400	480	7,400 [2]	400,000 [2]
Organochlorine Pesticides (OCPs). None detected over the laboratory level of reporting. Refer to full laboratory reports attached.																																						
Polycyclic Aromatic Hydrocarbons (PAHs).																																						
Total of Reported PAHs in Soil		-	< 0.3	-	< 0.4	-	-	-	-	-	-	-	-	-	-	-	-	< 0.4	-	-	-	-	-	-	< 0.3	< 0.5	< 0.4	< 0.3	-	-	-	0.3	-	< 0.4	-	< 0.3	4.4	< 0.4	-	-
1-Methylnaphthalene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.016	< 0.014	-	-
2-Methylnaphthalene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.016	< 0.014	-	-
Acenaphthylene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.026	< 0.014	-	-
Acenaphthene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.016	< 0.014	-	-
Anthracene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.049	< 0.014	-	-
Benzo[a]anthracene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.039	< 0.014	#	#
Benzo[a]pyrene (BAP)		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.16	< 0.014	#	#
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES		-	< 0.03	-	< 0.04	-	-	-	-	-	-	-	-	-	-	-	-	< 0.038	-	-	-	-	-	-	< 0.030	< 0.043	< 0.035	< 0.030	-	-	-	< 0.027	-	< 0.032	-	< 0.031	< 0.36	< 0.034	6	35
Benzo[a]pyrene Toxic Equivalence (TEF)		-	< 0.03	-	< 0.04	-	-	-	-	-	-	-	-	-	-	-	-	< 0.038	-	-	-	-	-	-	< 0.030	< 0.043	< 0.035	< 0.030	-	-	-	< 0.027	-	< 0.032	-	< 0.030	< 0.36	< 0.034	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.36	0.015	#	#
Benzo[e]pyrene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	0.024	-	< 0.014	-	< 0.013	0.82	< 0.014	-	-
Benzo[g,h,i]perylene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	0.024	-	< 0.014	-	< 0.013	1.16	0.014	-	-
Benzo[k]fluoranthene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.16	< 0.014	#	#
Chrysene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.044	< 0.014	#	#
Dibenzo[a,h]anthracene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.16	< 0.014	#	#
Fluoranthene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	0.086	0.019	#	#
Fluorene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.016	< 0.014	-	-
Indeno(1,2,3-c,d)pyrene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	0.013	-	< 0.014	-	< 0.013	0.34	< 0.014	#	#
Naphthalene		-	< 0.06	-	< 0.07	-	-	-	-	-	-	-	-	-	-	-	-	< 0.08	-	-	-	-	-	-	< 0.07	< 0.09	< 0.08	< 0.07	-	-	-	< 0.06	-	< 0.07	-	< 0.07	< 0.08	< 0.07	71 [3]	230 [3]
Perylene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	< 0.011	-	< 0.014	-	< 0.013	< 0.16	< 0.014	-	-
Phenanthrene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	0.013	-	< 0.014	-	< 0.013	0.084	< 0.014	-	-
Pyrene		-	< 0.012	-	< 0.014	-	-	-	-	-	-	-	-	-	-	-	-	< 0.016	-	-	-	-	-	-	< 0.013	< 0.018	< 0.015	< 0.013	-	-	-	0.24	-	< 0.014	-	< 0.013	1.1	0.024	1,600 [3]	NA [3]

Red Highlighted, coloured cell indicates samples exceeds human health guidelines.
Green Highlighted, coloured cell indicates samples exceeds human health guidelines.

Notes:
All results in milligrams per kilogram (mg/kg) unless stated otherwise.
A hyphen (-) indicates criteria are not available or sample not tested for this analyte
All sample depth units are: metres below ground level (m bgl)
< LOR Indicates less than laboratory level of reporting.
The equivalent BaP concentration is calculated as the sum of each of the detected concentrations of nine carcinogenic PAHs multiplied by their respective potency equivalency factors.
NA denotes calculated criterion exceeds 10,000 (mg/kg) for PAHs
Chromium provided as Chromium VI

1. Ministry for the Environment National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health; residential 10 % produce land use scenario.
2. National Environmental Protection Measure (Assessment of Site Contamination) 1999, update 2013 Schedule B1.
3. MfE (2011) Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand: Module 4 – Tier 1 Soil Screening Criteria, New Zealand Ministry for the Environment, Wellington, New Zealand. Values for shallow (<1m) silty clay soils.

Sample Location Plan (Figure 4)



geologix
consulting engineers

APPENDIX F

Laboratory Reports

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Certificate of Analysis

Client:	Geologix Consulting Engineers Limited	**Lab No:**	3983308 SPv1
Contact:	Ray Mayor	**Date Received:**	11-Sep-2025
	C/- Geologix Consulting Engineers Limited	**Date Reported:**	16-Sep-2025
	13/2181 East Coast Road	**Quote No:**	113810
	Stanmore Bay	**Order No:**	
	Silverdale 0932	**Client Reference:**	C0694N - Karaka Drive
		Submitted By:	Ray Mayor

Sample Type: Soil

Sample Name:		S01	S02	S03	S04	S05
Lab Number:		3983308.34	3983308.35	3983308.36	3983308.37	3983308.38
Individual Tests						
Dry Matter	g/100g as rcvd	61	-	-	80	56
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	10	< 2	9	7
Total Recoverable Cadmium	mg/kg dry wt	0.27	< 0.10	< 0.10	0.18	0.35
Total Recoverable Chromium	mg/kg dry wt	183	10	5	142	192
Total Recoverable Copper	mg/kg dry wt	33	25	< 2	29	26
Total Recoverable Lead	mg/kg dry wt	10.2	21	1.4	18.8	8.3
Total Recoverable Nickel	mg/kg dry wt	26	8	2	18	17
Total Recoverable Zinc	mg/kg dry wt	49	69	5	47	25
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	-	-	< 0.3	< 0.5
1-Methylnaphthalene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
2-Methylnaphthalene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Acenaphthylene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Acenaphthene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Anthracene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[a]anthracene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.038	-	-	< 0.030	< 0.043
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.038	-	-	< 0.030	< 0.043
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[e]pyrene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Benzo[k]fluoranthene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Chrysene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Fluoranthene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Fluorene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Naphthalene	mg/kg dry wt	< 0.08	-	-	< 0.07	< 0.09
Perylene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Phenanthrene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018
Pyrene	mg/kg dry wt	< 0.016	-	-	< 0.013	< 0.018

Sample Type: Soil						
Sample Name:		S06	S07	S08	S09	S10
Lab Number:		3983308.39	3983308.40	3983308.41	3983308.42	3983308.43
Individual Tests						
Dry Matter	g/100g as rcvd	68	81	-	91	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	9	25	15	45
Total Recoverable Cadmium	mg/kg dry wt	0.16	0.23	0.48	0.66	0.31
Total Recoverable Chromium	mg/kg dry wt	250	104	197	151	194
Total Recoverable Copper	mg/kg dry wt	29	84	94	80	64
Total Recoverable Lead	mg/kg dry wt	10.1	36	19.5	33	22
Total Recoverable Nickel	mg/kg dry wt	19	22	27	28	33
Total Recoverable Zinc	mg/kg dry wt	23	94	115	186	340
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	< 0.3	-	0.3	-
1-Methylnaphthalene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
2-Methylnaphthalene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Acenaphthylene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Acenaphthene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Anthracene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Benzo[a]anthracene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.035	< 0.030	-	< 0.027	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.035	< 0.030	-	< 0.027	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Benzo[e]pyrene	mg/kg dry wt	< 0.015	< 0.013	-	0.024	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.015	< 0.013	-	0.024	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Chrysene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Fluoranthene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Fluorene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.015	< 0.013	-	0.013	-
Naphthalene	mg/kg dry wt	< 0.08	< 0.07	-	< 0.06	-
Perylene	mg/kg dry wt	< 0.015	< 0.013	-	< 0.011	-
Phenanthrene	mg/kg dry wt	< 0.015	< 0.013	-	0.013	-
Pyrene	mg/kg dry wt	< 0.015	< 0.013	-	0.24	-

Sample Name:		S11	S12	S13	S14	S15
Lab Number:		3983308.44	3983308.45	3983308.46	3983308.47	3983308.48
Individual Tests						
Dry Matter	g/100g as rcvd	74	-	78	63	69
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	10	33	32	22
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.54	0.20	0.4	14.2
Total Recoverable Chromium	mg/kg dry wt	195	180	167	57	230
Total Recoverable Copper	mg/kg dry wt	36	58	68	230	156
Total Recoverable Lead	mg/kg dry wt	9.0	460	41	210	720
Total Recoverable Nickel	mg/kg dry wt	34	42	34	16	59
Total Recoverable Zinc	mg/kg dry wt	143	690	127	400	480
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	-	< 0.3	4.4	< 0.4
1-Methylnaphthalene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.016	< 0.014
2-Methylnaphthalene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.016	< 0.014
Acenaphthylene	mg/kg dry wt	< 0.014	-	< 0.013	0.026	< 0.014
Acenaphthene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.016	< 0.014
Anthracene	mg/kg dry wt	< 0.014	-	< 0.013	0.049	< 0.014

Sample Type: Soil						
	Sample Name:	S11	S12	S13	S14	S15
	Lab Number:	3983308.44	3983308.45	3983308.46	3983308.47	3983308.48
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[a]anthracene	mg/kg dry wt	< 0.014	-	< 0.013	0.039	< 0.014
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.014	-	< 0.013	< 0.16	< 0.014
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.032	-	< 0.031	< 0.36	< 0.034
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.032	-	< 0.030	< 0.36	< 0.034
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.014	-	< 0.013	0.36	0.015
Benzo[e]pyrene	mg/kg dry wt	< 0.014	-	< 0.013	0.82	< 0.014
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.014	-	< 0.013	1.16	0.014
Benzo[k]fluoranthene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.16	< 0.014
Chrysene	mg/kg dry wt	< 0.014	-	< 0.013	0.044	< 0.014
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.16	< 0.014
Fluoranthene	mg/kg dry wt	< 0.014	-	< 0.013	0.086	0.019
Fluorene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.016	< 0.014
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.014	-	< 0.013	0.34	< 0.014
Naphthalene	mg/kg dry wt	< 0.07	-	< 0.07	< 0.08	< 0.07
Perylene	mg/kg dry wt	< 0.014	-	< 0.013	< 0.16	< 0.014
Phenanthrene	mg/kg dry wt	< 0.014	-	< 0.013	0.084	< 0.014
Pyrene	mg/kg dry wt	< 0.014	-	< 0.013	1.10	0.024

	Sample Name:	QC01	QC02	QC03	Composite of C01a, C01b & C01c	Composite of C02a, C02b & C02c
	Lab Number:	3983308.49	3983308.50	3983308.51	3983308.52	3983308.53
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	66	66
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	7	< 2	9	8
Total Recoverable Cadmium	mg/kg dry wt	0.21	0.27	< 0.10	0.26	0.51
Total Recoverable Chromium	mg/kg dry wt	90	168	4	210	230
Total Recoverable Copper	mg/kg dry wt	83	32	< 2	37	41
Total Recoverable Lead	mg/kg dry wt	32	10.8	1.1	6.6	6.8
Total Recoverable Nickel	mg/kg dry wt	20	24	< 2	40	39
Total Recoverable Zinc	mg/kg dry wt	87	46	4	22	35
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	-	< 0.015	< 0.016
alpha-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.016
beta-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.016
delta-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.016
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	< 0.015	< 0.016
cis-Chlordane	mg/kg dry wt	-	-	-	< 0.015	< 0.016
trans-Chlordane	mg/kg dry wt	-	-	-	< 0.015	< 0.016
2,4'-DDD	mg/kg dry wt	-	-	-	< 0.015	< 0.016
4,4'-DDD	mg/kg dry wt	-	-	-	< 0.015	< 0.016
2,4'-DDE	mg/kg dry wt	-	-	-	< 0.015	< 0.016
4,4'-DDE	mg/kg dry wt	-	-	-	< 0.015	< 0.016
2,4'-DDT	mg/kg dry wt	-	-	-	< 0.015	< 0.016
4,4'-DDT	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Total DDT Isomers	mg/kg dry wt	-	-	-	< 0.09	< 0.10
Dieldrin	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endosulfan I	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endosulfan II	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endosulfan sulphate	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endrin	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endrin aldehyde	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Endrin ketone	mg/kg dry wt	-	-	-	< 0.015	< 0.016

Sample Type: Soil						
Sample Name:		QC01	QC02	QC03	Composite of C01a, C01b & C01c	Composite of C02a, C02b & C02c
Lab Number:		3983308.49	3983308.50	3983308.51	3983308.52	3983308.53
Organochlorine Pesticides Screening in Soil						
Heptachlor	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Heptachlor epoxide	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Hexachlorobenzene	mg/kg dry wt	-	-	-	< 0.015	< 0.016
Methoxychlor	mg/kg dry wt	-	-	-	< 0.015	< 0.016

Sample Name:		Composite of C03a, C03b & C03c	Composite of C04a, C04b & C04c	Composite of C05a, C05b & C05c	Composite of C06a, C06b & C06c	Composite of C07a, C07b & C07c
Lab Number:		3983308.54	3983308.55	3983308.56	3983308.57	3983308.58
Individual Tests						
Dry Matter	g/100g as rcvd	69	61	66	70	68
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	9	8	7	6
Total Recoverable Cadmium	mg/kg dry wt	0.10	0.44	0.48	0.27	0.19
Total Recoverable Chromium	mg/kg dry wt	230	191	198	157	176
Total Recoverable Copper	mg/kg dry wt	34	37	34	43	30
Total Recoverable Lead	mg/kg dry wt	5.8	7.5	7.1	8.3	8.3
Total Recoverable Nickel	mg/kg dry wt	36	36	26	32	23
Total Recoverable Zinc	mg/kg dry wt	15	26	28	48	25
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
alpha-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
beta-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
delta-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
gamma-BHC (Lindane)	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
cis-Chlordane	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
trans-Chlordane	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
2,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
4,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
2,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
4,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
2,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
4,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Total DDT Isomers	mg/kg dry wt	< 0.09	< 0.10	< 0.09	< 0.09	< 0.09
Dieldrin	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endosulfan I	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endosulfan II	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endosulfan sulphate	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endrin	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endrin aldehyde	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Endrin ketone	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Heptachlor	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Heptachlor epoxide	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Hexachlorobenzene	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015
Methoxychlor	mg/kg dry wt	< 0.015	< 0.016	< 0.015	< 0.014	< 0.015

Sample Name:		Composite of C08a, C08b & C08c	Composite of C09a, C09b & C09c	Composite of C10a, C10b & C10c	Composite of C11a, C11b & C11c
Lab Number:		3983308.59	3983308.60	3983308.61	3983308.62
Individual Tests					
Dry Matter	g/100g as rcvd	64	70	68	61
Heavy Metals, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	7	7	6	7
Total Recoverable Cadmium	mg/kg dry wt	0.33	0.38	0.33	0.10
Total Recoverable Chromium	mg/kg dry wt	230	182	189	220
Total Recoverable Copper	mg/kg dry wt	43	29	28	31

Sample Type: Soil					
Sample Name:		Composite of C08a, C08b & C08c	Composite of C09a, C09b & C09c	Composite of C10a, C10b & C10c	Composite of C11a, C11b & C11c
Lab Number:		3983308.59	3983308.60	3983308.61	3983308.62
Heavy Metals, Screen Level					
Total Recoverable Lead	mg/kg dry wt	9.0	11.9	10.9	13.0
Total Recoverable Nickel	mg/kg dry wt	44	19	20	24
Total Recoverable Zinc	mg/kg dry wt	39	28	28	30
Organochlorine Pesticides Screening in Soil					
Aldrin	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
alpha-BHC	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
beta-BHC	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
delta-BHC	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
gamma-BHC (Lindane)	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
cis-Chlordane	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
trans-Chlordane	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
2,4'-DDD	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
4,4'-DDD	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
2,4'-DDE	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
4,4'-DDE	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
2,4'-DDT	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
4,4'-DDT	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Total DDT Isomers	mg/kg dry wt	< 0.10	< 0.09	< 0.09	< 0.10
Dieldrin	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endosulfan I	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endosulfan II	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endosulfan sulphate	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endrin	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endrin aldehyde	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Endrin ketone	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Heptachlor	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Heptachlor epoxide	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Hexachlorobenzene	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016
Methoxychlor	mg/kg dry wt	< 0.016	< 0.015	< 0.015	< 0.016

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	34-62
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	34, 37-40, 42, 44, 46-48
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	34-62
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	52-62
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.010 - 0.05 mg/kg dry wt	34, 37-40, 42, 44, 46-48
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	34, 37-40, 42, 44, 46-48, 52-62
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-33

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	34, 37-40, 42, 44, 46-48
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	34, 37-40, 42, 44, 46-48

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 11-Sep-2025 and 16-Sep-2025. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Kim Harrison MSc
Client Services Manager - Environmental

Hill Laboratories
TRIED, TESTED AND TRUSTED

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

T 0508 HILL LAB (44 555 22)
T +64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

Certificate of Analysis

Client:	Geologix Consulting Engineers Limited	**Lab No:**	2904640 SPv2
Contact:	Edward Collings	**Date Received:**	04-Mar-2022
	C/- Geologix Consulting Engineers Limited	**Date Reported:**	12-May-2022 **(Amended)**
	13/2181 East Coast Road	**Quote No:**	113810
	Stanmore Bay	**Order No:**	
	Silverdale 0932	**Client Reference:**	C0101
		Submitted By:	Edward Collings

Sample Type: Soil

Sample Name:		Composite of ES01, ES02 & ES03	Composite of ES04, ES05 & ES06	Composite of ES07, ES08 & ES09	Composite of ES10, ES11 & ES12	Composite of ES13, ES14 & ES15
Lab Number:		2904640.17	2904640.18	2904640.19	2904640.20	2904640.21
Individual Tests						
Dry Matter	g/100g as rcvd	82	85	81	72	78
Chromium (hexavalent)*	mg/kg dry wt	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	-	4	-	5
Total Recoverable Cadmium	mg/kg dry wt	0.20	-	0.25	-	0.26
Total Recoverable Chromium	mg/kg dry wt	137	-	157	-	119
Total Recoverable Copper	mg/kg dry wt	35	-	22	-	25
Total Recoverable Lead	mg/kg dry wt	8.9	-	11.8	-	12.5
Total Recoverable Nickel	mg/kg dry wt	18	-	15	-	16
Total Recoverable Zinc	mg/kg dry wt	27	-	23	-	45
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	-	6	-	5	-
Total Recoverable Cadmium	mg/kg dry wt	-	0.29	-	0.23	-
Total Recoverable Chromium	mg/kg dry wt	-	150	-	145	-
Total Recoverable Copper	mg/kg dry wt	-	27	-	26	-
Total Recoverable Lead	mg/kg dry wt	-	18.9	-	11.0	-
Total Recoverable Mercury	mg/kg dry wt	-	0.23	-	0.19	-
Total Recoverable Nickel	mg/kg dry wt	-	14	-	16	-
Total Recoverable Zinc	mg/kg dry wt	-	33	-	28	-
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.012	-	< 0.014	-
alpha-BHC	mg/kg dry wt	-	< 0.012	-	< 0.014	-
beta-BHC	mg/kg dry wt	-	< 0.012	-	< 0.014	-
delta-BHC	mg/kg dry wt	-	< 0.012	-	< 0.014	-
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.012	-	< 0.014	-
cis-Chlordane	mg/kg dry wt	-	< 0.012	-	< 0.014	-
trans-Chlordane	mg/kg dry wt	-	< 0.012	-	< 0.014	-
2,4'-DDD	mg/kg dry wt	-	< 0.012	-	< 0.014	-
4,4'-DDD	mg/kg dry wt	-	< 0.012	-	< 0.014	-
2,4'-DDE	mg/kg dry wt	-	< 0.012	-	< 0.014	-
4,4'-DDE	mg/kg dry wt	-	< 0.012	-	< 0.014	-
2,4'-DDT	mg/kg dry wt	-	< 0.012	-	< 0.014	-
4,4'-DDT	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Total DDT Isomers	mg/kg dry wt	-	< 0.07	-	< 0.09	-
Dieldrin	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Endosulfan I	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Endosulfan II	mg/kg dry wt	-	< 0.012	-	< 0.014	-

Sample Type: Soil						
Sample Name:		Composite of ES01, ES02 & ES03	Composite of ES04, ES05 & ES06	Composite of ES07, ES08 & ES09	Composite of ES10, ES11 & ES12	Composite of ES13, ES14 & ES15
Lab Number:		2904640.17	2904640.18	2904640.19	2904640.20	2904640.21
Organochlorine Pesticides Screening in Soil						
Endosulfan sulphate	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Endrin	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Endrin aldehyde	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Endrin ketone	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Heptachlor	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Heptachlor epoxide	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Hexachlorobenzene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Methoxychlor	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	< 0.3	-	< 0.4	-
1-Methylnaphthalene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
2-Methylnaphthalene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Acenaphthylene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Acenaphthene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Anthracene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[a]anthracene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	< 0.03	-	< 0.04	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	< 0.03	-	< 0.04	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[e]pyrene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Benzo[k]fluoranthene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Chrysene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Fluoranthene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Fluorene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Naphthalene	mg/kg dry wt	-	< 0.06	-	< 0.07	-
Perylene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Phenanthrene	mg/kg dry wt	-	< 0.012	-	< 0.014	-
Pyrene	mg/kg dry wt	-	< 0.012	-	< 0.014	-

Sample Name:		Composite of ES04, ES05 & ES06 [Duplicate 1]	Composite of ES13, ES14 & ES15 [Duplicate 2]			
Lab Number:		2904640.22	2904640.23			
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	6	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.30	0.26	-	-	-
Total Recoverable Chromium	mg/kg dry wt	123	151	-	-	-
Total Recoverable Copper	mg/kg dry wt	25	25	-	-	-
Total Recoverable Lead	mg/kg dry wt	18.5	12.6	-	-	-
Total Recoverable Nickel	mg/kg dry wt	12	18	-	-	-
Total Recoverable Zinc	mg/kg dry wt	33	40	-	-	-

Analyst's Comments

Amended Report: This certificate of analysis replaces report '2904640-SPv1' issued on 11-Mar-2022 at 1:40 pm.
Reason for amendment: Additional testing added as per clients request.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	18, 20
Total of Reported PAHs in Soil	Sonication extraction, GC-MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	18, 20
Heavy Metals, Screen Level*	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	17, 19, 21-23
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	18, 20
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	18, 20
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.002 - 0.05 mg/kg dry wt	18, 20
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	17-21
Extraction of Exchangeable Hexavalent Chromium*	0.01M KH_2PO_4 Extraction.	-	17-21
Hexavalent Chromium in Environmental Solids*	Phosphate buffer extraction, colorimetry.	0.4 mg/kg dry wt	17-21
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	18, 20
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.002 mg/kg dry wt	18, 20

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 10-Mar-2022 and 12-May-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental

geologix
consulting engineers

STATEMENT OF QUALIFICATION

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

1. This combined Preliminary and Detailed 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 17 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.

2. This investigation concludes that:

    a. For subdivision activities under Regulation 10 of the NES:CS the soil contamination does exceed the applicable standard in Regulation 7 of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations.

Evidence of qualifications and experience of the suitably qualified and experienced practitioner is available below.

Signed: 

Dated: 8 October 2025

Role	Name	Relevant Experience
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 15 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 16 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.