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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? ◯ **Yes** ✓ **No**

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

✓ **Yes** ◯ **No**

4. Consultation

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

If yes, which groups have you consulted with?	
Who else have you consulted with?	

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

5. Applicant Details

Name/s: A Cole

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: Lynley Newport

Email: [redacted]

Phone number:

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

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

7. Details of Property Owner/s and Occupier/s

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

Name/s: Jamie Desmond & Bronwyn Ross-Winder

Property Address/ Location: [redacted]

8. Application Site Details

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

Name/s: As above.

Site Address/ Location: [redacted]

Postcode

Legal Description: [redacted] **Val Number:**

Certificate of title:

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

Site visit requirements:

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

Is there a dog on the property? ✓ **Yes** ◯ **No**

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

Please contact the agent prior to any 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.

Two lot (one additional) subdivision in the Rural Production Zone.

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

10. Would you like to request Public Notification?

◯ **Yes** ✓ **No**

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

(more than one circle can be ticked):

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

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? ✓ **Yes** ◯ **No**

14. Billing Details:

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

Name/s: (please write in full) ANDREW COLE

Email: [redacted]

Phone number: [redacted]

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

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

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) ANDREW COLE

Signature:
(signature of bill payer [redacted]

15. Important Information:

Note to applicant
You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.
You may apply for 2 or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application
Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.
A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:
Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

15. Important information continued...

Declaration

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

Name: (please write in full) ANDREW COLE

Signature: [redacted]

Checklist (please tick if information is provided)

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

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

A Cole

Far North District Plan

PROPOSED SUBDIVISION

246 Te Tio Road, Umawera

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 a property on Te Tio Road, Umawera, to create one additional lot in excess of 2ha in area. The existing title is legally described as Lot 14 DP 409, 15.552ha in area and dated September 1888.

Both the new lot and balance house lot will have separate accessways off Te Tio Road (metal surface Council road). The latter will serve the right of way, following an existing farm race, up slope to the boundary of new Lot 1, where internal driveway will then be required to access a house site within the new lot.

Refer to Appendix 1 for copies of the Scheme Plans.

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:	246 Te Tio Road, Umawera. Location Map is attached in Appendix 2.
Legal description:	Lot 14 DP 409
CT:	NA51/1289 (copy attached in Appendix 3).

3.0 SITE DESCRIPTION

3.1 Physical and mapped characteristics

The site is located on the northern side of Te Tio Road, Umawera. Topographically, the site is undulating with gullies running predominantly from north to south. The overall slope is moderate to steep towards the southwest corner.

The site is in pasture and bush. It supports an existing dwelling and several shed buildings of varying age.

The land in proposed Lot 1 is vacant and mostly in pasture. Access is to follow an existing farm race located centrally within the site, running uphill from the south to the north – see photo below.

The site is not serviced by Council 3 waters or road.

The property is zoned Rural Production in both the Operative and Proposed District Plans. No high or outstanding landscape or natural features are identified within the site. The property contains LUC Class 6 soils. It is not mapped as containing any heritage/cultural sites, nor is the site mapped as kiwi present or high density kiwi, nor does it contain any Protected Natural Area (PNA).

The site is not mapped as being subject to river flood hazard and is not mapped as being Erosion Prone in the Regional Plan for Northland.

3.2 Legal Interests

The Title is subject to a 1943 water right notice, registered under legislation long since repealed.

3.3 Consent History

The property file contains two building consents – BC-1995-1075 for the existing dwelling on the site; and BC-2002-659 for a freestanding fireplace for that dwelling.

4.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

Clauses 2 & 3: Information required in all applications

(1) An application for a resource consent for an activity must include the following:	
(a) a description of the activity: .	Refer Sections 1 and 5 of this Planning Report.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this Planning Report.
(b) a description of the site at which the activity is to occur:	Refer to Section 3 of this Planning Report.
(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	Refer to Sections 3 and 5 of this Planning Report for existing activities within the site. The application is for subdivision.
(e) a description of any other resource consents required for the proposal to which the application relates:	No other consents are required other than that being applied for pursuant to the Far North Operative District Plan.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 7 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a	Refer to Sections 5 & 7 of this Planning Report.

document referred to in section 104(1)(b), including matters in Clause (2): (*a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	Refer sections 3 and 5. The site supports existing build development, to all be on the balance lot.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.

Clause 4: Additional information required in application for subdivision consent

(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:*	Refer to Scheme Plans in Appendix 1.

(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.*	

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— *(i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and* *(ii) any possible alternative methods of discharge, including discharge into any other receiving environment:*	The subdivision does not involve any discharge of contaminant.
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 8 of this planning report. No affected persons are identified.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be	No monitoring is required as the scale and significance of effects does not warrant any.

monitored if the activity is approved:	
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	No protected customary right is affected.

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

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 6 and 8 of this planning report and also to the assessment of objectives and policies in Section 7.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 6. The proposed activity will have no adverse, effects on the physical environment and landscape and visual amenity values.
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 6.0. The proposal will not result in adverse effects in regard to habitat and ecosystems.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	Refer to Section 6, and above comments
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to natural hazards and does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Operative District Plan 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

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
The minimum lot size is 20ha.	1. 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 4,000m2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or **4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is 2ha, and where the subdivision is created from a site that existed at or prior to 28 April 2000;**	1. The minimum lot size is 4ha; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m² and there is at least 1 lot in the subdivision with a minimum size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 3. A subdivision in terms of a management plan as per Rule 13.9.2 may be approved. ....

The additional lot is greater than 2ha, and the title is older than April 2000. The activity therefore complies with the restricted discretionary subdivision activity pursuant to option 4 above (in bold).

Zone Rules:

I have not identified any zone rule breaches.

District Wide Rules:

The site is not subject to chapters 12.1 or 12.2 (landscape and indigenous vegetation). In regard to Chapter 12.3, earthworks associated with subdivision site works will be related to formation and upgrade of access within proposed right of way. However, consent is being sought to defer any formation works until time of development of the additional lot, i.e. when it is going to be utilised/occupied. This can be a consent notice requirement.

Chapter 12.4 (Natural Hazards) is not relevant in regard to coastal hazards given the site is not located on the coast. Rule 12.4.6.1.2 Fire Risk to Residential units requires that residential units be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest. This is achievable for the vacant lot.

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, in terms of any proposed building or impermeable surface works, or on site wastewater. No works is proposed in any indigenous wetland.

Access to the site is via Te Tio Road, Council formed and maintained metal surface road within legal road alignment – regarded as an access road, with low usage. The road is wide enough for two way vehicle passage. Subject to minor physical works to improve sight lines, both crossings can be formed to the appropriate standard.

Internal to the site, ROW is proposed to provide access over an existing formed farm race (grassed over older metal surface). Technically this serves two lots. As such, 3m metal carriageway width, with drainage will be required. It is requested that this be a condition of consent. Refer to AEE later in this report.

I have not identified any breaches of rules in Chapter 15.1.6C.

No other district wide rules in the ODP are applicable.

The application is a restricted discretionary subdivision activity.

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.

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

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

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

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

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

Ecosystems and Indigenous Biodiversity – Rules IB-R1 to R5 inclusive.
No indigenous vegetation clearance is proposed.

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

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

Earthworks – Only some rules and standards have legal effect. These are Rules EW-R12 and R13 and related standards EW-S3 and ES-S5 respectively. EW-R12 and associated EW-S3 relate to the requirement to abide by Accidental Discovery Protocol if carrying out earthworks and artefacts are discovered. EW-R13 and associated EW-S5 refer to operating under appropriate Erosion and Sediment Control measures. These two requirements can be conditions of consent.

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

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

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

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Allotment Sizes and Dimensions

Proposed Lot 2 of 13.4ha supports existing built development. The proposed additional Lot is 2.07ha in area. The Subdivision Site Suitability Engineering Report (SSSER) supporting the application and attached in Appendix 4, assessed one potential building site within that additional lot's boundaries. It found that the lot has a feasible building area. There are other parts of the lot that may also be suitable for building. I believe the proposed allotment size and dimensions are suitable, and can accommodate future residential living.

Looking across potential building site on additional lot

6.2 Natural and Other Hazards

Refer to the SSSER in Appendix 4. A summary Natural Hazard Assessment is contained in Section 9 of that report. This identifies two potential hazards affecting the site – erosion and overland flowpaths, flooding, inundation. Mitigation of the risk of erosion can be provided by means of stormwater dispersion control and erosion and sediment control measures, resulting in less than minor effects. Any risk of inundation/flooding can be mitigated during future

development by means of swales and check dams and by directing flows into existing pond features on the site to reduce flow velocities, resulting in less than minor effects. Downstream flooding effects are less than minor.

A preliminary geotechnical assessment of the proposed additional lot found that there were no obvious indications of any major deep-seated instability at the site. A stability assessment resulted in recommendations that earth stabilisation would be required to create a safe building platform, e.g. palisade wall at building consent stage; or in lieu of that, a building line restriction be established. These recommendations are based on a standard 3-5 bedroom home, of say 300m^2 footprint/floor area. It is highly unlikely that this size dwelling will ever be constructed. In addition the applicant (and future owner of the new lot) has no intention of constructing any habitable building for quite some time.

It would be appropriate to impose a cautionary ongoing consent condition by way of a consent notice clause in regard to any future habitable building requiring specifically designed foundations, including any recommended ground stabilisation works, at time of building consent, dependent on finalised building size and design. This provides options to a future lot owner both in terms of location of a building, and size and dimensions of a building.

In summary there is no reason pursuant to s106 of the Act as to why this application should not be granted.

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

6.3 Water Supply

There is no Council reticulated water supply available to the property and the Council can impose its standard requirement in regard to potable and fire fighting water supply for Lot 1, at time of building of any habitable building.

6.4 Energy Supply & Telecommunications

Energy supply and telecommunications are not a requirement of rural subdivisions. The Council can impose its standard consent notice as follows:

Electricity supply and telecommunications connection were not a condition of this consent and have not been reticulated to the boundary of the lot. The lot owner is responsible for the provision of these services.

6.5 Stormwater Disposal

Refer to the SSSER Appendix 4, specifically Section 7 of that report. At over 2ha in area, it is highly unlikely that future impermeable surface coverage on the new lot will ever exceed the permitted activity threshold. The SSSER assesses stormwater management on a 2.42% site coverage. No attenuation is considered necessary given (a) the size of the lot; and (b) its location within the catchment. Whilst there is one property located 'downstream' of the site on the other side of Te Tio Road, the SSSER concludes that potential downstream effects are less than minor.

6.6 Sanitary Sewage Disposal

Refer to Section 6 of the Report in Appendix 4. The Report assumes that the proposed new lots may comprise up to a five bedroom dwelling with a peak occupancy of eight people. This equates to a maximum total daily wastewater generation of 160litres/day per/per person. The report recommends an appropriate land disposal system, with primary disposal area of 427m^2 and 50% reserve field (if utilising secondary treatment). It should be noted that, given the size of the additional lot, primary treatment may also be possible/feasible.

It should also be noted that a dwelling the size of that utilised for the purposes of the SSSER, is highly unlikely on the site. It is far more likely that an eventual dwelling, noting the future owner has no intention to build for quite some time, will be a single bedroom structure, or possibly two bedroom. The SSSER has taken a conservative approach in assessing for a higher occupancy and discharge rate than is ever likely to occur. The Council can therefore be confident that the additional lot is capable of providing for on-site wastewater treatment and disposal for future development. The exact design of any system should be left to building consent stage.

6.7 Easements for any purpose

The only easement proposed is as shown on the Scheme Plan in Appendix 1.

6.8 Property Access

The property's existing main entrance is on a long straight section of the road with good visibility. The ROW crossing is further east and has good visibility to the east, but due to the curvature of the road to the west, some minor vegetation clearance may be required to optimise visibility to the west. Nearly all entrance into the property will be vehicles coming from the east (main road), with exits similarly to the east and the main road.

Semi formed new ROW from Te Tio Road, looking back towards the road

Internal to the site, ROW is proposed to provide access over an existing formed farm race (grassed over older metal surface). Technically this serves two lots. As such, 3m metal carriageway width, with drainage will be required. It is requested that this be a condition of consent. However, given that the applicant / future owner of the additional lot has no

intention of building on the lot for quite some time, it is requested that the condition be imposed by way of a consent notice condition, i.e. formation of ROW to occur at the time the additional lot is occupied – habitable dwelling established.

Formation/upgrading of a crossing off Te Tio Road to the ROW can also be an ongoing condition, imposed by way of consent notice.

6.9 Earthworks

With the deferral of physical access works until such time as the additional lot is occupied, or building consent is applied for, there are no subdivision works required other than any minor upgrade that may or may not be required for the existing site entrance, to the existing dwelling.

6.10 Building Locations

The balance lot is already developed and the SSSER accompanying this application confirms that a building can be established within the new lot. Ground conditions are such that viable building sites are limited, but do exist, particularly along the upper ridge. It has been recommended earlier in this report that a consent notice be imposed on Lot 1 requiring specifically designed foundations, at building consent stage. There is no flooding, so minimum floor levels are not required to be specified.

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

Heritage Resources, including cultural values

The site contains no historic sites or sites of cultural significance to Māori as recorded on/in the District Plan's Resource Maps or Schedules. There are no NZAA archaeological sites mapped on the site.

Vegetation, Fauna and Landscape

The subdivision will not require the clearance of any indigenous vegetation on the application site. A future building platform can be created on land already cleared. There are areas of indigenous and exotic vegetation within the application site, unaffected by the proposed subdivision. None of the existing vegetation is identified as a PNA. The site is not identified as having kiwi present. The site is not mapped as containing any areas of high or outstanding natural character or landscape areas.

In short, there are no flora/fauna or landscape values worthy of identification and protection, and no justification for any ban or restriction on the keeping of dogs or cats.

6.12 Soil

The property contains poorer quality soils – Class 6 LUC soils. The proposal is low density and will have very little, if any, impact on the life supporting capacity of soils.

6.13 Access to, and protection of, waterbodies

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

6.14 Land use compatibility (reverse sensitivity)

The property supports limited grazing for a small number of livestock. This land use is likely to continue post subdivision. The creation of one additional lot does not unduly increase the risk of reverse sensitivity effects arising. The site is rural, within a rural area, and as such ongoing rural production activities on the adjacent land is expected.

6.15 Energy Efficiency and renewable Energy Development/Use

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

6.16 Effects on Rural Character and Amenity

The property is rural in nature/character. The proposal is low density and rural amenity will be maintained. In my opinion, the proposal will have no adverse effects on rural character.

6.17 Cumulative and Precedent Effects

The proposal will create one additional lot, as a restricted discretionary activity. There will be minimal, if any, adverse cumulative effects.

Determining whether there is an adverse precedent effect is generally reserved for non complying activities, which this is not. In any event, the proposed subdivision does not set an adverse precedent effect and does not threaten the integrity of the ODP or those parts of the PDP with legal effect.

7.0 STATUTORY ASSESSMENT

7.1 District Plan Objectives and Policies

I consider the subdivision to be consistent with the subdivision objectives and policies in Chapter 13.

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.

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, waahi 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. The site is not known to have any special habitat values and 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.

Safe and efficient access to the site can be achieved. The site is not subject to hazards. Provision of power and telecoms is not a requirement of rural subdivision.

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

There is no significant indigenous bush on the property. The site is not located within a kiwi present or high density kiwi zone. 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 one additional 2ha lot in the Rural Production Zone, a scenario provided for in the District Plan. It leaves a large balance lot of 13.5ha. There are no areas of indigenous flora on the property that will be affected by the subdivision. 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.

The proposal enables efficient use of the land.

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 does not contain any significant natural areas or indigenous biodiversity.

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.

Rural production activities can continue to be undertaken following the subdivision.

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 currently supports limited grazing. I do not see the proposal adversely impacting on the site's productive capability.

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.

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. 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.

15.1.3.1 To minimise the adverse effects of traffic on the natural and physical environment.

The proposal is low density, creating the number and size of lots provided for as a restricted discretionary activity. Te Tio Road is extremely low usage. I believe any adverse effects from additional traffic will be less than minor.

15.1.4.6 That the number, size, gradient and placement of vehicle access points be regulated to assist traffic safety and control, taking into consideration the requirements of both the New Zealand Transport Agency and the Far North District Council.

Entranceways into the lots can be formed to Council standard.

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 land supports only limited grazing due to poor quality soils and low fertility. Limited grazing will continue post subdivision.

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

This objective is in a zone chapter, not subdivision, and is aimed at 'activities'. The application is for a subdivision that does not pre-determine the activities to take place within each lot.

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 or on adjacent sites will not be constrained as a result of the proposal. The site is not subject to hazards. Sites will be fully 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. It is a subdivision.

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.*

Refer to earlier comments in regard to Objectives.

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;*
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 lot sizes can continue to support the limited productive use they are currently used for. The site does not possess any special habitat, landscape or natural values. Strictly speaking, however, the proposal cannot be consistent with part (c) of RPROZ-P6, as no specific environmental 'benefit' is proposed.

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:

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

The subdivision does not require consent under the PDP so the policy is of limited relevance. Relevant matters within RPROZ-P7 have, however, been taken into account.

<u>Subdivision objectives and policies</u>:

SUB-O1
Subdivision results in the efficient use of land, which:

a. *achieves the objectives of each relevant zone, overlays and district wide provisions;*
b. *contributes to the local character and sense of place;*
c. *avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;*

d. avoids land use patterns which would prevent land from achieving the objectives and policies of the zone in which it is located;
e. does not increase risk from natural hazards or risks are mitigates and existing risks reduced; and
f. manages adverse effects on the environment.

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.

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 density, maintains character, and the site contains no highly productive land, with poorer soils predominating. Whilst the proposed lots do not 'comply' with the PDP's minimum lot sizes for the zone, the lots are nonetheless easily able to provide for building platforms. They have / can have legal and physical access.

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

The subdivision does not adversely impact on natural environmental values, nor historical and cultural values. The site is not subject to hazards.

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. I believe the subdivision can be appropriately serviced.

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

Not applicable. There are no waterbodies that require esplanade reserves.

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.*

There are no 'qualifying SNA's' and there are no versatile soils.

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:

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.

7.3 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. The site does not have any outstanding landscape values. There is no significant indigenous bush on the property. 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.

7.4 National Policy Statements & Standards

I have not identified any National Policy Statement relevant to the proposal, nor any National Environmental Standard.

7.5 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 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.

The proposal does not, in my opinion, create any undue reverse sensitivity effects.

7.6 Regional Plan (Appeals Version)

The subdivision does not result in any breaches of rules in the Regional Plan.

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. A future house site within the proposed additional lot can be located well clear of boundaries and comply with all bulk and location requirements. I do not consider any adjacent properties to be affected by the establishment of one additional lot.

There are no identified Sites of Significance to Māori within or in the vicinity of the property, and no archaeological sites. 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.

9.0 CONCLUSION

The effects of the subdivision on the wider environment are no more than minor, and no special circumstances exist that would suggest public notification is required. No affected persons have been identified and limited notification is not required.

Part 2 matters have been had regard to and the proposal is considered consistent with the objectives and policies of relevant planning provisions in the Operative and Proposed District Plans, relevant 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 Dated 14th August 2025
Senior Planner
THOMSON SURVEY LTD

10.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

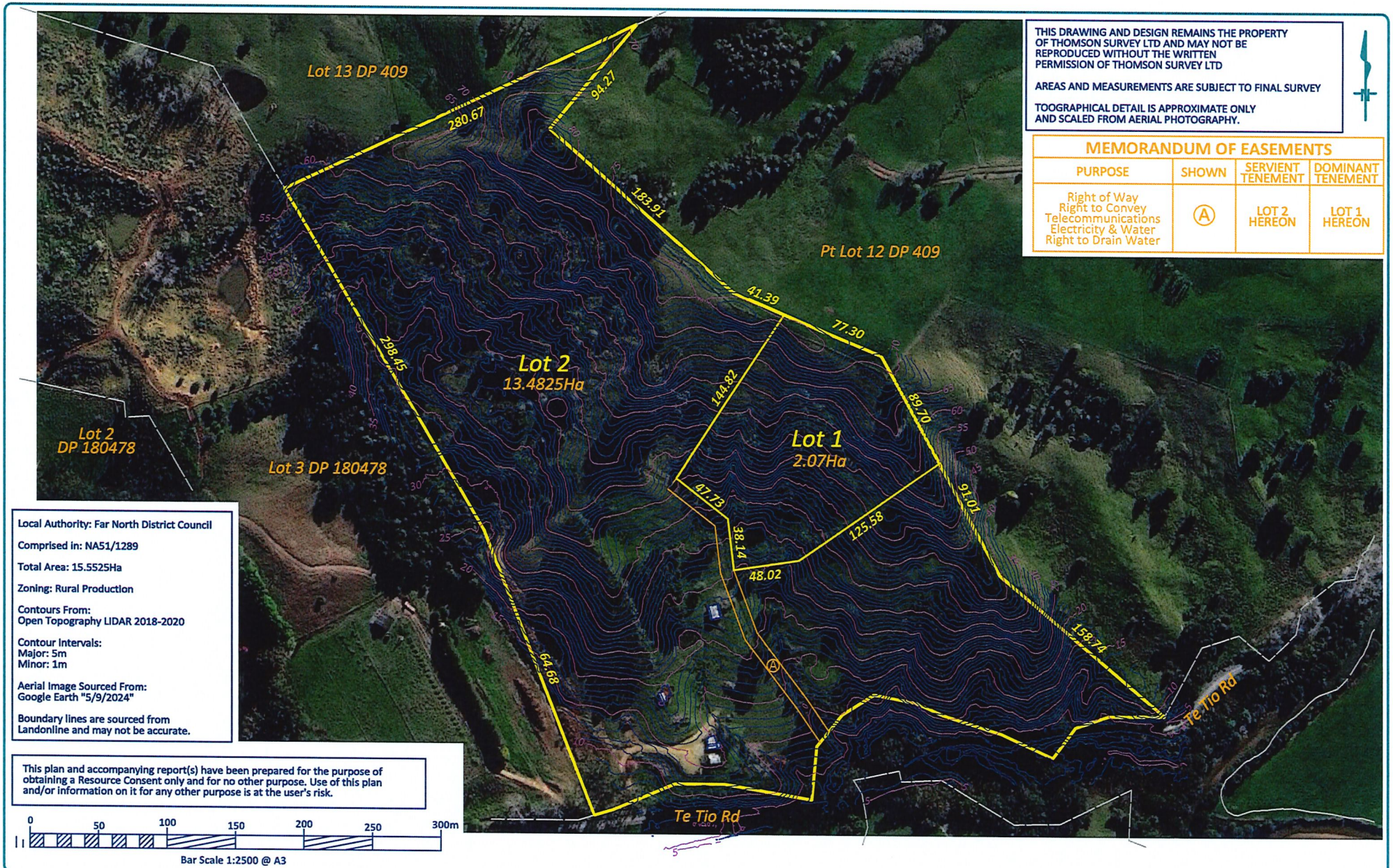
Appendix 2 Locality Plan

Appendix 3 Record of Title & Relevant Instruments

Appendix 4 Subdivision Site Suitability Engineering Report

Appendix 1

Scheme Plan(s)



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TOOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY.

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
Right of Way Right to Convey Telecommunications Electricity & Water Right to Drain Water	Ⓐ	LOT 2 HEREON	LOT 1 HEREON

Local Authority: Far North District Council

Comprised in: NA51/1289

Total Area: 15.5525Ha

Zoning: Rural Production

Contours From:
Open Topography LIDAR 2018-2020

Contour Intervals:
Major: 5m
Minor: 1m

Aerial Image Sourced From:
Google Earth "5/9/2024"

Boundary lines are sourced from Landonline and may not be accurate.

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

0 50 100 150 200 250 300m

Bar Scale 1:2500 @ A3

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Proposed Subdivision of Lot 14 DP 409

246 Te Tio Rd, Umawera, Okaihau

PREPARED FOR: A, Cole

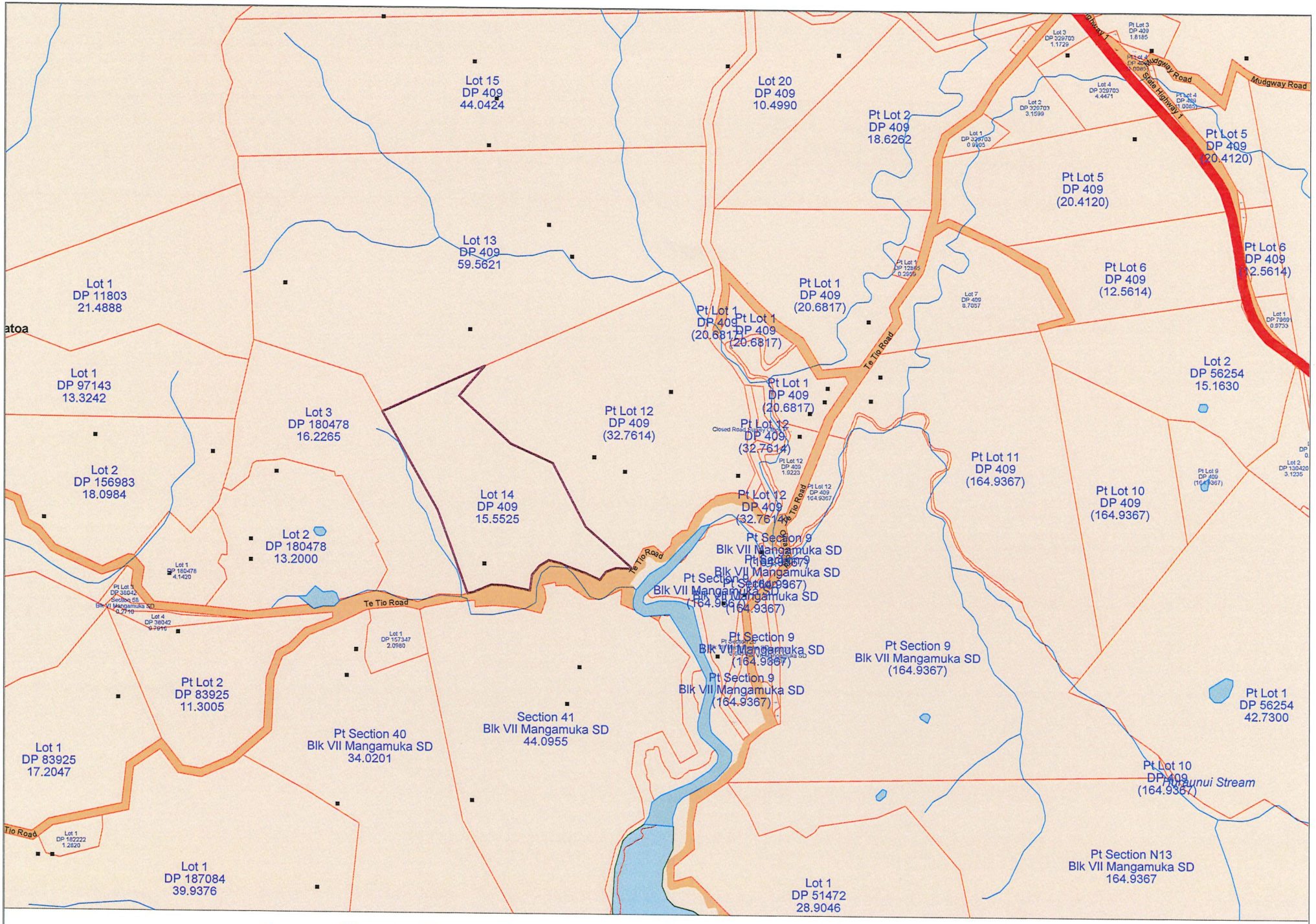
	Name	Date	ORIGINAL SCALE	SHEET SIZE
Survey				
Design				
Drawn	EM	25.03.25	1:2500	A3
Approved				
Rev				

10421 SCHEME 25-03-25

Surveyors Ref. No: 10746

Appendix 2

Locality Plan



QuickMap
Custom Software Ltd

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

Scale 1:12500 Topographical and Cadastral map derived from LINZ data. Printed: 06-Aug-2025 02:29.

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	**NA51/289**
Land Registration District	**North Auckland**
Date Issued	27 September 1888

Prior References
NA44/78

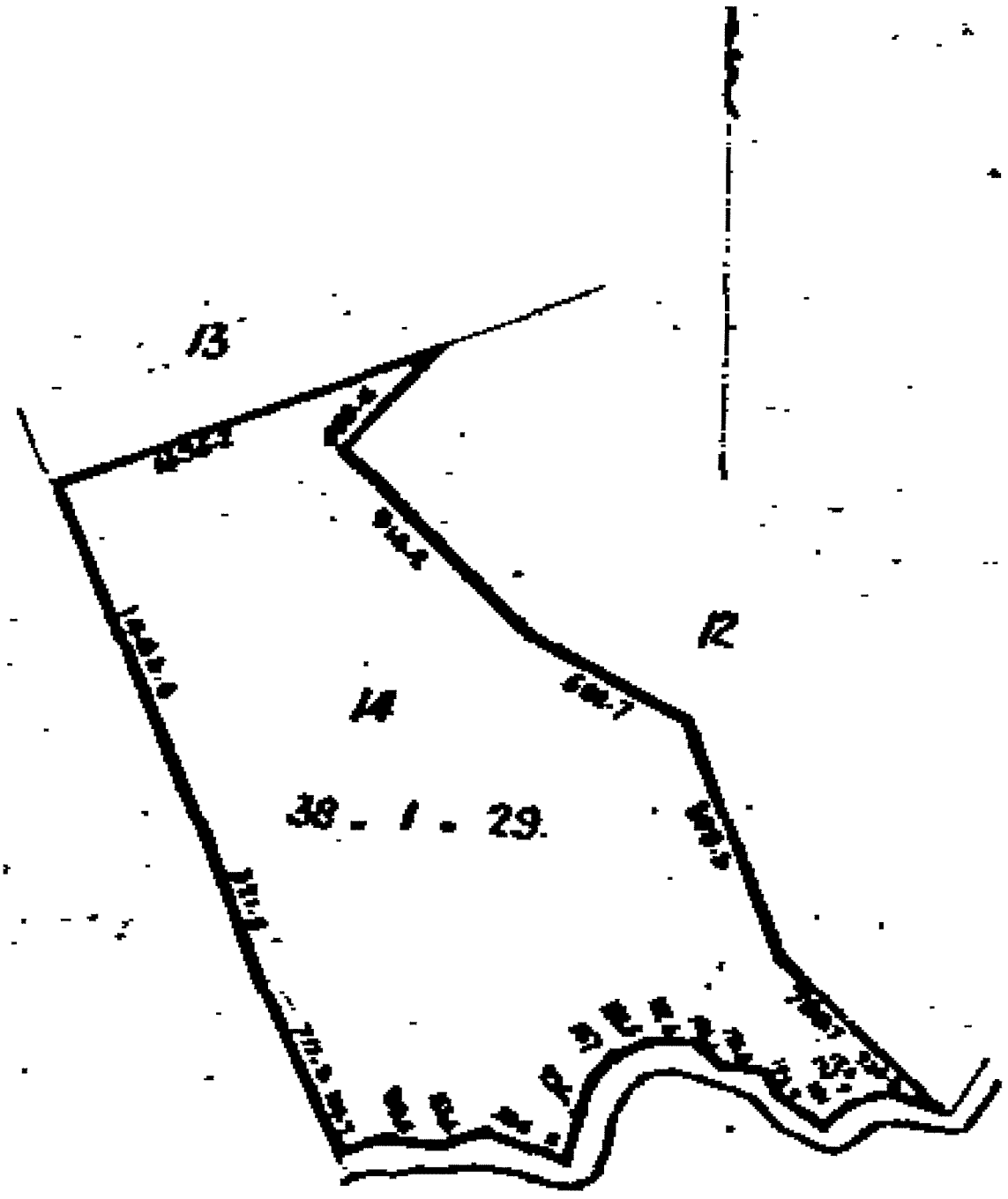
Estate	Fee Simple
Area	15.5526 hectares more or less
Legal Description	Lot 14 Deposited Plan 409

Registered Owners
Bronwyn Ellen Ross-Winder and Jamie Owen Thomas Desmond

Interests

K27825 Notice under subsection 5 of Section 8 of the Land Laws Amendment Act 1939 that the land herein is land to which water is supplied under the said section - 8.2.1943 at 2.30 pm

12432201.3 Mortgage to ANZ Bank New Zealand Limited - 29.4.2022 at 10:35 am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Appendix 4

Subdivision Site Suitability Engineering Report

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SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

246 TE TIO ROAD,
UMAWERA, OKAIHAU

ANDREW COLE

C0642N-S-01
JUNE 2025
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Subdivision Site Suitability Engineering Report
Site Reference	246 Te Tio Road, Umawera, Okaihau
Client	Andrew Cole
Geologix Reference	C0642N-S-01
Issue Date	June 2025
Revision	01
Prepared	Fred Sennoga Civil Design Engineer, BScEng Civil, MEngNZ
Reviewed	Sebastian Hicks Principal Civil Engineer, CPEng Reg. 1168062, CMEngNZ, IntPE(NZ) /APEC Engineer
Approved	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ
File Reference	*C0642N-S-01-R01 FS Draft*

REVISION HISTORY

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

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FIGURES

TABLES

1 INTRODUCTION

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

Our scope of works has been undertaken to assist with the Resource Consent application in relation to the proposed subdivision of rural properties section Lot 14 DP 409 situated along 246 Te Tio Road, Umawera, Okaihau, the 'site', into one new rural residential lot with a remaining balance lot.

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

1.1 Proposal

A proposed scheme plan was presented to Geologix at the time of writing, prepared by Thomson Survey Ltd[1] and has been reproduced within Appendix A as Drawing No 100. It is understood from the scheme plan that there will be three separate lots comprising:

- Proposed Lot 1, which is a proposed rural residential lot.
- Proposed Lot 2, which is the balance rural residential lot comprising the balance areas of section Lot 14 DP 409. The above is summarised in Table 1.

Any amendments to the referenced scheme plan may require an update to the recommendations of this report which are based on conservative, typical rural residential development concepts.

The site is located in the rural production zone as per the FNDC Operative District Plan.

Table 1: Summary of Proposed Subdivision

Proposed Lot No.	Size	Purpose
1	2.07 ha	New residential Lot 1
2	13.483 ha	Balance Lot

Site access for each lot will be provided from Te Tio Road. Proposed Lot 1 will be accessed via a Right of Way through proposed Lot 2. Assessment of access has not been provided as part of this report.

A specific Traffic Impact Assessment (TIA) is not within the scope of this report.

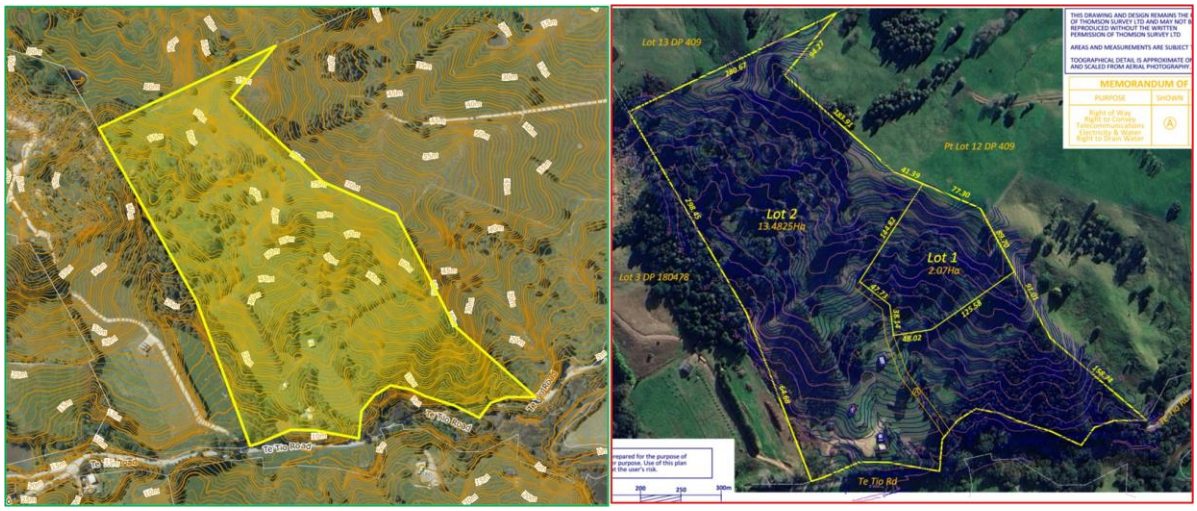
[1] *Thomson Survey, PROPOSED SUBDIVISION OF SECTION 77 BLK XVI KAWAKAWA SD & PT SECTION 30 BLK XVI KAWAKAWA SD, dated Aug 2023.*

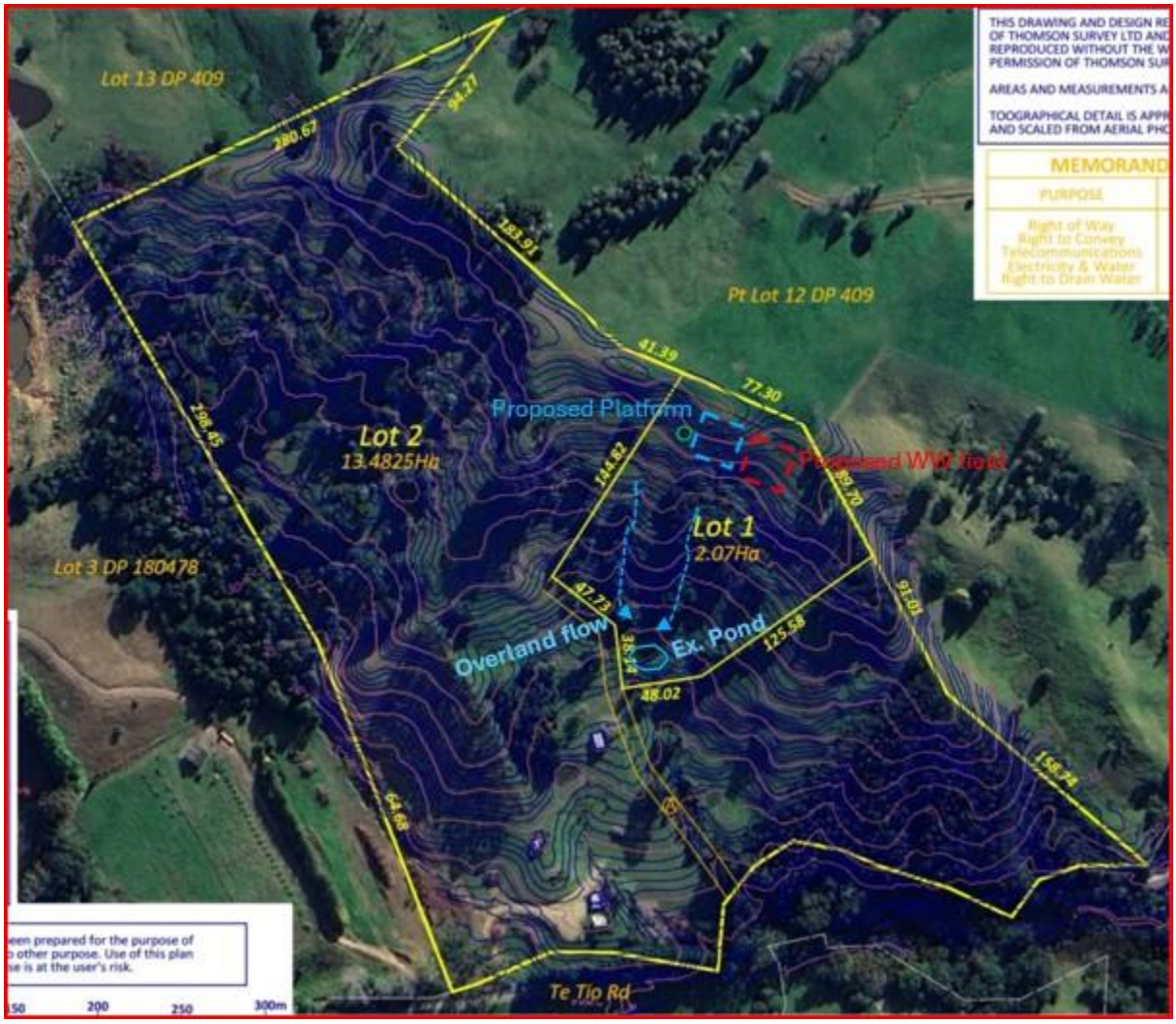
2 DESKTOP APPRAISAL

The site is located along the northern side of 246 Te Tio Road, Umawera. It has an irregular alignment to define the northern, eastern and western boundary of the site. Topographically, the site area is undulating with gullies running predominantly from north to south starting at an elevation of about 75m along the northern side of the site. The overall slope of the terrain is moderate to steep towards the southwest corner of the site.

The site setting is presented schematically as Figure 1 below.

Figure 1: Site Setting





The entire site area is currently in pasture with rough grass and occasional trees and/or vegetation. There are existing building structures present within the site boundaries in the balance Lot 2.

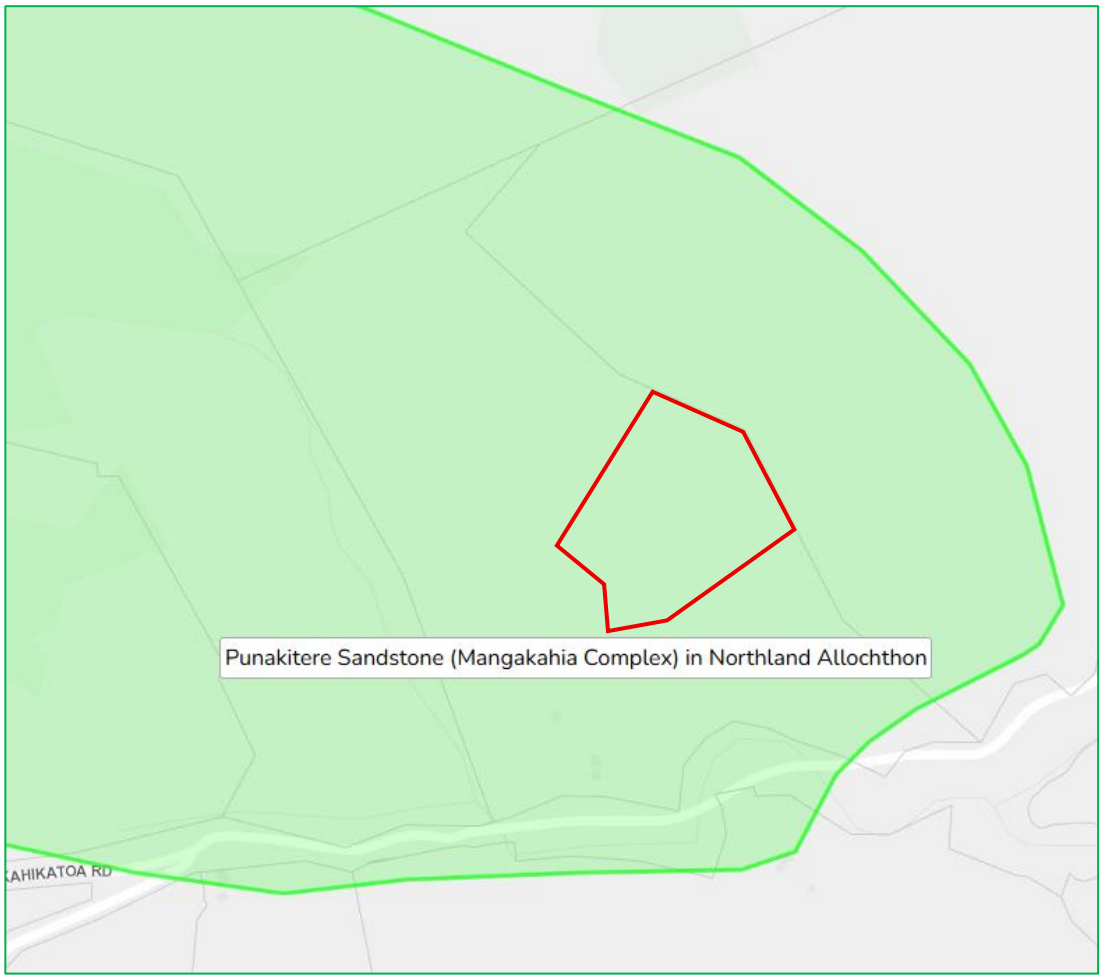
2.1 Existing Reticulated Networks

Far North District Council (FNDC) GIS mapping indicates that no existing public three waters infrastructure or reticulated networks are present near 246 Te Tio Road or the site boundaries. This report has been prepared with the goal of the subdivision and future development being self-sufficient for the provision of wastewater, stormwater, and potable water supply.

2.2 Geological Setting

Available geological mapping[2] indicates the site to be directly underlain by Punakitere Sandstone (Mangakahia Complex) in Northland Allochthon. These Sandstone Allochthonous rocks can be described as Weakly indurated metre-bedded quartzose, micaceous sandstone, with minor conglomerate, and interbeds of blue-grey mudstone. Refer to Figure 2 below:

Figure 2: Geological Map with highlighted site boundaries.



2.3 Existing Geotechnical Information

Existing ground investigations were not made available to Geologix at the time of writing. Furthermore, a review of available GIS databases, including the New Zealand Geotechnical Database,[3] did not indicate borehole records within 500 m of the site.

[2] *Geological & Nuclear Science, 1:250,000 scale Geological Map, Sheet 2, Whangarei, 2009.*
[3] *https://www.nzgd.org.nz/*

3 SURFACE WATER FEATURES AND OVERLAND FLOWPATHS

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

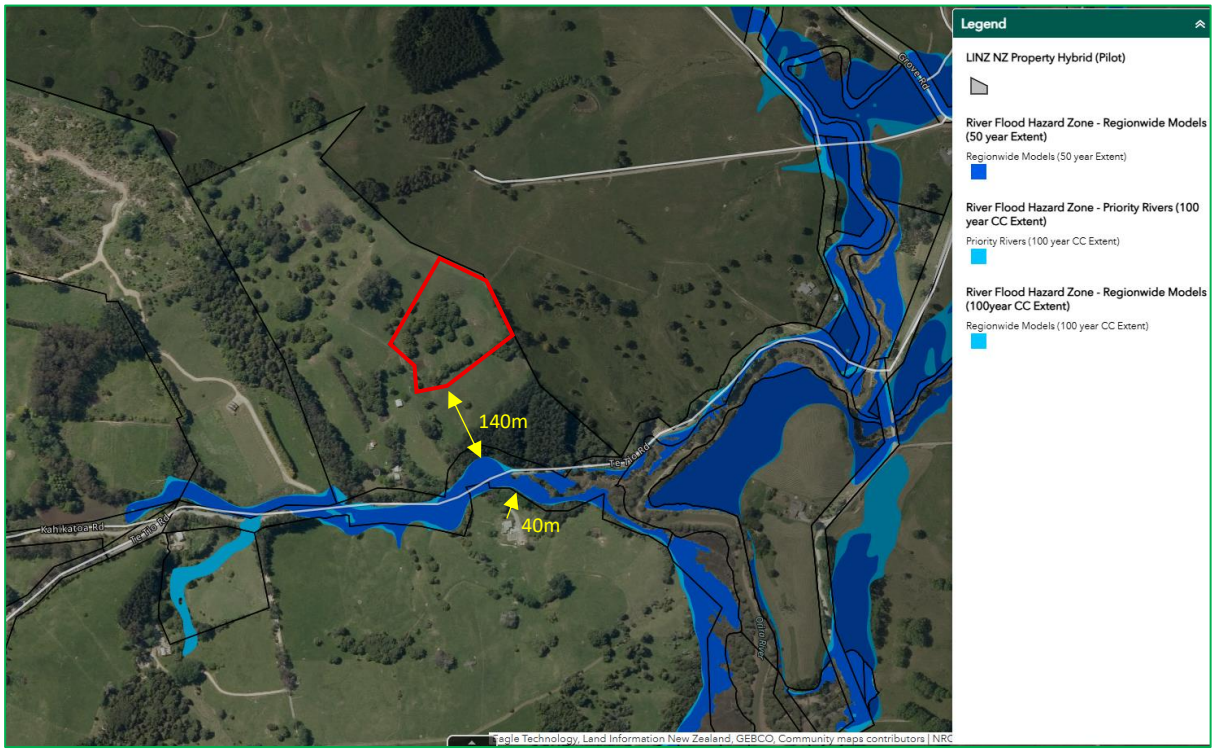
3.1 Surface Water Features

The site is located at the lower elevations of an existing catchment, close to the overall catchment outlet to the Orira River. The Coastal Marine Area (CMA) boundary extends up the Orira River, adjacent to Te Tio Road where the proposed development is located. Stormwater from the site will flow in a southerly to south-westerly direction across the site towards the southwest corner of the site and flow overland towards the southern Te Tio Road. Stormwater should then flow east towards the nearby Orira River catchment.

There is a mapped flood hazard (100year CC River Flood Regionwide Model) located around 150m southeast of the site, at around elevation 5m. The nearest proposed site corner boundary is at elevation 25m.

The nearest downstream property from the proposed site, adjacent to the mapped flood hazard is located on the other side of Te Tio Road with approximately 40m setback from the hazard. The lowest elevation of this property is 14m. Refer Figure 3 below.

Figure 3: NRC River Hazard Extents Relative to Site



3.2 Sensitive Receptors

Based on GIS data, national topographic maps and survey data provided at the time of writing we do not understand there to be sensitive receptors such as wetlands at the site. However, we have not been engaged to provide an ecological assessment of the site or surface water features.

3.3 Overland Flow Paths

Some flow paths are evident within the Lot 1 site boundaries upon relatively steep sloping land, generally fed from the upper western elevations and central region of the proposed Lot 1 site near the western edge of the site.

Existing overland flows feed into a wet pond located near the southwest corner of the proposed Lot 1 site with an approximate surface area of 200m2. This pond then discharges to another existing overland flow path that flows south to the site boundary and discharges to Te Tio Road.

The balance lot, Lot 2 appears to have a centralised ridge line running generally from northeast, around elevation 75m, to southwest around elevation 30m. This ridge splits Lot 2 into two regions, a northern region with overland flow paths generally running from east to west and a southern region with an overland flow path draining in a southeasterly direction. This overland flow path flows through an existing 130m2 pond, which discharges to another OLFP that travels south and discharges to Te Tio Road.

Water draining from the site onto Te Tio Road appears to enter Te Tio Road and flow along an existing stormwater swale drain on the northern side of the road, flowing east towards the downstream river catchment.

Our walkover survey was undertaken in May during a relatively wet period and noted no significant flow through the overland flow paths.

4 GROUND INVESTIGATION

A site-specific walkover survey and intrusive ground investigation was undertaken by Geologix on 30 May 2025. The ground investigation was scoped to confirm the desktop assessment findings (where possible) and to assess slope stability parameters. The ground investigation comprised the following:

- Two hand augered boreholes designated HA01, HA02 formed at selected areas near proposed house site and wastewater disposal fields with a target depth of 5.0 m below ground level (bgl). See Figure 4 for location of the boreholes.
- Monitoring of groundwater levels with a groundwater dip meter on the day of drilling. Groundwater measurements were taken at the time of drilling.

- Dynamic Cone Penetration (DCP) testing was carried out at the base of the boreholes until final refusal i.e. 20 blows per 100 mm penetration at depths ranging from 2.7 to 3.8 m.

Figure 4: Hand Auger locations Relative to proposed platforms

4.1 Site Walkover Survey

A visual walkover survey of the property confirmed the following:

- The topographical understanding of the site developed from our desktop study, as outlined in Section 2, is in general accordance with that observed on site.
- Suitable building envelope[4] within Lot 1 to be formed on sloping land ≤20°.
- Te Tio Road defines the general southern site boundary in terms of the balance lot, Lot 2. The proposed Lot 1 is enveloped by the balance lot and will be accessed via a proposed 148m long Right of Way that has an existing vehicle crossing onto Te Tio Road.
- Nearby land in all directions includes similar rural properties with open pasture and mature trees.
- Overland flow paths extend across the lots and are predominantly covered by mature trees, shrubs and grasses in wet areas.
- No existing retaining walls or supporting structures were noted during our walkover survey. Existing farm buildings were noted during our walkover survey.

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

- A dwelling structure and associated gravel access road is located towards the southwestern corner of the balance lot, Lot 2. This lot is accessed from another vehicle crossing onto Te Tio Road at address 246 Te Tio Road.

4.2 Ground Conditions

Arisings recovered from the exploratory boreholes were logged by a suitably qualified geotechnical engineering professional in general accordance with New Zealand Geotechnical Society guidelines[5]. Engineering borehole logs are presented as Appendix B to this report and approximate borehole positions recorded on Drawing No. 100 within Appendix A. Strata identified during the ground investigation can be summarised as follows:

- **Topsoil encountered in all boreholes up to 0.1 and 0.4 m bgl.** Described as generally dark brown organic silt, with trace gravel and rootlets, low plasticity and moist.
- **Northland Allochthon Residual Soil to depths of 1.2 to 1.8 m bgl.** The residual soil was described as clayey silt or silt with some clay or sand, orange brown or brownish orange, grey, low plasticity and moist.

  The Northland Allochthon was found to be variable in strength, in total seven in-situ field vane tests recorded vane shear strengths ranging from 107 to 171 kPa, indicative of variable very stiff soils and a characteristic unit vane shear strength of 127 kPa was determined at 95 % confidence.
- **Hard / Dense Northland Allochthon to depths of 2.7 to 3.8 m bgl.** Hard / Dense Northland Allochthon was conservatively inferred within all boreholes where DCP blow counts consistently returned values above 6 per 100 mm penetration or measured undrained shear strength was consistently above 200kPa.
- **Very Dense Northland Allochthon at depths from >2.7 to >3.8 m bgl.** Very Dense Northland Allochthon was inferred within all boreholes where Scala penetrometer values exceeded 20 blows per 100mm.

A summary of the ground investigation data is presented below as .

Table 2: Summary of Ground Investigation

Hole ID	Hole Depth	Refusal Depth	Topsoil Depth	Groundwater[2]	Wastewater Category[4]
HA01	2.0 m	2.7 m	0.4 m	2.0 m	6 – slow draining
HA02	2.0 m	3.8 m	0.1 m	2.0 m	6 – slow draining

[5] *New Zealand Geotechnical Society, Field Description of Soil and Rock, 2005.*

4.2.1 *Groundwater*

The ground investigation was undertaken during winter and formed exploratory boreholes to maximum depths that can be achieved with hand tools. Groundwater levels were monitored utilising a groundwater dip meter on the day of drilling.

During our ground investigation, groundwater was encountered in all boreholes at 2.0 m bgl. However, groundwater levels commonly fluctuate according to the season and rainfall events. As such, groundwater levels may vary and be identified at higher levels than monitored during this ground investigation.

It is recommended that during earthworks should water ingress be noted that further advice is sought from Geologix which may require amendments to the recommendations of this report.

5 PRELIMINARY GEOTECHNICAL ASSESSMENT

Based on the results of the desktop appraisal, a site walkover survey, and the ground investigation, Geologix have undertaken a site-specific geotechnical assessment relevant to the proposed development concept.

5.1 Preliminary Geotechnical Design Parameters

Preliminary geotechnical design parameters are presented in Table 3 below. They have been developed based on our ground investigation, the results of in-situ testing, laboratory analysis and experience with similar materials.

Table 3: Geotechnical Effective Stress Parameters

Geological Unit	Unit Weight, kN/m^3	Effective Friction Angle, °	Effective Cohesion, kPa	Undrained shear strength, kPa
Northland Allochthon Residual Soil	18	30	5	100*
Hard / Dense Northland Allochthon	19	32	7	200
Very Dense Northland Allochthon	20	34	9	

** Adopting Bjerrum correction factor of 0.8 from characteristic vane shear strength.*

5.2 Preliminary Site Subsoil Class

The site has been designated as Site Subsoil Class C according to the provisions of NZS1170:2004[8].

[8] *NZS1170.5:2004, Structural Design Actions Part 5: Earthquake Actions Clause 3.1.3.*

5.3 Preliminary Seismic Hazard

New Zealand Standard NZS1170.5:2004 Clause 2.1.4 specifies that to meet the requirements of the New Zealand Building Code, design of structures is to allow for two earthquake scenarios:

1. *Ultimate Limit State (ULS) shall provide for… "avoidance of collapse of the structural system…or loss of support to parts… damage to non-structural systems necessary for emergency building evacuation that renders them inoperable."*

2. *Serviceability Limit State (SLS) are to avoid damage to… "the structure and non-structural components that would prevent the structure from being used as originally intended without repair after the SLS earthquake…."*

The seismic hazard in terms of Peak Ground Acceleration (PGA) has been assessed based on the NZGS Module 1[9]. Table 4 presents the return periods for earthquakes with ULS and SLS 'unweighted' PGAs and design earthquake loads for the corresponding magnitude. The PGAs were determined using building Importance Level (IL) 2, defined by NZS1170.5:2004. Reference should be made to the structural designer's assessment for the final determination of building importance level.

Table 4: Summary of Seismic Hazard Parameters

Limit State	Effective Magnitude	Return Period (years)	Unweighted PGA
ULS	6.5	500	0.19 g
SLS	5.8	25	0.03 g

5.4 Preliminary Site Stability

At the time of writing, no obvious indications of major deep-seated instability were identified at the site, and the risk of such deep-seated instability developing as a result of the development proposal is low.

Within the scope of this ground investigation Geologix have undertaken a digitally modelled slope stability analysis through the critical section of the site topography and proposed development platform. The cross-section alignment is presented on Drawing No. 100 within Appendix A.

The slope was analysed within propriety software Slide 2 version 9.034, developed by RocScience Inc. The purpose of the stability assessment was to:

- Ensure development concepts are feasible.

- Provide a working, accurate ground model in relation to site stability refined according

[9] *New Zealand Geotechnical Society, Earthquake Geotechnical Engineering Practice, Module 1, November 2021, Appendix A, Table A1.*

to observed conditions and the results of this ground investigation.

- Develop a proposed retaining concept, if required, with any specific geotechnical stability requirements.
- Inform the requirements of Consent, developed architectural design and further engineering works.

Limit equilibrium stability analysis was adopted in the analysis to express the results as a Factor of Safety (FS). When FS = 1.0, the represented mechanism is in equilibrium with the disturbing, active forces equal to the resisting, stabilising forces. A lower FS indicates that instability could occur under the modelled scenario whereas a higher FS demonstrates a margin of safety in respect of stability. Modelling three separate event scenarios the accepted minimum FS are summarised as follows:

- Minimum FS = 1.5 for static, normal groundwater conditions.
- Minimum FS = 1.3 for elevated groundwater conditions (storm events).
- Minimum FS = 1.0 for dynamic, seismic events.

5.4.1 Stability Analysis Results

Slope stability analysis results are presented in full as Appendix E and summarised below as Table 5.

Table 5: Summary of Stability Analysis Results

Profile	Scenario	Global Min.	Development Footprint (min FS)	Result
Section A				
Existing	Static[1]	1.288	1.288	Fail
	Elevated GW[2]	0.983	0.983	Fail
	Seismic[3]	0.918	0.918	Fail
Proposed	Static[1]	1.240	1.240	Fail
	Elevated GW[2]	0.959	0.959	Fail
	Seismic[3]	0.916	0.916	Fail
Palisade Wall	Static[1]	1.316	>1.5	Pass
	Elevated GW[2]	1.001	>1.3	Pass
	Seismic[3]	0.946	>1.0	Pass
Restriction Line	Static[1]	1.288	>1.5	Pass
	Elevated GW[2]	0.967	>1.3	Pass
	Seismic[3]	0.912	>1.0	Pass

1. *Static, normal groundwater minimum FS = 1.5*
2. *Static, elevated groundwater minimum FS = 1.3*
3. *Dynamic, seismic conditions minimum FS = 1.0*

5.4.2 *Stability Analysis Conclusions*

The developed slope stability model is considered to be a reasonable representation of the observed conditions on site. No detailed architectural plans or earthworks plan is available during the preparation of this report. Slope stability analyses may subject to be revised once earthworks extents are known.

From the current modelled slope stability analysis computation, factors of safety are not satisfactory for the existing site conditions and earth stabilization is required for development on the subject site in the location shown on Drawing No. 100 within Appendix A. The failure mechanisms below the required factor of safety that are within the proposed building platform are within the residual soil and hard / dense layers which had the lowest soil parameters and are the most affected by periods of elevated groundwater conditions.

From the current modelled slope stability analysis computation, factors of safety are satisfactory for the proposed development in the case a palisade wall is constructed downslope of the development footprint at the Building Consent stage once final development plans are available.

In lieu of constructing a palisade wall at the Building Consent stage, due to the moderately sloping ground in proximity to the proposed building platform we recommend a building restriction line as shown on Drawing No. 100. Any building downslope of the building restriction line will be in an area with a factor of safety below requirements. Development beyond this line will require slope stabilization as outlined above.

6 WASTEWATER ASSESSMENT

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

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

The concept rural residential development within this report assumes that the proposed new lot may comprise up to a five-bedroom dwelling with a peak occupancy of eight people[10]. This considers the uncertainty of potential future Building Consent designs. The number of usable bedrooms within a residential dwelling must consider that proposed offices, studies, gyms, or other similar spaces may be considered a potential bedroom by the Consent Authority.

[10] *TP58 Table 6.1.*

6.1 Existing Wastewater Systems

The existing dwelling within proposed Lot 2 is located in the southwest portion of the existing site.

The existing wastewater treatment or disposal systems connected to the existing dwelling in Lot 2 were not assessed for the purposes of this application. It is anticipated that the existing system is positioned well inside the Lot 2 site boundaries, as the dwelling is approximately 130m from the proposed ROW easement and 260m to the nearest boundary of proposed Lot 1.

It is proposed for Lot 1 to have an independent wastewater treatment system.

6.2 Wastewater Generation Volume

In lieu of potable water infrastructure servicing the site, roof rainwater collection within on-lot tanks has been proposed for this assessment for proposed Lot 1. The design water volume for roof water tank supply is estimated at 160 litres/ person/ day[11]. This assumes standard water saving fixtures[12] being installed within the proposed future development. This should be reviewed for each proposed lot at the Building Consent stage.

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

The existing dwellings and wastewater system on proposed Lot 2 have not been considered in this application as they are existing.

6.3 Treatment System

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

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

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

- Rule C.6.1.3 (6), discharge of wastewater from primary systems is to slopes less than 10°.

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

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

- Rule C.6.1.3 (9.a), 100 % reserve disposal area where the wastewater has received primary treatment.
- Table 9, exclusion areas and setback distances for primary treated domestic type wastewater.

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

6.4 Land Disposal System

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

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

Table 6: Disposal Field Design Criteria

Design Criteria	Site Conditions
Topography at the disposal areas shall not exceed 25°. Exceedances will require a Discharge Consent.	Concept design complies for Lot 1. Disposal fields sited on slopes = 19^0
On shallower slopes <25 ° but >10 °, compliance with Northland Regional Plan (NRP) rule C.6.1.3(6) is required.	Concept design complies for Lot 1, Disposal fields sited on slopes = 19^0
On all terrain irrigation lines should be laid along contours.	Concept design complies
Disposal system situated no closer than 600 mm (vertically) from the winter groundwater table (secondary treated effluent).	Concept design complies
Separation from surface water features such as stormwater flow paths (including road and kerb channels), rivers, lakes, ponds, dams, and natural wetlands according to Table 9, Appendix B of the NRP.	Concept design complies. All overland flow paths separation distances to disposal areas are >15 m.
The effluent is treated and disposed of on-site such that each site has its own treatment and disposal system no part of which shall be located closer than 30 m from the boundary of any river, lake, wetland, or the boundary of the coastal marine area. FNDC rule 12.7.6.1.4	Concept design complies.

6.4.1 Soil Loading Rate

The shallow soils are inferred to meet the drainage characteristics of TP58 Category 6, sandy clay, non-swelling clay and silty clay – slowly draining. This correlates to NZS1547 Category 5, poorly drained described as light clays. For a typical PCDI system, a Soil Loading Rate (SLR) of 2-3 mm/ day is recommended within NZS1547 Table 5.2 and TP58 Table 9.2.

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

- 100 to 150 mm minimum depth of good quality topsoil (NZS1547 Table M1, note 1) to slow the soakage and assist with nutrient reduction.
- Minimum 50 % reserve disposal field area (TP58 Table 9.2, note 3) to adopt 3 mm/day, rather than 2mm/day SLR.

The proposed concept design adopts 3.0mm /day SLR, utilising a 50% reserve disposal field area.

6.4.2 Disposal Areas

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

- **Primary Disposal Field.** A minimum PCDI primary disposal field of 427 m^2 laid parallel to the natural contours.
- **Reserve Disposal Field.** NRP rule C.6.1.3(9)(b) requires a minimum reserve disposal field equivalent to 30 % of the primary disposal field for secondary or tertiary treatment systems. As discussed above in Section 6.4.1, the proposed concept design presents a 50% reserve disposal field area. Therefore, each proposed lot provides a 214 m^2 reserve disposal area to be laid parallel to the natural contours.
- Disposal fields discharging secondary treated effluent are to be set above the 20-year ARI (5 % AEP) flood inundation height to comply with the above NRP rule. Flood hazard potential has only been identified outside the south-eastern corner of the site and as such the site can provide freeboard well above the 1 % AEP (and 5% AEP) flood height to comply with this rule. It must be noted that the disposal fields are proposed to be located at a high point near the northern boundary of the site, around an elevation of 70m.

6.5 Summary of Concept Wastewater Design

Based on the above design assumptions a concept wastewater design is presented in Table 7 and presented schematically upon Drawing No. 100 (Appendix A). It is recommended that each lot is subject to Building Consent specific review and design amendment according to final development plans.

Table 7: Concept Wastewater Design Summary

Design Element	Specification
Concept development	Five-bedroom, peak occupancy of 8 (per lot)
Design generation volume	160 litres/ person/ day
Water saving measures	Standard. Combined use of 11 litre flush cisterns, automatic washing machine & dishwasher, no garbage grinder[1]
Water meter required?	No
Min. Treatment Quality	Secondary
Soil Drainage Category	TP58 Category 6, NZS1547 Category 5
Soil Loading Rate	3.0 mm/ day
Primary disposal field	Surface/ subsurface laid PCDI, min. 427 m^2
Reserve disposal field	Surface/ subsurface laid PCDI, min. 50 % or 214 m^2
Dosing Method	Pump with high water level visual and audible alarm. Minimum 24-hour emergency storage volume.
Stormwater Control	Divert surface/ stormwater drains away from disposal fields. Cut off drain required for Lot 1 (>10°), not for Lot 2

1. Unless further water saving measures are included.

6.6 Assessment of Environmental Effects

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

The scale of final development is unknown at the time of writing and building areas, impervious areas including driveways, ancillary buildings, landscaped gardens, and swimming pools may reduce the overall area for on-site wastewater disposal. For the purpose of this report, the above conceptual impervious features (i.e. driveways, buildings, landscaped gardens, swimming pools) are considered to be comprised within the conceptual 30 x 30 m square building envelope indicated on Drawing 100, Appendix A. The conceptual wastewater disposal field areas are clear of this indicative building envelope area.

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

7 STORMWATER ASSESSMENT

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

7.1 Impervious Surfaces and Activity Status

A summary of the impervious areas of the proposed lots is provided as Table 8 below which has been developed from our observations and the provided Scheme Plan. For the proposed lots, this has been taken as conceptual maximum probable development of typical rural residential scenarios. Refer Section 7.2.

The activity status reflected in Table 8 is with respect to Operative FNDC Plan Section 8.6.5.1.3 only. Considering this, both proposed Lot 1 and Lot 2 are considered **Permitted Activity.**

Table 8: Summary of Impervious Surfaces

Surface	Proposed Lot 1		Proposed Lot 2	
Existing Condition			**(155,525 m²)**	
Roof	0 m²	0 %	374 m²	0.24 %
Driveway + Parking	0 m²	0 %	905 m²	0.58 %
Right of Way	0 m²	0 %	0 m²	0 %
Total impervious	0 m²	0 %	1279m²	0.82 %
Proposed Condition	**(20,700m²)**		**(134,825 m²)**	
Roof	300 m² (Concept)	1.45 %	374 m²	0.28 %
Driveway + Parking	200 m² (Concept)	0.97 %	905 m²	0.67 %
Right of Way	0 m²	0 %	444 m²	0.33 %
Total impervious	500 m²	2.42 %	1723 m²	1.28 % (<PA = 50%)
Activity Status	**Permitted**		**Permitted**	

7.2 Stormwater Management Concept

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

- **Probable Future Development (Lot 1).** The proposed application includes subdivision formation only and not lot-specific residential development at this stage. However, a conservative model of probable future on-lot development for proposed Lot 1 has been developed for this assessment considering variation of scale in typical rural residential development. The probable future on-lot development concept for Lot 1 includes up to 300 m² potential roof area and up to 200 m² potential driveway or parking areas within the lot boundary.

- **Existing Development (Lot 2).** Lot 2 consists of existing impervious areas and existing dwellings only, no additional development has been considered, and no stormwater management has been considered.

7.2.1 Consideration for Attenuation:

No attenuation has been proposed for the subdivision formation or the future development of Lot 1. This has been determined based on a number of factors:

1. The site is located within the bottom of the overall catchment in which it is situated and close to the Coastal Marine Area (CMA). The overall contributing catchment to the flooding in/around the CMA is much larger than the proposed site, with a much longer time of concentration. Therefore, delaying discharge from the site by means of attenuation may worsen the downstream flood effects. It is determined to be a preferable outcome to discharge peak runoff from the proposed site relatively earlier, allowing water to enter the downstream CMA before the larger peak of the overall catchment arrives. This is in line with the recommendations laid out in FNDC 2023 Engineering Standards Table 4.1.
2. There is one property located downstream of the site on the other side of Te Tio Road, however there is notable separation, around 40m, between the NRC flood extent and the existing building (refer to figure 3). This potential downstream effect is therefore considered to be less than minor.

7.2.2 Consideration for Lot 1 discharge:

Runoff from Lot 1 is recommended *within the concept development* to be directed to an existing overland flow path (OLFP) that traverses Lot 1 alongside where the anticipated driveway is suggested to be, as presented in Appendix A. This OLFP eventually discharges into an existing pond structure, that spills into a further OLFP that passes through the proposed ROW in Lot 2 and discharges out to Te Tio Road.

Although no attenuation is determined to be required, roof water will still be captured in tanks for drinking supply. The overflow pipe water will need to be directed to an OLFP and suitably protected from erosion, or to a suitable dispersion device.

Suitable discharge should consider flow control (velocity) and water quality measures, i.e. erosion control in this case, particularly to mitigate effects onto the receiving OLFP *upstream* of the pond. This can be achieved through installing check dams and grassed swales to manage driveway runoff and erosion control at the discharge point into the OLFP. The pond itself will offer some sediment retention capacity and act as a buffer for peak flows effectively controlling flow and mitigating effects on the downstream OLFP.

7.3 Design Storm Assessment

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

As discussed above, no attenuation is proposed for the site. Roof water will still be captured for drinking supply therefore overflow pipes are proposed to be directed to the existing overland flow path that is present on site, with suitable erosion protection.

Alternatively, at Building Consent Stage, these tanks may be directed to dispersion devices on site. These devices should be designed to manage the primary storm event (20% AEP) to reduce scour and erosion at discharge locations.

This assessment models the peak pre-development and peak post-development flows and is presented as Table 9 for information. No attenuation is proposed.

Table 9: Probable Future Development Flows

Design Parameter	Flow Attenuation: 50 % AEP (80 % of pre dev)	Flow Attenuation: 20 % AEP (80 % of pre dev)	Flood Control: 10 % AEP	Flood Control: 1 % AEP (80 % of pre dev)
Proposed Lot 1				
Regulatory Compliance	FNDC Engineering Standards Table 4-1	FNDC Engineering Standards Table 4-1	NRC Proposed Regional Plan	FNDC Engineering Standards Table 4-1
Pre-development peak flow	154.84 l/s	200.38 l/s	234.05 l/s	350.52 l/s
Post-development peak flow	189.69 l/s	245.48 l/s	286.74 l/s	429.43 l/s
Concept Summary:	- No attenuation proposed due to location of proposed development within the larger catchment, and proximity to CMA. No risk to downstream properties identified. Refer Section 6.2.1 for further explanation.			

7.4 Stormwater Quality

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

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

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

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

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

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

8 POTABLE WATER & FIRE FIGHTING

In the absence of potable water infrastructure within Te Tio Road or within the site, it is recommended that roof runoff water tanks are adopted for potable water supply with appropriate filtration and UV disinfection at point of use. The conceptual development proposes 2 x 25,000l tanks for suitable rainwater harvesting provisions. The storage provisions shall be finalised at Building Consent stage.

Furthermore, the absence of potable water infrastructure and fire hydrants within Te Tio Road require provision of the on-lot roof water supply tanks to be used for firefighting purposes (if required).

In addition, any proposed accessway to and through the site must appropriately cater for access for firefighting vehicles (to be allowed for and designed by others). These access requirements should be in line with SNZ PAS4509:2008 or as otherwise agreed.

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

9 NATURAL HAZARD ASSESSMENT

To satisfy the Resource Management Act, 1991 the proposed subdivision must plan for and manage the risk from natural hazards to reduce the potential adverse effects to less than minor. Regulatory assessment of natural hazards at the site location are managed under the jurisdiction of the FNDC District Plan[14], Northland Regional Council (NRC) Proposed Regional

[14] *Operative District Plan Rule 13.7.3.2.*

Plan for Northland[15] and Regional Water and Soil Plan for Northland. Following our ground investigation and considering the measures presented in this report, a summary of the proposed activities against defined natural hazards is presented as Table 10.

Table 10: Summary of Natural Hazards

Natural Hazard	Applicability	Mitigation & Effect on Environment
Erosion	Yes	Mitigation provided by means of stormwater dispersion control and erosion and sediment control measures; resultant effects are less than minor.
Overland flow paths, flooding, inundation	Yes	Potential effects during future development mitigated by means of swales & check dams and by directing flows into existing pond to reduce flow velocities; resultant effects are less than minor. Downstream flooding effects determined to be less than minor.
Landslip	NA	No mitigation required, less than minor.
Rockfall	NA	No mitigation required, less than minor.
Alluvion	NA	No mitigation required, less than minor.
Avulsion	NA	No mitigation required, less than minor.
Unconsolidated fill	NA	No mitigation required, less than minor.
Soil contamination	NA	No mitigation required, less than minor.
Subsidence	NA	No mitigation required, less than minor.
Fire hazard	NA	No mitigation required, less than minor.
Sea level rise	NA	No mitigation required, less than minor.

NA – Not Applicable.

10 LIMITATIONS

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

The opinions and recommendations of this report are based on plans, specifications and reports provided to us at the time of writing, as referenced. Any changes, additions or amendments to the project scope and referenced documents may require an amendment to

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

this report and Geologix Consulting Engineers should be consulted. Geologix Consulting Engineers Ltd reserve the right to review this report and accompanying plans.

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

APPENDIX A

Drawings

NOTES:
- CONTOUR INTERVAL IS 5 m MAJOR, 1 m MINOR
- AERIAL PHOTOGRAPH, EXTRACTED FROM GRIP
- HORIZONTAL DATUM IN MT EDEN CIRCUIT 2000
- VERTICAL DATUM IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016
- EXISTING SITE BOUNDARIES EXTRACTED FROM GRIP.CO.NZ
- PROPOSED BOUNDARIES PROVIDED BY THOMSON SURVEY PLAN 10746 DATED MARCH 2025

LEGEND:

Symbol	Description
75.0 (red line)	MAJOR CONTOUR
yellow line	MINOR CONTOUR
magenta line	SUBJECT LOT
green line	PROPOSED LOTS
black line	EXISTING ROAD RESERVE BOUNDARY
dashed line	EXISTING ABUTTAL LOT BOUNDARY
red hatch	PROPOSED PRIMARY WASTE DISPOSAL FIELD
red crosshatch	PROPOSED SECONDARY WASTE DISPOSAL FIELD
crossed box	CONCEPT BUILDING ENVELOPE (30m x 30m)
two circles	CONCEPT 2 x 25,000 LITRE WATER TANK OVERFLOW TO DISPERSION DEVICE
HAXX	GEOLOGIX HAND AUGER
yellow dashed line	BUILDING RESTRICTION LINE

GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 10749, DATED MARCH 2023.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN

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

SCALE 1:2500

Revision	Issue	Date
A	FIRST ISSUE	16/06/25

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AUCKLAND | NORTHLAND

Project Name and Address

246
TE TIO ROAD
UMAWERA
LOT 14 DP 409

Project	Drawn By
C0642A	B.NEL

Client

A COLE

Sheet Title

SITE SUITABILITY LAYOUT

Sheet

100

FILE PATH: Z:\Geologix Files\Projects\C0600-C0699\C0642N - 246 Te Tio Road, Umawera, Okaihau\07 - Technical & Drawings\Drawings\C0642N-S-100-411-AA.dwg\C0642N-S-100-411-AA.dwg

PLOTTED: 03/04/2022

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APPENDIX B

Engineering Borehole Records

INVESTIGATION LOG

HOLE NO.: HA01

CLIENT: Andrew Cole

PROJECT: 246 Te Tio Road, Umawera

JOB NO.: C0642N

SITE LOCATION: 246 Te Tio Road, Umawere

START DATE: 30/05/2025

CO-ORDINATES: 1650787mE, 6093927mN

ELEVATION: Ground

END DATE: 30/05/2025

CONTRACTOR: Internal

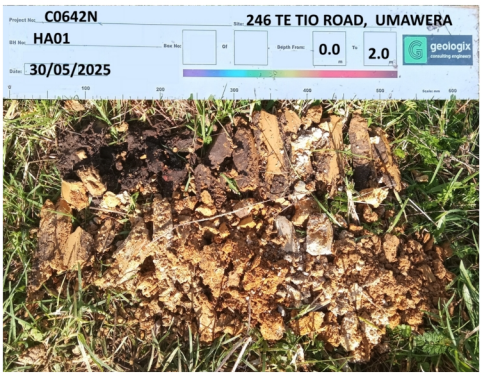
RIG: 50 mm Auger & DCP

DRILLER: GB/TW

LOGGED BY: TW

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: 4134	Values	WATER
TOPSOIL; Organic Clayey SILT with trace gravels and rootlets; dark brown. Moist; low plasticity.		0.0	TS			116 43	
Clayey SILT; orange brown. Very stiff; moist; low plasticity; [Northland Allochthon - Residual Soils].		0.6				168 67	
		0.8				165 67	
SILT, with some clay, with trace sand; orange brown with light grey mottles. Hard; moist; low plasticity; sand, fine; [Northland Allochthon - Residual Soils].		1.2				202+ -	
1.4m - 1.6m: Becoming dark orange brown; minor fine sand, trace clay.		1.4				UTP -	
Silty SAND, with trace clay; light grey. Loose to medium dense; moist; sand, fine; [Northland Allochthon - Residual Soils].		1.8				UTP -	
SILT, with some clay and sand; orange brown. Hard; moist; low plasticity; sand, fine; [Northland Allochthon - Residual Soils].		2.0		5 4 2		UTP -	▼ 30/05/2025
End Of Hole: 2.00m		2.4		12 11			
		2.6		16 22 >>			

PHOTO(S)



REMARKS

1. Hand auger terminated at 2.0 m bgl due to dense strata encountered.
2. Continued with DCP from 2.0 m bgl until refusal at 2.7 m bgl.
3. Groundwater encountered at the base of borehole after half an hour of drilling.

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

INVESTIGATION LOG

HOLE NO.: HA02

CLIENT: Andrew Cole

PROJECT: 246 Te Tio Road, Umawera

JOB NO.: C0642N

SITE LOCATION: 246 Te Tio Road, Umawere

START DATE: 30/05/2025

CO-ORDINATES: 1650777mE, 6093905mN

ELEVATION: Ground

END DATE: 30/05/2025

CONTRACTOR: Internal

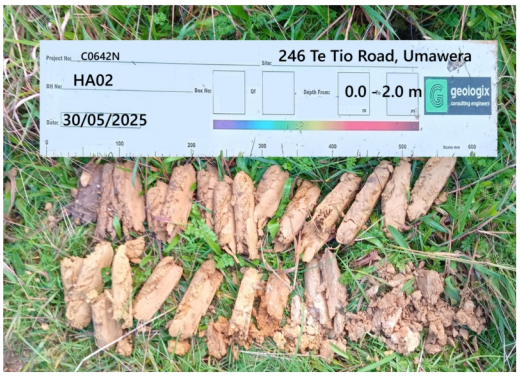
RIG: 50 mm Auger & DCP

DRILLER: GB/TW

LOGGED BY: GB

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: 3282	Values	WATER
TOPSOIL; Organic Clayey SILT with trace rootlets; dark brown. Moist; low plasticity.		0.0	TS				
Clayey SILT, with trace sand; brownish orange with grey mottles. Very stiff; moist; low plasticity; sand, fine; [Northland Allochthon - Residual Soils].		0.2 – 1.8				107 52 148 67 110 67 134 58 171 49	
SILT, with some sand, with minor clay; light greyish brown with orange mottles. Very stiff to hard; moist; low plasticity; sand, fine; [Northland Allochthon - Residual Soils].		1.8 – 2.0				203+ - UTP -	▼ 30/05/2025
End Of Hole: 2.00m		2.0		4 4 3 5 7 7 7 8 8 10 12 13 15 13 11 13 13 20			

PHOTO(S)



REMARKS

1. Hand auger terminated at 2.0 m bgl due to dense strata encountered.
2. Continued with DCP from 2.0 m bgl until refusal at 3.8 m bgl.
3. Groundwater encountered at the base of borehole after half an hour of drilling.

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

Generated with CORE-GS by Geroc - Hand Auger - scala & vane bars - 9/06/2025 12:38:44 pm

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APPENDIX C

Assessment of Environmental Effects and Assessment Criteria

Table 11: Wastewater Assessment of Environmental Effects

Item	NRC Separation Requirement[2]	FNDC Separation Requirement	Site Assessment[3]
Individual System Effects			
Flood Plains	Above 5 % AEP	NR	Complies according to available GIS data and visual assessment.
Stormwater Flowpath[4]	5 m	NR	Complies, see annotations on Drawing No. 100.
Surface water feature[5]	15 m	30 m	Complies.
Coastal Marine Area	15 m	30 m	Complies, site is inland.
Existing water supply bore.	20 m	NR	Complies. None recorded within or within 20 m of the site boundaries.
Property boundary	1.5 m	1.5	Complies. Including proposed subdivision boundaries.
Winter groundwater table	0.6 m	0.6 m	Complies.
Topography			Lot 1 ≤19° slope;
Cut off drain required?			Yes for Lot 1 (> 10°)
Discharge Consent Required?			No.
	TP58	**NZS1547**	
Cumulative Effects			
Biological Oxygen Demand	≤20 g/m^3		Complies – secondary treatment.
Total Suspended Solids	≤30 g/m^3		Complies – secondary treatment.
Total Nitrogen	10 – 30 g/m^3	15 – 75 g/m^3	Complies – secondary treatment.
Phosphorous	NR	4 – 10 g/m^3	Complies – secondary treatment.
Ammonia	NR	Negligible	Complies – secondary treatment.
Nitrites/ Nitrates	NR	15 – 45 g/m^3	Complies – secondary treatment.
Conclusion: Effects are less than minor on the environment.			

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

AEP Annual Exceedance Probability.
NR No Requirement.

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APPENDIX D

Stormwater Calculations

Project Ref:	C0642N		**STORMWATER RUNOFF CALCULATIONS**	geologix consulting engineers
Project Address:	246 Te Tio Road, Umawera			
Design Case:	PROPOSED DEVELOPMENT (Lot 1)		**50 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	17 June 2025	REV 1		

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

PRE DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0	
IMPERVIOUS B	0	0	
IMPERVIOUS C	0	0	
EX. PERVIOUS	20700	0.48	Grass and Bush
TOTAL	**20700**	TYPE D	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
OFFSET	200	0.8	DRIVEWAY - metal
OFFSET	0	0.85	RoW - SEALED
Pervious	20200	0.48	Grasss and Bush
TOTAL	**20700**	TYPE D	

RAINFALL INTENSITY, 50% AEP, 10MIN DURATION

50 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	56.1	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
50 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	67.32	mm/hr

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

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

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpa, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	56.10	1.2	67.32	189.69	154.84	123.87	*Critical duration (time of concentration) for the catchments is 10min*
20	40.40	1.2	48.48	136.61	111.50	89.20	
30	33.20	1.2	39.84	112.26	91.63	73.31	
60	23.40	1.2	28.08	79.12	64.58	51.67	
120	16.20	1.2	19.44	54.78	44.71	35.77	*Pre-dev calculated on Intensity without CC factor*
360	8.66	1.2	10.39	29.28	23.90	19.12	
720	5.63	1.2	6.76	19.04	15.54	12.43	
1440	3.54	1.2	4.25	11.97	9.77	7.82	
2880	2.15	1.2	2.58	7.27	5.93	4.75	
4320	1.58	1.2	1.90	5.34	4.36	3.49	

Project Ref:	C0642N		**STORMWATER RUNOFF CALCULATIONS**	geologix consulting engineers
Project Address:	246 Te Tio Road, Umawera			
Design Case:	PROPOSED DEVELOPMENT (Lot 1)		**20 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	17 June 2025	REV 1		

DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF PREDICTED 2.1 DEGREE CLIMATE CHANGE. RESIDENTIAL DEVELOPMENT AREAS ARE BASED ON EXISTING SURVEY DATA.

RUNOFF COEFFIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0		TO TANK	300	0.96	ROOF
IMPERVIOUS B	0	0		0	0	0	
IMPERVIOUS C	0	0	Grass and Bush	OFFSET	200	0.8	DRIVEWAY - metal
EX. PERVIOUS	20700	0.48		OFFSET	0	0.85	RoW - SEALED
				Pervious	20200	0.48	Grasss and Bush
TOTAL	**20700**	TYPE D		**TOTAL**	**20700**	TYPE D	

RAINFALL INTENSITY, 20% AEP, 10MIN DURATION

20 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	72.6	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
20 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	87.1	mm/hr

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

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

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpa, l/s	80% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	72.60	1.2	87.12	245.48	200.38	160.30	*Critical duration (time of concentration) for the catchments is 10min*
20	52.40	1.2	62.88	177.18	144.62	115.70	
30	43.10	1.2	51.72	145.74	118.96	95.16	
60	30.50	1.2	36.60	103.13	84.18	67.34	
120	21.20	1.2	25.44	71.68	58.51	46.81	*Pre-dev calculated on Intensity without CC factor*
360	11.30	1.2	13.56	38.21	31.19	24.95	
720	7.37	1.2	8.84	24.92	20.34	16.27	
1440	4.65	1.2	5.58	15.72	12.83	10.27	
2880	2.83	1.2	3.40	9.57	7.81	6.25	
4320	2.08	1.2	2.50	7.03	5.74	4.59	

Project Ref:	C0642N		**STORMWATER RUNOFF CALCULATIONS**	geologix consulting engineers
Project Address:	246 Te Tio Road, Umawera			
Design Case:	PROPOSED DEVELOPMENT (Lot 1)		**10 % AEP STORM EVENT, TO PRE-DEVELOPMENT FLOW**	
Date:	17 June 2025	REV 1		

DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF PREDICTED 2.1 DEGREE CLIMATE CHANGE. RESIDENTIAL DEVELOPMENT AREAS ARE BASED ON EXISTING SURVEY DATA.

RUNOFF COEFFIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0	
IMPERVIOUS B	0	0	
IMPERVIOUS C	0	0	
EX. PERVIOUS	20700	0.48	Grass and Bush
0	0	0	
TOTAL	**20700**	TYPE D	

POST DEVELOPMENT CATCHMENT PARAMETERS

ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
TO TANK	300	0.96	ROOF
0	0	0	
OFFSET	200	0.8	DRIVEWAY - metal
OFFSET	0	0.85	RoW - SEALED
Pervious	20200	0.48	Grasss and Bush
TOTAL	**20700**	TYPE D	

RAINFALL INTENSITY, 10% AEP, 10MIN DURATION

10 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	84.8	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
10 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	101.8	mm/hr

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

PRE AND POST-DEVELOPMENT RUNOFF, 10%AEP WITH CC, VARIOUS DURATIONS

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s		COMMENTS
10	84.80	1.2	101.76	286.74	234.05		*Critical duration (time of concentration) for the catchments is 10min*
20	61.30	1.2	73.56	207.28	169.19		
30	50.50	1.2	60.60	170.76	139.38		
60	35.70	1.2	42.84	120.71	98.53		
120	24.80	1.2	29.76	83.86	68.45		*Pre-dev calculated on Intensity without CC factor*
360	13.30	1.2	15.96	44.97	36.71		
720	8.67	1.2	10.40	29.32	23.93		
1440	5.48	1.2	6.58	18.53	15.12		
2880	3.34	1.2	4.01	11.29	9.22		
4320	2.45	1.2	2.94	8.28	6.76		

HIRDS V4 Intensity-Duration-Frequency Results
Sitename: 246 Te Tio Road
Coordinate system: WGS84
Longitude: 173.5575
Latitude: -35.2992

DDF Mode Parameters:	c	d	e	f	g	h	i
Values:	0.00240635	0.48392344	-0.01905159	-0.00187816	0.25269697	-0.01103639	3.06305663

Example:	Duration (hrs)	ARI (yrs)	x	y	Rainfall Rate (mm/hr)
	24	100	3.17805383	4.600149227	8.451198761

Rainfall intensities (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	51.3	36.9	30.3	21.4	14.8	7.89	5.12	3.22	1.95	1.43	1.14	0.95
2	0.5	56.1	40.4	33.2	23.4	16.2	8.66	5.63	3.54	2.15	1.58	1.26	1.05
5	0.2	72.6	52.4	43.1	30.5	21.2	11.3	7.37	4.65	2.83	2.08	1.65	1.38
10	0.1	84.8	61.3	50.5	35.7	24.8	13.3	8.67	5.48	3.34	2.45	1.95	1.63
20	0.05	97.3	70.4	58	41.1	28.6	15.4	10	6.34	3.86	2.84	2.27	1.89
30	0.033	105	75.9	62.5	44.3	30.9	16.6	10.8	6.85	4.18	3.08	2.45	2.05
40	0.025	110	79.8	65.8	46.7	32.5	17.5	11.4	7.23	4.41	3.25	2.59	2.16
50	0.02	114	82.9	68.3	48.5	33.8	18.2	11.9	7.52	4.6	3.38	2.7	2.25
60	0.017	118	85.4	70.4	50	34.8	18.8	12.3	7.77	4.74	3.49	2.79	2.33
80	0.013	123	89.3	73.7	52.3	36.5	19.7	12.9	8.15	4.98	3.67	2.93	2.45
100	0.01	127	92.4	76.2	54.2	37.8	20.4	13.3	8.45	5.17	3.81	3.04	2.54
250	0.004	144	105	86.6	61.7	43.1	23.3	15.3	9.69	5.93	4.38	3.49	2.92

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

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	6.4	4	3.1	2.3	1.6	0.95	0.66	0.27	0.08	0.14	0.12	0.12
2	0.5	7	4.4	3.4	2.5	1.8	1	0.72	0.3	0.08	0.15	0.13	0.13
5	0.2	9.8	6.3	4.9	3.4	2.5	1.4	0.98	0.42	0.13	0.21	0.18	0.17
10	0.1	12	8.4	6.5	4.4	3.3	1.8	1.2	0.53	0.19	0.27	0.22	0.21
20	0.05	16	11	8.6	5.8	4.2	2.3	1.6	0.67	0.27	0.33	0.27	0.26
30	0.033	18	13	10	6.7	4.9	2.6	1.8	0.76	0.33	0.38	0.3	0.29
40	0.025	20	14	12	7.5	5.5	2.9	2	0.84	0.38	0.42	0.33	0.31
50	0.02	22	16	13	8.2	6	3.2	2.2	0.9	0.42	0.45	0.36	0.33
60	0.017	23	17	14	8.8	6.4	3.4	2.3	0.96	0.46	0.48	0.38	0.35
80	0.013	26	19	15	9.8	7.1	3.8	2.6	1.1	0.52	0.53	0.41	0.38
100	0.01	28	21	17	11	7.8	4.1	2.8	1.1	0.57	0.57	0.44	0.4
250	0.004	38	29	24	15	11	5.8	3.9	1.5	0.81	0.76	0.58	0.52

geologix
consulting engineers

SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

246 TE TIO ROAD,
UMAWERA, OKAIHAU

ANDREW COLE

C0642N-S-01
JUNE 2025
REVISION 1