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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of 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)
◯ Discharge
◯ Change of Consent Notice (s.221(3))
◯ Extension of time (s.125)
◯ Other (please specify) _____

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

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

☑ Yes ◯ No

4. Consultation

Have you consulted with Iwi/Hapū? ◯ Yes ☑ No

If yes, which groups have you consulted with?

Who else have you consulted with? NZTA

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: Clayton Trustees Limited

Email: [redacted]

Phone number: Work [redacted] Home

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

1057 SH 10, KERIKERI

Postcode 0245

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

If yes, please provide details.

6. Address for correspondence

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

Name/s: Lynley Newport

Email: [redacted]

Phone number: Work [redacted] Home

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

P O Box 372

KERIKERI

Postcode 0245

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

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

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

Name/s: Clayton Trustees Limited

Property address/ location: As per Item 5

Postcode

8. Application site details

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

Name/s: Clayton Trustees Limited

Site address/ location: 1057 State Highway 10,
KERIKERI

Postcode

Legal description: Lot 1 DP 545067 **Val Number:**

Certificate of title: 924941

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.

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 in the Rural Production to create one additional lot.

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

10. Would you like to request public notification?

◯ **Yes** ☑ **No**

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

(more than one circle can be ticked):

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

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

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

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

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

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

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

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

☑ **Subdividing land**

◯ **Changing the use of a piece of land**

◯ **Disturbing, removing or sampling soil**

◯ **Removing or replacing a fuel storage system**

13. Assessment of environmental effects:

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

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

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) Clayton Trustees LTD C/O Straka Property Trust

Email: [redacted]

Phone number: Work [redacted] Home

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

PO BOX 208
Kerikeri
Postcode 0293

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) Clayton Straka

Signature: [redacted] Date 4/11/2025

(signature of bill payer) **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)

Signature Date

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: 10783.1

12 November 2025

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed Further subdivision of land at 1057 State Highway 10, Bulls Gorge – Clayton Trustees Limited

I am pleased to submit application on behalf of Clayton Trustees Limited, for a proposed further subdivision of land at 1057 State Highway 10, Bulls Gorge, zoned Rural Production, to create one additional lot. The application is a discretionary activity.

The application fee of $3,044 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

Clayton Trustees Limited

PROPOSED SUBDIVISION PURSUANT TO FNDC OPERATIVE DISTRICT PLAN

SH 10, Bulls Gorge, Kerikeri

PLANNER'S REPORT & ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The applicant proposes to further subdivide Lot 1 of RC 2220081-RMASUB, a subdivision consent issued in 2022. Lot 1 RC 2220081 is consented to be 19.22ha in area. It supports the applicant's existing built environment and land development, with access via CP8, a crossing off State Highway 10, previously approved by NZTA. Concurrent to this further subdivision application, the consent holders of RC 2220081 have lodged application to vary that consent so that Lot 1 is created in the first stage of that RC as opposed to the last stage. The variation also reduces Lot 1's area slightly to 18.6ha and fin-tunes the boundaries of covenant areas X, Y and Z.

The proposal sees Lot 7 of 13.79ha, containing all existing development, and utilising CP8; and Lot 6 of 5.05ha, currently undeveloped, to utilise a new crossing, approved by NZTA. This new crossing is shown on the Scheme Plan(s) in Appendix 1 and is to be formed to Diagram C. A copy of NZTA's approval letter is attached in Appendix 6.

The scheme plan(s) also show(s) a 300m sight line to the south that NZTA require to be maintained; and areas subject to protective covenant pursuant to RC 2220081 and subsequent variation, are also shown X, Y & Z.

The proposed lots will not have access to any Council 3 waters reticulated services and will be reliant on on-site water supply; wastewater treatment and disposal; and stormwater management. Lot 7 is already developed, including a consented on-site wastewater system. A Civil Site Suitability Report, along with a Site Assessment (Geotech) for land in the new vacant lot, are attached in Appendices 7 & 8.

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 zoned Rural Production, to create one additional lot, 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:	1057 SH 10 (Bulls Gorge), Kerikeri (Location Map in Appendix 2)
Legal description & RT's:	Lot 1 of RC 2220081, currently Lot 1 DP 545067; held in Record of Title 924941, copy attached in Appendix 3.

3.0 SITE DESCRIPTION

3.1 Site Characteristics

The site is zoned Rural Production in both the Operative District Plan (ODP) and Proposed District Plan (PDP). No resource features apply in either the ODP or PDP. Proposed Lot 7, already developed, shares a portion of boundary with land zoned Conservation, administered by the Department of Conservation.

The land being subdivided has one existing crossing, authorised by NZTA, with another new crossing authorised by NZTA to be constructed near the southern end of proposed Lot 6.

Lot 7 has existing buildings and access roads and tracks, plus fencing. Lot 6 is vacant land. Both lots are primarily in pasture currently utilised for dry stock grazing. The proposed new vacant lot contains a south and east facing gently sloping spur crest and more moderate to steeply inclined side flank descending to SH 10 (information sourced from Civil Site Suitability Report).

LUC maps show the property to be a mixture of LUC class 4 & 6 soils with the exception of a strip of wet, boggy land, next to the highway mapped as LUC class 3w *(Far North Maps, Soil layer)*.

The land is not mapped as erosion prone. There are no features as mapped in the Regional Policy Statement for Northland, or the PDP, that affect the ability to subdivide or develop the property.

The property is mapped as high density kiwi. There are no areas of indigenous vegetation or habitat within the site, but the site is adjacent to a DoC administered Scenic (busy) Reserve.

The Far North Maps' Historic Site layer does not show any heritage or cultural features present on the site.

3.2 Legal Interests

The current title is subject to right (in gross) to convey electricity, in favour of Top Energy. This will not carry over onto the land subject to this subdivision as it only affected land to the north of the current underlying title, not Lot 1 of RC 2220081, the application "site" for this subdivision. Hence it is not shown on the Scheme Plan.

The current title is also subject to a Consent Notice 11799003.2 (attached as part of Appendix 3) which the Council has passed resolution pursuant to s221(3) to cancel insofar as conditions (i), (ii), and (iii) in part as they affect Lot 1 DP 545067. These clauses relate to cats and dogs; advice that power and telecoms were not a requirement of the subdivision and remain the responsibility of the lot owner; and fire fighting water supply. New consent notice clauses formed part of conditions in RC 2220091, addressing these same issues.

The current underlying title is also subject to a privately imposed Reverse Sensitivity Covenant.

3.3 Consent History

Building Consent history consists of EBC-2021-1360, issued in 2021 for a portal shed; and EBC-2022-530, also issued in 2021, for an on-site wastewater system.

The site works for the above was approved pursuant to 3001838-LGAEWK, permit issued in 2021.

3.4 Related Consent

As referenced earlier, the land being subdivided is Lot 1 of an earlier consented subdivision – RC 2220081, issued in 2022. This has since been subject to a variation application, currently being processed by the Council, primarily to alter entrance arrangements and staging. The Variation provides for the application site (Lot 1of RC 2220081) to be created in Stage 1. A copy of RC 2220081 is attached in Appendix 4, and the proposed updated Scheme Plans that accompanied the Variation application are attached in Appendix 5.

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	Refer to Section 6 of this Planning Report.

potential effect on the environment of the activity:	
(b) a description of the site at which the activity is to occur:	Refer to Section 3 of this Planning Report.
(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	No other activities are part of the proposal. The application is for subdivision pursuant to the FNDC's ODP.
(e) a description of any other resource consents required for the proposal to which the application relates:	None are required.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 7 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): (*a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	Refer to Sections 5 and 7 of this Planning Report.
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted 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 to section 5.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.

(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.
(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:* *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):* *(g) the locations and areas of land to be set aside as new roads.*	Refer to Scheme Plans in Appendix 1.

Clause 6: Information required in assessment of environmental effects

(1) An assessment of the activity's effects on the environment must include the following information:	
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:	Refer to Section 6 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—	The subdivision does not involve any discharge of contaminant.

(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:*	
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 8 of this planning report. No affected persons have been identified.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	No monitoring is required as the scale and significance of the effects do not warrant it.
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	No protected customary right is affected.

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

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the 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 site has no high or outstanding landscape or natural character 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 subdivision has no effect on ecosystems or habitat.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical,	Refer to Section 6. The site has no aesthetic, recreational, scientific, historical, spiritual or cultural values that I am aware of, that will be adversely affected by the act of subdividing.

spiritual, or cultural value, or other special value, for present or future generations:	
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to hazard. The proposal does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Operative District Plan

The site is zoned Rural Production and has no resource features.

Table 13.7.2.1: Minimum Lot Sizes

(i) RURAL PRODUCTION ZONE

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
The minimum lot size is 20ha.	1. The minimum lot size is 12ha; or 2. The minimum lot size is 12ha; or 3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is 2ha, and where the subdivision is created from a site that existed at or prior to 28 April 2000; Option 5. N/A as the proposal does not utilise remaining rights.	**1. The minimum lot size is 4ha**; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m² and there is at least 1 lot in the subdivision with a minimum size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 3. A subdivision in terms of a management plan as per Rule 13.9.2 may be approved. Option 4 N/A

The Title is (and will be) younger than April 2000 and lots are 4ha in area or greater. The subdivision is therefore a **discretionary** subdivision activity.

Other Rules:

Zone Rules:

The proposal does not result in any breaches of Rural Production Zone rules. The land supporting existing development is proposed to be in excess of 13ha with existing buildings compliant with zone rules. The proposed 5ha site is vacant.

District Wide Rules:

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

Chapter 12.2 Indigenous Flora and Fauna does not apply as no clearance of indigenous vegetation is proposed.

Chapter 12.3 Soils and Minerals does not apply/ is complied with. Only minor subdivision earthworks will be required for formation of new crossing off state highway, as approved by NZTA and subject to conditions. These works are highly unlikely to breach the zone's permitted activity thresholds.

Chapter 12.4 Natural Hazards does not apply as the site is not subject to any coastal hazard as currently mapped in the Operative District Plan (the only hazards with rules). Whilst there is bush in the adjacent Reserve, buildings within proposed Lot 7 can readily achieve a buffer distance in excess of 20m.

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

Chapter 12.7 Waterbodies does not apply as the subdivision provides for building / development area well away from any water courses.

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

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

Chapter 14 Financial Contributions (esplanade reserve) is not relevant as there is no qualifying water body, or lots of less than 4ha.

Chapter 15.1 Traffic, Parking and Access

Rules in Chapter 15.1.6A are not considered relevant to the proposal. This is because the traffic intensity rules apply to land use activities, not subdivisions. Similarly rules in Chapter 15.1.6B (parking requirements) also relate to proposed land use activities, not subdivisions.

Notwithstanding this, no breaches of either traffic intensity, or parking, rules have been identified.

Chapter 15.1.6C (access) is the only part of Chapter 15.1 relevant to a subdivision. Access is off State Highway, with a new access proposed. This results in discretionary activity consent required pursuant to Rule 15.1.6C.1.1(e)(i). NZTA has provided its approval.

The breach of the above referenced rule does not alter activity category, which remains discretionary.

5.2 Proposed District Plan

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

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

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

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

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

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

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

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

No indigenous vegetation clearance is proposed.

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

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

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

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

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

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

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Allotment Sizes and Dimensions

The proposed lots are large and can easily accommodate 30m x 30m square building envelopes. They are suitable for residential development associated with rural and lifestyle activities.

The Civil Site Suitability Report, and Geotech Report in Appendices 7 & 8 demonstrate the proposed new vacant lot is capable of accommodating and supporting future residential use. Proposed Lot 7 already supports some built development, including a consented on-site wastewater system.

6.2 Natural and Other Hazards

The site is not mapped as being subject to any hazard that precludes development. The Geotech assessment in Appendix 8 concludes that in considering both foundation and ground stability risks, future development on the proposed vacant lot should not be exposed to unsatisfactory geotechnical risk. The report outlines foundation options along with recommendations in regard to temporary and long term earthworks.

The site of proposed development is not subject to erosion; landslip; rockrall; alluvion; avulsion; unconsolidated fill; soil contamination; subsidence; fire hazard or sea level rise. A building site can avoid overland flow paths, and the building site is not subject to flooding or inundation hazard risk.

In summary I have not identified any reason under s106 of the Act as to why Council should decline this application.

6.3 Water Supply

There is no Council reticulated water supply available to the property. The application site, is to be subject to a fire fighting water supply consent notice condition via RC 2220081 condition 4(vii). This will carry over onto both lots being created pursuant to this application.

6.4 Energy Supply & Telecommunications

Power and phone is not a requirement for rural subdivision, and as above, RC 2220081 imposes a consent notice clause to be applied to all lots in regard to power and phone connections remaining the responsibility of the lot owner.

6.5 Stormwater Disposal

The applicants commissioned a Civil Site Suitability Report from Wilton Joubert – refer to Appendix 7. This addresses Stormwater Management in its Section 6. It focuses on the proposed vacant additional lot to the south – 5.05ha. The permitted impermeable coverage is in excess of 7,500m^2, highly unlikely to ever be exceeded.

The report recommends utilising Low Impact Design Methods as the best means of stormwater management. Recommendations are provided in the report's sections 6.2 (primary stormwater) and 6.3 (secondary stormwater).

An assessment of effects is also provided, utilising the criteria in 13.10.4 of the Operative District Plan.

RC 2220081 imposed a stormwater management consent notice clause with generic wording, emphasizing that stormwater management should be based on Low Impact Design Principles. That wording could be repeated for this application if the Council sees fit, albeit there should be no need to do so if already imposed.

6.6 Sanitary Sewage Disposal

The Civil Site Suitability Report addresses on-site wastewater in its Section 5. It assesses a secondary treatment system for the proposed vacant lot and concludes such a system can be constructed in compliance with the Regional Plan's permitted activity standards. The report does identify there should be no disposal of treated effluent to the eastern flank without detailed design.

6.7 Easements for any purpose

The scheme identifies areas X, Y and Z (already forming part of the existing consent and variation to same) as subject to protection. It also identifies areas A and B. These areas are to be subject to a height restriction covenant for sightline protection, in favour of NZTA, as required by them – see 6.8 below.

6.8 Property Access

Property access into the larger proposed lot already exists – a crossing 'approved' by NZTA as part of the variation application referred to earlier. NZTA has also approved a new entrance for proposed Lot 6 as shown on the scheme plan. This is to be formed to Diagram C. In correspondence dated 31st October 2025, NZTA provided written approval, subject to the following conditions (with which the applicant agrees to be imposed):

1. *The proposed vehicle access to be used for access to proposed Lot 6 shall be constructed at NZTM 1686921.69, 6094648.61 in accordance with NZTA Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the NZTA Network Manager.*
2. *Prior to the issuing of a certificate pursuant to section 224(c) of the Resource Management Act 1991, the consent holder shall provide to Council, correspondence from the NZTA confirming that works in the State Highway, including the construction of vehicle crossings, have been constructed to the NZTA standards.*
3. *Prior to the issuing of a certificate pursuant to Section 224(c) of the Resource Management Act 1991, the consent holder shall provide to Council confirmation that the New Zealand Transport Agency has been advised of relevant documentation (such as proposed title references, draft LT (Land Transfer) plan, ML plan (for Maori Land) or SO (Survey Office) plan) to facilitate the registration of any new Crossing Place (CP) Notices against those new titles, under Section 91 of the Government Roading Powers Act 1989.*
4. *A consent notice pursuant to Section 221 of the Resource Management Act 1991 shall be registered against the titles of Lots 6 & 7 of the subdivision of land shown on Scheme Plan titled "Proposed Subdivision of Lot 1 RC 2220081, dated 16.09.2025, Rev 0, to limit the height of any buildings, structures or vegetation (intentional planting and naturally occurring revegetation) that can occur in the area between the site boundary and sightline dashed line to 1m above the surface of the state highway carriageway at the white edge line. If the landowner seeks to undertake or allow any of the listed restrictions, an application must be made to the Far North District Council with the explicit support of the New Zealand Transport Agency."*

The areas "A" and "B" as shown on the scheme plan, reflect condition 4 above. A copy of NZTA's letter is attached in Appendix 6.

Internal to the site, driveway to the building area(s) within Lot 7 already exists. Lot 6's driveway will meander up slope, following contours to the preferred building envelope.

6.9 Earthworks

The Geotech Report attached in Appendix 8 discusses earthworks in its sections 9.3, 9.4, 9.5 (General site works) and 9.6.

Site works, required as conditions of subdivision, will be minimal and only relate to the construction of new crossing (to NZTA standards and procedures) into the Lot 6.

6.10 Building Locations

An indicative building site is shown on the Site Plan in the above reference Geotechnical Report. This is not to say it is the only place to build within Lot 6, but simply that a dwelling in this location *can* be constructed. This site is on stable land, well elevated, and able to provide for onsite wastewater treatment and disposal. There are no waterbodies to stay clear of and no areas of bush from which to establish a 20m buffer distance from.

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

Vegetation, fauna and landscape

The site has no resource feature overlays. The larger Lot 7 contains areas of 'wetland', all of which have been identified for ongoing protection. There are no areas of indigenous vegetation within the application site.

The property is mapped as 'high density kiwi' and the current title is subject to a no cats, dogs or mustelids, with an exception for up to two working dogs. RC 2220081 consents the cancellation of that consent notice clause, but imposes a 'replacement' clause with the same intent – two working farm dogs allowed, subject to conditions. Both Lots 6 and 7 are capable of supporting livestock, with Lot 7 in particular of a size that would justify the provision for up to two farm dogs (13.79ha). Whilst proposed Lot 6 is smaller, I believe it would still be reasonable to enable the keeping of a working dog on the site.

Heritage/Cultural

The site does not contain any historic sites, nor any archaeological sites. Neither does the site contain any Sites of Cultural Significance to Maori (as scheduled in the ODP or PDP).

6.12 Soil

LUC maps show the property to be a mixture of LUC class 4 & 6 soils with the exception of a strip of wet, boggy land, next to the highway mapped as LUC class 3w *(Far North Maps, Soil layer)*. This area contains Z, A and B – effectively unable to support built development. With two lots both in excess of 5ha, I do not believe the proposal adversely affects the life supporting capacity of soil.

6.13 Access to, and protection of, waterbodies

There is no qualifying water body along which, or around which, public access is required to be provided. Water quality will not be adversely impacted by the act of subdivision. On site wastewater treatment and disposal systems can be established in compliance with

permitted activity standards in the Regional Plan. Wetland areas, identified as part of RC 2220081 and subsequent variation, are protected.

6.14 Land use compatibility (reverse sensitivity)

The proposal is consistent with rural character where residential living is interspersed with larger holdings. I do not believe this subdivision unduly increases any risk of reverse sensitivity effects arising.

6.15 Proximity to Airports

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

6.16 Natural Character of the Coastal Environment

The site is not within the coastal environment.

6.17 Energy Efficiency and renewable Energy Development/Use

The proposal has not considered energy efficiency. This is an option for future lot owners

6.18 National Grid Corridor

The National Grid does not run through the application site.

6.19 Effects on Rural Character and Amenity

The lots are rural in nature/character. The size of the lots means that rural amenity will be maintained. In my opinion, the proposal will have no adverse effects on rural character.

6.20 Cumulative and Precedent Effects

Cumulative Effect:

The proposal will create one additional lot to what has already been consented on the current underlying title. The vacant lot can readily internalise potential effects of any future built development. When driving along the state highway frontage, a dwelling on Lot 6 is not within the same visual catchment as the built environment within Lot 7, and vice versa. The proposal does not create an adverse cumulative effect.

Precedent Effect:

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

7.0 STATUTORY ASSESSMENT

7.1 Operative District Plan Objectives and Policies

Objectives and policies relevant to this proposal are considered to be primarily those listed in Chapter 8.6 (Rural Production Zone); and 13 (Subdivision), of the District Plan. These are listed and discussed below where relevant to this proposal.

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 Production Zone is predominantly, but not exclusively, a working productive rural zone. The proposed lots are 13.8ha and 5ha in area, both able to continue to support non intensive grazing for livestock. The site has never supported any horticulture crops because of its soil and topographical limitations. The proposal is considered a sustainable use 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 conclude that the proposed additional vacant lot is capable of supporting future residential use. Potential adverse effects are less than minor and can be avoided, remedied or mitigated.

Objectives 13.3.3 and 13.3.4 refer to outstanding landscapes or natural features; and scheduled heritage resources; and to land in the coastal environment. The site exhibits none of these features.

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.

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

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 subdivision will have minimal, if any, impact on water quality. 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.

The provision of power is not a requirement for rural allotments.

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

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

The subdivision has not considered energy efficiency, however, all lots can provide building sites with a northerly orientation and abundant access to sunlight. The subdivision has access off State Highway.

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, where relevant to the proposal, 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 lots is off State Highway, with NZTA approval. This will not entail any removal of indigenous vegetation and construction works for the new crossing can be subject to sediment control measures. On site wastewater treatment and disposal and stormwater management is achievable with minimal, if any, impact on natural and physical resources.

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

The site is not identified as being subject to any hazard that impacts on location of future built 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.

Power and telecommunications are not a requirement for rural allotments.

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

The site does not contain any heritage resources. There are no areas of indigenous vegetation affected. The site is not in the coastal environment and there are no riparian margins. The site contains no outstanding landscape or natural features. Restrictions on the keeping of cats and dogs are proposed, recognising kiwi habitat within the adjacent Scenic Reserve.

Policy 13.4.7 is not relevant as there is no qualifying water body to which esplanade requirements apply.

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 will require on-site water supply and storage.

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

13.4.12 That more intensive, innovative development and subdivision which recognises specific site characteristics is provided for through the management plan rule where this will result in superior environmental outcomes.

The application is not lodged as a Management Plan application.

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 creates rural lots of 5ha and 13.8ha, and provides for an appropriate type and scale of activity for the zone;
(b) The proposal is in an area not displaying high or outstanding natural values;
(c) The site contains no significant indigenous vegetation;
(d) The site is not within the coastal environment;
(e) The proposal enables the maintenance of amenity and rural character values;
(f) The proposal is not believed to negatively impact on the relationship of Maori with their culture;
(g) There are no identified heritage values within the site; and
(h) The site is not subject to any natural hazards that would limit 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 – see below.

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

The subdivision layout has taken the above matters into account.

Policy 13.4.16 is not considered relevant as it only relates to the National Grid.

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

Rural Production Zone Objectives and Policies

Objectives:

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

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

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

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

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

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

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

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

And policies

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

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

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

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

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

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

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

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

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

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

Policy 8.6.4.7 anticipates a wide range of activities that promote rural productivity, and the underlying goal is to avoid any actual and potential adverse effects of conflicting land use activities. I believe in the case of this proposal, given the site's location, and the existing and proposed land uses around it, that additional adverse reverse sensitivity effects are unlikely. The site contains only isolated small areas of what is deemed to be highly versatile soils. The vast majority of the site is not highly versatile soils.

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

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

7.2 Proposed District Plan Objectives and Policies

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

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

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

SUB-O3 *Infrastructure is planned to service the proposed subdivision and development where:*
a. there is existing infrastructure connection, infrastructure should provided in an integrated, efficient, coordinated and future-proofed manner at the time of subdivision; and
b.where no existing connection is available infrastructure should be planned and consideration be give n to connections with the wider infrastructure network.

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

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

The site contains a small area mapped as LUC class 3w – effectively wet areas. Even though obviously not highly productive due to the wetness factor, these soils are nonetheless captured in the definition of 'highly productive land' as defined in the NPS for Highly Productive Land. The area remains available for grazing within each lot just as it available now with the exception of already fenced wetland areas. The area will not be sterilised by built development. The site contains no ONF's or ONL's, nor any areas of high or outstanding natural character. So called 'wetlands' are identified for ongoing protection. There are no Sites and Areas of Significance to Maori and no Historic Heritage areas. There are no areas of significant indigenous vegetation (SUB-O2).

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

SUB-P1
Enable boundary adjustments that:

Not relevant – application is not a boundary adjustment.

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

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

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

The subdivision results in lots that are consistent with the purpose, characteristics and qualities of the zone, noting that the RP Zone is the largest land area in the entire district covering all types of rural land, from fertile well drained dairy units through to hill country with limited productive potential.

The lots do not meet the RP zone's proposed minimum allotment size but these have no legal effect and have been heavily submitted on. The lots are of an adequate size and shape to contain 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 subdivision has had regard to all the matters listed, where relevant.

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

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

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

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

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

No qualifying water body.

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

The PDP proposes a 'rural lifestyle' minimum lot size of 4ha (controlled) and 2ha (discretionary) with s42A reports now available for Hearing 16 suggesting these be reduced to 2ha and 1ha respectively. Given that both proposed lots are in excess of these proposed minimum lot sizes, they cannot be regarded as "rural lifestyle" subdivision. In regard to part (b), the subdivision will not result in the loss of versatile soils for primary production activities. Both lots are large enough to continue to support livestock grazing.

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

The proposal is not regarded as rural lifestyle given the size of the lots exceed those the Council species for "rural lifestyle" lots.

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

Not relevant. No minor residential units exist.

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

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

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

The site is zoned Rural Production in the Proposed District Plan.

Objectives

RPROZ-O1
The Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations.

RPROZ-O2
The Rural Production zone is used for primary production activities, ancillary activities that support primary production and other compatible activities that have a functional need to be in a rural environment.

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

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

The underlying site is not highly productive in that it is relatively steep topography, poorish soils and low fertility. The land supports only limited stock grazing because of these factors, rather than supporting high stock numbers. The proposed subdivision leaves land available for continued grazing of a similar nature. There is a small area of LUC Class 3w (wet) and because it is LUC Class 3 it meets the NPS HPL's definition of highly productive, even though it is clearly not. In any event it consists of wetlands, identified and fenced for protection, and another covenant area to be kept clear to ensure sight lines are maintained for the entrance, as well as some pasture land that remains available for pasture.

The proposal will not create additional reverse sensitivity effects and does not compromise the use of the land for continued use for grazing. The proposal does not exacerbate natural hazards and the proposed vacant lot is able to be serviced by on-site infrastructure.

Policies

RPROZP2
Ensure the Rural Production zone provides for activities that require a rural location by:
a. enabling primary production activities as the predominant land use;
b. enabling a range of compatible activities that support primary production activities, including ancillary activities, rural produce manufacturing, rural produce retail, visitor accommodation and home businesses.

Primary production activities are enabled, as is a range of compatible activities that might support productive use.

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

No reverse sensitivity issues are anticipated.

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

The proposal maintains rural character and amenity. The subdivision is low density and future built development can easily comply with the zone's impermeable and building coverage permitted thresholds. Reverse sensitivity effects, or lack thereof, are discussed earlier.

RPROZP5
Avoid land use that: …..

Application is not a land use. N/A.

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

The subdivision does not result in the loss of highly productive land (whilst there is a small area of LUC 3 soils, these are 'wet' and not particularly any more productive than the LUC 4 and 6 soils found on the majority of the site. The lots are both large enough to continue to support limited grazing, and both are in excess of the area the Council proposes "rural lifestyle" lots to be in the PDP.

RPROZP7
Manage land use and subdivision to address the effects of the activity ***requiring resource consent****, including (but not limited to) consideration of the following matters where relevant to the application:*
a. whether the proposal will increase production potential in the zone;
b. whether the activity relies on the productive nature of the soil;
c. consistency with the scale and character of the rural environment;
d. location, scale and design of buildings or structures;
e. for subdivision or non-primary production activities:
i. scale and compatibility with rural activities;
ii. potential reverse sensitivity effects on primary production activities and existing infrastructure;
iii. the potential for loss of highly productive land, land sterilisation or fragmentation
f. at zone interfaces:
i. any setbacks, fencing, screening or landscaping required to address potential conflicts;
ii.the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable;

g.the capacity of the site to cater for on-
site infrastructure associated with the proposed activity, including
whether the site has access to a water source such as an irrigation network supply, dam or aquifer;
h. the adequacy of roading infrastructure to service the proposed activity;
i.Any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity;
j.Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

The subdivision does not require any consent under the PDP and the above policy is therefore of limited relevance. I consider the subdivision to maintain rural character and amenity and the lots are suitable for their intended use.

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 site does not exhibit the features listed above. There are wet (swamp) areas within Lot 7, identified and fenced for ongoing protection. There are no significant risks from natural hazards.

7 Other matters
In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—
(a) kaitiakitanga:
(aa) the ethic of stewardship:
(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(e) [Repealed]
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(h) the protection of the habitat of trout and salmon:
(i) the effects of climate change:
(j) the benefits to be derived from the use and development of renewable energy.

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

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

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

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

7.4 National Policy Statement – Highly Productive Land

The National Policy Statement for Highly Productive Land is relevant given that (a) the site is zoned Rural Production (under the ODP – the only plan with legal effect in regard to zoning); and (b) the application site is mapped as containing a small area of LUC 3 soils (albeit LUC class 3w (wet)) - according to the 1:50,000 LUC maps used by the Council. On the ground these soils cannot be differentiated from the LUC class 4 and 6 soils found on the majority of the site, other than the 'wetness' factor.

Clause 3.5(7) reads:

Until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that, at the commencement date:

(a) is

(i) zoned general rural or rural production; and

(ii) LUC 1, 2, or 3 land; but

(b) is not: (i) identified for future urban development; or

(ii) subject to a Council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle.

A small portion of the site therefore falls within the definition of "highly productive land" as outlined in 3.5(7) above.

An assessment of the proposal against the Objective and Policies of the NPS-HPL follows:

2.1 Objective:
Highly productive land is protected for use in land-based primary production, both now and for future generations.

There is only a small area of "highly productive land" by definition only, within the application site and this remains available for grazing, just as it is now, with the exception of area "Z" (wetland protection). The proposal is therefore consistent with the above objective.

2.2 Policies
Policy 1: Highly productive land is recognised as a resource with finite characteristics and long term values for land-based primary production.
Policy 2: The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.
Policy 3: Highly productive land is mapped and included in regional policy statements and district plans.
Policy 4: The use of highly productive land for land-based primary production is prioritised and supported.
Policy 5: The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement.
Policy 6: The rezoning and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.

Policy 7: The subdivision of highly productive land is avoided, except as provided in this National Policy Statement.
Policy 8: Highly productive land is protected from inappropriate use and development.
Policy 9: Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

Policies 1-5 are all aimed at providing guidance to regional and district councils and do not apply to individual property owners and what they do on their land. Policy 6's priority is re-zoning – again something territorial authorities do as opposed to individual property owners. It does, however, also use the word 'development' which would include building. The policy requires the avoidance of development of highly productive land as rural lifestyle, except as provided in this NPS. That part of the site mapped as containing LUC class 3w soils will not be 'developed' as rural lifestyle. It will remain vacant of any buildings/structures. The lots are larger than the Council's defined "rural lifestyle" lot size.

Policy 7 is explicitly about 'subdivision' and requires that the subdivision of highly productive land be avoided, except as provided for in this NPS. I address this in more detail below. I believe the subdivision is of a nature 'provided for' in the NPS.

Policy 8 focuses on 'inappropriate use and development'. I consider the proposal to be entirely appropriate for the site and circumstances. The small part of the site deemed to contain LUC Class 3w soils will not be 'developed' in any event. As such the proposal is consistent with this policy.

Policy 9 focuses on reverse sensitivity. The site is utilised for grazing and residential living. The surrounding area is also in grazing, interspersed with residential living. The proposal is entirely consistent with this existing character. I believe the proposal will not create reverse sensitivity issues to the extent these would constrain land based primary production activities to continue.

The current government is looking to amend the NPS HPL in regard to the inclusion of all LUC class 3 soils with the realisation that this category encompasses an enormous amount of land and includes a wide range of soils, some of which are not at all suitable for horticultural production because of limitations such as leaching; excessive drainage characteristics; shallow top soil; overly wet – the list of constraints goes on. However, until such time as sensible and practical identification of truly highly productive land occurs, we are left with the current NPS.

Section 3.8 of the NPS HPL reads:

3.8 Avoiding subdivision of highly productive land
(1) Territorial authorities must avoid the subdivision of highly productive land unless one of the following applies to the subdivision, and the measures in subclause (2) are applied:
(a) the applicant demonstrates that the proposed lots will retain the overall productive capacity of the subject land over the long term:
(b) the subdivision is on specified Māori land:

(c) the subdivision is for specified infrastructure, or for defence facilities operated by the New Zealand Defence Force to meet its obligations under the Defence Act 1990, and there is a functional or operational need for the subdivision.
(2) Territorial authorities must take measures to ensure that any subdivision of highly productive land:
(a) avoids if possible, or otherwise mitigates, any potential cumulative loss of the availability and productive capacity of highly productive land in their district; and
(b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on surrounding land-based primary production activities.

The proposed subdivision does little to change the overall productive capacity of the land that is 'highly productive'. This LUC class 3w land is in pasture, within protected wetland covenant areas, and within an area that must kept clear of obstructions in order to protect sight lines for the highway crossing. This is the situation now, and will continue to be the situation. Clause 1(a) is therefore met.

Clause (2) can also be satisfied. There is no cumulative loss of the availability and productive capacity of highly productive land in the district. And the subdivision will have no reverse sensitivity effects on surrounding land-based primary production activities on highly productive land (of which there is very little in the immediate vicinity in any event). Mitigation of the effects of the subdivision in regard to the matters in clause (2), if required at all, is achieved through the size of the lots and the ability to internalise built development, along with the existing character in the general area.

In summary, I believe the proposed subdivision to be consistent with the NPS HPL.

7.5 Other National Policy Statements and National Environmental Standards

NES Freshwater

There are wet swamp areas that the property owner has voluntarily 'fenced' off to keep stock out of, and these will remain protected. These have been called 'wetlands' and are subject to ongoing protection via a consent notice condition imposed on RC 22200081.

NES Assessing and Management Contaminants in Soil to Protect Human Health

To my knowledge the land has not historically supported any activity to which the NES CS applies.

NPS Indigenous Biodiversity

The site contains no indigenous vegetation. The site is within a high density kiwi zone and is adjacent to a DoC administered Scenic Reserve known to contain kiwi. For this reason restrictions on the keeping of dogs and cats is proposed. The Scenic Reserve has a stock proof fenced boundary with the application site. I consider the proposal is consistent with the NPS IB.

7.6 Regional Policy Statement

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

Objective 3.6 Economic activities – reverse sensitivity and sterilisation

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

(a) Reverse sensitivity for existing:

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

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

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

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

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

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

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

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

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

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

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

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

8.0 s95A-E ASSESSMENT & CONSULTATION

8.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. No such circumstances exist. Step 2 of s95A specifies the circumstances that preclude public notification. No such circumstance exists and Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances. No such circumstance exists. In summary public notification is not required pursuant to Step 3 of s95A.

8.2 S95B Limited Notification Assessment

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

8.3 S95D Level of Adverse Effects

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

8.4 S95E Affected Persons

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

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

The site does not contain any heritage or cultural sites or values and no areas of significant indigenous vegetation. It is, however, adjacent to a DoC administered Scenic Reserve. The subdivision that will create the application site for this further subdivision would likely have been sent to DoC for comment. Regardless of whether there was any received or not, the proposal includes bans on dogs, cats and mustelids, with an exception for working dogs on. I do not believe there is any need to have carried out any further pre lodgement consultation with DoC, nor with tangata whenua or Heritage NZ.

Consultation has been carried out with NZTA (Waka Kotahi), with approval obtained for the construction of a new crossing to the proposed vacant lot.

In summary, there are no affected persons.

9.0 CONCLUSION

The site is considered suitable for the proposed subdivision. Effects on the wider environment are no more than minor. The proposal is not considered contrary to the relevant objectives and policies of the Operative and Proposed District Plans, and is considered to be consistent with relevant objectives and policies of National and Regional Policy Statements. Part 2 of the Resource Management Act has been had regard to. There is no District Plan rule or national environmental standard that requires the proposal to be publicly notified. No affected persons have been identified.

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

Signed Dated 12th November 2025
Lynley Newport,
Senior Planner
Thomson Survey Ltd

10.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Location Plan

Appendix 3 Records of Title & Relevant Instruments

Appendix 4 RC 2220081

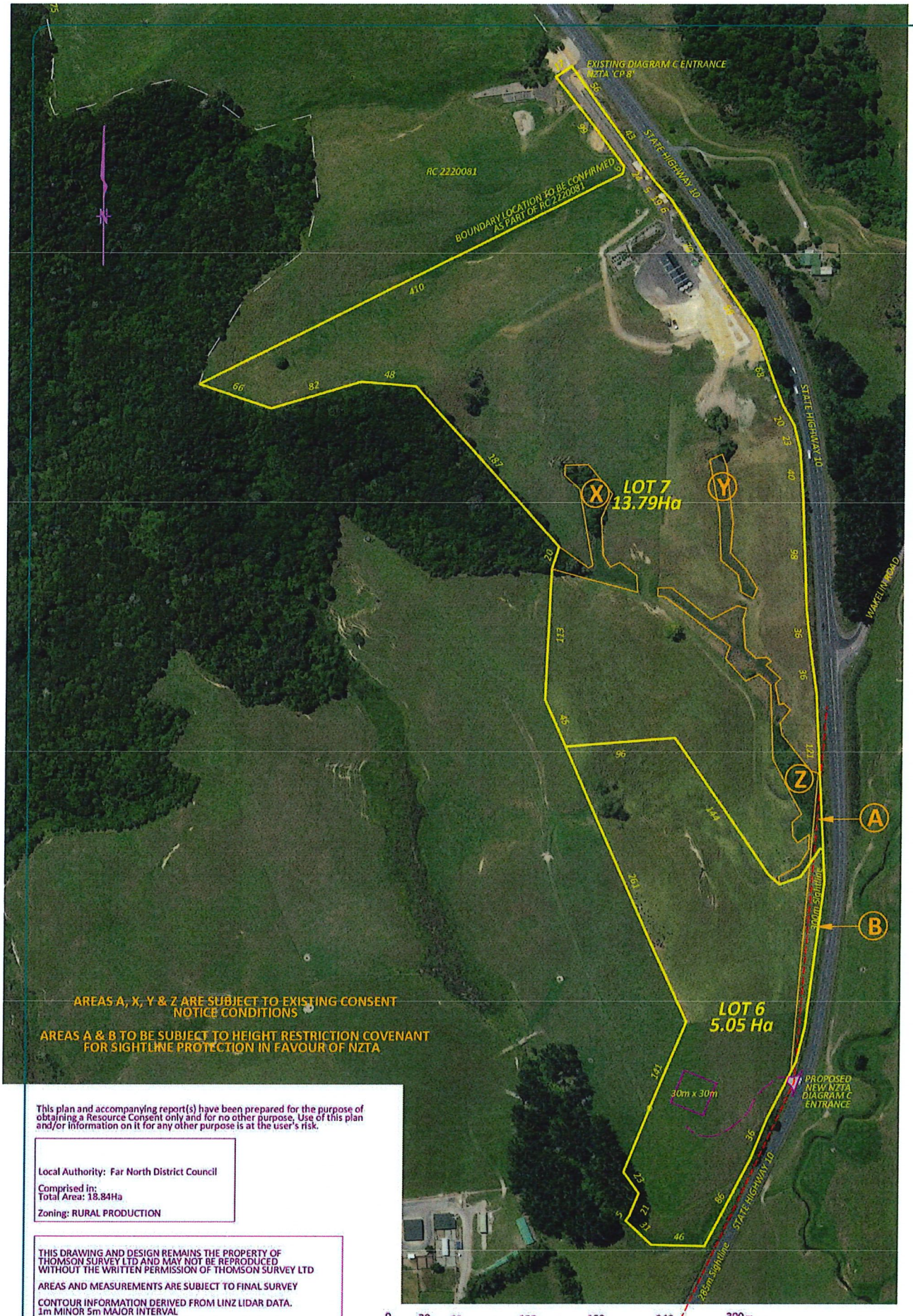
Appendix 5 Amended scheme plans for Variation to RC 2220081

Appendix 6 NZTA Correspondence

Appendix 7 Civil Site Suitability Report

Appendix 8 Site Assessment (Geotechnical)

Appendix 1
Scheme Plans



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.

Local Authority: Far North District Council

Comprised in:
Total Area: 18.84Ha

Zoning: RURAL PRODUCTION

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

CONTOUR INFORMATION DERIVED FROM LINZ LIDAR DATA.
1m MINOR 5m MAJOR INTERVAL

BACK GROUND IMAGE IS LINZ NORTHLAND 0.3m ORTHO CORRECTED FLOWN 2022

0 30 60 120 180 240 300 m

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360 Fax (09) 4077322
Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 1 RC 2220081

PREPARED FOR: STRAKA PROPERTY TRUST

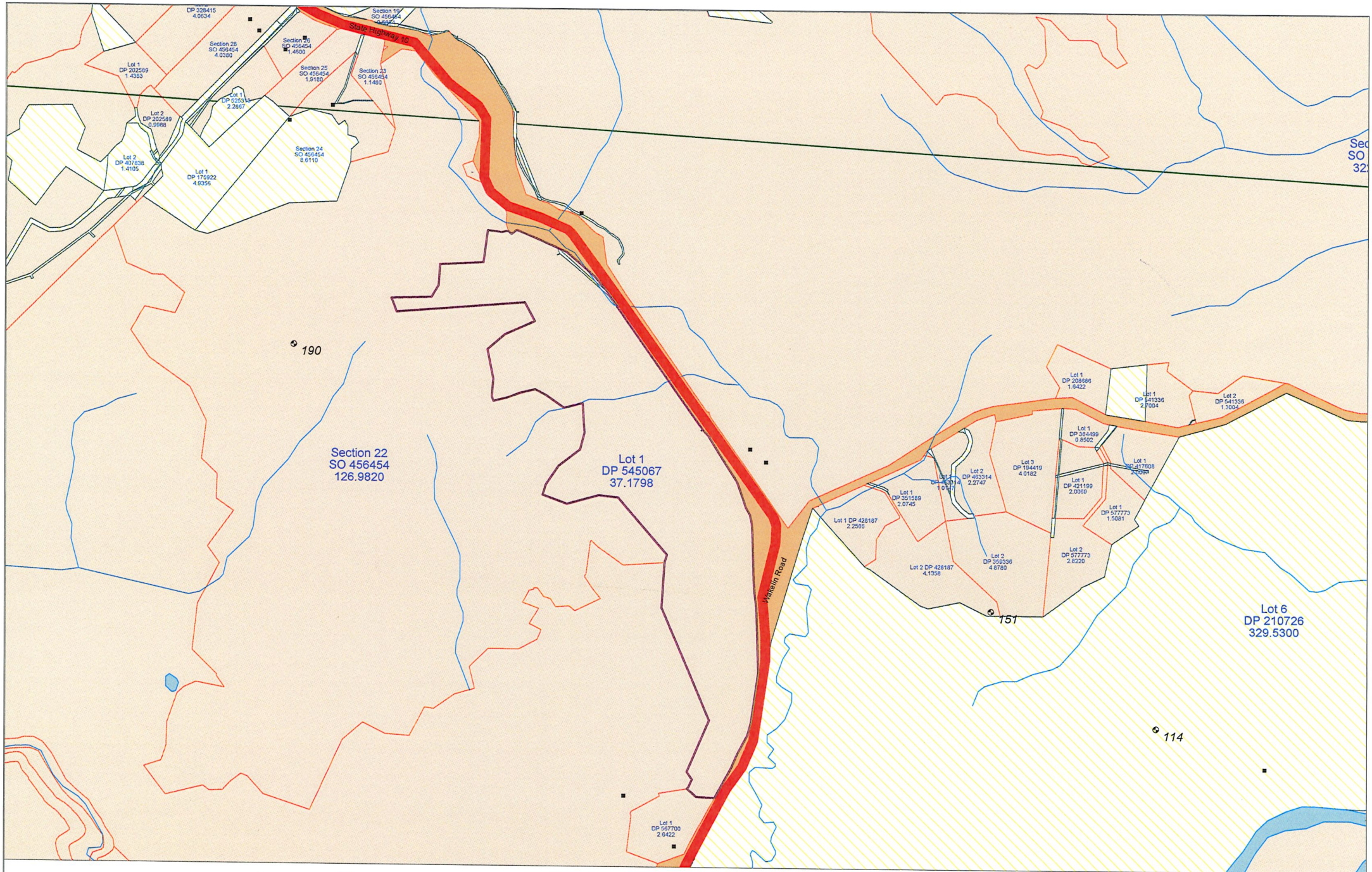
	Name	Date
Survey		
Design		
Drawn	SL	16.09.25
Approved		
Rev		

ORIGINAL
SCALE 1:3000
SHEET SIZE A3

10783 SCHEME B.LCD

Surveyors Ref. No: 10783

Appendix 2
Location Map



QuickMap
Custom Software Ltd

0 200 400 600 800 1000 1200 1400 1600m

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

Scale 1:12000 Topographical and Cadastral map derived from LINZ data. Printed: 05-Nov-2025 04:41.

Appendix 3

Record of current title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**924941**
Land Registration District	**North Auckland**
Date Issued	31 July 2020

Prior References
627582

Estate	Fee Simple
Area	37.1798 hectares more or less
Legal Description	Lot 1 Deposited Plan 545067
Registered Owners	

Clayton Trustees Limited

Interests

Subject to Part IV A Conservation Act 1987

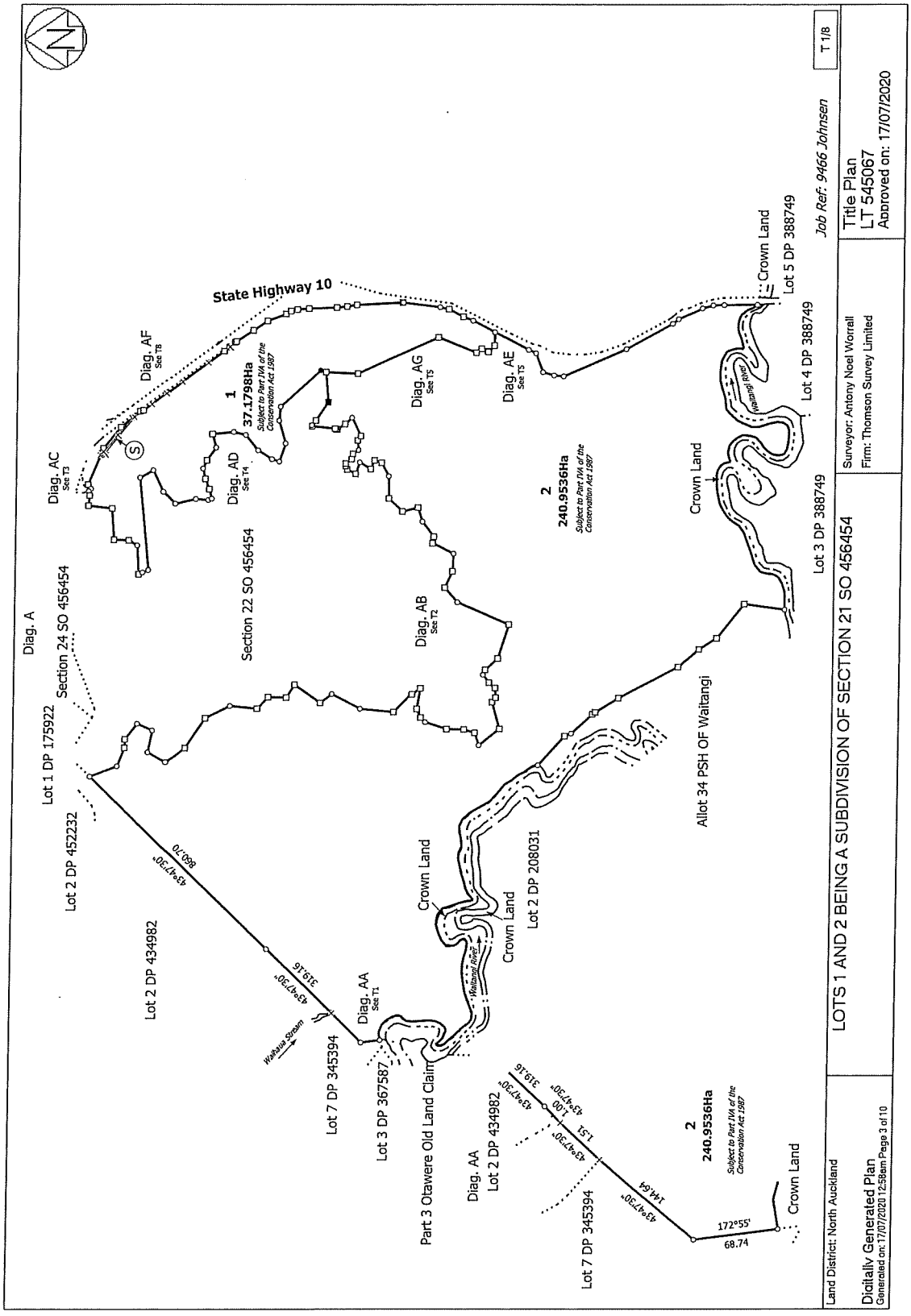
Subject to Section 11 Crown Minerals Act 1991

573901.1 Gazette Notice declaring adjoining State Highway a Limited Access Road - 31.1.1979 at 10.51 am

Subject to a right (in gross) to convey electricity over part marked S on DP 545067 in favour of Top Energy Limited created by Easement Instrument 9570631.1 - 20.3.2014 at 11:44 am

11799003.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 31.7.2020 at 4:12 pm

Land Covenant in Covenant Instrument 11799003.3 - 31.7.2020 at 4:12 pm


State Highway 10
Diag. A
Diag. AC See T3
Diag. AD See T4
Diag. AE See T5
Diag. AF See T8
Diag. AG See T5
Diag. AA See T1
Diag. AB See T2
Section 24 SO 456454
Section 22 SO 456454
Lot 1 DP 175922
Lot 2 DP 452232
Lot 2 DP 434982
Lot 7 DP 345394
Lot 3 DP 367587
Part 3 Otawere Old Land Claim
Lot 2 DP 434982
Lot 7 DP 345394
Crown Land
Lot 2 DP 208031
Allot 34 PSH OF Waitangi
Lot 3 DP 388749
Lot 4 DP 388749
Lot 5 DP 388749
Crown Land
Crown Land
Crown Land
Waitaua Stream
Waitangi River
1
37.1798Ha
Subject to Part IVA of the Conservation Act 1987
2
240.9536Ha
Subject to Part IVA of the Conservation Act 1987
2
240.9536Ha
Subject to Part IVA of the Conservation Act 1987
860.70
319.16
1.00
1.51
144.64
68.74
172°55'
43°47'30"
LOTS 1 AND 2 BEING A SUBDIVISION OF SECTION 21 SO 456454
Job Ref: 9466 Johnsen
T 1/8
Surveyor: Antony Noel Worrall
Firm: Thomson Survey Limited
Title Plan
LT 545067
Approved on: 17/07/2020
Land District: North Auckland
Digitally Generated Plan
Generated on: 17/07/2020 12:58am Page 3 of 10

View Instrument Details

Land

Instrument No	9570631.1
Status	Registered
Date & Time Lodged	20 March 2014 11:44
Lodged By	Carpenter, Brett Avon Leavett
Instrument Type	Easement Instrument

Toitū Te Whenua
Land Information
New Zealand

Affected Computer Registers	Land District
627582	North Auckland

Annexure Schedule: Contains 7 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 Mortgagee under Mortgage D529914.3 has consented to this transaction and I hold that consent	☑

Signature

Signed by Peter Gilmour Macauley as Grantor Representative on 01/02/2014 01:50 PM

Grantee Certifications

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

Signature

Signed by Brett Avon Leavett Carpenter as Grantee Representative on 13/11/2013 10:14 AM

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

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

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

Grantor

Simon Phillip Brown

Grantee

Top Energy Limited

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

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

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

Purpose (Nature and extent) of easement; *profit* or covenant	Shown (plan reference)	Servient Tenement (Computer Register)	Dominant Tenement (Computer Register) or in gross
Right to Convey Electricity	Marked "S" on SO Plan 456454	Section 21 SO 456454 CFR 627582	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 specified classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or Schedule Five of the Property Law Act 2007

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

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

[the provisions set out in Annexure Schedule]

Covenant provisions

Delete phrases in [ ] and insert Memorandum number as require; 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]~~

Insert instrument type

Easement

Continue in additional Annexure Schedule, if required

Annexure Schedule

1. Interpretation

1.1 In this instrument, unless the context otherwise requires:

(a) "Easement Area" means that/those part(s) of the Servient Land marked on Survey Office Plan 456454 with the letter "S".

(b) "Servient Land" means the land owned by the Grantor and contained in Computer Freehold Register 627582.

(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, transferees, administrators, successors and assigns.

2. Grant of electricity easement

2.1 The Grantor grants to the Grantee as an easement in gross a right to convey electricity over the easement area 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);

Insert instrument type

Easement

Continue in additional Annexure Schedule, if required

(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.

Insert instrument type

Easement

Continue in additional Annexure Schedule, if required

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, dams, 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 of the easement area 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.

Annexure Schedule

Page 6 of 6 Pages

Insert instrument type

Easement

Continue in additional Annexure Schedule, if required

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.

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

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

1. THAT by Deed dated the 24th day of February 2009 **Top Energy Limited** appointed me its attorney on the terms and subject to the conditions set out in the said deed, a copy of which is deposited in the Land Transfer Office at Auckland under No. PA8213736.10.

2. THAT at the date hereof I have not received any notice or information of the revocation of that appointment.

SIGNED at Kerikeri this 30th day of October 2013

.....
S R James

View Instrument Details

Land

Instrument No	11799003.2
Status	Registered
Date & Time Lodged	31 July 2020 16:12
Lodged By	Merry, Rebecca
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Toitū Te Whenua
Land Information
New Zealand

Affected Records of Title	Land District
924941	North Auckland
924942	North Auckland

Annexure Schedule Contains 2 Pages.

Signature

Signed by Rebecca Merry as Territorial Authority Representative on 31/07/2020 04:11 PM

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

Far North District Council

Private Bag 752, Kaitaia
Telephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

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THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING RC 2200111
Being the Subdivision of Allot 34 Parish of Waitangi and Sec 21 SO 456454
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 545067

(i) No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids). A maximum of two working farm dogs as defined in the Dog Control Act 1996 are exempt from this condition if they are:
   a) micro-chipped,
   b) on a lead or under effective control at all times
   c) kept in a kennel or tied up at night.
   d) For any dog written confirmation that the dog has current kiwi aversion training certification along with the expiry date for the certification.

(ii) Reticulated power supply or telecommunication services are not a requirement of this subdivision consent. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner.

(iii) 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.

Far North District Council

Private Bag 752, Memorial Ave
Kaitaia 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

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Lot 2 DP 545067

(iv) No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids). Working farm dogs as defined in the Dog Control Act 1996 are exempt from this condition if they are:
   a) micro-chipped and registered with Council annually,
   b) on a lead or under effective control at all times
   c) kept in a kennel or tied up at night.
   d) For any dog written confirmation that the dog has current kiwi aversion training certification along with the expiry date for the certification

SIGNED: PJ Killalea.

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

DATED at **KERIKERI** this 15th day of June 2020

Appendix 4

RC 2220081

Far North District Council

FAR NORTH DISTRICT COUNCIL

FAR NORTH OPERATIVE DISTRICT PLAN

DECISION ON RESOURCE CONSENT APPLICATION (SUBDIVISION)

Resource Consent Number: 2220081-RMASUB

Pursuant to section 104 B and s221(3) of the Resource Management Act 1991 (the Act), the Far North District Council hereby grants resource consent to:

Clayton Trustees Limited

The activity to which this decision relates:

Decision A: Subdivision of Lot 1 DP 545067 to create 4 additional lots over 3 stages

Decision B: Partial cancellation of consent notice conditions

Subject Site Details

Address:	**Lot 1, State Highway 10, Kerikeri 0470**
Legal Description:	**Lot 1 DP 545067**
Record of Title reference:	**924941**

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

1. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons, referenced Lots 1-5 being a proposed subdivision of Lot 1 DP 545067, dated August 2021, 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) Areas shown as S, T, U, V, W, X, Y, Z, are to be subject to land covenants for bush and wetland protection (See condition 4 (e) (iv)(v))

Stage One; Lots 1, and 5

3. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons, referenced Lots 1-5 being a proposed subdivision of Lot 1 DP 545067 (Stage 1), dated August 2021, and attached to this consent with the Council's "Approved Stamp" affixed to it.

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

(a) Provide evidence stock proofing fencing has been provided, where appropriate to prevent stock incursion along the proposed bush covenant area, and existing wetlands identified as S, T, U, V, W, X, Y, Z.

(b) The consent holder will upgrade vehicle access crossings to all allotments (CP8, CP9 and CP10. The access crossings must comply with NZ Transport Agency's Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the NZ Transport Agency Network Manager.

(c) The consent holder will be responsible for the repair and reinstatement of the public roads (State Highway 10) carriageway, if damaged as a result of the site works and building operations.

(d) The consent holder shall provide evidence that a Traffic Management Plan (TMP) has been approved by Waka Kotahi CAR Manager and a Corridor Access request (CAR) obtained prior to any vehicle crossings being constructed or undertaking any remedial works to the existing public road carriageway.

Note: Application for a CAR to be addressed to the Waka Kotahi CAR Manager via email (DalrRoberts@nzta.govt.nz) a minimum of 14 working days prior to the commencement of any works of the state highway; longer is advised for complex works.

(e) Secure the conditions 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.

i. The location and foundations of any buildings shall be designed and certified by a suitably experienced Chartered Professional Engineer, prior to issue of any building consent. **[All Lots]**

Note: Location and the design of foundations for any new buildings will note the restrictions and recommendations in the Geotechnical Assessment Report prepared by Haigh Workman with reference 21 144, dated July 2021 included in RC 2220081.

i. In conjunction with the construction of any building requiring a wastewater disposal system the lot owner shall obtain a Building Consent and install the wastewater treatment and effluent disposal system. Any proposed wastewater treatment and effluent disposal system shall be designed and constructed, noting the restrictions and limitations included int the On-Site

Wastewater Assessment for a Proposed Subdivision prepared by Haig Workman with reference 21 144, dated August 2021 included in RC2220081.

The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.

Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria. **[All Lots]**

ii. In conjunction with the construction of any dwelling, buildings, facilities or impermeable surfaces, the consent holder shall provide and implement a stormwater management plan for the site. The management plan shall be prepared and certified by a suitably qualified chartered professional engineer and submitted for approval by Council at building consent stage. Stormwater management must be based on Low Impact Design Principles to achieve outcomes set out in Section 4.3.7 of the New Zealand Standard for Land Development and Subdivision Infrastructure (NZS4404:2010). **[All Lots]**

iii. No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids). **[Lot 5]**

iv. No building/structural development or vegetation removal shall occur on areas S as shown on the survey plan [Lot 1]. The owner shall preserve the indigenous trees and bush areas identified as S as indicated on the survey plan and shall not without the prior written consent of the Council and then only in strict compliance with any conditions imposed by the Council, cut down, damage or destroy any of such trees or bush. The owner shall be deemed to be not in breach of this prohibition if any of such trees or bush shall die from natural causes not attributable to any act or default by or on behalf of the owner or for which the owner is responsible **[Lot 1]**

v. Management of activities on Lot 1, with respect to the natural wetland areas indicated by drawing as per Condition (2)(a) above, is to be undertaken so that the natural range of water levels and the natural ecosystem of plants and animals they support do not change as a result of such activities, except by way of a consent from the Council. **[Lot 1]**

vi. Reticulated power supply or telecommunication services are not a requirement of this subdivision consent. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner**. [All Lots]**

vii. 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. **[All Lots]**

Stage Two Lots 1, 3 and 4

5. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons, referenced Lots 1-5 being a proposed subdivision of Lot 1 DP 545067 (Stage 2), dated August 2021, and attached to this consent with the Council's "Approved Stamp" affixed to it.

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

   (a) Secure the conditions 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.

      i. The location and foundations of any buildings shall be designed and certified by a suitably experienced Chartered Professional Engineer, prior to issue of any building consent. **[All Lots]**

         Note: Location and the design of foundations for any new buildings will note the restrictions and recommendations in the Geotechnical Assessment Report prepared by Haigh Workman with reference 21 144, dated July 2021 included in RC 2220081.

      ii. In conjunction with the construction of any building requiring a wastewater disposal system the lot owner shall obtain a Building Consent and install the wastewater treatment and effluent disposal system. Any proposed wastewater treatment and effluent disposal system shall be designed and constructed, noting the restrictions and limitations included int the On-Site Wastewater Assessment for a Proposed Subdivision prepared by Haigh Workman with reference 21 144, dated August 2021 included in RC2220081.

         The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.

         Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria. **[All Lots]**

      iii. In conjunction with the construction of any dwelling, buildings, facilities or impermeable surfaces, the consent holder shall provide and implement a stormwater management plan for the site. The management plan shall be prepared and certified by a suitably qualified chartered professional engineer and submitted for approval by Council at building consent stage. Stormwater management must be based on Low Impact Design Principles to achieve outcomes set out in Section 4.3.7 of the New Zealand Standard for Land Development and Subdivision Infrastructure (NZS4404:2010). **[All Lots]**

      iv. No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids). **[Lot 3 &4]**

v. Management of activities on Lots 3 & 4, with respect to the natural wetland areas indicated by drawing as per Condition (2)(a) of Stage 1, is to be undertaken so that the natural range of water levels and the natural ecosystem of plants and animals they support do not change as a result of such activities, except by way of a consent from the Council.**[Lots 3 &4]**

vi. Reticulated power supply or telecommunication services are not a requirement of this subdivision consent. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner **[All Lots]**

vii. 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. **[All Lots]**

Stage Three Lots 1 and 2

7. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons, referenced Lots 1-5 being a proposed subdivision of Lot 1 DP 545067 (Stage 2), dated August 2021, and attached to this consent with the Council's "Approved Stamp" affixed to it.

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

(a) Secure the conditions 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.

i. The location and foundations of any buildings shall be designed and certified by a suitably experienced Chartered Professional Engineer, prior to issue of any building consent. **[All Lots]**

Note: Location and the design of foundations for any new buildings will note the restrictions and recommendations in the Geotechnical Assessment Report prepared by Haigh Workman with reference 21 144, dated July 2021 included in RC 2220081.

ii. In conjunction with the construction of any building requiring a wastewater disposal system the lot owner shall obtain a Building Consent and install the wastewater treatment and effluent disposal system. Any proposed wastewater treatment and effluent disposal system shall be designed and constructed, noting the restrictions and limitations included int the On-Site Wastewater Assessment for a Proposed Subdivision prepared by Haigh Workman with reference 21 144, dated August 2021 included in RC2220081.

The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.

Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria. **[All Lots]**

iii. In conjunction with the construction of any dwelling, buildings, facilities or impermeable surfaces, the consent holder shall provide and implement a stormwater management plan for the site. The management plan shall be prepared and certified by a suitably qualified chartered professional engineer and submitted for approval by Council at building consent stage. Stormwater management must be based on Low Impact Design Principles to achieve outcomes set out in Section 4.3.7 of the New Zealand Standard for Land Development and Subdivision Infrastructure (NZS4404:2010). **[All Lots]**

iv. No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids).**[Lot 2]**

v. Management of activities on Lot 2, with respect to the natural wetland areas indicated by drawing as per per Condition (2)(a) of Stage 1, is to be undertaken so that the natural range of water levels and the natural ecosystem of plants and animals they support do not change as a result of such activities, except by way of a consent from the Council.**[Lot 2]**

vi. Reticulated power supply or telecommunication services are not a requirement of this subdivision consent. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner**. [All Lots]**

vii. 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. **[All Lots]**

viii. No occupier of, or visitor to the site, shall keep or introduce to the site carnivorous or omnivorous animals (such as cats, dogs or mustelids).

Two working farm dogs as defined in the Dog Control Act 1996 is exempt from this condition if they are:

(a) micro-chipped,
(b) within a dog proof fence area, on a lead or under effective control at all times when outside the fenced area,
(c) kept in a kennel or tied up at night.
(d) For any dog written confirmation that the dog has current kiwi aversion training certification along with the expiry date for the certification.

Prior to the keeping of introduction of any working dog to the site the occupier must provide the following to the Councils Resource Consent Monitoring Officer:
(a) A photograph of the dog;
(b) Written confirmation that the dog has been micro-chipped;
(c) A plan showing the extent of the dog proof fenced area.

[Lot 1]

Cancellation of Consent Notice Under ss221 of the Act

1. Pursuant to section 221(3) of the Resource Management Act, the Far North District Council hereby resolves to cancel consent notice 11799003.2 (conditions (i), (ii),(iii)), in part, as they relate to Lot 1 DP 545067.

Advice Notes

1. Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This should be made available to all person(s) working on site.

2. This consent requires the ongoing protection of an area of wetland. Regeneration of wetlands is an important environmental goal and funding is available from Northland Regional Council for fencing and replanting via the Northland Regional Council Environmental Enhancement Fund.

3. A crossing place notice/s per Section 91 of the Government Roading Powers Act 1989 will be registered on the titles confirming the legal establishment of the crossing place.

Reasons for the Decision

1. The Council has determined (by way of an earlier report and resolution) that the adverse environmental effects associated with the proposed activity are no more than minor and that there are no affected persons or affected customary rights group or customary marine title group.

2. District Plan Rules Affected:

Rule # & Name	**Non Compliance Aspect**
13.7.2 – Minimum allotment sizes	The minimum lot size is 4ha

S221(3) Change / Cancellation of Consent Notice Condition

Consent is sought to Cancel Consent Notices 11799003.2, condition (i), (ii),(iii) in part, as they relate to Lot 1 DP 545067

Adverse effects will be minor:

It is considered the relevant and potential effects have been addressed within the assessment of effects above, and it has been concluded that the adverse effects will be less than minor.

Positive effects of the proposal:
Under s104(1)(a) the positive and potential effects of the proposal are:

a) Formal protection of existing wetlands on the subject site.
b) Cats and dogs restrictions

Objectives and policies of the District Plan:
The following objectives and policies of the District Plan have been considered:

a) Chapter 8, Section 6 - Rural Production Zone
b) Chapter 13 - Subdivision

The proposal is not contrary to the relevant objectives and policies of the District Plan. The proposal is considered to be generally consistent with the relevant objectives and policies. With a minimum lot size of four hectares, it is considered that the proposed allotments are of sufficient size to accommodate residential activity whilst maintaining sufficient pastoral land for productive use. The sites are surrounded by a mixture of lifestyle and large farm allotments. The subdivision will not restrict neighbouring rural production activities to occur, and still allows for farming activities. The rural character of the site will therefore not be eroded by the proposed subdivision. The proposal is not contrary to the relevant objectives and policies of the District Plan.

3. In accordance with an assessment under s104(1)(b) of the RMA the proposal is consistent with the relevant statutory documents.

a) The Northland Regional Policy Statement 2018
b) Northland Regional Plan 2019
c) National Environmental Standards (Air/ NESCS/ Forestry etc)

4. In accordance with an assessment under s104(1)(c) of the RMA. No other non – statutory documents were considered relevant in making this decision.

5. No other matters were considered in relevant in making this decision.

6. Part 2 Matters
The Council has taken into account the purpose & principles outlined in sections 5, 6, 7 & 8 of the Act. It is considered that granting this resource consent application achieves the purpose of the Act.

7. In summary it is considered that the activity is consistent with the sustainable management purpose of the RMA.

Approval
This resource consent has been prepared by Minnie Fox, in conjunction with Whitney Peat – Intermediate Planner and is granted under delegated authority (pursuant to section 34A of the Resource Management Act 1991) from the Far North District Council by:

P.J. Killalea.

Pat Killalea, Principal Planner

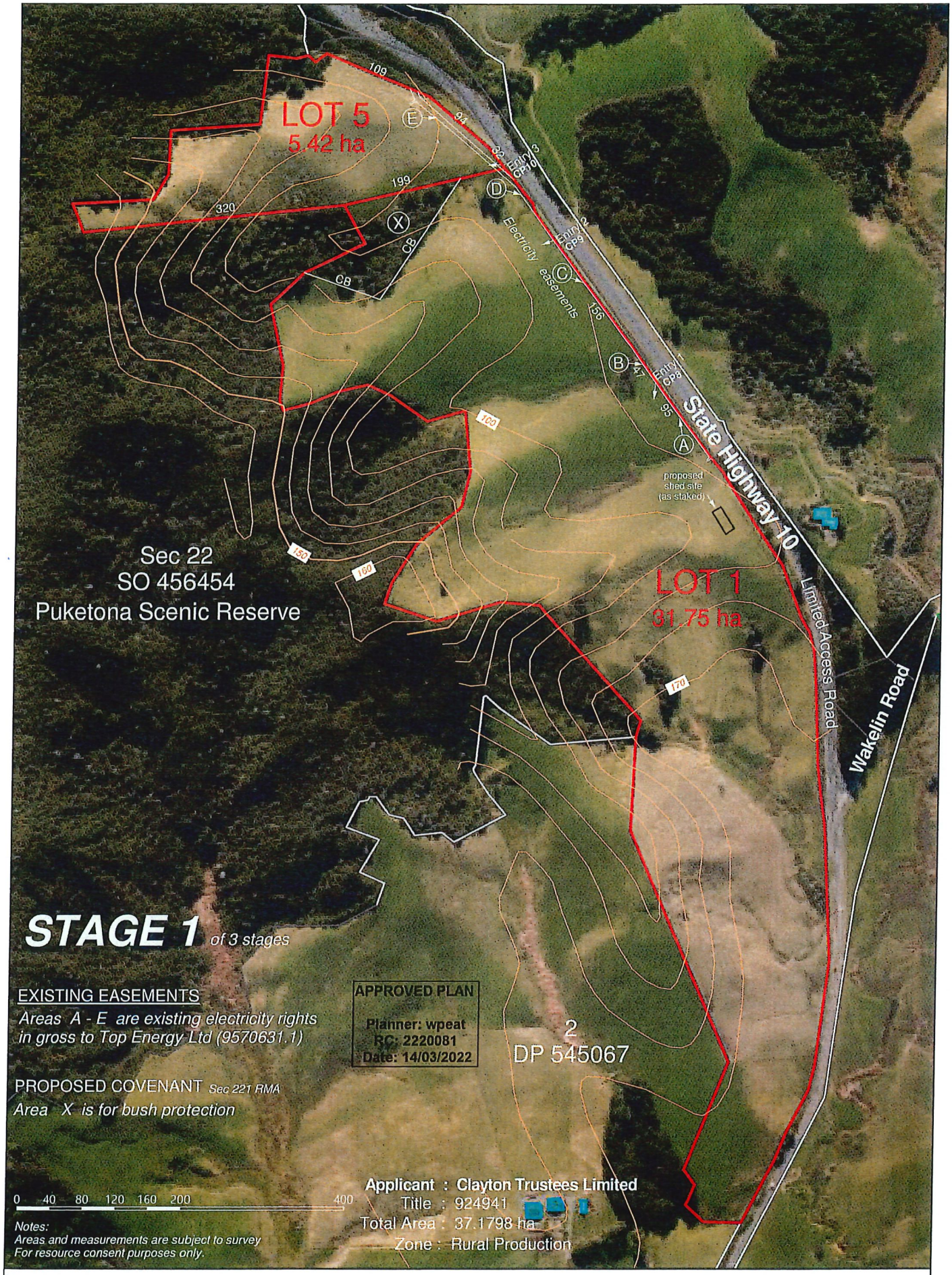
Date: 11th March 2022

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

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

The consent is given effect to; or

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



STAGE 1 *of 3 stages*

EXISTING EASEMENTS

Areas A - E are existing electricity rights in gross to Top Energy Ltd (9570631.1)

PROPOSED COVENANT *Sec 221 RMA*

Area X is for bush protection

APPROVED PLAN
Planner: wpeat
RC: 2220081
Date: 14/03/2022

2
DP 545067

0 40 80 120 160 200 400

Notes:
Areas and measurements are subject to survey
For resource consent purposes only.

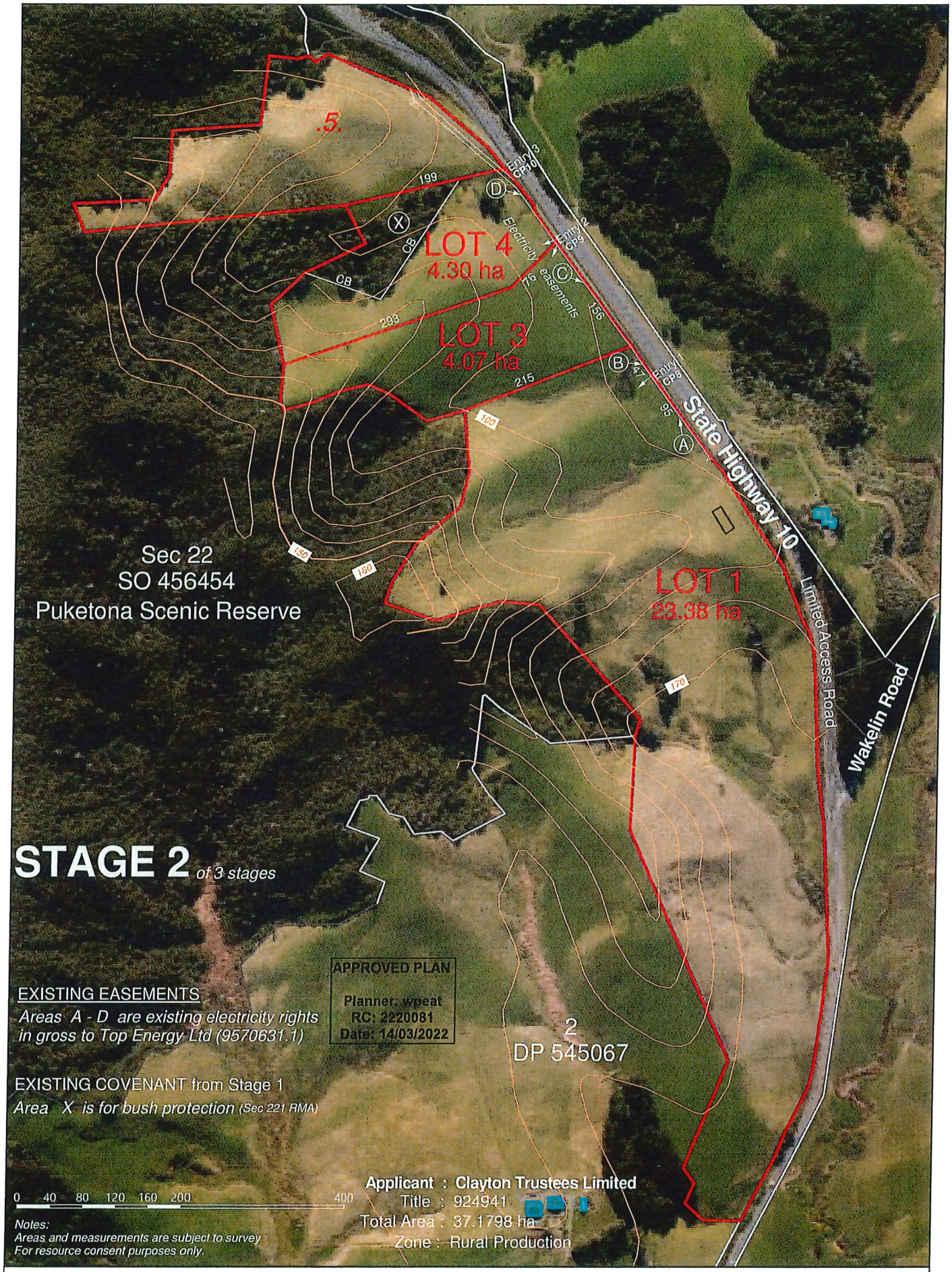
Applicant : Clayton Trustees Limited
Title : 924941
Total Area : 37.1798 ha
Zone : Rural Production

DONALDSONS
REGISTERED LAND SURVEYORS

LOTS 1 & 5 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 545067

Contour interval : 10m
Scale @ A3 : 1 : 4000
Date : August 2021
File : 7890 Scheme.mjo

7890

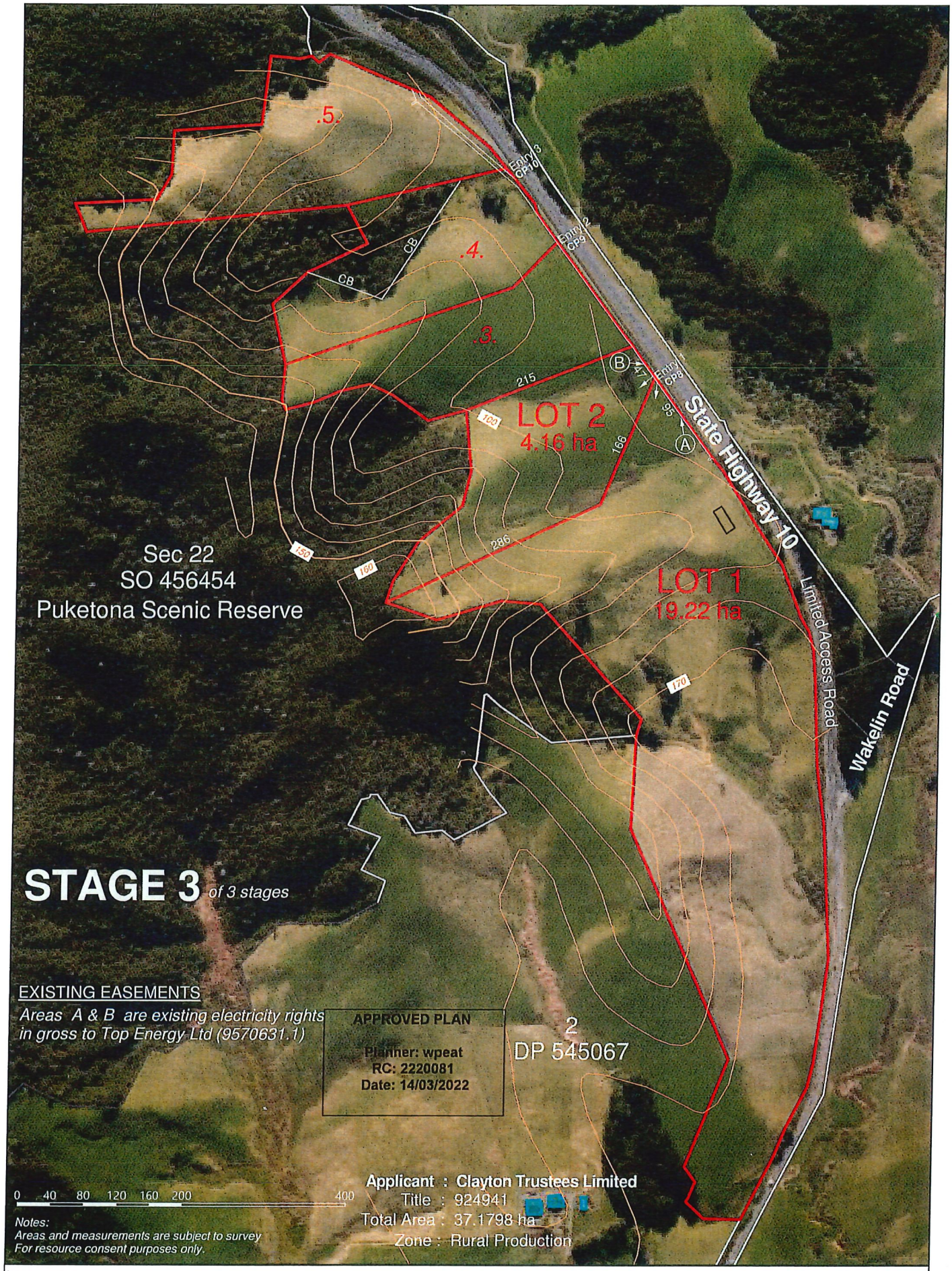


DONALDSONS
REGISTERED LAND SURVEYORS

LOTS 1, 3, & 4 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 545067

Contour interval : 10m
Scale @ A3 : 1 : 4000
Date : August 2021
File : 7890 Scheme.mjo

7890

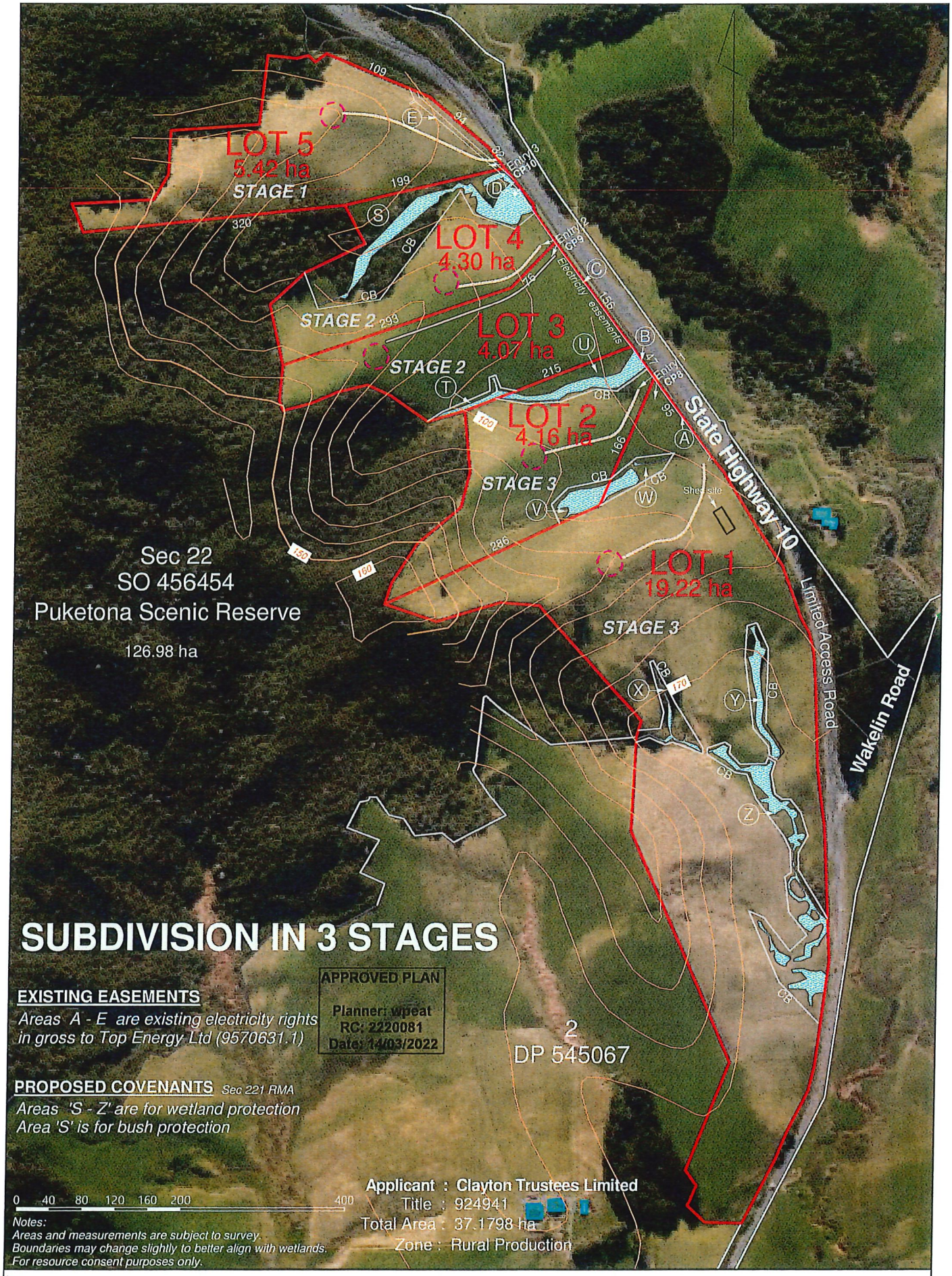


DONALDSONS
REGISTERED LAND SURVEYORS

LOTS 1 & 2 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 545067

Contour interval : 10m
Scale @ A3 : 1 : 4000
Date : August 2021
File : 7890 Scheme.mjo

7890



SUBDIVISION IN 3 STAGES

APPROVED PLAN
Planner: wpeat
RC: 2220081
Date: 14/03/2022

EXISTING EASEMENTS

Areas A - E are existing electricity rights in gross to Top Energy Ltd (9570631.1)

PROPOSED COVENANTS *Sec 221 RMA*

Areas 'S - Z' are for wetland protection
Area 'S' is for bush protection

2
DP 545067

0 40 80 120 160 200 400

Notes:
Areas and measurements are subject to survey.
Boundaries may change slightly to better align with wetlands.
For resource consent purposes only.

Applicant : Clayton Trustees Limited
Title : 924941
Total Area : 37.1798 ha
Zone : Rural Production

DONALDSONS
REGISTERED LAND SURVEYORS

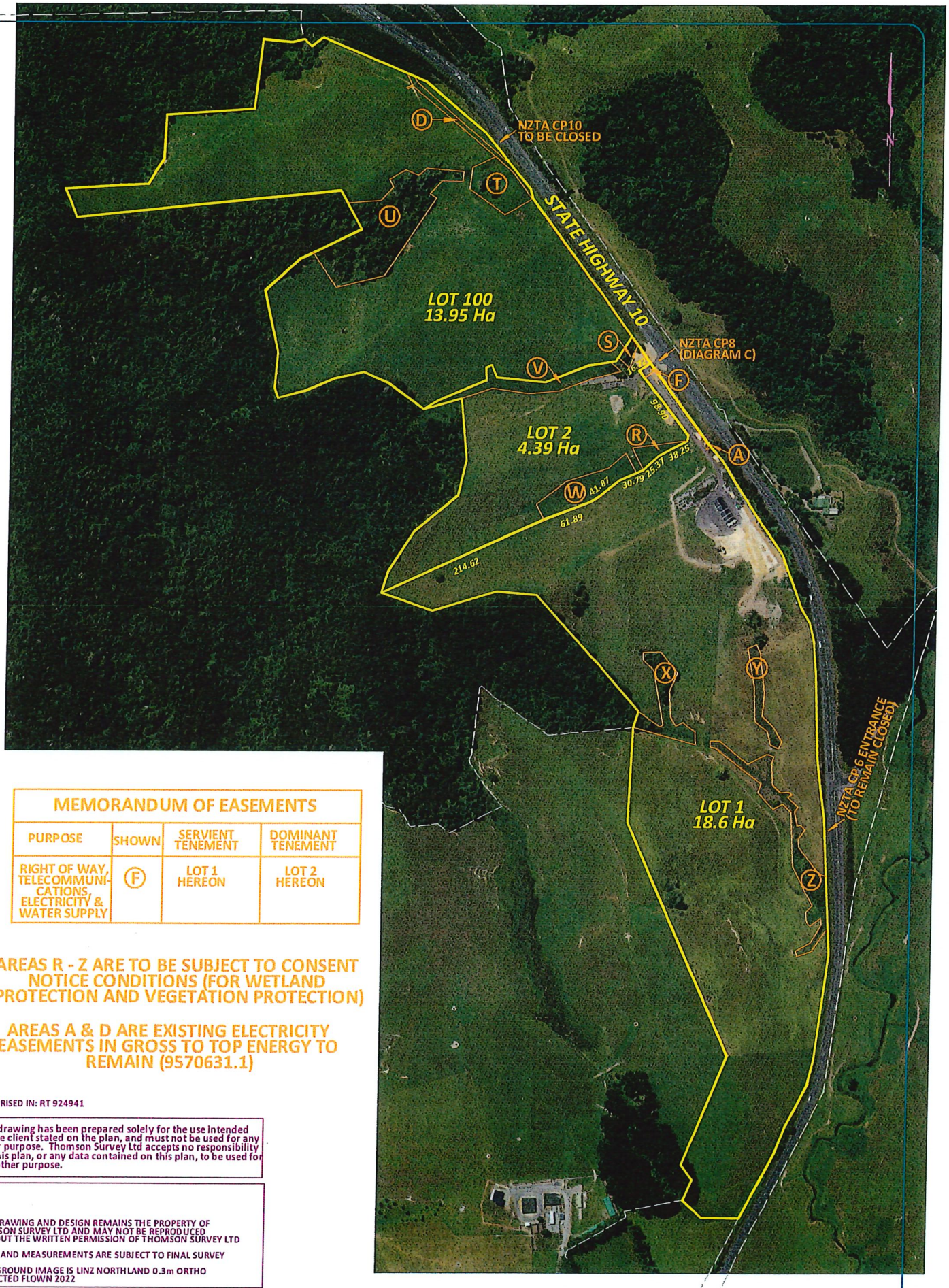
LOTS 1 - 5 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 545067

Contour interval : 10m
Scale @ A3 : 1 : 4000
Date : August 2021
File : 7890 Scheme.mjo

7890

Appendix 5

Amended scheme plans for
Variation to RC 2220081



MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(F)	LOT 1 HEREON	LOT 2 HEREON

AREAS R - Z ARE TO BE SUBJECT TO CONSENT NOTICE CONDITIONS (FOR WETLAND PROTECTION AND VEGETATION PROTECTION)

AREAS A & D ARE EXISTING ELECTRICITY EASEMENTS IN GROSS TO TOP ENERGY TO REMAIN (9570631.1)

COMPRISED IN: RT 924941

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

BACK GROUND IMAGE IS LINZ NORTHLAND 0.3m ORTHO CORRECTED FLOWN 2022

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360 Fax (09) 4077322
Registered Land Surveyors, Planners & Land Development Consultants

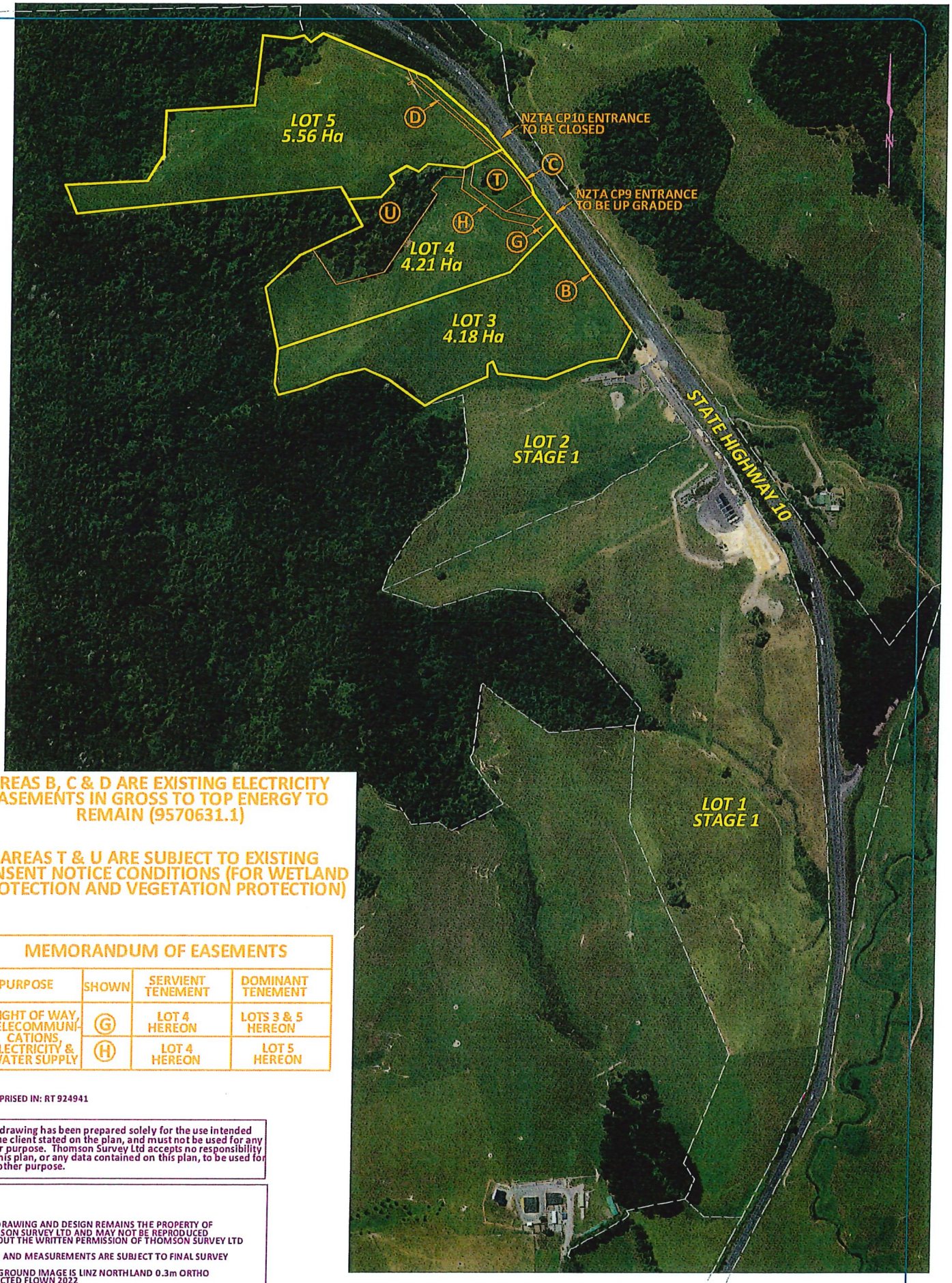
VARIATION OF RC 2220081 STAGE 1

PREPARED FOR: STRAKA PROPERTY TRUST

	Name	Date
Survey		
Design		
Drawn	SL	15.09.25
Approved		
Rev	KY	18.09.25

ORIGINAL
SCALE 1:3000
SHEET SIZE A3
10783 STAGED VARIATION 20250918

Surveyors Ref. No: 10783
Series
Sheet of



AREAS B, C & D ARE EXISTING ELECTRICITY EASEMENTS IN GROSS TO TOP ENERGY TO REMAIN (9570631.1)

AREAS T & U ARE SUBJECT TO EXISTING CONSENT NOTICE CONDITIONS (FOR WETLAND PROTECTION AND VEGETATION PROTECTION)

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	G	LOT 4 HEREON	LOTS 3 & 5 HEREON
	H	LOT 4 HEREON	LOT 5 HEREON

COMPRISED IN: RT 924941

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

BACK GROUND IMAGE IS LINZ NORTHLAND 0.3m ORTHO CORRECTED FLOWN 2022

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360 Fax (09) 4077322
Registered Land Surveyors, Planners & Land Development Consultants

VARIATION OF RC 2220081 STAGE 2

PREPARED FOR: STRAKA PROPERTY TRUST

	Name	Date
Survey		
Design		
Drawn	SL	15.09.25
Approved		
Rev	KY	18.09.25

ORIGINAL
SCALE 1:3000
SHEET SIZE A3
10783 STAGED VARIATION 20250918

Surveyors Ref. No: 10783
Series
Sheet of

Appendix 6

NZTA Correspondence

NZ TRANSPORT AGENCY
WAKA KOTAHI

www.nzta.govt.nz

44 Bowen Street
Pipitea, Wellington 6011
Private Bag 6995
Wellington 6141
New Zealand
T 0800 699 000
www.nzta.govt.nz

NZ Transport Agency Waka Kotahi Reference: 2021-0611

31 October 2025

Clayton and Kate Straka (Johnsen Farm)
C/- Thomson Survey
315 Kerikeri Road,
Kerikeri 0230

Sent via Email: lynley@tsurvey.co.nz

Dear Lynley,

Proposed 2-Lot Subdivision (Stage 2) – 939 State Highway 10, Kerikeri – Clayton and Kate Straka (Johnsen Farm)

Thank you for your request for written approval from NZ Transport Agency Waka Kotahi (NZTA) under section 95E of the Resource Management Act 1991 (RMA). Your proposal has been considered as follows:

Proposal

Resource consent is sought for the following activities:

- To further subdivide proposed Lot 1 created via granted subdivision consent RC 2220081 (Stage 1).
- Stage 1 will involve the creation of proposed Lots 1, 2 and 100; Stage 2 will involve the creation of Lots 3, 4 and 5 from Lot 100.

Assessment

In assessing the proposed activity, NZTA notes the following:

- NZTA did not provide approval to the subdivision consent RC 2220081 although when contacted by Far North District Council at the time of lodgement, did request that Crossing Places, CPs 8, 9 and 10 to upgraded to an NZTA PPM Diagram C Standard in August 2021. These were included as conditions of consent by Far North District Council.
- Following the completion of Stage 1 (under the variation to consent RC 2220081), the subject site has one authorised crossing place and following the completion of the subdivision, will have two.
- Under Stage 1, CP 8 will be upgraded to an NZTA PPM Diagram C Standard to accommodate the vehicle movements of one residential dwelling per lot. Under Stage 2, a new vehicle crossing will be constructed to provide access to proposed Lot 6. The vehicle crossing will be constructed to an NZTA PPM Diagram C standard.
- The access arrangements have been agreed to by the applicant and will address any potential adverse effects on the operation of State Highway 10.
- Future residential development is anticipated within each lot. Reverse sensitivity noise effects are managed by rule in the Far North District Plan, and, as such, NZTA does not consider a consent condition is necessary to manage such effects.
- Stormwater generated from impervious surfaces created through development within the proposed lots is expected to be disposed of within the lot boundaries. No discharge of stormwater from the lots onto the state highway road corridor is anticipated.

Limited Access Road (LAR)

Your client's site adjoins State Highway 10 which is identified as a limited access road. Per Section 91 of the Government Roading Powers Act 1989, to access your client's site your client requires a crossing place authorised by NZTA. In this instance there will be one authorised crossing place registered on the record of title: CP 8. As part of this subdivision application, one new access will be authorised for proposed Lot 6 and will be constructed to an NZTA PPM Diagram C Standard.

Conditions

In discussion with NZTA your clients have agreed to include the following conditions as part of your client's resource consent application. The legal name of NZTA is the **New Zealand Transport Agency**; therefore our full legal name is referred to in the conditions and approval.

1. The proposed vehicle access to be used for access to proposed Lot 6 shall be constructed at NZTM 1686921.69, 6094648.61 in accordance with New Zealand Transport Agency Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the New Zealand Transport Agency Network Manager.
2. Prior to the issuing of a certificate pursuant to Section 224(c) of the Resource Management Act 1991, the consent holder shall provide to Council, correspondence from the New Zealand Transport Agency confirming that works in the State Highway, including the construction of vehicle crossings, have been constructed to the New Zealand Transport Agency standards.
3. Prior to the issuing of a certificate pursuant to Section 224(c) of the Resource Management Act 1991, the consent holder shall provide to Council confirmation that the New Zealand Transport Agency has been advised of relevant documentation (such as proposed title references, draft LT (Land Transfer) plan, ML plan (for Maori Land) or SO (Survey Office) plan) to facilitate the registration of any new Crossing Place (CP) Notices against those new titles, under Section 91 of the Government Roading Powers Act 1989.
4. A consent notice pursuant to Section 221 of the Resource Management Act 1991 shall be registered against the titles of Lots 6 and 7 of the subdivision of land shown on Scheme Plan titled "Proposed Subdivision of Lot 1 RC 2220081" dated 16.09.2025, Rev 0 to limit the height of any buildings, structures or vegetation (intentional planting and naturally-occurring revegetation) that can occur in the area between the site boundary and sightline dashed line to 1m above the surface of the state highway carriageway at the white edge line. If the landowner seeks to undertake or allow any of the listed restrictions, an application must be made to the Far North District Council with the explicit support of the NZ Transport Agency.

Determination

On the basis of the above assessment of the proposed activity, and the conditions volunteered by the applicant, the New Zealand Transport Agency provides written approval under section 95E of the Resource Management Act 1991.

Limited Access Road

As the site fronts a Limited Access Road, the New Zealand Transport Agency provides approval under Section 93 of the Government Roading Powers Act 1989 for the site to gain direct access from the state highway as described in this written approval.

We are happy for you to provide this letter to the territory authority as evidence of our s95E RMA and s93 GRPA approvals.

Advice Notes

Before you undertake any physical work on the state highway, including the formation of any vehicle crossing, you are legally required to apply to the New Zealand Transport Agency for a Corridor Access Request (CAR) and for that request to be approved.

Please submit your CAR to the NZTA CAT Manager via www.submiticia.com a minimum of fourteen working days prior to the commencement of any works on the state highway; longer is advised for complex works.

As the property has access to a limited access road, once the works have been completed to the satisfaction of the New Zealand Transport Agency Network Manager, a crossing place notice/s per Section 91 of the Government Roading Powers Act 1989 will be registered on the titles confirming the legal establishment of the crossing place.

Expiry of this approval

Unless resource consent has been obtained this approval will expire two years from the date of this approval letter. This approval will lapse at that date unless prior agreement has been obtained from The New Zealand Transport Agency.

If you have any queries regarding the above or wish to discuss matters further, please feel free to contact the Environmental Planning team at environmentalplanning@nzta.govt.nz.

Yours sincerely,

TRobins

Tessa Robins
Senior Planner
Poutiaki Taiao / Environmental Planning, System Design, on behalf of NZ Transport Agency Waka Kotahi.

Enclosed:

- Attachment 1: Proposed Scheme Plan

Attachment 1: Proposed Scheme Plan

Appendix 7
Civil Site Suitability Report

Wilton Joubert Limited
09 527 0196
196 Centreway Road,
Orewa, Auckland, 0931

SITE	**Future (Vacant) Lot of Lot 1 of Subdivision of 1057 State Highway 10, Kerikeri**
LEGAL DESCRIPTION	**Not Currently Obtained (Application No. 2220081-RMASUB)**
PROJECT	**Proposed 2-Lot Subdivision (1 Lot for Assessment)**
CLIENT	**Straka Property Trust**
REFERENCE NO.	**142529**
DOCUMENT	**Civil Site Suitability Report**
STATUS/REVISION NO.	**01 – Resource Consent**
DATE OF ISSUE	**26 September 2025**

Report Prepared For	Email
Straka Property Trust	strakaconstruction@xtra.co.nz

Authored by	**G.M. Brant** *(Be (Hons) Civil)*	Civil Engineer	gustavo@wjl.co.nz	
Reviewed & Approved by	**B. Steenkamp** *(CPEng, BEng Civil, CMEngNZ, BSc (Geology))*	Senior Civil Engineer	bens@wjl.co.nz	

1 EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

Development Type:	2-Lot Subdivision (1 lot for assessment)
Scope:	Civil Site Suitability Investigation: - Wastewater Assessment - Stormwater Assessment - Potable Water
Development Proposals Supplied:	Concept Markup Supplied
Associated Documents:	WJL Geotechnical Site Suitability Report Ref. 142258
District Plan Zone:	Rural Production Zone
Wastewater:	The following is an indicative PCDI wastewater design for a 4-bedroom dwelling – given the subsoils encountered we recommend Secondary Level Treatment or higher: Daily Wastewater Production: 1,080L/day Daily Application Rate: 2.5mm/day Disposal Area: 432m² Reserve Area: 130m² (50%) Recommendations for wastewater are provided in Section 5.
Stormwater Management – District Plan Rules:	Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%. Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.
Stormwater Management:	To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), the proposed lot must not exceed an impermeable area of 15%. The maximum permitted impermeable area for the proposed lot is ~7,433m². Given the above, it is expected that any residential future development of the proposed lot would comfortably comply with Permitted Activity Rule (8.6.5.1.3). As such, it is not expected that a stormwater attenuation report will be required for any future residential development of the proposed lot. Stormwater management recommendations are provided in Section 6.

2 SCOPE OF WORK

Wilton Joubert Ltd (WJL) was engaged by the client to undertake a civil site suitability assessment (wastewater, stormwater & potable water assessment) at the above site, where we understand, it is proposed to subdivide proposed Lot 1 of the subdivision of 1057 State Highway 10 (SH10) into two further individual allotments, of which the southern proposed lot (~49.6ha) is the subject of this assessment.

Although proposed Lot 1 does not currently have a legal title, the proposed subdivision of the parent Lot is denoted as being an approved decision (Application No. 2220081-RMASUB) on the Far North District Council (FNDC) on-line GIS Regulatory Map.

At the time of report writing, the following concept markup of the proposed subdivision has been supplied to WJL by the client (refer Figure 1). No development plans for future development of the subject lot have been supplied to WJL.

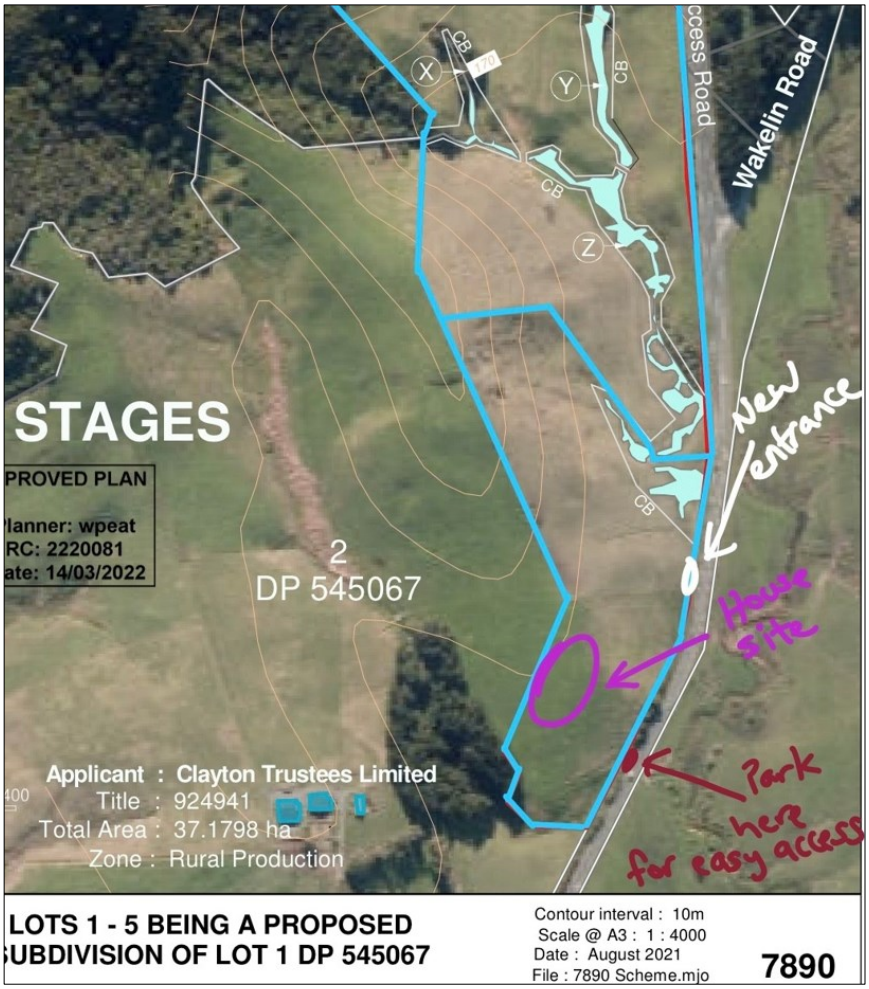


Figure 1: Snip of the mark-up depicting the subdivision (from the client)

A Geotechnical Site Suitability Report (WJL Ref. 142528) has been prepared by WJL for the subject site which should be read in conjunction with this report.

Any revision of the supplied drawings and/or development proposals with wastewater, stormwater and/or potable water implications should be referred back to us for review. This report is not intended to support Building Consent applications for the future proposed lots, and any revision of supplied drawings and/or development proposals including those for Building Consent, which might rely on wastewater, stormwater and/or potable water assessments herein, should be referred to us for review.

3 SITE DESCRIPTION

The new vacant Lot will be created from the following proposed Lot (the site), which is to be located off the western side of SH10, in the southern outskirts of the Kerikeri District:

- Proposed Lot 1 of Subdivision of 1057 SH10, Kerikeri.

Proposed Lot 1 is shown in Figure 2 below and the new vacant Lot is shown in Figures 2 and 3.

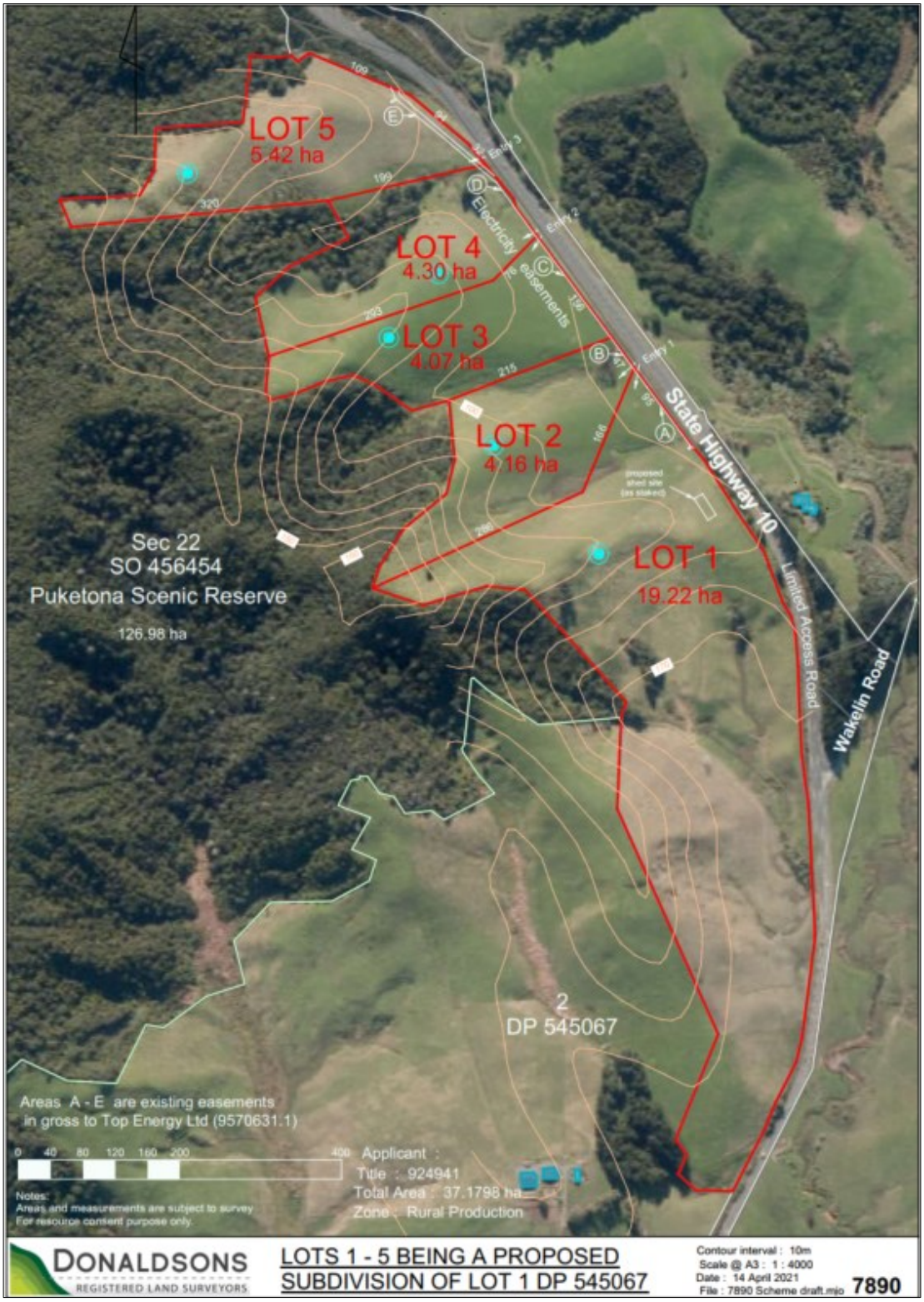


Figure 2: Subdivision Scheme Plan - Application No. 2220081-RMASUB (from Donaldsons Surveyors Limited).

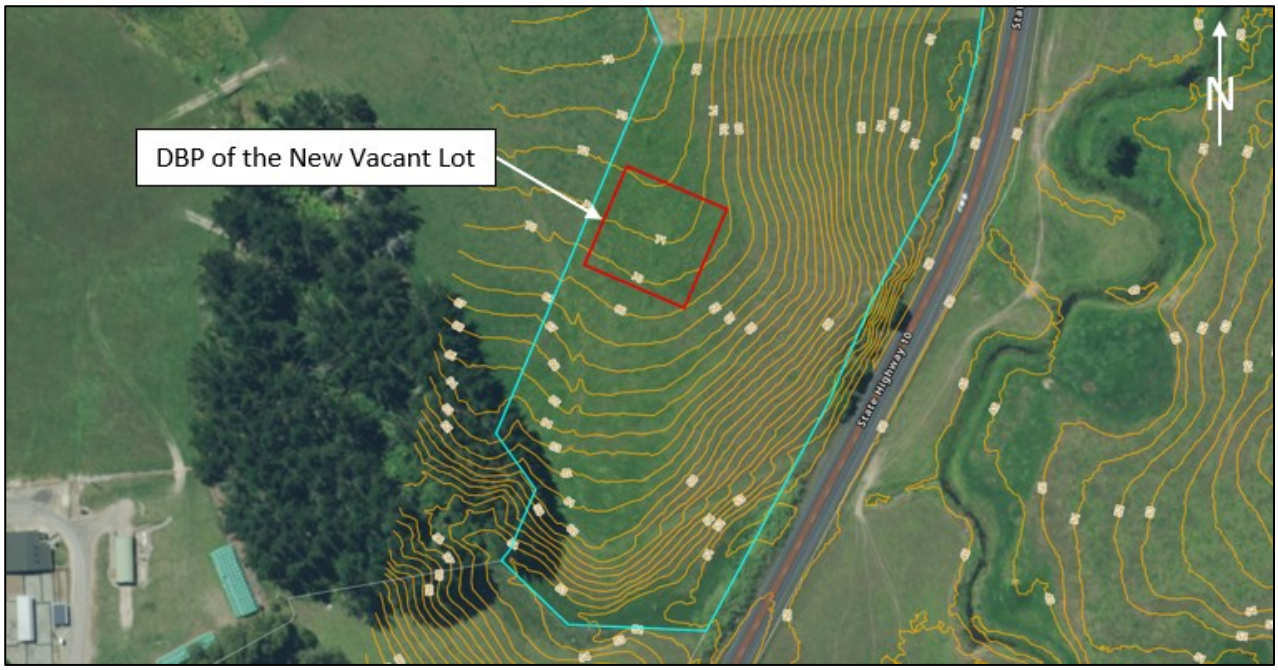


Figure 3: Aerial view depicting the new vacant Lot DBP (from Northland Regional Council's on-line GIS database).

Topographically speaking, the new vacant Lot DBP is positioned atop a south facing, broad, gently sloping spur crest. An east facing, moderate to steeply inclined side flank descends from the crest down to SH10 at gradients averaging between 13° to 30° and displays clear evidence of surficial soil creep. The southern edge of the crest is also bound by a short, similarly inclined flank that is well clear of the DBP.

Built development on-site comprises only fences and the site is covered in pasture. A minor south trending overland flow path is located adjacent to the southwestern corner of the DBP.

At the time of preparing this report, we note the FNDC on-line GIS Water Services Map indicates that reticulated water, wastewater, and stormwater service connections are not available to the property.

4 PUBLISHED GEOLOGY

Local geology across the property and surrounding influential land is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; **Waipapa Group Sandstone and Siltstone (Waipapa Composite Terrane)**, described as; "*Massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous argillite.*" (ref: GNS Science Website).

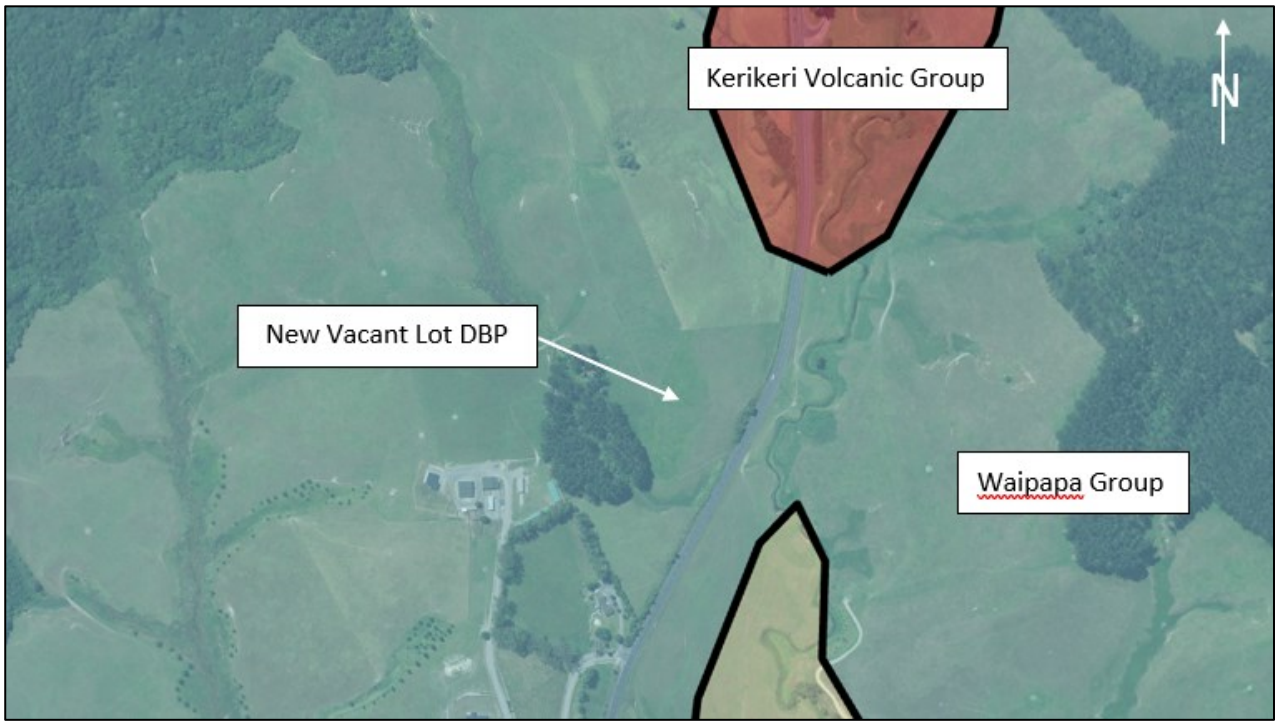


Figure 4: Screenshot from New Zealand Geology Web Map hosted by GNS Science.

In addition to the above, geotechnical testing was conducted by WJL within the subject site.

In general terms, the subsoils encountered consisted predominantly of Silty CLAY, Clayey SILT and SILT. Approximately 200mm-300mm of TOPSOIL was overlying the investigated area. Refer to the appended 'BH Logs'. Given the above, the site's soils have been classified as **Category 6** in accordance with the TP58 design manual.

5 WASTEWATER

No existing wastewater management system is present within the proposed lot. As such, a new site-specific design in accordance with the ASNZS: 1547 / TP58 design manual will be required by FNDC for any future development within the proposed lot. This should be conditioned as part of the Resource Consent process.

5.1 DESIGN PARAMETERS

The following table is intended to be a concise summary of the design parameters, which must be read in conjunction with the relevant report sections as referenced herein.

As no development proposals are available at this stage for the eventual residential development within the proposed lot, our recommendations have been based on a moderate size dwelling containing 4 bedrooms.

Given the subsoils encountered during WJL's fieldwork investigation, we recommend secondary treatment or higher for any new wastewater treatment system within the proposed lot. The disposal of treated wastewater to the eastern flank is not recommended. Any proposed wastewater disposal to this area shall be subject to detailed design and require approval from a suitably qualified geotechnical professional.

5.1.1 Summary of Preliminary Design Parameters for a PCDI Secondary Treatment System

Development Type:	Residential Dwellings
Effluent Treatment Level:	Secondary (<BOD5 20 mg/L, TSS 30 mg/L)
Fill Encountered in Disposal Areas:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (TP58):	Category 6– Silty CLAY –Moderate-Poor Drainage
Estimate House Occupancy:	6 Persons
Loading Rate:	PCDI System – 2.5mm/day
Estimated Total Daily Wastewater Production:	1,080L
Typical Wastewater Design Flow Per Person:	180L/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Application Method:	Surface Laid PCDI Lines
Loading Method:	Dosed
Minimum Tank size:	>1,080L
Emergency Storage:	24 hours
Estimated Min. Disposal Area Requirement:	432m^2
Required Min. Reserve Area:	30%

Buffer Zone:	Not anticipated to be required
Cut-off Drain:	Not anticipated to be required

5.2 REQUIRED SETBACK DISTANCES

The disposal and reserve areas must be situated outside the relevant exclusion areas and setbacks described within Table 9 of the PRPN: Exclusion areas and setback distances for on-site domestic wastewater systems:

Table 9 of the PRPN (Proposed Regional Plan for Northland)			
Feature	Primary treated domestic wastewater	Secondary treated domestic wastewater	Greywater
Exclusion areas			
Floodplain	5% AEP	5% AEP	5% AEP
Horizontal setback distances			
Identified stormwater flow paths (downslope of disposal area)	5 meters	5 meters	5 meters
River, lake, stream, pond, dam or wetland	20 meters	15 meters	15 meters
Coastal marine area	20 meters	15 meters	15 meters
Existing water supply bore	20 meters	20 meters	20 meters
Property boundary	1.5 meters	1.5 meters	1.5 meters
Vertical setback distances			
Winter groundwater table	1.2 meters	0.6 meters	0.6 meters

5.3 NORTHLAND REGIONAL PLAN ASSESSMENT

Any future wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.3 of the Proposed Regional Plan for Northland:

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and
2	The volume of wastewater discharged does not exceed two cubic metres per day, and

3	The discharge is not via a spray irrigation system or deep soakage system, and
4	The slope of the disposal area is not greater than 25 degrees, and
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012); or is via an irrigation line system that is:
	a) dose loaded, and
	b) covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
6	For the discharge of wastewater onto the surface of slopes greater than 10 degrees:
	a) the wastewater, excluding greywater, has received at least secondary treatment, and
	b) the irrigation lines are firmly attached to the disposal area, and
	c) where there is an up-slope catchment that generates stormwater runoff, a diversion system is installed and maintained to divert surface water runoff from the up-slope catchment away from the disposal area, and
	d) a minimum 10 metre buffer area down-slope of the lowest irrigation line is included as part of the disposal area, and
	e) the disposal area is located within existing established vegetation that has at least 80 percent canopy cover, or
	f) the irrigation lines are covered by a minimum of 100 millimetres of topsoil, mulch, or bark, and
7	the disposal area and reserve disposal area are situated outside the relevant exclusion areas and setbacks in Table 9: Exclusion areas and setback distances for on-site domestic wastewater systems, and
8	for septic tank treatment systems, a filter that retains solids greater than 3.5 millimetres in size is fitted on the outlet, and
9	the following reserve disposal areas are available at all times:
	a) 100 percent of the existing effluent disposal area where the wastewater has received primary treatment or is only comprised of greywater, or
	b) 30 percent of the existing effluent disposal area where the wastewater has received secondary treatment or tertiary treatment, and
10	the on-site system is maintained so that it operates effectively at all times and maintenance is undertaken in accordance with the manufacturer's specifications, and
11	the discharge does not contaminate any groundwater water supply or surface water, and
12	there is no surface runoff or ponding of wastewater, and
13	there is no offensive or objectionable odour beyond the property boundary.

We envision that there will be no issue meeting the Permitted Activity Status requirements as outlined above.

6 STORMWATER MANAGEMENT

6.1 ASSESSMENT CRITERIA

The site lies within the Far North District. The stormwater assessment has been completed in accordance with the recommendations and requirements contained within the Far North District Engineering Standards and the Far North District Council District Plan.

As below, the site resides in a Rural Production Zone.

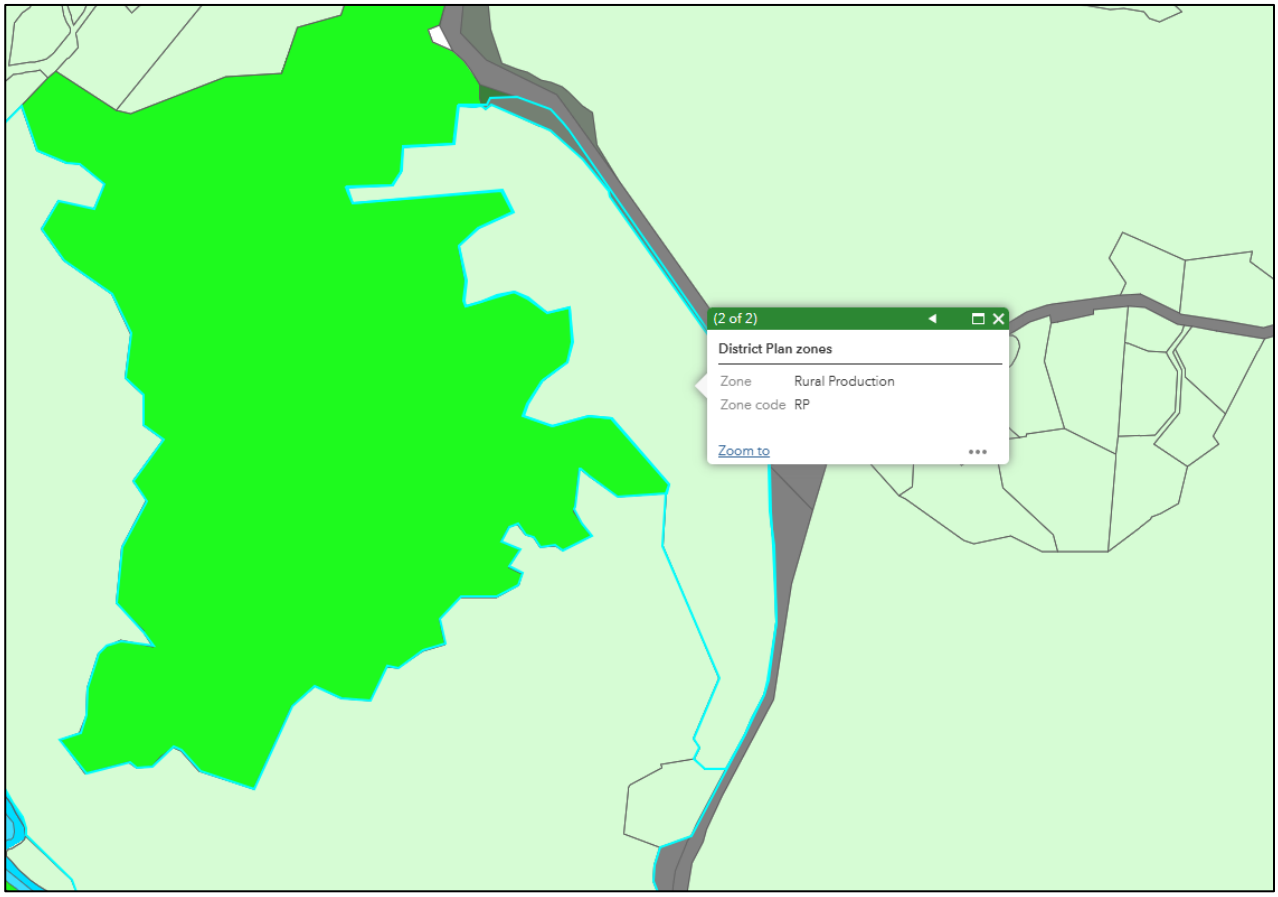


Figure 5: Snip of FNDC Maps showing site in Rural Production Zone.

The following Stormwater Management Rules Apply:

Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), the proposed lot must not exceed an impermeable area of 15%. The maximum permitted impermeable area for the proposed lot is ~7,433m².

Given the above, it is expected that any residential future development of the proposed lot would comfortably comply with Permitted Activity Rule (8.6.5.1.3). As such, it is not expected that a stormwater attenuation report will be required for any future residential development of the proposed lot.

To appropriately mitigate stormwater runoff from the existing and future proposed impermeable areas, we recommend utilising Low Impact Design Methods as a means of stormwater management. Design guidance should be taken from 'The Countryside Living Toolbox' design document, and where necessary, 'Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual' Auckland Regional Council (2003).

Stormwater management recommendations are provided below.

6.2 PRIMARY STORMWATER

6.2.1 Stormwater Runoff from Roof Areas

Stormwater runoff from the roof of the future buildings must be captured by a gutter system and conveyed to potable water tanks.

Overflow from the potable water tanks should be directed to an outlet in the existing overland flow path to the south of the DBP. Discharge to the existing overland flow path should be via an appropriately sized riprap outlet for erosion control. Alternatively, discharge to the existing overland flow path is to be via an appropriately sized dispersal device. The discharge point or dispersal device should be positioned on/in stable ground downslope of any buildings and effluent fields, with setback distances as per the relevant standards.

Discharge of runoff to the eastern flank is not recommended. Any proposed stormwater discharge to this area shall be subject to detailed design and require approval from a suitably qualified geotechnical professional.

6.2.2 Stormwater Runoff from Hardstand Areas

It is recommended to shape future proposed hardstand areas to shed runoff to large, vegetated areas and / or to stormwater catchpits for runoff conveyance to the lot's stormwater dispersal device / discharge outlet.

Long driveways or Right of Ways should be shaped to shed runoff to lower-lying grassed areas, well clear of any structures and effluent disposal trenches / fields. This stormwater runoff should sheet flow and must not be concentrated to avoid scour and erosion. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.

Where even sheet flow is not practicable, concentrated flows must be managed with swales directed to a safe outlet location without causing erosion. These should be sized to manage and provide capacity for secondary flows and mitigate flow velocity where appropriate.

Due to water quality concerns, runoff resulting from hardstand areas should not be allowed to drain to the potable water tanks.

Discharge of runoff to the eastern flank is not recommended. Any proposed stormwater discharge to this area shall be subject to detailed design and require approval from a suitably qualified geotechnical professional.

6.3 SECONDARY STORMWATER

Where required, overland flows and similar runoff from higher ground should be intercepted by means of shallow surface drains or small bunds near structures to protect these from both saturation and erosion.

6.4 DISTRICT PLAN ASSESSMENT

This section has been prepared to demonstrate the likely effects of the activity on stormwater runoff and the means of mitigating runoff.

In assessing an application under this provision, the Council will exercise discretion to review the following matters below, (a) through (r). In respect of matters (a) through (r), we provide the following comments:

13.10.4 – Stormwater Disposal

(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	No discharge permits are required. No resource consent issued documents stipulating specific requirements are known for the subject site or are anticipated to exist.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	The application is deemed compliant with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The application is deemed compliant with the Far North District Council Strategic Plan - Drainage
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Stormwater management should be provided for the subject lot by utilising Low Impact Design Methods. Guidance for design should be taken from 'The Countryside Living Toolbox' design document, and where necessary, *"Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003).* All roof runoff will be collected by rainwater tanks for conveyance to a safe outlet point. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.
(e) The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.	As above. Runoff from new roof areas will be collected, directed to rainwater tanks and discharged in a controlled manner to a discharge outlet, reducing scour and erosion. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.
(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	Runoff from roof areas is free of litter, chemical spillages, or contaminants from roads. Future proposed hardstand areas are best shaped to shed to large pasture areas via sheet flow to ensure that runoff does not concentrate. Large downslope pasture areas act as bio-filter strips to filter out entrained pollutants.
(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	No alteration to waterways is proposed.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	No applicable.

(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	Not applicable.
(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Not applicable.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	Outlet locations are to be determined during detailed design and are to be located such that there are no adverse effects on adjacent properties.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	Not applicable.
(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	Not applicable.
(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Not applicable.
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Not applicable.
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	Not applicable.
(q) The need for and extent of any financial contributions to achieve the above matters.	Not applicable.
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Not applicable.

7 POTABLE WATER SUPPLY

For future development at the proposed lots, potable rainwater tanks should be provided in accordance with the Countryside Living Toolbox requirements. It is recommended to provide at least 2 x 25,000L tanks for potable water usage. The type of tank and volume is for the client to confirm.

8 LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our client, **Straka Property Trust**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions, and limitations, when issuing the subject consent.

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with Wilton Joubert Limited, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other civil aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Site Plan – C001 (1 sheet)
- Hand Auger Borehole Records (4 sheets)

THE DISPOSAL OF WW & SW TO THE EASTERN FLANK IS NOT RECOMMENDED. ANY PROPOSED SW AND/OR WW DISPOSAL TO THIS AREA SHALL BE SUBJECT TO DETAILED DESIGN & REQUIRE APPROVAL FROM A SUITABLY QUALIFIED GEOTECHNICAL PROFESSIONAL.

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.

WILTON JOUBERT
Consulting Engineers
Northland: 09 945 4188
Auckland: 09 527 0196
Christchurch: 021 824 063
Wanaka: 03 443 6209
www.wiltonjoubert.co.nz

ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
01	SEP '25	GMB	CIVIL SITE SUITABILITY REPORT

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: OTHER

SERVICES NOTE

WHERE EXISTING SERVICES ARE SHOWN, THEY ARE INDICATIVE ONLY AND MAY NOT INCLUDE ALL SITE SERVICES. WILTON JOUBERT LTD DOES NOT WARRANT THAT ALL, OR INDEED ANY SERVICES ARE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING SERVICES PRIOR TO AND FOR THE DURATION OF THE CONTRACT WORKS.

BUILDING CONSENT

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **CIVIL SITE SUITABILITY REPORT**

PROJECT TITLE:
LOT 1 DP 545067
1057 STATE HIGHWAY 10
KERIKERI
NORTHLAND

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:500	NOT COORDINATED

DRAWING NUMBER: **142529-C001**
ISSUE: **01**

HAND AUGER : HA01

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: 1994 **ELEVATION:** Ground
FACTOR: 1.41 **DATUM:**

SOIL DESCRIPTION: TOPSOIL, CLAY, SAND, PEAT, FILL, SILT, GRAVEL, ROCK

STRATIGRAPHY	SOIL DESCRIPTION	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	0.2						
Waipapa Group	NATURAL: Clayey SILT, orangey brown, very stiff, moist, low plasticity.	0.4		102	28	3.6		
	Silty CLAY, yellowish brown, very stiff, moist, moderate plasticity.	0.6						
	0.8m: Becoming yellow with white mottles, occasional pockets of white weakly cemented clast and rootlet inclusions.	0.8		197+	-	-		
	Clayey SILT, white with yellow streaks, very stiff, moist, no to low plasticity, frequent weakly cemented clast inclusions.	1.0						
		1.2		175	39	4.5		
		1.4						
		1.6		197+	-	-		
		1.8						
		2.0		197+	-	-		
	2.3m: 200mm lense of Silty CLAY, grey, very stiff, moist, moderate plasticity.	2.2						
		2.4						
		2.6	▼ 11/09/2025	158	51	3.1		
		2.8						
		3.0		155	48	3.2		
	3.2m: Becoming wet.	3.2	▽					
	Silty CLAY, white and grey, very stiff, wet, moderate plasticity, occasional weakly cemented clast inclusions.	3.4		166	37	4.5		
		3.6						
		3.8		110	39	2.8		
		4.0						
	Clayey SILT, white and grey, very stiff, moist to wet, low plasticity.	4.2		197+	-	-		
		4.4						
		4.6		197+	-	-		
		4.8						
		5.0						
	EOH: 5.00m - Target Depth	5.2		197+	-	-	6	
		5.4					6	
		5.6					6	
		5.8					8	
		6.0					8	
		6.2					9	
		6.4					10	
							11	
							15	
							18	
							20+	

REMARKS
End of borehole @ 5.00m (Target Depth: 5.00m)
Groundwater encountered @ 3.20m during drilling. Standing groundwater @ 2.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA02

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **DATUM:**

SOIL DESCRIPTION: TOPSOIL, CLAY, SAND, PEAT, FILL, SILT, GRAVEL, ROCK

STRATIGRAPHY	SOIL DESCRIPTION	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	0.0						
Waipapa Group	NATURAL: Silty CLAY, yellowish brown, very stiff, moist, moderate plasticity.	0.4		220+	-	-		
	0.7m: Becoming grey with occasional yellowish brown streaks.	0.8		220+	-	-		
	0.9m: Becoming light grey with yellowish brown streaks.	1.0						
	1.0m: Becoming low to moderate plasticity, frequent white weakly cemented clast inclusions.	1.2		220+	-	-		
	1.2m: Becoming whitish grey with occasional yellowish brown streaks, moderate plasticity.	1.4						
	1.6m: Becoming light grey with occasional yellowish brown streaks.	1.6		220+	-	-		
		1.8						
		2.0		132	60	2.2		
	2.1m: Occasional weakly cemented clast inclusions.	2.2						
	2.4m: Becoming moderate to high plasticity.	2.4		126	70	1.8		
		2.6						
	2.8m: Becoming stiff, occasional light yellow weakly cemented clast inclusions and streaks.	2.8		85	38	2.2		
	3.0m: Frequent white weakly cemented clast mottles.	3.0						
	3.2m: 150mm lense of Gravelly (Clast) SILT, minor clay, grey, very stiff, moist to wet, no plasticity.	3.2	▽	220+	-	-		
	3.4m: Becoming grey, bluish grey and white, high plasticity, occasional reddish brown streaks and strongly cemented clast inclusions.	3.4						
	3.6m: Becoming firm.	3.6	▼ 11/09/2025	47	31	1.5		
		3.8						
		4.0					3	
	EOH: 4.00m - Poor Recovery Due To Borehole Collapse	4.2					4	
		4.4					5	
		4.6					6	
		4.8					9	
		5.0					11	
		5.2					11	
		5.4					13	
		5.6					16	
		5.8					18	
		6.0					18	
		6.2					20+	
		6.4						

REMARKS
End of borehole @ 4.00m (Target Depth: 5.00m)
Groundwater encountered @ 3.20m during drilling. Standing groundwater @ 3.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 142528 **SHEET:** 1 OF 1

START DATE: 11/09/2025 **NORTHING:** **GRID:**

CLIENT: Straka Property Trust **DIAMETER:** 50mm **EASTING:**

PROJECT: 2-Lot Subdivision (1 Lot for Assessment) **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 1057 SH10, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, dry.	TS	0.2	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, trace clay, brown, very stiff, dry, no plasticity (friable).		0.4		UTP	-	-		
	0.5m: Frequent grey and orange strongly fused clast and gravel inclusions.		0.6						
	SILT, minor clay, brown, very stiff, dry to moist, no to low plasticity, frequent orange, grey and black gravel inclusions.		0.8		UTP	-	-		
			1.0						
			1.2						
	EOH: 1.20m - Refusal (Basalt Boulder Inferred)		1.4		UTP	-	-	20+	
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						
			4.6						
			4.8						
			5.0						
			5.2						
			5.4						
			5.6						
			5.8						
			6.0						
			6.2						
			6.4						

SOIL DESCRIPTION

TOPSOIL CLAY SAND PEAT

FILL SILT GRAVEL ROCK

REMARKS

End of borehole @ 1.20m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT Consulting Engineers

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HAND AUGER : HA04

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.0	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, trace clay, brown, very stiff, moist, no plasticity (friable), occasional orange weakly fused clast inclusions.		0.4		220+	-	-		
	0.6m: Minor clay, low plasticity, occasional orange weakly fused clast inclusions.		0.6						
			0.8		UTP	-	-		
	1.0m: Becoming light brown, frequent orange weakly and strongly fused clast inclusions.		1.0						
Waipapa Group	Gravelly (Clast) SILT, trace to minor clay, grey with light yellow and bluish grey mottles, very stiff, moist, no plasticity.		1.2		UTP	-	-		
			1.4						
	Clayey SILT, bluish grey with white mottles, stiff, moist, moderate plasticity.		1.6		63	31	2.0		
	Silty CLAY, white, firm, moist, moderate to high plasticity.		1.8						
	2.0m: Occasional pockets of brown weakly and strongly cemented clast inclusions.		2.0		35	16	2.2		
	Clayey SILT, some clasts, light bluish grey, firm, moist, moderate plasticity.		2.2						
			2.4		47	16	2.9		
			2.6						
	Gravelly (Clast) SILT, trace clay, white, very stiff to hard, moist to wet, no plasticity (friable).		2.8		UTP	-	-	4	
	EOH: 2.80m - Too Hard To Auger		3.0					4	
			3.2					6	
			3.4					6	
			3.6					9	
			3.8					9	
			4.0					8	
			4.2					8	
			4.4					10	
			4.6					15	
			4.8					15	
			5.0					15	
			5.2					15	
			5.4					15	
			5.6					15	
			5.8					15	
			6.0					15	
			6.2					20	
			6.4					20+	

REMARKS
End of borehole @ 2.80m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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Appendix 8

Site Assessment (Geotechnical)

Wilton Joubert Limited
185 Waipapa Road
Kerikeri 0230
Tel: (09) 527 0197

SITE	**Future (Vacant) Lot of Lot 1 of Subdivision of 1057 State Highway 10, Kerikeri**
LEGAL DESCRIPTION	**Not Currently Obtained (Application No. 2220081-RMASUB)**
PROJECT	**Proposed 2-Lot Subdivision (1 Lot for Assessment)**
CLIENT	**Straka Property Trust**
REFERENCE NO.	**142528**
DOCUMENT	**Site Assessment Report**
STATUS/REVISION NO.	**FINAL – Issued for Resource Consent**
DATE OF ISSUE	**19 September 2025**

Report Prepared For	Email
Straka Property Trust	strakaconstruction@xtra.co.nz

Authored by	**S. Page**	Engineering Technician	shaun@wjl.co.nz	
Reviewed by	**A. Brooke** *NZDE (Civil)*	Engineering Technician	aidan@wjl.co.nz	
Approved by	**C. Hegedus** *BETech (Geotech) CPEng, CMEngNZ*	Senior Geotechnical Engineer	csaba@wjl.co.nz	

1. EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

Development Type:	Subdivision (1 Lot for Assessment).
Development Proposals Supplied:	No. Singular mark-up aerial image only.
NZS3604 Type Structure/s:	Assumed to be.
Maximum Fill Depth Proposed:	Unknown. Fills should be limited to a height of 0.6m and batter grade of 1V:3H (18°) without specific review.
Maximum Cut Depth Proposed:	Unknown. Cuts should be limited to a height of 1.0m and batter grade of 1V:3H (18°) without specific review.
Geology Encountered:	Predominantly Waipapa Group. A 1.1m to 1.2m thick surficial cap of Kerikeri Volcanic Group soil covers the eastern flank.
Topsoil Encountered:	A surficial layer of topsoil was encountered to a maximum depth of 0.3m below present ground level (bpgl).
Overall Site Gradient in Proximity to Development:	The future (Vacant) Lot is situated to the southern portion of Lot 1. The ground through the Vacant Lot is gently to very steeply sloping (in geotechnical terms) down from the north, northeast to the east and south, towards State Highway 10. A Designated Building Platform (DBP) was established for a future residential development to the northeastern boundary of the Vacant Lot. The topography at the DBP is broad and gently sloping. An east facing, moderate to very steeply inclined side flank descends from the crest down to SH10 at gradients averaging between 13° to 30°.
Site Stability Risk:	Our computer-based stability analysis indicates a Low Risk of Global Land Instability at the DBP provided that our recommendations within this report are adhered to.
Liquefaction Risk:	Negligible risk of liquefaction susceptibility.
Suitable Shallow Foundation Type(s):	Shallow foundations are considered to be suitable to support the proposed development provided they are within the DBP, a minimum of 15m away from ground steeper than 1V:4H (14°) and designed to accommodate vertical movement of soil associated with Soil Reactivity Class H – Highly Reactive.
Shallow Soil Bearing Capacity:	Yes – Natural Soils & Engineered Fill Only. Geotechnical Ultimate Bearing Capacity = 300 kPa.

NZBC B1 Expansive Soils Classification:	Class H – Highly Expansive (y_s = 78mm)
Minimum Strip & Bored Footing Depth:	0.90m below finished ground level. Bearing within Competent Natural Ground Only (OR Competent Engineered Fill).
NZS1170.5:2004 Site Subsoil Classification:	Class C – Shallow Soil stratigraphy.
Consent Application Report Suitable for:	Resource Consent. Once future site-specific development proposals have been finalised, they should be referred to WJL for review prior to submission for a Building Consent application. Depending on the extent of the future development proposals, the review could range from a desktop assessment to further geotechnical investigation and reporting.

2. INTRODUCTION

2.1. SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by **Straka Property Trust** (the Client) to undertake a geotechnical assessment of ground conditions at the above site, where we understand, it is proposed to subdivide proposed Lot 1 of the subdivision of 1057 State Highway 10 (SH10) into two further individual allotments.

Although proposed Lot 1 does not currently have legal title, the proposed subdivision of the parent Lot is denoted as being an approved decision (Application No. 2220081-RMASUB) on the Far North District Council (FNDC) on-line GIS Regulatory Map.

The primary purpose of this report is to provide geotechnical assessments along with preliminary design recommendations pertaining to future residential development within a new vacant Lot that will encompass the southern area of proposed Lot 1.

It is our understanding that this report will be submitted to support a new Resource Consent application for the proposed subdivision.

2.2. SUPPLIED INFORMATION / SCOPE

Our assessment is based on a singular mark-up aerial image that depicts the proposed subdivision.

Once the Subdivision Scheme Plan has been finalised, it should be referred back to us for review.

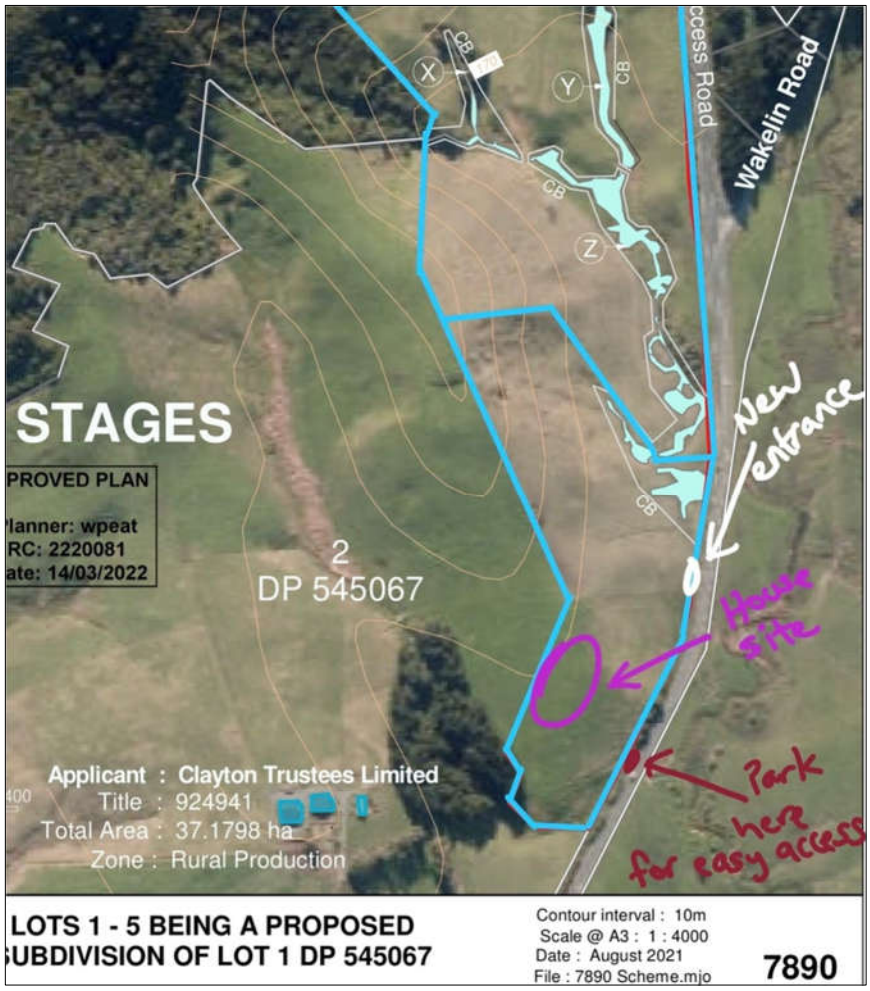


Figure 1: Screenshot of the mark-up aerial image depicting the subdivision (from the Client).

We have been engaged to provide an assessment and preliminary recommendations pertaining to future residential development within a new vacant Lot that will cover the southernmost 5ha (approximate) land of proposed Lot 1. A 30m x 30m (900m²) Designated Building Platform (DBP) was identified on-site with the Client for the assessment and is depicted on our appended Site Plan (Drawing No. 142528-G600).

At this preliminary stage, we have assumed any future dwelling will be designed and constructed to apply loads generally in keeping with the requirements of NZS3604:2011.

As a result, the principal objectives were to investigate and assess the suitability of foundation options for the site subsoils, not only primarily in terms of bearing capacity, but also for slope instability and differential foundation movement.

3. SITE DESCRIPTION

The new vacant Lot will be created from the following proposed Lot (the site), which is to be located off the western side of SH10, in the southern outskirts of the Kerikeri District:

- Proposed Lot 1 of Subdivision of 1057 SH10, Kerikeri.

Proposed Lot 1 is shown in Figure 2 below and the new vacant Lot is shown in Figures 2 and 3.

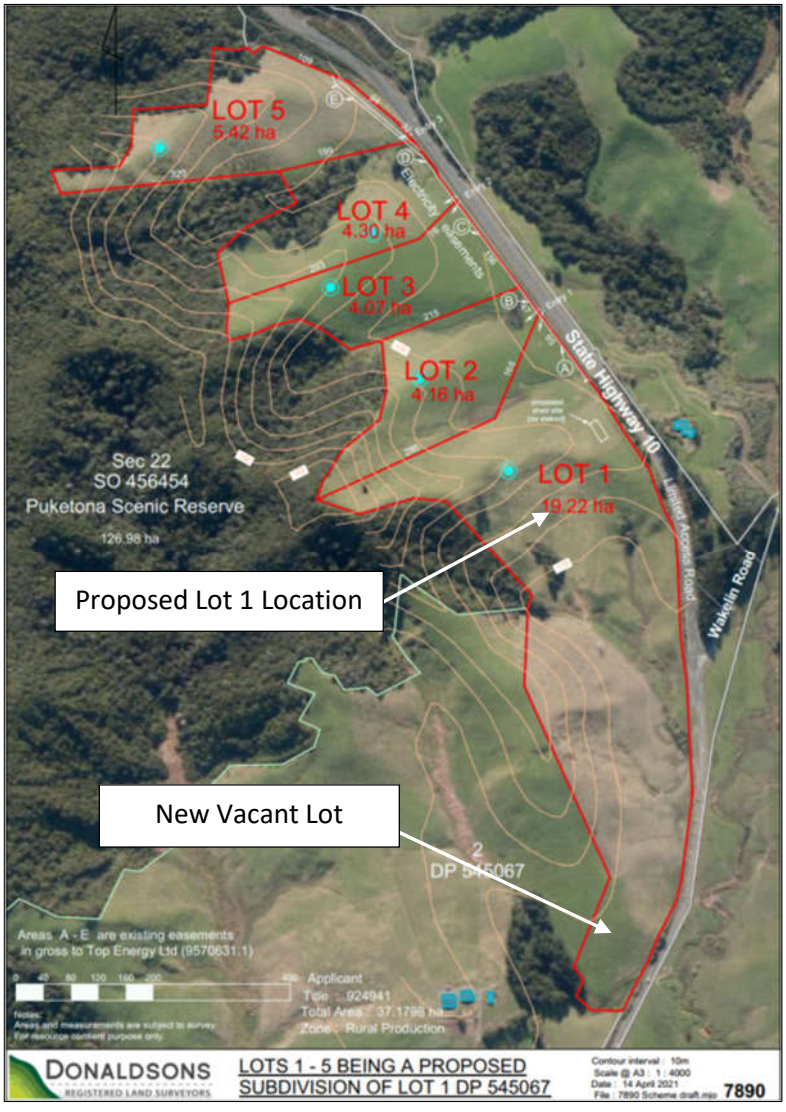


Figure 2: Subdivision Scheme Plan - Application No. 2220081-RMASUB (from Donaldsons Surveyors Limited).

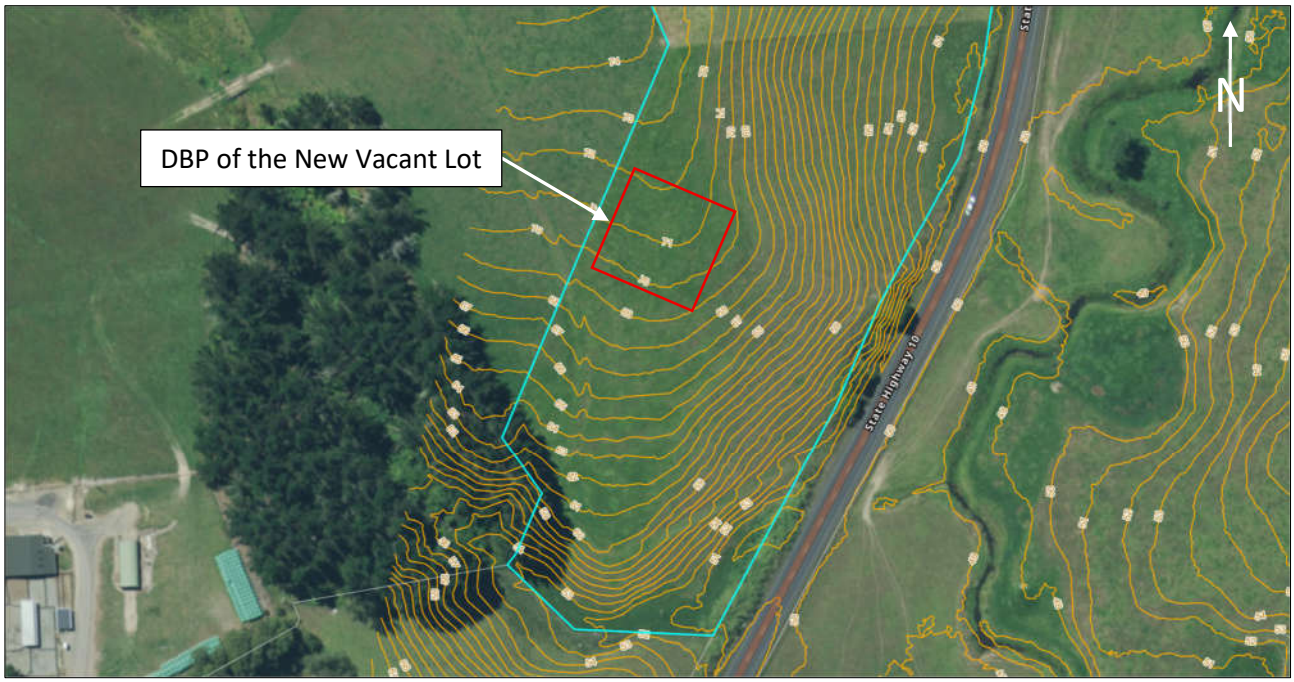


Figure 3: Aerial view depicting the new vacant Lot DBP (from Northland Regional Council's on-line GIS database).

Topographically speaking, the new vacant Lot DBP is positioned atop a south facing, broad, gently sloping spur crest. An east facing, moderate to steeply inclined side flank descends from the crest down to SH10 at gradients averaging between 13° to 30° and displays clear evidence of surficial soil creep. The southern edge of the crest is also bound by a short, similarly inclined flank that is well clear of the DBP.

Built development on-site comprises only fences and the site is covered in pasture. A minor south trending overland flow path is located adjacent to the southwestern corner of the DBP.

The FNDC on-line GIS indicates that public underground service lines are not available to the vacant Lot.

4. DESKTOP STUDY

4.1. PUBLISHED GEOLOGY

Reference to the New Zealand Geology Web Map hosted by GNS Science indicates that the subject site is underlain by Waipapa Group Sandstone and Siltstone (Waipapa Composite Terrane) deposits.

These deposits are approximately 154 to 270 million years in age and described as; "*Massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous argillite*."

During our site investigation, extremely strong, massive basalt rock and cobbles were evident across the eastern flank surface. These deposits are likely ash-fall derived from the Kerikeri Volcanic Group formation to the northeast and were likely deposited some 1.8 to 9.7 million years ago.

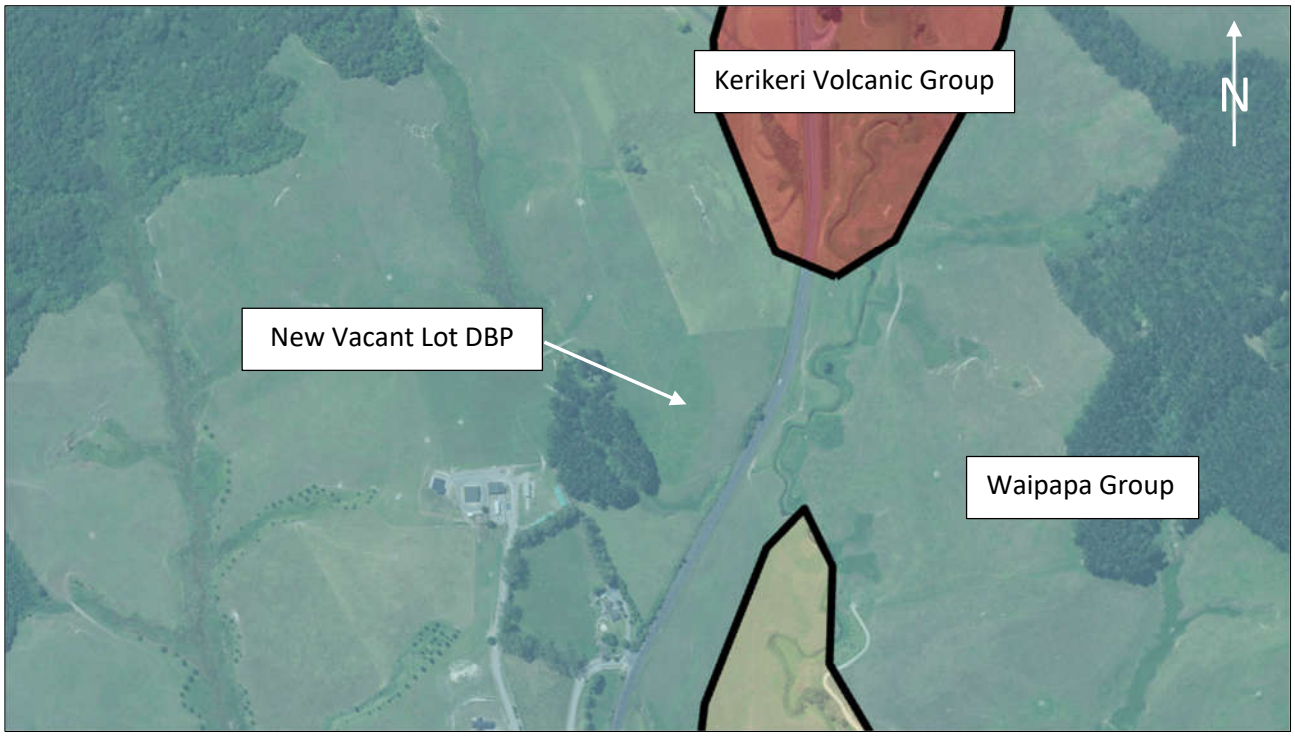


Figure 4: Screenshot from New Zealand Geology Web Map hosted by GNS Science.

5. HISTORICAL GEOTECHNICAL REPORTS

We have reviewed a Geotechnical Assessment Report (GAR), by Haigh Workman Limited, for the subdivision of the parent Lot that proposed Lot 1 is to be created from (Application No. 2220081-RMASUB), titled: *'Geotechnical Assessment Report, 939 State Highway 10, Kerikeri, Subdivision of Lot 1 Deposited Plan 545067, for Kate and Clayton Straka',* dated July 2021 (Ref: 21 144).

We note that the proposed Lot 1 building platform for assessment covered a ridgeline at the opposite northern end of the site and therefore, recommendations given within the GAR are deemed not influential for our assessments.

6. GEOTECHNICAL INVESTIGATION

6.1. FIELDWORK

Our fieldwork, as shown on our appended Site Plan, was undertaken on 11th September 2025 and involved:

- Drilling 4 (no.) 50mm diameter hand auger boreholes (HA01 to HA04 inclusive) to depths of up to 5.0m below present ground level (bpgl), and
- Dynamic Cone – Scala Penetrometer Tests (DCP-Scala) were extended through the invert of each HA to a maximum depth of 6.1m bpgl.

In addition to our above fieldwork, we have drawn appended Cross-section A-A' (Drawing No. 142528-G610), utilising 1.0m LiDAR contours sourced from the Northland Regional Council (NRC) database, to represent the topography of the DBP and bounding influential eastern flank that descends at moderate to steep inclinations.

7. GEOTECHNICAL FINDINGS

The soil sample arisings from the boreholes were logged in accordance with the *"Field Description of Soil and Rock",* New Zealand Geotechnical Society (NZGS), December 2005.

The following is a summary of the ground conditions encountered in our investigation. Please refer to the appended logs for greater detail.

7.1. TOPSOIL

Topsoil was encountered in four HAs to depths of between 0.2m and 0.3m bpgl.

7.2. NATURAL GROUND

The underlying natural deposits encountered were generally consistent with our expectations of Waipapa Group deposits, comprising firm to very stiff, Silty CLAY, Clayey Silt and Gravelly (Clast) SILT. Downslope HAs 03-04 were initially overlain with an approximate 1.1m to 1.2m thick, very stiff volcanic SILT cap, with minor to trace of clay.

Measured in-situ, BS1377 adjusted peak Vane Shear Strengths ranged between 35kPa and greater than 197kPa and/or 2202kPa, the latter being where soil strength was excess of the shear vane capacity, or the vane could not penetrate the soil (UTP).

DCP-Scala's below the invert of each HA returned blow counts that ranged between 3 and greater than 20 blows per 100mm penetration, indicating medium dense to very dense stratum at depth.

The ratio of peak to remoulded vane shear strength values measured within the HAs ranged between 1.5 and 4.5, indicating the underlying subgrade is 'moderately sensitive'.

Sensitive soil sites require to protect the subgrade from rain, wind, etc, and to avoid (or minimise) construction traffic and vibrating plants.

7.3. GROUNDWATER

Groundwater was encountered in HA01 and HA02 at a depth of 3.2m bpgl on the day of our investigation. Groundwater ultimately stabilised at a standing level of 2.6m bpgl in HA01 and 3.6m bpgl in HA02.

7.4. SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling.

Table 1: Stratigraphic Summary Table

Investigation Hole ID	Termination Depth (m)	Depth to Base of Topsoil (m)	Vane Shear Strength Range within Natural Ground (kPa)	DCP - Scala Penetrometer Refusal Depth (m)	Standing Groundwater Depth (1) (m)
HA01	5.0	0.30	102 – 197+	6.1	2.6
HA02	4.0 (2)	0.25	47 – 220+	5.2	3.6
HA03	1.2 (3)	0.25	UTP	1.3	NE
HA04	2.8 (4)	0.20	35 – 220+ / UTP	4.9	NE

Table Note: (1) Measured on the day of drilling. (2) Poor recovery due to HA collapse. (3) Boulder obstruction. (4) Too hard to auger.
NE Not encountered

7.5. EXPANSIVE SOILS

Naturally occurring, seasonal moisture variations are a strong characteristic of most Upper North Island soils, which typically results in plastic soil masses swelling during winter months and then shrinking during summer months. Such volumetric changes in foundation soils (broadly termed 'Expansive Soils) vary according to clay mineralogy and geology and are a significant risk to buildings.

In this instance, without any laboratory testing, considering (based on visual-tactile method per AS2870) the high clay content of the upper soil horizon across the DBP, we have adopted a conservative primary classification estimate of the soils underlying the site:

- NZBC B1 Expansive Soil Class H
- Upper Limit of Characteristic surface movement (y_s) 78mm

Expansive soils will require mitigation by either deepened perimeter and bored footings or a specifically designed stiffened raft slab. Foundation design recommendations are given in the appropriate Conclusion and Recommendation sections below.

8. GEOTECHNICAL ASSESSMENTS

As appropriate to the site conditions, we have carried out the following geotechnical analyses:

- Qualitative and quantitative slope stability, and
- Liquefaction susceptibility assessments.

8.1. QUALITATIVE SLOPE STABILITY

The DBP is positioned atop a south facing, broad, gently sloping spur crest. An east facing, moderate to steeply inclined side flank descends from the crest down to SH10 at gradients averaging between 13° to 30°.

Our assessment also considered the followings:

- Firm to very stiff soils of the Waipapa and Kerikeri Volcanic Groups encountered during our investigation,
- DCP-Scala's below the invert of each HA indicates medium dense to very dense stratum at depth,
- Groundwater was encountered in HA01 and HA02 at a depth of 3.2m bpgl on the day of our investigation. Groundwater ultimately stabilised at a standing level of 2.6m bpgl in HA01 and 3.6m bpgl in HA02,
- The site is situated on an elevated (spur crest) location, with good water-shedding characteristics,
- There are no known active faults traversing through or close to the site,
- Surficial soil creep was evident across the moderate to steeply inclined eastern flank, and
- The DBP will be on gently sloping ground away from the more inclined eastern flank.

8.2. SHALLOW SOIL MOVEMENT (SOIL CREEP)

Soil Creep is the slow downslope movement of upper soil horizons, usually confined to the uppermost 1.0m to 2.0m of soil likely to be operating on slopes steeper than 1V:4H (14°). This soil movement generally in the order of millimetres per year and the rate and depth are a product of the combination of the following conditions:

- Slope length,
- Slope angle,
- Stormwater run-off,
- Groundwater fluctuations,
- Soil expansivity,
- Vegetation,
- Surcharge loads, and
- Cut/fill earthworks (if not retained).

Generally speaking, soil creep becomes mobilised on slopes steeper than 1V:4H (14°) largely as a cyclical phenomenon arising out of seasonal variations in moisture content of surficial soils, generally resulting in soil shrinkage during the dry summer months and swelling during wet winter months. It is generally considered that in the dry seasons, the soils shrink, and tension cracks are formed, sometimes with some minor down-slope movement. When it rains, those cracks fill with water, which not only softens the adjacent soils, but also exerts hydrostatic lateral pressures on the sides of the cracks. As the desiccated soils absorb this free water, they swell and exert further lateral pressures on the adjacent block of soil. This cyclic action leads to the formation of “minor slump terracettes”.

8.3. QUANTITATIVE SLOPE STABILITY

Cross-section A-A’ was drawn using sourced 1.0m LiDAR contours from the NRC database to represent the topography of the DBP and bounding influential eastern flank, as shown on our appended Site Plan and Cross-section (Drawing No.’s 142528-G600 and 142528-G610).

Slope stability analyses were undertaken using computer program Slide 2, by Rocscience Limited. Theoretical non-circular (composite) surfaces were assessed using the Spencer and GLE / Morgenstern-Price methods.

An assumed Uniformly Distributed Load (UDL) of 10kPa was applied to represent the surcharge load of a future dwelling.

The stability analyses have been undertaken for existing conditions (moderate groundwater), worst-case ground conditions (elevated groundwater) and extreme scenarios (seismic loading).

A Peak Ground Acceleration (PGA) value of 0.19g (ULS) was used for the 500-year seismic event, with an effective earthquake magnitude of 6.5, as recommended by the NZGS Society (Earthquake Geotechnical Engineering Practice Module 1, dated: November 2021).

Effective shear stress (shear strength) parameters were used for our assessment, based on experience of the geology and back analysis of an assumed failure under normal and extreme groundwater conditions. Undrained soil strength parameters (no friction angle) were used to model the extreme conditions of a seismic event.

The soil strength parameters used in the stability assessment are shown in the following table:

Table 3: Effective Shear Stress (Shear Strength) Parameters

Soil Parameters	Kerikeri Volcanic Group Deposits	Resiudal Waipapa Group Soils	Less Weathered Waipapa Group Soils	Inferred Weathered Waipapa Group Rock
Unit Weight, γ (kN/m3)	18	18	18	20
Effective Cohesion c' (kPa)	5	4	8	15
Friction Angle, ϕ' (°)	30	28	32	35
Undrained (no ϕ') Su	60	50	120	300

We have adopted the following scenarios:

1. **Moderate Groundwater Level**. Long-term stability when modelling the existing ground conditions and assumed a groundwater level at a depth of approximately 2.5m below the DBP.

   Factor of Safety (FoS) required >1.5

2. **Elevated Groundwater Level**. Transient (medium-term) stability when modelling the worst-case scenario and assumed a raised groundwater level at ground surface across the DBP.

   FoS required >1.3

   Also, construction of the future dwelling and sealed surfaces is expected to intercept and redirect stormwater in a controlled fashion, such that ponding of rainwater and infiltration into the ground that would otherwise create extremely elevated groundwater conditions is highly unlikely. As a result, it is anticipated that groundwater level is likely to remain deeper than modelled, hence the elevated groundwater scenario represents a 'sensitivity' check.

   Our assessment considered that elevated groundwater (if present) would be the results of rapid infiltration of rainfall (wetting occurs from top down) rather than gradual rise in groundwater levels from depth. Therefore, Ru of 0.25 was used for the weathered and less weathered soils and the water surface was ignored for the inferred weathered Waipapa Group rock.

3. **Seismic Loading**. Short-term stability when modelling extreme ground conditions under a 500-year seismic event and assumed a moderate groundwater level at a depth of approximately 2.5m below the DBP.

   FoS required >1.1

A summary of the calculated minimum FoS against failure across the proposed development area for each of the above scenarios is shown in the the following table:

Table 4: Stability Analysis Results – Post-Development (Proposed)

Section	Design Conditions	FoS within the DBP		Pass / Fail
		Required	Calculated	
A-A'	Moderate Groundwater, plus Surcharge Load	≥1.5	>1.5	Pass
	Elevated Groundwater, plus Surcharge Load	≥1.3	>1.3	Pass
	Moderate Groundwater, plus Surcharge Load, plus Seismic Load	≥1.1	>1.1	Pass

8.4. SLOPE STABILITY CONCLUSIONS

The analyses indicate that a satisfactory FoS is available for the global stability of the site under all conditions, provided that:

- All foundations are setback a minimum of 15m from slope inclinations exceeding 1V:4H (14°). Any proposed foundations within this offset will require specific review during the Building Consent phase and will likely require the use of deepened soil creep piles or a separate in-ground palisade wall,
- All cut material should not be stockpiled and/or placed over ground steeper than 1V:4H (14°),
- Likewise, placement of fill over ground steeper than 1V:4H (14°) should be avoided to maintain the stability of the site. At this preliminary stage, placement of fill within the DBP and ground less than 1V:4H (14°) should be kept to a minimum below 0.60m in height without specific review, and
- All stormwater run-off from new development must be appropriately controlled and managed on-site. At no stage should run-off be directly discharged to the eastern flank.

8.5. LIQUEFACTION SUSCEPTIBILITY

Liquefaction is the loss of effective strength of a cohesionless soil (typically sand) due to pore-water pressures generated during a seismic event (earthquake). The partial or complete loss of effective strength of loose, saturated soils can result in vertical settlement and/or horizontal movement (lateral spreading) of the ground.

A commonly accepted definition is: "Areas susceptible to liquefaction generally correspond with geologically young deposits (less than 10,000 years) located in relatively flat areas close to active or abandoned waterways, in coastal or estuarine areas, and/or areas of uncompacted or poorly compacted fill". None of these characteristics apply to this site.

We have carried out liquefaction susceptibility assessments in order to identify the risk of ground damage during a seismic event, based on the following items:

- The FNDC on-line GIS Hazard Map categorises the site as an Unlikely Liquefaction Vulnerability area,
- Firm to very stiff to hard soils of the Waipapa and Kerikeri Volcanic Group encountered during our investigation,
- DCP-Scala's below the invert of each HA indicates medium dense to very dense stratum at depth,

- Groundwater was encountered in HA01 and HA02 at a depth of 3.2m bpgl on the day of our investigation. Groundwater ultimately stabilising at a standing level of 2.6m bpgl in HA01 and 3.6m bpgl in HA02,
- The site is situated on an elevated (spur crest) location, with good water-shedding characteristics,
- There are no known active faults traversing through or close to the site, and
- Weathered soils and inferred rock of the Waipapa Group underlie the site (geological age +154My).

8.6. LIQUEFACTION ASSESSMENT CONCLUSION

Based on our assessment, we conclude that the soils at the site have a negligible risk of liquefaction susceptibility and liquefaction induced ground damage is consequently unlikely.

8.7. ANALYSIS CONCLUSIONS

Based on our fieldwork investigation, subsoil testing results, walkover inspection and geotechnical assessments above, we consider on reasonable grounds that this report can be submitted to the Territorial Authority in support of a Resource Consent application for subdividing the subject site, substantiating that in terms of section 106 of the Resource Management Act and its current amendments, either

a) No land in respect of which the consent is sought, nor any structure on that land, is, nor is likely to be subject to material damage by erosion, falling debris, subsidence, or slippage from any source, or

b) No subsequent use that is likely to be made of the land is likely to accelerate, worsen, or result in material damage to that land, other land, or structure, by erosion, falling debris, subsidence, or slippage from any source.

Therefore, we are satisfied that the DBP should be generally suitable for future residential construction in terms of NZS3604:2011, subject to:

- **Future site-specific development designs being in accordance with our recommendations given in Section 9 below, and**
- **Once future site-specific development proposals have been finalised, they should be referred to WJL for review prior to submission for a Building Consent application. Depending on the extent of the future development proposals, the review could range from a desktop assessment to further geotechnical investigation and reporting.**

9. CONCLUSIONS AND RECOMMENDATIONS

On the basis of our assessments as described herein, we confirm that we have considered both foundation and ground stability risks, and are of the Professional Opinion that the subject development as described above should not be exposed to unsatisfactory Geotechnical Risk, subject to the following requirements:

9.1. PRELIMINARY FOUNDATION DESIGN

Shallow foundations are suitable to support a future dwelling provided they are a minimum of 15m away from ground steeper than 1V:4H (14°) and designed to accommodate vertical movement of soil associated with Soil Reactivity **Class H – Highly Reactive.**

Any proposed foundations within this offset will require specific review during the Building Consent phase and may require the use of deepened soil creep piles or a separate in-ground palisade wall.

9.1.1. SHALLOW FOUNDATIONS BEARING CAPACITY

The following bearing capacity values are considered to be appropriate for the design of shallow foundations, subject to founding directly on or within competent natural ground and/or engineered fill, for which careful geo-professional inspections of the subgrade should be undertaken to check that underlying ground conditions are in keeping with our expectations:

Table 5: Bearing Capacity Values

Parameters	Weathered Waipapa Group Soils
Geotechnical Ultimate Bearing Capacity	300 kPa
ULS Dependable Bearing Capacity (Φ=0.5)	150 kPa

When finalising the development proposals, it should be checked that all foundations lie outside 45° envelopes rising up from:

- 0.50m below the invert of service trenches and/or
- the toe of adjacent retaining walls,

unless such foundation details are found by specific design, to be satisfactory. Deeper foundation embedment or piles may be required for any surcharging foundations.

9.1.2. SHALLOW FOUNDATIONS ON EXPANSIVE SOILS

As described earlier in this report, we have estimated the classification of the soils:

- NZBC B1 Expansive Soil Class H
- Upper Limit of Characteristic surface movement (y_s) 78mm

Given that the soils are not considered to lie within the definition of "good ground" as per NZS3604:2011, the design of shallow foundations is no longer covered by NZS3604:2011. Care must be taken to mitigate against the potential seasonal shrinkage and swelling effects of expansive foundation soils on both superstructures and floors. We therefore recommend specific engineering design should be undertaken by a qualified engineer for the design of the proposed foundations.

9.2. NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

We consider the DBP to be underlain with a Class C – Shallow Soil stratigraphy.

9.3. SITE EARTHWORKS

All future earthworks should be undertaken in accordance with the following standards:

- NZS4431:2022 "Code of Practice for Earth Fill Residential Development",
- Section 2 "Earthworks & Geotechnical Requirements" of NZS4404:2010 "Land Development and Subdivision Infrastructure", and
- The FNDC Engineering Standards (Version 0.6, dated May 2023).

9.4. TEMPORARY & LONG-TERM EARTHWORK BATTERS

We recommend that future earthworks only be undertaken during periods of fine weather.

During times of inclement weather, earthwork sites should be shaped to assist in stormwater run-off. Any batter excavations should be protected with a geotextile fabric with the toe of the excavations shaped so as to avoid ponded water, as saturating site soils could result in a reduction of bearing capacities.

At this preliminary stage, we recommend all cuts and fills are limited to respective heights of 1.5m and 0.60m without review and should be battered at grades no steeper than 1V:3H (18°).

All exposed batters should be covered with topsoil or geotextile before being re-grassed and/or planted as soon as practicable to aid in stabilising the slopes.

The structural designer and building contractor should ensure that a satisfactory FoS against ground instability is available at all stages of the development.

9.5. GENERAL SITE WORKS

We stress that any and all works should be undertaken in a careful and safe manner so that Health and Safety is not compromised, and that suitable Erosion & Sediment control measures should be put in place. Any stockpiles placed should be done so in an appropriate manner so that land stability and/or adjacent structures are not compromised.

Furthermore:

- All works must be undertaken in accordance with the Health and Safety at Work Act 2015,
- Any open excavations should be fenced off or covered, and/or access restricted as appropriate,
- Crests above steeply sloping ground should be isolated, and heavy plant should be kept away from these areas.
- The location of all services should be verified at the site prior to the commencement of construction,
- The Contractor is responsible at all times for ensuring that all necessary precautions are taken to protect all aspects of the works, as well as adjacent properties, buildings and services, and
- Should the contractor require any site-specific assistance with safe construction methodologies, please contact WJL for further assistance.

9.6. LONG-TERM FOUNDATION CARE & MAINTENANCE

The recommendations given above to mitigate the risk of expansive soils, do not necessarily remove the risk of external influences affecting the moisture in the subgrade supporting the foundations.

All owners should also be aware of the detrimental effects that significant trees can have on building foundation soils, viz:

- their presence can induce differential consolidation settlements beneath foundations through localised soil water deprivation, or conversely
- foundation construction too soon after their removal can result in soil swelling and raising foundations as the soils rehydrate.

To this end, care should be taken to avoid:

- having significant trees positioned where their roots could migrate beneath the house foundations, and
- constructing foundations on soils that have been differentially excessively desiccated by nearby trees, whether still existing, or recently removed.

We recommend that homeowners make themselves familiar with the appended Homeowners' Guide published by CSIRO, with particular emphasis on maintenance of drains, water pipes, gutters and downpipes.

10. STORMWATER & SURFACE WATER CONTROL

Uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect slope stability or foundation conditions.

Overland flows and similar runoff such as from any higher ground should be intercepted by means of shallow surface drains and/or small bunds and be directed away from the building footprint to protect the building platforms from both saturation and erosion. Water collected in interceptor drains should be diverted away from the building site to an appropriate disposal point. All stormwater runoff from roofs and paved areas, should be collected in sealed pipes and be discharged to a Council approved stormwater system.

Under no circumstances should concentrated overflows from any source discharge to the eastern flank or onto the ground in an uncontrolled fashion.

11. ON-SITE WASTEWATER DISPOSAL

No reticulated sanitary sewer is available for the site; therefore, an on-site wastewater treatment and disposal system will be required for the proposed development.

We recommend that all designs for on-site wastewater system should be carried out by an Engineer experienced in on-site wastewater disposal.

12. UNDERGROUND SERVICES

The FNDC on-line GIS Water Services Map indicated that public underground services are not present within the property.

Other underground services, public or private, mapped, or unmapped, of any type could be also present.

A thorough service-search should be carried out prior to commencement of any excavations to locate the exact locations of the underground services.

13. LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our Client, **Straka Property Trust,** in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions and limitations, when issuing the subject consent. Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred to us for further evaluation. Copyright of Intellectual Property remains with WJL, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other geotechnical aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

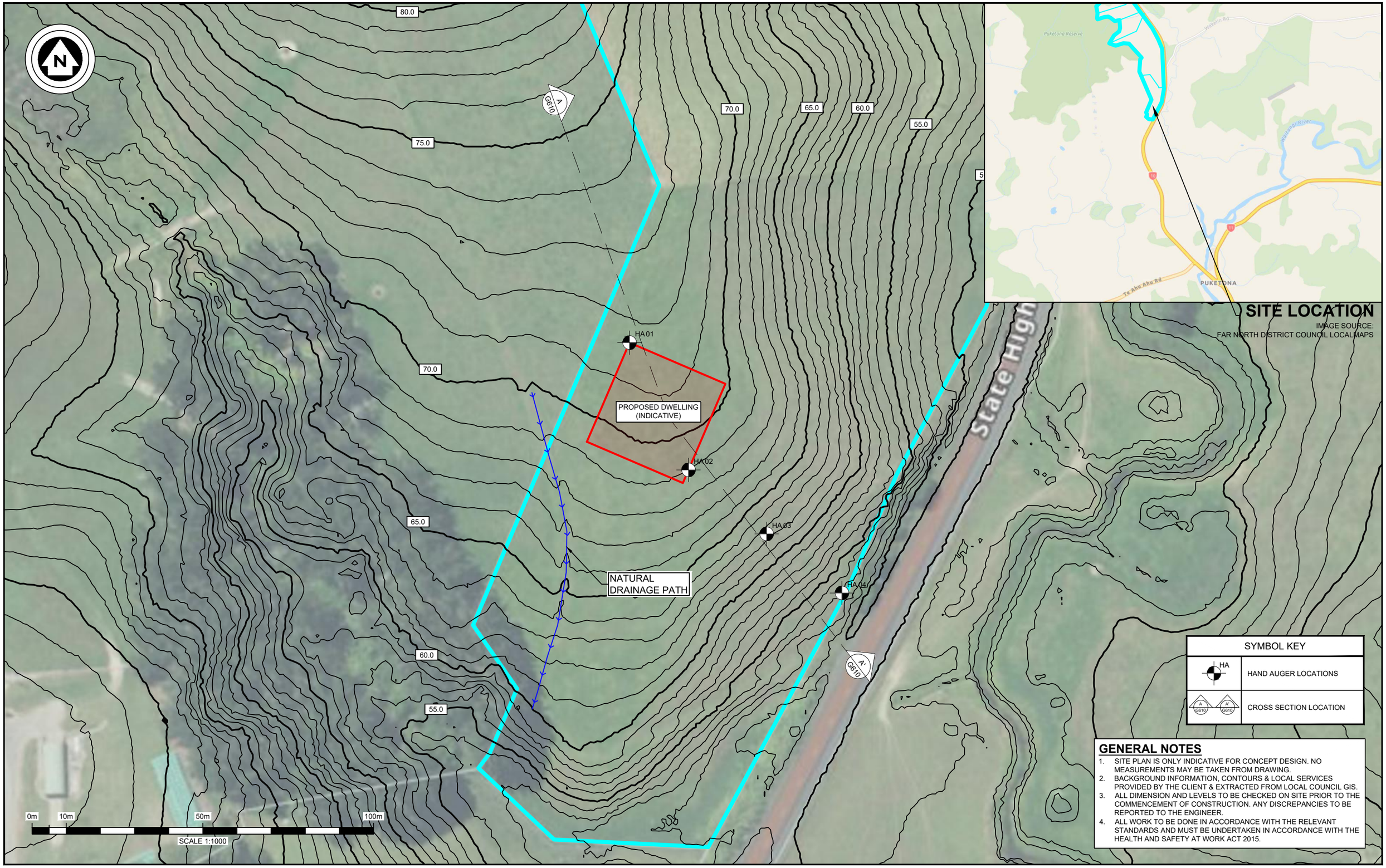
Appendices:

Site Plan and Cross-section A-A' (2 sheets)

HA Records (4 sheets)

Slope Stability Assessment Outputs (3 sheets)

'*Foundation Maintenance and Footing Performance*' homeowner's guide, published by CSIRO (4 sheets)



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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	SEPT 2025	CsH	ISSUED WITH GEOTECHNICAL REPORT

DESIGNED BY:
DRAWN BY: CsH
CHECKED BY: SP
SURVEYED BY:

SERVICES NOTE
WHERE EXISTING SERVICES ARE SHOWN, THEY ARE INDICATIVE ONLY AND MAY NOT INCLUDE ALL SITE SERVICES. WILTON JOUBERT LTD DOES NOT WARRANT THAT ALL, OR INDEED ANY SERVICES ARE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING SERVICES PRIOR TO AND FOR THE DURATION OF THE CONTRACT WORKS.

GEOTECHNICAL
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE:
SITE PLAN

PROJECT DESCRIPTION:
PROPOSED TWO LOT SUBDIVISION

PROJECT TITLE:
LOT 1 DP 545067
1057 STATE HIGHWAY 10
KERIKERI
NORTHLAND

ORIGINAL DRAWING SIZE:	OFFICE:
A3	WHANGAREI
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:1000	NOT COORDINATED

DRAWING NUMBER: 142528-G600
ISSUE: A

A
NORTH

A'
SOUTHEAST

PRACTICAL BUILDING PLATFORM

STATE HIGHWAY 10

HA 01

HA 02

HA 03

HA 04

BDY

BDY

WT

WT

GWNE

GWNE

6°

13°

20°

30°

22°

1

2

3

CROSS SECTION CHANGE DIRECTION

VERTICAL DISTANCE IN m / APPROXIMATE RL IN m

HORIZONTAL DISTANCE IN m

KEY:

HA 01 — HAND AUGER LOCATION

WT — GROUNDWATER

GWNE — NO GROUNDWATER

DCP - SCALA PENETROMETER TEST

1 VOLCANIC DEPOSITS OF THE KERIKERI GROUP

2 RESIDUAL SOILS OF THE WAIPAPA GROUP

3 LESS WEATHERED, VERY STIFF STRATUM

LEGEND	
———	MEASURED GROUND PROFILE
——— ? ———	SOIL LAYER

NOTES:
1. Cross Sections drawn using LiDAR data.
2. Reduced level information based on Contours from LiDAR data.

GENERAL NOTES

1. CROSS SECTION IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
3. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.

WILTON JOUBERT
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www.wiltonjoubert.co.nz

ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	SEPT 2025	CsH	ISSUED WITH GEOTECHNICAL REPORT

DESIGNED BY:
DRAWN BY: CsH
CHECKED BY: SP
SURVEYED BY:

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GEOTECHNICAL
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **CROSS SECTION**

PROJECT DESCRIPTION: **PROPOSED TWO LOT SUBDIVISION**

PROJECT TITLE: **LOT 1 DP 545067
1057 STATE HIGHWAY 10
KERIKERI
NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	WHANGAREI
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:500	NOT COORDINATED

DRAWING NUMBER: 142528-G610
ISSUE: A

HAND AUGER : HA01

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: 1994 **ELEVATION:** Ground
FACTOR: 1.41 **DATUM:**

SOIL DESCRIPTION: TOPSOIL, CLAY, SAND, PEAT, FILL, SILT, GRAVEL, ROCK

STRATIGRAPHY	SOIL DESCRIPTION	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	0.2						
Waipapa Group	NATURAL: Clayey SILT, orangey brown, very stiff, moist, low plasticity.	0.4		102	28	3.6		
	Silty CLAY, yellowish brown, very stiff, moist, moderate plasticity.	0.6						
	0.8m: Becoming yellow with white mottles, occasional pockets of white weakly cemented clast and rootlet inclusions.	0.8		197+	-	-		
	Clayey SILT, white with yellow streaks, very stiff, moist, no to low plasticity, frequent weakly cemented clast inclusions.	1.0						
		1.2		175	39	4.5		
		1.4						
		1.6		197+	-	-		
		1.8						
		2.0		197+	-	-		
	2.3m: 200mm lense of Silty CLAY, grey, very stiff, moist, moderate plasticity.	2.2						
		2.4						
		2.6	▼ 11/09/2025	158	51	3.1		
		2.8						
		3.0		155	48	3.2		
	3.2m: Becoming wet.	3.2	▽					
	Silty CLAY, white and grey, very stiff, wet, moderate plasticity, occasional weakly cemented clast inclusions.	3.4		166	37	4.5		
		3.6						
		3.8		110	39	2.8		
		4.0						
	Clayey SILT, white and grey, very stiff, moist to wet, low plasticity.	4.2		197+	-	-		
		4.4						
		4.6		197+	-	-		
		4.8						
		5.0						
	EOH: 5.00m - Target Depth	5.2		197+	-	-	6	
		5.4					6	
		5.6					6	
		5.8					8	
		6.0					8	
		6.2					9	
		6.4					10	
							11	
							15	
							18	
							20+	

REMARKS
End of borehole @ 5.00m (Target Depth: 5.00m)
Groundwater encountered @ 3.20m during drilling. Standing groundwater @ 2.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA02

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **DATUM:**

SOIL DESCRIPTION: TOPSOIL, CLAY, SAND, PEAT, FILL, SILT, GRAVEL, ROCK

STRATIGRAPHY	SOIL DESCRIPTION	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	0.0						
Waipapa Group	NATURAL: Silty CLAY, yellowish brown, very stiff, moist, moderate plasticity.	0.4		220+	-	-		
	0.7m: Becoming grey with occasional yellowish brown streaks.	0.8		220+	-	-		
	0.9m: Becoming light grey with yellowish brown streaks.	1.0						
	1.0m: Becoming low to moderate plasticity, frequent white weakly cemented clast inclusions.	1.2		220+	-	-		
	1.2m: Becoming whitish grey with occasional yellowish brown streaks, moderate plasticity.	1.4						
	1.6m: Becoming light grey with occasional yellowish brown streaks.	1.6		220+	-	-		
		1.8						
		2.0		132	60	2.2		
	2.1m: Occasional weakly cemented clast inclusions.	2.2						
	2.4m: Becoming moderate to high plasticity.	2.4		126	70	1.8		
		2.6						
	2.8m: Becoming stiff, occasional light yellow weakly cemented clast inclusions and streaks.	2.8		85	38	2.2		
	3.0m: Frequent white weakly cemented clast mottles.	3.0						
	3.2m: 150mm lense of Gravelly (Clast) SILT, minor clay, grey, very stiff, moist to wet, no plasticity.	3.2	▽	220+	-	-		
	3.4m: Becoming grey, bluish grey and white, high plasticity, occasional reddish brown streaks and strongly cemented clast inclusions.	3.4						
	3.6m: Becoming firm.	3.6	▼ 11/09/2025	47	31	1.5		
		3.8						
		4.0					3	
	EOH: 4.00m - Poor Recovery Due To Borehole Collapse	4.2					4	
		4.4					5	
		4.6					6	
		4.8					9	
		5.0					11	
		5.2					11	
		5.4					13	
		5.6					16	
		5.8					18	
		6.0					18	
		6.2					20+	
		6.4						

REMARKS
End of borehole @ 4.00m (Target Depth: 5.00m)
Groundwater encountered @ 3.20m during drilling. Standing groundwater @ 3.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 142528 **SHEET:** 1 OF 1

START DATE: 11/09/2025 **NORTHING:** **GRID:**

CLIENT: Straka Property Trust **DIAMETER:** 50mm **EASTING:**

PROJECT: 2-Lot Subdivision (1 Lot for Assessment) **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 1057 SH10, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, dry.	TS	0.2	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, trace clay, brown, very stiff, dry, no plasticity (friable).		0.4		UTP	-	-		
	0.5m: Frequent grey and orange strongly fused clast and gravel inclusions.		0.6						
	SILT, minor clay, brown, very stiff, dry to moist, no to low plasticity, frequent orange, grey and black gravel inclusions.		0.8		UTP	-	-		
			1.0						
			1.2						
	EOH: 1.20m - Refusal (Basalt Boulder Inferred)		1.4		UTP	-	-	20+	
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						
			4.6						
			4.8						
			5.0						
			5.2						
			5.4						
			5.6						
			5.8						
			6.0						
			6.2						
			6.4						

SOIL DESCRIPTION

TOPSOIL CLAY SAND PEAT

FILL SILT GRAVEL ROCK

REMARKS

End of borehole @ 1.20m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA04

CLIENT: Straka Property Trust
PROJECT: 2-Lot Subdivision (1 Lot for Assessment)
SITE LOCATION: 1057 SH10, Kerikeri

JOB NO.: 142528 **SHEET:** 1 OF 1
START DATE: 11/09/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.0	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, trace clay, brown, very stiff, moist, no plasticity (friable), occasional orange weakly fused clast inclusions.		0.4		220+	-	-		
	0.6m: Minor clay, low plasticity, occasional orange weakly fused clast inclusions.		0.6						
			0.8		UTP	-	-		
	1.0m: Becoming light brown, frequent orange weakly and strongly fused clast inclusions.		1.0						
Waipapa Group	Gravelly (Clast) SILT, trace to minor clay, grey with light yellow and bluish grey mottles, very stiff, moist, no plasticity.		1.2		UTP	-	-		
			1.4						
	Clayey SILT, bluish grey with white mottles, stiff, moist, moderate plasticity.		1.6		63	31	2.0		
	Silty CLAY, white, firm, moist, moderate to high plasticity.		1.8						
	2.0m: Occasional pockets of brown weakly and strongly cemented clast inclusions.		2.0		35	16	2.2		
	Clayey SILT, some clasts, light bluish grey, firm, moist, moderate plasticity.		2.2						
			2.4		47	16	2.9		
			2.6						
	Gravelly (Clast) SILT, trace clay, white, very stiff to hard, moist to wet, no plasticity (friable).		2.8		UTP	-	-	4	
	EOH: 2.80m - Too Hard To Auger		3.0					4	
			3.2					6	
			3.4					6	
			3.6					9	
			3.8					9	
			4.0					8	
			4.2					8	
			4.4					10	
			4.6					15	
			4.8					15	
			5.0					15	
			5.2					15	
			5.4					15	
			5.6					15	
			5.8					15	
			6.0					15	
			6.2					20	
			6.4					20+	

REMARKS
End of borehole @ 2.80m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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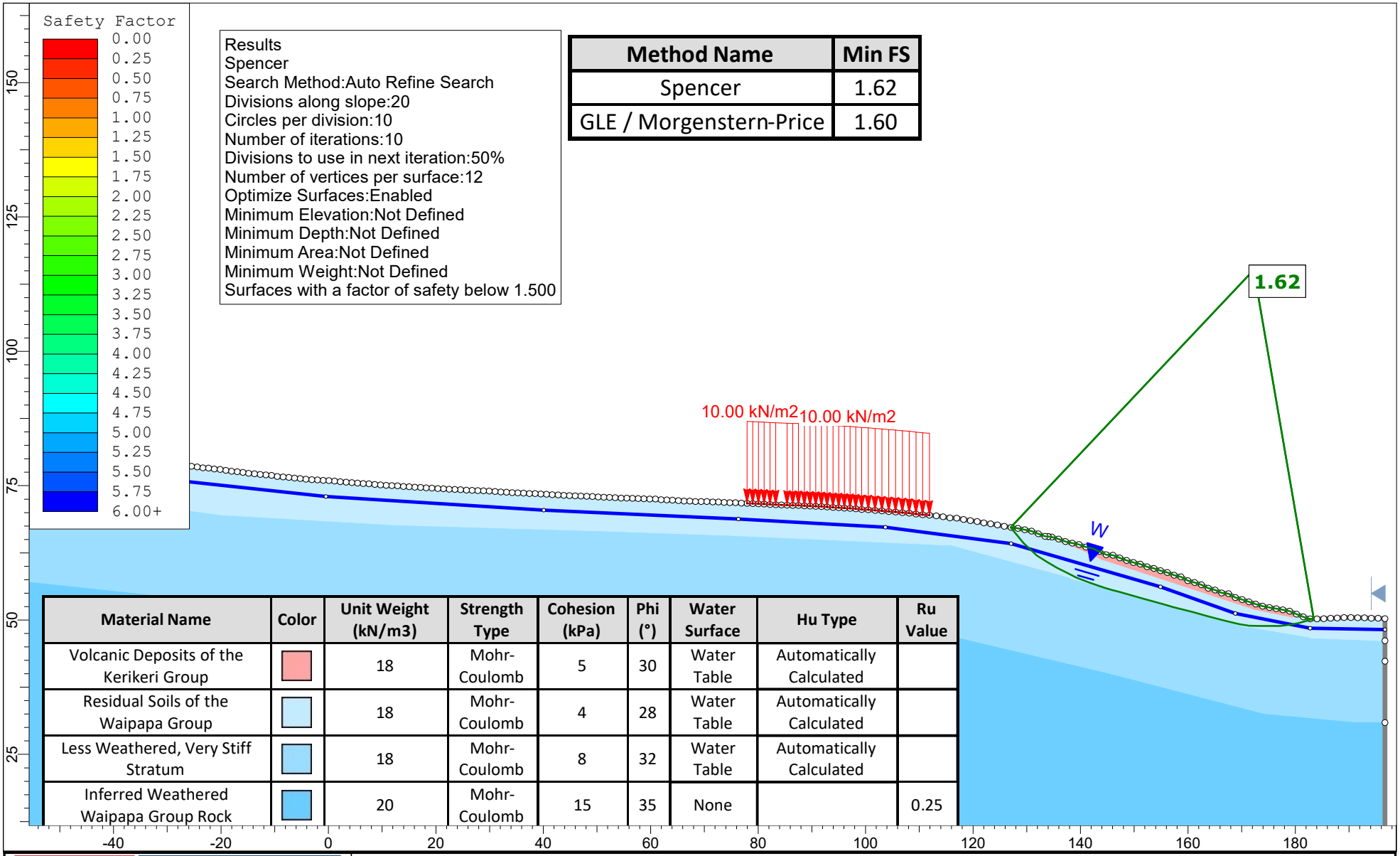

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Ru Value
Volcanic Deposits of the Kerikeri Group		18	Mohr-Coulomb	5	30	Water Table	Automatically Calculated	
Residual Soils of the Waipapa Group		18	Mohr-Coulomb	4	28	Water Table	Automatically Calculated	
Less Weathered, Very Stiff Stratum		18	Mohr-Coulomb	8	32	Water Table	Automatically Calculated	
Inferred Weathered Waipapa Group Rock		20	Mohr-Coulomb	15	35	None		0.25

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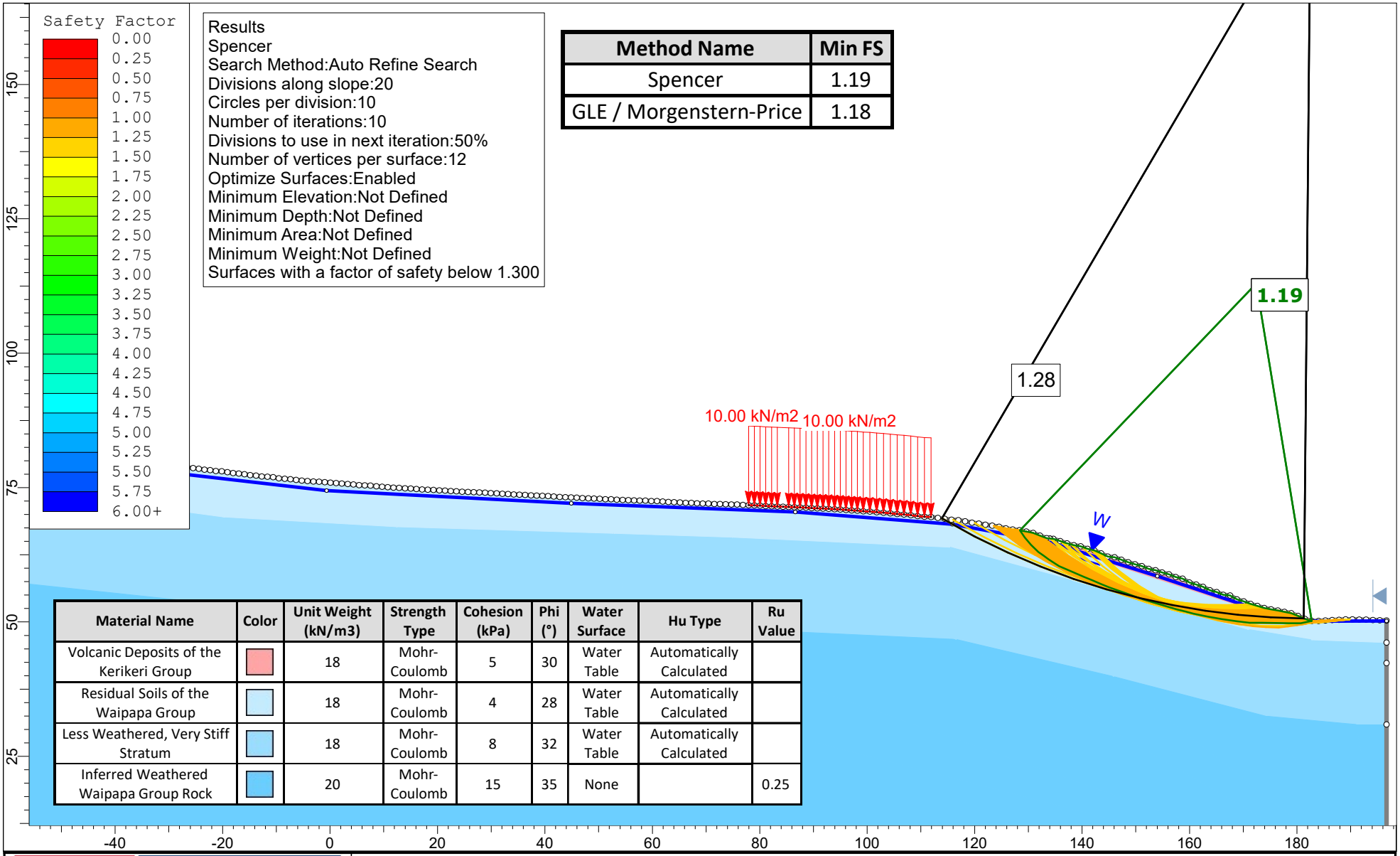
Consulting Engineers

SLIDEINTERPRET 9.034

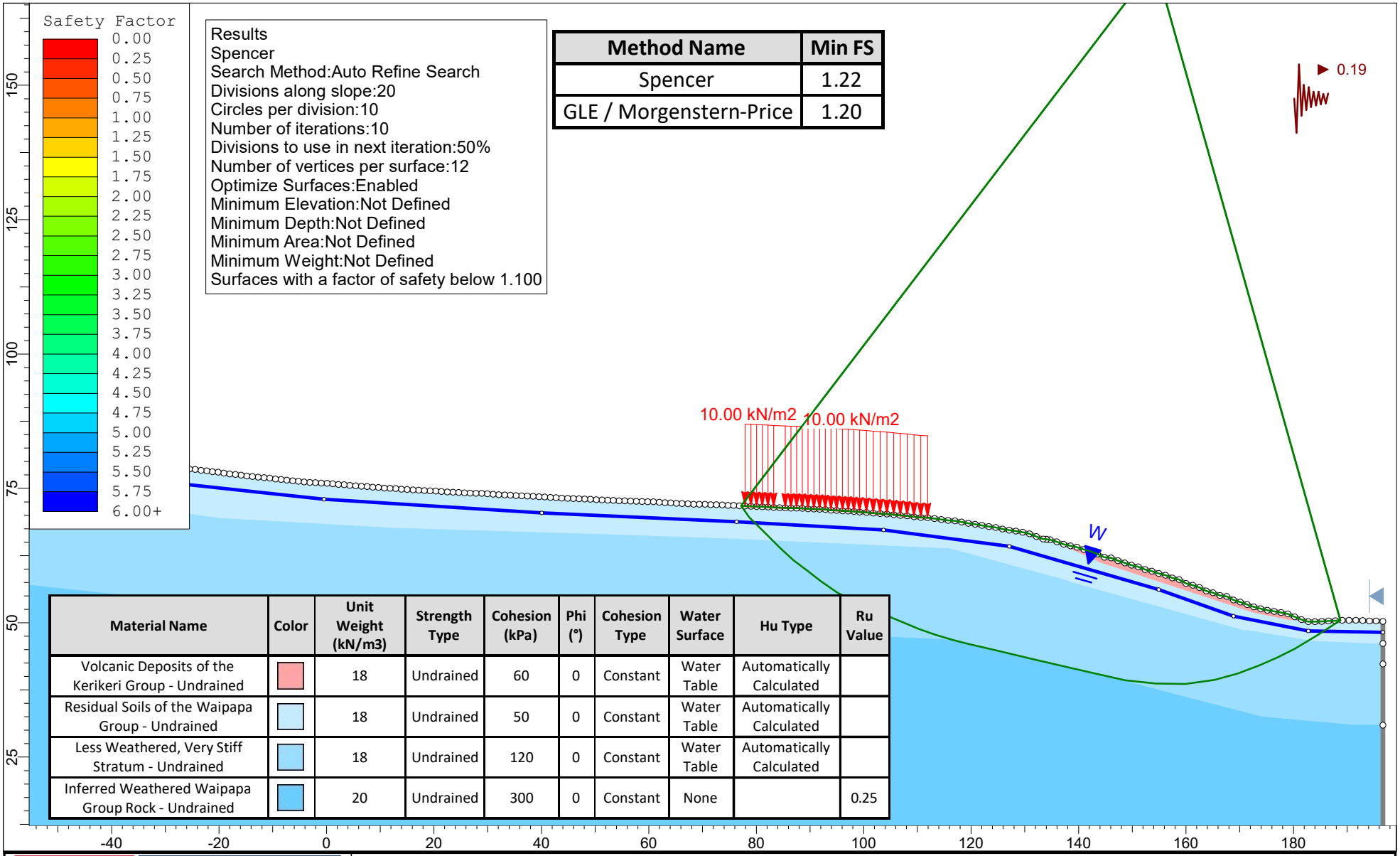
Project	142528 - 1057 State Highway 10, Kerikeri		
Group	Cross Section A-A' - Post-Development	Scenario	Moderate Groundwater Level
Drawn By	CsH	Company	Wilton Joubert Limited
Date	15/09/2025	File Name	142528 - Slope Stability - 15 September 2025.slmd



WILTON JOUBERT
Consulting Engineers

SLIDEINTERPRET 9.034

Project	142528 - 1057 State Highway 10, Kerikeri		
Group	Cross Section A-A' - Post-Development	Scenario	Elevated Groundwater Level
Drawn By	CsH	Company	Wilton Joubert Limited
Date	15/09/2025	File Name	142528 - Slope Stability - 15 September 2025.slmd



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Cohesion Type	Water Surface	Hu Type	Ru Value
Volcanic Deposits of the Kerikeri Group - Undrained		18	Undrained	60	0	Constant	Water Table	Automatically Calculated	
Residual Soils of the Waipapa Group - Undrained		18	Undrained	50	0	Constant	Water Table	Automatically Calculated	
Less Weathered, Very Stiff Stratum - Undrained		18	Undrained	120	0	Constant	Water Table	Automatically Calculated	
Inferred Weathered Waipapa Group Rock - Undrained		20	Undrained	300	0	Constant	None		0.25

WILTON JOUBERT
Consulting Engineers

SLIDEINTERPRET 9.034

Project	142528 - 1057 State Highway 10, Kerikeri		
Group	Cross Section A-A' - Post-Development	Scenario	Moderate Groundwater Level - Seismic
Drawn By	CsH	Company	Wilton Joubert Limited
Date	15/09/2025	File Name	142528 - Slope Stability - 15 September 2025.slmd

FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE

Preventing soil-related building movement

This Building Technology Resource is designed as a homeowner's guide on the causes of soil-related building movement, and suggested methods to prevent resultant cracking.

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the home owner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement. Generally soil classification is provided by a geotechnical report.

SOIL TYPES

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups – granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. Table 1 below is a reproduction of Table 2.1 from Australian Standard AS 2870-2011, Residential slabs and footings.

CAUSES OF MOVEMENT

SETTLEMENT DUE TO CONSTRUCTION

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take place because of the expulsion of moisture from the soil or because of the soil's lack of resistance to local compressive or shear stresses. This will usually take place during the first few months after construction but has been known to take many years in exceptional cases.

These problems may be the province of the builder and should be taken into consideration as part of the preparation of the site for construction.

EROSION

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

SATURATION

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume, particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

SEASONAL SWELLING AND SHRINKAGE OF SOIL

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below, from AS 2870). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

SHEAR FAILURE

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.

In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

TREE ROOT GROWTH

Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.

TABLE 1. GENERAL DEFINITIONS OF SITE CLASSES.

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes

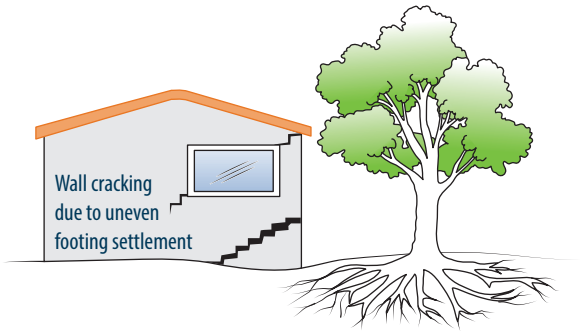


FIGURE 1 Trees can cause shrinkage and damage.

- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

UNEVENNESS OF MOVEMENT

The types of ground movement described above usually occur unevenly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior through absorption. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Shrinkage usually begins on the side of the building where the sun's heat is greatest.

EFFECTS OF UNEVEN SOIL MOVEMENT ON STRUCTURES

EROSION AND SATURATION

Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

SEASONAL SWELLING/SHRINKAGE IN CLAY

Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated, and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry, and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

MOVEMENT CAUSED BY TREE ROOTS

In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

COMPLICATIONS CAUSED BY THE STRUCTURE ITSELF

Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

EFFECTS ON FULL MASONRY STRUCTURES

Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also

exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

EFFECTS ON FRAMED STRUCTURES

Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation causes a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

EFFECTS ON BRICK VENEER STRUCTURES

Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

WATER SERVICE AND DRAINAGE

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem. Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.
- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

SERIOUSNESS OF CRACKING

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. Table 2 below is a reproduction of Table C1 of AS 2870-2011.

AS 2870-2011 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

PREVENTION AND CURE

PLUMBING

Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them, with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

GROUND DRAINAGE

In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject may be regarded as an area for an expert consultant.

PROTECTION OF THE BUILDING PERIMETER

It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill.

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

CONDENSATION

In buildings with a subfloor void, such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

TABLE 2. CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS.

Description of typical damage and required repair	Approximate crack width limit	Damage category
Hairline cracks	<0.1 mm	0 – Negligible
Fine cracks which do not need repair	<1 mm	1 – Very Slight
Cracks noticeable but easily filled. Doors and windows stick slightly.	<5 mm	2 – Slight
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired.	5–15 mm (or a number of cracks 3 mm or more in one group)	3 – Moderate
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted.	15–25 mm but also depends on number of cracks	4 – Severe

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Warning: Although this Building Technology Resource deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders, and mould.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

THE GARDEN

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

EXISTING TREES

Existing trees may cause problems with the upheaval of footings by their roots, or shrinkage from soil drying. If the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. Soil drying is a more complex issue and professional advice may be required before considering the removal or relocation of the tree.

INFORMATION ON TREES, PLANTS AND SHRUBS

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information.

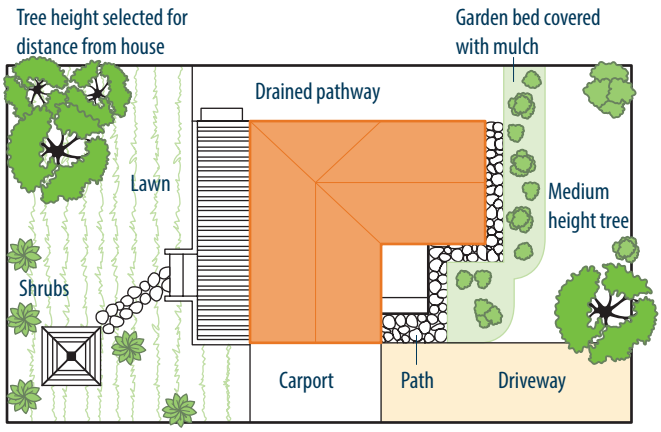

FIGURE 2 Gardens for a reactive site.

EXCAVATION

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

REMEDIATION

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the home owner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.