

Our Reference: 10652.1 (FNDC)

11<sup>th</sup> March 2026

Resource Consents Department  
Far North District Council  
JB Centre  
KERIKERI

Dear Sir/Madam

**RE: Proposed Subdivision of land at Pukewhao Road, Horeke – Peter Maddren**

I am pleased to submit application on behalf of Peter Maddren, for a proposed subdivision of land at Pukewhao Road, Horeke, zoned Rural Production. The application is a restricted discretionary activity.

The application fee of \$5,038 has been paid separately via direct credit.

Regards



Lynley Newport  
**Senior Planner**  
**THOMSON SURVEY LTD**

# Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of [Form 9](#)). Prior to, and during, completion of this application form, please refer to [Resource Consent Guidance Notes](#) and [Schedule of Fees and Charges](#) — both available on the Council's web page.

## 1. Pre-Lodgement Meeting

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

Yes  No

## 2. Type of consent being applied for

(more than one circle can be ticked):

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

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

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

Yes  No

## 4. Consultation

Have you consulted with Iwi/Hapū?  Yes  No

If yes, which groups have you consulted with?

Who else have you consulted with?

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

## 5. Applicant details

Name/s:

Peter Maddren

Email:

Phone number:

Postal address:

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

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

If yes, please provide details.

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## 6. Address for correspondence

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

Name/s:

Lynley Newport

Email:

Phone number:

Postal address:

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

Postcode

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

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

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

Name/s:

as per item 5

Property address/  
location:

Postcode

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## 8. Application site details

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

Name/s:	Peter Maddren		
Site address/ location:	Pukewhao Road		
	HOREKE		
			Postcode
Legal description:	Section 1, Blk II Mangamuka SD	Val Number:	
Certificate of title:	NA119D/431		

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

### Site visit requirements:

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

Is there a dog on the property?  Yes  No

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

Please contact applicant for site visit

## 9. Description of the proposal

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

To subdivide land zoned Rural Production to create four additional lots, as a restricted discretionary activity.

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

## 10. Would you like to request public notification?

Yes  No

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

(more than one circle can be ticked):

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

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

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

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

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

Subdividing land

Disturbing, removing or sampling soil

Changing the use of a piece of land

Removing or replacing a fuel storage system

## 13. Assessment of environmental effects:

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

Your AEE is attached to this application  Yes

## 14. Draft conditions:

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

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

## 15. Billing Details:

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

Name/s: (please write in full)

Peter Maddison

Email:

Phone number:

Postal address:

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

Postcode

### 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)

Peter Maddren

**Signature:**

(signature of bill payer)

*[Handwritten signature]*

## 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](http://www.fndc.govt.nz). These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

## 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)

Peter Maddren

**Signature**

*[Handwritten signature]*

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

See overleaf for a checklist of your information...

## Checklist

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*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.

**Peter Maddren**  
**Far North District Plan**  
**PROPOSED SUBDIVISION**  
**Pukewhao Road, Horeke**  
**PLANNING REPORT AND ASSESSMENT**  
**OF ENVIRONMENTAL EFFECTS**  
**Thomson Survey Ltd**  
**Kerikeri**

## 1.0 INTRODUCTION

### 1.1 The Proposal

The applicant proposes to carry out a subdivision of their property on Pukewhao Road, Horeke, to create four lots of approximately 2ha each, with the large balance Lot 5 of 253ha.

The land to be in Lots 1-4 is vacant. Lot 5 contains the property's existing built development which includes an existing dwelling with ancillary buildings. Access to those those buildings is off Pukewhao Road (Council public road, metal surface). However, access to Lots 1-4 will be off Horeke Road, via existing appurtenant easement over adjacent land. The crossing to this easement is existing.

Internal to the site, it is proposed that a single access – identified as easements A, B and C on the scheme plan in Appendix 1 – will provide access to Lots 1-4. The scheme plan shows 30m x 30m indicative building envelope on all of Lots 1-4.

### 1.2 Scope of this Report

This assessment and report accompanies the Resource Consent Application and is provided in accordance with Section 88 and Schedule 4 of the Resource Management Act 1991. The application seeks consent under the District Plan for a subdivision as a restricted discretionary activity. The name and address of the owner of the property is contained in the Form 9 Application form.

## 2.0 PROPERTY DETAILS

Location: Pukewhao Road, Horeke. Location Plan is attached in Appendix 2.

Legal description: Section 1 Blk II Mangamuka SD

CT: NA119D/431, with an area of 261.36ha, dated 1999  
(copy attached in Appendix 3).

### 3.0 SITE DESCRIPTION

#### 3.1 Physical characteristics.

The physical characteristics of the site are described in the Site Feasibility Appraisal by Gumboots Consulting Engineers supporting the application – refer Appendix 4.

The property is zoned Rural Production in the Operative and Proposed District Plans. The large balance lot is bounded by land zoned Maori Purpose – Rural in the Proposed District Plan. Lots 1-4 are not, bounded instead by land also zoned Rural Production in the Proposed District Plan.

No high or outstanding landscape or natural features are identified within the site. The property is not within the coastal environment.

On the large balance Lot 5 there are isolated areas mapped as potentially subject to river flooding. These areas are nowhere near the area of proposed development.

The site is mapped as containing two areas of Protected Natural Area indigenous vegetation/habitat. The main one, Whitecliffs Ltd Bush, is entirely within the site's Lot 5 and not near Lots 1-4. The secondary PNA, only a part of which is within the application site, but including some of the area to be in Lots 1-4 is the Pukewhao Forest Mosaic.

The site is mapped as being within a "kiwi present" area. The site contains no mapped heritage or cultural or archaeological sites.

Soils within the site are mapped as LUC class 6e in the vicinity of Lots 1-4 and most of Lot 5, with some LUC class 4s soils also in Lot 5. A small portion of Lot 1, away from the indicative building envelope, is mapped as erosion prone in the NRC's on line maps (Regional Plan).

The site is not serviced by Council 3 waters services. Frontage to the property's appurtenant easement is via Council maintained public road, sealed surface.

#### 3.2 Legal Interests

The Title is not subject to any legal interests that affect the proposed subdivision. It has appurtenant right of way through Transfer 4275789.1, registered in 2002.

### 4.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

#### Clauses 2 & 3: Information required in all applications

<i>(1) An application for a resource consent for an activity must include the following:</i>	
<i>(a) a description of the activity:</i>	Refer Sections 1 and 5 of this Planning Report.
<i>(b) an assessment of the actual or</i>	Refer to Section 6 of this Planning Report.

<i>potential effect on the environment of the activity:</i>	
<i>(b) a description of the site at which the activity is to occur:</i>	Refer to Section 3 of this Planning Report.
<i>(c) the full name and address of each owner or occupier of the site:</i>	This information is contained in the Form 9 attached to the application.
<i>(d) a description of any other activities that are part of the proposal to which the application relates:</i>	Refer to Sections 3 and 5 of this Planning Report for existing activities within the site. The application is for subdivision.
<i>(e) a description of any other resource consents required for the proposal to which the application relates:</i>	No other consents are required other than that being applied for pursuant to the Far North Operative District Plan.
<i>(f) an assessment of the activity against the matters set out in Part 2:</i>	Refer to Section 7 of this Planning Report.
<i>(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):</i>  <i>(a) any relevant objectives, policies, or rules in a document; and</i> <i>(b) any relevant requirements, conditions, or permissions in any rules in a document; and</i> <i>(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).</i>	Refer to Sections 5 & 7 of this Planning Report.
<b>(3) An application must also include any of the following that apply:</b>	
<i>(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)):</i>	Refer sections 3 and 5.
<i>(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)):</i>	There is no existing resource consent. Not applicable.
<i>(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary</i>	The site is not within an area subject to a customary marine title group. Not applicable.

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)).

**Clause 4: Additional information required in application for subdivision consent**

(4) An application for a subdivision consent must also include information that adequately defines the following:

(a) the position of all new boundaries:  
 (b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:  
 (c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:  
 (d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:  
 (e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:  
 (f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):  
 (g) the locations and areas of land to be set aside as new roads.

Refer to Scheme Plans in Appendix 1.

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

**Clause 6: Information required in assessment of environmental effects**

(1) An assessment of the activity's effects on the environment must include the following information:

(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

Refer to Section 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.

<p>(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:</p>	
<p>(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:</p>	Refer to Section 6 of this planning report.
<p>(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:</p>	Refer to Section 8 of this planning report. No affected persons are identified.
<p>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:</p>	No monitoring is required as the scale and significance of effects does not warrant any.
<p>(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).</p>	No protected customary right is affected.

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

<p>(1) An assessment of the activity's effects on the environment must address the following matters:</p>	
<p>(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:</p>	Refer to Sections 6 and 8 of this planning report and also to the assessment of objectives and policies in Section 7.
<p>(b) any physical effect on the locality, including any landscape and visual effects:</p>	Refer to Section 6. The proposed activity will have no adverse, effects on the physical environment and landscape and visual amenity values.
<p>(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:</p>	Refer to Section 6.0. The proposal will not result in adverse effects in regard to habitat and ecosystems.
<p>(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:</p>	Refer to Section 6, and above comments

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

## 5.0 COMPLIANCE ASSESSMENT

### 5.1 Weighting of the Plans

The proposal is subject to the Proposed District Plan (PDP) process, whereby the PDP was publicly notified on 27<sup>th</sup> July 2022. The site is zoned Rural Production under the PDP. When the PDP was first notified there were a number of rules which were identified as having immediate legal effect. As such, an assessment of the relevant rules and related objectives and policies of the PDP form part of this application.

In regard to the weighting of the Plans, submissions and further submissions have closed (including those to Variation 1) and hearings have been completed. However, decisions on submissions have yet to be notified. I have not identified any rules in the PDP, relevant to this proposal that had immediate legal effect from July 2022, and as such this application gives no weight to any PDP rules.

### 5.2 Operative District Plan Zoning

The property is zoned Rural Production. No Resource features apply. The subdivision standards applying in the zone are contained in Table 13.7.2.1 as shown below.

**TABLE 13.7.2.1: MINIMUM LOT SIZES**

(i) RURAL PRODUCTION ZONE

<b>Controlled Activity Status (Refer also to 13.7.3)</b>	<b>Restricted Discretionary Activity Status (Refer also to 13.8)</b>	<b>Discretionary Activity Status (Refer also to 13.9)</b>
The minimum lot size is 20ha. ....	1. Subdivision that complies with the controlled activity standard, but is within 100m of the boundary of the Minerals Zone; 2. The minimum lot size is 12ha; or 3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m <sup>2</sup> 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 <b>4. A maximum of 5 lots in a subdivision (including the parent</b>	1. The minimum lot size is 4ha; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m <sup>2</sup> 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. ....

	<b>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; .....</b>	
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The creation of five lots of greater than 2ha, where the title is older than April 2000, is a restricted discretionary subdivision activity pursuant to option 4 above (in bold). The proposal creates five lots and the title is dated 1999, therefore meets the requirements of option 4. The subdivision is therefore regarded as a Restricted Discretionary subdivision activity.

Zone Rules:

I have not identified any zone rule breaches.

District Wide Rules:

The application is not subject to chapter 12.1 as there is are no outstanding landscapes or features on the site.

Subdivision works will involve a small amount of vegetation removal and trimming in order to provide 'clearance' along the route of the historic access tracks that will need to be re-surfaced and water tabled for the purposes of providing access to the new lots. Rule 12.2.6.1.1 Indigenous Vegetation Clearance Permitted throughout the District, part (d) provides for the maintenance of existing roads, and private accessways, including for the purposes of visibility and road safety. The historic track formation and alignment is evident and largely clear of vegetation. I believe the minor clearance to fall within the clearance permitted by 12.2.6.1.1 (d).



In regard to Chapter 12.3 Soils and Minerals, some earthworks will be required to upgrade the access. However, the alignment is already in place, with an historic access track formed many years' ago. Refer to the picture on previous page, dated 1988. This minimises the amount of earthworks that will be required and it has been estimated that the total volume will be within the permitted threshold applying to the zone (5,000m<sup>3</sup> per site). The access is over two 'sites' as defined in the ODP.

Chapter 12.4 (Natural Hazards) is not relevant to the application as it does not involve any residential units. Rule 12.4.6.1.2 Fire Risk to Residential Units will need to be addressed by a future lot owner. Cleared areas already exist within most of the lots, with only peripheral clearance required to achieve a buffer distance. The preferred current proposed house site within Lot 1, and the site looked at in the site appraisal, will require some clearance, although there are other cleared areas within that lot that could also support a residential dwelling.

The proposal is not subject to Chapter 12.5 (Heritage) as there are no heritage or cultural resources mapped for the site, nor Chapter 12.7 (Waterbodies) as there are no qualifying waterbodies from which setback is required. As far as I am aware, no works is proposed in any indigenous wetland.

An assessment of the proposal against Chapter 15.1.6C.1.1 to 11 has been carried out.

Rule 15.1.6C.1.1(a) – access to Lots 1-4 is to be via existing appurtenant right of way off Horeke Road. This is formed in part only. To serve four plus the existing appurtenant property (application site) technically means the access should be a uniform 5m metal carriageway width throughout, including easement A on the scheme plan. After that point the access only serves three properties and can be 3m metal carriageway width with passing bays as appropriate. The applicant has indicated he can bring the access up to the required standard.

Rule 15.1.6C.1.5 specifies vehicle crossing standards and the existing crossing off Horeke Road can be to the required standard if not already.

Rule 15.1.6C.1.7 can be complied with. Rule 15.1.6C.1.8(a) is not applicable as no legal road width widening is required. Horeke Road is Council maintained public road (sealed) and is to standard (part (b)). Part (c) may apply as the site has access off two public roads – Horeke Road and Pukewhao Road. The large balance lot will retain existing access off Pukewhao Road, whilst the proposed Lots 1-4 will utilise the Horeke Road access only. I do not believe there to be any road encroachment, so part (d) does not apply.

## **5.2 Proposed District Plan (PDP) Assessment**

There are certain rules that have been identified in the PDP as having immediate legal effect and that 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.

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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.

Subdivision site works will only involve trimming of vegetation along the route of the historic established track. This will be kept to the bare minimum to enable sufficient width for surfacing, and overhead clearance.

Rule IB-R1 provides for sufficient clearance to create a 20m setback from a residential unit, and for up to 1000m<sup>2</sup> indigenous vegetation clearance on a lot for the purposes of a house site and access to it. Indigenous vegetation is able to be cleared for fencing and to remove or clear land previously cleared and the vegetation being cleared is less than 10 years old. Rules also provide for clearance for the operation, repairs and maintenance of access and farm tracks. I am not of the opinion that this subdivision triggers any breach of rules IB-R1-R5.

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. Earthworks will be required to give effect to the subdivision in the upgrading of access and crossings. 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

The assessment of environmental effects below includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment, as required by Clause 2(3)(c) of Schedule 4 of the Act.

A restricted discretionary activity is described in s87A of the Act, clause (3).

*If an activity is described in this Act, regulations (including any national environmental standard), a plan, or a proposed plan as a restricted discretionary activity, a resource consent is required for the activity and—*

*(a) **the consent authority's power to decline a consent, or to grant a consent and to impose conditions on the consent, is restricted to the matters over which discretion is restricted** (whether in its plan or proposed plan, a national environmental standard, or otherwise); and*

*(b) if granted, the activity must comply with the requirements, conditions, and permissions, if any, specified in the Act, regulations, plan, or proposed plan.*

It is also subject to s104C of the Act:

*(1) When considering an application for a resource consent for a restricted discretionary activity, a consent authority must consider **only** those matters over which-*

*(a) A discretion is restricted in national environmental standards or other regulations;*

*(b) It has restricted the exercise of its discretion in its plan or proposed plan; .....*

*(3) ..... if it grants the application, the consent authority may impose conditions under section 108 **only** for those matters over which –*

*(a) A discretion is restricted in national environmental standards or other regulations;*

*(b) It has restricted the exercise of its discretion in its plan or proposed plan.*

The subdivision meets the restricted discretionary number/size of lots specified in Table 13.7.2.1. Far North District Plan lays out in 13.8.1, the matters to which it restricts its discretion in determining whether to grant consent to a restricted discretionary activity, and then lays out the matters to which it will restrict its discretion when considering whether to impose conditions.

### 13.8.1 SUBDIVISION WITHIN THE RURAL PRODUCTION ZONE

*..... In considering **whether or not to grant consent** on applications for restricted discretionary subdivision activities, the Council will restrict the exercise of its discretion to the following matters:*

*(i) for applications under 13.8.1(a):*

- effects on the natural character of the coastal environment for proposed lots which are in the coastal environment.

*(ii) for applications under 13.8.1(b) or (c):*

- effects on the natural character of the coastal environment for proposed lots which are in the coastal environment;
- effects of the subdivision under (b) and (c) above within 500m of land administered by the Department of Conservation upon the ability of the Department to manage and administer its land;
- effects on areas of significant indigenous flora and significant habitats of indigenous fauna;
- the mitigation of fire hazards for health and safety of residents.

*Proposed subdivision*

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In considering **whether or not to impose conditions** on applications for restricted discretionary subdivision activities the Council will restrict the exercise of its discretion to the following matters:

- (1) the matters listed in 13.7.3;
- (2) the matters listed in (i) and (ii) above

In the case of this application, the application is lodged pursuant to 13.8.1(c), and therefore clause (ii) applies:

- *effects on the natural character of the coastal environment for proposed lots which are in the coastal environment;*

The property is not within the coastal environment.

- *effects of the subdivision under (b) and (c) above within 500m of land administered by the Department of Conservation upon the ability of the Department to manage and administer its land;*

There is no land administered by the Department of Conservation within 500m of the site

- *effects on areas of significant indigenous flora and significant habitats of indigenous fauna;*

The proposed Lots 1-4 are within an area mapped (2016) as PNA Pukewhao Forest Mosaic. The establishment of residential use within such an area does not automatically infer any adverse effects are created. The vegetation is regenerative mixed species, having been previously cleared land. Refer to the 1988 photo earlier in this report. Subdivision site works do not involve a lot of clearance, only along the existing (historic) formed access track. It is proposed that future lot owners be able to clear sufficient vegetation to provide for a house site and access to same. This would involve both indigenous and exotic species. At time of building consent, the need for additional indigenous vegetation clearance to ensure adequate buffer distance between any residential unit and the drip line of any area of trees would need to be assessed by the lot owner at the time. As part of the subdivision it is proposed to provide for the protection of indigenous vegetation within each lot, other than clearance required for the establishment and maintenance of a residential dwelling on each lot and access to it as referred to above. The clearance of exotic / weed species should be allowed to continue, just as the ODP provides for. The amount of clearance, when compared with the overall vegetative coverage of the site and environs is small and will not adversely impact on the overall biodiversity values of the area. The site is kiwi present and it is proposed to ensure that any dogs or cats kept on a lot are kept inside at night.

- *the mitigation of fire hazards for health and safety of residents.*

Future lot owners, when considering the location of a future residential unit, will need to ensure the establishment (if not already established) and maintenance of a 20m buffer between any house and dripline of any area of trees.

All lots except Lot 1 have cleared areas within which a house can be constructed.



**Travelling south along easement B with Lot 1 at right (west) of easement**



**Looking north across Lot 2's building area – cleared for the most part with mostly exotic species on periphery**



**Looking in a generally northerly direction across Lot 3's house site**



**Lot 4 house site's northwest periphery**

***In determining conditions of consent, the following AEE is offered.***

### **6.1 Allotment Sizes and Dimensions**

All lots are in excess of 2ha, and have been shown to be able to provide for future residential development. The proposed additional lots are of an appropriate size and dimension for such development, easily accommodating a 30m x 30m square building envelope complying with setback requirements.

### **6.2 Property Access**

It is proposed that the access to the existing balance lot will remain unchanged (via Pukewhao Road). The additional lots will not utilise that access so it is a no change scenario for the Pukewhao Road access.

The additional lots will instead utilise an existing appurtenant right of way, and then internal rights of ways, for their access. This commences at a crossing off Horeke Road, winding southeast across adjacent Lot 2 DP 211822 before reaching the boundary to Section 1 Blk II Mangamuka SD (application site).

The crossing off Horeke Road can be formed to the appropriate double width rural crossing standard if it is not already to that standard. Thereafter the internal access will follow the existing old track route, and be upgraded to the appropriate standard.



**Looking north along existing appurtenant right of way back towards Horeke Road**

The photos below show examples of parts of the old existing track alignment. There is sufficient width/scope for upgrading works, including drainage.



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### 6.3 Excavation and/or Filling

Earthworks is required for the upgrading and widening of rights of way and new vehicle crossings into new lots, to bring them up to standard, as described earlier. Such earthworks will be subject to standard ADP and have the necessary Erosion and Sediment Control measures in place for the duration of the works.

### 6.4 Natural and Other Hazards

Please note that the Site Feasibility Appraisal supporting the application (Appendix 4) utilises an older scheme plan whereby the boundaries between Lots 2, 3 and 4 differ from the Scheme Plan being submitted with this application in Appendix 1. However, the indicative building envelopes within Lots 2, 3 and 4 have not changed.

The Site Feasibility Appraisal (SFA) in Appendix 4, specifically section 10.2 and Table 1.2, address hazards. The proposed Lots 1-4 are not within a flood hazard extent area. The lots are not at risk of inundation, avulsion or alluvion hazards. The site is not coastal and is elevated, so there is no risk from sea level rise or tsunamis.

The SFA concluded no evidence of erosion, falling debris, subsidence or slippage.

The lots are in an area of vegetation and there will need to be sufficient cleared area around any future residential unit and their access, to mitigate against the risk of fire.

The geotechnical appraisal within the SFA concluded that locations proposed for development can be considered to likely have a low potential for slope instability. It is nonetheless suggested that site specific geotechnical investigations be carried out at building consent stage to determine the need for specific engineer designed foundations.

The property is not listed as a HAIL site by Northland Regional Council [source: NRC online maps], or on Far North Maps.

### 6.5 Water Supply

There is no Council reticulated water supply available to the property and the Council can impose its standard requirement in regard to potable and fire fighting water supply for Lots 1-4. It is not considered necessary for Lot 5 given it is a balance lot. Refer also to Section 25 of the SFA in Appendix 4.

### 6.6 Stormwater Disposal

Refer to the SFA in Appendix 4, specifically Sections 19-22 inclusive. Natural features within and adjacent to the site readily provide for a low impact and sustainable stormwater management approach. The SFA concludes adverse effects as a result of future residential dwellings will be less than minor.

All lots will be able to meet the zone's permitted impermeable surface coverage.

Stormwater management is assessed against the criteria in 13.10.4 of the ODP – refer to Table 1.5 in section 22 of the SFA.

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## 6.7 Sanitary Sewage Disposal

Refer to Sections 23-26 of the SFA in Appendix 4. Site feasibility appraisal was based on a three bedroom house with design occupancy of 5 people. There is sufficient land in each lot for land application of effluent disposal via a dripline system, plus 100% reserve area. The maximum slope angle for drip irrigation is 25 degrees. The slopes on nominated developable areas within Lots 1-4 range from 9 to 21 degrees.

The SFA suggests that a site specific onsite wastewater management system appraisal can be provided at building consent stage when specific design details are known.

An assessment of wastewater management against the criteria in 13.10.5 of the ODP is provided in the SFA, Section 26, Table 1.6.

## 6.8 Energy Supply & Telecommunications

Energy supply and telecommunications are not a requirement of rural subdivisions. The Council can impose its standard consent notice in this regard.

## 6.9 Easements for any purpose

The property has an existing appurtenant easement and this is not required to be shown on any new survey plan. Internal to the site, Easements A, B and C will provide for right of way and services as shown in the Memorandum of Easements and on the face of the Scheme Plan in Appendix 1.

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

The ODP states:

*Where any proposed allotment contains one or more of the following:*

- (a) a Notable Tree as listed in Appendix 1D;*
- (b) an Historic Site, Building or Object as listed in Appendix 1E;*
- (c) a Site of Cultural Significance to Maori as listed in Appendix 1F;*
- (d) an Outstanding Natural Feature as listed in Appendix 1A;*
- (e) an Outstanding Landscape Feature as listed in Appendix 1B;*
- (f) an archaeological site as listed in Appendix 1G;*
- (g) an area of significant indigenous vegetation or significant habitats of indigenous fauna, as defined in Method 12.2.5.6.*

*The continued preservation of that resource, area or feature shall be an ongoing condition for approval to the subdivision consent.*

### Heritage Resources

The application site does not contain any Notable Tree, Historic Site, Building or Object, archaeological site, or Site of Cultural Significance to Maori.

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Landscape

The application site does not contain any area mapped as Outstanding Natural Feature or Landscape Feature, nor any Outstanding Landscape.

Flora and Fauna

The application site is within a kiwi present area and the norm for sites in a kiwi present area is to include a requirement that any dogs or cats kept on the lots must be kept inside and/or securely kennelled or enclosed (dogs) at night in order to reduce the risk of predation on kiwi.

The application site has been subject to historic clearance, not just along historic tracks, but also within the lots. Regrowth is evident with tobacco plant, pampas and gorse also present. The indigenous vegetation within the area proposed for development (Lots 1-4) is patchy in terms of coverage and quality. Some of the vegetation, within Lots 1 & 3 is fenced, but not all.

It is proposed to protect the indigenous vegetation within each of Lots 1-4, other than any clearance required for residential living, and access, including a reasonable cleared buffer between dwellings and the dripline of any area of trees in order to mitigate fire risk. In my opinion this will provide for better management of indigenous flora than currently exists (effectively none). The lots are of a reasonable size to enable ongoing management of indigenous vegetation and habitat, through weed and pest control and in keeping dogs and cats inside at night and under control during the day. A consent notice requiring that indigenous vegetation within each lot is not cut down, damaged or destroyed other than to provide sufficient cleared space for residential living quarters and access to same. These measures will instil an ethos of stewardship and result in the enhancement of habitat rather than degradation.

### **6.11 Access to Reserves and waterways**

There are no qualifying waterbodies to which public access is required. The subdivision does not adversely affect waterbodies.

### **6.12 Land use compatibility (reverse sensitivity)**

The area proposed for development is currently devoid of development. The balance lot has historically, and still is, subject to forestry and harvesting, outside of the area proposed for development. As I understand it, the forestry activity does not, and will not, utilise the appurtenant right of way proposed for use by Lots 1-4. Any future planting that the owner might propose for the balance Lot 5 will be established well clear of Lots 1-4. Recent aerial photography shows plantation approximately 100m from Lot 4's southeastern boundary, with the proposed building site within that site a further 50 internal to the lot. Reverse sensitivity issues in regard forestry activities can arise where residential dwellings establish too close to plantation forest. However, in this instance I believe an adequate buffer distance can be achieved to minimise the risk of reverse sensitivity issues arising.

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### **6.13 Proximity to Airports**

The site is not near any airport.

## **7.0 STATUTORY ASSESSMENT**

In accordance with Section 104(1)(b) of the Act, the following documents are considered relevant to the application.

### **7.1 National Policy Statements & Standards**

The only National Policy Statement relevant to the proposal is that for Indigenous Biodiversity (NPS IB). The application site has been the subject of several forestry rights, and is currently subject to a notice pursuant to the Climate Change Response Act 2002. Areas of native bush, (other) bush and grassland within the site were excluded from the Plan of Forestry Rights. The area proposed for Lots 1-4 is shown as 'grassland' and 'bush' on the Forestry Rights Plan attached to Forestry Rights documentation.

The area proposed as Lots 1-4 contains some indigenous vegetation, but is also populated by exotic / weed species as well. It is proposed to provide for limited clearance for residential living and access, but to protect the majority of indigenous vegetation elsewhere within the lots. This is consistent with the objective and policies of the NPS IB.

I have not identified any other National Policy Statement relevant to the proposal, nor any National Environmental Standard. No natural inland wetlands or water bodies are affected, and the site has not historically been used for any HAIL activity. The site does not contain 'highly productive land'.

### **7.2 Regional Policy Statement for Northland (RPS)**

I do not consider the proposal to be inconsistent with any relevant objectives and policies in the RPS for Northland. The proposed lots will result in additional built development, but the proposal does not result in any material loss in productivity and does not result in significant reverse sensitivity effects. The site is not subject to hazard. The site is not coastal and has no high or outstanding natural character or landscape values, and no heritage/cultural values.

Whilst there be some clearance of indigenous vegetation, this will be limited to only what is required to establish a building site and access within each lot.

### **7.3 Regional Plan (Appeals Version)**

The subdivision itself does not result in any breaches of rules in the Regional Plan. Subdivision works will involve track upgrade, along an existing easement alignment and then an existing farm track alignment, across two separate sites. The existing appurtenant easement track crosses one small area that is mapped as a flood hazard area. This restricts the volume of earthworks to take place within that area to 50m<sup>3</sup> in a 1 in 10 year event (high risk) flood hazard area, and 100m<sup>3</sup> in a flood hazard area. The applicant advises that only a very small amount of earthworks will be required in that area. Should consent be required from the regional council to exceed those volumes in that small area, it would be a controlled activity.

As far as I can ascertain there is no part of the access within an erosion prone area. The allowable area of exposed earth at any one time on all other parts of the access, across two different sites, is therefore 5,000m<sup>2</sup> per site. It might be feasible to ensure no more than 5,000m<sup>2</sup> of exposed earth at any one time by staging the works, laying metal and revegetating faces as the works progress. The formation of the access track already exists, with subdivision site works likely to involve removing grass and vegetative cover that has grown over the track and then re-metalling and upgrading the track (including drainage). If the threshold is likely to be breached on either site, however, then consent will be required from NRC, again as a controlled activity.

#### **7.4 District Plan Objectives and Policies**

I consider the subdivision to be consistent with the subdivision objectives and policies in Chapter 13. In particular I consider the proposal to be consistent with Objective 13.3.1 which provides for (enables) subdivision in a way that promotes sustainable management of natural and physical resources; and Objective 13.3.2 and associated Policy 13.4.1, which seek to ensure that the subdivision of land is appropriate and carried out in a manner that does not compromise air, water, soil or ecosystems, and that avoids, remedies or mitigates any adverse effects.

The Rural Production zone is an enabling zone, providing for a variety of activities subject to avoiding, remedying or mitigating adverse effects and compatibility with the amenity values of rural areas and rural production activities. I consider the proposed subdivision to be consistent with the zone's objectives and policies.

##### **OBJECTIVES**

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

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

The subdivision is consistent with both the above objectives. It promotes sustainable management of the natural and physical resources of the District and provides for the applicants' social and economic well being. It is an appropriate subdivision that does not compromise the life-supporting capacity of air, water, soil or ecosystems, and adverse effects are minimal.

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

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

*Proposed subdivision*

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The property has no outstanding landscape values, and is not within the coastal environment. There are no 'scheduled heritage resources' identified in the District Plan on the property.

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.

On-site water supply and on-site stormwater management can be achieved.

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

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

There are no 'scheduled' sites of significance to Māori affecting the property. The proposal is low density. There are no substantial waterbodies.

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.

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.

Power supply is not a requirement of rural subdivision.

**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.

I believe the subdivision has less than minor impact on the relevant matters listed in the above policy.

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

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

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.

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.

*Proposed subdivision*

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Access to the site is off Council maintained public road. Rights of way and crossings into each lot can be constructed to a practical and safe standard. The site is not subject to hazards that preclude development occurring.

*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.*

There is some limited indigenous bush within the area of Lots 1-4, as well as a larger area of indigenous vegetation within balance Lot 5. The latter remains untouched and unaffected by the proposal. The site is also identified as being within a kiwi present area. Accordingly all dogs and cats will be kept inside at night. Apart from clearance required to establish a building envelope (with buffer) and access, other indigenous vegetation within each of Lots 1-4 (if any) is proposed for protection. The property is not located within the coastal environment. No known heritage resources exist on or close to the application site. The site does not contain any outstanding natural landscape or features.

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

Future lots will be responsible for their own on-site water storage.

*13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to s6 matters.....*

s6 matters are discussed elsewhere in this report. The subdivision does not adversely affect the character of the Rural Production Zone in regard to s6 matters, or any of those matters listed in 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 Objectives and Policies of the Rural Production Zone have been considered in the design and layout of the subdivision and I consider the subdivision to be consistent with those objectives and policies.

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

The proposal creates four 2ha lots in the Rural Production Zone, a scenario provided for in the District Plan. It leaves a large balance "production" lot. This large balance lot has forestry rights and is subject to a Notice pursuant to the Climate Change Act. The area including Lots 1-4 is outside of any area identified for forestry rights. I believe that this proposal represents sustainable management for the 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.*

I believe the proposal provides for the efficient use and development of land. Whilst the proposed Lots 1-4 may have an appearance of isolation and seclusion, they are in fact not

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far from public (sealed) road, the community of Horeke, and State Highway 1, via Rangiahua Road is also not too far distant.

*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.*

The proposal does not adversely affect amenity values of the zone. The site contains no highly productive land.

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

The property is subject to Forestry Rights and is within a much larger area also subject to ongoing forestry. In this sense, significant natural values could be seen as already degraded to some extent. There are pockets of indigenous bush and shrubland remaining in the wider area and within the application site. Future owners of Lots 1-4 will be required to minimise clearance and to protect remaining indigenous vegetation/habitat within their property boundaries.

*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.*

The proposal is not a land use activity. I have not identified any likely conflicting land uses that cannot be mitigated.

*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.*

This policy relates to land use activities, not subdivisions. N/A.

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

The proposal is not a 'rural production activity'.

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

The site is in forestry, bush and limited grazing. The zone provides for this use and a wide range of other activities, including residential living.

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

Again, this policy is directed at land uses, not subdivisions.

*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.*

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The proposed subdivision scale and intensity meets restricted discretionary subdivision standards and is consistent with the requirements and expectations of the District Plan.

*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.*

I believe the proposal represents efficient use and development of the physical and natural resources.

*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.*

Refer to earlier comments in regard to reverse sensitivity. I believe any potential adverse effects can be readily avoided, remedied or mitigated. The proposal is not increasing the risk of reverse sensitivity issues to the local area. The proposal will not prevent existing lawfully established activities from continuing to operate.

Relevant district wide objectives and policies are those applying to Indigenous Vegetation.

Objectives 12.2.3.1, 12.2.3.2, 12.2.3.3 and 12.2.3.4 are aimed at maintaining and enhancing the life supporting capacity of ecosystems and the extent of representativeness; promoting active management of significant indigenous vegetation and habitat; recognising equity for landowners; and promoting an ethic of stewardship. I believe this proposal is consistent with all of these objectives.

Policy 12.2.4.4 provides for limited areas of indigenous clearance. The area is not high density kiwi (policy 12.2.4.11). I believe the proposal will provide for the maintenance of ecological values (12.2.4.1) and the scale and intensity of the subdivision is such that adverse ecological effects are mitigated (12.2.4.3).

## **7.2 Proposed District Plan Objectives and Policies**

The property is zoned Rural Production under the PDP. An assessment of the proposal against the zone's Objectives and Policies follows:

### *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.*

The proposal does not impact unduly on the availability of land for primary production. The application site is the subject of Forestry Rights rather than any other production use, and the proposed additional lots are not involved in that forestry.

### *RPROZ-O2*

*The Rural Production zone is used for primary production activities, ancillary activities that*

*Proposed subdivision*

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support primary production and other compatible activities that have a functional need to be in a rural environment.

This objective is in a zone chapter, not subdivision, and is aimed at 'activities'.

*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.*

There is no highly productive land within the site. Any primary production activity within the site and on adjacent sites will not be constrained as a result of the proposal. The site is not subject to hazards. New lots will be fully on site self serviced.

*RPROZ-O4*

*The rural character and amenity associated with a rural working environment is maintained.*

The subdivision will not adversely impact on rural character and amenity.

*RPROZ-P1*

*Enable primary production activities, provided they internalise adverse effects onsite where practicable, while recognising that typical adverse effects associated with primary production should be anticipated and accepted within the Rural Production zone.*

The proposal is not for a primary production activity. Not applicable.

*RPROZ-P2*

*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.*

Activity based policy. Not applicable.

*RPROZ-P3*

*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.*

Refer to earlier comments in regard to reverse sensitivity.

*RPROZ-P4*

*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;*

*Proposed subdivision*

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- 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 subdivision is a low-density development, consistent with the level of density provided for by the ODP. The area is not dominated by high intensity agriculture or horticultural use – which are the type of uses that can generate reverse sensitivity issues if not managed. I believe the proposal will maintain the rural character and amenity of the area.

*RPROZ-P5*

*Avoid land use that:....*

N/A. Activity is not a land use.

*RPROZ-P6*

*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 will not result in the loss of highly productive land. The proposed additional lots are not required for the existing forestry operations within the site. It is proposed that other than clearance required for dwellings and access, indigenous vegetation within the additional lots be protected.

*RPROZ-P7*

*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: ...*

The proposal does not require consent under the PDP's zone provisions and is not a land use activity in any event, so the policy is of limited relevance.

*Subdivision objectives and policies:*

*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 mitigated and existing risks reduced; and*
- f. *manages adverse effects on the environment.*

I believe that the proposed subdivision is more consistent than not with the zone's objectives and policies, and any relevant district wide objectives and policies. I believe it will result in the efficient use of land.

*Proposed subdivision*

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*SUB-O2*

*Subdivision provides for the:*

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

The site contains none of the above.

*SUB-O3*

*Infrastructure is planned to service the proposed subdivision and development where:*

- a. there is existing infrastructure connection, infrastructure should provided in an integrated, efficient, coordinated and future-proofed manner at the time of subdivision; and*
- b. where no existing connection is available infrastructure should be planned and consideration be given to connections with the wider infrastructure network.*

There is no planned infrastructure for the wider area. On-site infrastructure can be utilised for wastewater, stormwater and potable water supply.

*SUB-O4*

*Subdivision is accessible, connected, and integrated with the surrounding environment and provides for:*

- a. public open spaces;*
- b. esplanade where land adjoins the coastal marine area; and*
- c. esplanade where land adjoins other qualifying waterbodies.*

The site is rural and is not adjoining, nor contain, any qualifying waterbodies. It is not coastal and there are no nearby public open spaces.

*SUB-P1*

*Enable boundary adjustments that:...*

Not applicable.

*SUB-P2*

*Enable subdivision for the purpose of public works, infrastructure, reserves or access.*

Not applicable.

*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 is more consistent than not, with the purpose and qualities of the zone, largely because it is low overall density, maintains character, and the site contains no highly productive land. Whilst the proposed lots do not 'comply' with the PDP's minimum lot sizes for the zone, the lots are nonetheless able to provide for building platforms. They have / can have legal and physical access.

*Proposed subdivision*

---

*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 minimises impact on natural environmental values, nor historical and cultural values. The site is not subject to any hazard that precludes development.

*SUB-P5*

*Manage subdivision design and layout in the General Residential, Mixed Use and Settlement zone to .....*

Not applicable.

*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.*

This is a rural area with no planned infrastructure improvements on the part of the Council. Future lot owners will be responsible for on-site infrastructure of wastewater, stormwater and potable water.

*SUB- P7*

*Require the vesting of esplanade reserves when subdividing land adjoining the coast or other qualifying waterbodies.*

Not applicable.

*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.*

Part (a) cannot be met (by any development) because there are no 'qualifying SNA's'. Part (b), however, is readily met because there are no versatile soils to be lost.

*SUB-P9*

*Avoid subdivision rural lifestyle subdivision in the Rural Production zone and Rural residential subdivision in the Rural Lifestyle zone unless the development achieves the environmental outcomes required in the management plan subdivision rule.*

The subdivision is not a management plan subdivision.

*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 applicable.

*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:*

*Proposed subdivision*

- 
- 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 consent under the PDP so the above policy is of limited relevance. Notwithstanding this, relevant matters in SUB-P11 have been considered.

The objectives and policies in the PDP's Indigenous Biodiversity chapter are also relevant. These objectives and policies have recommended amendments through the PDP's hearings process to remove any and all references to Significant Natural Areas. However, the intent remains consistent with the Objectives and Policies as originally notified, albeit more generically referring to indigenous biodiversity per se as opposed to differentiating between Significant Natural Areas and other indigenous vegetation.

Objective IB-O2 promotes the management of indigenous biodiversity to maintain its extent and diversity in a way that provides for the social, economic and cultural wellbeing of people and communities. I believe the proposal is consistent with this objective. IB-O4 seeks to recognise the role of landowners as stewards in protecting and restoring significant natural areas (of which there are none), and in providing for indigenous biodiversity. As discussed previously, I believe this proposal is consistent with this objective.

The relationship between tangata whenua and indigenous biodiversity, and the role of tangata whenua as kaitiaki (IB-O3 and O4) are not explicitly provided for by this proposal. However, indirectly through a requirement to manage the indigenous vegetation within each lot, I believe the proposal recognises these things.

In regard to policies, IB-P3(b) seeks to avoid, remedy or mitigate adverse effects on areas of important and vulnerable indigenous vegetation, habitats and ecosystems to ensure there are no significant adverse effects. As stated earlier vegetative cover is patchy, better in some places than others. I believe the intent to protect the majority of indigenous vegetation within each lot, whilst providing for sufficient cleared space for living and access, adequately mitigates against significant adverse effects.

Policy IB-P6 encourages the protection and maintenance of areas of indigenous biodiversity, which this proposal seeks to achieve. Policy IB-P7 supports the management of pest plants and animals, again something this proposal seeks to achieve.

IB-P9 seeks the management of pests and pest species in kiwi present areas – again something this proposal incorporates.

I consider the proposal to be generally consistent with the above objectives and policies.

---

## **8.0 NOTIFICATION ASSESSMENT & CONSULTATION**

### **8.1 S95A Public Notification Assessment**

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. None of these circumstances apply. Step 2 of s95A specifies the circumstances that preclude public notification. Neither circumstance exists therefore public notification is not precluded and Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances. The application is not subject to a rule or national environmental standard that requires public notification. This report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. In summary public notification is not required pursuant to Step 3 of s95A.

### **8.2 S95B Limited Notification Assessment**

A consent authority must follow the steps set out in s95B to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified pursuant to s95A. Step 1 identifies certain affected groups and affected persons that must be notified. No such group or persons exist in this case. Step 2 of s95B specifies the circumstances that preclude limited notification. Neither circumstance applies and Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified, in this case being any identified pursuant to s95E. The s95E assessment below concludes that there are no affected persons to be notified.

### **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, therefore no public notification is required.

### **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 size and layout of the proposed lots is consistent with the zone's restricted discretionary activity threshold. Access to Lots 1-4 is to be brought up to the necessary standard. The presence of indigenous vegetation is acknowledged and clearance will be kept to a minimum, with protection of the balance indigenous vegetation in each lot (outside of areas to be cleared for dwellings/buildings and access) and control of dogs and cats is also proposed. I do not consider any adjacent properties to be affected by the creation of built development on four additional lots. I have not identified any affected persons in regard to adjacent properties.

There are no identified Sites of Significance to Māori within the site, and no archaeological sites. The site is not coastal. With less than minor effects on any habitat, including water bodies, and no impact on DOC's ability to manage its resources, it has not been considered necessary to consult with DOC prior to lodging the application.

## 9.0 PART 2 MATTERS

### 5 Purpose

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

The proposal is considered to have had adequate regard to Part 2 matters. I believe the proposal fulfils the Purpose in s5.

### 6Matters 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 Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*

*(f)the protection of historic heritage from inappropriate subdivision, use, and development:*

*(g)the protection of protected customary rights:*

*(h)the management of significant risks from natural hazards.*

The site is not within the coastal environment and there are no known wetlands, lakes or rivers affected by the proposal. The site does not have any outstanding landscape values. There is some indigenous bush on the property, the vast bulk of which will remain, noting that the balance property is subject to Forestry Rights. No public access is required to any lake or river. There are no culturally significant areas on or near the application site, and no identified heritage values. There are no significant risks from natural hazards.

### 7 Other matters

*(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.

In regard to "other matters" (s7), I see (c) the maintenance and enhancement of amenity values; (d) intrinsic values of ecosystems; and (f) maintenance and enhancement of the quality of the environment as having relevance. All lots are large enough to provide for house sites and on-site services. The proposal represents the efficient use and development of resources. It has minimal, if any, adverse effect on amenity values or the intrinsic values of ecosystems.

#### 8 Treaty of Waitangi

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

I have not identified anything in the proposal that gives offence to, or is contrary to, s8.

## 10.0 CONCLUSION

The proposed subdivision is of a type and density considered consistent with the Operative District Plan, and more consistent than not with the objectives and policies of the Proposed District Plan.

No significant adverse effects will arise from the activity. There has been no need to consider alternatives. All effects can be appropriately and adequately avoided, remedied or mitigated such that the proposal will result in less than minor effects on the environment. No affected persons have been identified and limited notification is not required.

The relevant provisions of Part 2 of the Act have been addressed. The proposal is considered consistent with the objectives and policies of relevant planning provisions in National Policy Statements and the Regional Policy Statement.

It is requested that the Council give favourable consideration to the application and grant approval, subject to appropriate conditions, under delegated authority.



Lynley Newport

**Senior Planner**

**THOMSON SURVEY LTD**

Dated

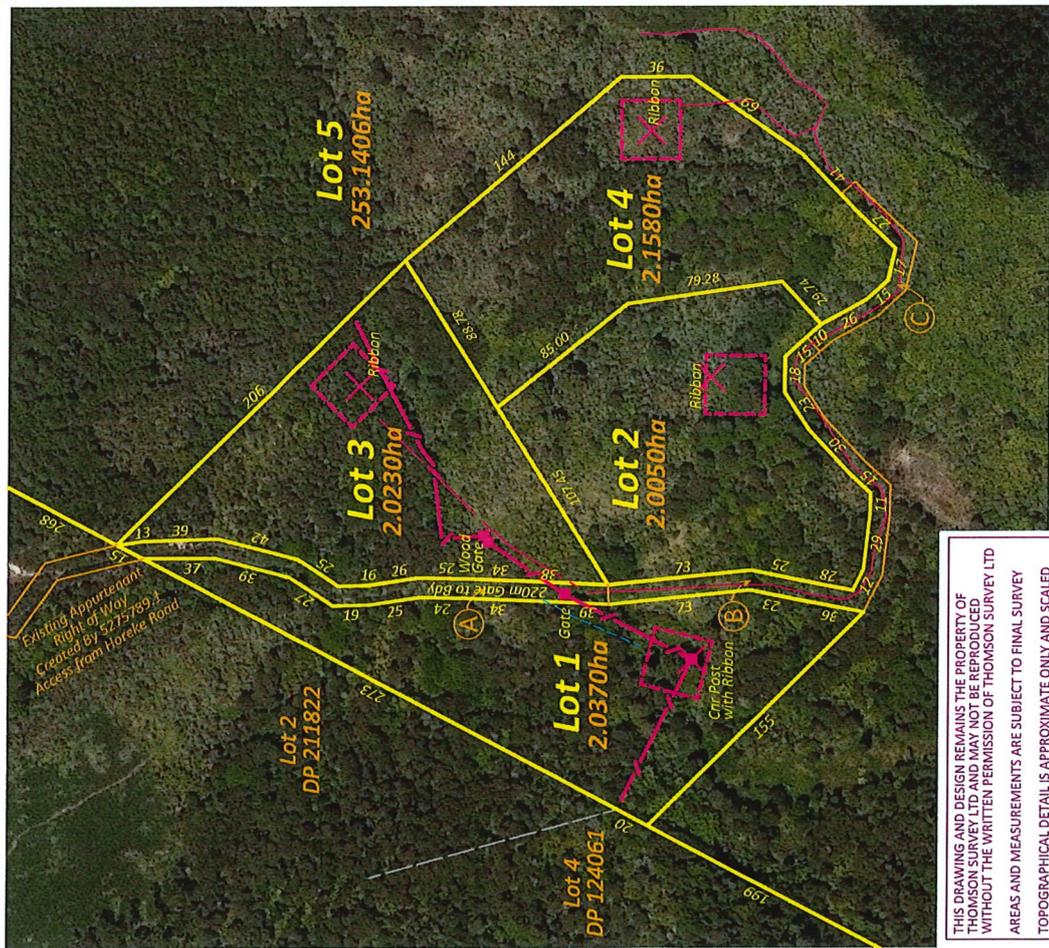
10<sup>th</sup> March 2026

## 11.0 LIST OF APPENDICES

<b>Appendix 1</b>	Scheme Plan(s)
<b>Appendix 2</b>	Locality Plan
<b>Appendix 3</b>	Record of Title & Relevant Instruments
<b>Appendix 4</b>	Site Feasibility Appraisal

## **Appendix 1**

Scheme Plan(s)



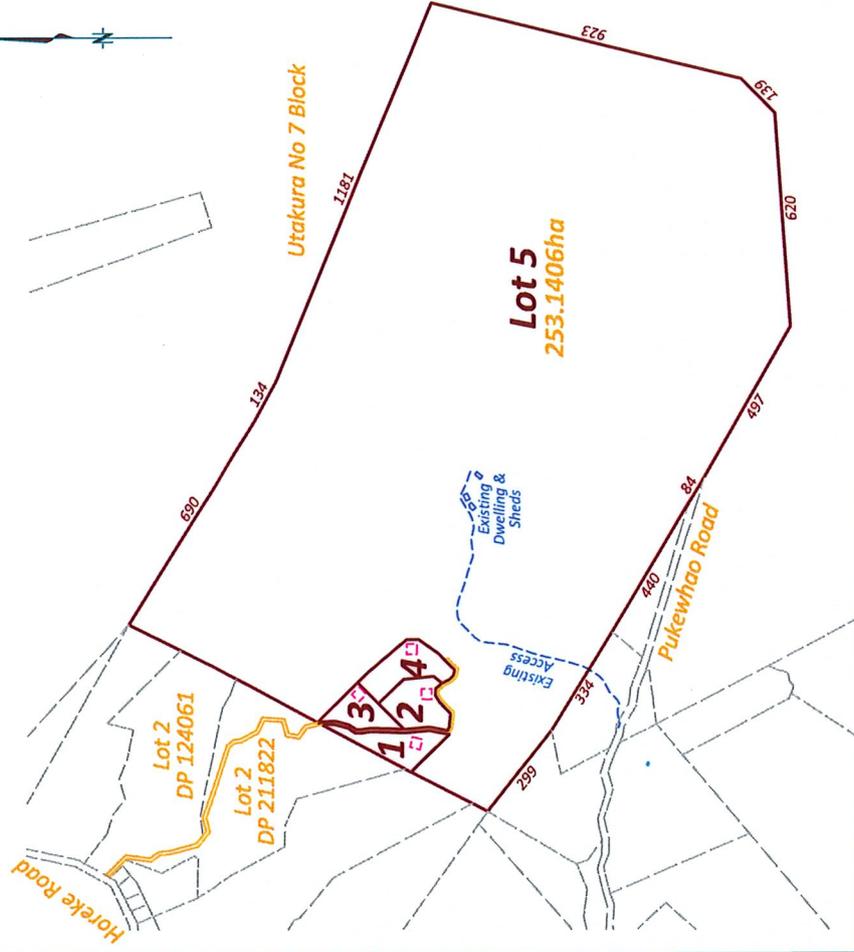
THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF THOMSON SURVEY LTD AND MAY NOT BE REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THOMSON SURVEY LTD

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council  
 Comprised in: NA119D/431  
 Total Area: 261.3636ha  
 Zoning: Rural Production  
 Resource features: NIL

**THOMSON SURVEY**  
 315 Kerikeri Rd  
 P.O. Box 372 Kerikeri  
 Email: kerikeri@tsurvey.co.nz  
 Ph: (09) 4077360  
 www.tsurvey.co.nz

Registered Land Surveyors, Planners & Land Development Consultants



**OVERALL DIAGRAM**  
 PROPORTIONAL

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A)	LOT 5 HEREON	LOTS 1 - 4 HEREON
	(B)	LOT 5 HEREON	LOTS 2 & 4 HEREON
	(C)	LOT 5 HEREON	LOT 4 HEREON

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.

Survey	Name	Date	ORIGINAL SCALE	SHEET SIZE
Design	SL/KY	27.06.24	1:2500	A3
Drawn	SL	16.07.25		
Approved	SL	16.07.25		

10652 Scheme 2

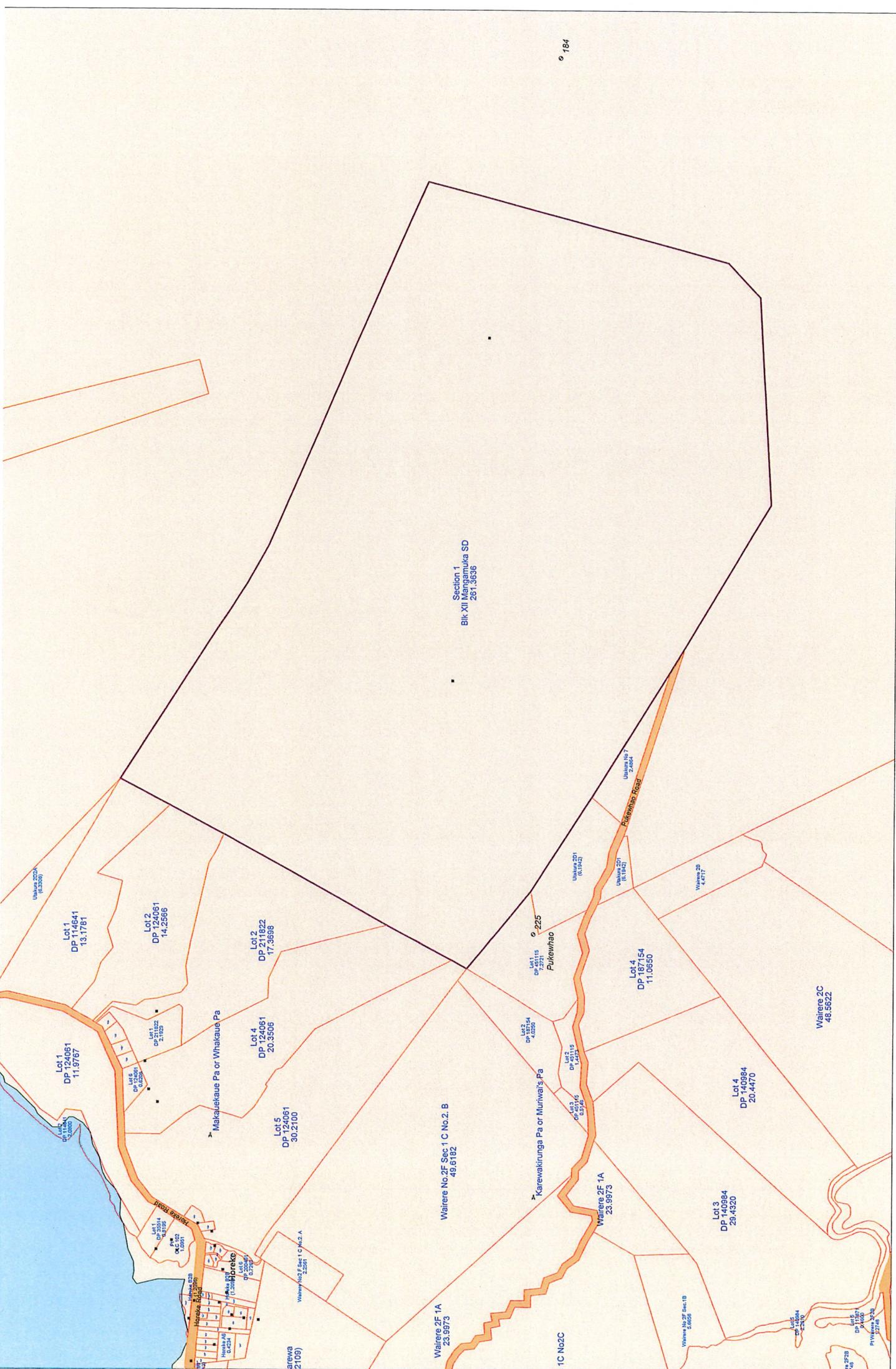
**PROPOSED SUBDIVISION OF SECTION 1 BLK II MANGAMUKA SD**  
 PUKEWHAO ROAD, HOREKE

PREPARED FOR: P. MADDREN

Surveyors Ref. No: 10652  
 Sheet 1 of 1

## **Appendix 2**

### Locality Plan



## **Appendix 3**

Record of Title & Relevant Instruments



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** NA119D/431  
**Land Registration District** North Auckland  
**Date Issued** 29 January 1999

**Prior References**  
NA88C/708

---

**Estate** Fee Simple  
**Area** 261.3636 hectares more or less  
**Legal Description** Section 1 Block XII Mangamuka Survey  
District

**Registered Owners**

Peter John Roy Maddren, Laurel Elizabeth Maddren and Peter Carl Neumegen

---

**Interests**

Subject to Part IV A Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

D366985.1 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to John Melville Gasson and Una Maire Gasson for a maximum period of 28 years - 11.3.1999 at 3.46 pm

D366985.2 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Forestry Development Group Limited for a maximum period of 28 years - 11.3.1999 at 3.46 pm

D366985.3 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Peter Malcolm Figgess for a maximum period of 28 years - 11.3.1999 at 3.46 pm

D366985.4 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Neil Stuart MacAulay and Janice Mary MacAulay for a maximum period of 28 years - 11.3.1999 at 3.46 pm

D366985.5 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Nye Carnell and Kathryn Carnell for a maximum period of 28 years - 11.3.1999 at 3.46 pm

D544517.2 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Meredith Anne Rabinovitch - 27.9.2000 at 1.01 pm

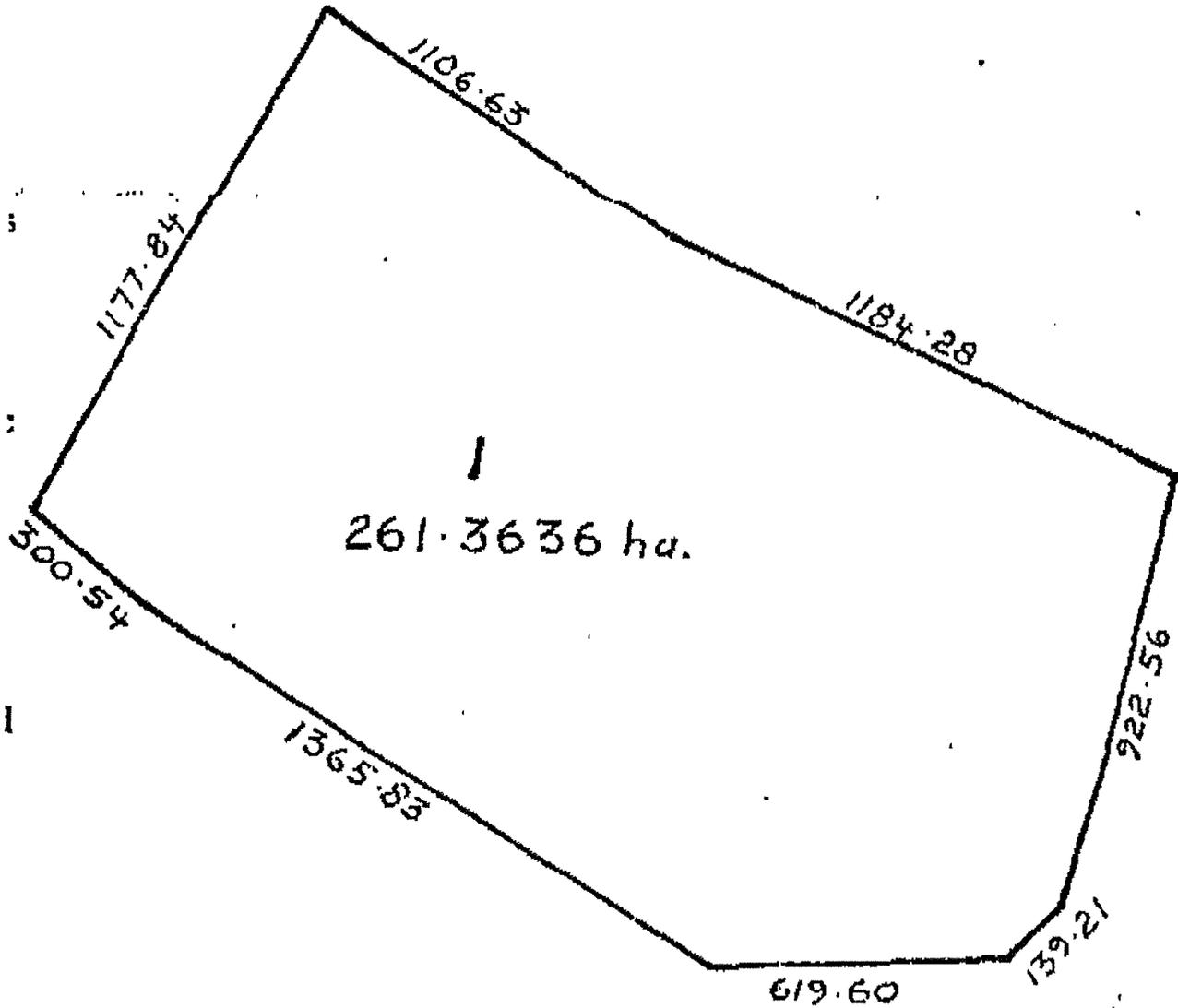
D544517.3 Forestry Right pursuant to the Forestry Rights Registration Act 1983 to Anthony William Cossill - 27.9.2000 at 1.01 pm

Appurtenant hereto is a right of way created by Transfer 5275789.1 - 19.7.2002 at 10:00 am

6239353.1 Mortgage to ASB Bank Limited - 6.12.2004 at 9:00 am

8495920.12 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 18.5.2010 at 9:00 am

XII MANGAMUKA S.D.



S.O. 6771  
Measurements are Metrical



## **Appendix 4**

### Site Feasibility Appraisal



**GUMBOOTS**  
CONSULTING ENGINEERS

## Site Feasibility Appraisal

### Proposed Subdivision

Pukewhao Rd, Horeke

For

Peter Maddren

*Supporting report for resource consent application to Far North District Council*

*Gumboots Consulting Engineers reference 1326*



10/11/2025

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## Revision History

Revision N°	Prepared By	Description	Date
A	Kelly Wright	Geotechnical, Stormwater/Wastewater Assessment	10/11/2025

## Reviewed/Approved

On behalf of **Gumboots Consulting Engineers Ltd** by:



**Akira Kepu**

**Senior Chartered Geotechnical-Civil Engineer**

**CMEngNZ, Board Member of EngNZ Northland Branch.**

**Member of NZGS, ISSMGE, SIG EGP & The Sustainability Society.**

## 1. Executive Summary

The following summarises the findings, conclusions and recommendations detailed within this report. As appropriate, the report shall be read in its entirety to ensure full understanding of the following.

Critical Objectives	Considered
<b>Proposed activity</b>	Subdivision of SECTION 1 BLK II MANGAMUKA SD to create five lots.
<b>RMA</b>	<b>No</b> geotechnical natural hazards were encountered (as listed in the Act) that are considered an undue hindrance to subdivision or that cannot be reasonably addressed by typical engineering design and construction.
<b>Proposed Lots 1 - 5</b>	Lots 1 - 4 are the critical <u>sites</u> hereon and will be subject to residential development. Lot 5 is the balancing lot.
<b>Access</b>	Established off Horeke Rd; northern end of the property. Subject to clearing followed by further observations as appropriate
<b>Vehicular crossing</b>	Established and deemed to comply with current FNDC engineering standards.
<b>Vehicular entrance site distance and tracking curves</b>	Established and deemed to comply with current FNDC engineering standards.
<b>Fill</b>	Not Encountered.
<b>Natural Soils</b>	Very stiff residual soils of Punakitere Sandstone.
<b>Unduly Weak, Sensitive, Or Compressible Soils</b>	Not Encountered.
<b>Subsoil reactivity under normal moisture conditions</b>	Slightly reactive - may become moderately reactive under circumstances where rapidly exposed to the elements. In-situ clays are considered <b>non expansive</b> based on their residual minerals.
<b>Groundwater</b>	Perched groundwater not encountered.
<b>Seismic Site Class</b>	Site Class C - shallow soil site in accordance with NZS 1170.5:2004.
<b>Slope Stability</b>	The site is well drained and reinforced by established native flora. <b>No</b> signs of land mobility were encountered. It is judged to be suitable for future residential development from a land instability [ <i>low</i> ] point of view.

<b>Building Platform</b>	Total developable areas of 900m <sup>2</sup> have been identified for proposed Lots 1 - 4.
<b>Foundations</b>	Based on current investigation data to limited depths, shallow foundations can be applicable here. Further discussion in this regard is presented in Section 16.3.
<b>Onsite Wastewater Disposal</b>	For the subsequent Lots shall assume onsite wastewater treatment system. All work shall be in accordance with current FNDC Engineering Standards.
<b>Stormwater Management</b>	Shall assume water tanks for <i>roof runoff neutrality</i> and <i>overflow</i> dispersed above land as appropriate. Such practice is considered sustainable with minimal impact to the environment overall.
<b>Site-specific appraisal for Building Consent</b>	Specific to <b>ALL LOTS</b> with regard to proposed development at such time; it shall include <u>geotechnical</u> , <u>stormwater</u> and <u>wastewater</u> management.

In specific reference expressed within and in unity with the objectives of the Resource Management Act 1991;

There is, considered less than minor significant risk from natural hazards, and;

The intended purpose for land on the subject property (legal description Section 1 Blk XII Mangamuka SD) can be sustained SUBJECT to;

- ALL future developments shall be carefully planned with respect to the existing natural environments within the respective lots. These natural land features shall be carefully incorporated/maintained within the overall occupational development as it shall provide long term sustainability in ALL aspects to the land and hosting environments.
- ALL recommendations highlighted (and not limited) herein shall be ADHERED to.
- ALL proposed Works exhaust good sound engineering practices and complemented by means of extensive and conscientiously executing field observations/positive action during and after construction.
- ALL proposed Works shall be conducted in accordance with FNDC Engineering Standards and Guidelines and related documents and in conjunction with NZS 4404, Land Development and Subdivision Engineering.

It shall be appreciated that the professional opinions and language expressed within the appraisal are solely from an engineering perspective.

Appropriately, the appraisal shall be read in its entirety to impart enlightenment in full context of the proposed concept and application to the existing property.

## 2. Introduction

This report has been prepared by Gumboots Consulting Engineers Ltd for Peter Maddren, our client. That is, in support of an application to the Far North District Council for Resource Consent to Subdivide a rural property at Pukewhao Rd, Horeke [the 'site'] in accordance with the requirements of the Resource Management Act 1991.

Specifically, this appraisal addresses engineering elements of natural hazards, wastewater, stormwater and earthwork requirements to promote "CLIMATE RESILIENCE" of Land, safe building platforms with less than minor effects on the environment as a result of the proposed activities [outlined in Section 2.1 below] and regenerative and balancing outputs to the natural character of the ENVIRONMENT.

Where appropriate, it is in accordance with the recommendations of NZS 4404, Land Development and Subdivision Engineering and related documents.

### 2.1 Appraisal Philosophy

The pillar outputs anticipated to sustain the former with respect to the primary intended activity of Subdivision shall be;

- **Minimal Site Disturbance**  
That is, the careful choice of the allocated building site is such that site disturbance is limited within this area. These sites are also placed in a manner that such minor disturbances do not alter/interfere with the natural layout of the hosting environment as well as not be reversely influenced by it.
- **Low Impact Design Approach - Stormwater Management**  
The property is well equipped with natural water flow paths, vegetation, native bush (mature and regenerative) and vegetation within sensitive areas. Therefore, careful incorporation of these existing natural site features together with good engineering practices provides an alternative approach to site design and development from a stormwater management context.
- **Sustainable Functional Land Resilience**  
The established flora occupation readily provides functional land resilience against extreme weather patterns. This natural cover shall be of high regard to subsequent residents.

Consequently, the property contains well established natural stormwater features with a homogenous catchment [flow] characteristic. This will be sustained and readily complements the proposed subdivision in managing stormwater.

### 2.2 Appraisal Method

Adopted for this project based on the initial stage of the project and the most economically viable approach with respect to our Client comprises;

1. Desk Study
2. Field Study and Observations

Our reconnaissance seeks account of the fundamental properties of the site, geology, geological landscape, current interactive materials-environment-outputs.

Generally, it summarises the feasible application of the concept [developments] in a practical manner so as to sustain balancing effects with the underpinning conscious living choice in favour of functional resilience of Land, Environment and LIFE in all aspects.

### 2.3 Objective and Scope

The objective of this report is to assess the general suitability of the site for the proposed subdivision. Primarily, the general environmental characteristics of the property. The likely extent of the intended implementations and the capacity of the land to sustain within the proposed Lots. And finally, sustainable engineering solutions that may be required to support such occupation thereafter. It includes;

- The review of pertinent rules and policies, geology maps etc
- Preliminary site investigations and observations and evaluation of subsurface soil conditions
- Identifying geotechnical hazards within the locale
- Assessing potential future house sites (Lots 1 - 4)
- Stormwater flows and management analysis
- Preliminary Feasibility Recommendations for occupational residential living and developments.
- Aerial Survey by Drone~~X~~

### 2.4 Limited Liability

This report has been prepared solely for the benefit of Peter Maddren, in accordance with the brief given to us, the agreed scope and in general accordance with current standards, codes and best practice at the time of this writing. Therefore, he shall be deemed the exclusive owner on full and final payment of the invoice.

Information, assumptions, and recommendations contained within this report can only be used for the purposes with which it was intended. Gumboots Consulting Engineers accepts no liability or responsibility whatsoever for;

1. any use or reliance on the report by any party other than the owner or parties working for or on behalf of the owner, such as local authorities, and for purposes beyond those for which it was intended.
2. any omissions or errors that may befall from inaccurate information provided by the Client or from external sources.

Outcomes given in this report are based on visual methods and subsurface investigations at discrete locations designed to the constraints of the project scope to provide the best assessment of the environment and subsurface conditions.

Therefore, it must be appreciated that the nature and continuity of the subsurface materials between these locations are inferred and that actual conditions could vary from that described herein. We should be contacted immediately if the conditions are found to differ from those described in this report.

Accordingly, further investigations/observations shall then be undertaken as appropriate.

This report should be read and reproduced in its entirety including the limitations to understand the context of the opinions and recommendations given.

### 3. Site Details and Description

#### 3.1 Site Identification

Site Location:	Pukewhao Rd, Horeke
Legal Description:	Section 1 Blk XII Mangamuka SD
Total Site Area:	261.3636 Ha

#### 3.2 District Plan Zoning

According to the Far North District Council (FNDC) District Plan the site is zoned as 'Rural Production'.

#### 3.3 Proposed Activity

A proposed scheme plan was presented to Gumboots Consulting Engineers at the time of writing, prepared by Thomson Survey and is reproduced within Appendix A. It is understood the Client proposes to subdivide the site to create five lots as outlined in Table 1.0 below.

**Table 1.0 - Summary of Proposed Scheme**

Proposed Lot	Area (ha)	Intended end use
1	2.0370	Residential
2	2.0050	Residential
3	2.0230	Residential
4	2.1580	Residential
5	253.1406	Balancing Lot

Reference: Proposed subdivision supplied by *Thomson Survey*, dated 28/08/24.

#### 3.4 Site Location and Description

The subject property is located on Pukewhao Road, Horeke, within the Far North District. It is situated approximately 1.1km east of the Horeke settlement and 1.3km from the Waihou River foreshore [Figure 1].

The property exhibits moderately-moderately steep terrain with elevations ranging from approximately 90 metres to 201 metres above mean sea level. The general ground slope orientation within proposed Lots 1 - 4 is west-northwest, with typical gradients of 9° to 21°. Localised variations in topography include ridgelines, interspersed with drainage gullies. Ridge crests provide areas applicable for development. The landform is characteristic of the Hokianga region's hill country, formed through volcanic deposition and subsequent weathering processes.

The property is zoned Rural Production under the Far North District Plan and is surrounded by rural native and/or forestry land use. Vehicle access is currently via Pukewhao Road, an unsealed local road maintained by Far North District Council.

An existing residential dwelling is included within the boundaries of proposed lot 5. The existing residential development is accessed from Pukewhao Road at the southern boundary; this access will not be altered post subdivision. Consequently, this lot is considered developed.

For proposed lots 1 - 4, the entirety of the site area is currently a combination of mature and regenerative native bush and pasture with some clearing being carried out within the proposed development area envelopes (900m<sup>2</sup>).

Based on the proposed subdivision scheme plan provided to us and our site walkover and observations, it can be concluded that the proposed activity will impose minimal disturbance to the greater natural land setting and existing environment.



**Figure 1 - Site Features Map** (maps adapted from Quick Map Enterprises and Google Earth Maps).

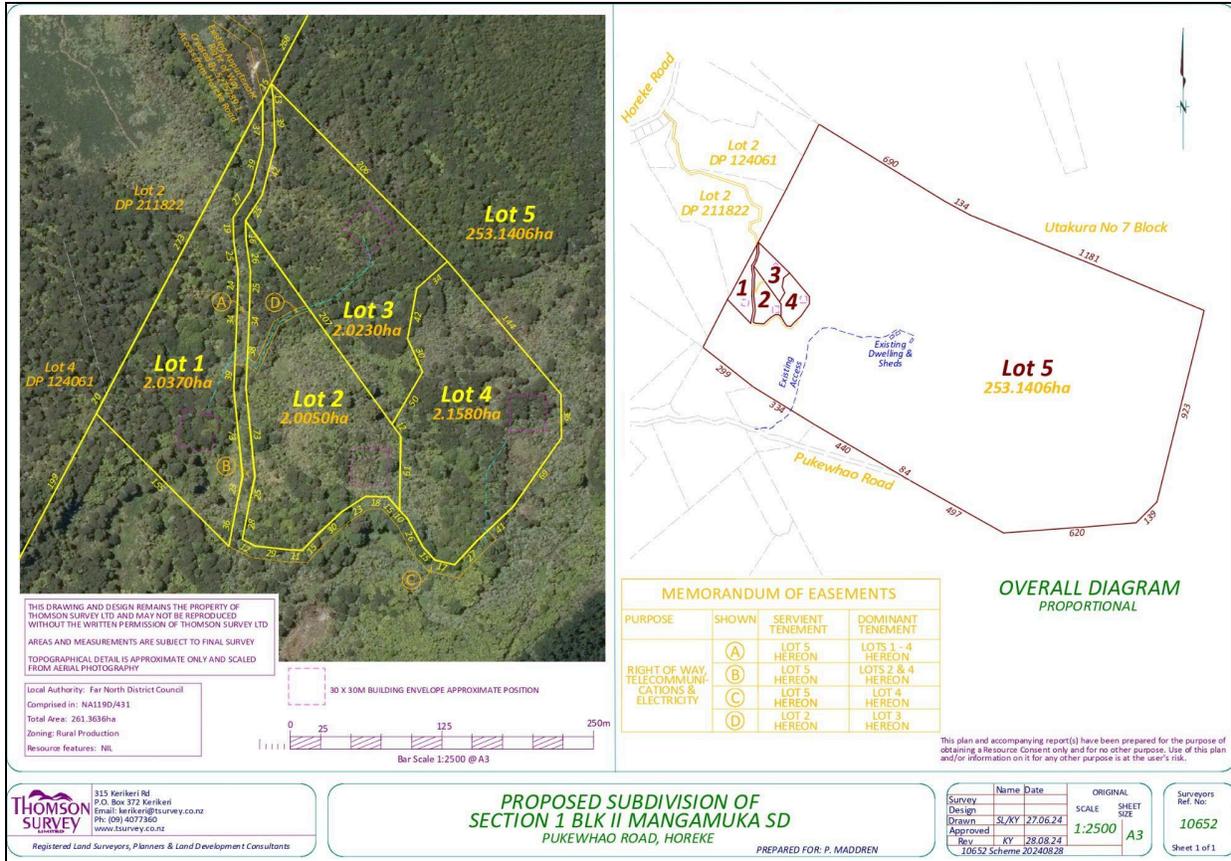


Figure 2 - Proposed Scheme Plan

### 3.5 Allowable Building Areas

A total developable area of 900m<sup>2</sup> has been identified for proposed Lots 1 - 4. This shall provide a sufficient building envelope for a future residential dwelling, associated hard stand areas and necessary 3 waters infrastructure.

These areas are *indicative* to serve the purpose of site feasibility illustration and shall be subject to further detailed site investigations with respect to future residential development activities thereafter.

## 4. Access

Site access: (was historically formed) southward off Horeke Road. This access will remain unchanged post subdivision however, it will require tree/vegetation clearing<sup>1</sup> as a result of years of slumber. As appropriate, further observations in this aspect shall follow thereafter. The aforementioned is specific to the portion of access outside of the property boundary i.e. from the north. This area was not observed during this time although our client advises as abovementioned.

<sup>1</sup> advised by the client.

#### 4.1 Parking and Manoeuvring

Parking and associated manoeuvring can be accommodated within the proposed lots.

### 5. Cultural Landscape

In this instance points to the direct anthropogenic effects upon the natural landscape over a time period. A review of historic aerial photos commencing from 1942 were reviewed in light of this undertaking.

#### 5.1 Land Use

The subject site and surrounding area are characterised by rural productive land use, comprising a combination of pastoral farming, forestry and areas of indigenous bush. This mixed land use reflects typical Hokianga hill country, where topography influences land capability, with steeper slopes retained under forest cover and gentler terrain utilised for pastoral activities.

#### 5.2 Infrastructures

Far North District Council (FNDC) GIS mapping indicates that there is no infrastructure servicing the property at present in regards to wastewater, stormwater and potable water.

Therefore, this report has been prepared with the goal of the subdivision being self-sufficient for the purpose of potable water, onsite wastewater management and onsite stormwater management with final dispensation into Waihou River i.e. incorporating into the existing stormwater network.

### 6. Geomorphology

The Horeke district is underlain predominantly by Early Miocene sedimentary sequences, with the subject site situated on Punakitere Sandstone formations. This geological unit forms part of the broader Northland Allochthon, a complex assemblage of thrust-faulted sedimentary and volcanic rocks that characterise much of the Hokianga region.

The Punakitere Sandstone comprises fine to medium-grained lithic sandstone with interbedded mudstone and siltstone layers, deposited in a marine environment during the Early Miocene epoch (approximately 23-16 million years ago). These sedimentary rocks typically exhibit moderate strength in their unweathered state, though weathering processes have produced varying degrees of decomposition across the landscape.

The regional structure is dominated by a series of northeast-southwest trending thrust faults and associated folding, resulting in the characteristic rolling to steep hill country topography observed in the Hokianga area. The Punakitere Sandstone occurs as part of the middle to upper thrust sheets within the allochthonous sequence, having been emplaced over older Oligocene and Eocene formations during the Miocene tectonic events.

Weathering of the Punakitere Sandstone has produced residual soils ranging from Silty CLAYs to Clayey SILTs, with depth to competent bedrock varying considerably across the site depending on slope angle and drainage

characteristics. Sandstone bedding planes and joint sets influence both surface drainage patterns and subsurface groundwater movement.

The erosional landscape has created the distinctive ridge and gully topography observed on site, with more resistant sandstone beds forming ridge crests and less competent interbedded mudstones contributing to gully formation and slope instability in steeper terrain.

In this assessment, landforms are evaluated based on their geomorphological evolution. Landforms undergo a structured series of developmental stages, analogous to a life cycle, and understanding these stages and their associated processes enables the identification of specific characteristics and potential hazards relevant to the site's current condition.

The proposed building platforms are generally situated on gently to moderately sloping terrain on the northwest-facing slopes below ridge crests at elevations of approximately 116 to 181 metres above mean sea level.

Surface water runoff represents the primary geomorphological agent shaping the landscape over geological time, with evidence of natural drainage channels and erosional features observed across the property. Localised gully formation within steeper gradients demonstrates the ongoing influence of surface water erosion on topographic development.

In summary, the moderately competent Punakitere Sandstone bedrock combined with established vegetation cover across steeper terrain provides protection against slope instability and surface erosion. Further discussion of the geological characteristics and engineering implications is provided in Section 7 - Geology.

The present-day topography can be interpreted as the product of extensive erosional processes acting upon an originally more continuous landform. The current ridge and gully configuration has developed through progressive downcutting and slope retreat, with the lower-lying areas representing erosional removal of material that once connected the existing ridgelines. Surface water runoff, acting over geological timescales, has been the principal geomorphological agent responsible for sculpting the characteristic rolling hill country terrain observed today, with secondary contributions from mass movement processes and weathering of the underlying sedimentary bedrock.

## 7. Geology

The natural geologies as previously mapped are shown in figure 3 below. As depicted, the property sits within three geological units i.e.

1. Punakitere Sandstone [Kkp] - Weakly to moderately indurated, alternating thin- to thick-bedded, quartzofeldspathic sandstone and mudstone.
2. Kerikeri Volcanic Group [Pvkb] - Basalt lava, volcanic plugs and minor tuff.
3. Tangihua Complex [Kt] - Basalt and pillow basalt, with subvolcanic intrusive. Local greenschist metamorphism; extensive zeolitisation.

Understanding the likely *structure* of the underlying rock mass, the *process* which sculpted the landform and the *stage* of its development shall enlighten better background understanding and better prepared choices to subsequent parties involved in this case.

The geological information on hand indicates that proposed lots 1 -4 are underlain by Punakitere Sandstone (Kkp); Fissile, Weakly to moderately indurated, alternating thin- to thick-bedded, quartzofeldspathic sandstone and mudstone.

## 7.1 Positive Rock Structure

The Punakitere Sandstone exhibits moderate intact rock strength in its unweathered state, with typical unconfined compressive strengths ranging from 20-50 MPa for fresh sandstone. The rock mass is characterised by bedding plane discontinuities and joint sets developed through tectonic deformation, which influence both the weathering profile and slope stability characteristics.

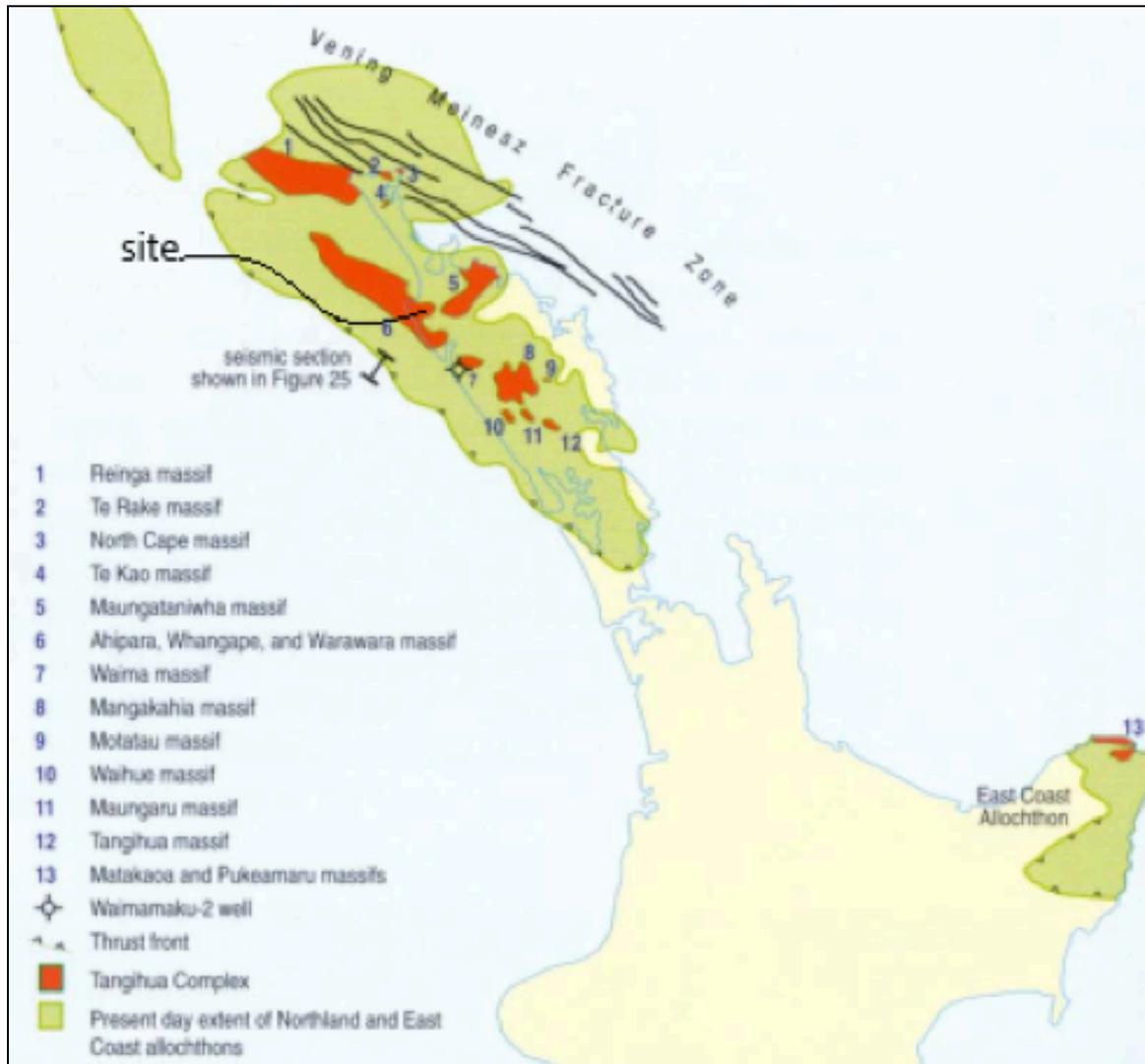
Potential instability mechanisms within Punakitere Sandstone terrain typically arise from:

- Differential weathering between more competent sandstone beds and weaker interbedded mudstone layers
- Daylighting of unfavourably oriented bedding planes on cut slopes
- Groundwater seepage along permeable sandstone horizons overlying less permeable mudstone
- Progressive weathering reducing rock mass strength over time

It should be noted that slope instability triggers (heavy rainfall, seismic loading, undercutting) act independently of the geological formation process itself, though the inherent structural characteristics of the rock mass influence susceptibility to failure.

The sandstone units typically display moderate sorting, with grain sizes ranging from fine to medium sand. In engineering terms, this translates to a moderately well-interlocked fabric when unweathered, though weathering processes progressively reduce cohesion between grains, particularly where clay minerals occupy the matrix.

The geology map below is presented on a regional scale and careful consideration shall be of high regard in relative application of referencing and professional judgements expressed in context to specific sites.



**Figure 3 - Geomorphological features** (adapted from Geology of the Kaitiaki Area. Institute of Geological & Nuclear Sciences; 1: 250,000 geological map 1. Lower Hutt, New Zealand.).

Reference :

GNS Sciences 1:250,000 scale map Sheet 1, 2009: "Kaitiaki" (Geological Map)

NZMS Sheet 290 O 04/05 Part Sheet O 03, 1:100,000 scale map, Edition 1, 1981: "Kaitiaki-Rawene" (Rocks).

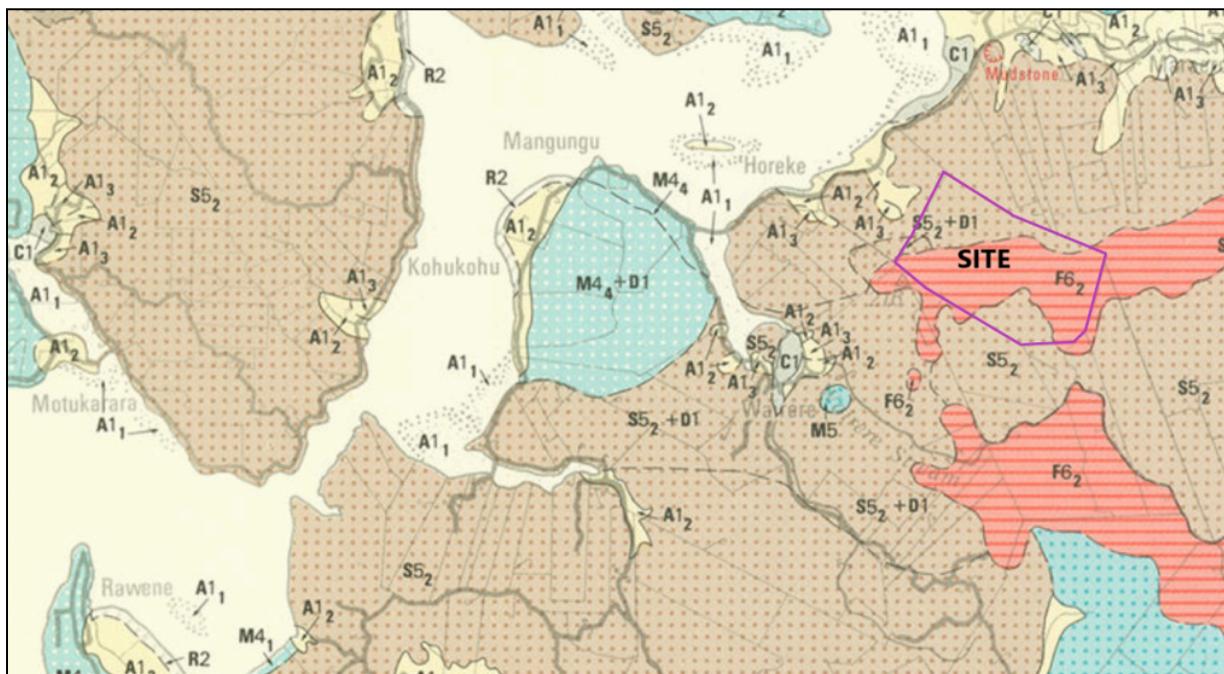
Manaaki Whenua LandCare Research: New Zealand Soil Classification (NZSC) - Soil Order.

## 8. Lithology

The underlain lithologies are;

**Sandstone (S5<sub>2</sub>)** i.e. blue-grey quartz-feldspar sandstone with a mica content of up to 5%. In places calcareous or carbonaceous, thinly to thickly bedded and moderately to widely fractured with hard blue-grey siliceous claystone and mudstone [M4<sub>1</sub>]. *Hard* conglomerate and large calcareous concretions locally. Moderately hard to hard. Weathered to soft brown silty clay to depths of 10 m.

And, **Basalt and Dolerite (F6<sub>2</sub>)** i.e. flows of very fine to medium grained crystalline basalt, dense and moderately fractured; hard to very hard. Surfaces from terraces and plateaus generally without rocky outcrops. Weathered to soft red brown or dark grey brown clay to depths of 20m with many rounded core stones.



**Figure 4 - Lithology Map** - (NZMS Sheet 290 P 04/05, 1:100,000 scale map, Edition 1, 1981: "Kaitaia-Rawene" (Rocks).

### Reference:

Geology of the Kaitaia Area. Institute of Geological & Nuclear Sciences; 1: 250,000 geological map 1. Lower Hutt, New Zealand.

### 8.1 Geological Hazards

#### 8.1.1 Earthquakes

Earthquake vibration produces various responses in different lithologies and topography can also modify the effects. In hard dense rock materials **no** significant amplification of vibration generally occurs; however

vibration can be amplified significantly in unconsolidated materials which may respond by slumping, flowing or settlement especially if slopes are steep or if the materials are water saturated.

The felt effects of earthquakes are described by the Modified Meralli (MM) scale of intensities I - XII. Generally earthquakes of MM V or greater are those in which some structural damage occurs. In regional estimates of earthquake risk, the intensity figure given is normally an indication of the average expected response of a range of lithologies. Thus, higher felt intensities may be experienced locally on materials which cause increased vibration responses as indicated above.

The frequency of recurrence of felt earthquakes in Northland is **low** compared with the rest of the country. Smith (1978) has used records of the last 140 years to estimate earthquake risk for New Zealand. In the mapped area, on average ground conditions it is likely that the average earthquakes of MM IV could be felt at least once every 50 years (as a comparison Wellington experiences 4 or 5 MM IV earthquakes each year).

The average time of recurrence of a MM VI earthquake is greater than 200 years and that of a MM VII earthquake is greater than 500 years.

**No known active faults** are present on the map sheet above.

## 9. Subsoils

LandCare Research indicates the soils encountered here as Yellow Ultic (UY) which have a well structured clay enriched subsoil. They cover 3% of New Zealand and are most common in the far north, Wellington, Marlborough and Nelson regions.

### 9.1 Ultic Soils [U]

They occur in clay or sandy clay material derived by strong alteration of quartz-rich rocks over long periods of time. These soils have dispersible surface horizons prone to erosion.

Soils are strongly acidic with a small content of weatherable minerals. Kaolin and Vermiculite are the dominant minerals.

All in all it can be concluded that the soils encountered here more greatly reflect the historical effects of local conditions. The following figure captured on proposed Lot 1's site cut illustrates the likely regolith encountered.

#### Reference

Manaaki Whenua LandCare Research: New Zealand Soil Classification (NZSC) - Soil Order.

## 10. Environmental Setting

Published environmental data relating to the site has been reviewed. A summary of relevant information is provided below.

### 10.1 Hydrology and Flooding

A summary of available information pertaining to hydrology and hydrogeology is presented in the table below. An examination of Far North District Council (FNDC) and Northland Regional Council (NRC) online GIS databases is included.

**Table 1.1 – Surface Water Features & Flooding**

Source	Presence/Location	Comments
<b>Groundwater sources including springs/wells (within 500 m)</b>	Not known	
<b>Surface Water Features (Ponds, Lakes etc)</b>	Natural flow paths	Surface water drainage is generated entirely from rainfall runoff within the property boundaries. Natural drainage channels convey stormwater through the site in a north-westerly direction toward the receiving environment.
<b>Watercourses (within 500 m)</b>	As mentioned above	-
<b>Flood Risk Status</b>	None recorded	The NRC and FNDC GIS databases indicate that the site is not included within the area that has been modelled for flood hazard events. The high relief of the property dictates less than minor risk to flooding.
<b>Flood Susceptibility</b>	Negligible	Flood susceptible land is mapped according to the presence of alluvial, fluvial deposited soils indicating historic inundation by flood waters. From available geological mapping it is considered superficial soils are not present within the site boundaries.

The natural landscape, and outstanding land features presented in this natural state environment shall be regenerated/maintained [continuously] with respect to the ongoing Overall Proposal Outcome (OPO)<sup>2</sup>\*

### 10.2 Natural Hazards

#### 10.2.1 Regulatory Framework

Under Part 1; Interpretation and application of the Resource management Act 1991, natural hazard means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.

<sup>2</sup> OPO - *Balancing Sustainability of Life in all aspects.*

### 10.2.2 River Flood Hazard

Upon review of the Northland Regional Council Hazards maps, it indicates proposed Lots 1 - 4 as not being within a flood extent area. As depicted in Figure 5 below.

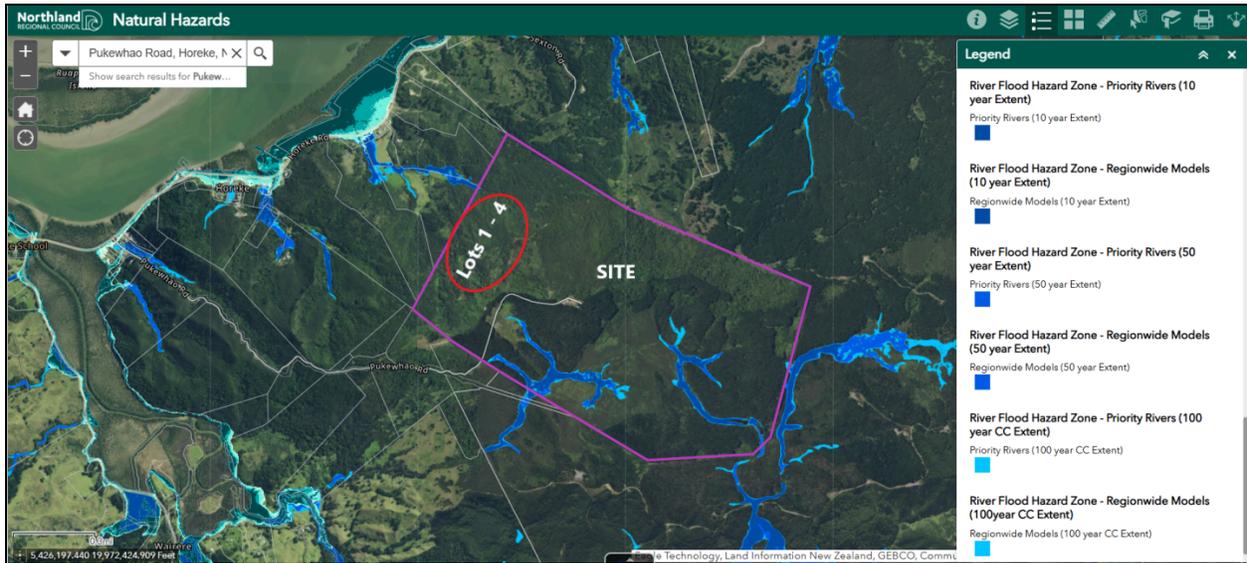


Figure 5 - Natural Hazards Map (maps adapted from NRC Natural Hazards Map).

Natural hazards listed in Section 71(3) of the Building Act 2004 include: erosion, falling debris, subsidence, inundation or slippage.

Susceptibility assessment of the subject property to these potential hazards were judged as;

Table 1.2 – Natural Hazard

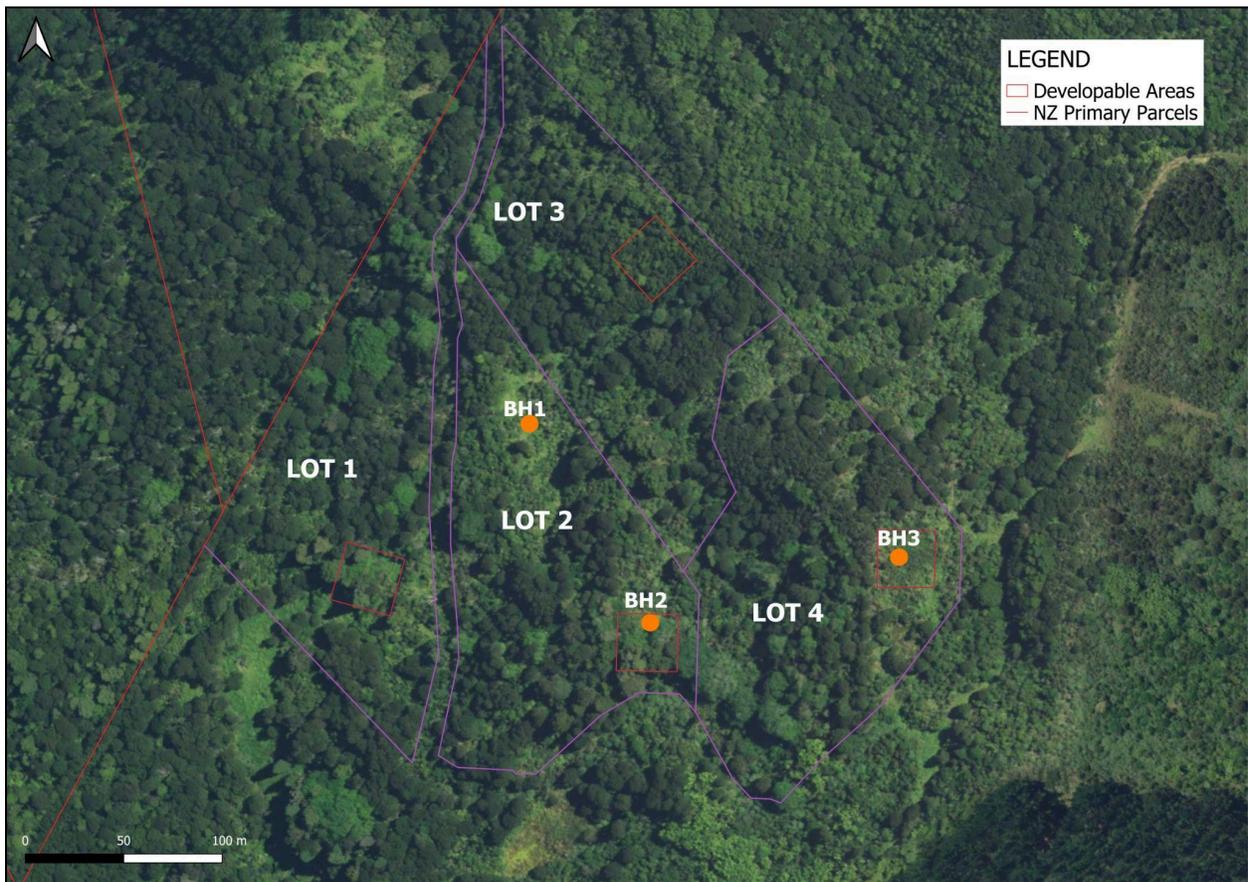
Potential Hazards Assessed	
<b>Erosion</b> (including coastal erosion, bank erosion, and sheet erosion)	No*
<b>Falling debris</b> (including soil, rock, snow, and ice)	No*
<b>Subsidence</b> (vertical settlement)	No*
<b>Inundation</b> (including flooding, <u>overland flow</u> , storm surge, tidal effects, and ponding)	No*
<b>Slippage</b>	No*

\*not encountered/observed during the site walkover.

## 11. Preliminary Field Investigations

Our fieldwork for this report was carried out on 06<sup>th</sup> August 2025 and consisted of:

- 3 Hand Augured boreholes down to refusal depths of 1.1 - 1.80m.
- Vane shear tests were undertaken at 0.30m increments to full drilled depths.
- Laboratory testing; Atterberg limits & Linear shrinkage tests.
- Visual observation of the site, adjoining lower lying land with respect to land fretting features.



**Figure 6 - Borehole Location Plan** (DroneX Aerial Imagery. Scale 1:1500 [A3])

Results of all in-situ soil tests together with detailed descriptions of the soils encountered during drilling are attached to this report.

No saturated or boggy ground was encountered within the soil test locations. The depths of strata and groundwater [where encountered] on the logs are recorded from ground level.

## 12. Summary of Bored Ground Conditions

### 12.1 Topsoil

Observed as silty sand, black with minor rootlets (approximately) 0.20 - 0.30 metres thick.

### 12.2 B Horizon

The natural (cohesive) subsoils encountered generally comprise very stiff, brown - orangish brown with grey streaks and highly plastic - low plasticity @ depths  $\geq 2.00\text{m}$ . At depths  $\geq 2.10\text{m}$ , friable clayey silts; yellowish brown, very stiff and low plasticity. As depicted in Figure 7;



Figure 7 - Natural Soils

### 12.3 Filled Ground

Was not encountered.

## 12.4 Groundwater Conditions

Perched groundwater was not encountered. Complete saturation is considered less likely due to the prominent relief of the land along with the moderate permeability of the upper subsurface mantle [as encountered].

The geological features which highly influence infiltration are highly varied over an outcrop and likely so from one to another. Therefore, a uniform distribution and infiltration of rain is highly *unlikely* and the consequent rise in water-table will be greater in some places than others.

Accordingly, the favourable relief and supporting vegetation dictates that full saturation of the subsoil mass within and close vicinity of the building platforms can be considered *low*. Inevitably, the majority shall sheetflow northwest away from the effective sites.

## 12.5 Primary Flow Paths [PFP]

Based on the natural valley features of the site, it is envisaged that in heavy rainfall events, surface flows are generally designated within the primary flow paths readily in service and shall flow towards the valley floor (northwest).

The heavy presence of native bush and vegetation will stop sediments and slow water flows at peak storm events.

Water will eventually flow northwest through the supporting flowpaths/streams with the final destination into the Waihou River. As depicted in Figure 8 below.

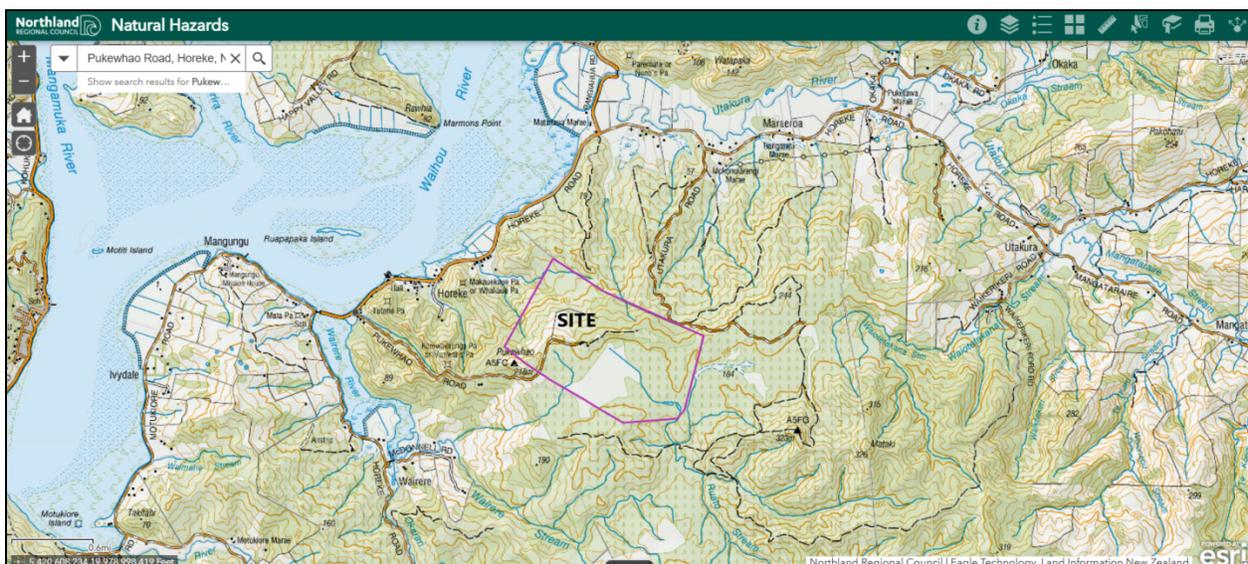


Figure 8 - Supporting Water Bodies Location Plan (maps adapted from NRC Natural Hazards Map).

## 13. Discussion on Subground Conditions

Our preliminary field test results indicate an average soil strength of approximately  $\geq 100$  kPa.

### 13.1 Corrected Vane Shear Readings

Corrected vane shear readings recorded within the bored test holes were in the order of  $\geq 101$  kPa.

It shall be appreciated that field data were deduced from limited test positions and may vary from that encountered.

Field results are indicative of 'good ground bearing' capacity for shallow foundations in accordance with Building Code for Standard Foundations - NZS 3604:2011<sup>3</sup>.

### 13.2 Subsoil Properties

The tabulated data below is based on our experience and laboratory testing undertaken of similar soils previously.

Table 1.3 – Residual Soil Workability Data

Soil Description	Proctor Compaction		Permeability @ Proctor Maximum compaction [mm/hr]
	Maximum dry density [T/m <sup>3</sup> ]	Optimum moisture content [%]	
Silty CLAY	1.84 ± 0.02	14.7 ± 0.3	0.01 ± 0.007

The above data shall be used as a guide only. In the case where the subsoils onsite are intended for fill material then samples from the site shall undergo laboratory testing prior earthworks commencing.

## 14. Discussion on Subsoil Classification

### 14.1 Expansive<sup>4</sup> Soils

The **magnitude** of soil expansivity is primarily dependent on the *kind* and *amount* of clay minerals present, their exchangeable ions and internal structure. There are three important clay mineral groups; montmorillonite, illite and kaolinite. **Montmorillonite** is the known clay mineral with most expansive problems.

As discussed in section 9.1; the encountered soils dominantly comprise *Kaolinite* mineral.

<sup>3</sup>Section 3.13.

<sup>4</sup>soils are defined in NZS 3604 as those soils having a liquid limit > 50% and a linear shrinkage < 15%.

## 14.2 Discussion on Residual Minerals

Kaolinite (Al<sub>2</sub>Si<sub>2</sub>O<sub>5</sub>(OH)<sub>4</sub>) is widely known up here in the far north for its versatile uses but most importantly its composition dictates that; *"it is **non-swelling** due to hydrogen bonds that prevent water from infiltrating the layers* <https://activeminerals.com/blog/kaolin-guide/>.

## 14.3 Laboratory Soil Tests

One sample for Atterberg Limit and Linear Shrinkage tests taken from the site was generally within the zone of likely influence of shallow foundations. This preliminary test was in accordance with NZS 4402 - Sections 2.1, 2.2, 2.3, 2.4 & 2.6 respectively "Methods of Testing Soils for Civil Engineering purposes" and primarily intended to give a likely indication of the subsoil behaviour, characteristics and conditions at its natural undisturbed state.

### 14.3.1 Compactness [*liquidity*] Index

Soil indexes can also be utilised to determine the **Liquidity Index [LI] (compact index)** i.e. the compactness [cohesive soils] or denseness [non cohesive] whether the in-situ soil particles are tightly packed together or have a non compact state.[et al Lawrence D Wesley 2010].

Therefore, the **LI = NMC - PL / PI**. LI ≥ 1 means soil is loose; has a natural moisture content = liquid limit; LI < 1 = 0 [or less] soils are tightly packed; has a natural moisture content = plastic limit.

In this case the compact index is in the order of LI = -2.4 which indicates that the soil is well packed, hard and drier than its plastic limit.

#### Reference:

A.S. 2870, "Residential Slab and Footings - Construction".

NZS 3604, "Timber Framed Buildings"

Geology of the Kaitaia Area. Institute of Geological & Nuclear Sciences; 1: 250,000 geological map 1.

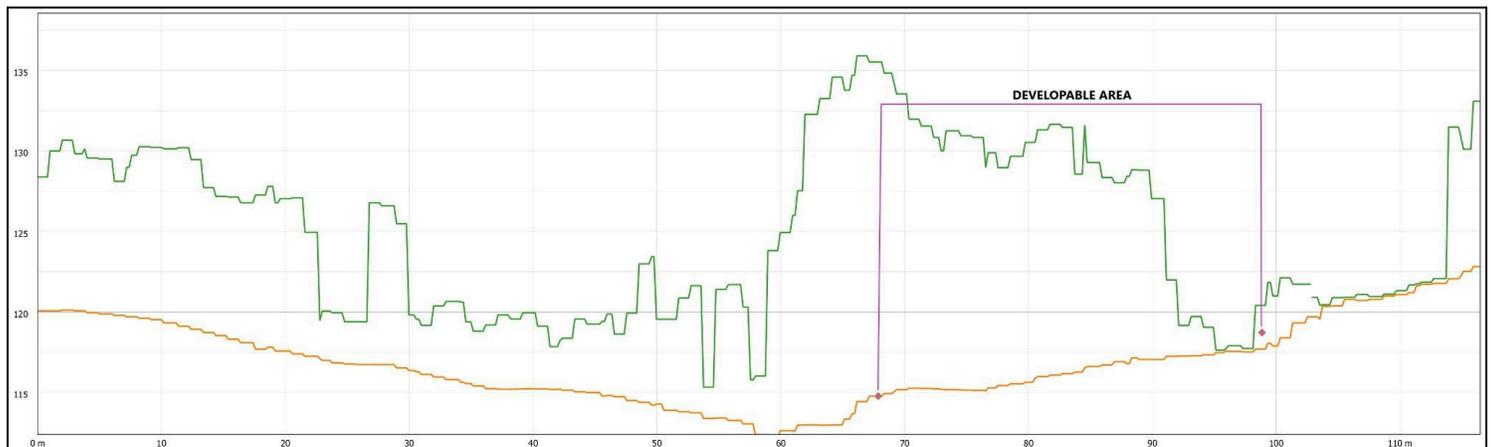
NZMS Sheet 290 O 04/04 part sheet O 03, 1:100,000 scale map, Edition 1, 1982: "Kaitaia-Rawene" (Rocks).

## 15. Geotechnical Appraisal

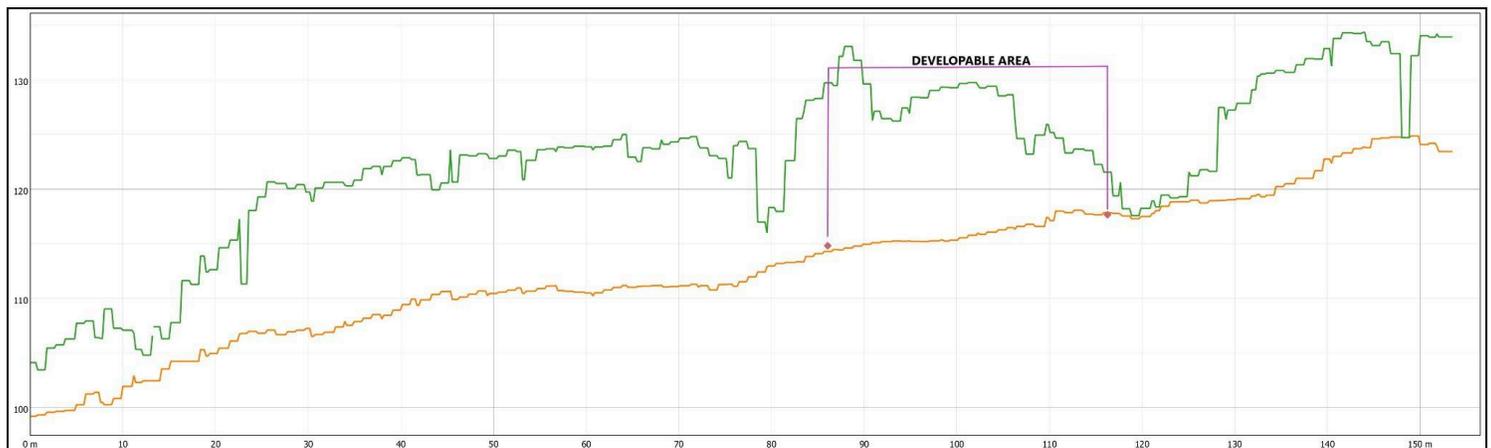
An assessment of the proposed developable areas (DA) is summarised below;

### 15.1 Developable Area - Lot 1

The identified developable area is located towards the southern corner of the proposed allotment and comprises gently sloping terrain with gradients of approximately 6° (1:10 horizontal:vertical). A natural drainage channel traverses through the centre of the lot in a north-westerly direction. Development should be setback appropriately from this primary flow path to maintain natural drainage function and minimise erosion risk.



Lot 1; West - East (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )



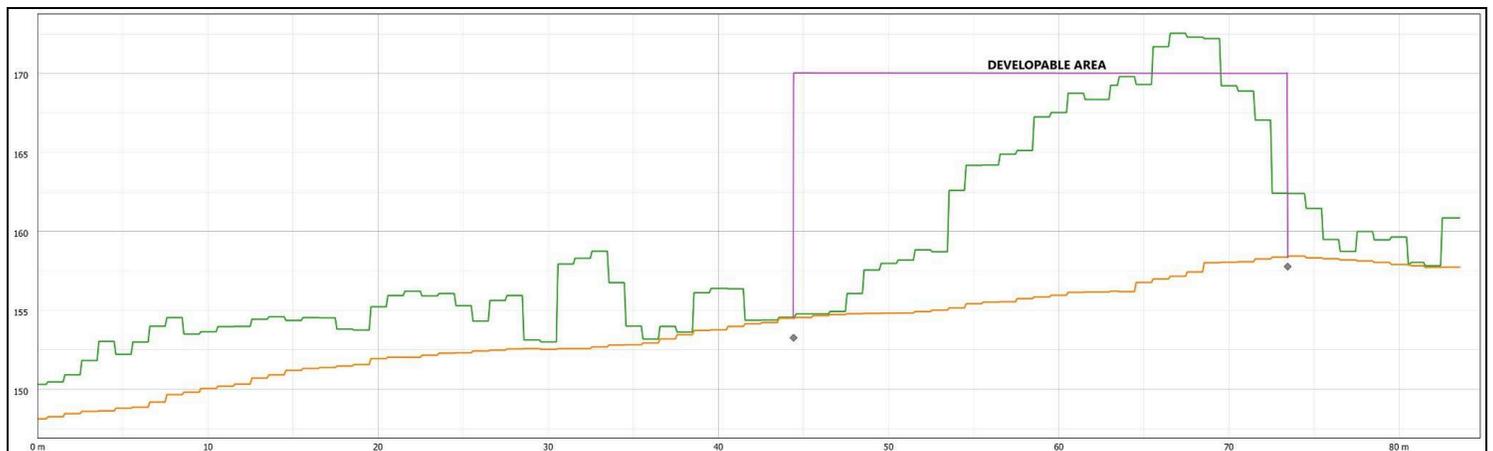
Lot 1; North - South (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )

## 15.2 Developable Area - Lot 2

The identified developable area for Lot 2 is situated on the elevated central ridge of the allotment, with gradients of approximately 4° (1:14 horizontal:vertical) along the ridge crest. The lot comprises a prominent knoll with moderately steep side slopes descending north and west, also serving as natural drainage channels conveying runoff north-westward. Development should be located on the gentler upper slopes of the central ridge, with adequate setbacks maintained from steeper terrain (>18°).



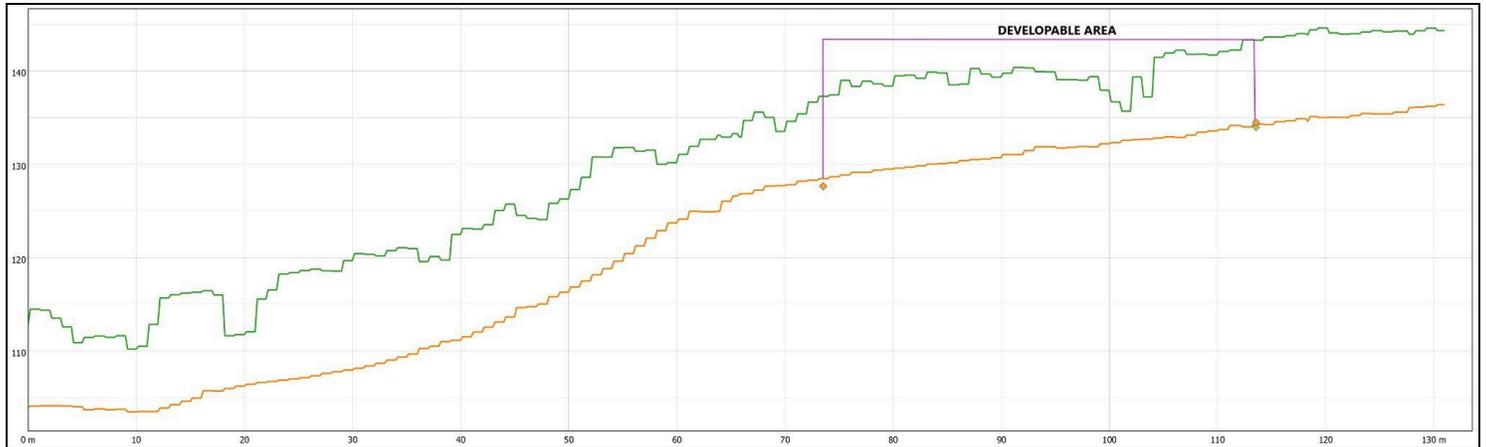
Lot 2; West - East (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )



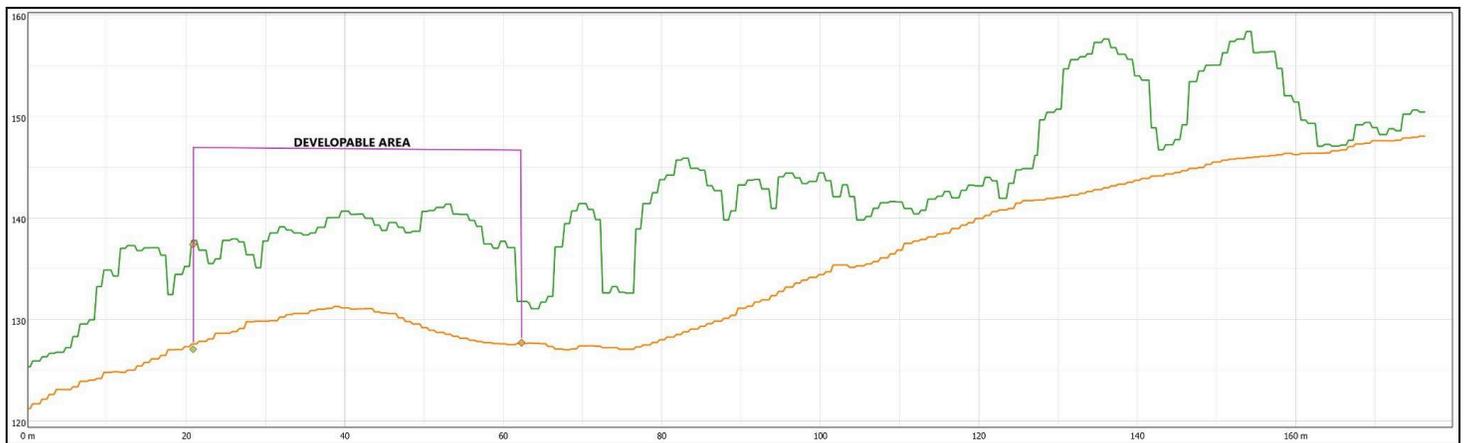
Lot 2; North - South (Green line = DSM, Orange line DEM; Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )

## 15.3 Developable Area - Lot 3

The identified developable area for Lot 3 is located in the eastern portion of the lot and comprises gently sloping terrain with gradients of approximately 8° (1:7 horizontal:vertical). The lot exhibits moderate descending gradients trending westward toward the lower-lying Lot 2. Surface water runoff from the lot drains naturally westward across the terrain.



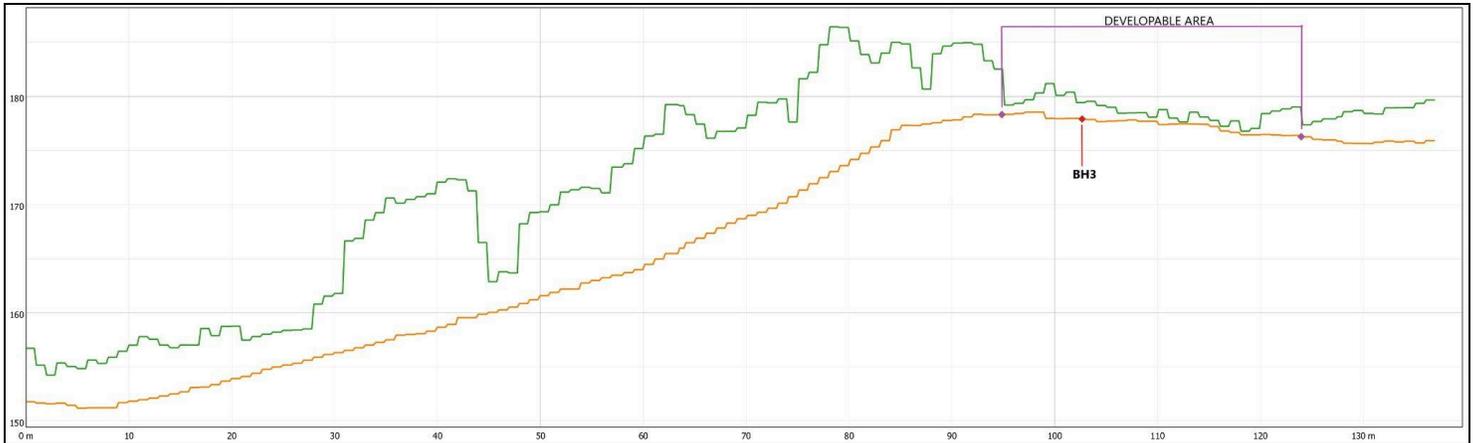
Lot 3; West - East (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )



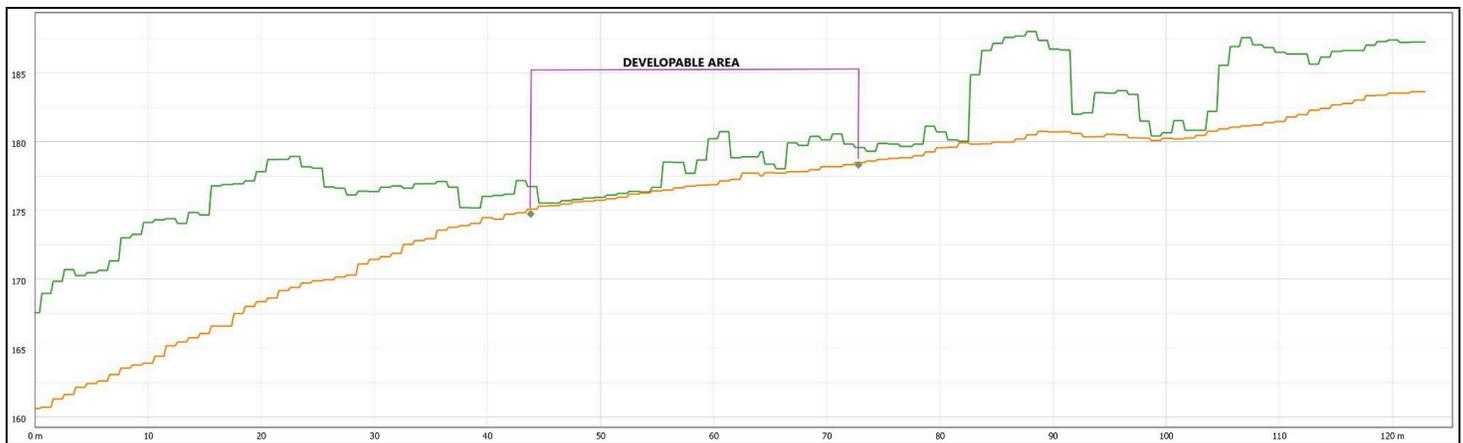
Lot 3; North - South (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )

### 15.4 Developable Area - Lot 4

The identified developable area for Lot 4 is located in the southern portion of the lot and comprises gently sloping terrain with gradients of approximately  $5^\circ$  (1:11 horizontal:vertical). The lot exhibits moderate descending gradients trending west and northwest toward the adjacent Lots 2 & 3 respectively.



Lot 4; West - East (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )



Lot 4: North - South (Green line = DSM, Orange line DEM. Courtesy of LINZ. Horizontal scale:  $\approx 1:200$ , Vertical scale  $\approx 1:154$ )

## 15.5 Foundations

The locations proposed for the developable area pertaining to the subdivision can be considered to likely have a low potential for slope instability.

Standard stripped or trench filled foundations are considered suitable where a level building platform exists or where a masonry perimeter block wall is opted for to build up unlevelled ground to levelled ground. For this option, structural loads shall be founded adequately into the natural underlying soil with solid strength/bearing capacity.

As appropriate, it is **recommended** that subsequent residential development pertaining to the proposed sites are subject to *site specific geotechnical investigations* and recommendations to confirm the need for specific engineering design i.e. taking into account the site [subsoil] conditions [at present] and balancing site feasibility effects with specific regard to the proposed development demands at building consent stage.

Residual soils  $\geq 0.4$  m below the current ground level were shown to have adequate bearing capacity i.e. minimum ultimate bearing capacity in the order of  $\geq 300$  kPa.

A strength reduction factor [ $\phi_s$ ] of 0.5 shall be applied for the design bearing strength.

## 15.6 Subgrade Preparation and Protection

At this point in time, it is expected within the hardstanding and driveways only. The work shall comprise;

1. Stripping off of all topsoil and other deleterious material and stockpiling it away from the work area.
2. Engineer to observe the final subgrade on natural ground and proof roll.
3. GAP 40 covering layer max 0.125m thick spread evenly across the stripped area to provide cover from the elements.

Stripping shall extend one meter outside of the effective work perimeter.

All in all, no signs of land instability were observed during our time onsite.

## 16. Geological Appraisal of Land Stability and Natural Hazards

### 16.1 General Account

Of the property seeks within reason the sustainability of the land and geological aspects with respect to any standing or notable natural hazards that may undermine its standing integrity. As well, minimal ground impact from human activities and the natural elements. All in all, cumulative equilibrium coexistence.

### 16.2 Geological Fault Lines/Surface Ruptures

Reviewed geological maps show NO fault lines through or nearby the general property. Seismic activity within the region is generally low.

Recent movement as a direct result of fault line activity within close vicinity to the subject were not observed. All in all, we consider that any risk pertaining to fault line/surface ruptures to be low at this site.

### 16.3 Slope Instability

No evidence of hummocky or tension cracks were encountered upon the landform at present.

This generally proves fundamental stability of the land. In this case, confidence impresses a positive assurance that;

- The natural subsoils bored were in a very stiff state.
- Full saturation is highly unlikely due to the favourable topography of the land and well established tree/vegetation canopies.

- Chemical weathering of the soils accelerates cementation varying within the shallow mantle which restricts deep infiltration from surface water.
- More competent basalt bed and residual soils underlying the property.
- Established native trees/vegetation occupation sustains **land resilience** in this case.

Consequently, we consider that a low risk of slope instability can be sustained within the nominated developable areas. The impact of slope movement shall likely not impact the proposed project nor is the proposed development likely to effect slope instability at this stage.

However, it shall be reconsidered at the time of subsequent development i.e. the extent of the development, associated activities and likely impact of such activity to the site.

All future land developments within the subsequent Lots shall undergo rigorous planning and feasibility of application assessment in specific context to the effective site and proposal.

#### 16.4 Influence of Topography

Has a significant and consistent effect on the weathering process and consequently on the type of minerals formed. Hilly countries [like the exhibit] soils i.e. more granular constituents; are well drained and seepage flows have a strong downward element.

As understood, this brings forth the formation of low activity clay minerals i.e. kaolinite<sup>5</sup> specifically. Soils comprising these minerals generally have *good engineering properties*.

#### 16.5 Reactive Subsurface Soils

Based on the underlying geology mapped, it is considered that the residual soils encountered on site may become reactive if/where they are rapidly exposed [open cuts/scraping] to the elements.

Where undisturbed, the soils are considered *slightly* reactive based on our experience of the area.

#### 16.6 Flooding

The effective sites are well elevated and therefore risk of flooding is low.

##### Reference:

Manaaki Whenua LandCare Research: New Zealand Soil Classification (NZSC) - Soil Order.

Geology of the Kaitaia Area. Institute of Geological & Nuclear Sciences; 1: 250,000 geological map 1.

NZMS Sheet 290 O 04/04 part sheet O 03, 1:100,000 scale map, Edition 1, 1982: "Kaitaia-Rawene" (Rocks).

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<sup>5</sup> formed by the alteration of ALKALI FELDSPAR and other aluminium bearing minerals.

## 17. Engineering Recommendations

Our assessments of the natural hazards and geomorphology relative to the site indicates that associated risks to LIFE and Property in this instance can be considered *low*. Provided that recommendations herein/not limited to are adopted in application of residential implementations.

### 17.1 Building Platform

The following sections present preliminary engineering guidance to effective planning action for such undertaking.

A minimum building setback of 8 metres is recommended from slopes exceeding 18° (1:3 horizontal:vertical) unless a detailed geotechnical investigation is completed to confirm site-specific stability conditions. Slopes exceeding 25° (1:2.1 horizontal:vertical) are considered to present moderate to high instability risk and require comprehensive geotechnical assessment prior to locating any building platforms or infrastructure in proximity [ $\leq 10\text{m}$ ] to these areas.

To appropriately manage geotechnical hazards across the subdivision, site-specific geotechnical assessments should be undertaken for each proposed building platform at Building Consent stage. Subject to completion of these investigations and implementation of any resultant recommendations, slope stability risks can be adequately managed during individual lot development.

### 17.2 Site Cut Slopes

Permanently into undisturbed soil shall be battered back to a stable gradient of 3H:1V for heights up to three metres to minimise the potential for slope instability. The former shall be subject to specific engineering design [SED] and evaluation prior.

Moreover, cut faces  $\leq 1.5\text{m}$  can be supported by a non SED retaining wall provided there is no surcharge on the wall. Any walls subjected to surcharge shall undergo SED.

### 17.3 Filling near Slopes

Shall not be undertaken, unless specific engineering design comes to pass.

### 17.4 Fills

Shall not be undertaken unless prior SED and appraisal of the proposal development and site is completed and approved by Far North District Council at such time. All work shall comply with NZS 4404, NZS 4402 and NZS 4431 as appropriate.

### 17.5 Site Landscaping and Contouring

Shall stay true to the natural fall of the land at present. Critically, foundation ground shall adopt final grading,

away from building foundations to convey surface water runoff away from this area.

**17.6 Access Road**

The existing access way is defined however, further clearing and resurfacing shall be undertaken as appropriate. It shall be noted that the existing access north of the property/through the adjoining lot was not observed during this time due to flora takeover. Further observations shall come to pass at a later stage when cleared.

All works that may be required shall be conducted in accordance with the FNDC Engineering Standards and related documents/codes.

**17.7 Fill Monitoring Compaction tests**

All monitoring shall be carried out by suitably qualified engineer familiar with this report/site.

**Table 1.4 – Compaction Test Schedule**

Field Compaction Tests	Non Cohesive Material	Cohesive Fill Material
In-situ density	Minimum average of 98% of MDD as determined by heavy compaction test.	Minimum average of 95% of MDD as determined by standard compaction test.
Clegg Hammer	Hardfill minimum average CIV = 25. Minimum single value 20	n/a
Air voids	n/a	Max single value ≤ 12% average 5 consecutive tests ≤ 10%

**17.8 Stormwater Runoff**

From resident implementations i.e. roofs, concrete driveways shall be collected in water tanks and overflow dissipated onto the complementing natural flow path.

**17.9 Ground Bearing Benchmark**

Founding ground where subject to future building development shall sustain a *minimum* ultimate bearing strength capacity of 300 kPa [vertical loads only]. Foundations shall be embedded adequately to account for lateral loadings and adequate bracing.

A conservative angle of shearing resistance  $\Phi'$  of 30° and cohesion  $c'$  of 5 kPa can be assumed at shallow founding depths based on a characteristic corrected undrained shear strength of ≥ 199 kPa can be assumed within the natural Silty CLAY layer.

### 17.10 Liquefaction Potential

A detailed liquefaction potential assessment was outside the scope of this undertaking, however the general rating of seismic activity within the Far North is *low*.

Potentially liquefiable materials are identified by;

- Cohesive [fines] content i.e. highly cohesive aggregates are less susceptible to liquefaction
- Plasticity Index
- Groundwater levels
- Thickness of potentially liquefiable soils
- Amplitude, frequency content and duration of shaking expected during seismic events.

All in all, it can be concluded that the proposed building platforms are low-negligible during [IF] a seismic event up to 0.11 g PGA as anticipated for Northland inside NZS 1170 and within tolerable settlement limits set by the NZBC.

## 18. Conclusion

The effective land is in a *stable state* at present.

The primary objective for subsequent development shall seek to sustain the land in this context during and after the establishment of occupational assets.

All development works intended specifically for the proposed lots, shall NOT be undertaken prior to a site specific geotechnical appraisal being carried out with due regard to the development proposed and site conditions at the time.

Consequently, good sound engineering practices through means of extensive and conscientiously executing field observations during and after construction is prudent here.

## 19. Stormwater Management

### 19.1 General Suitability

The subdivision will maintain low-intensity rural residential development whilst preserving the natural character of the landscape. The property benefits from well-defined natural drainage patterns, with primary flow paths channeling surface water runoff through existing gully systems that discharge in a north-westerly direction toward Waihou River and the wider receiving environment of the Hokianga Harbour.

These natural features are populated with established adequate outfalls and vegetation and readily provide an established low impact and sustainable stormwater management approach in this instance.

Any adverse effects as a result of future residential dwellings to be erected within the nominated areas of these proposed lots are considered less than minor.

Accordingly, the proposed moderately minor lots shall be considered under general site and future development feasibility with primary regard to the FNDC Plan - 13.7.3.4 Stormwater Disposal.

It is recommended that a site specific analysis of post development against pre development [equilibrate state currently] conditions for the proposed lots are accounted for at building consent stage when an intended purpose of a proposed development plan is decided upon.

However, the PFPs shall be well incorporated within the stormwater management system in balancing service of the collective subdivision and future occupational activities anticipated from the proposed lots.

### 19.2 Stormwater Management Principles

On-site stormwater management is to be carried out in accordance with Clause E1 of the building code compliance documents. The performance requirements are as follows;

- That a primary system capable of disposal of surface water resulting from a storm having a 10 % (1 in 10 year) probability of occurring annually, shall be constructed.
- That all stormwater reticulation and disposal systems are constructed to convey surface water to an appropriate outfall using gravity flow, and in a manner which avoids the likelihood of blockages, leakage, penetration by roots, or the entry of groundwater where pipes or lined channels are used and avoids the likelihood of damage from superimposed loads or normal ground movements.
- For piped systems, accessible inspection chambers are provided at all changes of grade, direction and pipe size.
- That the reticulation and disposal system is designed and constructed for a function design life of 50 years.
- That damage to the environment both during and after the development construction phase is minimised or avoided.
- That a system is provided which can be economically maintained

### 19.3 Impermeable Surfaces

Impermeable surfaces are defined by FNDC as;

*(a) decks (including decks less than 1 m in height above the ground) excluding open slatted decks where there are gaps between the boards;*

*(b) pools, but does not include pools designed to operate as a detention pond;*

*(c) any surfaced area used for parking, maneuvering, access or loading of motor vehicles, including areas covered with aggregate;*

*(d) areas that are paved with concrete, asphalt, open jointed slabs, bricks, gobi or materials with similar properties to those listed;*

*(e) roof coverage area on plan;*

*But excludes:*

*i. Water storage tanks occupying up to a maximum cumulative area of 20 m<sup>2</sup>; and*

*ii. Paths and paving less than 1 m wide, provided they are separated from other Impermeable Surfaces by a minimum of 1 m.*

## 20. Regulatory Framework

### 20.1 Far North District Plan

The site is within the Rural Production zone. The relevant permitted stormwater management rule is as follows:

#### 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%.

The intent of the application is to comply with NRC permitted activity rules [Section 21: Rules for Stormwater Discharges](#) and to satisfy FNDC criteria for a permitted activity consent application.

Future developments on Lots 1 - 4 are not expected to exceed the permitted activity rule.

### 20.2 Regional Water and Soil Plan for Northland

Rule 21.1.1 provides, as a permitted activity, for the diversion and discharge of stormwater by way of an open constructed stormwater collection system or piped stormwater where the stormwater collection system is connected to, or part of, a stormwater system for which a resource consent exists.

Future development of all Lots can comply with Rule 21.1.1.

### 20.3 Proposed Regional Plan for Northland

The Northland Regional Council is reviewing its Regional Plans and a Proposed Regional Plan for Northland was notified in October 2023.

Proposed Rule C6.4.2 provides for the diversion and discharge of stormwater from outside a public stormwater network provided (amongst other conditions);

*2) the diversion and discharge does not cause or increase flooding of land outside the area serviced by the stormwater network up to the 10 percent annual exceedance probability or flooding of buildings outside the area serviced by the network up to the one percent annual exceedance probability, and ...*

All in all, we consider that future development of Lots 1 - 4 can comply with Rule C6.4.2 with low impact stormwater management systems.

### 20.4 Stormwater Management

Stormwater runoff from future roof areas on Lots 1 - 4 will be collected in water tanks for domestic water supply. The overflow from the water tanks shall be discharged in a dispersive manner well away from buildings.

Similarly, stormwater from future driveway and parking / manoeuvring areas within Lots 1 - 4 shall be channelled toward the natural PFP within the lot.

## 21. Conclusion

It is considered that NO change in the existing stormwater flow paths i.e. primary flow paths shall result from the subdivision.

- Primarily, the prominent flow paths and supporting water features shall be incorporated and progressively maintained continuously to generate a sustainable equilibrium to the environment and LIFE.
- Water tanks shall be used to collect roof water runoff and serve to provide potable water.
- Roof tank overflow, together with yard and driveway runoff, shall where possible be directed to the existing flow paths through a dispersive device.

It is recommended that careful consideration/planning is exhausted with regard to Minimal Impact Footprint (MIF) of future development hereon. As appropriate, site specific stormwater runoff effects and management applications shall be considered at such time where a development is proposed with plans depicting roof areas and other impermeable surfaces as well as the extent of the development earthworks are known for each specific Lot.

Particular reference/review shall be undertaken of this appraisal in conjunction with conducting the former. This shall provide further background information specific to the sites and existing environment conditions relative to this point in time.

All in all, the property and existing natural landscapes can sustain the proposal subject to careful planning and balancing effects of imposed activities and hosting environments. Therefore, a Low Impact Design Approach (LIDA) for stormwater management shall be the cornerstone philosophy for this development proposal.

As a consequence, sustainable effects to the environment and LIFE can be fulfilled.

## 22. Assessment Criteria

Stormwater management has been assessed against the Assessment Criteria in Section 13.10.4:

**Table 1.5 - Far North District Plan Section 13.10.4 Assessment Criteria**

Criterion	Comment
(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.	The proposed stormwater management complies with Regional Water and Soil Plan permitted activity rules.
(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 proposed stormwater management complies with Council's "Engineering Standards" (May 2023).
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The proposed stormwater management complies with Far North District Council Strategic Plan - Drainage rules.
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Natural PFPs that are present on site shall be utilised. The subdivision poses minor changes to the current lands with reduced site impermeability. Therefore, natural permeable areas are retained.
(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.	Run-off from the roof can be dispersed to the present natural flow paths.
(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.	Stormwater control practices have been designed in accordance with the TP10 publication. The existing features, as aforementioned, readily provide mitigation.

(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.	The outstanding natural water features and supporting table drains shall be readily incorporated for stormwater management in service of the collective subdivision.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	Proposed lots are not connected to the Council's stormwater system. Increased runoff from the subdivision are less than minor.
(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	Analysis of post-development flows to pre-development levels at building consent stage. The overall proposal scheme is adequate.
(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.	The existing natural stormwater features cater for this. The subdivision will not increase the rate of discharge, however the incorporation of a low impact approach i.e. water tanks and established flora occupation will slow discharge rates during peak stormwater flows.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	None
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipelines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	N/A
(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.	Natural flow paths will be maintained.
(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.	Stormwater will be managed within each Lot.
(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.	N/A

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(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement. N/A

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(q) The need for and extent of any financial contributions to achieve the above matters. N/A

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(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. N/A

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## 23. Wastewater

### 23.1 Overview

FNDC requires that all new wastewater systems should be designed and installed in compliance with Auckland Regional Council (ARC) Technical Publication 58 (TP58). The Northland Regional Council (NRC) requires that domestic effluent discharge complies with the Proposed Regional Plan for Northland. NRC has confirmed that there were no submissions opposing Section C.6.1 – On-site domestic wastewater discharge of the Proposed Regional Plan and therefore can be considered operative.

### 23.2 Summary of Regulatory Issues

#### Proposed Regional Plan for Northland (RPN) and Far North District Plan

The discharge of sewage effluent onto land is controlled by and should comply with the permitted activity rules C.6.1.3 of the Proposed Regional Plan for Northland (RPN), including;

- The volume of wastewater discharged does not exceed two cubic metres per day.
- The slope of the disposal area is not to exceed 25 degrees.
- Special provisions apply to disposal area slopes greater than 10 degrees.

The effluent disposal systems will need to be sited to avoid surface runoff and natural seepage from adjacent land, or protected by using interception drains. The disposal areas may need to be mounded above the surrounding land to ensure that the lowest point in the field complies with the Proposed Regional Plan for Northland and Far North District Plan (FNDP) rules:

- Not less than 1.2 m above the winter groundwater table for primary treated effluent and;
- Not less than 0.6 m above the winter groundwater table for secondary treated effluent.

The disposal field also needs to have minimum separation distances from watercourses and boundaries as follows (RPN Rule C6.1.3):

- Not less than 5 m from an identified stormwater flow path (including a formed road with kerb and channel, and water-table drain) that is down-slope of the disposal area.
- Not less than 20 m from any surface water for primary treated effluent.
- Not less than 15 m from any surface water for secondary treated effluent.
- Not less than 20 m from any existing groundwater bore located on any other property.
- Not less than 1.5 m from a boundary.

The Proposed Regional Plan for Northland defines “Surface Water” as: All water, flowing or not, above the ground. It includes water in a continuously or intermittently flowing river, an artificial watercourse, an overland flow path, and a lake and or wetland; water impounded by a structure such as a dam; and water that inundates land during flood events. It does not include water in any form while in a pipe, tank or cistern.

Surface water, as defined in NZS1547:2012, refers to: any fresh water or geothermal water in a river, lake, stream, or wetland that may be permanently or intermittently flowing. Surface water also includes water in the coastal marine area and water in man-made drains, channels, and dams unless these are purposed to specifically divert surface water away from the land application area. Surface water excludes any water in a pipe or tank.

Northland Regional Council (NRC) has concluded that, to be a permitted activity, secondary treated wastewater is to achieve a 15m setback from the 20 year ARI flood event. This is derived from Auckland Council (AC) Technical Publication (TP) 58, where it is recommended that secondary treated effluent is disposed of to ground outside of the 20 year ARI, with a further factor of safety applied being NRC’s surface water setback requirement.

The following analysis ensures that the proposed on-site wastewater disposal to service the development complies with both the operative and proposed wastewater discharge rules.

### 23.3 Existing System

Servicing the home [Lot 5] is understood to be fully operational as purposed and is contained wholly within the proposed boundaries thereafter.

There is ample space within the proposed space for a reserve field should the need arise in the future.

### 23.4 Design Population and System Flow Volumes

#### 23.4.1 Design Occupancy Rating

It has been assumed for the purpose of this site feasibility appraisal that a three bedroom residential dwelling is adopted. In reference to TP58 Section 6.3.1, it is recommended that the design occupancy of five people is therefore adopted.

### 23.4.2 Source of Water Supply

Water is to be sourced from on-site roof water tank supply. Flow reduction fittings may be used, but this cannot be assumed in assessing potential wastewater flows.

### 23.4.3 Design Flow Volumes

It is assumed that the house is to be fitted with standard water fixtures. Note: standard water fixtures are defined in TP58 as “Household with 11/5.5 or 6/3 flush toilet(s) and standard fixtures, low water use dishwasher and NO garbage grinder”. Water supply is from roof water. The associated wastewater flow allowance is 160 litres/person/day.

Total daily wastewater generation of the proposed development is calculated as follows;

$$\begin{aligned}
 \text{Design wastewater generation rate} &= \text{Design occupancy number} \times \text{per capita design flow} \\
 &= 5 \text{ persons} \times 160 \text{ litres/person/day} \\
 &= 800 \text{ litres/day}
 \end{aligned}$$

A design flow of 800 litres per day shall be adopted for the purpose of this report.

## 23.5 Design for Land Application System

### 23.5.1 Dripper Line Irrigation

There is sufficient land area available for land application of effluent disposal via a dripline system (plus 100% reserve area) on the proposed Lots.

The use of trickle irrigation disposal is sustainable for the very long term. It provides less footprint on the environment and an efficient system for distributing effluent;

- Over a much wider area;
- At an application rate low enough to be sustained by evapotranspiration without reliance on soakage, and;
- Without unduly disturbing the visual effect of the proposed land disposal area and landscaped gardens;
- Hydration for the gardens over the summer months.

### 23.5.2 Land Application System Location

The maximum slope angle for drip irrigation land disposal systems according to TP58 guidelines is 25°. The slopes within the nominated developable areas range from 9° to 21°. It is therefore considered that drip irrigation would be suitable within all proposed lots.

The effluent disposal system will need to be sited to avoid surface runoff and natural seepage from higher ground, or protected by using interception drains. In addition, citing restrictions listed in this report will need to be adhered to, to ensure a suitable setback from the identified overland flow paths, boundaries and buildings.

**23.5.3 Land Application System Sizing and Design**

The soils across the site were found to be TP58 category 5 or AS/NZS1547 category 4. For these soils we consider that surface or subsurface dripper lines are suitable. Dripper lines require secondary treated effluent to operate effectively. TP58 recommended a design irrigation rate for this soil of 4 mm/d.

The total length of the trickle irrigation system required (UniBioline or similar) is calculated as follows;

$$\begin{aligned}
 \textit{Area of dripper irrigation field} &= \frac{\textit{Total daily wastewater generation}}{\textit{Design irrigation rate}} \\
 &= \frac{800 \textit{ litres/day}}{4 \textit{ mm/day}} \\
 &= 200 \textit{ m}^2
 \end{aligned}$$

Ample area for proposed disposal fields has been allowed for within the allot dimensions however subject to a site specific appraisal at time of future residential development.

Subsurface irrigation is for land intended to be grassed. Tubing must be laid 150 mm into topsoil.

Surface dripper lines are to be covered with 150 mm topsoil or mulch and planted using evapotranspiration plants. Access to the disposal area should be minimised by effective bordering with either vegetation or fencing.

The disposal field will be pressurised by a conventional system of using a pump. A filter is to be installed to prevent clogging of emitters. Flush/non-return valves shall be installed on all dripper lines.

The disposal area should be protected by a cut off drain (where applicable) to divert stormwater run-off.

**24. Conclusion**

As appropriate, a site specific onsite wastewater management system appraisal, effects and management applications shall be considered at such time where a development is proposed with a floor plan and the extent of the development earthworks are known for each specific Lot.

Subsequently, it is recommended that particular reference/review is undertaken of this appraisal in conjunction with conducting the former. This shall provide further background information specific to the sites and existing environment conditions relative to this point in time.

## 25. Source of Water Supply

In the absence of potable water infrastructure, it is recommended that stormwater runoff from the future roof areas within Lots 1 - 4 be collected in water tanks with appropriate filtration for domestic water supply. The overflow from the water tanks shall be discharged in a dispersive manner well away from buildings.

## 26. Assessment Criteria

Wastewater management has been assessed against the Assessment Criteria in Section 13.10.5:

**Table 1.6 - Far North District Plan Section 13.10.5 Assessment Criteria**

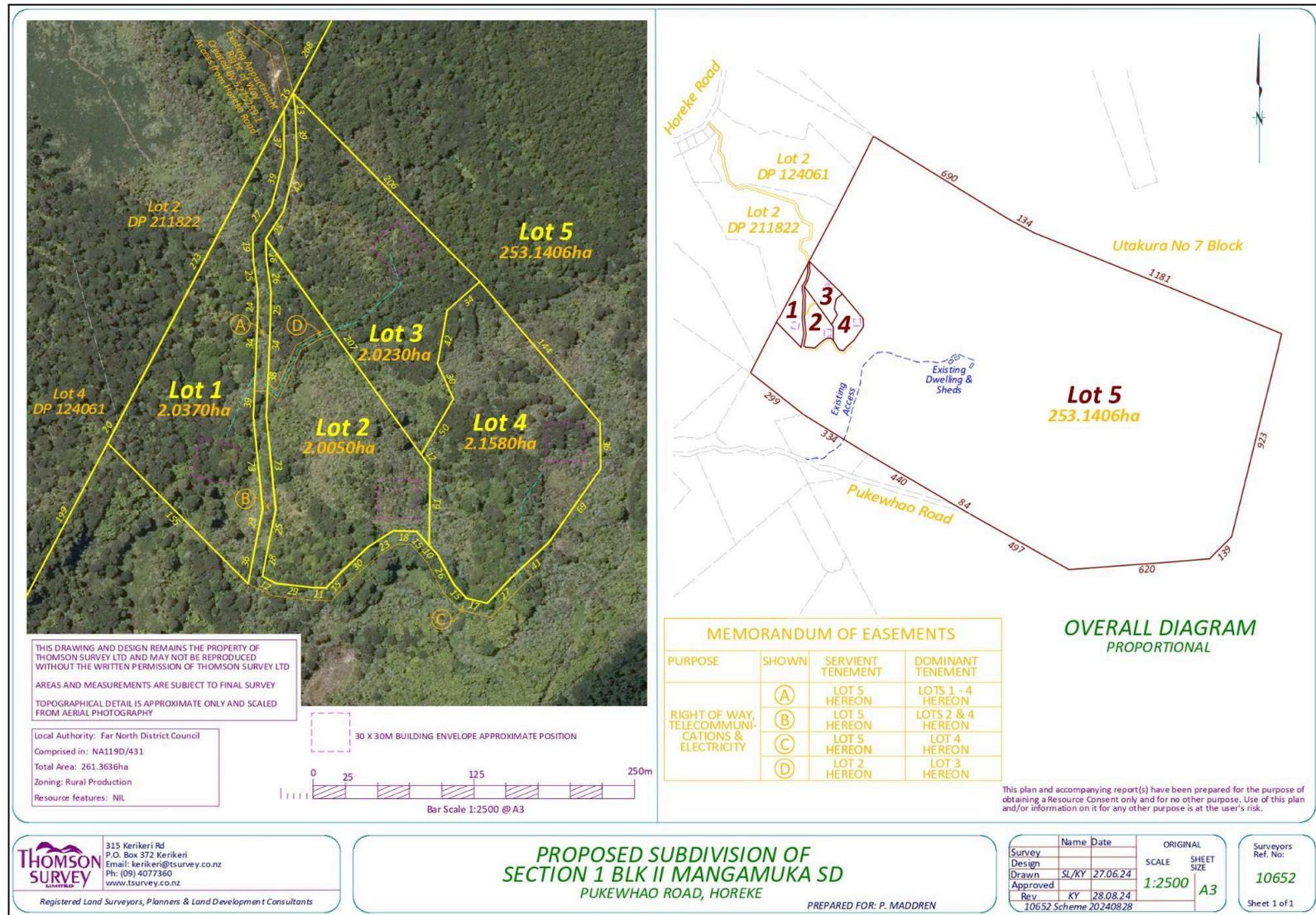
Criterion	Comment
(a) Whether the capacity, availability, and accessibility of the reticulated system is adequate to serve the proposed subdivision.	N/A
(b) Whether the application includes the installation of all new reticulation, and complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004)	N/A
(c) Whether the existing sanitary sewage disposal system, to which the outfall will be connected, has sufficient capacity to service the subdivision.	Onsite wastewater management system shall be utilised here.
(d) Whether a reticulated system with a gravity outfall is provided, and where it is impracticable to do so, whether it is feasible to provide alternative individual pump connections (with private rising mains), or new pumping stations, complete pressure, or vacuum systems. Note: Council consent to install private rising mains within legal roads will be required, under the Local Government Act.	N/A
(e) Where a reticulated system is not available, or a connection is impractical, whether a suitable sewage treatment or other disposal systems is provided in accordance with regional rules or a discharge system in accordance with regional rules or a discharge permit issued by the Northland Regional Council.	Site specific (alternative) onsite wastewater management system is proposed.
(f) Where a reticulated system is not immediately available but is likely to be in the near future, whether a temporary system is appropriate. Note: Consent notices may be registered against Certificates of Title pursuant to Rule 13.6.7	N/A

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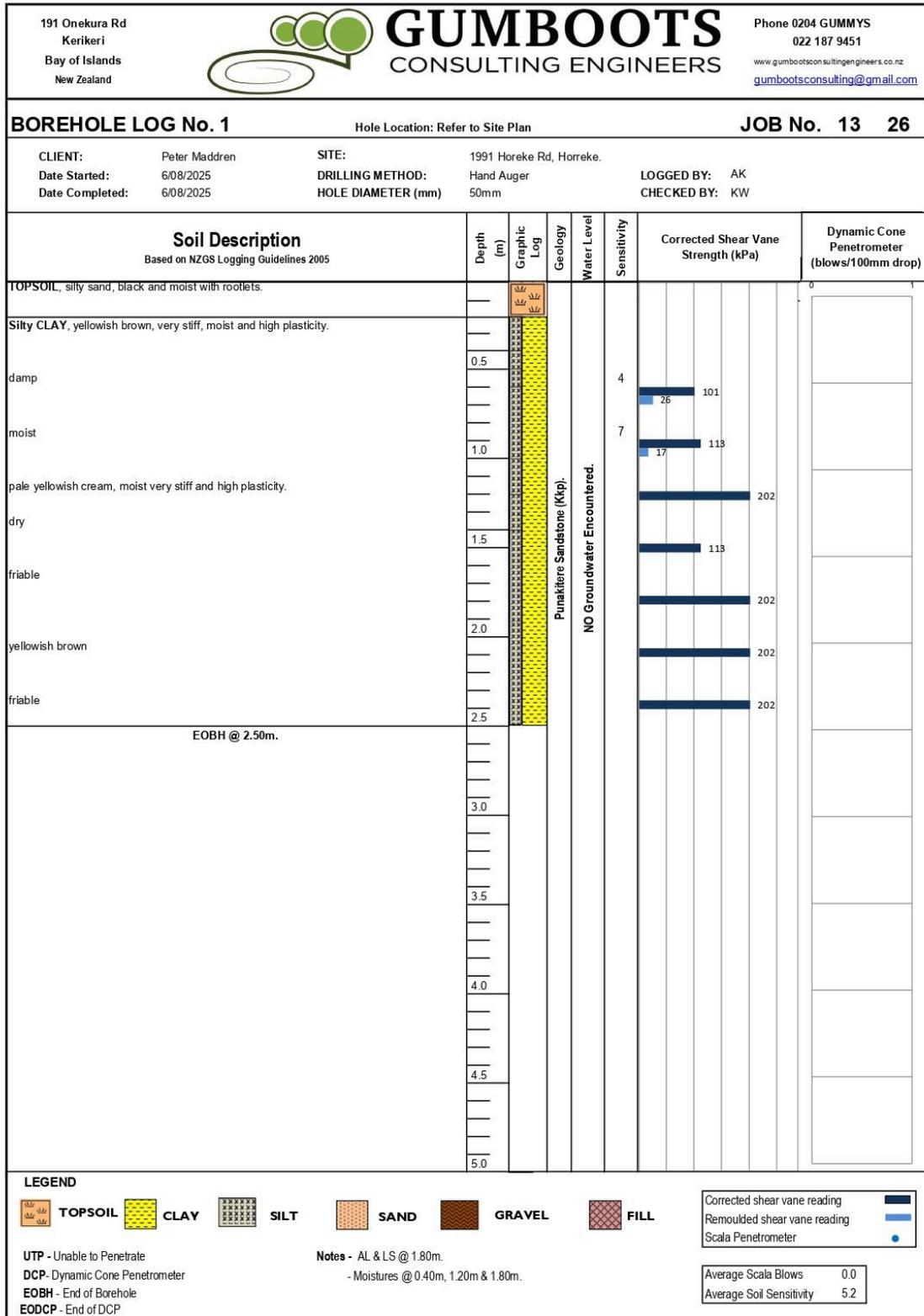
requiring individual allotments to connect with the system when it does become available	
(g) Whether provision has been made by the applicant for monitoring mechanisms to ensure contaminants are not discharged into the environment from a suitable sewage treatment or other disposal system, together with any consent notices to ensure compliance.	As addressed at the building consent stage.
(h) Whether there is a need for, and the extent of, any development contributions to achieve the above matters	N/A.
(i) Whether there is a need for a local purpose reserve to be set aside and vested in the Council as a site for any public sewage utility for sanitary disposal purposes required to be provided.	N/A.
(j) Whether the subdivision represents the best practical option in respect of the provision that is made for the disposal of sewage and wastewater.	The proposal of an alternative wastewater management system in accordance with TP58 is considered adequate and appropriate in support of the proposed subdivision.

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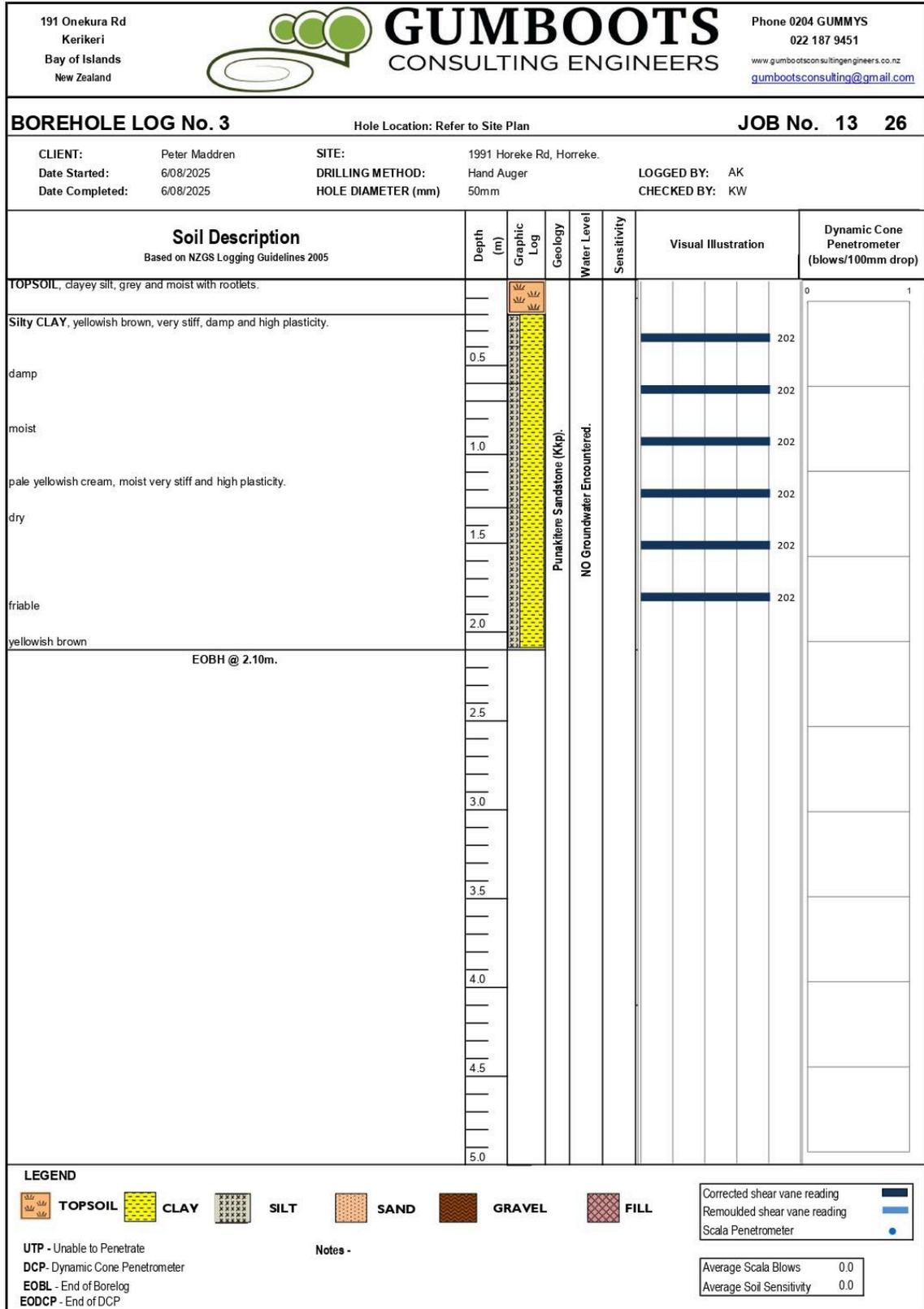
## Appendix A – Proposed Subdivision Plan;



## Appendix B – Exploratory Borehole Records



191 Onekura Rd Kerikeri Bay of Islands New Zealand		 <b>GUMBOOTS</b> CONSULTING ENGINEERS		Phone 0204 GUMMYS 022 187 9451 www.gumbootconsultingengineers.co.nz gumbootsconsulting@gmail.com				
<b>BOREHOLE LOG No. 2</b>		Hole Location: Refer to Site Plan		<b>JOB No. 13 26</b>				
CLIENT: Peter Maddren Date Started: 6/08/2025 Date Completed: 6/08/2025	SITE: 1991 Horeke Rd, Horeke. DRILLING METHOD: Hand Auger HOLE DIAMETER (mm): 50mm	LOGGED BY: AK CHECKED BY: KW						
<b>Soil Description</b> Based on NZGS Logging Guidelines 2005		Depth (m)	Graphic Log	Geology	Water Level	Sensitivity	Corrected Shear Vane Strength (kPa)	Dynamic Cone Penetrometer (blows/100mm drop)
TOPSOIL, clayey silt, grey and moist with rootlets.								0 1
Silty CLAY, yellowish brown, very stiff, damp and high plasticity.		0.5		Pumakitere Sandstone (Ktp).	NO Groundwater Encountered.		202	
damp		202						
moist		202						
pale yellowish cream, moist very stiff and high plasticity.		202						
dry		202						
friable		202						
EOBH @ 2.10m.		2.0						
		2.5						
		3.0						
		3.5						
		4.0						
		4.5						
		5.0						
<b>LEGEND</b>  TOPSOIL  CLAY  SILT  SAND  GRAVEL  FILL								
UTP - Unable to Penetrate DCP - Dynamic Cone Penetrometer EOBH - End of Borehole EODCP - End of DCP			Notes - Moisture @ 1.10m.			Corrected shear vane reading  Remoulded shear vane reading  Scala Penetrometer 		
						Average Scala Blows 0.0 Average Soil Sensitivity 0.0		



## Appendix C – Laboratory Test Results



**Waipapa Laboratory**  
191 Onekura Rd  
Kerikeri  
0204 486 697  
civillabgrouptautua@gmail.com

### TEST REPORT

**Lab Job No:** CLG1028  
**Your Ref:** GCE#1326  
**Date of Issue:** 22/08/2025  
**Date of Re-Issue:** -  
**Page:** 1 of 4

**Test Report No.**  
**CLG1028-R001**

**Project:** GCE#1326 - Laboratory Testing  
**Client:** Gumboots Consulting Engineers  
**Attention:** Kelly  
**Test Methods:** Determination of the liquid & plastic limits, plasticity index and water content  
NZS 4402:1986 Tests 2.1,2.2,2.3,2.4  
Determination of the Linear Shrinkage  
NZS 4402:1986 Test 2.6

**SAMPLING METHOD:** Sampled by Client

**TEST RESULTS:** As per attached sheets

K. Wright  
Administrator

A. Kepu  
Approved Signatory

### **QUALITY ASSURANCE**

All tests reported herein have been performed in accordance with the relevant standards.  
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**DETERMINATION OF THE WATER CONTENT**  
NZS 4402:1986 Test 2.1

**Lab Job No:** CLG1028  
**Client:** Gumboots Consulting Engineers  
**Location:** GCE#1326  
As per table below  
**Date Received:** 07/08/2025  
**Report No:** CLG1028-R001  
**REF:** GCE#1326

**Sample No:** CLG1028: S001- S004  
**Tested By:** E.K  
**Date Tested:** 20/08/2025  
**Checked By:** A.K  
**Date Checked:** 20/08/2025  
**Page:** 2 of 4

**Sampling Method:** Sampled by client  
**Date Sampled:** 06/08/2025  
**Test Details:**

**Sampled By:** Client

Test performed on: Fraction crumbled

Sample history: Natural state

Sample No.	Test Sample Location	Date Sampled	Description of Sample	Natural Moisture Content %
S001	BH1 @ 0.4m BGL	20/08/25	Silty CLAY, yellowish brown, moist, very stiff and high plasticity.	35.12
S002	BH1 @ 1.2m BGL	20/08/25	Silty CLAY, pale yellowish cream, moist, very stiff and high plasticity.	27.70
S003	BH1 @ 1.8m BGL	20/08/25	Silty CLAY, pale yellowish cream, moist, very stiff and high plasticity.	21.97
S004	BH2 @ 1.1m BGL	20/08/25	Silty CLAY, pale yellowish cream, moist, very stiff and high plasticity.	39.31

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**DETERMINATION OF THE LINEAR SHRINKAGE**  
NZS 4402:1986 Test 2.6

<b>Lab Job No:</b>	CLG1028	<b>Sample No:</b>	CLG1028-S003
<b>Client:</b>	Gumboots Consulting Engineers	<b>Tested By:</b>	E.K
<b>Location:</b>	GCE#1326 BH1 @ 1.8m below ground level	<b>Date Tested:</b>	20/08/2025
<b>Date Received:</b>	07/08/2025	<b>Checked By:</b>	A.K
<b>Report No:</b>	CLG1028-R001	<b>Date Checked:</b>	21/08/2025
<b>REF:</b>	GCE#1326	<b>Page:</b>	4 of 4

**Test Performed on:** Fraction passing 425mm sieve  
**History:** Natural state

**Description of Sample:** Silty CLAY, pale yellowish cream, moist, very stiff and high plasticity.

Linear Shrinkage	7
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**QUALITY ASSURANCE**

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