THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10825.1 (FNDC)

28 January 2026

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed Combined Subdivision & Land Use and cancellation/replacement Consent Notice conditions (s221(3)) – Taraire Tahi Ltd, 39 Riddell Road, Kerikeri

I am pleased to submit application on behalf of Taraire Tahi Limited, for a proposed two stage subdivision and land use consent for land at 39 Riddell Road, Kerikeri, zoned Rural Living. The application includes the cancellation of existing consent notice clauses (and their replacement with same or similar). The application is overall a discretionary activity.

The application fee of $6,407 (combined subdivision/land use and cancellation of Consent Notice) has been paid separately via direct credit.

Regards

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

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

Telephone: **09 4077360**
Facsimile: **09 4077322**
*After Hours:*Director: Denis Thomson 09 4071372
*After Hours:*Office Manager: Sam Lee 021 1370060

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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

◯ Yes ☑ No

If yes, who have you spoken with?

2. Type of consent being applied for

(more than one circle can be ticked):

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

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

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

☑ Yes ◯ No

4. Consultation

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

If yes, which groups have you consulted with? Ngati Rehia

Who else have you consulted with? 49 Riddell Road - Andrew John Stone and Gillian Ann Jones

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: Taraire Tahi Limited

Email:

Phone number:

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

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

If yes, please provide details.

6. Address for correspondence

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

Name/s: Lynley Newport

Email:

Phone number:

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

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: Taraire Tahi Ltd

Property address/ location: 39 Riddell Rd, Kerikeri

Postcode 0230

8. Application site details

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

Name/s: Taraire Tahi Limited via SPA from Philip Edward Lindesay and Keith Frederick Ardern etc

Site address/ location: 39 Riddell Road
Kerikeri
Postcode 0230

Legal description: Lot 2 DP 543664 **Val Number:** 00219-82300

Certificate of title: 918967

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.

Property has live stock grazing the proeprty and tenant in the existing house please contact owner to arrange access to visit the site

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.

Combined subdivision and land use creating 30 lots in the Rural Living Zone, as a discretionary activity; and cacellation and replacement of Consent Notice pursuant to s221(3).

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** EBC-2026-514/0

☑ **Regional Council Consent (ref # if known)** APP.047250.01.01

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

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

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

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

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

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

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

13. Assessment of environmental effects:

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

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

14. Draft conditions:

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

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

15. Billing Details:

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

Name/s: (please write in full)	Taraire Tahi Limited
Email:	
Phone number:	
Postal address: (or alternative method of service under section 352 of the act)	

Fees Information

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

15. *Billing details* continued...

Declaration concerning Payment of Fees

I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full) Irina Buchanan

Signature: (signature of bill payer) MANDATORY

Date 27-Jan-2026

16. Important Information:

Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form.

You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.

A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:

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

17. Declaration

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

Name (please write in full) Irina Buchanan

Signature

Date 27-Jan-2026

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

See overleaf for a checklist of your information...

Checklist

Please tick if information is provided

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

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

Taraire Tahi Ltd

Proposed Subdivision & Land Use

Consent required under both the Far North District Plan

39 Riddell Road, Kerikeri

Planner's Report including an Assessment of Environmental Effects

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The applicant seeks to subdivide land at 39 Riddell Road to create 30 (29 additional) rural residential lots in two stages. The lots will be access by a network of five Jointly Owned Access Lots (JOAL's), two of which are on existing access alignments, utilising existing crossings to Riddell Road. The proposal features the identification/delineation of an existing but degraded natural wetland system, and its enhancement and ongoing permanent protection. The proposal also features an overall and site specific landscape planting plan.

The lots are all proposed to be approximately 3,000m^2 in area and will be serviced by on-site wastewater, water and stormwater management. Refer to Scheme Plan(s) in Appendix 1. The subdivision consent includes a breach of Rule 13.7.2.2 in terms of building envelope dimensions for 9 of the 30 lots.

The siteworks to upgrade/form/construct the JOALs will require consent under the Operative District Plan, for excavation/filling volume. There are also some minor breaches of Rule 15.1.6C in terms of access standards.

In addition consent is sought for a breach of the zone's permitted Stormwater Management (impermeable surfaces) coverage of 12.5%, up to 20% for every lot, and in the case of Lot 4 containing existing impermeable surfaces, for the existing coverage with reduced lot area. The application also includes consent for a breach of the zone's permitted building coverage of 10% of lot area, up to 12.5% of lot area, for all lots. Some of the lots' onsite wastewater systems will not be able to achieve the full 30m setback from a wetland required by the ODP, so land use consent is sought for breaches of 12.7.6.1.4 for some lots.

A third part of the application is to seek the cancellation of consent notice 11800870.1 as it affects the application site, Lot 2 DP 543664. This is not in order to remove restrictions or requirements, but rather that those same restrictions and requirements can be re-imposed but targeted to this proposed subdivision rather than the historic one.

1.2 Related Consent

The property has a boundary with a Rural Production zoned site to the south. This property has an approved subdivision consent (RC 2300464-RMACOM) and approved s348 right of way. This follows the alignment of proposed JOAL 2 and will remain right of way serving RC 2300464's Lots 1-5 as well as all but 8 of the proposed lots in this application. It is proposed to extend the right of way to provide for practical access to Lots 22-24 on the scheme plan. The extension is not within the application site, so is included as part of the application.

1.3 Related Application

The siteworks to construct/form JOAL's also requires consent pursuant to the Regional Plan. Application has been lodged on 20th January 2026, for earthworks covering an area in excess of 5,000m^2. The Regional Council application has been given reference APP.047250.01.01

1.4 Extended Lapse Period

An extended lapse period of 7 years is sought for both the subdivision and the land use decisions. This is requested in order to provide for a staged approach in giving effect to the consent; and to recognise the likely extended period between consent being issued, title issue and when a future lot owner might actually build on a lot. This may well exceed the standard five lapse period for land use consent.

1.5 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 to subdivide and for land use, as a discretionary activity.

The information provided in this assessment and report is considered commensurate with the scale and intensity of the activity for which consent is being sought. Applicant details are contained in the Form 9 Application form.

2.0 SUMMARY PROPERTY DETAILS

Location:	39 Riddell Road (See Location Map in Appendix 2)
Legal description	Lot 2 DP 543664
Record of Title	918967, attached in Appendix 3

3.0 SITE DESCRIPTION

The property is zoned Rural Living in the Operative District Plan, with no Resource Map features applying. It is zoned Rural Residential in the Proposed District Plan with no Resource Overlays applying. It is 10.6185ha in area.

The site is situated approximately 1.7km southeast of the Kerikeri town centre. It has frontage to Riddell Road (sealed Council road), at two existing crossing places. The site supports one existing dwelling with ancillary structures, along with some farm buildings. One of the existing crossings and existing internal access is shared with another property, in different ownership.

The site consists primarily of pasture land and generally slopes towards the northeast. A wetland system, part pond and part swampy pasture, occupies the lower elevations at the eastern end of the property.

Looking southeast into the property from existing access (to be JOAL 1)

The site is not subject to any coastal or river flooding and is not erosion prone. It contains no areas of outstanding or high natural landscape or character values. It contains no areas of significant indigenous vegetation. It is mapped as a kiwi present area.

The site contains no pa or Marae, and no archaeological sites. The site is not serviced by any of the 3 waters.

Part of the wetland system identified on the site looking north with the site's existing dwelling at right of picture.

The underlying geology is identified as being Kerikeri Volcanic Group in the north of the property, consisting of basalt lava, volcanic plugs and minor tuff. The southern portion of the site is mapped as Waipapa Group Sandstones and siltstone. Soils on site are *Kerikeri friable clay* and *Hukerenui silt loam*. Soil LUC classifications reflect the two distinct geologies, with the Kerikeri Volcanic soils in the north being LUC 2, and Waipapa sandstones and silts being LUC 4 soils.

Looking west in southern portion of the site (poorer soils) from area of Lots 6 & 7 towards land to be in Lots 19-21

3.2 Legal Interests

The title has appurtenant right of way created by Transfer 550201, registered in 1954. The title is subject to a right of way and a right to convey water and a right to transmit electricity and telecommunications in Easement Certificate D195228.4, registered in 1997, and is subject to a right to drain water created by Easement Instrument 11800870.3, registered in 2020. The property is subject to a Consent Notice 11800870.1, also registered in 2020. All relevant interests are attached as part of Appendix 3.

The Consent Notice contains 3 clauses relevant to the application site

(ii) In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system the applicant shall submit for Council approval a TP58 Report prepared by a Chartered Professional Engineer or an approved TP58 Report Writer. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary and comply with the Regional Water & Soil Plan and Regional Plan Permitted Activity Standards.

(iii) Without the prior approval of the Council, no building shall be erected, nor any works which increase impermeable surfaces be undertaken, nor any planting or structure placed which may create a flow obstruction, on any area of the site which has been proposed as a secondary / overland (Q_{100}) flow path.

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

Given that the entire development will require the consent from the Council, clause (iii) above can remain as such consent would constitute 'the prior approval of the Council' as referenced in the clause. Clauses (ii) and (iv) above were both standard wording at the time

the consent to which they relate was issued (titles issued in 2020). Clause (ii) may be superseded by preferred wording relating more directly to the supporting documents within this application. Similarly there may be more up to date wording in regard to fire fighting water supply. Given that all three matters are likely to be further addressed and discussed as part of this current application, it is practical to cancel the above three clauses as they affect the application site, and replace with same/similar wording more relevant to the proposal being put to the Council in this application.

3.3 Consent History

The property file contains the following building consent history:

BP5066204	1987	to relocate and extend a goatshed
BC-1998-131	1997	new dwelling
BC-2014-1026	2014	free standing fireplace

Resource consent history is listed as:

RC 2190564-RMACOM, issued in 2019, and creating the application site along with the adjacent nursery property.

RC 2300464-RMACOM, issued in 2021 for a 5 lot subdivision of property to the south of the application site, but including right of way over the application site.

3002135-LGA348, issued in 2023 for right of way over the application site for lots created as part of the above subdivision.

4.0 THE PROPOSAL IN MORE DETAIL

Subdivision

The applicant proposes to subdivide land zoned Rural Living to create a total of 30 lots (29 additional) at 39 Riddell Road, Kerikeri, with lot sizes ranging from 3002m^2 up to 4012m^2 (Lot 4 containing existing residential dwelling). Refer also to scheme plans in Appendix *1*.

It is proposed to stage the subdivision such that Stage 1 will create Lots 1-8 and Lot 201; with Stage 2 creating the remaining lots (including JOALs).

It is proposed that the JOAL's access Lots – 201, 202, 203 and 204, be owned by a Residents Association, of which the owners of all lots will be required to be members. Lot 201 is 3,607m^2 in area. Lot 202 is 6989m^2 in area. Lot 203 is 975m^2 in area. Lot 204 is 1616m^2 in area.

Please refer to the scheme plan in Appendix 1 for proposed Section 220(1)(b)(iv) amalgamation conditions. It is requested that the Council seek approval from LINZ for the wording of these conditions.

Lots 22-24 inclusive will get access off JOAL 2 (Lot 202) and then by way of right of way easement 'M' over Pt Lot 3 DP 41493.

In addition to the above referenced right of way, M will also provide for services. The Memorandum of Easements provides for Easements in Gross in favour of utility operators. The areas shown IK, IL, T, U, V, W, Y, IA, IB, Z, IC, S, IF, IE, IG, IG, II & H on the scheme plan are all to be subject to protective covenant. This is to protect the wetland system and planted riparian buffer. Existing easements are as listed on the Scheme Plan in Appendix 1.

Excavation/Filling

The site works required to give effect to the subdivision will exceed the permitted and restricted discretionary excavation/filling thresholds specified in rules 12.3.6.1.2(a) and 12.3.6.2.1(a).

As provided for by Rule 13.6.8 of the Operative District Plan, this breach is to be assessed as part of the subdivision and consent for the subdivision '*deemed to include consent to excavate or fill land'*. The technical information supporting the application contains information in regard to excavation/filling and proposed mitigation, including Erosion and Sediment Control measures. The category of activity remains discretionary.

Land Use

Land use consent is sought for breaches of the following rules for **All Lots**:
8.7.5.1.5 STORMWATER MANAGEMENT
Consent is sought for up to 20% site coverage by impermeable surface;
8.7.5.1.13 BUILDING COVERAGE
Consent sought for up to 12.5% building coverage.

The site contains a wetland system which triggers assessment against Rule 12.7.6.1.4 in regard to setback for on site effluent treatment and disposal systems. The required 30m setback from the boundary of a wetland cannot be achieved for some, but not all lots. It should be noted that all lots can comply with the Regional Plan's domestic effluent discharge exclusion zones.

Land use consent is sought for a breach of Rule 12.7.6.1.4 for Lots 3, 5, 6, 7, 8, 13, 14, 18, 19, 20 and 21. Building consent has already been lodged to replace the effluent system within Lot 4, separate from this application. Minor access standard breaches are described in section 5.1 below.

5.0 ACTIVITY STATUS

5.1 Operative District Plan

The property is zoned Rural Living. There are no Operative Far North District Plan resource overlays.

Subdivision Allotment size

TABLE 13.7.2.1: MINIMUM LOT SIZES
(v) Rural Living Zone
Controlled Activity Status (Refer also to 13.7.3):

The minimum lot size is 4,000m².
Restricted Discretionary Activity Status (Refer also to 13.8) – no restricted discretionary option.
Discretionary Activity Status (Refer also to 13.9):
The minimum lot size is 3,000m².

In terms of lot size, all lots are over 3000m^2, but nearly all are less than 4000m^2. The subdivision component of the application is therefore a **discretionary** activity. The inclusion of excavation/filling in the subdivision assessment does not alter that category of activity.

Allotment dimensions

13.7.2.2 ALLOTMENT DIMENSIONS

Any allotment created in terms of these rules must be able to accommodate a square building envelope of the minimum dimensions specified below; which does not encroach into the permitted activity boundary setbacks for the relevant zones:
Rural Production, Minerals, General Coastal, Coastal Living, South Kerikeri Inlet,
*Rural Living: **30m x 30m**.*

Nine of the 30 lots cannot provide a 30m x 30m building envelope whilst achieving the required 3m setback from boundary. Instead they accommodate 25m x 24m building envelopes.

Land Use Components

8.7.5.1.5 STORMWATER MANAGEMENT
The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 12.5% or 3,000m², whichever is the lesser. And

8.7.5.1.13 BUILDING COVERAGE
Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 10% or 2400m2 , whichever is the lesser, of the gross site area.

Section 4.0 above outlines the land use rule breaches for which consent is being sought, and to what level (% coverage). In all instances in regard Stormwater Management the proposed coverage is expected to fall within the controlled activity threshold of 20% of new lot area. In terms of building coverage, it is anticipated that coverage will fall within the restricted discretionary threshold of 12.5% of new lot area.

The proposal includes the enhancement and protection of a degraded wetland system. The wetland is less than 1ha in area and there will be no buildings or impermeable surfaces within 10m of the actual wetland, so there is no breach of Rule 12.7.6.1.2. No work is being done within the wetland so Rule 12.7.6.1.3 does not apply. Rule 12.7.6.1.4 Land use activities involving discharges of human sewage effluent requires a 30m separation from a wetland for any part of an on site wastewater system. This cannot achieved for 11 of the 30 lots, and therefore consent is required for breaches of Rule 12.7.6.1.3(b) as a discretionary activity.

15.1.6C.1.1 parts (a), (c) and (d) and Appendix 3B-1 – Access standards

In addition the access lots, designed to get the best engineering outcome in terms of physical design, will breach several of the ODP's access rules.

JOAL 2 will serve over 8 titles and should therefore be vested public road. The preference is to keep the road private and maintained by a Residents Association. It will be 20m legal width with 6m wide sealed carriageway width. The fact that it remains private breaches permitted activity rule 15.1.6C.1.1(c) and (d).

JOALs 1 and 4 are proposed to be 3m with passing bays as opposed to the 5m carriageway width specified in Appendix 3B-1, therefore breaching Rule 15.1.6C.1.1(a) and Appendix 3B-1.

JOAL 3, at only 6.45m legal width, is less than the required 7.5m legal width, breaching Rule 15.1.6C.1.1(a) and Appendix 3B-1. It can accommodate the required carriageway width.

Breaches of rules in 15.1.6C results in discretionary activity status.

Overall, the land use consent is a **discretionary** activity.

Cancellation and replacement of Consent Notice Conditions

An application for cancellation of changes to consent notice clauses pursuant to s221(3) is regarded as a **discretionary** activity.

Summary category of activity

The overall category of activity is discretionary.

5.2 Proposed District Plan

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

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

As the application site and proposal does not involve hazardous substances, 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.

IB-R1 is entitled *Indigenous vegetation pruning, trimming and clearance and any associated land disturbance for specified activities within and outside a Significant Natural Area* and applies to all zones. No indigenous vegetation clearance is proposed.

IB-R2 is not relevant as it only applies to clearance required for papakainga housing.

IB-R3 provides for up to 100m^2 clearance in any one calendar year of indigenous vegetation within a Significant Natural Area. No indigenous vegetation clearance is proposed.

IB-R4 provides for up to 500m^2 of indigenous vegetation clearance in the Rural Residential Zone where a report has been obtained from a suitably qualified and experienced ecologist confirming the indigenous vegetation does not meet the criteria for a Significant Natural Area. If a report is not provided confirming that, then the amount of clearance is restricted back to 100m^2. No indigenous vegetation clearance is proposed.

IB-R5 relates only to plantation forestry and activities and is therefore not relevant.

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. Siteworks will be carried out subject to the ADP, and pursuant to approved Erosion and Sediment Control measures

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 within the Rural Residential Zone with immediate legal effect that affect the proposal's activity status.

6.0 Assessment of Environmental Effects

6.1 Allotment sizes and dimensions

The size and shape of the lots has been designed such that the majority of the lots can accommodate a 30m x 30m building envelope in compliance with the 3m boundary setback requirement. However, nine lots accommodate a 25m x 24m building envelope instead (600m^2 building envelope), still considered ample for a reasonably sized dwelling and ancillary buildings. All lots are suitable for large lot / residential living.

6.2 Natural and Other Hazards

Far North and Regional Council flood maps do not identify that the site and surroundings are flood-prone, within a flood plain or flood sensitive areas for the proposed development (quoted from Infrastructure Report in Appendix 4). Notwithstanding this, a detailed assessment of both overland flowpaths and flooding for the subject site is contained in the Flood Report accompanying the application – refer to Appendix 5). This report details the identified extents and minimum floor levels for lots adjacent to these features (again quoted from Infrastructure Report).

A Geotechnical & Civil Site Suitability Report accompanies the application in Appendix 6. Hazards are discussed in that report's section 3.4 The property is safe from tsunami, and outside any identified river flood hazard area. The report considers slope stability issues are unlikely due to the underlying geology and generally low slope angles. The property is mapped as unlikely liquefaction vulnerability or undetermined.

A geotechnical assessment of the site is found in Section 5 of the above referenced report. In subsection 5.4, the report provides a foundation assessment.

In conclusion the report finds that the site is presently stable, and the subsoil properties have adequate strength parameters necessary for the proposed development.

The site is not known to have historically supported any HAIL activity. It has historically been in grazed pasture.

6.3 Water Supply

There is no public water supply available at the site. Domestic water supply is proposed to be provided by roof runoff collected in storage tanks. In the absence of a reticulated water supply, each residential lot will be responsible for providing adequate on-site fire fighting water supply.

Noting that an alternative solution for individual on site requirements can be sought, the applicant has consulted with Fire and Emergency NZ – the results of that consultation are included as Appendix J of the Infrastructure Report. This confirms that 10,000L storage for each residential dwelling is acceptable. Platforms for tanks will be provided to ensure that a FENZ pump can sit with no more than 1.5m height to the tank lid. The Infrastructure Report contains an example.

6.4 Stormwater Management Disposal (applicable to both subdivision and land use)

This is assessed within the Infrastructure Report in Appendix 4. Refer also the Flood Report in Appendix 5. Consent is being sought for breaches of the permitted impermeable surface coverage for all lots, up to the 20% controlled activity threshold.

The report's section 6.1 addresses the existing site drainage, and proposed stormwater management. The Infrastructure Report should also be read in conjunction with the Cook Costello Attenuation Report attached in Appendix 7. The Cook Costello report summarises site investigation of potential infiltration and soakage rate for direct disposal of rainwater-runoff as 'poor'. As such high rate disposal to ground has not been considered in design.

It is proposed that the lots will have on site mitigation to limit 5, 10 and 100yr flows to 80% of pre-development levels as required by the Council's engineering standards. Low impact design will be used as described in the Infrastructure Report.

To allow future owners to construct a typical house, driveway and ancillary buildings, 20% coverage is requested. A typical example of a detailed engineering assessment toolbox is attached to the Infrastructure Report.

JOALs 2 and 5 have portions where grade is more than 10%. Where this is the case, it is proposed to redirect runoff and discharge to the natural discharge location to reduce lengthy swales.

For further details on stormwater management and attenuation, refer to the Infrastructure Report in Appendix 4, the Attenuation Report in Appendix 7 and Flood Report in Appendix 5.

6.5 Sanitary Sewage Disposal (applicable to both subdivision and land use)

This is discussed in the Infrastructure Report in its section 6.3. A decentralised on-site wastewater treatment and effluent disposal solution is proposed for all new lots. The Infrastructure Report provides an example as an appendix (relating to the replacement of a wastewater system associated with the existing dwelling).

There is adequate area on all lots for on-site secondary treated effluent disposal, including reserve area, in compliance with the Regional Plan's permitted activity requirements.

6.6 Power and Telephone connections

The applicants have consulted independently with Top Energy and Chorus in regard to the provision of power and telecoms to the proposed lots. Network utilities are present in the vicinity and currently service the underlying lot. Utility operators have confirmed sufficient capacity is available to service the development. The applicant is working through design aspects.

6.7 Transmission Lines

There are no high voltage transmission lines located within the application sites.

6.8 Easements for any purpose

The application site is subject to two existing easement instruments as shown on the face of the Scheme Plan in Appendix 1. These remain and be registered on affected new titles as required.

The application includes easement M (ROW and services) over the adjacent Pt Lot 3 DP 41492 in favour of Lots 22-24 of the subdivision. The scheme plan shows easements in gross in favour of utility operators for services.

The scheme plan also shows the wetland system's extent and identifies areas to be subject to ongoing management and protection, via consent notice.

6.9 Provision of Access

The application is supported by a Traffic Impact Assessment (TIA) – refer to Appendix 8. This focuses on effects of the subdivision on Council's roading network. It discusses Riddell Road's current standard and its intersection with Shepherd Road. The report recommends against widening Riddell Road. It proposes signage on Shepherd Road as one approaches the bend to Riddell Road (which has priority over going straight ahead onto the remainder of Shepherd Road), showing the turn and recommending a 25kph speed for the bend. Going the other way, the report recommends a chevron warning sign and speed advisory (25) for motorists leaving Riddell Road onto Shepherd Road.

The report also discusses the main JOAL which, whilst serving more than 8 titles, is to remain private road. The report considers the proposed 5.5m sealed carriageway width to be appropriate for the number of properties served. It also discusses JOAL 1 which is proposed to be less than the required 5m, and instead be 3m with passing bays – these passing bays to be more generous than plan requirements in terms of frequency. JOAL 1 is also to be sealed. This standard is considered appropriate for the number of lots served.

Existing shared access internal to the site and to Lot 1 DP 180801, looking south

Existing access to dwelling on site showing at left of picture– to be JOAL Lot 201

The TIA provides an assessment against the criteria in 15.1.6C.4.1 of the ODP in its section 7.

6.10 Effect of Earthworks (subdivision site development)

An Erosion and Sediment Control Report and Plan (ESCP), with appendices, is attached in Appendix 9. This same information has been provided in the application for earthworks lodged with the Regional Council on 20 January 2026. Consent is required pursuant to Rules in the ODP's Chapter 12.3. Assessment criteria for such breaches are contained in 12.3.7 of the ODP. The ESCP does not explicitly address the criteria in 12.3.7 but instead provides information that addresses the criteria implicitly.

(a) the degree to which the activity may cause or exacerbate erosion and/or other natural hazards on the site or in the vicinity of the site, particularly lakes, rivers, wetlands and the coastline;	Refer sections 3 & 4 of the ESCP – the site is not on the coast and is not subject to hazards. Refer also to section 6.3 in regard to proximity to wetland.
(b) any effects on the life supporting capacity of the soil;	Appropriate erosion and sediment controls will be put in place and retained for the duration of works – which will be staged; the ESC measures will be monitored and maintainced. Effects on the life supporting capacity of the soil are considered less than minor.
(c) any adverse effects on stormwater flow within the site, and stormwater flow to or from other properties in the vicinity of the site including public roads;	The works will have minimal impact on public road given the topography and location of works. Sediment controls will ensure adverse effects on stormwater flow within the site and to or from other properties are less than minor.
(d) any reduction in water quality;	Dirty water bunds will form part of the ESC. These will convey water from within the active works area to treatment devices. Decanting earth bunds and sediment retention ponds are also proposed. A key consideration for the management of works is the protection of the natural wetland and decorative pond that runs along the central-east portion of the wite. No work are to be undertaken within the watercourse, apart form the removal of a culverted crossing within the wetland extent. There will be no reduction in water quality as a result of the earthworks.
(e) any loss of visual amenity or loss of natural	Property is not coastal.

character of the coastal environment;	
(f) effects on Outstanding Landscape Features and Outstanding Natural Features (refer to Appendices 1A and 1B in Part 4, and Resource Maps);	The property does not contain any Outstanding Landscape Features or Outstanding Natural Features.
(g) the extent to which the activity may adversely affect areas of significant indigenous vegetation or significant habitats of indigenous fauna;	The works does not involve any clearance of significant indigenous vegetation or significant habitats of indigenous fauna.
(h) the extent to which the activity may adversely affect heritage resources, especially archaeological sites;	No archaeological sites on the application property and no known heritage resources.
(i) the extent to which the activity may adversely affect the cultural and spiritual values of Maori, especially Sites of Cultural Significance to Maori and waahi tapu (as listed in Appendix 1F in Part 4, and shown on the Resource Maps)	No Sites of Cultural Significance to Maori or waahi tapu as listed in Appendix 1F of the ODP. Consultation is ongoing with local iwi.
(j) any cumulative adverse effects on the environment arising from the activity; (	Works are to be staged. Effects of earthworks are temporary while the works are being carried out. The earthworks are required for upgrading and formation of access.
k) the effectiveness of any proposals to avoid, remedy or mitigate any adverse effects arising from the activity;	Refer to ESC attached.
(l) the ability to monitor the activity and to take remedial action if necessary	Refer to section 8 of the ESC attached.

Criteria (m) through (p) are not applicable.

6.11 Building Locations

The site is not subject to any hazards that would restrict where within each lot a future dwelling/building may be located. Notwithstanding this, there are overland flowpaths to consider and that might affect 12 of the 30 lots. The Flood Report in Appendix 5 provides information on recommended FFL's for those 12 lots. The location of buildings within the lots is influenced by the need to achieve the necessary setback from water bodies. Plans show this is achievable for all lots.

6.12 Preservation of, and any effects on, heritage resources, vegetation, fauna and landscape, and land set aside for conservation purposes

Vegetation & Fauna:

The application site is devoid of any significant indigenous vegetation or significant indigenous habitat. Whilst within a kiwi present area, there is no kiwi habitat in the vicinity.

The site contains a man-modified decorative pond and natural inland wetland, degraded through ongoing stock access. The application is supported by an Ecological Assessment by Rural Design, attached in Appendix 10. This describes and delineates the water course / wetland features within the site.

The natural inland wetland feature within the site can be broken out into four wetland habitat types; these being a *Persicaria herbfield* wetland, *Isolepis prolifera* wetland, *Juncus* wetland and a modified manuka fen wetland. The site in its current state is a pastoral grazing unit.

The natural inland wetland feature is proposed to be retained and expanded as part of the subdivision proposal. It is proposed that the on-site existing natural inland wetland features and proposed revegetated riparian margins are protected and enhanced via covenant protection. Pest plant and animal control, coupled with the buffer planting and stock exclusion through fencing will enhance the ecological significance of the existing natural inland wetland habitats on site. An Ecological Management Plan, recommended as a condition of consent, will address these matters in further detail.

The proposed ecological protection and restoration of the site's indigenous ecosystems, within the proposed wetland protection area and buffer planting, has been designed to create integrated vegetated corridors that serve as stepping stone habitats for mobile fauna. The proposed protected area and buffer planting will form a contiguous stretch of native vegetation, safeguarding key ecological features such as all onsite watercourses, and supporting species dispersal and integrated catchment management.

The Ecological Assessment includes a Development Footprint and Associated Setbacks, and a Protection & Planting Plan.

The assessment concludes that any potential adverse effects of the subdivision proposal can be remedied through mitigation measures and design principles, as well as appropriate planning and development controls. The proposal is designed to result in the protection and enhancement of the riparian areas identified on site.

Landscape Features and Land Set Aside for Conservation Purposes:

The site is not identified as containing any area of outstanding landscape or feature, and there is no land set aside for Conservation purposes.

Heritage Resources:

The application site is not identified as a Heritage Precinct. It does not contain any historic buildings or objects or notable trees as listed in the District Plan's schedules/appendices. There are no sites identified on the NZ Archaeological Database and no known Sites of Significance to Maori as listed in the District Plan's schedules/appendices.

Notwithstanding the above, consultation has been initiated with Ngati Rehia, the results of which will be provided to the Council as soon as they are received.

6.13 Soil and the effects on the life supporting capacity of the soil

The Rural Living Zone is described as an area of transition between fully productive land use and residential use. It is a zone not intended for productive rural or horticultural use, reinforced by the PDP's proposed Rural Residential zoning to apply to the site. The level of density proposed is consistent with the discretionary activity lot size anticipated in the ODP, so is not an unanticipated level of development on this site. Whilst it is acknowledged that the proposal will remove land from being available for the pastoral grazing it is currently used for, that is an expectation for any land zoned for Rural Living/Residential use, i.e. the expectation is that it will be removed from any productive use.

6.14 Access to reserves and waterways

There are no reserves adjoining or near the application site. There are no qualifying waterways in terms of esplanade requirements under the Act. No access to the internal wetland system is proposed and would in fact be detrimental to the enhancement and ongoing management and protection proposed for that system.

6.15 Potential for land use compatibility (reverse sensitivity)

The site is zoned Rural Living and is located such that it fulfils a transitional role – from the more expansive and open rural zone in the south, towards the Kerikeri town centre to the north. Being on a zone interface there is always a risk of reverse sensitivity effects, simply because each zone provides for different things. There is a requirement to plant and maintain screening planting on the boundary with the Rural Production Zone and this is proposed to occur.

In addition, the rural zone in question has consent to subdivide to create 4 x lifestyle lots on the application site's boundary, somewhat alleviating any future risk of reverse sensitivity.

I do not believe the proposed subdivision significantly increases any risk of reverse sensitivity effects arising.

6.16 Amenity and character, and the relationship between open space and built environment (applicable to land use)

The application includes breaches of the zone's permitted Building Coverage threshold of 10% of total lot area. It requests up to the restricted discretionary threshold of 12.5% of total lot area. This provides for a reasonably sized dwelling and associated buildings within each lot.

It leaves 87.5% of each lot as open space (no buildings). On 3,000m^2 lots this equates to 375m2 of buildings and 2,625m^2 of open space per lot. This is a very generous ratio of open space.

In addition, the development is to be subject to a comprehensive Landscape Plan which should be read in conjunction with the Wetland and pond protection and planting plan in the Ecological Assessment. The Landscape Plan is attached in Appendix 11.

6.17 Proximity to Airports

The application site is not near the Bay of Islands (Kerikeri) airport and no special design parameters for future residential use need be considered.

6.18 Natural Character of the Coastal Environment

The application site is not within the Coastal Environment.

6.19 Energy Efficiency and Renewable Energy Development/use

The application has not considered energy efficiency or renewable energy development or use. Individual lot owners will make their own choices as to how much reliance they place on renewable energy sources.

6.20 Other matters

Positive Effects

The development will provide additional lots in an area in close proximity to town and all its associated services, a State Highway network, and to recreational areas and sports centres. This provides a choice of living for a range of demographic groups.

Precedent Effects

The Council must consider whether, in granting consent to a proposal, it will be creating an adverse precedent that may threaten the integrity of the District Plan and/or which is readily transferable. Consideration of precedent effects is, however, largely restricted to non complying activity status applications rather than discretionary, primarily because discretionary activities are provided for in the District Plan by way of thresholds to adhere to. Discretionary activity proposals are generally seen as consistent with a District Plan.

The application is for a discretionary level of development, with lot sizes within the parameters of those provided for in the district plan, i.e. it is not a non complying subdivision.

The Council has, in relatively recent times, consented a number of similar developments in the surrounding Rural Living Zone area. As such the Council appears confident that it is not setting an adverse transferable precedent in granting consents of this type.

Cumulative Effects

The area is on a zone interface on its southern flanks. It is characterised by large lot residential development of a reasonably consistent range of lot sizes. The result is a density appropriate for the zone and area, and has seen the maintenance of a reasonably high level of amenity. This proposal is promoting more of the same.

It is an area with a semi urban character now, rather than an open space and productive rural character, and it is the intent of the Council's zoning that the area be a transition between rural and urban. That transition is now all but complete and the utilisation of this property for large lot residential use does not, in my opinion, create an adverse cumulative effect.

7.0 STATUTORY ASSESSMENT

7.1 District Plan Objectives and Policies

The sites are zoned Rural Living, a zone that although often supporting development of a semi urban nature, is located in the Rural Environment section of the District Plan, primarily because of its transitional 'role'.

Relevant Objectives and Policies in the Rural Environment chapter include:

8.3 OBJECTIVES

8.3.1 To promote the sustainable management of natural and physical resources of the rural environment while enabling activities to establish in the rural environment.

8.3.2 To ensure that the life supporting capacity of soils is not compromised by inappropriate subdivision, use or development.

8.3.3 To avoid, remedy or mitigate the adverse and cumulative effects of activities on the rural environment.

8.3.6 To avoid actual and potential conflicts between land use activities in the rural environment.

8.3.7 To promote the maintenance and enhancement of amenity values of the rural environment to a level that is consistent with the productive intent of the zone.

8.4 POLICIES

8.4.1 That activities which will contribute to the sustainable management of the natural and physical resources of the rural environment are enabled to locate in that environment.

8.4.2 That activities be allowed to establish within the rural environment to the extent that any adverse effects of these activities are able to be avoided, remedied or mitigated and as a result the life supporting capacity of soils and ecosystems is safeguarded and rural productive activities are able to continue.

8.4.3 That any new infrastructure for development in rural areas be designed and operated in a way that safeguards the life supporting capacity of air, water, soil and ecosystems while protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, outstanding natural features and landscapes.

8.4.5 That plan provisions encourage the avoidance of adverse effects from incompatible land uses, particularly new developments adversely affecting existing land-uses (including by constraining the existing land-uses on account of sensitivity by the new use to adverse affects from the existing use – i.e. reverse sensitivity).

8.4.7 That Plan provisions encourage the efficient use and development of natural and physical resources, including consideration of demands upon infrastructure.

8.4.8 That, when considering subdivision, use and development in the rural environment, the Council will have particular regard to ensuring that its intensity, scale and type is controlled to ensure that adverse effects on habitats (including freshwater habitats), outstanding natural features and landscapes on the amenity value of the rural environment, and where appropriate on natural character of the coastal environment, are avoided, remedied or mitigated. Consideration will further be given to the functional need for the activity to be within rural environment and the potential cumulative effects of non-farming activities.

The Rural Living Zone is described as an area of transition between fully productive land use and residential / urban use. The site is typical of others located on the periphery, but within, the Rural Living Zone.

This report/AEE and supporting technical reports show that the proposal can proceed and that adverse effects on the environment are no more than minor. The site is located where it can utilise existing infrastructure (road, power and telecommunications) and is ideally located for providing for the completion of the transition from rural into urban type development.

The site does not possess any high value natural habitat, or landscape or natural character values. The proposal provides the opportunity to enhance and protect what is currently a degraded wetland habitat.

Adverse reverse sensitivity effects are unlikely given the zoning and the fact that the site is surrounded by similarly zoned land to the north, west and east. Although the land to the south is zoned Rural Production, it is consented for subdivision.

The Rural Living Zone is described within the following "Context":

The Rural Living Zone is an area of transition between town and country. The transition is expressed in terms mainly of residential intensity and lot sizes. The potential for the adverse effects of farming to be of concern for residential zones and vice versa, is reduced by the presence of the Rural Living Zone, where both rural and residential activities co-exist and form an area with a distinctive and separate character. As an area of transition, parts of the Rural Living Zone may from time to time be proposed for rezoning to urban purposes. An intermediate step towards urban zoning can be taken through the preparation of a structure plan, such as that proposed for Kerikeri. The structure plan would need to be formalised by way of a Plan Change before an urban zoning could be applied. While Council will be alert to the need for, and may initiate, a structure plan, developers and landowners may also prepare and submit structure plans. The zone contains specific amenity standards designed to protect the special amenity values of the frontage to Kerikeri Road between SH10 and the urban edge of Kerikeri.

Parts of this Context statement are relevant to the proposal. It is clear that in zoning the land Rural Living, the Council was of the view that this area was destined for retirement from rural productive use and be more suitably used for large lot non rural activities.

Rural Living Zone Objectives and Policies

8.7.3 OBJECTIVES

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

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

8.7.3.3 To protect the special amenity values of the frontage to Kerikeri Road between SH10 and the urban edge of Kerikeri.

The proposal is compatible with the existing development on other Rural Living zoned sites in the vicinity. The development provides for the retention of amenity values, with no lot less than 3000m^2 in area and all lots retaining at least 87% of total site area as open space. In summary, the proposed subdivision is considered to be consistent with the Rural Living Zone objectives listed above (noting that Objective 8.7.3.3 only applies to Kerikeri Road so is not relevant).

8.7.4 POLICIES

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

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

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

8.7.4.4 That no limits be placed on the types of housing and forms of accommodation in the Rural Living Zone, in recognition of the diverse needs of the community.

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

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

Policies 8.7.4.1 and 8.7.4.2 are relevant and the proposal is considered consistent with both in terms of being part of, and within, an existing semi urban area.

The layout and size of the lots ensures consistency with Policies 8.7.4.7 and 8.7.4.10.

In summary it is my opinion that this proposal is consistent with the relevant objectives and policies of the District Plan relating to the Rural Living Zone.

Other objectives and policies relevant to this proposal are those listed in Chapter 13 of the District Plan (subdivision). These are discussed below where particularly relevant to this proposal.

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.

The proposed subdivision is a discretionary activity subdivision in the Rural Living Zone and is considered consistent with that zone and promoting sustainable management. When considering the demand for housing in reasonable proximity to the town centre and within walking and cycling distance of facilities, this proposal is considered to provide for the social and economic wellbeing of people and the community.

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 subject site is not identified as being subject to any hazard. The proposal is considered appropriate in this location and for the reasons already outlined earlier in this report, is not considered to negatively compromise the life-supporting capacity of soil. Reverse sensitivity effects are considered less than minor given the zoning and the consented level of development on the Rural Production zoned land to the south.

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.

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

There are no outstanding landscapes or natural features identified and the site is not within the coastal environment. Nor are there any identified heritage resources, sites of cultural significance to Maori or wahi tapu identified.

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.

These matters are addressed in the Infrastructure Report in Appendix 4. The proposal provides for on-site water storage and stormwater management.

13.3.6 To encourage innovative development and integrated management of effects between subdivision and land use which results in superior outcomes to more traditional forms of subdivision, use and development, for example the protection, enhancement and restoration of areas and features which have particular value or may have been compromised by past land management practices.

This objective is more relevant where a Management Plan style of subdivision is being proposed. This is not proposed in this instance.

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.

Power supply can be provided, the final reticulation design of which is being discussed directly with Top Energy by the applicants.

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).

The layout allows, wherever possible, for future owners to attain energy efficiencies.

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.

I believe the design of the subdivision takes these matters into account.

Policies

13.4.1 That the sizes, dimensions and distribution of allotments created through the subdivision process be determined with regard to the potential effects including cumulative effects, of the use of those allotments on:
(a) natural character, particularly of the coastal environment;
(b) ecological values;
(c) landscape values;
(d) amenity values;
(e) cultural values;
(f) heritage values; and
(g) existing land uses.

The site does not contain any identified natural character, landscape, cultural or heritage values. There are limited ecological values associated with the wetland and decorative pond and the proposal includes measures to protect and enhance these features. The site is

not within the coastal environment. The proposal is considered to be consistent with, and has less than minor effects on, existing land uses and on the amenity values of the area. In summary, the proposed subdivision is considered to be consistent with this 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.

Conditions of consent will ensure that safe and effective vehicular and pedestrian access is provided to new properties.

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

Refer to the various technical reports accompanying the application. Natural and other hazards have been taken into account in the design and location of the proposed lots.

13.4.4 That in any subdivision where provision is made for connection to utility services, the potential adverse visual impacts of these services are avoided.

Internal to the development, it is likely that all utility services will be underground.

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.

These matters are addressed in this report and the other supporting technical reports. The existing Council road network is considered to be able to accommodate the additional traffic. Services can be provided. All earthworks will be carried out in accordance with erosion and sediment control measures. No significant indigenous vegetation requires removal.

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

The site is not considered to encompass any of the matters listed above that require 'protection', 'restoration' and/or 'enhancement'. However, the currently degraded wetland within the site will be delineated, protected and enhanced, resulting in positive effects. The site is not coastal.

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

The lots will be required to provide for on-site collection and storage.

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

No known sites of waahi tapu exist on the subject land. Impermeable surfaces within the lots will be required to be set back the required permitted activity setback distance from any waterbodies. Stormwater Management during site works and future on lot development will be designed to ensure no offsite effects from runoff. In summary it is considered that the

proposed development is not inconsistent with Policy 13.4.11. Consultation with Ngati Rehia has been initiated and is ongoing, the results of which will be provided to Council.

13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to ***s6 matters****. In addition subdivision, use and development shall avoid adverse effects as far as practicable by using techniques including:*

(a) clustering or grouping development within areas where there is the least impact on natural character and its elements such as indigenous vegetation, landforms, rivers, streams and wetlands, and coherent natural patterns;
(b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area;
(c) providing for, through siting of buildings and development and design of subdivisions, legal public right of access to and use of the foreshore and any esplanade areas;
(d) through siting of buildings and development, design of subdivisions, and provision of access that recognise and provide for the relationship of Maori with their culture, traditions and taonga including concepts of mauri, tapu, mana, wehi and karakia and the important contribution Maori culture makes to the character of the District (refer Chapter 2 and in particular Section 2.5 and Council's "Tangata Whenua Values and Perspectives" (2004);
(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension, enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;
(f) protecting historic heritage through the siting of buildings and development and design of subdivisions.
(g) achieving hydraulic neutrality and ensuring that natural hazards will not be exacerbated or induced through the siting and design of buildings and development.

Section 6 matters are considered later in this report. The site does not possess any high or outstanding natural character values, nor any known or identified heritage or cultural sites. No indigenous vegetation clearance is required. The site has existing road frontage. The site is not subject to flood hazard. Stormwater management measures can ensure no off site adverse effects.

In summary, the proposal is considered consistent with this policy.

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.

This has been addressed earlier.

13.4.15 That conditions be imposed upon the design of subdivision of land to require that the layout and orientation of all new lots and building platforms created include, as appropriate, provisions for achieving the following:

(a) development of energy efficient buildings and structures;
(b) reduced travel distances and private car usage;
(c) encouragement of pedestrian and cycle use;
(d) access to alternative transport facilities;
(e) domestic or community renewable electricity generation and renewable energy use.

No specific conditions are considered necessary to be imposed by the Council. The new lots will have easy access to roads and pedestrian and cycle use will likely be encouraged by way of proximity to the town's CBD.

In summary, having assessed the proposal against the relevant objectives and policies of the District Plan, it is considered that it is consistent with those objectives and policies.

7.2 Proposed District Plan Objectives and Policies

The site is zoned Rural Residential in the Proposed Plan. An assessment of the proposal against the objectives and policies of the Rural Residential follows, along with an assessment against the Subdivision objectives and policies as contained in the PDP.

Objectives

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

The proposal is for large lot residential sized allotments, compatible with the amenity of the zone.

RRZ-O2
The predominant character and amenity of the Rural Residential Zone is maintained and enhanced, which includes:

a. *peri-urban scale residential activities;*
b. *small-scale farming activities with limited buildings and structures;*
c. *smaller lot sizes than anticipated in the Rural Production or Rural Lifestyle Zones; and*
d. *a diverse range of rural residential environments reflecting the character and amenity of the adjacent urban area.*

The proposal maintains and enhances the predominant character and amenity of the zone in this location.

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

The site has been zoned Rural Residential in order to help meet the demand for growth. The proposed development helps in that regard and does not compromise the ability of the land to be re-zoned for urban development in the future.

RRZ-O4
Land use and subdivision in the Rural Residential zone:

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

The proposal maintains and is in keeping with the character and amenity of the zone in this location. The majority of similarly zoned land on Riddell and Shepherds Roads has already been subdivided for residential use, reverse sensitivity issues are highly unlikely to occur with the zone. The land to the south is zoned Horticulture in the PDP, creating a zone interface.

However, that land has consent to subdivide. It is proposed to establish shelter screening at or near the zone boundary. In my opinion, reverse sensitivity effects are not likely to occur.

Policies

RRZ-P1
Enable activities that will not compromise the role, function and predominant character and amenity of the Rural Residential Zone, while ensuring their design, scale and intensity is appropriate, including:

a. *rural residential activities;*
b. *small-scale farming activities;*
c. *home business activities;*
d. *visitor accommodation; and*
e. *small-scale education facilities.*

This policy is relevant to future land use on lots, rather than a subdivision, as it references 'activities' rather than lot size or layout. The proposed subdivision does not include any restriction as to future land uses to establish on the lots, a decision best left to future lot owners. However, it is assumed the lots will be utilised for residential purposes.

RRZ-P2
Avoid activities that are incompatible with the role, function and predominant character and amenity of the Rural Residential Zone including:

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

As with Policy RRZ-P1, this policy is targeted as "activities" rather subdivision per se. The density level being proposed sits mid way between the PDP's controlled and discretionary activity minimum lot size requirements (discretionary minimum lot size being 2000m^2). The size of lots being proposed, therefore, is not contrary to the density anticipated in the zone. The proposal does not involve primary production activities. The subdivision does not specify future use of lots.

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

Refer to comments under Objective RRZ-O4.

RRZ-P4
Require all subdivision in the Rural Residential zone to provide the following reticulated services to the boundary:

a. *telecommunications:*
    i. *fibre where it is available;*
    ii. *copper where fibre is not available;*
    iii. *copper where the area is identified for future fibre deployment.*
b. *local electricity distribution network.*

Consultation with telecommunications and power providers has been undertaken and services can be provided.

RRZ-P5
Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:

a. *consistency with the scale and character of the rural residential environment;*
b. *location, scale and design of buildings or structures;*
c. *at zone interfaces:*
    i. *any setbacks, fencing, screening or landscaping required to address potential conflicts;*
    ii. *the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable;*
d. *the capacity of the site to cater for on-site infrastructure associated with the proposed activity;*
e. *the adequacy of roading infrastructure to service the proposed activity;*
f. *managing natural hazards;*
g. *any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity; and*
h. *any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.*

The subdivision is consistent with the scale and character of the zone in this location, and elsewhere. The application does not include buildings or structures other than one existing dwelling. The zone interface in this instance is on the southern boundary, with Horticulture Zone. Screening vegetation is proposed and the land zoned Horticulture is consented to subdivide in any event. The subdivision can provide on-site infrastructure. The site is not subject to hazards. The site is not known to contain any historic heritage or cultural sites, and is not identified as having high or outstanding natural features or landscapes. The site does not contain any areas of significant indigenous vegetation, albeit the wetland within the site, currently in a degraded state, is proposed to be enhanced and subject to ongoing protection.

Subdivision Objectives

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

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

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

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

Refer to comments made in regard to the zone's objectives and policies. The subdivision achieves the objectives of the relevant zone, and any relevant district wide rules. It contributes to the local character and sense of place evident in the immediate environs and avoids reverse sensitivity issues. The subdivision layout does not prevent land from achieving the objectives and policies of the zone. Risk of natural hazard minimal and adverse effects on the wider environment can be avoided, remedied or mitigated such that they are no more than minor (SUB-O1).

SUB-O2 seeks the protection of highly productive land for production purposes. However, in zoning the land Rural Residential, it is clear that the Council is not of the view that this is a paramount consideration. The zone is intended to transition land out of production into urban use and this subdivision is consistent with this intent.

The site is serviced by Council road and power and telecommunications services can be provided. Sites are suitable for onsite wastewater and stormwater and will be self reliant in regard to water supply (SUB-O3). There is no requirement for Esplanade Reserve or Strip (SUB-O4).

Policies

SUB-P1 *Enable boundary adjustments that:*

Not relevant – application is not a boundary adjustment.

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

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

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

The subdivision is consistent with the purpose, characteristics and qualities of the zone, with lot sizes mid way between controlled and discretionary minimum lot size. Building platforms are achievable on all lots and all sites will have legal and physical access.

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

The subdivision has had regard to all the matters listed, where relevant.

SUB-P5

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

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

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

The subdivision can be appropriately serviced in a manner consistent with the purpose, characteristics and qualities of the zone.

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

No qualifying waterbodies.

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.*

Not relevant as the site is not zoned Rural Production.

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

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

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

Not relevant. No minor residential units exist.

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

Refer to comments under RRZ-P5.

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

7.3 Part 2 Matters

5 Purpose

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

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The proposal is considered to provide for the sustainable management of natural and physical resources.

6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

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

(g) the protection of protected customary rights:

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

The application site does not contain or affect any of the matters listed under Section 6 as Matters of National Importance. Consultation with Ngati Rehia has been initiated in terms of any impact on cultural values.

7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

(a) kaitiakitanga:

(aa) the ethic of stewardship:

(b) the efficient use and development of natural and physical resources:

(ba) the efficiency of the end use of energy:

(c) the maintenance and enhancement of amenity values:

(d) intrinsic values of ecosystems:
(e) [Repealed]
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(h) the protection of the habitat of trout and salmon:
(i) the effects of climate change:
(j) the benefits to be derived from the use and development of renewable energy.

Regard has been had to any relevant parts of Section 7 of the RMA, "Other Matters". Maintenance of amenity values, and quality of the environment have been considered and the proposed subdivision design has had regard to these aspects. The subdivision is low density and it is considered that the subdivision does not create any additional impact on natural and physical resources.

8 Treaty of Waitangi

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

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

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

7.4 National Policy Statements

The National Policy Statement for Freshwater Management has some limited relevance to the proposal, albeit contains no rules administered by the District Council. The proposal includes enhancement/improvements to an existing wetland, and its ongoing protection.

7.5 National Environmental Standards(s)

The site is not shown on the Northland Regional Council's Selected Land Use database as being currently, or historically, a verified or unverified contaminated site.

The National Environmental Standard for Freshwater, specifically any parts of that standard relating to the drainage of a natural inland wetland, has been considered. The proposal includes the enhancement and ongoing protection of a currently degraded wetland. Siteworks are designed to ensure no change to the hydrological functioning of any wetland and no change to levels. Similarly it is believed that future on lot development can ensure the same outcome by way of appropriate stormwater management and attenuation on site.

7.6 Regional Policy Statement for Northland

In preparing this application, the Regional Policy Statement for Northland has been considered, in particular those Objectives and Policies relevant to subdivision. The site is

devoid of any resources or features notated as significant vegetation or habitat; outstanding landscape or natural value; heritage value or cultural values.

Relevant Objectives and Policies in the RPS are considered below.

Objective 3.5 Enabling economic wellbeing

Northland's natural and physical resources are sustainably managed in a way that is attractive for business and investment that will improve the economic wellbeing of Northland and its communities.

It is believed that the proposed subdivision represents sustainable management in that it provides for a choice of residential lifestyle within an area close to town and facilities, and which is zoned for future urbanisation.

Objective 3.6 Economic activities – reverse sensitivity and sterilisation

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

(a) Reverse sensitivity for existing:

(i) Primary production activities;

This objective recognises there are activities and land that should be protected from the negative impacts of subdivision, use and development because of their importance to Northland's economy. In regard to this subdivision, the application property is not zoned for rural productive purposes. The Rural Living zoning reflects the Council's longer term intention for the land – namely an extension of the urban area. I do not believe that this proposal unduly increases the risk of reverse sensitivity issues arising. As such the proposal is not contrary to Objective 3.6.

3.11 Regional form

Northland has sustainable built environments that effectively integrate infrastructure with subdivision, use and development, and have a sense of place, identity and a range of lifestyle, employment and transport choices.

The application site has good road access and access to power and telecommunciations services. It is close to the town and its facilities. The proposal provides for a range of living choices. The proposal will, I believe, provide for sustainable built development.

Policy 5.1.1 – Planned and coordinated development.

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

.....

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

(d) Is integrated with the development, funding, implementation, and operation of transport, energy, water, waste, and other infrastructure;

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

....

(g) Maintains or enhances the sense of place and character of the surrounding environment except where changes are anticipated by approved regional or district council growth strategies and / or district or regional plan provisions.

(h) Is or will be serviced by necessary infrastructure.

The proposed subdivision creates additional large lots within an area already dominated by similar development. The site is appropriately zoned for the proposed level of density and close to facilities. The development has taken into account water, waste water and other infrastructure development. I do not believe that the level of development being proposed results in an increased risk of reverse sensitivity to that which already exists. The application site is, after all, zoned as a transition area between urban and rural and nearby areas are already in residential development. Whilst there is a zone interface to the south, that southern property is consented to enable its subdivision, thereby negating the risk of reverse sensitivity issues arising.

I believe the subdivision of this property for the currently proposed large lot subdivision is designed in a planned and co-ordinated manner and can be serviced accordingly.

7.7 Regional Plan for Northland

Earthworks consent is required under the Regional Plan. This has been applied for and has been referenced APP.047250.01.01.

8.0 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:	No other activities are part of the proposal. The application is for subdivision, and land use consent for breaches of stormwater management and building coverage.
(e) a description of any other resource consents required for the proposal to which the application relates:	Consent is required from the Regional Council for earthworks associated with road construction and upgrading. This has been applied for.
(f) an assessment of the activity	Refer to Section 7 of this Planning Report.

against the matters set out in Part 2:	
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): *(a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	Refer to Sections 5 and 7 of this Planning Report.
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	Refer to section 5.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.
(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves,*	Refer to Scheme Plans in Appendix 1.

esplanade strips, and access strips: *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):* *(g) the locations and areas of land to be set aside as new roads.*	

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 9 of this planning report.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	Monitoring is proposed for earthworks required to form and upgrade access roads. No other monitoring is required as the scale and significance of the effects do not warrant it.

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

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

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 6 and 9 of this planning report and also to the assessment of objectives and policies in Section 7.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 6. The site has no high or outstanding landscape or natural character values.
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 6. The subdivision has no adverse effect on ecosystems or habitat. The proposal includes the enhancement and ongoing protection of a currently degraded wetland ecosystem.
(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. The site has no aesthetic, recreational, scientific, historical, spiritual or cultural values that I am aware of, that will be adversely affected by the act of subdividing.
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to hazard. The proposal does not involve hazardous installations.

9.0 s95A-E ASSESSMENT & CONSULTATION

9.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. No such circumstances exist. Step 2 of s95A specifies the circumstances that preclude public notification. No such circumstance exists and Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances, neither of which exists. The application is not subject to a rule or national

environmental standard that requires public notification. This report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. In summary public notification is not required pursuant to Step 3 of s95A.

9.2 S95B Limited Notification Assessment

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

9.3 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.

9.4 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. Written Approval has been obtained from the owner of the property that will effectively be surrounded by intensified development (owner(s) of Lot 1 DP 180801). This is attached in Appendix 12.

Lot 201 is already an access, metal surface. The proposal includes its re-surfacing as a sealed access. Properties adjacent to Lot 201, whilst likely to see more traffic (once lots are developed) will benefit from the change from metal to sealed surface (dust and noise reduced). There will be additional built development (stage 1 of the proposed development), however, there will be an accessway plus landscaping separating that development from any properties on the north eastern boundary.

There is a commercial nursery immediately adjacent to access Lot 202 and proposed Lots 25 and 26. This too will benefit from the conversion to a sealed surface on the access. There are a limited number of residential properties to the west, but these are separated by access lots serving land that is accessed off the end of Riddell Road.

The applicants are / will be their own neighbour in regard to the southern boundary.

In summary I have not identified any other adjacent properties that might be considered adversely affected.

Consultation has been carried out with utility operators and with FENZ in terms of a satisfactory alternative for fire fighting water supply.

Consultation is also underway / ongoing with Ngati Rehia in regard to a Cultural Impact Assessment. This had not been completed at time of lodging this application, but will be forwarded when it is received.

No pre lodgement consultation has been considered necessary with Heritage NZ, Department of Conservation or NZTA (Waka Kotahi).

10.0 CONCLUSION

I consider that adverse effects of the proposal on the wider environment are no more than minor, or capable of remedy or mitigation such that they will be no more than minor. I consider the proposal to be consistent with Part 2 of the Act and with the objectives and policies of the Operative and Proposed District Plans and the Regional Policy Statement for Northland.

I do not consider that there are any special circumstances and there are no rules in the District Plan or any National Environmental Standard requiring public notification. It is requested that the Council give the application favourable consideration and grant consent.

Signed Dated 28th January 2026

Lynley Newport,
Senior Planner
Thomson Survey Ltd

11.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Location Map

Appendix 3 Record of Title & Relevant Instruments

Appendix 4 Infrastructure Report

Appendix 5 Flood Report

Appendix 6 Geotechnical and Civil Site Suitability Report

Appendix 7 Attenuation Report

Appendix 8 Traffic Impact Assessment

Appendix 9 Erosion and Sediment Control Report and Plans

Appendix 10 Ecological Assessment

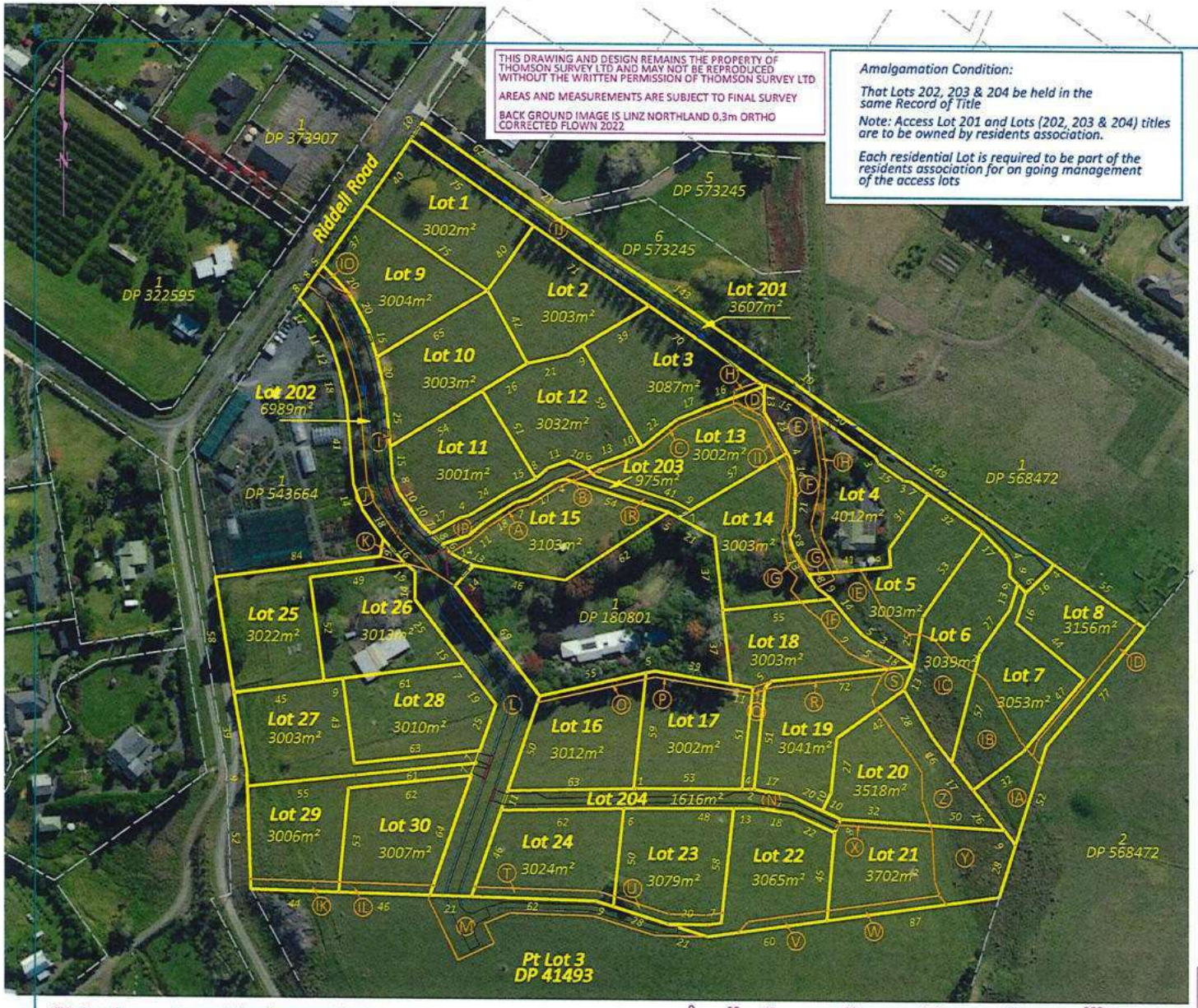
Appendix 11 Landscape Plan

Appendix 12 Written Approval

Appendix 13 Cultural Impact Assessment (pending)

Appendix 1

Scheme Plan(s)



AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

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

Amalgamation Condition:

That Lots 202, 203 & 204 be held in the same Record of Title

Note: Access Lot 201 and Lots (202, 203 & 204) titles are to be owned by residents association.

Each residential Lot is required to be part of the residents association for on going management of the access lots

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATING DOCUMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & CONVEY WATER	I	LOT 202	D195228.4
RIGHT TO DRAIN WATER	I J	LOT 202	11800870.3
	K	LOT 25	
	A	LOT 15	
	B	LOT 203	
	C D	LOT 13	
	E	LOT 4	
	F	LOT 14	
	G	LOT 5	

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	M	Pt LOT 3 DP 41493	LOTS 22 - 24
	I IC L J	LOT 202	LOTS 9 - 30
	N	LOT 204	LOTS 16 - 24
	IP IB IK	LOT 203	LOTS 11 - 14
	IJ	LOT 201	LOTS 1 - 8

REFER TO SHEET 2 FOR FURTHER EASEMENTS

AREAS SHOWN IK,IL,T,U,V,W,Y,IA,ID, IB,Z,IC,S,IF,IE,IG,IH,II,& H ARE TO BE SUBJECT TO VEGETATION PROTECTION.

0 20 40 80 120 160 200m

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

Proposed Subdivision of Lot 2 DP 543664 & Easement over Pt Lot 3 DP 41493

39 Riddell Road, Kerikeri

Overall Plan

PREPARED FOR: Taraire Tahi Ltd

	Name	Date
Survey		
Design		
Drawn	SL	17.12.25
Approved		
Rev	SL	20.01.26

10825 Scheme 1.LCD

ORIGINAL | SCALE 1:2000 | SHEET SIZE A3

Surveyors Ref. No: 10825

Sheet 1 of 4

MEMORANDUM OF EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	GRANTEE
RIGHT TO DRAIN WATER	(A)	LOT 15	Residents Association (to be established at issue of titles)
	(B)	LOT 203	
	(C)(D)	LOT 13	
	(E)	LOT 4	
	(F)	LOT 14	
	(G)	LOT 5	
	(O)	LOT 16	
	(P)	LOT 17	
	(Q)	LOT 18	
	(R)(S)	LOT 19	
	(X)(Y)	LOT 21	
	(U)	LOT 201	
	(O),I,J,K,L	LOT 202	
	(N)	LOT 204	
Right to Convey Electricity	(U)	LOT 201	Top Energy Ltd
	(O),I,J,K,L	LOT 202	
	(M)	Pt LOT 3 DP 41493	
	(P)(B)(IR)	LOT 203	
	(N)	LOT 204	
Right to Convey Tele-comunications	(U)	LOT 201	Chorus NZ Ltd
	(O),I,J,K,L	LOT 202	
	(M)	Pt LOT 3 DP 41493	
	(P)(B)(IR)	LOT 203	
	(N)	LOT 204	

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.

This drawing has been prepared solely for the use intended by the client stated on the plan, and must not be used for any other purpose. Thomson Survey Ltd accepts no responsibility for this plan, or any data contained on this plan, to be used for any other purpose.

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Proposed Subdivision of Lot 2 DP 543664 & Easement over Pt Lot 3 DP 41493

Overall Plan

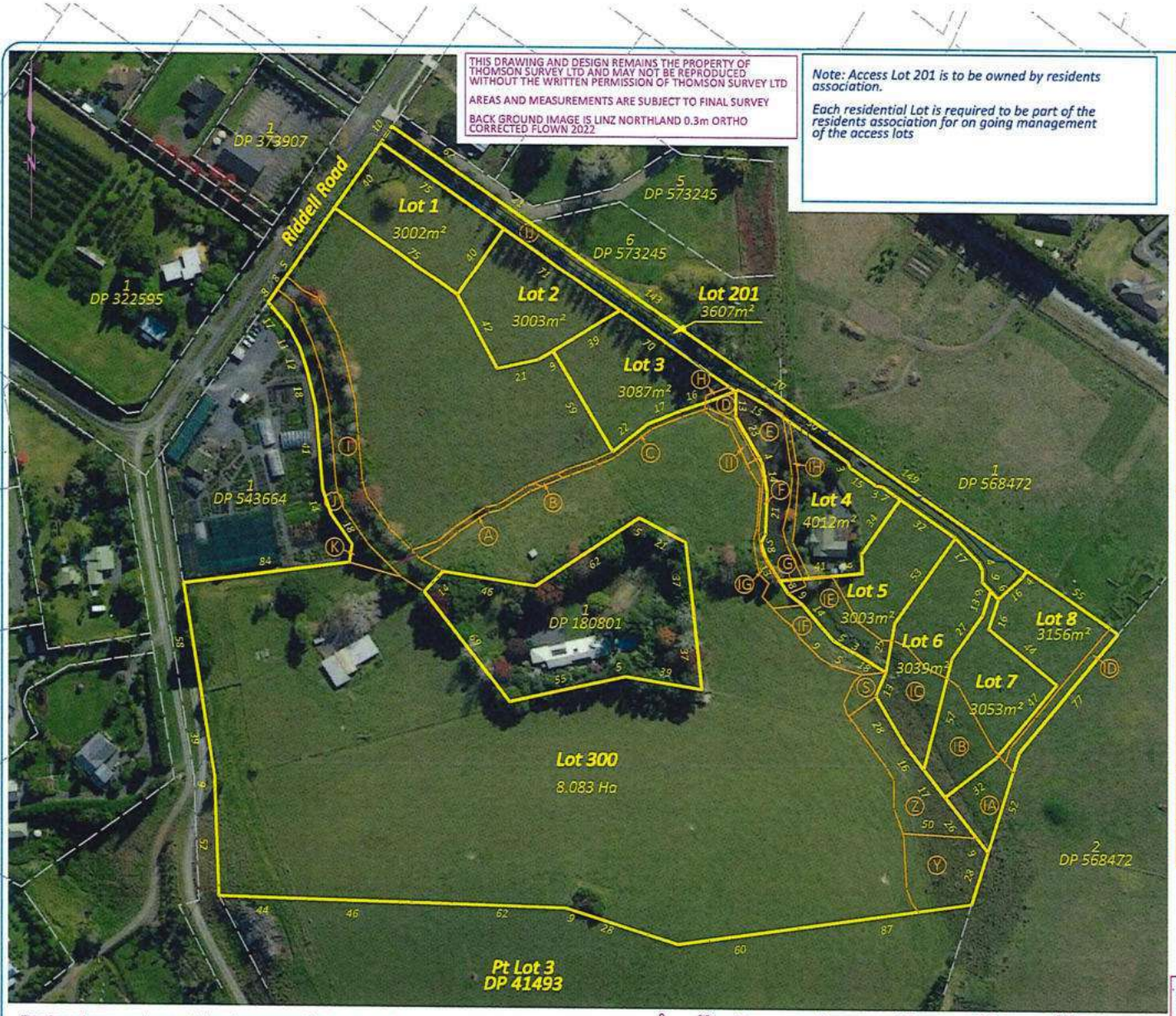
39 Riddell Road, Kerikeri

PREPARED FOR: Taraire Tahi Ltd

	Name	Date
Survey		
Design		
Drawn	SL	15.12.25
Approved		
Rev		

ORIGINAL
SCALE 1:2000
SHEET SIZE A3
10825 Scheme 1.LCD

Surveyors Ref. No: 10825



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

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

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

Note: Access Lot 201 is to be owned by residents association.

Each residential Lot is required to be part of the residents association for on going management of the access lots

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATING DOCUMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & CONVEY WATER	(I)	LOT 300	D195228.4
RIGHT TO DRAIN WATER	(I) (J) (A) (B) (K) (C) (D)	LOT 300	11800870.3
	(E) (F)	LOT 4	
	(G)	LOT 5	

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(IJ)	LOT 201	LOTS 1 - 8

MEMORANDUM OF EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	GRANTEE
RIGHT TO DRAIN WATER	(E)	LOT 4	Residents Association (to be established at issue of titles)
	(F)	LOT 14	
	(G)	LOT 5	
	(IF) (S) (X) (Y) (J) (Z) (IG) (II) (D)	LOT 300	
	(IJ)	LOT 201	
Right to Convey Electricity	(IJ)	LOT 201	Top Energy Ltd
Right to Convey Tele-comunications	(IJ)	LOT 201	Chorus NZ Ltd

AREAS SHOWN Y,IA,ID, IB,Z,IC,S,IF,IE,IG,IH,II,& H ARE TO BE SUBJECT TO VEGETATION PROTECTION

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

0 20 40 80 120 160 200m

This drawing has been prepared solely for the use intended by the client stated on the plan, and must not be used for any other purpose. Thomson Survey Ltd accepts no responsibility for this plan, or any data contained on this plan, to be used for any other purpose.

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Proposed Subdivision of Lot 2 DP 543664 & Easement over Pt Lot 3 DP 41493

Stage 1

39 Riddell Road, Kerikeri

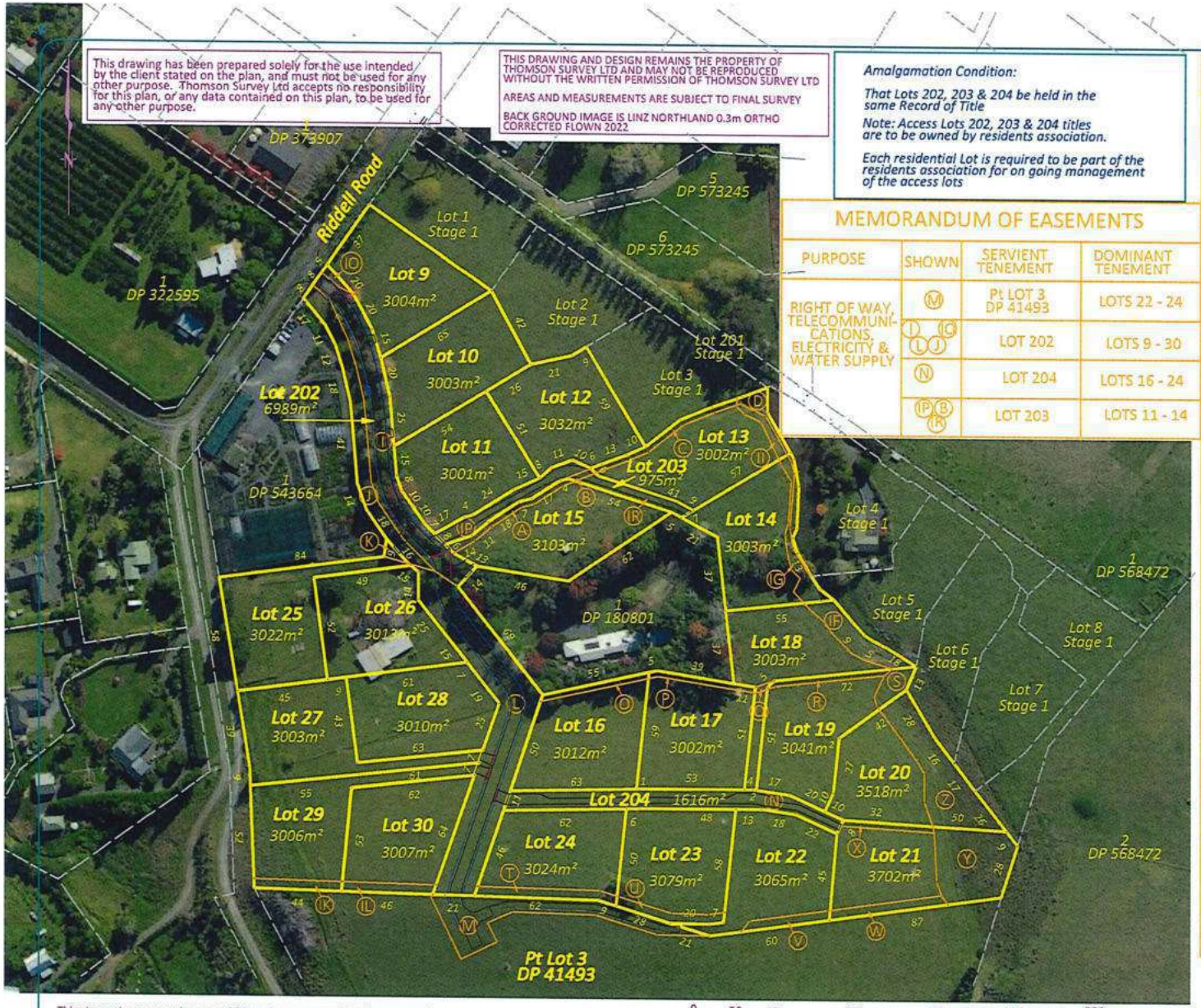
PREPARED FOR: Taraire Tahi Ltd

	Name	Date
Survey		
Design		
Drawn	SL	17.12.25
Approved		
Rev	SL	20.01.26

ORIGINAL | SCALE 1:2000 | SHEET SIZE A3

10825 Scheme 1.LCD

Surveyors Ref. No: 10825



Amalgamation Condition:

That Lots 202, 203 & 204 be held in the same Record of Title

Note: Access Lots 202, 203 & 204 titles are to be owned by residents association.

Each residential Lot is required to be part of the residents association for on going management of the access lots

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	M	Pt LOT 3 DP 41493	LOTS 22 - 24
	I G L J	LOT 202	LOTS 9 - 30
	N	LOT 204	LOTS 16 - 24
	P B K	LOT 203	LOTS 11 - 14

EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATING DOCUMENT
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & CONVEY WATER	I	LOT 202	D195228.4
RIGHT TO DRAIN WATER	I J	LOT 202	11800870.3
	K	LOT 25	
	A	LOT 15	
	B	LOT 203	
	C D	LOT 13	
	F	LOT 14	

MEMORANDUM OF EASEMENTS IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	GRANTEE
RIGHT TO DRAIN WATER	A	LOT 15	Residents Association (to be established at issue of titles)
	B	LOT 203	
	C D	LOT 13	
	O I,J,K,L	LOT 202	
	F	LOT 14	
	N	LOT 204	
	O	LOT 16	
	P	LOT 17	
	Q	LOT 18	
	R S	LOT 19	
	X Y	LOT 21	
Right to Convey Electricity	O I,J,K,L	LOT 202	Top Energy Ltd
	M	Pt LOT 3 DP 41493	
	P B IR	LOT 203	
	N	LOT 204	
Right to Convey Tele-comunications	O I,J,K,L	LOT 202	Chorus NZ Ltd
	M	Pt LOT 3 DP 41493	
	P B IR	LOT 203	
	N	LOT 204	

AREAS SHOWN IK,IL,T,U,V,W,Y,,Z,S,IF,IG,II,& H ARE TO BE SUBJECT TO VEGETATION PROTECTION

0 20 40 80 120 160 200m

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Registered Land Surveyors, Planners & Land Development Consultants

Proposed Subdivision of Lot 2 DP 543664 & Easement over Pt Lot 3 DP 41493

Stage 2

39 Riddell Road, Kerikeri

PREPARED FOR: Taraire Tahi Ltd

	Name	Date
Survey		
Design		
Drawn	SL	17.12.25
Approved		
Rev	SL	20.01.26

ORIGINAL | SCALE 1:2000 | SHEET SIZE A3

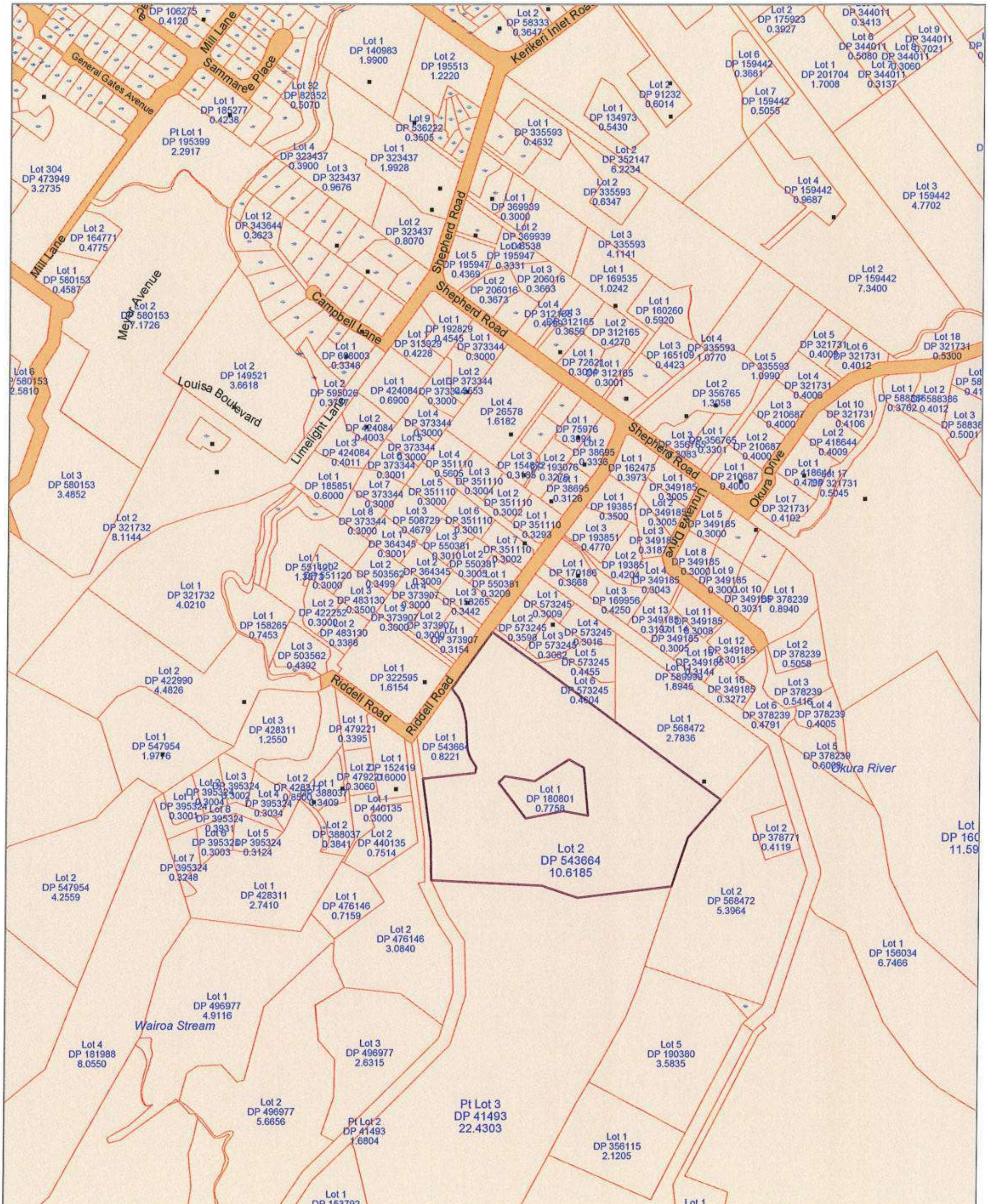
10825 Scheme 1.LCD

Surveyors Ref. No: 10825

Sheet 4 of 4

Appendix 2

Location Map



0 100 200 300 400 500 600 700 800 900m

QuickMap
Custom Software Ltd

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

Scale 1:7500 Topographical and Cadastral map derived from LINZ data. Printed: 28-Jan-2026 09:32.

Appendix 3

Record of Title & Relevant Instruments

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General of Land

Identifier	**918967**
Land Registration District	**North Auckland**
Date Issued	06 November 2020

Prior References
NA111B/758

Estate	Fee Simple
Area	10.6185 hectares more or less
Legal Description	Lot 2 Deposited Plan 543664

Registered Owners

Philip Edward Lindesay and Keith Frederick Ardern as to a 1/2 share

Trustee Services (1997) Limited, Philip Edward Lindesay and Clare Lindesay as to a 1/2 share

Interests

Appurtenant hereto is a right of way created by Transfer 550201 - 9.11.1954 at 12:06 pm

Subject to a right of way and a right to convey water and a right to transmit electricity and telecommunications over part marked A on DP 543664 specified in Easement Certificate D195228.4 - 17.9.1997 at 12:00 pm

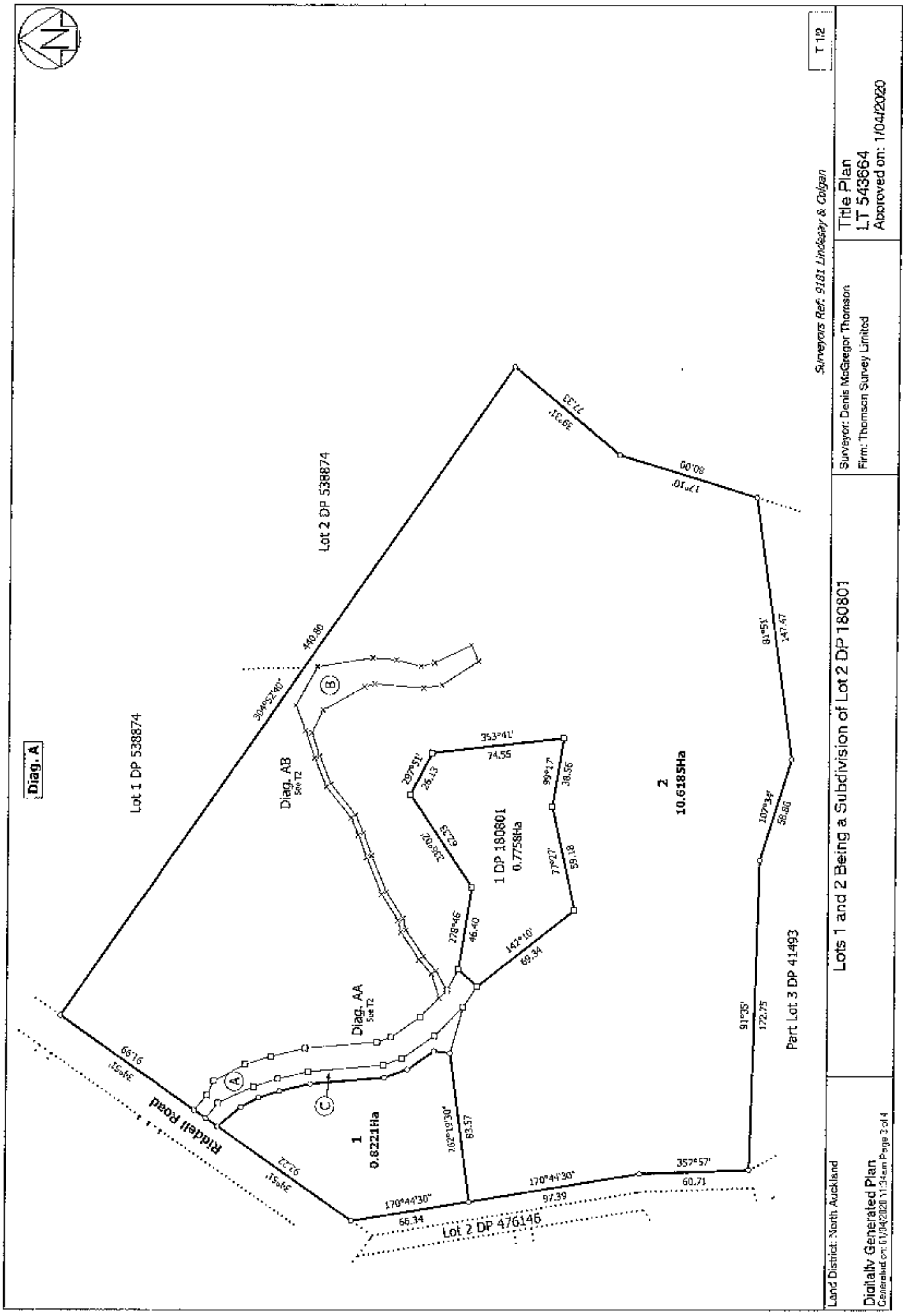
The easements specified in Easement Certificate D195228.4 are subject to Section 243 (a) Resource Management Act 1991

11800870.1 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 6.11.2020 at 9:21 am

Subject to a right to drain water over parts marked A, B and C on DP 543664 created by Easement Instrument 11800870.3 - 6.11.2020 at 9:21 am

The easements created by Easement Instrument 11800870.3 are subject to Section 243 (a) Resource Management Act 1991

13404960.1 CAVEAT BY CONTOUR WHENUA LIMITED - 12.9.2025 at 12:12 pm


T 1/2
Surveyors Ref: 9181 Lindesay & Colgan
Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited
Title Plan
LT 543664
Approved on: 1/04/2020
Lots 1 and 2 Being a Subdivision of Lot 2 DP 180801
Land District: North Auckland
Digitally Generated Plan
Diag. A
Lot 1 DP 538874
Lot 2 DP 538874
Part Lot 3 DP 41493
Lot 2 DP 476146
Riddell Road
Diag. AB
Diag. AA
1 DP 180801
0.7758Ha
2
10.6185Ha
1
0.8221Ha
304°52'40"
440.80
170°44'30"
66.34
97.39
60.71
357°57'
91°35'
172.75
107°34'
58.86
81°51'
147.47
80.00
77.33
353°41'
74.55
297°51'
26.13
62.33
278°46'
46.40
142°10'
69.34
77°27'
59.18
38.56
262°19'30"
63.57
91.22
66.16

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

EASEMENT CERTIFICATE

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

I/We ANNE BENITA LINDESAY of Kerikeri, Retired as to a one-half share and PHILIP EDWARD LINDESAY of Auckland, Company Director and KEITH FREDERICK ARDERN of Kerikeri, Chartered Accountant as to a one-half share as tenants in common in the said shares

being the registered proprietor(s) of the land described in the Schedule hereto hereby certify that the easements specified in that Schedule, the servient tenements in relation to which are shown on a plan of survey deposited in the Land Registry Office at Auckland on the day of 19 97 under No. 180801 are the easements which it is intended shall be created by the operation of section 90A of the Land Transfer Act 1952.

SCHEDULE

DEPOSITED PLAN NO. 180801

Nature of Easement (e.g., Right of Way, etc.)	Servient Tenement		Dominant Tenement Lot No.(s) or other Legal Description	Title Reference
	Lot No.(s) or other Legal Description	Colour, or Other Means of Identification, of Part Subject to Easement		
Right of Way Right to Transmit Electricity and Telecommunications Right to Convey Water	Lot 2 hereon	A	Lot 1 hereon	111B/756 111B/757

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

1. Rights and powers: See attached

RIGHTS AND POWERS AND TERMS AND CONDITIONS IN ADDITION TO THOSE IMPLIED IN THE SEVENTH SCHEDULE TO THE LAND TRANSFER ACT 1952 AND THE NINTH SCHEDULE OF THE PROPERTY LAW ACT 1952 ARE AS FOLLOWS:

The owner of the dominant tenement will agree to the area marked "A" on Deposited Plan 180801 being vested as road if required by the owner of the servient tenement or the Local Authority.

RIGHTS AND POWERS

That in respect of the Telecommunications and Electricity Easements referred to in the Schedule hereto, the rights and powers applicable thereto are:

(a) The full free uninterrupted and unrestricted right liberty and privilege for the occupier and registered proprietor for the time being of the dominant tenement from time to time and at all times to take convey and lead electrical current or any other mode of transmitting telecommunications in a free and unimpeded flow (except where the flow is halted for any reasonable period necessary for essential repairs) for the purposes of telecommunications across the land over which the Easement is created and to lay and maintain cables for such purpose.

(b) The full free uninterrupted and unrestricted right liberty and privilege for the occupier and registered proprietor for the time being of the dominant tenement from time to time and at all times to take convey and lead electricity in a free and unimpeded flow (except where the flow is halted for any reasonable period necessary for essential repairs) across the land over which the Easement is created and to lay and maintain cables for such purpose.

AEL

TERMS CONDITIONS COVENANTS OR RESTRICTIONS IN RESPECT OF ABOVE EASEMENTS:

That in respect of the Electricity and Telecommunications Easements (hereinafter called "the Easements") referred to in the Schedule hereto the terms conditions covenants or restrictions applicable thereto are as follows:-

(a) All cables placed within the servient tenement shall be maintained and as required repaired to a good and serviceable condition by the registered proprietors for the time being of the dominant tenement .

(b) All the costs and expenses of and incidental to the repairing and maintaining of the Easements herein specified shall be borne by the registered proprietor for the time being of the dominant tenement.

(c) Any person wishing to carry out any work whatsoever on the Easements herein specified shall first give to the registered proprietor of the servient tenement thereof notice of such intention and of the nature and expense of the said work prior to any such work being commenced.

(d) Any person carrying out any work whatsoever on the Easements herein specified shall take all reasonable and proper action and care to interfere as little as possible with the comfort and convenience of the occupier or occupiers for the time being of the dominant and servient tenements and shall carry out such work or cause the same to be carried out with the utmost expedition and in a prudent manner and in particular shall during the course of such work:

(i) Shore up or cause to be shored up in a proper safe and workmanlike manner any part of the dominant or servient tenement affected thereby.

(ii) Take all reasonable and proper steps to preserve the said tenements and all parts thereof and all property and goods thereon from damage.

(e) Subject to the other terms and conditions covenants and restrictions contained in these presents any person carrying out any work as aforesaid shall have the right to enter and to bring machinery and workmen on to any part of the dominant or servient tenement as shall be necessary for the purposes of carrying out maintenance on the Easements referred to herein and shall have the right to remove all soil roading paving metalling fencing and all other things as shall be reasonably necessary to give unimpeded access to the said Easement PROVIDED HOWEVER that such soil roading paving metalling and fencing which is so removed shall be restored as nearly as possible to its original condition and that any other damage done by reason of the said maintenance is repaired and that as little disturbance as possible is caused to the surface of the land and to the enjoyment of the said tenements by the registered proprietors or occupiers.

(f) Where the maintenance work which is required to be carried out in terms of these presents involves the total or partial replacement of any cables this work shall be deemed to be maintenance work which may be carried out in accordance with these presents.

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

SIGNED by the said
PHILIP EDWARD LINDESAY
in the presence of:

Witness: (HANNAH SUTHERLAND)

Occupation: Student

Address: 136d Newton Rd, Newton

Dated this 22nd day of August 19 97

Signed by the above-named
~~PHILIP EDWARD LINDESAY~~
KEITH FREDERICK ARDERN

in the presence of:

Witness (JAN DOROTHY JONSON)

Occupation Legal Executive to

Address LAW NORTH PARTNERS
Barristers & Solicitors,
KERIKERI.

SIGNED by the said
ANNE BENITA LINDESAY
in the presence of:

Witness: (JAN DOROTHY JONSON)

Occupation: Legal Executive to
LAW NORTH PARTNERS

Address: Barristers & Solicitors,
KERIKERI.

EASEMENT CERTIFICATE

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

Correct for the purposes of the Land Transfer Act

Solicitor for the registered proprietor

The within easement when created will be subject to Section 243(a) Resource Management Act 1991

12.00 17.SEP97 D 052264

PARTICULARS ENTERED IN REGISTER
LAND REGISTRY AUCKLAND
ASST. LAND REGISTRAR

LAW NORTH PARTNERS
SOLICITORS
KERIKERI

View Instrument Details

Instrument No	11800870.1
Status	Registered
Date & Time Lodged	06 November 2020 09:21
Lodged By	Blogg, Simon James
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Records of Title	Land District
NA111B/758	North Auckland

Annexure Schedule Contains 2 Pages.

Signature

Signed by Shaun Michael McGivern as Territorial Authority Representative on 05/11/2020 04:47 PM

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

Far North District Council

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

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THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **RC 2190564**
Being the Subdivision of LOT 2 DP 180801
North Auckland Registry

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

SCHEDULE

Lot 1 DP 543664

(i) Any increase to impermeable surfaces on Lot 1 will need to be accompanied by a Stormwater Report produced by a Chartered Professional Engineer or Suitably Qualified Professional detailing how peak flows will be attenuated for rainfall events up to those with a 1% AEP. The consent holder is to provide the design and details of the stormwater management device / system to the Council for approval prior to installation.

Lot 1 & 2 DP 543664

(ii) In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system the applicant shall submit for Council approval a TP58 Report prepared by a Chartered Professional Engineer or an approved TP58 Report Writer. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary and comply with the Regional Water & Soil Plan and Regional Plan Permitted Activity Standards.

Far North District Council

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

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(iii) Without the prior approval of the Council, no building shall be erected, nor any works which increase impermeable surfaces be undertaken, nor any planting or structure placed which may create a flow obstruction, on any area of the site which has been proposed as a secondary / overland (Q_{100}) flow path.

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

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

DATED at **KERIKERI** this 6th day of December 2019

View Instrument Details

Instrument No	11800870.3
Status	Registered
Date & Time Lodged	06 November 2020 09:21
Lodged By	Blogg, Simon James
Instrument Type	Easement Instrument

Affected Records of Title	Land District
918966	North Auckland
918967	North Auckland

Annexure Schedule Contains 1 Pages.

Grantor Certifications

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

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

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

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

Signature

Signed by Shaun Michael McGivern as Grantor Representative on 05/11/2020 04:48 PM

Grantee Certifications

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

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

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

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

Signature

Signed by Shaun Michael McGivern as Grantee Representative on 05/11/2020 04:48 PM

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

Approved for ADLS by Registrar-General of Land under No. 2018/6266

EASEMENT INSTRUMENT TO GRANT EASEMENT OR *PROFIT À PRENDRE*

Sections 109 Land Transfer Act 2017

Registrar-General of Land Approval 2018/6266 ADLS

Grantor

Philip Edward Lindesay and Keith Frederick Arden as to a 1/2 share
Trustee Services (1997) Limited, Philip Edward Lindesay and Clare Lindesay as to a 1/2 share

Grantee

Philip Edward Lindesay and Keith Frederick Arden as to a 1/2 share
Trustee Services (1997) Limited, Philip Edward Lindesay and Clare Lindesay as to a 1/2 share

Grant of Easement or *Profit à prendre*

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

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

Purpose (Nature and extent) of easement, or *profit*	Shown (plan reference)	Burdened Land (Record of Title)	Benefited Land (Record of Title) or in gross
Right to Drain Water	A,B & C on DP 543664	Lot 2 DP 543664 (RT 918967)	Lot 1 DP 543664 (RT 918966)

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

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

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

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

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

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

INFRASTRUCTURE REPORT

39 Riddell Road, Kerikeri

Prepared for:

Taraire Tahi Ltd

January 2026

conquel CONSULTING

PROJECT INFORMATION

CLIENT:	Taraire Tahi Limited
PROJECT:	10401

DOCUMENT CONTROL

DATE OF ISSUE:	15/01/2026
REVISION	A
AUTHOR	 Glen Bellingham Project Director
REVIEWED BY	 Tony Smith Senior Engineer CMEngNZ, CPEng

REVISION HISTORY

DATE:	REVISION	AUTHOR	REVIEWED
22/01/2026	A	GB	TS

Contents

1. OVERVIEW

1.1. PROJECT

The purpose of this report is intended to accompany a Resource Consent application for the development of 30 Lot Rural Residential Subdivision at 39 Riddell Road, Kerikeri, referred to as "the site".

Figure 1. Proposed Subdivision Plan

This report provides information in support of the Resource Consent application for both Landuse and Subdivision of the property. This report is to be read in conjunction with the engineering drawings and calculations.

The following matters are addressed herein:

- Introduction, Site and Locality
- Legal descriptions and other interests
- Existing site characteristics and consents currently in place
- Proposed development
- Earthworks and associated siteworks
- Roading and Accessways
- Surface water and flooding

- Stormwater Disposal – Preliminary assessment
- Wastewater Disposal – Preliminary assessment
- Water supply reticulation and firefighting – Preliminary assessment
- Other Services

Each matter is addressed within the relevant sections below. Refer to appended Engineering Drawings for details of the proposed development.

The calculations and assessments included in this report are preliminary in nature based on the information available at the time of issue.

1.2. LEGAL DESCRIPTION

Applicant	Taraire Tahi Limited
Address	39 Riddell Road, Kerikeri
Legal Description	Lot 2 Deposited Plan 543664
Site Area	Total area of 10.6185Ha
District Plan	Far North District Council
Current Use	Grazed land
Zoning	Rural Living under the current District Plan

1.3. EXISTING SITE DESCRIPTION

The existing site is located to the south of Riddell Road, located approx. 2.2km south of central Kerikeri, which serves twin accesses into the site, for the dwelling 39 Riddell Road and to the property at 49 Riddell Road, which is contained within the site. A topographical survey plan from Thomson Survey is attached as Appendix A.

The main access is laid out between two rows of mature trees and underplanting, which is metalled and in good condition, while the subject property is in pasture.

The northern access for 39 Riddell Road, crosses an overland flowpath, with an existing "ford" in place where runoff from extreme events, runs across the access and discharges to the north-east.

The site is northerly in aspect, having rolling to moderate slopes in places and one central valley, leading to an established pond. The southern boundary contains an elevated knob, which lies at approx. 100m RL, (approx. 20m above the pond) which provides elevated sightlines across Riddell Road and towards Kerikeri.

The pond between 39 and 49 Riddell Road, contains the primary watercourse, which gives way to a wide shallow flowpath discharging to the north-east at approx. 70m RL.

Figure 2. Existing Site Plan

A subdivision approval in 2021 (2300464-RMACOM) created a right-of-way easement across the subject site to the land to the south (Pt Lot 3 DP 41493). The accessway will be formed and sealed along proposed JOAL 2 as part of this development.

This consent conditions required the formation of approx 200m length of footpath along the Riddell Road frontage, which will be fulfilled by this development.

Figure 3. Easement Plan

1.4. PROPOSED DEVELOPMENT

The proposed development consists of the following:

- 30 Residential Lots (29 new titles) as shown on the Scheme Plan by Thomson Survey
- Private road network and shared accessways through the site.
- Earthworks sufficient to create the proposed roads, shared accessways and any works required for bulk servicing. Building consents will cover individual works for residential sites and building construction.
- Erosion and sediment control plans have been drafted, (Refer to ESCP dated January 2026) (to ensure that measures are in place to retain and settle out sediment from rainfall-runoff events, which will be updated once a contractor is selected.
- Stormwater discharge considering pre to post development attenuation will be detained using rainwater re-use tanks for each dwelling, with an overflow discharging to swales alongside accessways. Building Consent will be applied for private drainage.
- Flood modelling has been completed for the whole site and accessways and buildings have been located clear of overland flow paths and hazards.
- Water supply of potable water for consumption and fire supplies will be made from roof-fed tanks. An example of interconnected tanks, a platform for fire access and overflow discharge is attached.

- Wastewater systems will be required for each lot using on-site decentralised wastewater treatment and disposal to ground, using TP58 design parameters, based upon soil characteristics as summarised in geotechnical investigation report and lodged as part of individual lot Building Consent applications. An example wastewater design for Lot 4 (replacement disposal field, as the existing field is located within proposed Lot 5) is attached as Appendix F, to show how constrained sites (as shown on plan C5000) can be serviced for wastewater treatment and disposal.
- Power and communications services have been confirmed as available, and subject to confirmation as part of the detailed design phase.

The subdivision consent allows for two stages to the project with flexibility to either construct individually or together. Refer to scheme and engineering plans for full details.

2. EARTHWORKS

Cook Costello have provided a site suitability report (ref:17857 dated 6/1/25) which provides confidence in the soil classification, guidance for earthworks, dwelling foundations and stability to support the proposed development activities.

Earthworks are predominantly required to establish roading accessway network throughout the site and for entry ways to new lots.

Surplus cut (above that required for cut to fill operations) will be fully distributed within the site, and compacted to engineered fill standards, for confirmation as part of the geotechnical completion report (GCR).

Topsoil from the accessways will be stripped and stockpiled for respreading within the site. It is expected that the total volume of topsoil of approximately 7,826m³ over a 17,832m² earthworks area (assuming a 300mm depth topsoil removal) is to be stripped on site and re-spread.

The earthwork areas for the site are for accessways, swales and entry ways into individual sites. A summary of the earthworks is provided in the table below.

	Quantities
Earthworks Area	17,832m²
Volume of Cut	8,702m³
Volume of Fill	9,006m³
Net Volume	304m³ (aggregate imported)

Sediment control measures will be implemented and maintained prior to and during earthworks in accordance with the engineering drawings and Auckland Council's GD05 guideline.

We anticipate that in future, minor trimming to form dwelling platforms will be completed as part of future building consent applications.

A geotechnical investigation has been carried out by Cook Costello to confirm the soil characteristics, soil layers, strengths and the ability for wastewater disposal to ground, to assess the potential for stormwater soakage and the suitability of the underlying ground with consideration of the proposed development.

An erosion and sediment control plan (ESCP) is attached for consent purposes, while a detailed site-specific ESCP document will be produced by the successful contractor to best mirror the proposed earthworks methodology.

This documentation will contain processes for discovery using Heritage NZ documents: Discovery and AGS 8 Koiwi Tangata/Human Remains Guidelines.

3. ECOLOGICAL FEATURES

Rural Design Limited have completed a detailed Ecological Assessment for the site and identified as shown in figure 4 below existing natural wetlands. These wetlands are located on the main watercourse feed predominantly from the upstream catchment.

Wetlands are sensitive predominantly to changes in LandUse activities and catchment areas and we have addressed each of these below in detail:

3.1. Sedimentation from Earthworks

Sediment controls as covered in Section 2 have been designed to comply with Far North Council Standards and Northland Regional Council documents, in accordance with Auckland Council GD05 which will ensure that sediments are captured and not discharged to wetland features. Earthworks are located outside of 10m riparian margins around the wetland apart for an area of 435m² which requires the upgrade of existing metal driveway to a concrete finish. Works in this are proposed to be completed in a cut and cover daily operation to minimise any exposed area.

3.2. Stormwater Volume and Intensity of Discharge

Engineering design has taken careful consideration to ensure that the before and after catchments within the development are not altered. The development also proposes attenuation to limit 5, 10 and 100yr flows to 80% of pre-development levels as required by the Far North Engineering Standards version 0.6 issued May 2023.

3.3. Concentrated Discharge of Stormwater

The Engineering design ensures no concentrated points of discharge directly to the wetland due to the following:

Residential lots use buried dispersal trenches which allow stormwater to bubble-up and sheet flow over the ground.

Private Accessways and Culverts uses outfall structures designed in accordance with TP10 and are located outside the 10m Riparian margin.

3.4. Wastewater Disposal Fields

Wastewater design has been undertaken to comply with TP58 and Australian/New Zealand Standard and On-site Domestic Wastewater Management (AS/NZS 1547:2012). The system will use aerated wastewater treatment systems (AWTS) or equivalent with disposal via subsurface drip irrigation (pressure compensating) or above ground if within vegetated/planted areas. These systems have very low application rates to ground (3mm/day for category 5 soil) compliant with a 15m Regional Council setback combined with the 10m of riparian planting as mitigation.

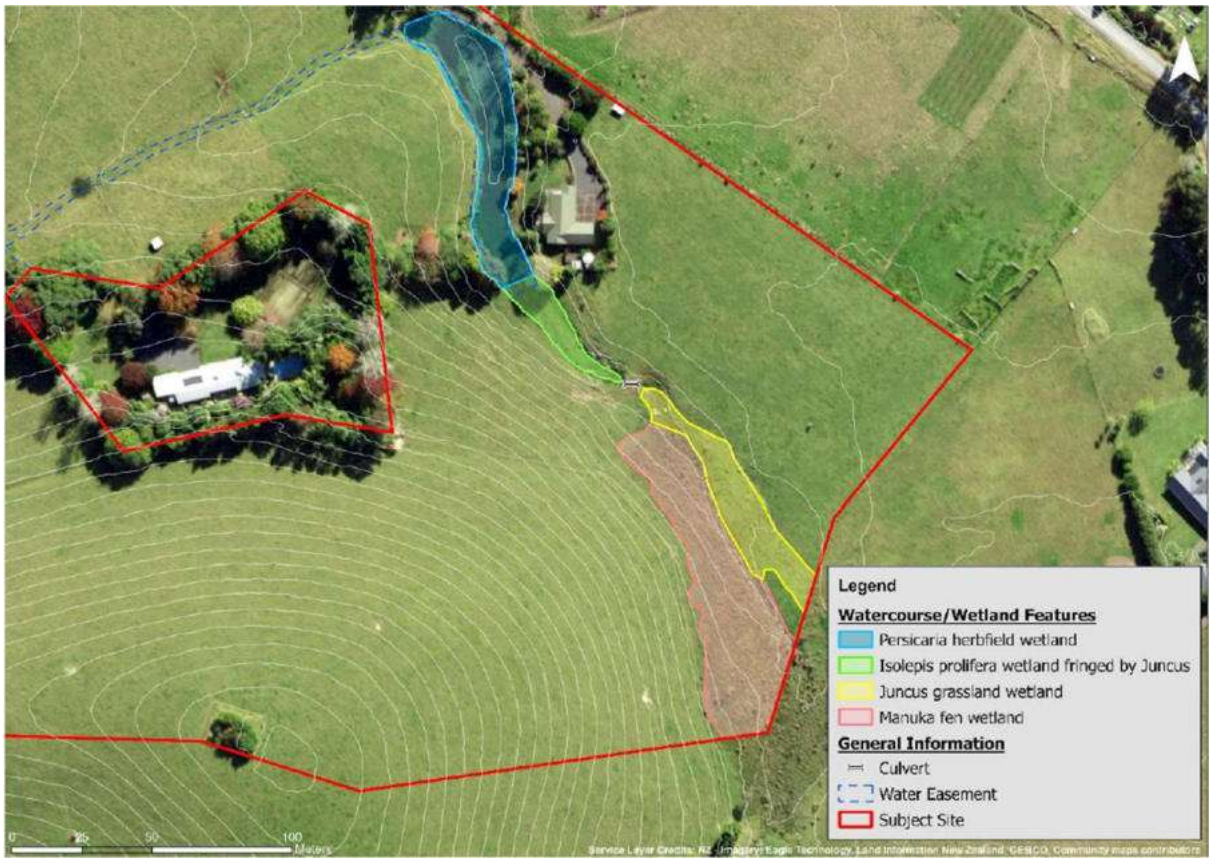


Figure 4 Identified Wetlands

4. VEHICLE ACCESSWAYS

4.1. ACCESS STANDARDS

The site suitability report from Cook Costello also provides guidance for road construction in two areas of the site, as soils north of the midpoint are stiffer (CBR=5%) than in the south (CBR=3%).

A detailed transportation assessment has been provided by Engineering Outcomes, addressing access and safety.

Riddell Road is formed approx. 6m wide with a 2-coat chipseal road is in good condition and serves existing traffic movements to the site.

JOAL 2 has a 20m wide reserve and will be a privately maintained road, with a sealed (2 coat chip seal or concrete TBC) carriageway width of 6m plus gravel shoulders and water tables each side.

JOAL's 1,3, 4 and 5 will have reserve width of between 6 to 10m (as shown on roading drawing set C3000) and to be a sealed (2 coat chip seal or concrete TBC) carriageway of a minimum of 3m with provision for passing bays will be made at 100m intervals or corners as shown.

4.2. VEHICLE CROSSING

Existing gravel vehicle crossings are present with a culvert beneath to serve both existing accesses to the property from Riddell Road.

Proposed upgrading will serve the development as follows:

JOAL 1 (northern end to #39) has a splay present on the approaches while tracking curves will be run to confirm compliance with FNDC crossing diagram S/6D.

JOAL 2 (southern end to #49) has a gravelled entrance, which will be upgraded to meet FNDC Engineering detail 21, with 8m radii to achieve compliance with FNDC crossing S/6D.

The surfacing of the entryway will be formed with reinforced concrete as per FNDC standard S/2. An annotated photograph of the existing crossing is shown in figure 4.

The existing crossing base and culvert beneath is sufficient for the proposed subdivision, while a reinforced concrete surface will be added, to achieve compliance with FNDC crossing S/6D.

4.3. RIGHT OF WAYS

Access to all lots is via new private accessways and a summary below shows what is proposed:

JOAL No.	Number of Lots proposed to be served	Minimum Required C'way Width (District Plan Appendix 3B-1)	C'way width recommended	Surfacing required	Notes
1	8	5m	3m with passing bays	Aggregate	Passing bays at spaces not exceeding100m and at blind corners. (2 coat chipseal or concrete TBC)
2	28[1]	6m Public Road	6m formed with 0.5m shoulders on both sides	Chipseal	Built to Public Road standard but kept private to enable higher level of landscape and ongoing control (2 coat chipseal or concrete TBC)
3	4	3m with passing bays	3m with passing bays	Aggregate	Passing bays at spaces not exceeding 100m and at blind corners. (2 coat chipseal or concrete TBC)
4	6	5m	3m with passing bays	Aggregate	Passing bays at spaces not exceeding 100m and at blind corners. (2 coat chipseal or concrete TBC)
5	3	3m with passing bays	3m with passing bays	Aggregate	Passing bays at spaces not exceeding 100m and at blind corners. (2 coat chipseal or concrete TBC)

JOAL 2 will follow the path of the existing driveway to 49 Riddell Road with formed width of 5.5m. JOAL's 1 & 3 to 5 are a minimum of 3m formed surface, with passing bays or widening at 100m of less.

[1] Including access to the existing #49, encompassed within the subject site.

4.4. DRIVEWAYS

Driveways leading to the identified house sites can be formed in accordance with the District Plan requirements. Driveways from the JOAL will be constructed at time of building.

4.5. PARKING AND MANOEUVRING

Parking and manoeuvring for two vehicles in accordance with District Plan can be accommodated within all proposed lots.

4.6. FOOTPATH

Consent 2300464-RMACOM which provides for 5 lots to be created on the adjacent site south of the development, was approved with a requirement for a footpath to be constructed for approx. 200m in length along the road frontage of 39 Riddell Road. This development will fulfil the footpath condition.

4.7. CULVERTS

Far North Engineering Standards 2023 require the following for Culverts under Accessways/Roadways

In terms of traffic serviceability, the bridge or culvert shall also achieve:

On roads carrying > 3,000 vpd, no interruption to traffic during a 1% (plus climate change) AEP flood event, or

For roads carrying between 250 and 3000 vpd, no interruption to traffic during a 2% (plus climate change) AEP flood event, or

For roads carrying < 250 vpd, no interruption to traffic during a 10% (plus climate change) AEP flood event.

JOAL 2 and JOAL 3 culverts have been designed in accordance with the above and exceed the minimum requirement with access being available in the 1% AEP (plus climate change) event.

Design allows for total blockage of culverts and the overland flow across accessway is less than the Austroads guidelines for allowable safe traversable flows of 0.35m³/s.

Calculations and detailed plans are attached to demonstrate compliance with design standards.

5. FLOODING AND OVERLAND FLOW

5.1. OVERLAND FLOWPATHS (OLFP's)

According to LINZ GeoMaps, an overland flow path (OLFP1) enters the south-east part of the site, traverses through it, and converge at the centre-east boundary of the site. Additionally, a minor overland flow path (OLFP2) enters from the west (55 Riddell Road, Lot 1 DP 543664, subject to easement) and exits at the eastern boundary.

An onsite survey was conducted to locate the existing overland flow paths and the riparian margin. The survey results confirm that the overland flow paths are situated in locations consistent with those indicated on GeoMaps.

OLFP 1 and 2 converge at Lot 13, downstream of the existing pond and traverse the site boundary across a ford constructed across JOAL 1. The existing twin low-flow pipes will be retained and an improved ford cross section and surfacing will be placed to prevent scour in extreme events and to provide safe vehicular passage depth.

5.2. POST DEVELOPMENT SCENARIO

According to the topographical plan, OLFP's 1 and 2 are of gentle gradient, with a defined channel for each flow path. The flow rate for each path is shown in the attached calculations sheets with dimensions of cross section, peak flow and depth provided within the stormwater plan series.

Once JOAL,s 3, 4 and 5 are formed, swales will convey the surface flow towards the east, with discharge positions established to discharge flows to the wetland and pond.

Design considerations are assessed within the "pre vs post" development stormwater calculation series, to require all new dwellings to achieve hydraulic neutrality by way of 30,000 litre on-site tanks, fed from roof runoff to ensure pre-vs-post affects are not passed onto downstream sites.

The current zoning allows a permitted site coverage of 12.5%, its proposed to gain LandUse Consent for 20% site coverage a detailed mitigation report titled "Attenuation Report Lot 2 DP 543664 39 Riddell Road Kerikeri dated 19/12/2025" has been completed by Cook Costello to demonstrate compliance.

Assessments that of the approx. average 3,000m² lots, that 600m² of impervious area, will be limited for dwellings, shed/garage and paved surfaces. Modelling has confirmed that in the 10 yr and 100 yr events are provided for, utilising 30,000 litre tanks with orifices and overflow pipes similar to the example attached.

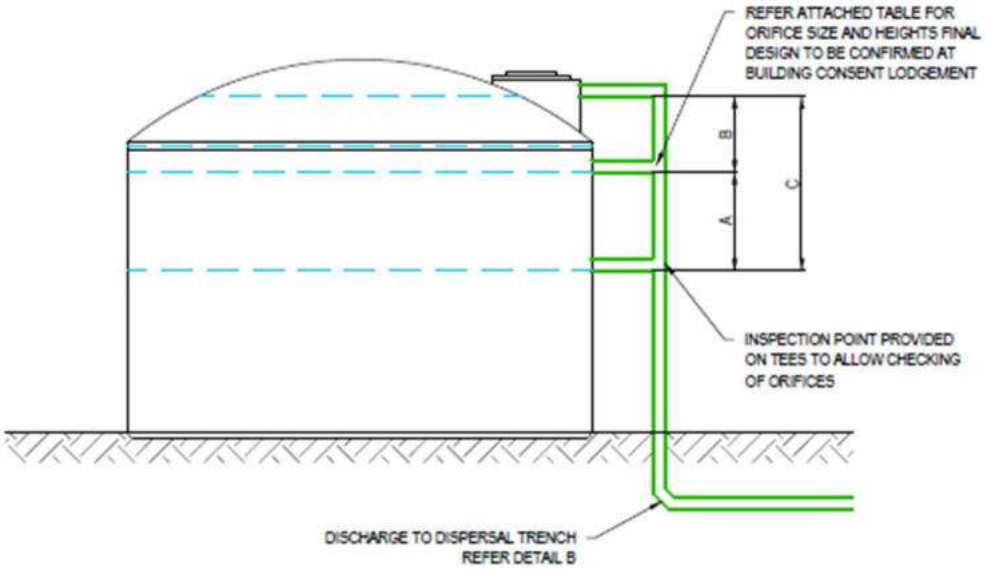


Figure 5 Example of the Promax 30,000L roof-fed rainfall attenuation tank

5.3. FLOODING

Far North and Northland Regional Council flood maps do not identify that the site and surroundings are flood-prone, within a flood plain or flood sensitive areas for the proposed development (Figure 7).

We have completed a detailed assessment of both overland flowpaths and flooding for the subject site this can be found within Flood Report 39 Riddell Road, Kerikeri dated December 2025 Revision E.

This report details the identified extents and minimum floor levels for lots adjacent to these features.

6. THREE WATERS

The following provides a summary of the three-water engineering considerations for the development of this Site. NZS 4404:2010 Land Development and Subdivision Infrastructure established design and construction standards for both stormwater and wastewater disposal, requiring the development to provide appropriate means for the disposal of stormwater, wastewater and water for fire supply and potable drinking water.

6.1. STORMWATER

6.1.1. Existing Site Drainage

The majority of site is currently in mature grazed grassland with an open pond and adjacent wetland. The site drains towards the tributary of the Wiroa Stream is located 2km north-east of the site.

Slopes on the lots being created are slight to moderate (up to 10%). Steeper slope (up to 20%) is present on lot 18 in proximity to the pond.

Stormwater for the JOAL's is collected in swales or water tables before being directed into the central valley.

6.1.2. Proposed stormwater management

Cook Costello have provided a Stormwater Attenuation Report summarising site investigation of potential infiltration and soakage rate for direct disposal of rainwater-runoff as poor. As such high-rate disposal to ground has been ignored in this design.

LandUse consent is sought to increase site coverage for each lot to 20% as the lots will have onsite mitigation to limit 5, 10 and 100yr flows to 80% of pre-development levels as required by the Far North Engineering Standards version 0.6 issued May 2023.

Low impact design is being used with the following proposals:

- Grass swales to provide some infiltration and also treatment;
- Re-vegetative planting which will reduce overall runoff volumes from the development when compared to pasture, and;
- Accessways widths are being keep to a minimum to allow more landscaping and mitigate site coverage.

All allotments shall be provided, within their net area a means for the disposal of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces, in such a way to avoid or mitigate any adverse effects of stormwater runoff on receiving environments, including downstream properties.

Each proposed lot will have onsite attenuation and final discharge post controls will be via a subsurface dispersal trench, in accordance with engineering COP 4.2.5, which will be dispersed at <2 litres/sec/m. For example, the peak discharge of 12 l/s would require a 6m linear length of dispersal trench.

As this application creates sites 2ha or less, a detailed report from a Chartered Professional Engineer is provided addressing stormwater disposal as Appendix E.

We propose to control discharge flow rate to match or be less than pre-development flows in the post-development scenario designed in accordance with the onsite control practices as contained in "Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003).

We can confirm that from modelling that the discharge of stormwater does not cause or increase flooding of land on another property in a storm event of up to and including a 10% Annual Exceedance Probability (AEP) or flooding of buildings on another property in a storm event of up to and including a 1% AEP. On site attenuation and re-use on each new lot will be required to limit discharges to pre-development flows.

Cook Costello have produced a Stormwater Attenuation report (attached as Appendix H) to address methods of rainwater-runoff collection, attenuation and discharge, which is appended. This report provides guidance for future Building Consent applications, to address site-specific pre vs post development design coverage and to provide scenario of total roof and paved surface imperviousness and using a Promax 30m³ tank of 3.78mØ, and 3.12m high, resulting in attached orifice calculations and dimensions.

6.1.2.1. Council Engineering Standards 2023

The FNDC Engineering Standards have recently been updated, and Council is encouraging their use. The pertinent sections relating to stormwater management have been reviewed during the design.

The primary stormwater system shall be capable of conveying 10% AEP design storm events without surcharge (see Section 4.3.9 Hydrological Design Criteria).

The design proposes that all dwellings are required to provide for hydraulic neutrality by way of roof-fed rainfall-runoff tanks for each dwelling, with site-specifically designed orifices, presented at time of Building Consent (BC).

Hydrological balance can be partly maintained by limiting the maximum rate of discharge and peak flood levels for post-development to that at pre-development levels and enabling infiltration to minimise impacts on base flow and ground water recharge. Cook Costello's report confirmed those aspects from "Mike +" software.

Peak flow management can be achieved using detention storage, utilising extended duration, for the duration of a limited peak flow event.

No FNDC watercourses are located within 500m.

All new dwellings shall provide attenuation using rainwater re-use tanks.

6.1.3. Impermeable Surfaces

The proposed subdivision provides for rural-residential development. It is anticipated that houses when they are built will be of a similar scale to the existing residential / lifestyle development in other rural-residential land in the area.

Typical impermeable surfaces on the lots (including rights of way) when they are developed are estimated for a 3,000m² site as a maximum of 600m² of impervious surfaces (roof and paved surfaces) which equates to no more than 20%.

To allow future owners to construct a typical house, driveway and associated garden sheds, we request that site coverage for the lots shall be increased to permit 20% site coverage with a detailed engineering assessment toolbox. A typical example as attached.

6.1.4. Proposed Stormwater Management

Stormwater management within the proposed subdivision is designed to control stormwater flows, reduce scour and ensure compliance with District and Regional Plan rules.

- JOAL 2 and 5 have portions where grade is more than 10%. In these locations, runoff will be redirected and discharged to the natural discharge location to reduce lengthy swales that may produce scour. Mechanical soil reinforcement will also be used to protect the soil veneer from high velocities.
- To receive the maximum treatment benefits from overland flow, concentrated stormwater from rain tanks shall be dispersed via a spreader bar device onto a gently sloping grassed or well vegetated surface. Refer example rainwater details appended.
- Rainwater collection tanks on each lot for domestic water supply, with overflows piped to dispersal outlets.
- For JOAL's and private driveways we have designed grass lined swales.

6.2. STORMWATER TREATMENT

Trafficable areas proposed in the development will be treated through a mix of swales where gradients permit or raingardens along the accessways and across the landform.

An existing decorative pond and adjacent wetland feature will remain within the central-eastern portion of the site.

6.3. WASTEWATER

A decentralised on-site wastewater treatment and effluent disposal solution is proposed for all new lots. An example of design for Lot 4 (existing dwelling) is provided as Appendix D.

Infiltration testing has been performed by Cook Costello, which has been used for soil classification. An example design has been produced for the replacement of the existing treatment and disposal system for the existing dwelling on proposed Lot 4, as the existing septic tank and effluent trenches for this dwelling are located within proposed Lot 5.

6.3.1. Regulatory Framework

The discharge of wastewater effluent to land is regulated by the permitted activity.

Our conceptual design example has provided for the on-site system is designed and constructed in accordance with the TP58 and Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and the volume of wastewater discharged does not exceed two cubic metres per day, and providing for wastewater that

has received secondary treatment to be discharged via a trench or bed system in soil categories 3 to 5 that is designed in accordance with Appendix L of AS/NZS 1547:2012; or an irrigation line system that is dose loaded and covered by a minimum of 50mm of topsoil, mulch, or bark.

6.4. WATER

6.4.1. Potable Water Supply

There is no public water supply available at the site.

While supply is provided to the rural pasture by Kerikeri Irrigation Co, this is not proposed to be used for dwellings.

Domestic water supply is proposed to be provided by roof runoff collected in storage tanks.

6.4.2. Fire Fighting

Council Engineering Standards and Fire and Emergency NZ (FENZ) require a water supply that is adequate for firefighting purposes. Where there is no reticulated water supply, then each residential lot will be responsible for providing adequate on-site firefighting supply.

We understand that an alternative approval can be sought, where a dwelling is less than 200m² (or in other conditions, less than 300m²) without additional risk can be made by FENZ. We attach emailed correspondence from FENZ (Appendix E) confirming 10,000 litres storage for each dwelling is accepted. A platform will be provided to ensure that a FENZ pump can sit with no more than 1.5m height to the tank lid is achieved.

An example design layout has been attached, showing triple 30m³ water tanks interconnected to provide both domestic potable supply and 10m³ storage for fire suppression with an elevated tank for FENZ access to the tank lid.

7. OTHER SERVICES

Network utilities are present in the vicinity of the site and currently service the underlaying lots. Initial consultation has confirmed each operator has sufficient capacity to service the development. We are currently working through initial consultation and design.

Chorus has existing fibre and copper services adjacent to the site.

Top Energy has an existing transformer package located outside the site and has confirmed that network capacity exists to serve the development.

Kerikeri Irrigation Ltd notes the proximity of their water pipeline in the southern berm of Riddell Road with water for Irrigation purposes only.

8. CONCLUSIONS

The site is in stable rural pasture with no identified areas of instability or concern. The proposed earthworks will be done progressively with the appropriate sediment controls in place, to ensure no sediment runoff to existing watercourse occurs.

The proposed internal private accessways have been designed to ensure appropriate grades and sight distances are maintained, surface water control and overland flow paths have been considered and safe access provided in event of flooding.

Overland flow and flooding across the site have been checked to ensure that house platforms, accessways and culverts all provide the necessary freeboard and safe access.

Stormwater has been carefully designed to ensure that regular and extreme events are carefully designed to have overland flow paths to convey flows. The proposed private accessways will all have shallow swales along each side providing a degree of water quality treatment. No specific devices are proposed within residential lots.

Wastewater from each dwelling will be treated and disposed to ground by an individual de-centralised plant for the dwelling, with final design and details covered under a regional discharge consent. The system will ensure the final effluent is of high-quality, complying with New Zealand Standards.

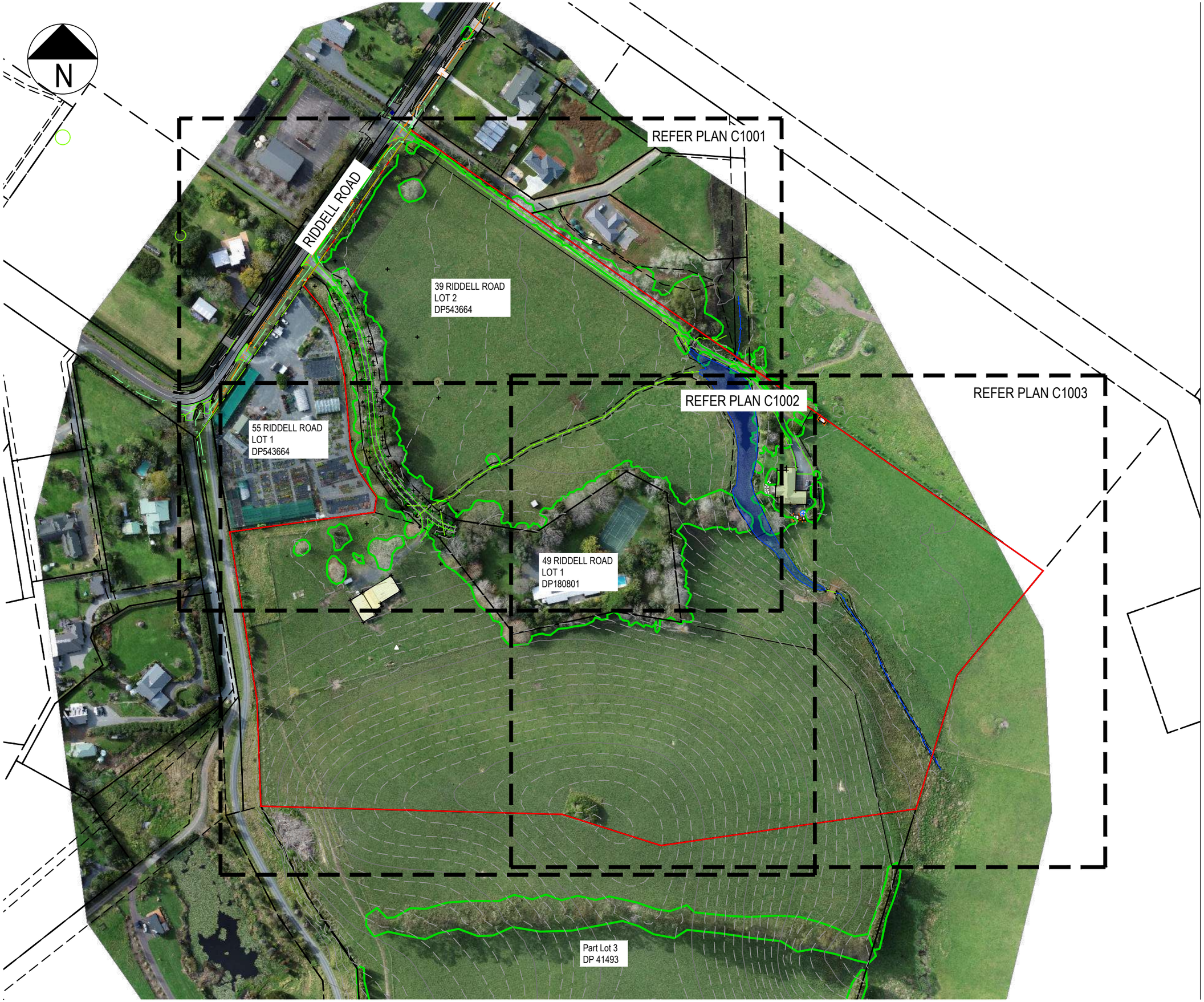
Potable water supply will be provided by way of roof-fed water tanks, to service each dwelling. Firefighting will be provided by having sufficient storage within each lot as per FENZ requirements (see Appendix J email).

Telecommunications and power network providers have confirmed there is capacity in the network and agreements and works required are currently being designed/agreed.

The information gathered to-date confirms the site and associated infrastructure, is suitable for the proposed development to be fully serviced.

9. APPENDICES

Appendix A – Topographical Survey



NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. Origin of levels = Code C30D Name RM 58 SO 55465
   - Northing 982430.570
   - Easting 326338.700
   - Elevation 57.74
5. Boundaries are subject to final survey.

LEGEND

- EX BDY
- EX EASEMENT
- EX TITLE BDY (RT)
- EX SITE EXTENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX WASTEWATER
- EX STORMWATER
- EX WATER MAIN (W)
- EX GAS (GAS)
- EX POWER (P)
- EX OVERHEAD POWER (OH)
- EX TELECOM (T)
- EX TOP OF BANK
- EX FENCE
- EX BUILDING
- EX POND

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Overview Topographical Survey of 39 Riddell Road

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	10/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		DW	10/25

Project no.	10401		
Scale	1:2000 @ A3		
Cad file	10401 RIDDELL TOPO.DWG		
Drawing no.	C1000	Rev	A

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conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited Riddell Road Kerikeri

Topographical Survey of 39 Riddell Road Sheet 1 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	10/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		DW	10/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL TOPO.DWG		
Drawing no.	C1001	Rev	A

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- EX BDY
- EX EASEMENT
- EX TITLE BDY (RT)
- EX SITE EXTENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX WASTEWATER
- EX STORMWATER
- EX WATER MAIN (W)
- EX GAS (GAS)
- EX POWER (P)
- EX OVERHEAD POWER (OH)
- EX TELECOM (T)
- EX TOP OF BANK
- EX FENCE
- EX BUILDING
- EX POND

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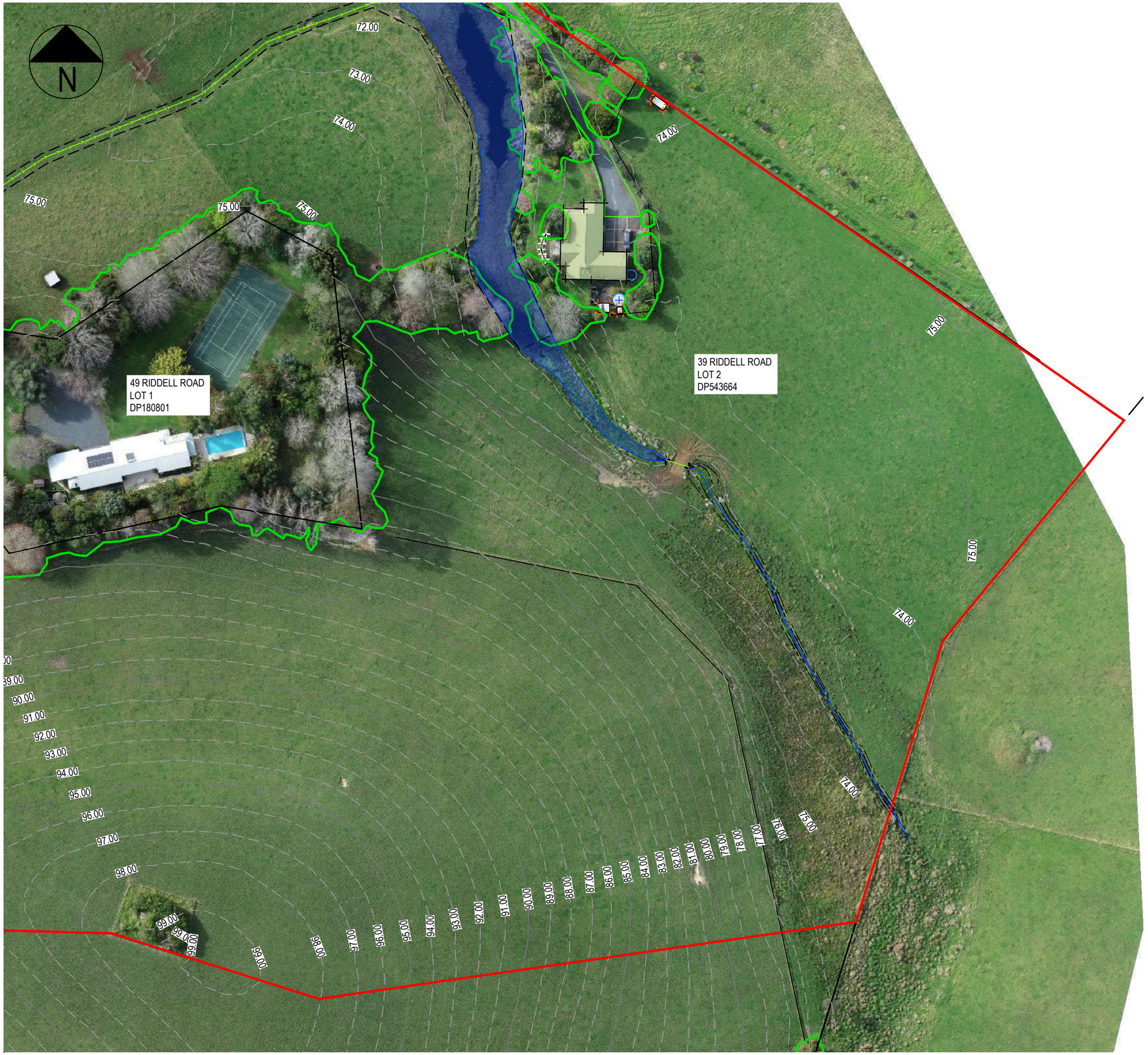
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi
Limited
Riddell Road
Kerikeri

Topographical Survey
of 39 Riddell Road
Sheet 2 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	10/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		DW	10/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL TOPO.DWG		
Drawing no.	C1002	Rev	A



NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. Origin of levels = Code C30D Name RM 58 SO 55465

Northing	982430.570
Easting	326338.700
Elevation	57.74

5. Boundaries are subject to final survey.

LEGEND

- EX BDY
- EX EASEMENT
- EX TITLE BDY
- EX SITE EXTENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX WASTEWATER
- EX STORMWATER
- EX WATER MAIN
- EX GAS
- EX POWER
- EX OVERHEAD POWER
- EX TELECOM
- EX TOP OF BANK
- EX FENCE
- EX BUILDING
- EX POND

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Taraire Tahi
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Topographical Survey
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Sheet 3 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	10/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		DW	10/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL TOPO.DWG		
Drawing no.	C1003	Rev	A

Appendix B - Engineering Plans

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.
8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PR SITE EXTENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX BUILDING
- EX POND
- EX-NATURAL WETLAND
- PR-FLOWPATH 100YR
- PR-10m RIPARIAN SETBACK
- PR-EXTENT 100YR
- PROP EXTENT WORK
- PROP CLEANWATER
- PROP DIRTYWATER
- PROP SILT FENCE
- PROP STOCKPILE
- PROP DECANT
- PROP DECANT BAR

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
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Overview Proposed Earthworks and Sediment Control Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:2000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2000	Rev	A

N

WORKS WITHIN EXISTING ACCESSWAY AREA TO BE COMPLETED AS FOLLOWS:

1. CONTRACTOR TO PROGRESSIVELY TRIM AND METAL SECTIONS IN MAXIMUM LENGTH OF 40m PER DAY
2. SWALES SHALL BE FORMED AS PART OF TRIMMING AND USED AS DIRTY WATER DRAINS
3. WORKS SHALL ONLY BE UNDERTAKEN WHEN FORECAST SHOWS NO RAIN FOR 3 CONSECUTIVE DAYS OR MORE

EXISTING CROSSING USED AS STABILISED ENTRANCE FOR ACCESS TO SITE

EXISTING CROSSING USED AS STABILISED ENTRANCE FOR ACCESS TO SITE

RIDDELL ROAD

CATCHMENT 1
2304m2

JOAL 1

CLEANWATER CUTOFF BUND ALONG HIGHSIDE OF WORKS

LOT# 1

LOT# 9

LOT# 2

TOPSOIL STOCKPILE

CARE TAKEN WORKING UNDER EXISTING TREES ON DRIVEWAY

PROPOSED DEB 1
VOLUME (BASED 2% OF CA) = 46.42m3
BASE POND DIMENSIONS = 2.3m x 7m
BASE DEPTH = 1m
DECANT = 31 Holes

LOT# 10

LOT# 3

JOAL # 204

SWALE TRIMMING SHALL BE COMPLETED IN 20m SECTIONS STARTING AT LOWEST POINT AND WORKING UPWARDS ONLY WHEN FORECAST IS FOR 3 OR MORE CONSECUTIVE DAYS OF NO RAIN EACH SECTION SHALL BE TRIMMED/TOPSOILED AND STABILISED WITH COCONUT MATTING WITH SILT FENCE INSTALLED BELOW EACH SECTION BEFORE STARTING NEXT SECTION

PROPOSED SWALE FOR ACCESSWAY TO ACT AT DIRTY WATER CUTOFF FILTER SOCK INSTALLED AT 10m CENTRES TO ACT AS CHECK DAMS

55 RIDDELL ROAD
LOT 1
DP543664

JOAL 2

CLEANWATER CUTOFF BUND ALONG HIGHSIDE OF WORKS

LOT# 11

SILT FENCE ABOVE SWALE

CATCHMENT 5
542m2

CATCHMENT 8 (SWALE)
519m2

LOT# 13

CATCHMENT 4
1807m2

JOAL 3

JOAL # 203

CATCHMENT 4
257m2

TOPSOIL STOCKPILE FOR SWALE

2m WIDE x 0.2m HIGH GAP65 RAISED TABLE TO CUTOFF CATCHMENT AND DIVERT FLOW TO THE EAST

LOT# 14

PROPOSED CULVERT TO BE INSTALLED AS SWALE IS TRIMMED TO PROVIDE STABILISED ACCESS

LOT# 15

CATCHMENT 6 (SWALE)
505m2

TOPSOIL STOCKPILE FOR SWALE

JOAL # 202

49 RIDDELL ROAD
LOT 1
DP180801

CATCHMENT 9
828m2

SILT FENCE TO LOW SIDE OF PROP SWALE

LOT# 25

LOT# 26

LOT# 18

NOTES

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3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.
8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PR SITE EXTENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX BUILDING
- EX POND
- EX-NATURAL WETLAND
- PR-FLOWPATH 100YR
- PR-10m RIPARIAN SETBACK
- PR-EXTENT 100YR
- PROP EXTENT WORK
- PROP CLEANWATER
- PROP DIRTYWATER
- PROP SILT FENCE
- PROP STOCKPILE
- PROP DECANT
- PROP DECANT BAR

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Earthworks and Sediment Control
Sheet 1 of 4

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2001	Rev	A

EX LOT 1
DP543664

SWALE TRIMMING SHALL BE COMPLETED IN 20m SECTIONS STARTING AT LOWEST POINT AND WORKING UPWARDS ONLY WHEN FORECAST IS FOR 3 OR MORE CONSECUTIVE DAYS OF NO RAIN EACH SECTION SHALL BE TRIMMED/TOPSOILED AND STABILISED WITH COCONUT MATTING WITH SILT FENCE INSTALLED BELOW EACH SECTION BEFORE STARTING NEXT SECTION

SILT FENCE TO LOW SIDE OF JOAL

CATCHMENT 8 (SWALE)
519m2

LOT# 13

TOPSOIL STOCKPILE FOR SWALE

SILT FENCE TO LOW SIDE OF JOAL

CATCHMENT 4
1807m2

JOAL 3

JOAL# 203

CATCHMENT 4
257m2

LOT# 4

LOT# 14

2m WIDE x 0.2m HIGH GAP65 RAISED TABLE TO CUTOFF CATCHMENT AND DIVERT FLOW TO THE EAST

CATCHMENT 5
542m2

LOT# 15

CATCHMENT 6 (SWALE)
505m2

TOPSOIL STOCKPILE FOR SWALE

JOAL# 202

PROPOSED SWALE FOR ACCESSWAY TO ACT AT DIRTY WATER CUTOFF FILTER SOCK INSTALLED AT 10m CENTRES TO ACT AS CHECK DAMS

PROPOSED SEDIMENT RETENTION POND 1
VOLUME (BASED 3% OF CA) = 445m3
BASE POND DIMENSIONS = 10.7m x 32.2m
BASE DEPTH = 1m
DECANT = 198 Holes

49 RIDDELL ROAD
LOT 1 DP180801

LOT# 25

CATCHMENT 9
828m2

DIRTY WATER CUTOFF DRAIN

LOT# 18

SILT FENCE TO LOW SIDE OF PROP SWALE

SWALE PROGRESSIVELY CONSTRUCTED AND STABILISED USING COCONUT MATT IF REQUIRED TO PREVENT SCOUR

CATCHMENT 10
14845m2

LOT# 28

LOT# 27

PROPOSED SWALE FOR ACCESSWAY TO ACT AT DIRTY WATER CUTOFF FILTER SOCK INSTALLED AT 10m CENTRES TO ACT AS CHECK DAMS

LOT# 17

LOT# 19

TOPSOIL STOCKPILE

DIRTY WATER CUTOFF DRAIN

LOT# 20

JOAL 4

JOAL# 204

CATCHMENT 12
2495m2

LOT# 29

LOT# 30

LOT# 24

CLEANWATER CUTOFF BUND ALONG HIGHSIDE OF WORKS

LOT# 23

LOT# 22

LOT# 21

CLEANWATER CUTOFF BUND ALONG HIGHSIDE OF WORKS

PROPOSED DEB 3
VOLUME (BASED 3% OF CA) = 75.8m3
BASE POND DIMENSIONS = 2.6m x 13m
BASE DEPTH = 1m
DECANT = 34 Holes

CATCHMENT 11
2526m2

JOAL 5

SHEET FLOWS ACROSS PASTURE

DIRTY WATER CUTOFF DRAIN

NOTES

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4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.
8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PR SITE EXTENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX BUILDING
- EX POND
- EX-NATURAL WETLAND
- PR-FLOWPATH 100YR
- PR-10m RIPARIAN SETBACK
- PR-EXTENT 100YR
- PROP EXTENT WORK
- PROP CLEANWATER
- PROP DIRTYWATER
- PROP SILT FENCE
- PROP STOCKPILE
- PROP DECANT
- PROP DECANT BAR

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

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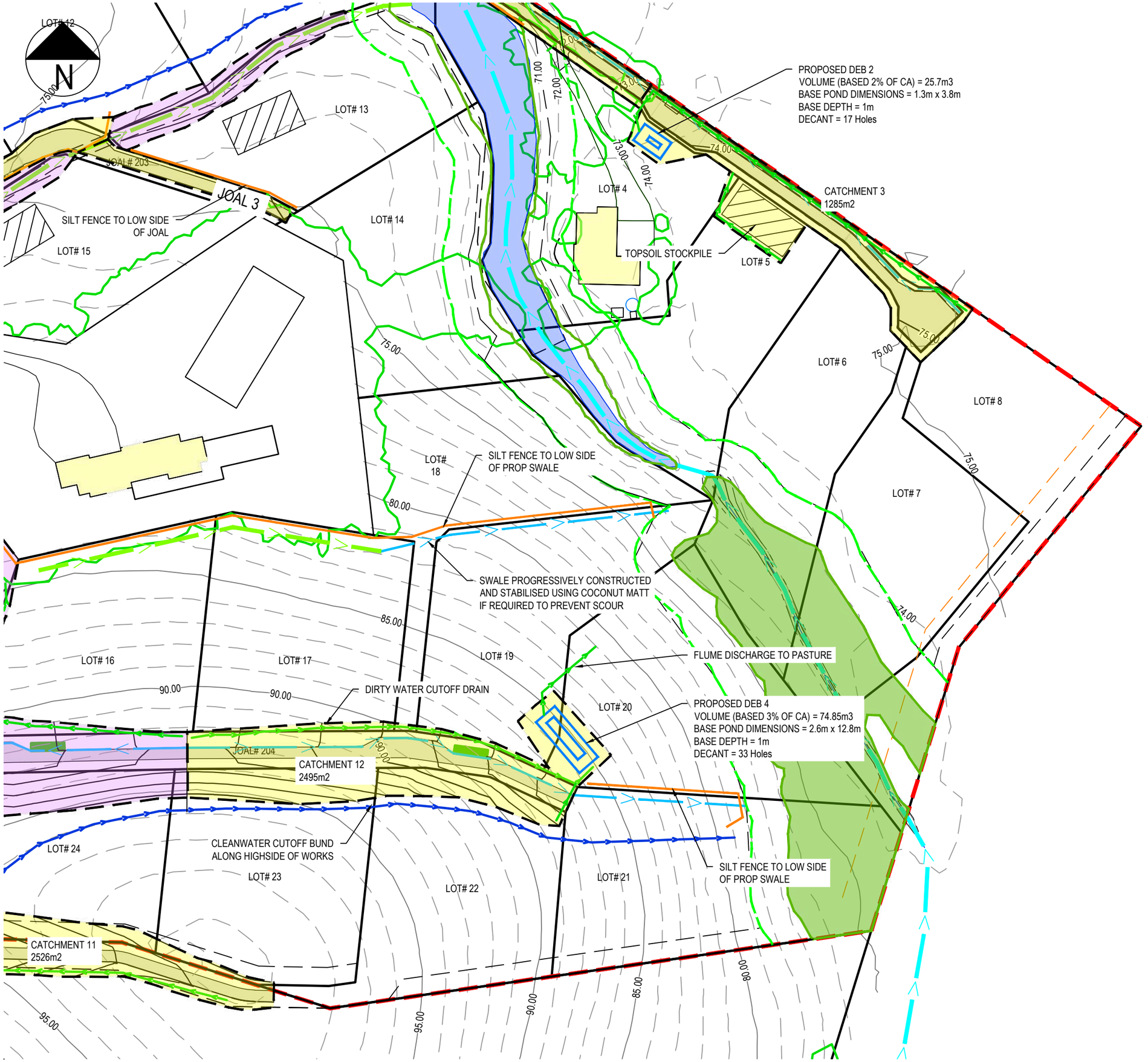
Riddell Road
Kerikeri

Proposed Earthworks and Sediment Control
Sheet 2 of 4

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2002	Rev	A



NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
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9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PR SITE EXTENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX BUILDING
- EX POND
- EX-NATURAL WETLAND
- PR-FLOWPATH 100YR
- PR-10m RIPARIAN SETBACK
- PR-EXTENT 100YR
- PROP EXTENT WORK
- PROP CLEANWATER
- PROP DIRTYWATER
- PROP SILT FENCE
- PROP STOCKPILE
- PROP DECANT
- PROP DECANT BAR

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

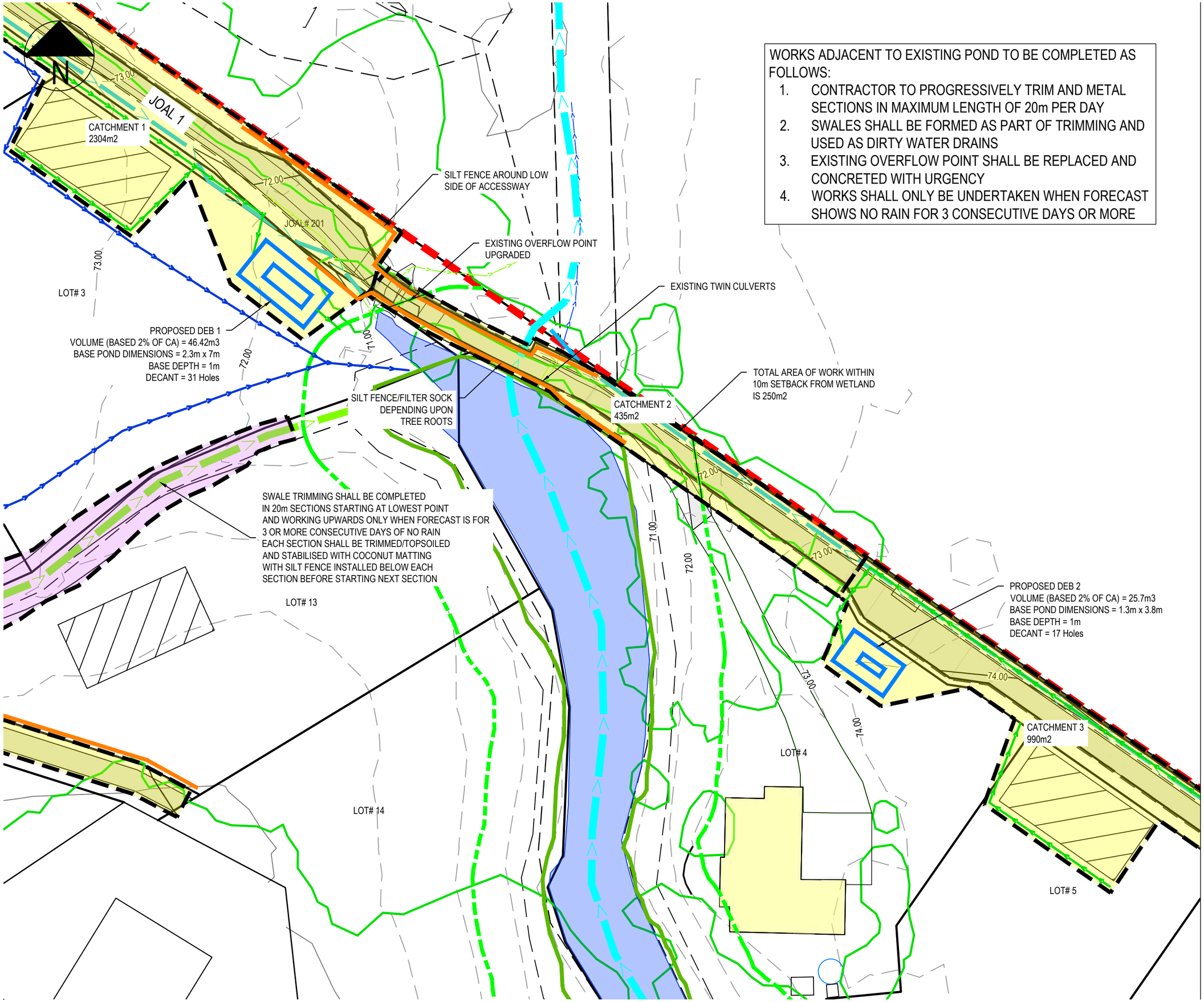
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Earthworks and Sediment Control

Sheet 3 of 4

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2003	Rev	A



WORKS ADJACENT TO EXISTING POND TO BE COMPLETED AS FOLLOWS:

1. CONTRACTOR TO PROGRESSIVELY TRIM AND METAL SECTIONS IN MAXIMUM LENGTH OF 20m PER DAY
2. SWALES SHALL BE FORMED AS PART OF TRIMMING AND USED AS DIRTY WATER DRAINS
3. EXISTING OVERFLOW POINT SHALL BE REPLACED AND CONCRETED WITH URGENCY
4. WORKS SHALL ONLY BE UNDERTAKEN WHEN FORECAST SHOWS NO RAIN FOR 3 CONSECUTIVE DAYS OR MORE

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.
8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PR SITE EXTENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX BUILDING
- EX POND
- EX-NATURAL WETLAND
- PR-FLOWPATH 100YR
- PR-10m RIPARIAN SETBACK
- PR-EXTENT 100YR
- PROP EXTENT WORK
- PROP CLEANWATER
- PROP DIRTYWATER
- PROP SILT FENCE
- PROP STOCKPILE
- PROP DECANT
- PROP DECANT BAR

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
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Proposed Earthworks and Sediment Control
Sheet 4 of 4

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:500 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2004	Rev	A

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.
8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PROP EXTENT WORK

Cut/Fill Table			
Number #	Minimum Elevation	Maximum Elevation	Color
1	-3.000	-2.000	
2	-2.000	-1.000	
3	-1.000	0.000	
4	0.000	1.000	
5	1.000	2.000	
6	2.000	3.000	
7	3.000	4.013	

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Taraire Tahi Limited
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Kerikeri

Proposed
Cut to Fill Plan
Sheet 1 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2101	Rev	A

NOTES

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4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
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8. Chemical Treatment Management Plan shall be completed prior to construction starting onsite, SRP shall have automatic dosing devices installed. DEB shall be manually dosed after rainfall events.
9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PROP EXTENT WORK

Cut/Fill Table

Number #	Minimum Elevation	Maximum Elevation	Color
1	-3.000	-2.000	
2	-2.000	-1.000	
3	-1.000	0.000	
4	0.000	1.000	
5	1.000	2.000	
6	2.000	3.000	
7	3.000	4.013	

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Contact: admin@conquel.co.nz
Phone: +64224914223

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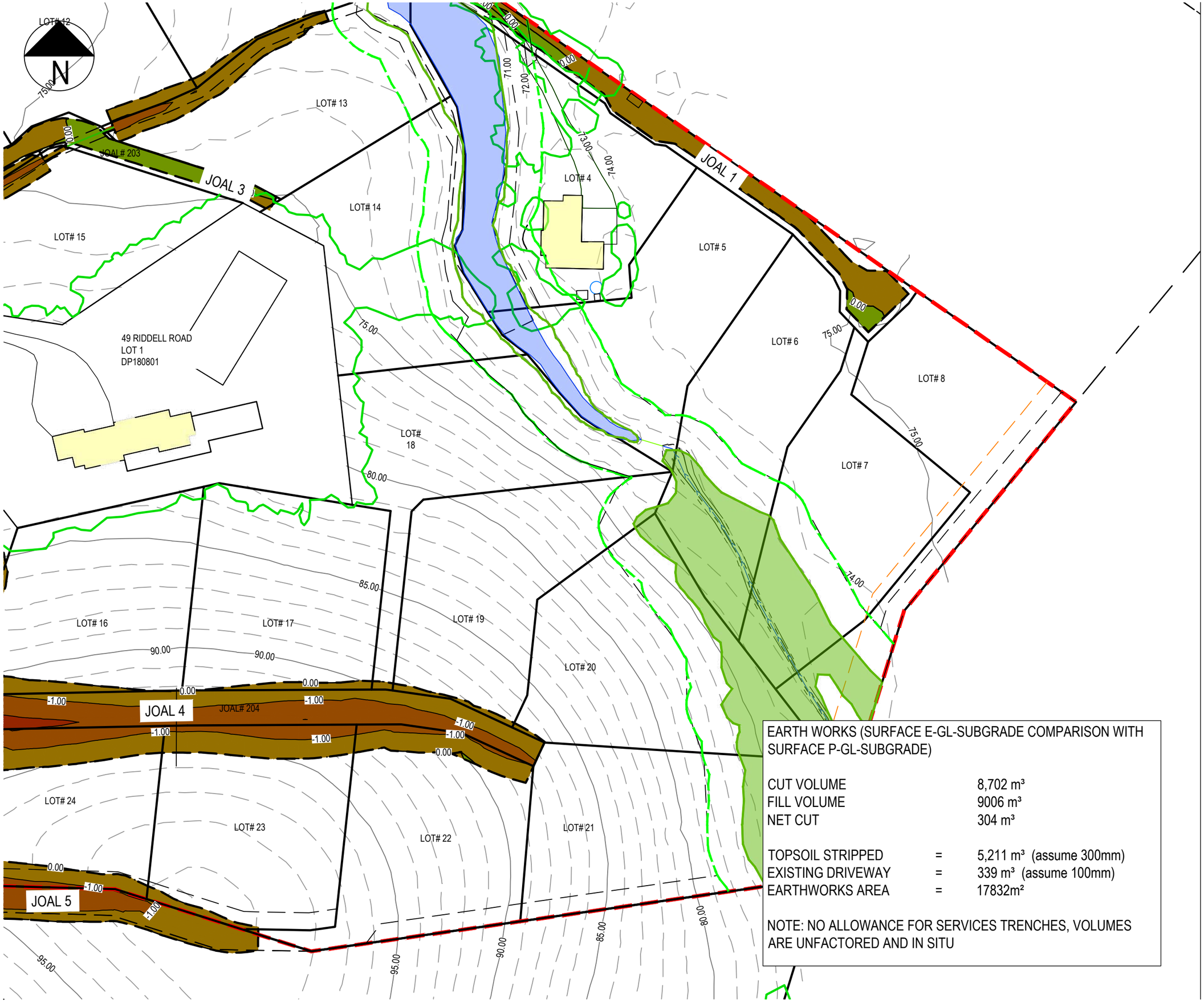
Proposed
Cut to Fill Plan
Sheet 2 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2102	Rev	A



EARTH WORKS (SURFACE E-GL-SUBGRADE COMPARISON WITH SURFACE P-GL-SUBGRADE)

CUT VOLUME		8,702 m³
FILL VOLUME		9006 m³
NET CUT		304 m³
TOPSOIL STRIPPED	=	5,211 m³ (assume 300mm)
EXISTING DRIVEWAY	=	339 m³ (assume 100mm)
EARTHWORKS AREA	=	17832m²

NOTE: NO ALLOWANCE FOR SERVICES TRENCHES, VOLUMES ARE UNFACTORED AND IN SITU

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
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9. Contours are at 1m intervals.

LEGEND

- EX BDY
- PROP BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR MAJOR CONTOUR
- PR MINOR CONTOUR
- PROP EXTENT WORK

Cut/Fill Table

Number #	Minimum Elevation	Maximum Elevation	Color
1	-3.000	-2.000	
2	-2.000	-1.000	
3	-1.000	0.000	
4	0.000	1.000	
5	1.000	2.000	
6	2.000	3.000	
7	3.000	4.013	

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Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Cut to Fill Plan
Sheet 3 of 3

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A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC EARTHWORKS.DWG		
Drawing no.	C2103	Rev	A

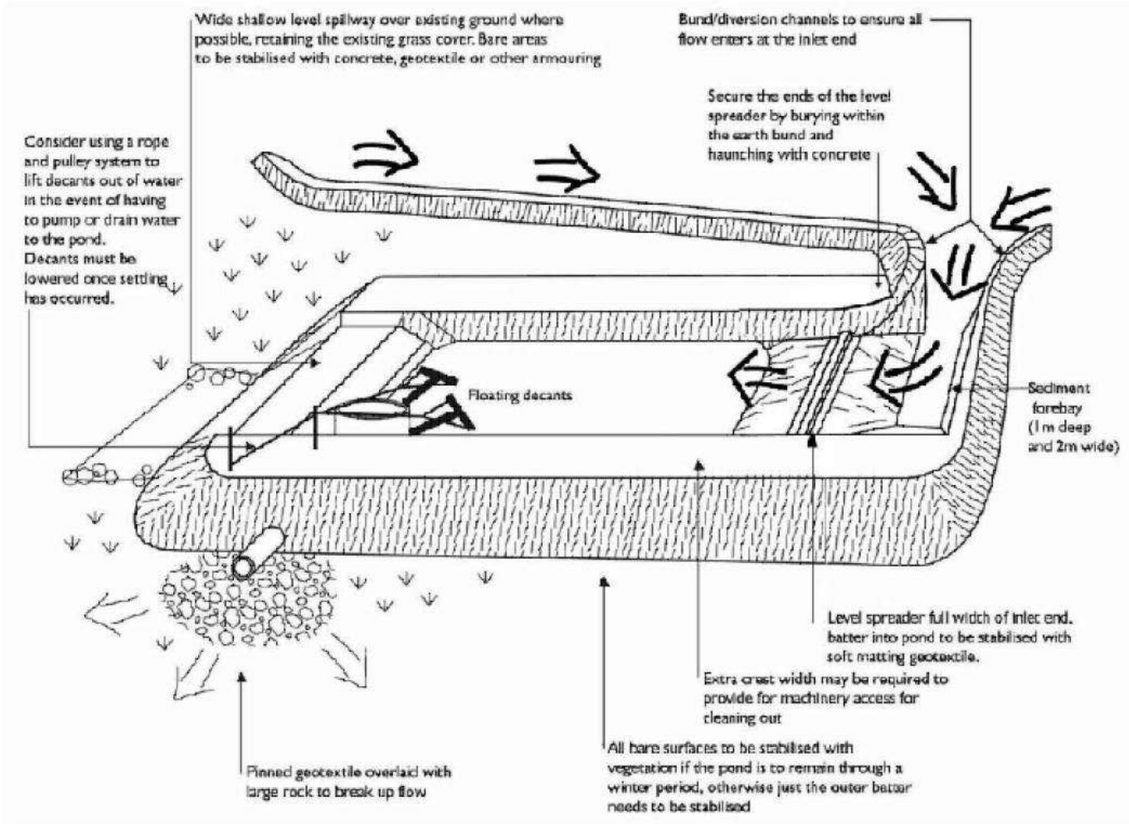

Figure 64: Schematic of a sediment retention pond

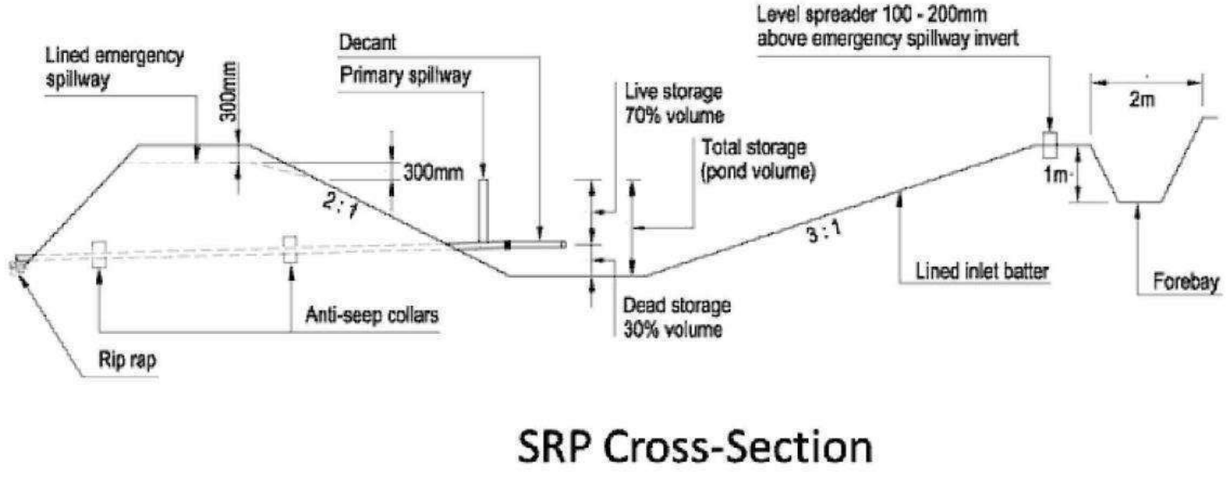

Figure 65: A sediment retention pond cross-section

NOTES

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2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- RT RT REFERENCE TITLE
- PR EASEMENT

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	12/25
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2300	Rev	A

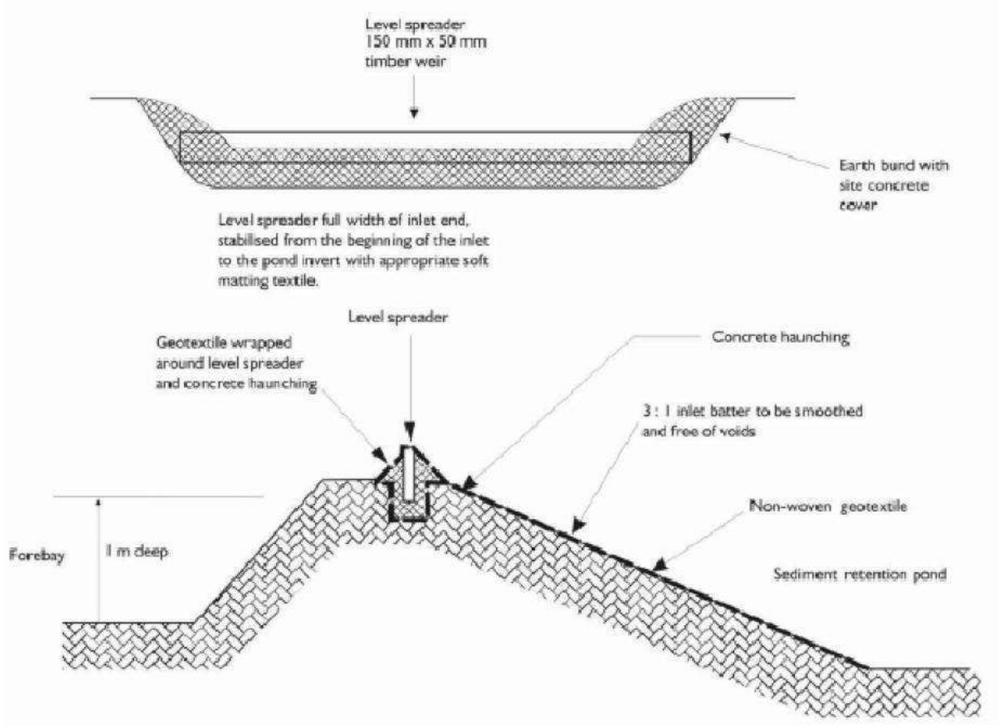

Figure 69: Level spreader

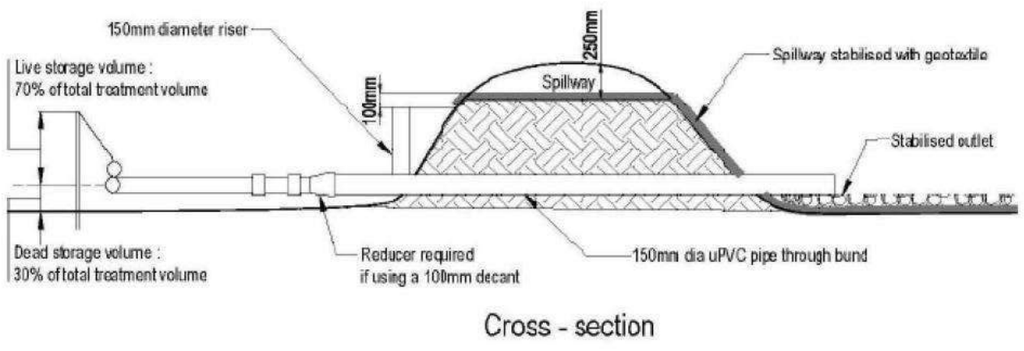

Figure 78: Decanting earth bund

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
3. The contractor shall comply with all relevant health and safety requirements.
4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- RT RT REFERENCE TITLE
- PR EASEMENT

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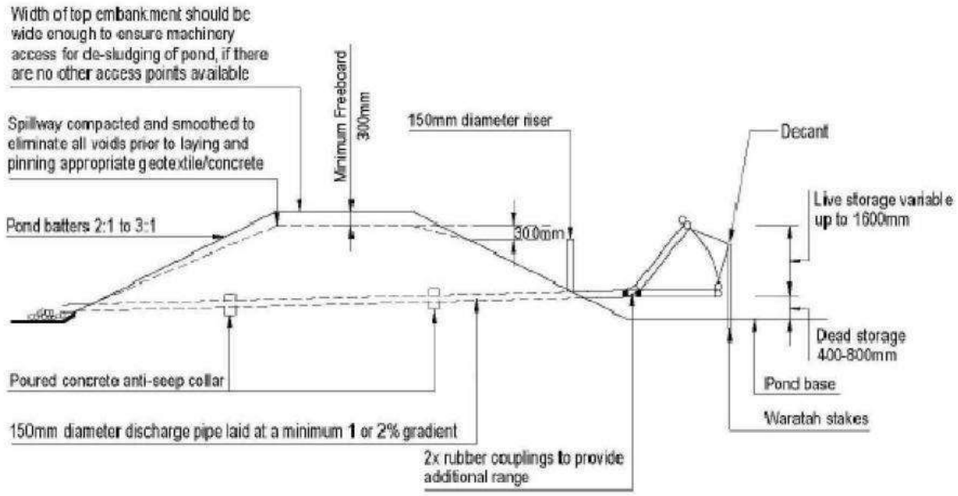
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

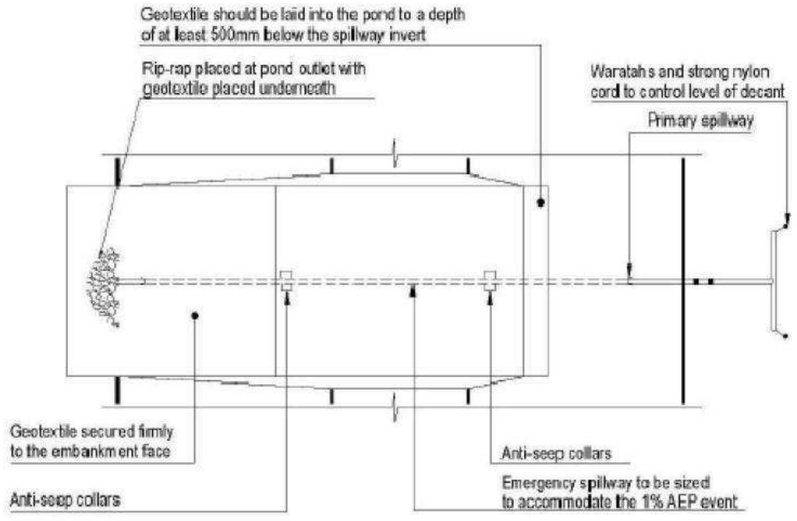
Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	12/25
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2301	Rev	A

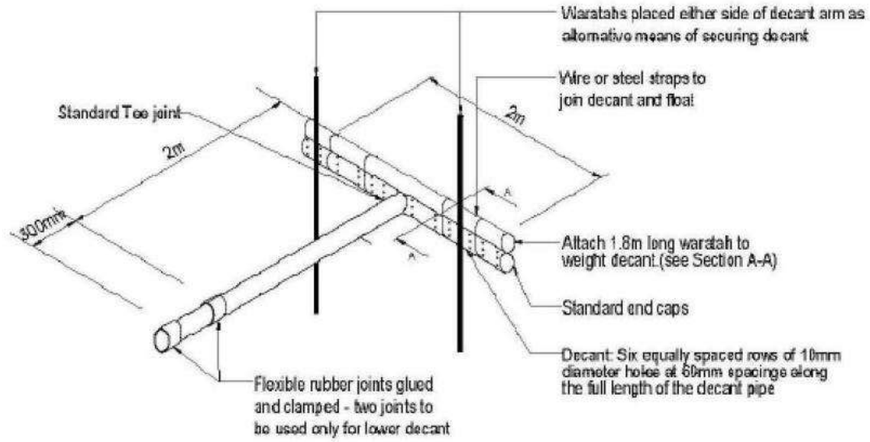


Cross - section



Plan

Figure 71: Sediment retention pond for <1.5 ha catchment



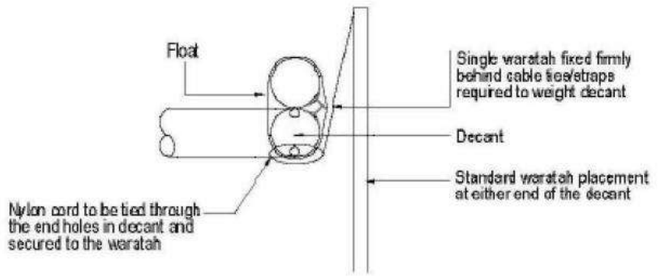


Figure 66: Schematic of standard T-bar design

NOTES

1. All works to be in accordance with Far North Council Standards.
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3. The contractor shall comply with all relevant health and safety requirements.
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5. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
6. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.
7. Sediment control to comply with GD05 standards.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- RT RT REFERENCE TITLE
- PR EASEMENT

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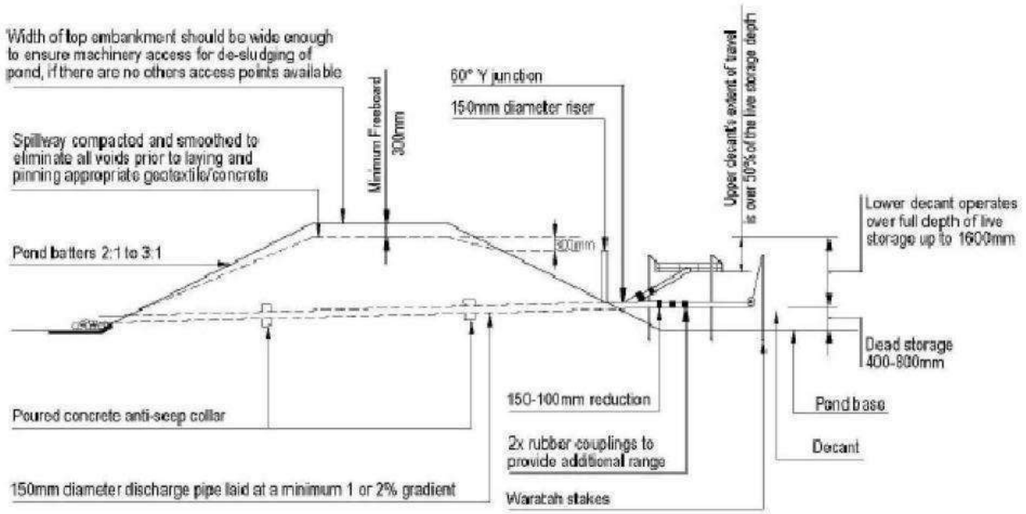
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

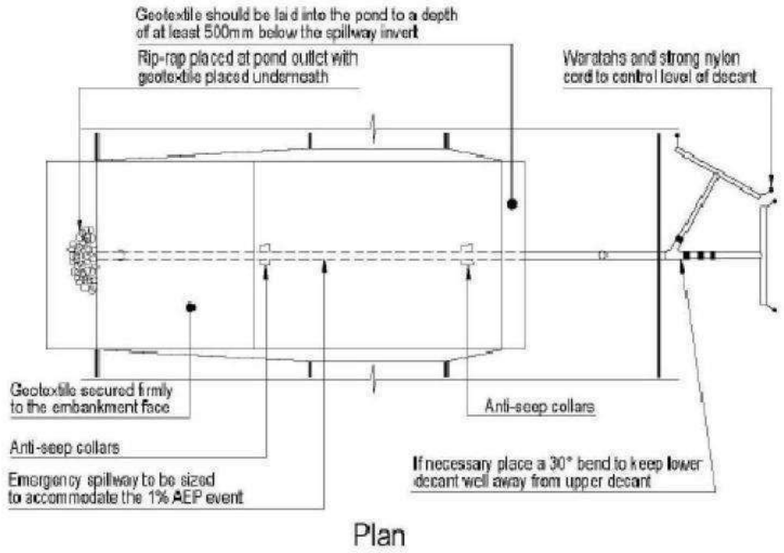
Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	12/25
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401
Scale	NTS
Cad file	10401 GD05 SEDIMENT DETAILS.DWG
Drawing no.	C2302 Rev A



Cross - section



Plan

Figure 72: Sediment retention pond for 1.5 to 3 ha catchment

NOTES

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate all services that may be affected by their operations.
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4. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
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LEGEND

- EX BDY
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- EX EASEMENT
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- PR EASEMENT

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Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
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Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2303	Rev	A

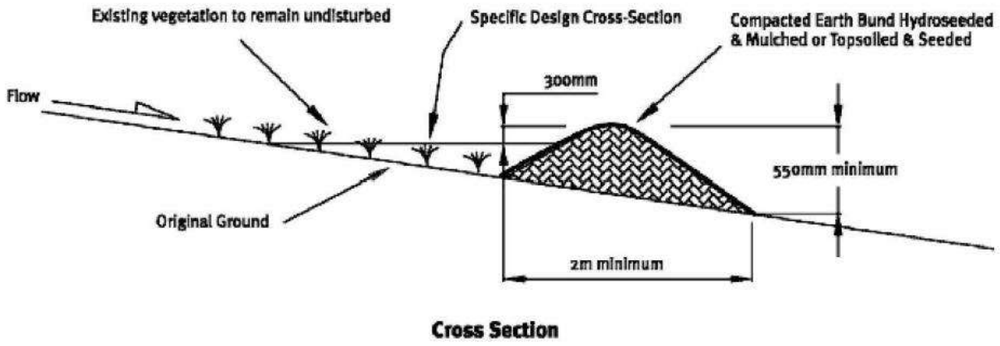

Figure 16: Cross-section of clean water diversion

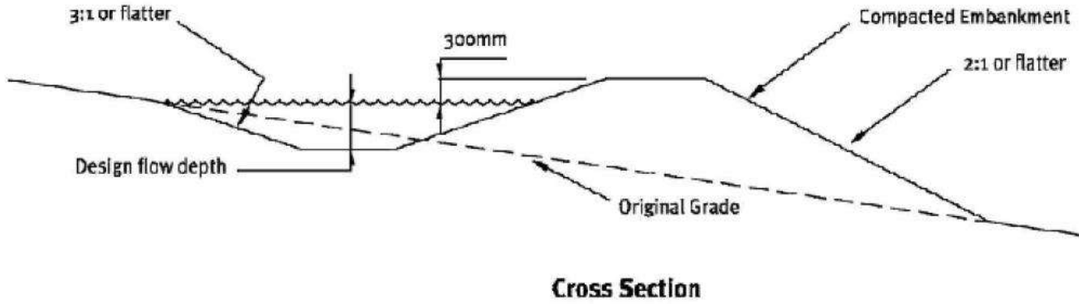

Figure 18: Cross-section of a dirty water diversion

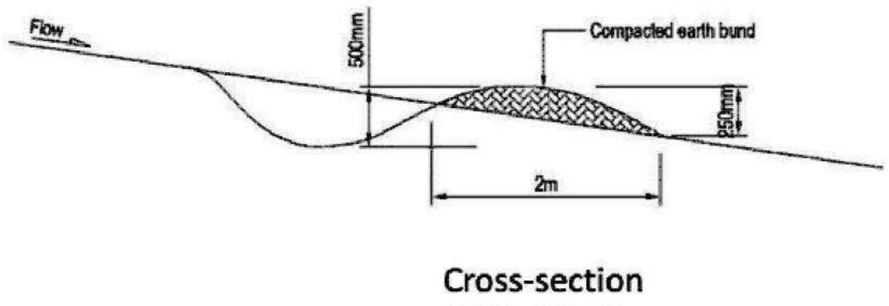

Figure 23: Contour drain cross-section

Table 4: Contour drain spacing

Slope of site (%)	Spacing (m) of contour drains
Less than 5%	50
5 - 10%	40
10 - 15%	30
15 - 30%	20

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LEGEND

EX BDY
PR BDY
EX EASEMENT
RT RT REFERENCE TITLE
PR EASEMENT

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	12/25
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2304	Rev	A

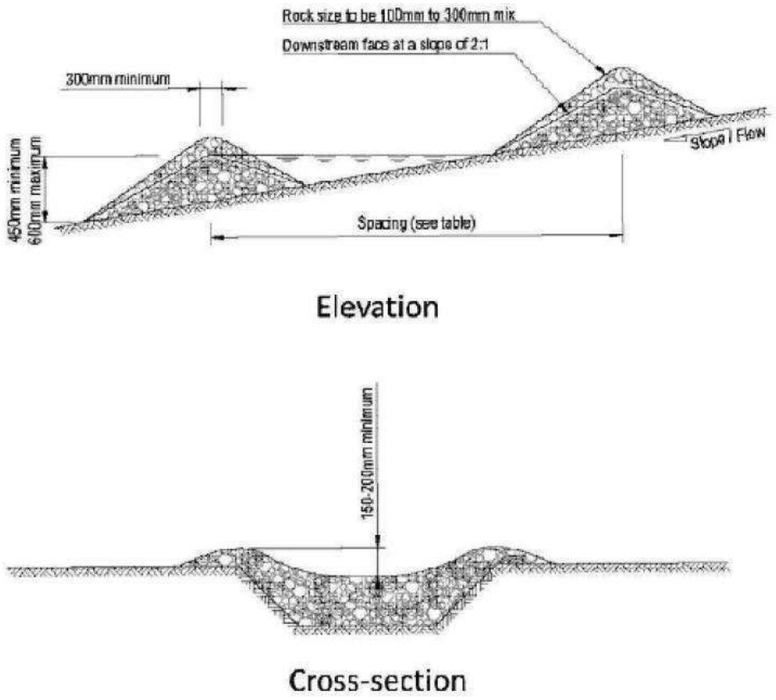

Figure 28: Rock check dam

Table 5: Positioning of check dams

Slope of site (%)	Spacing (m) between dams with a 450 mm centre height	Spacing (m) between dams with a 600 mm centre height
Less than 2%	24	30
2 - 4%	12	15
4 - 7%	8	11
7 - 10%	5	6
>10%	Unsuitable - use stabilised channel or specific engineered design	Unsuitable - use stabilised channel or specific engineered design

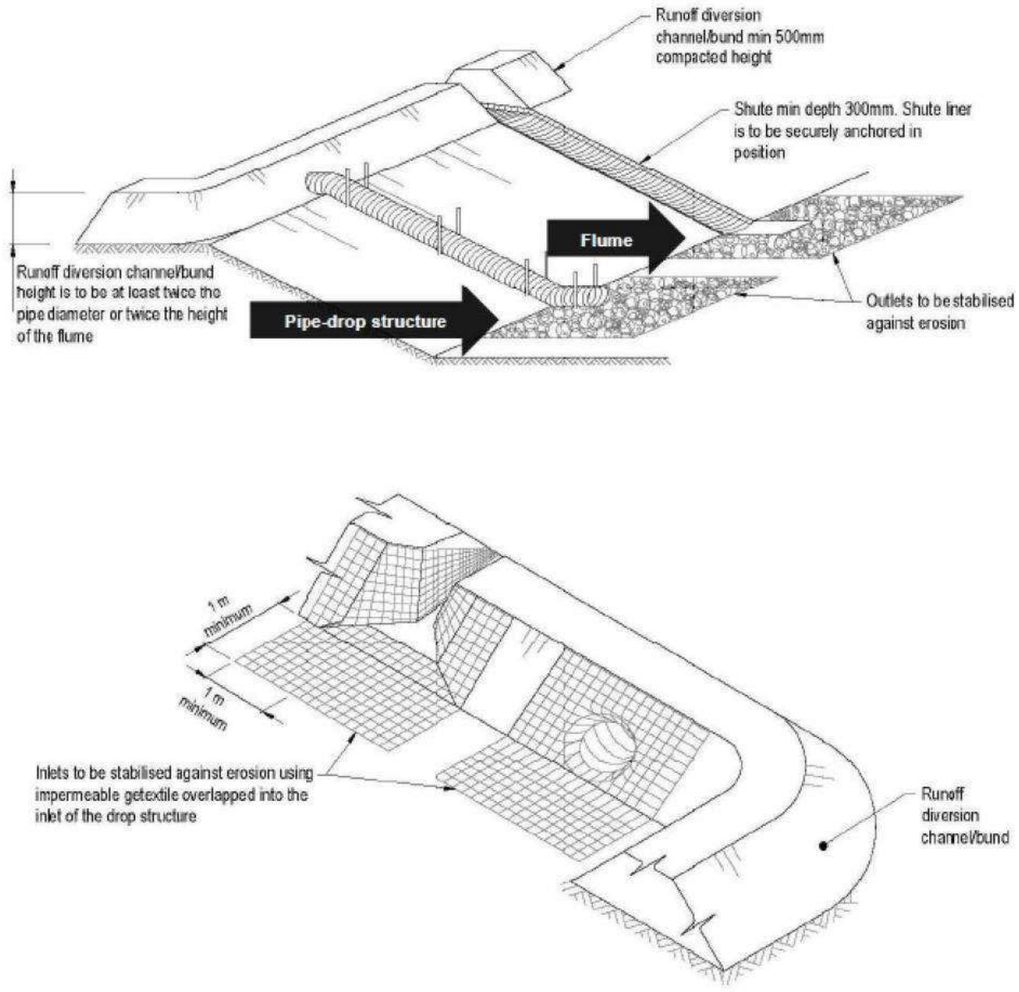

Figure 32: Pipe-drop structure and flumes

Table 6: Sizing criteria for pipe-drop structures

Pipe diameter (mm)	Maximum catchment area (ha)
150 mm	0.05 ha
300 mm	0.20 ha
450 mm	0.60 ha
600 mm	1.00 ha
Specific design required	>1.00 ha

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Kerikeri

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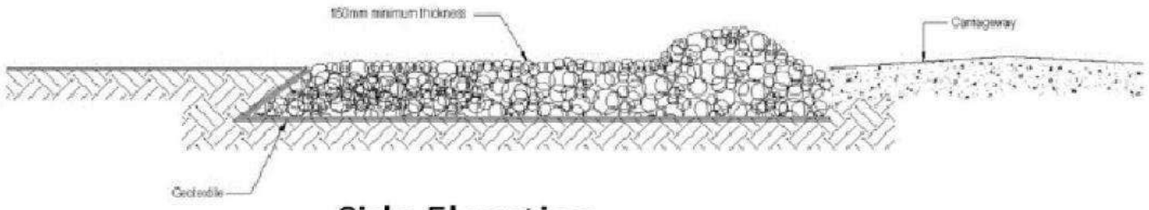
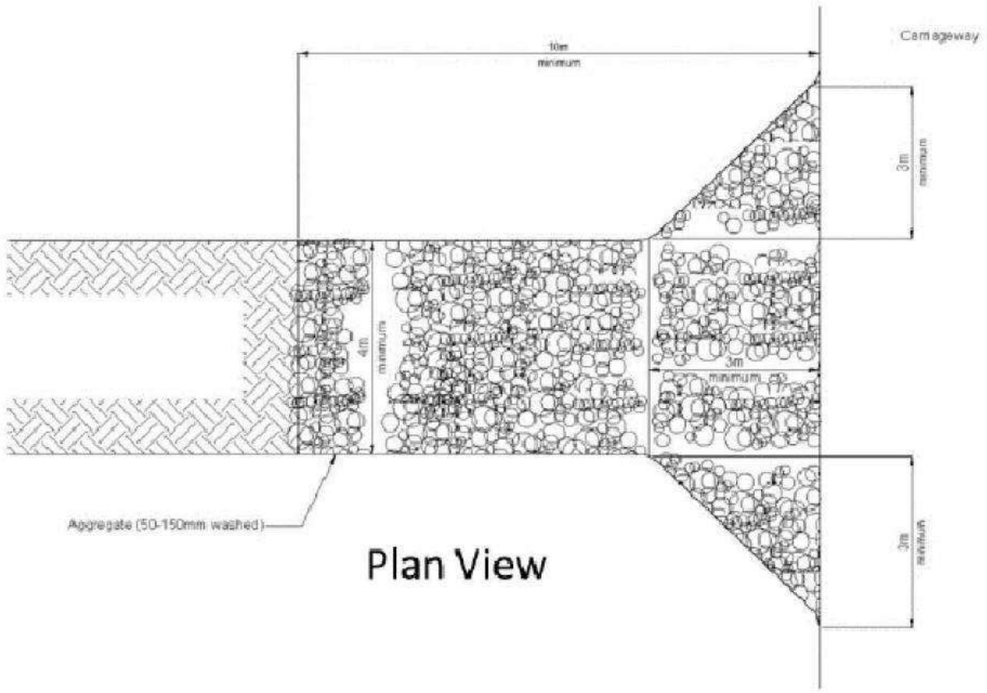
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2305	Rev	A



Side Elevation



Plan View

Figure 35: **Stabilised entranceway**

Table 8: Stabilised entranceway specifications

Design parameter	Specification
Aggregate size	50 - 150 mm washed aggregate
Minimum thickness	150 mm
Minimum length	10 m
Minimum width	4 m

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LEGEND

- EX BDY
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- PR EASEMENT

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	12/25
Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2306	Rev	A

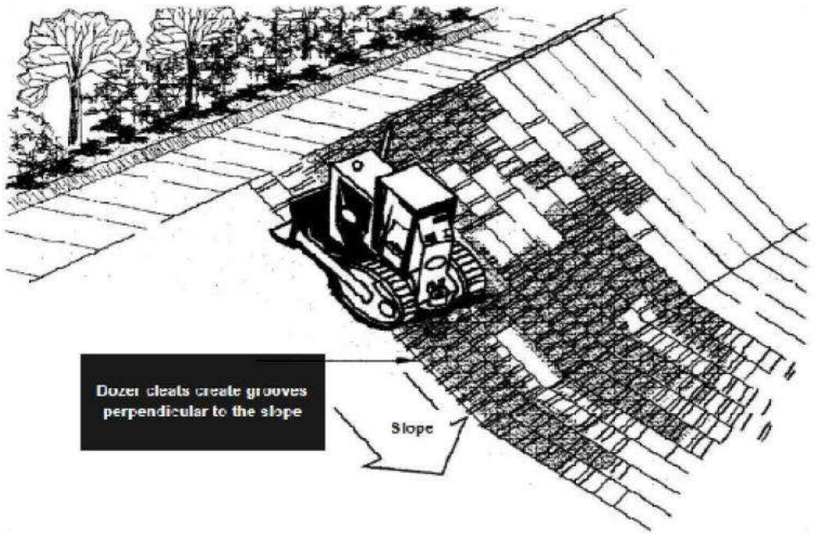

Figure 40: Surface roughening

NOTES

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LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- RT RT REFERENCE TITLE
- PR EASEMENT

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Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Erosion and Sediment Control Details Plan

No.	Revision (Description)	Name	Date
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Designed		TS	12/25
Drawn		GB	12/25
Checked		TS	12/25

Project no.	10401		
Scale	NTS		
Cad file	10401 GD05 SEDIMENT DETAILS.DWG		
Drawing no.	C2307	Rev	A

N

REFER PLAN C3001

REFER PLAN C3002

REFER PLAN C3003

REFER PLAN C3005-C3006

RIDDELL ROAD

55 RIDDELL ROAD
LOT 1
DP543664

49 RIDDELL ROAD
LOT 1
DP180801

JOAL 1

JOAL 2

JOAL 3

JOAL 4

JOAL 5

JOAL# 201

JOAL# 202

JOAL# 203

JOAL# 204

LOT# 1

LOT# 2

LOT# 3

LOT# 4

LOT# 5

LOT# 6

LOT# 7

LOT# 8

LOT# 9

LOT# 10

LOT# 11

LOT# 12

LOT# 13

LOT# 14

LOT# 15

LOT# 16

LOT# 17

LOT# 18

LOT# 19

LOT# 20

LOT# 21

LOT# 22

LOT# 23

LOT# 24

LOT# 25

LOT# 26

LOT# 27

LOT# 28

LOT# 29

LOT# 30

APPROVED 5 LOT SUBDIVISION
CONSENT REF # 2300464-RMACOM

NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
4. The contractor shall comply with all relevant health and safety requirements.
5. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
6. Final pavement design subject to cbr/beam tests on subgrade material.
7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
8. Refer to long section for finished centreline levels, refer to typical cross sections to obtain levels for other locations.
9. All ducts shall have locations marked on kerb lines in accordance with specification.

LEGEND

- EX BDY
- EX EASEMENT
- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Overview Proposed Accessway Layout Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:2000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3000	Rev	A

N

ROAD NAME SIGN
(PRIVATE - WHITE BACKGROUND)

NEW CROSSING FORMED TO ENGINEERING DETAIL 18 - RESIDENTIAL TO MATCH ADJACENT CHECK CONDITION OF EXISTING CULVERT

RIDDELL ROAD

ROAD NAME SIGN
(PRIVATE - WHITE BACKGROUND)

NEW ENTRY CONSTRUCTED TO SITE AS PER TRAFFIC ENGINEERS REPORT 300Ø CULVERT INSTALLED UNDER

1.5m FOOTPATH ALONG FRONT OF 39 & 55 RIDDELL ROAD AS PER RESOURCE CONSENT 2300464-RMACOM APPROVED JULY 2021 CONDITION 3A

ENTRY TO 55 RIDDELL ROAD

15m x 5.5m PASSING BAY

3m WIDE JOAL WITH
5.5m PASSING BAYS AT
100m INTERVALS
10m WIDE LEGAL WIDTH

15m x 5.5m PASSING BAY

JOAL 1

15m x 5.5m PASSING BAY

LOT# 1

LOT# 2

LOT# 3

LOT# 9

APPROVED S348 ROW ACCESS APPROVED CONSENT REF # 3002135-LGA348 PROVIDING 20m DEFINED LEGAL WIDTH TO 5 LOT SUBDIVISION

JOAL CONSTRUCTED WITHIN EXISTING TREE LINED DRIVEWAY
REFER LANDSCAPE PLANS FOR FULL DETAILS

CROWN LIFT EXISTING TREES TO PROVIDE 4.5m VERTICAL CLEARANCE TO FORMED ACCESSWAY

LOT# 12

EXISTING 100YR OVERFLOW POINT UPGRADED REFER FLOODING DRAWINGS FOR DETAILS AND CONSTRUCTION

ENGINEERED CULVERT FOR 10YR AND 100YR OVERLAND FLOWPATH

LOT# 11

LOT# 13

6m WIDE JOAL
20m WIDE LEGAL WIDTH
MATCHING APPROVED S348 CONSENT

55 RIDDELL ROAD
LOT 1
DP543664

JOAL 3

JOAL 2

LOT# 14

LOT# 15

ROAD NAME SIGN
(PRIVATE - WHITE BACKGROUND)
OR MOUNTED ON ENTRY WALL

ENGINEERED CULVERT FOR 10YR AND 100YR OVERLAND FLOWPATH

49 RIDDELL ROAD
LOT 1
DP180801

LOT# 25

LOT# 26

LOT# 18

NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
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7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
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9. All ducts shall have locations marked on kerb lines in accordance with specification.

LEGEND

- EX BDY
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- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

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Contact: admin@conquel.co.nz
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Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Accessway Layout
Sheet 1 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3001	Rev	A

55 RIDDELL ROAD
LOT 1
DP543664

CROWN LIFT EXISTING TREES TO PROVIDE 4.5m VERTICAL CLEARANCE TO FORMED ACCESSWAY

ENGINEERED CULVERT FOR 10YR AND 100YR OVERLAND FLOWPATH

15m x 5.5m PASSING BAY ON CORNER TO MAINTAIN SIGN LINES LOW POINT IN JOAL DESIGNED FOR 100YR OVERLAND FLOW

JOAL CONSTRUCTED WITHIN EXISTING TREE LINED DRIVEWAY
REFER LANDSCAPE PLANS FOR FULL DETAILS

3m WIDE JOAL WITH 5.5m PASSING BAYS AT 100m INTERVALS 6.45m WIDE LEGAL WIDTH

APPROVED S348 ROW ACCESS APPROVED CONSENT REF # 3002135-LGA348 PROVIDING 20m DEFINED LEGAL WIDTH TO 5 LOT SUBDIVISION

15m x 5.5m PASSING BAY

ROAD NAME SIGN
(PRIVATE - WHITE BACKGROUND)
OR MOUNTED ON ENTRY WALL

INSTALL NEW ENTRY TO SERVICE LOT 15 AND 49 RIDDELL ROAD 150mm 20MPa CONCRETE WITH 665 MESH CENTRAL

49 RIDDELL ROAD
LOT 1
DP180801

EXISTING ROOF OVER SHEEP PEN REMOVED FROM BUILDING

6m WIDE JOAL
20m WIDE LEGAL WIDTH
MATCHING APPROVED S348 CONSENT

ROAD NAME SIGN
(PRIVATE - WHITE BACKGROUND)
OR MOUNTED ON ENTRY WALL

APPROVED 5 LOT SUBDIVISION CONSENT REF # 2300464-RMACOM GAINS ACCESS THROUGH SUBJECT SITE

TURNING HEAD CONSTRUCTED TO AT STANDARD DETAIL GD005 TYPE E WHICH PROVIDES FOR 10.3m RIGID TRUCK

3m WIDE JOAL WITH 5.5m PASSING BAYS AT 100m INTERVALS 10m WIDE LEGAL WIDTH

3m WIDE JOAL WITH 5.5m PASSING BAYS AT 100m INTERVALS 7.5m WIDE LEGAL WIDTH

LEGAL ACCESS OVER PART LOT 3 DP 41493 CREATED UNDER S348 APPLICATION PROVIDING ACCESS TO LOTS 22-24

15m x 5.5m PASSING BAY

15m x 5.5m PASSING BAY

LOT# 11 LOT# 12 LOT# 13 LOT# 14 LOT# 15 LOT# 16 LOT# 17 LOT# 18 LOT# 19 LOT# 20 LOT# 21 LOT# 22 LOT# 23 LOT# 24 LOT# 26 LOT# 27 LOT# 28 LOT# 29 LOT# 30 LOT# 4

JOAL 2 JOAL 3 JOAL 4 JOAL 5

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- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

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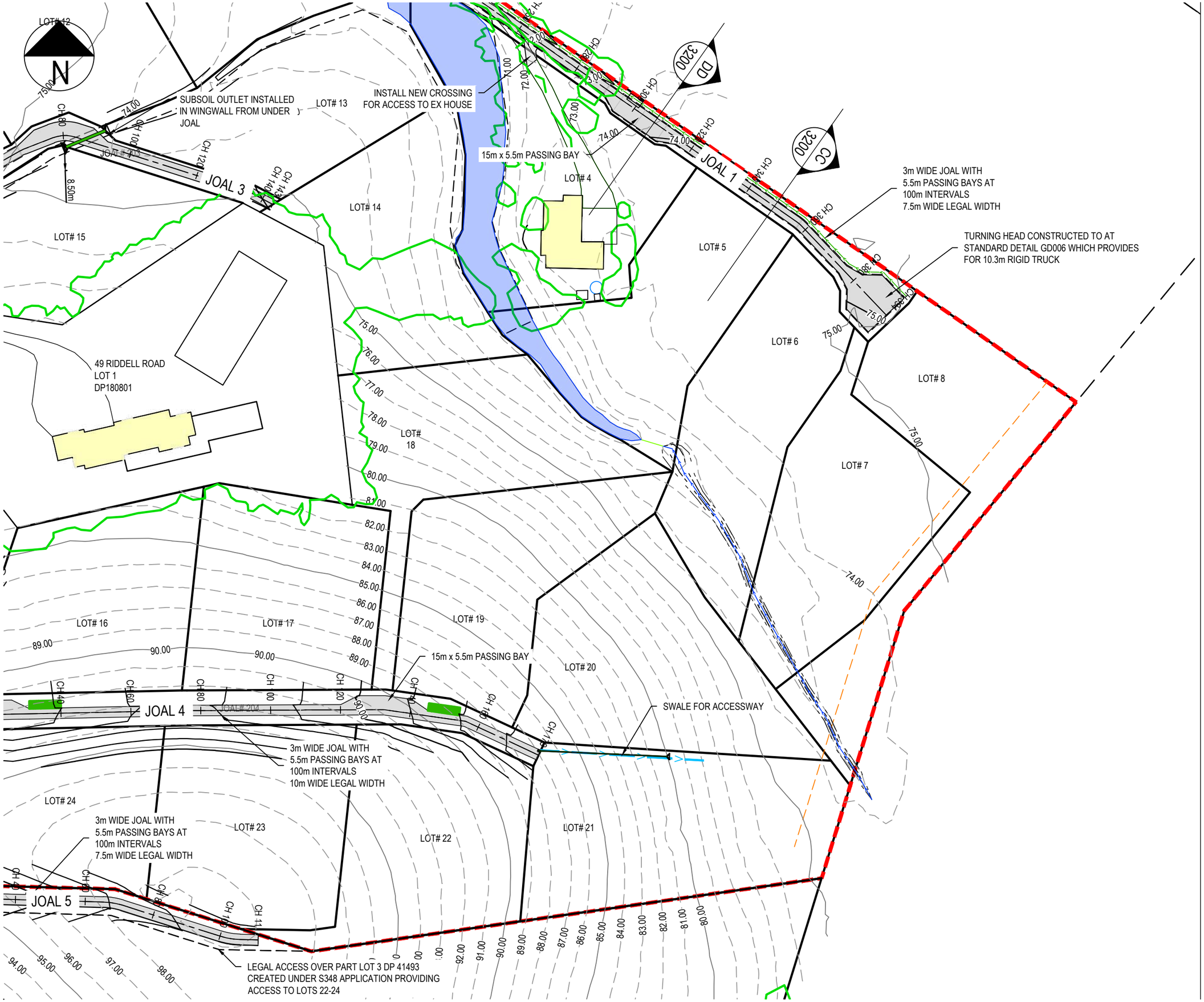
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Accessway Layout
Sheet 2 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3002	Rev	A



NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
4. The contractor shall comply with all relevant health and safety requirements.
5. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
6. Final pavement design subject to cbr/beam tests on subgrade material.
7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
8. Refer to long section for finished centreline levels, refer to typical cross sections to obtain levels for other locations.
9. All ducts shall have locations marked on kerb lines in accordance with specification.

LEGEND

- EX BDY
- EX EASEMENT
- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

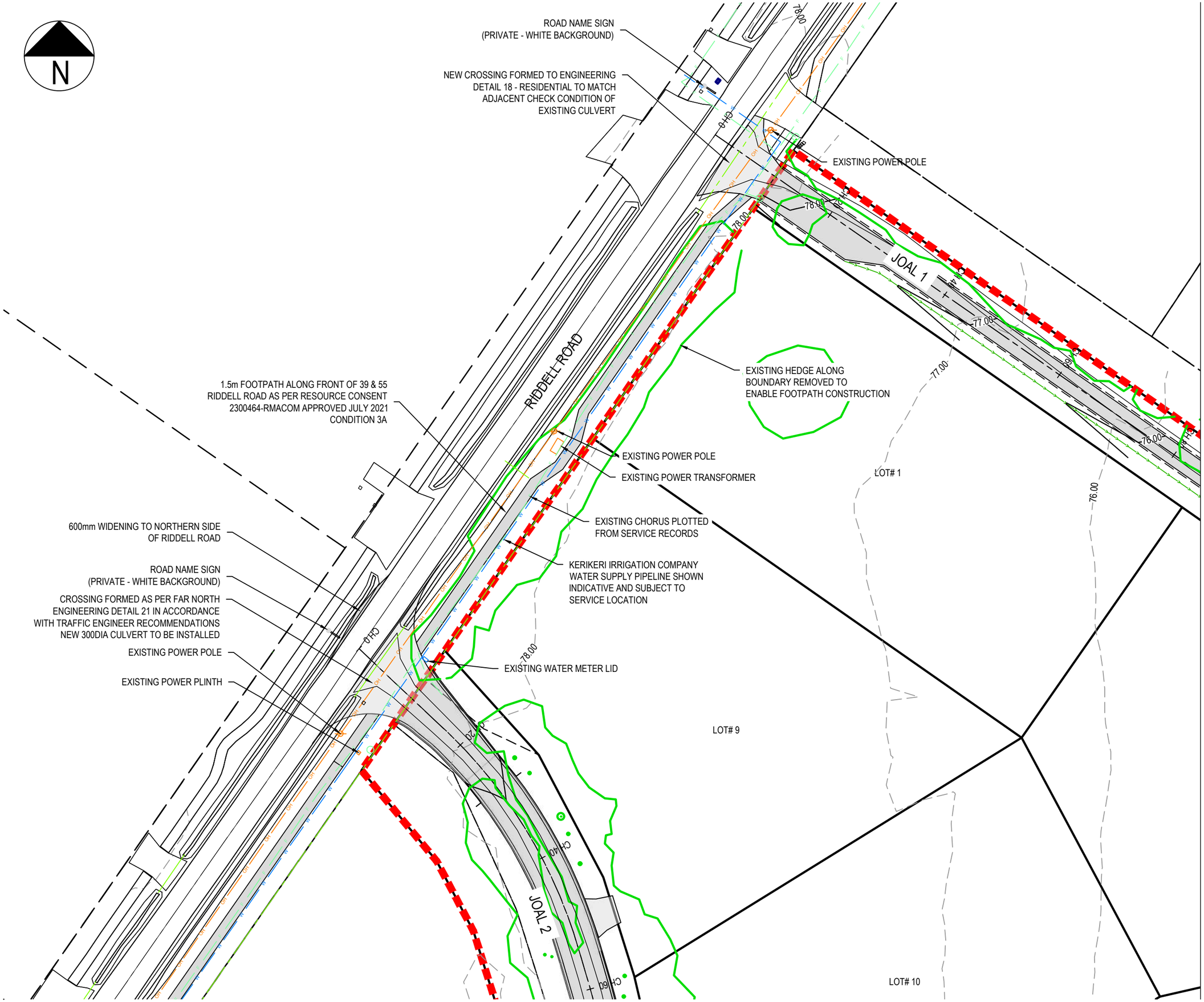
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Accessway Layout
Sheet 3 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3003	Rev	A



NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
4. The contractor shall comply with all relevant health and safety requirements.
5. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
6. Final pavement design subject to cbr/beam tests on subgrade material.
7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
8. Refer to long section for finished centreline levels, refer to typical cross sections to obtain levels for other locations.
9. All ducts shall have locations marked on kerb lines in accordance with specification.

LEGEND

- EX BDY
- EX EASEMENT
- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Riddell Road
Vehicle Crossings

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
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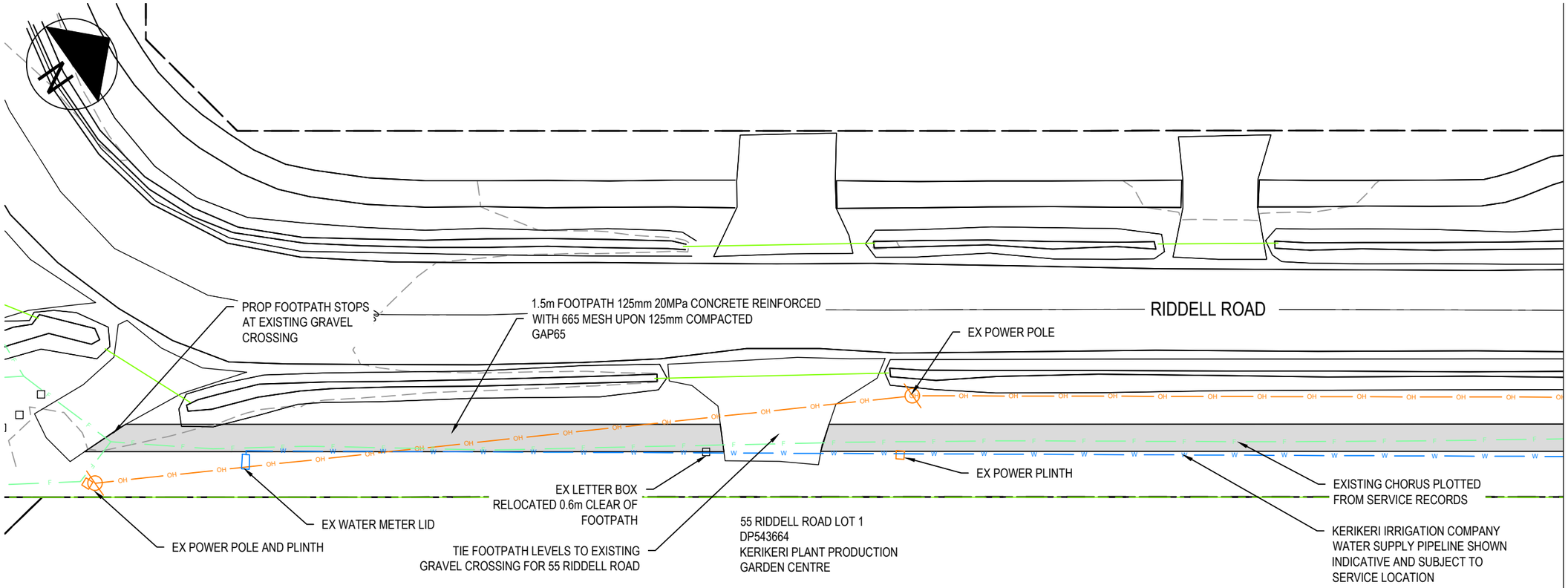
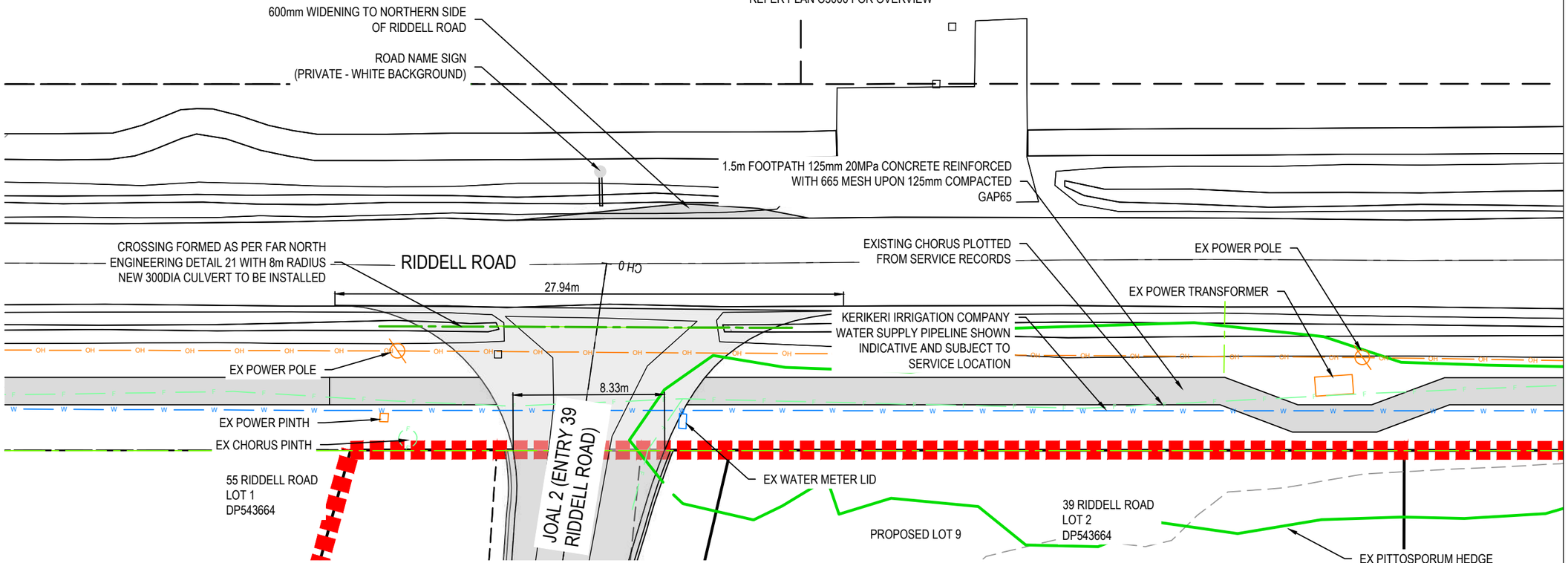
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3004	Rev	A



RIDDELL ROAD - FOOTPATH CONSTRUCTION
SCALE 1:250 @ A3
REFER PLAN C3000 FOR OVERVIEW



RIDDELL ROAD - FOOTPATH CONSTRUCTION
SCALE 1:250 @ A3
REFER PLAN C3000 FOR OVERVIEW

NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
4. The contractor shall comply with all relevant health and safety requirements.
5. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
6. Final pavement design subject to cbr/beam tests on subgrade material.
7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
8. Refer to long section for finished centreline levels, refer to typical cross sections to obtain levels for other locations.
9. All ducts shall have locations marked on kerb lines in accordance with specification.
10. Footpath to be constructed along front of 39 & 55 Riddell Road as per approved Resource Consent 2300464-RMACOM approved July 2021 condition 3a

LEGEND

- EX BDY
- EX EASEMENT
- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

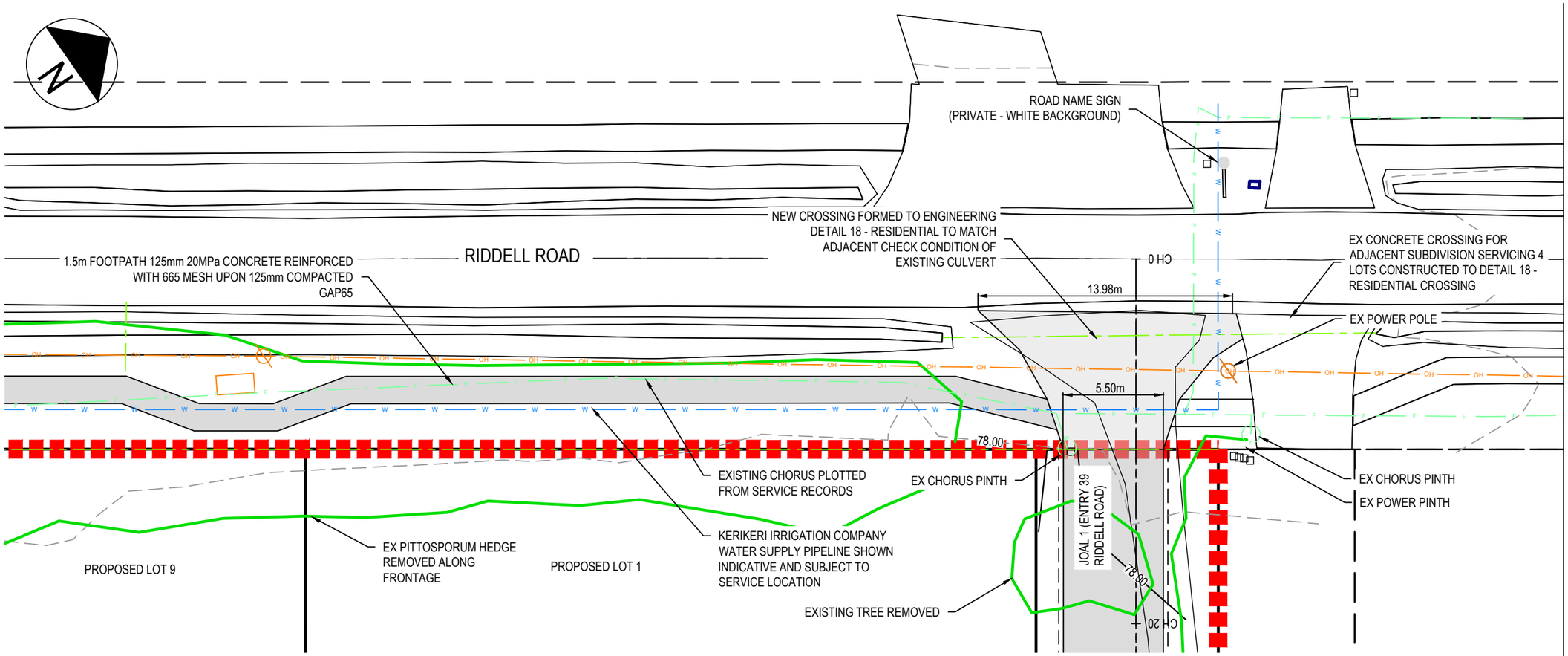
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Riddell Road
Footpath Extension

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3005	Rev	A



RIDDELL ROAD - FOOTPATH CONSTRUCTION
SCALE 1:250 @ A3
REFER PLAN C3000 FOR OVERVIEW

NOTES

1. All works to be in accordance with Far North Council standards.
2. Contractor is to avoid using GPS for set out of the kerb levels where gradients are less than 1%.
3. It is the contractors responsibility to locate all services that may be affected by their operations.
4. The contractor shall comply with all relevant health and safety requirements.
5. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
6. Final pavement design subject to cbr/beam tests on subgrade material.
7. Setout schedule with coordinates of chainage points along road centreline to be supplied to the contractor prior to construction.
8. Refer to long section for finished centreline levels, refer to typical cross sections to obtain levels for other locations.
9. All ducts shall have locations marked on kerb lines in accordance with specification.
10. Footpath to be constructed along front of 39 & 55 Riddell Road as per approved Resource Consent 2300464-RMACOM approved July 2021 condition 3a

LEGEND

- EX BDY
- EX EASEMENT
- EX CONTOUR MAJOR
- EX CONTOUR MINOR
- EX TREE DRIPLINE
- PR BDY
- EX SITE EXTENT
- PR CONTOUR MAJOR
- PR CONTOUR MINOR
- PR EASEMENT
- PR ACCESSWAY
- PR RAINGARDEN
- EX STORMWATER
- PR STORMWATER
- PR SWALE
- EX/PROP SWMH
- PROP SWCP SINGLE

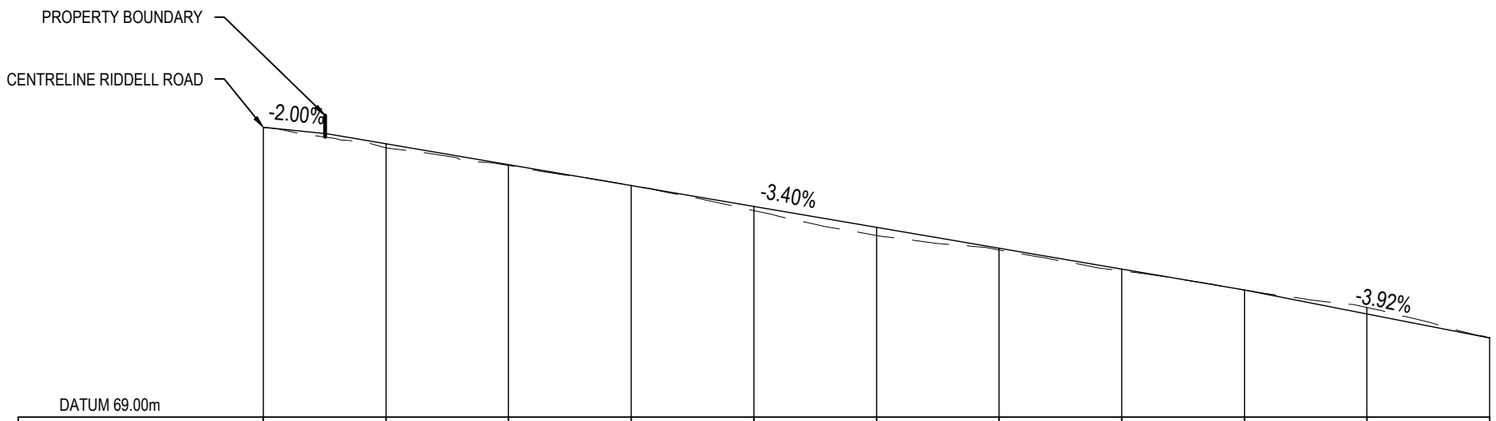
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed
Riddell Road
Footpath Extension

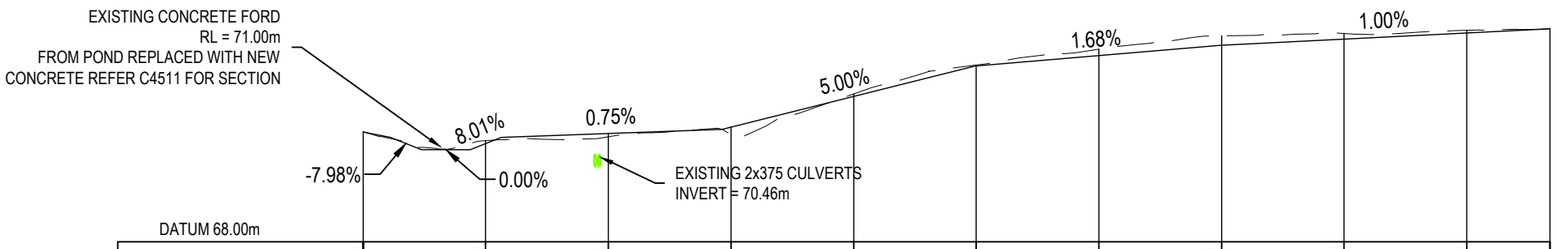
No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3006	Rev	A



DATUM 69.00m											
EXISTING LEVELS	78.44	77.78	77.20	76.56	75.73	74.92	74.45	73.77	73.14	72.57	71.59
DESIGN LEVELS	78.44	77.91	77.23	76.55	75.87	75.19	74.51	73.83	73.14	72.36	71.58
CUT/FILL	0.00	0.13	0.03	-0.01	0.14	0.27	0.06	0.06	0.00	-0.21	-0.01
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00

PROPOSED JOAL 1 - LONGSECTION CH 0 - 200
SCALE 1:1000 HORI 1:200 VERT @ A3



DATUM 68.00m											
EXISTING LEVELS	71.59	71.30	71.43	71.50	72.82	73.76	74.28	74.71	74.79	74.89	74.96
DESIGN LEVELS	71.58	71.20	71.53	71.74	72.74	73.74	74.07	74.41	74.61	74.81	74.94
CUT/FILL	-0.01	-0.10	0.10	0.24	-0.07	-0.03	-0.21	-0.31	-0.19	-0.08	-0.02
CHAINAGE	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	393.59

PROPOSED JOAL 1 - LONGSECTION CH 200 - 394
SCALE 1:1000 HORI 1:200 VERT @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX GL PROFILE
- PR GL PROFILE

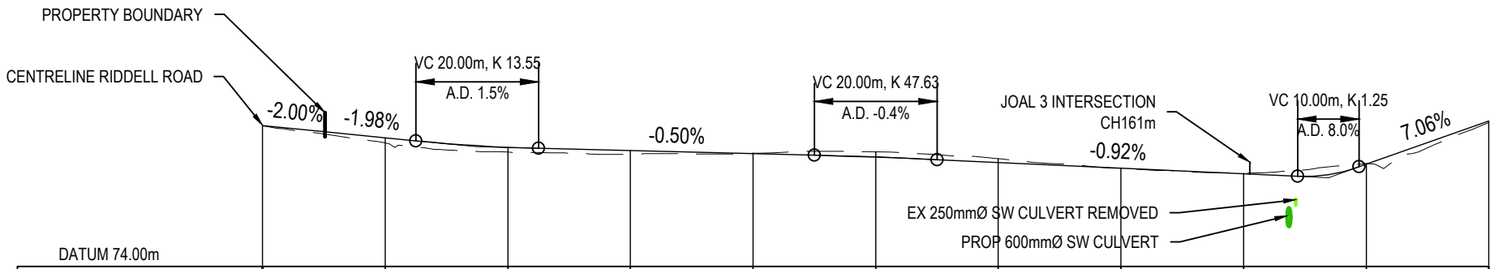
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Roading
Long Section
Sheet 1 of 5

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3100	Rev	A



DATUM 74.00m

EXISTING LEVELS	78.59	78.02	77.72	77.65	77.68	77.73	77.51	77.19	77.04	77.35	78.69
DESIGN LEVELS	78.59	78.19	77.88	77.77	77.67	77.56	77.39	77.20	77.02	77.33	78.74
CUT/FILL	0.00	0.17	0.16	0.12	-0.01	-0.17	-0.13	0.01	-0.02	-0.02	0.05
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00

PROPOSED JOAL 2 - LONGSECTION CH 00 - 200
SCALE 1:1000 HORI 1:200 VERT @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX GL PROFILE
- PR GL PROFILE

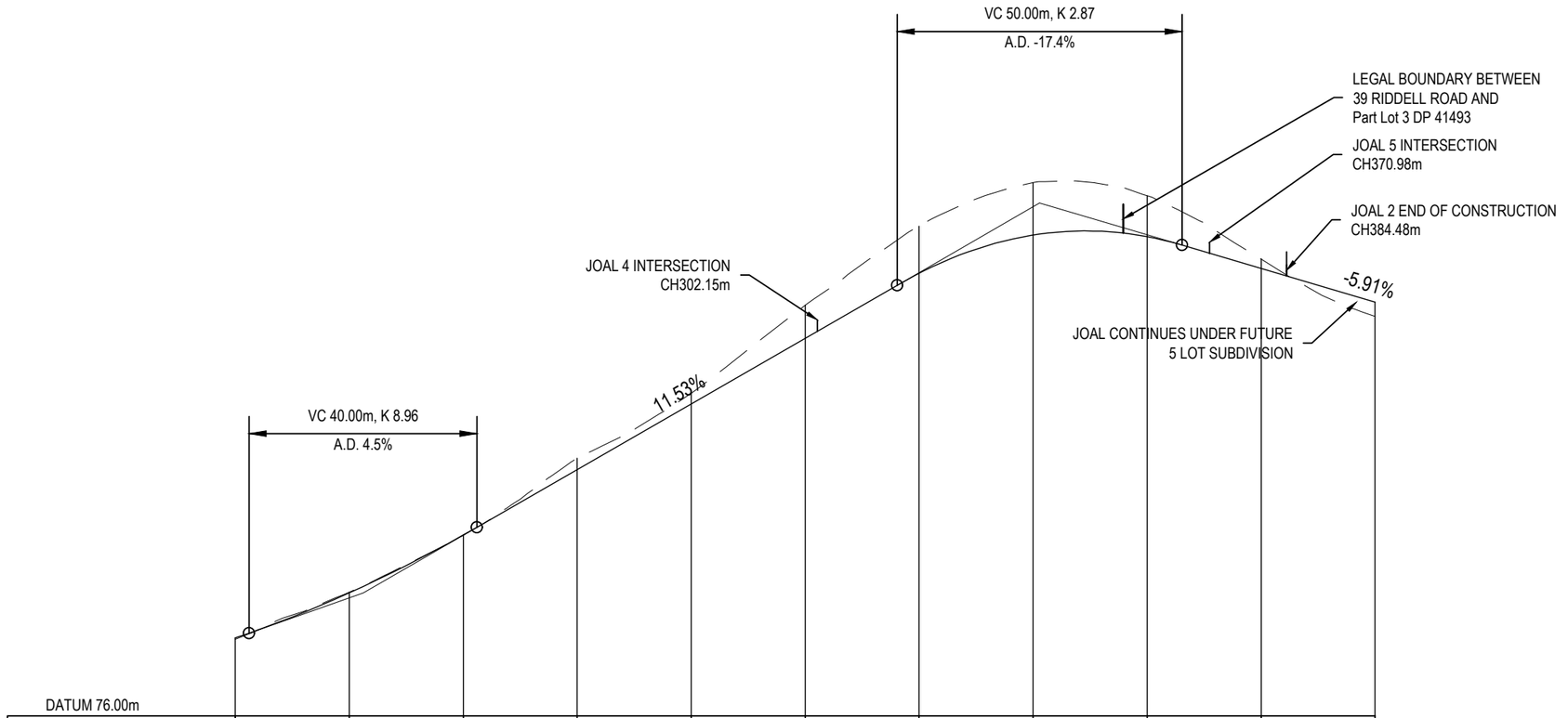
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Roading
Long Section
Sheet 2 of 5

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3101	Rev	A



DATUM 76.00m

EXISTING LEVELS	78.69	80.35	82.35	85.05	87.33	90.42	93.20	94.72	94.26	92.04	90.03
DESIGN LEVELS	78.74	80.32	82.35	84.65	86.96	89.26	91.54	92.88	92.83	91.71	90.53
CUT/FILL	0.05	-0.02	0.01	-0.40	-0.37	-1.15	-1.65	-1.84	-1.44	-0.33	0.50
CHAINAGE	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00	360.00	380.00	400.00

PROPOSED JOAL 2 - LONGSECTION CH200 - 400
SCALE 1:1000 HORI 1:200 VERT @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX GL PROFILE
- PR GL PROFILE

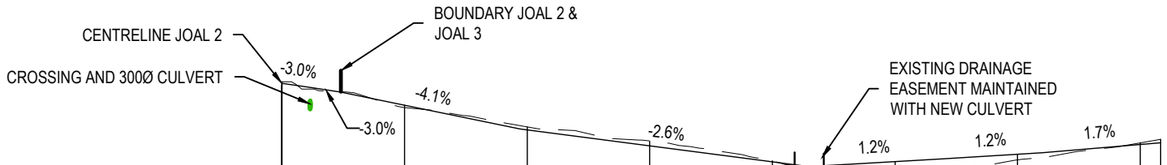
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Roading
Long Section
Sheet 3 of 5

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

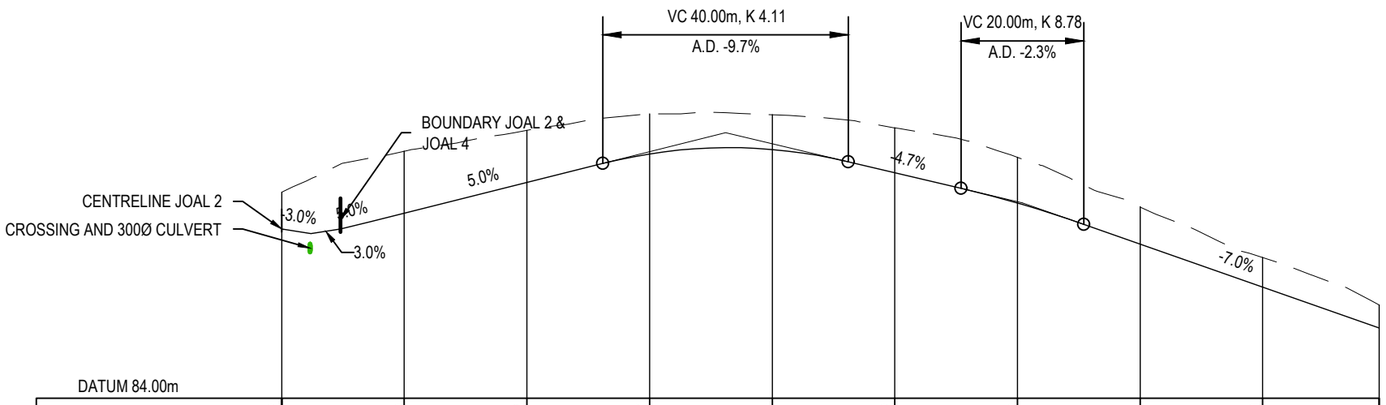
Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3102	Rev	A



DATUM 70.00m

EXISTING LEVELS	77.04	76.21	75.57	75.11	74.47	73.99	74.50	75.06	75.17
DESIGN LEVELS	77.00	76.28	75.48	74.95	74.43	74.45	74.69	75.00	75.06
CUT/FILL	-0.04	0.08	-0.10	-0.16	-0.03	0.46	0.19	-0.06	-0.11
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	143.28

PROPOSED JOAL 3 - LONGSECTION
SCALE 1:1000 HORI 1:200 VERT @ A3



DATUM 84.00m

EXISTING LEVELS	90.72	92.05	92.73	93.27	93.24	92.82	91.85	90.24	88.59	87.04
DESIGN LEVELS	89.51	90.03	91.03	91.96	92.11	91.35	90.36	89.03	87.63	86.29
CUT/FILL	-1.21	-2.02	-1.70	-1.30	-1.13	-1.46	-1.50	-1.21	-0.96	-0.75
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	179.02

PROPOSED JOAL 4 - LONGSECTION
SCALE 1:1000 HORI 1:200 VERT @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX GL PROFILE
- PR GL PROFILE

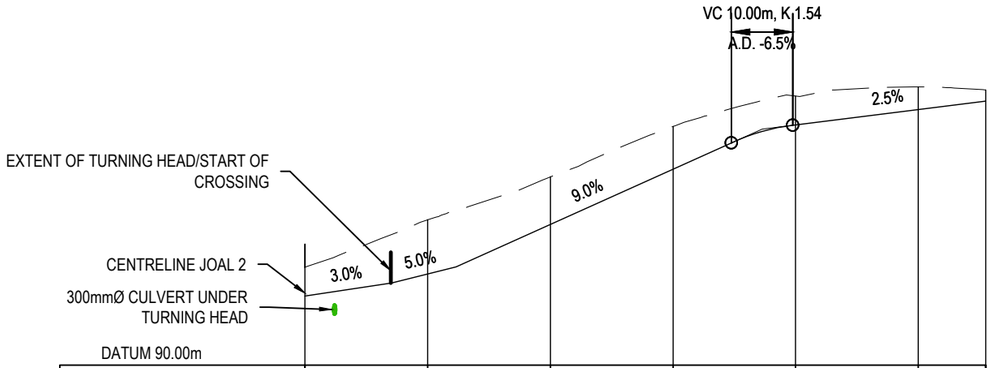
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Roading
Long Section
Sheet 4 of 5

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3103	Rev	A



DATUM 90.00m

EXISTING LEVELS	93.19	94.73	96.13	97.77	98.77	99.06	98.96
DESIGN LEVELS	92.25	92.97	94.58	96.38	97.83	98.33	98.60
CUT/FILL	-0.94	-1.77	-1.55	-1.39	-0.94	-0.73	-0.35
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	111.03

PROPOSED JOAL 5 - LONGSECTION
SCALE 1:1000 HORI 1:200 VERT @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX GL PROFILE
- PR GL PROFILE

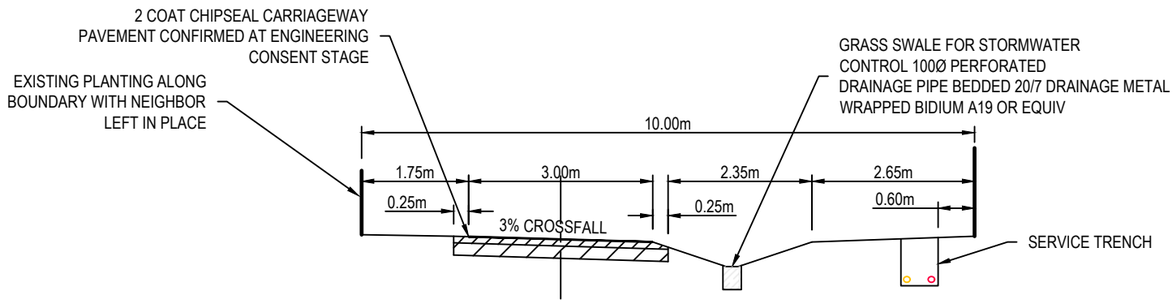
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

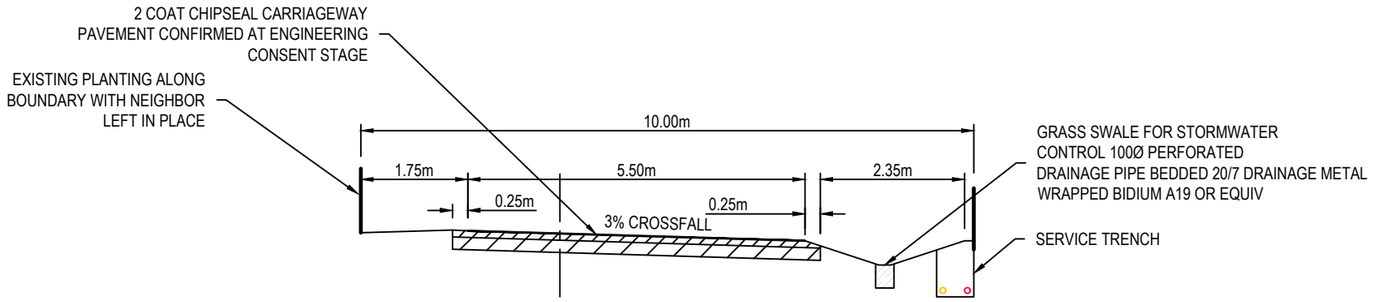
Proposed Roading
Long Section
Sheet 5 of 5

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

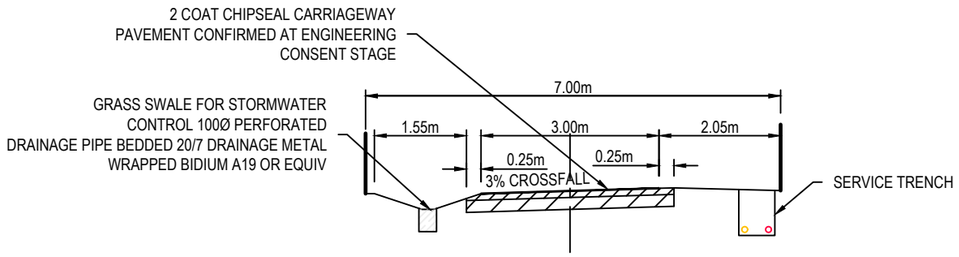
Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3104	Rev	A



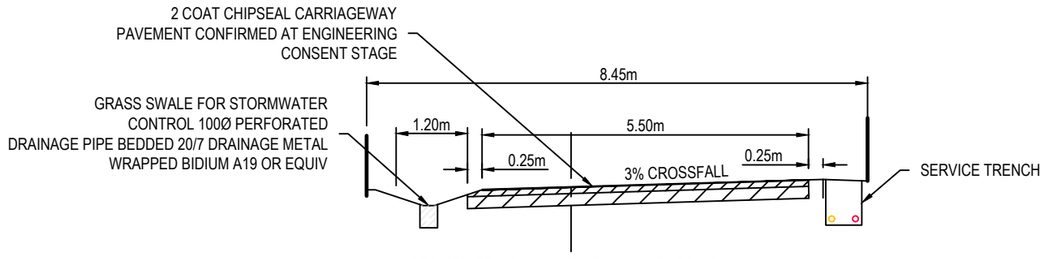
SECTION AA JOAL 1 - TYPICAL 3m CROSS SECTION
CH 30 - 180
1:100 @ A3



SECTION BB JOAL 1 - TYPICAL 5.5m PASSING BAY/ENTRY
CROSS SECTION CH 10 -30, 90-115, 180-210
1:100 @ A3



SECTION CC JOAL 1 - TYPICAL 3m CROSS SECTION CH 240 -380
1:100 @ A3



SECTION DD JOAL 1 - TYPICAL 5.5m PASSING
BAY CROSS SECTION CH 290 -315
1:100 @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND

EX BDY
PR BDY

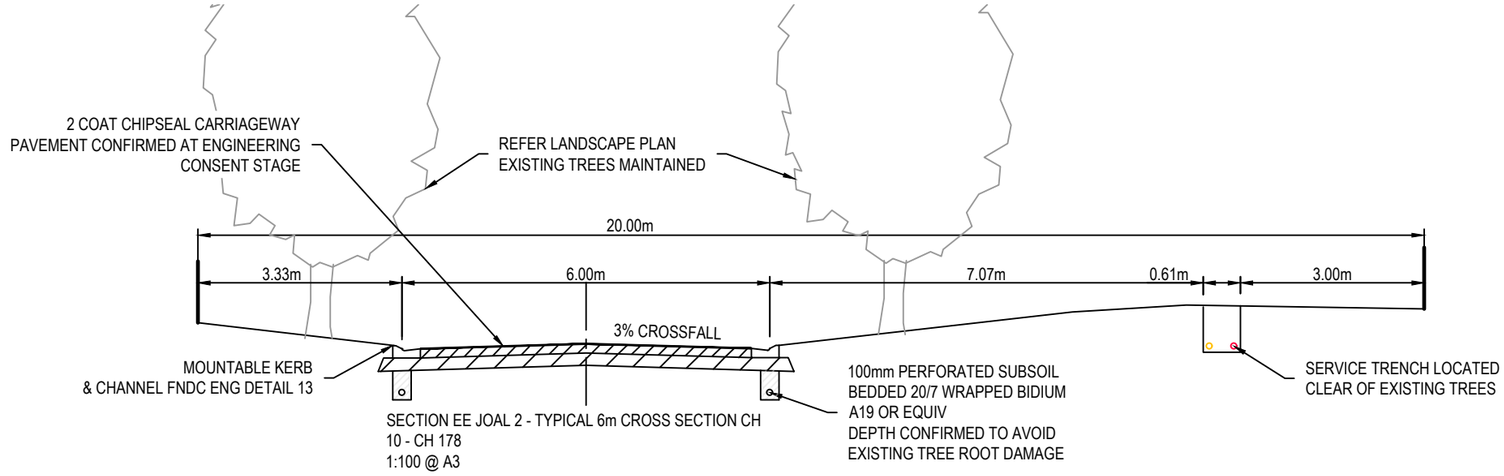
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

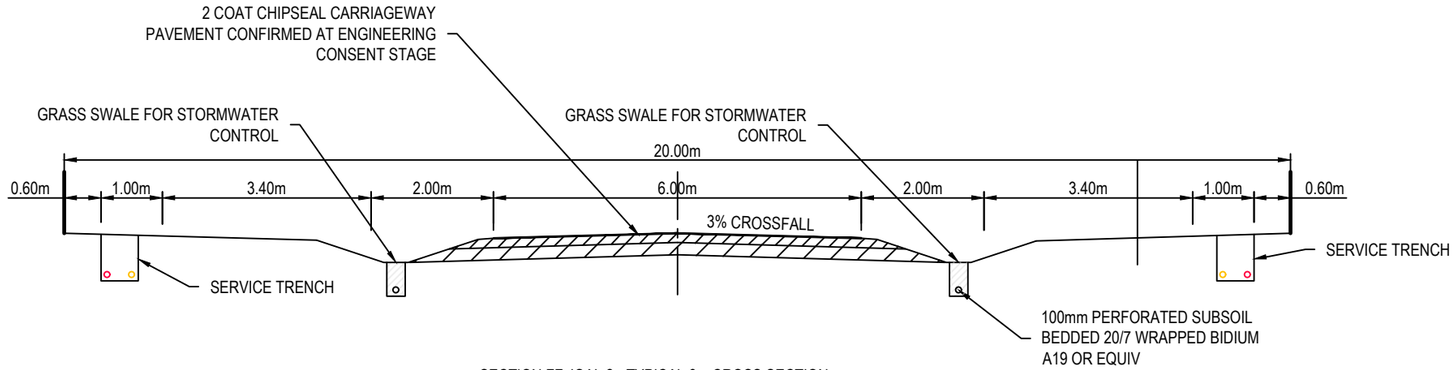
Proposed Typical Accessway Cross Sections Sheet 1 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

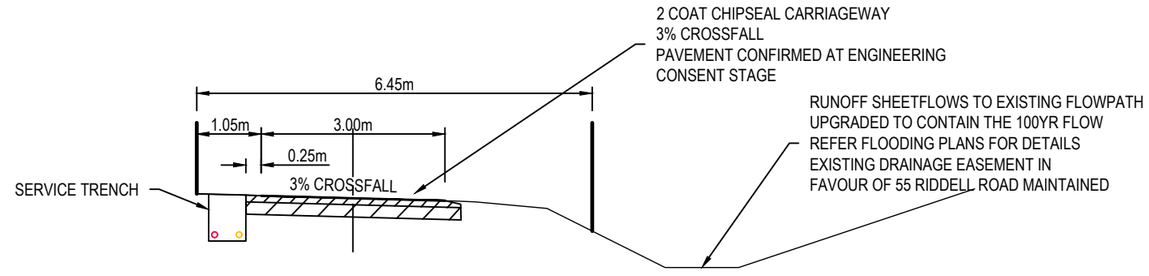
Project no.	10401		
Scale	Refer to drawing		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3200	Rev	A



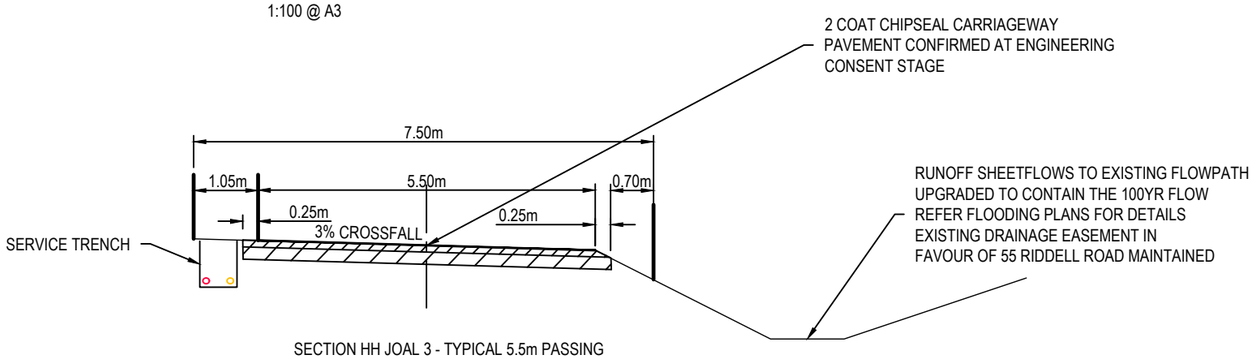
SECTION EE JOAL 2 - TYPICAL 6m CROSS SECTION CH
10 - CH 178
1:100 @ A3



SECTION FF JOAL 2 - TYPICAL 6m CROSS SECTION
CH 178 - CH 369
1:100 @ A3



SECTION GG JOAL 3 - TYPICAL 3m CROSS
SECTION CH 28 - 66
1:100 @ A3



SECTION HH JOAL 3 - TYPICAL 5.5m PASSING
BAY/ENTRY CROSS SECTION CH 6 - 28, 66 - 92
1:100 @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND

EX BDY

PR BDY

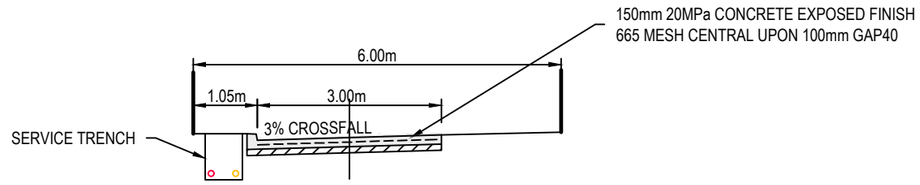
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

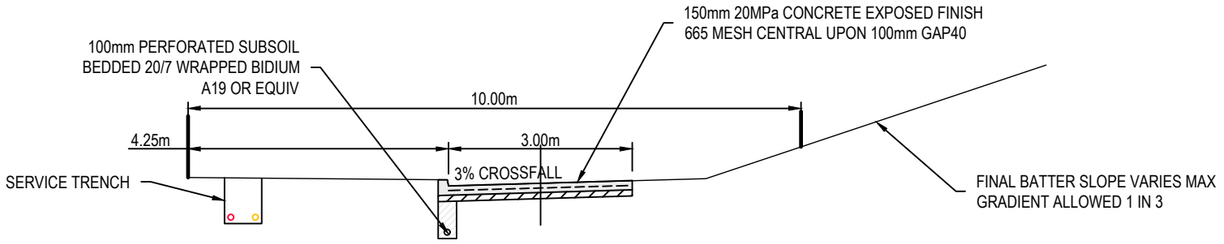
Proposed Typical Accessway Cross Sections Sheet 2 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

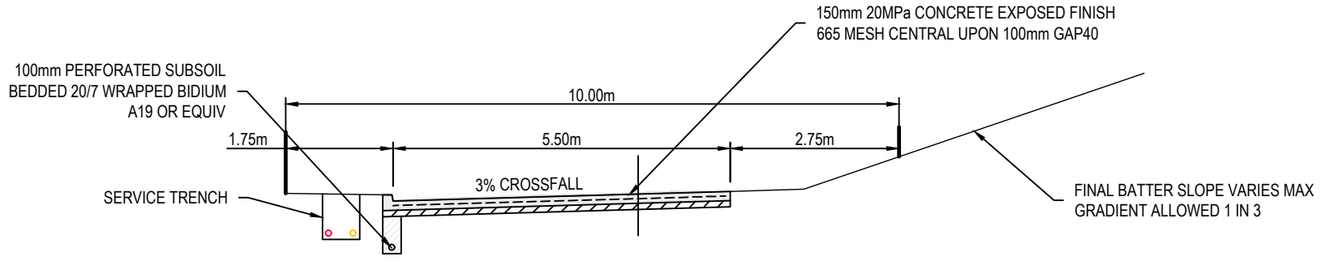
Project no.	10401		
Scale	Refer to drawing		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3201	Rev	A



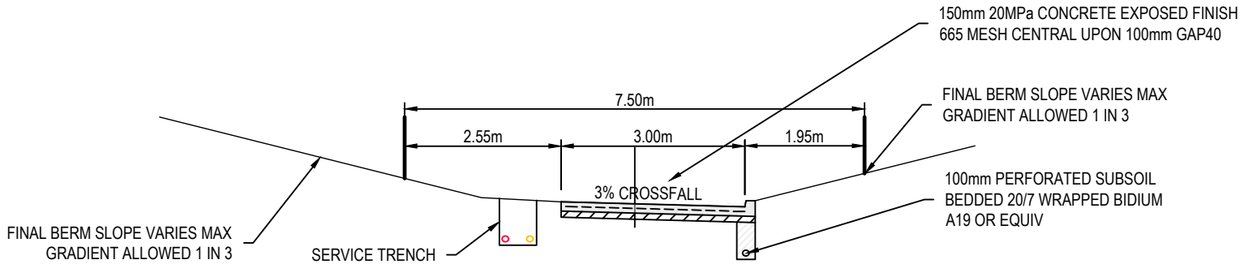
SECTION II JOAL 3 - TYPICAL 3m CROSS SECTION
CH 92 - 143
1:100 @ A3



SECTION JJ JOAL 4 - TYPICAL 3m CROSS SECTION CH 31 - 120, 145 - 179
1:100 @ A3



SECTION KK JOAL 4 - TYPICAL 5.5m PASSING
BAY/ENTRY CROSS SECTION CH 10 - 30, 120 - 145
1:100 @ A3



SECTION LL JOAL 5 - TYPICAL 3m CROSS SECTION
CH 10 - 113
1:100 @ A3

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND

EX BDY

PR BDY

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Typical Accessway Cross Sections Sheet 3 of 3

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to drawing		
Cad file	10401 RC ROADING.DWG		
Drawing no.	C3202	Rev	A

Notes

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14. All concrete pipes shall be Class 4 under pavement areas, Class 2 in berm and lots.
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4. Private Drainage shall comply in full with E1/AS1 building code for storm water.

LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

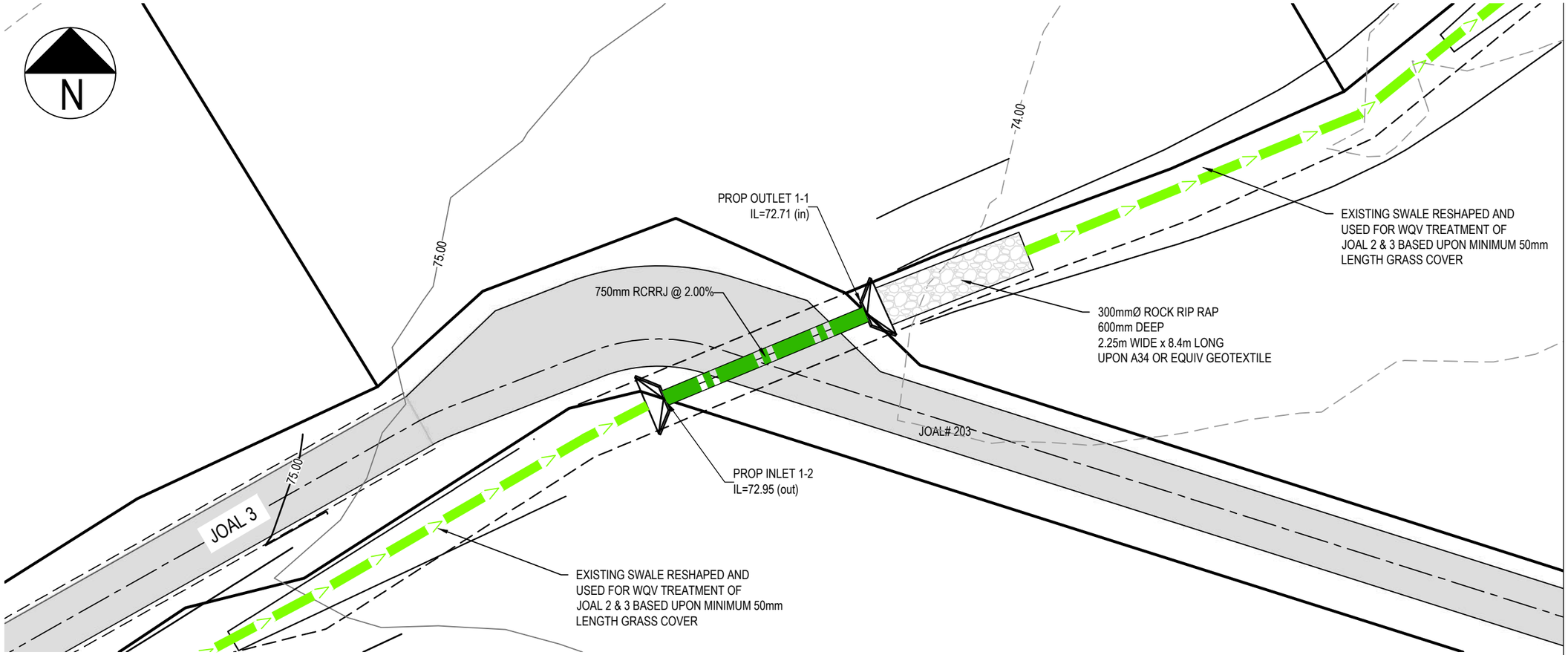
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

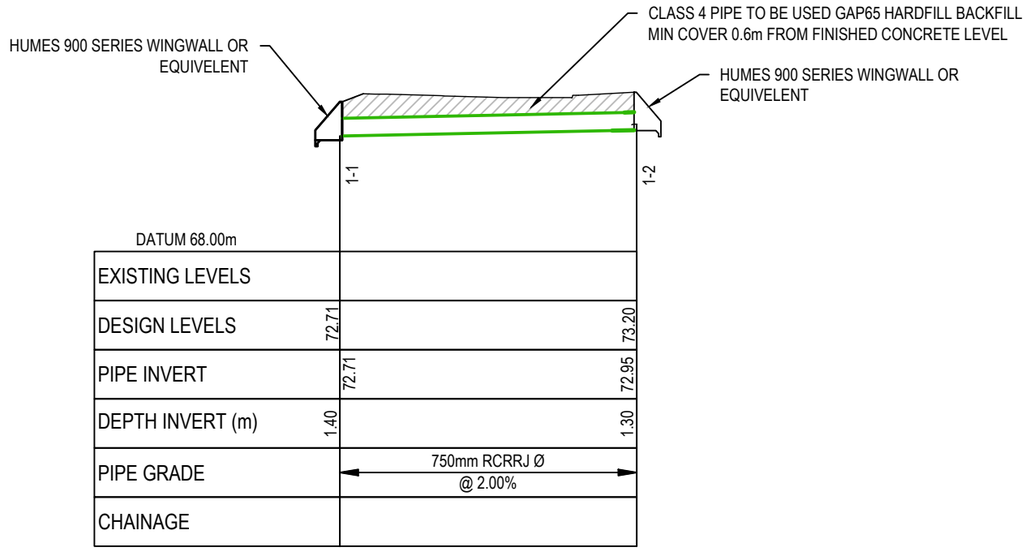
Taraire Tahi Limited
Riddell Road
Kerikeri

Overview Proposed Stormwater Layout Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:2000 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4000	Rev	A





PROPOSED STORMWATER LONGSECITON 1-1 TO 1-2
SCALE 1:250 @ A3

Notes

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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

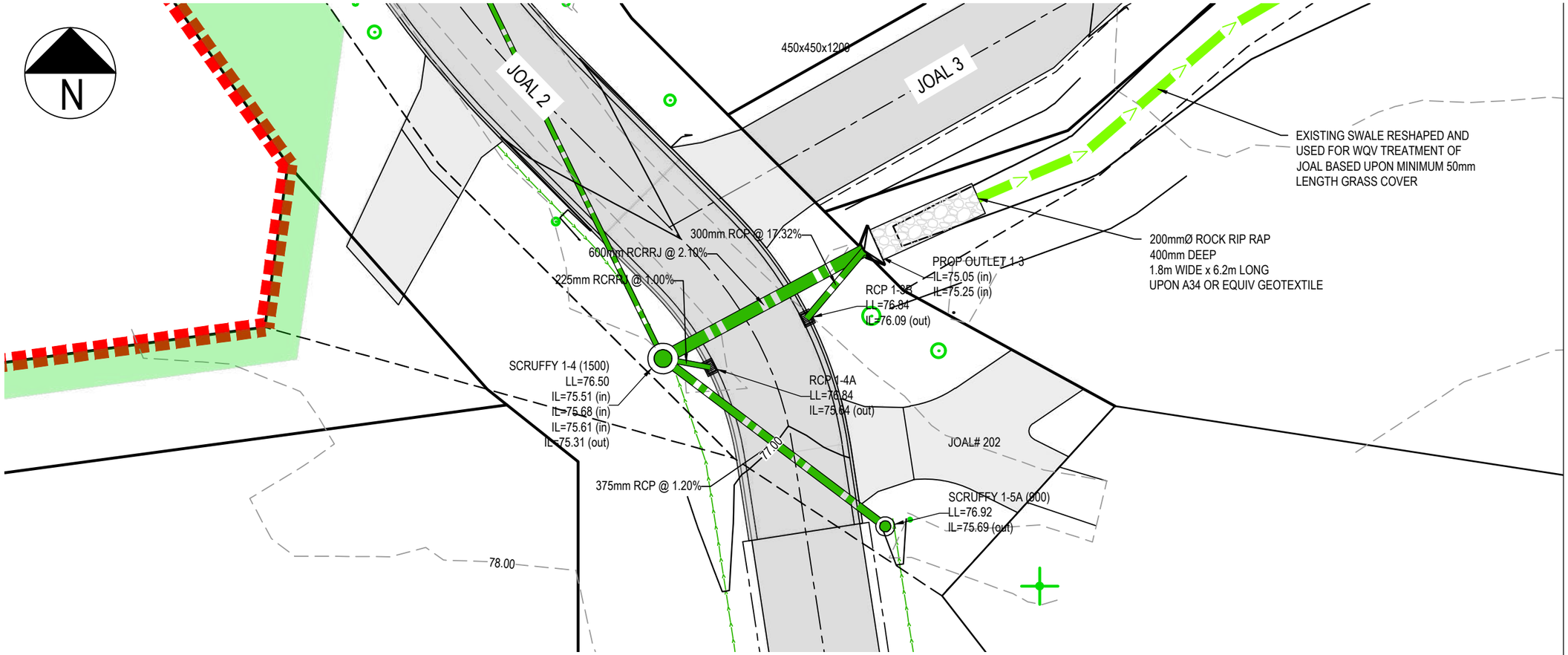
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

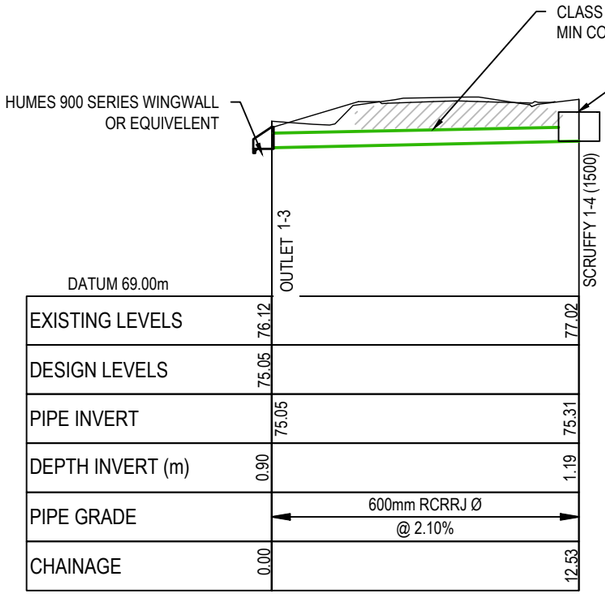
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater
Drainage Plan
Sheet 1 of 6

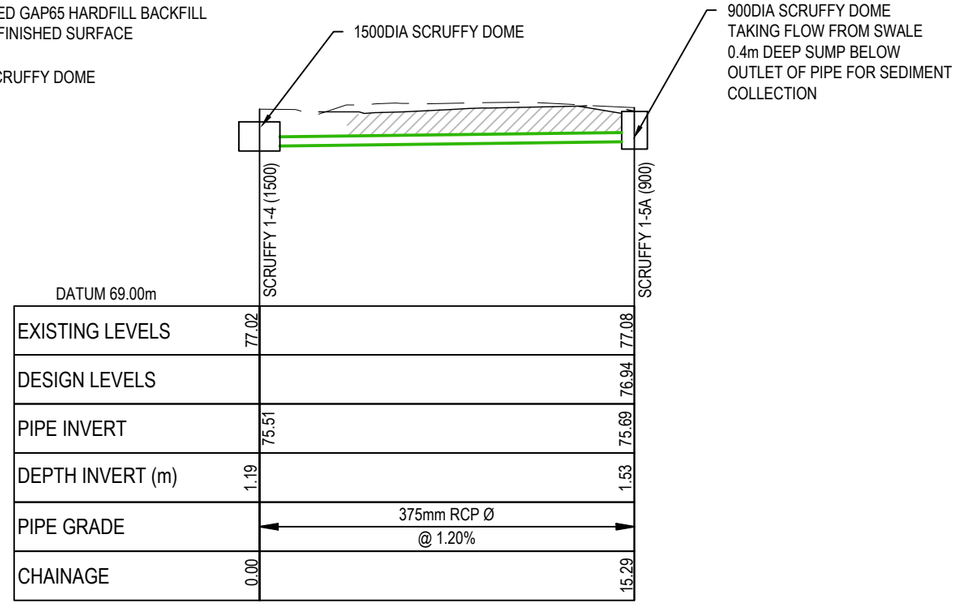
No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4001	Rev	A





PROPOSED STORMWATER LONGSECITON 1-3 TO 1-4
SCALE 1:250 @ A3



PROPOSED STORMWATER LONGSECITON CONN TO 1-3A
SCALE 1:250 @ A3

Notes

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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

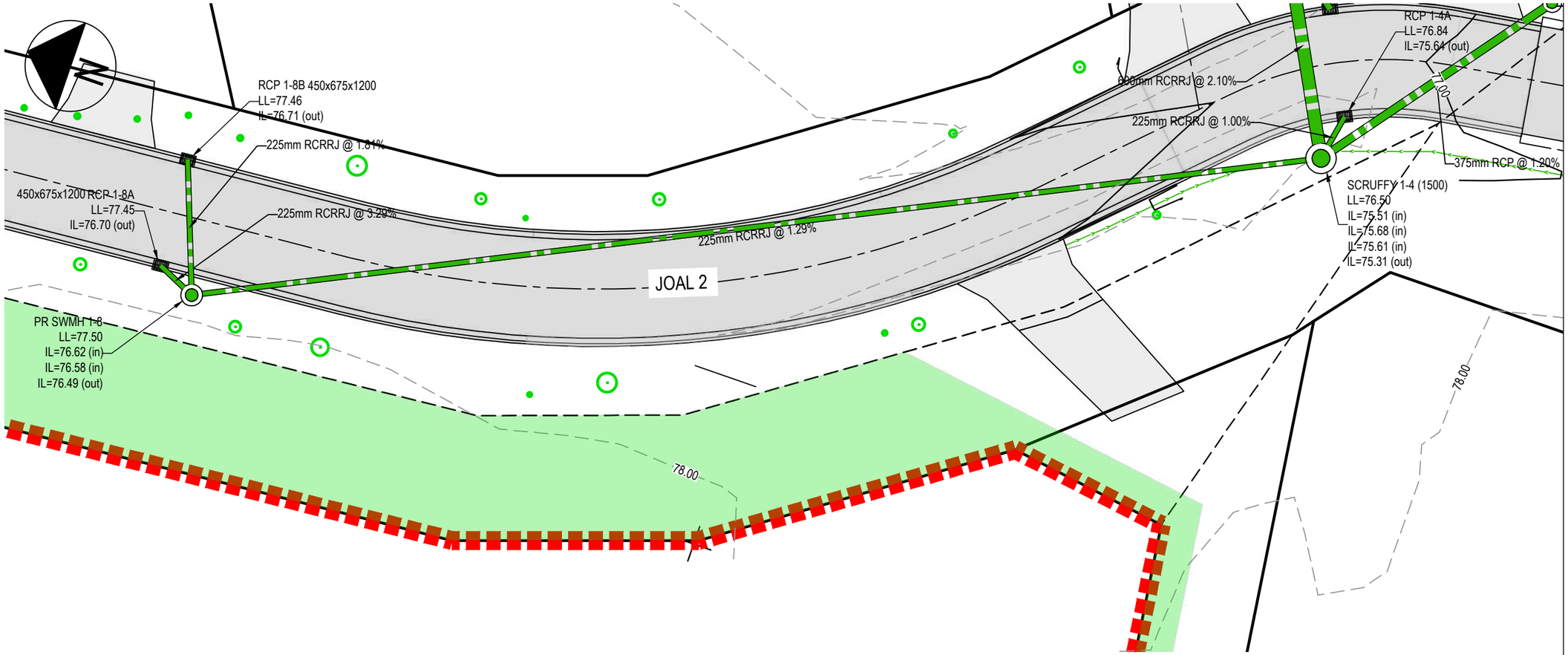
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

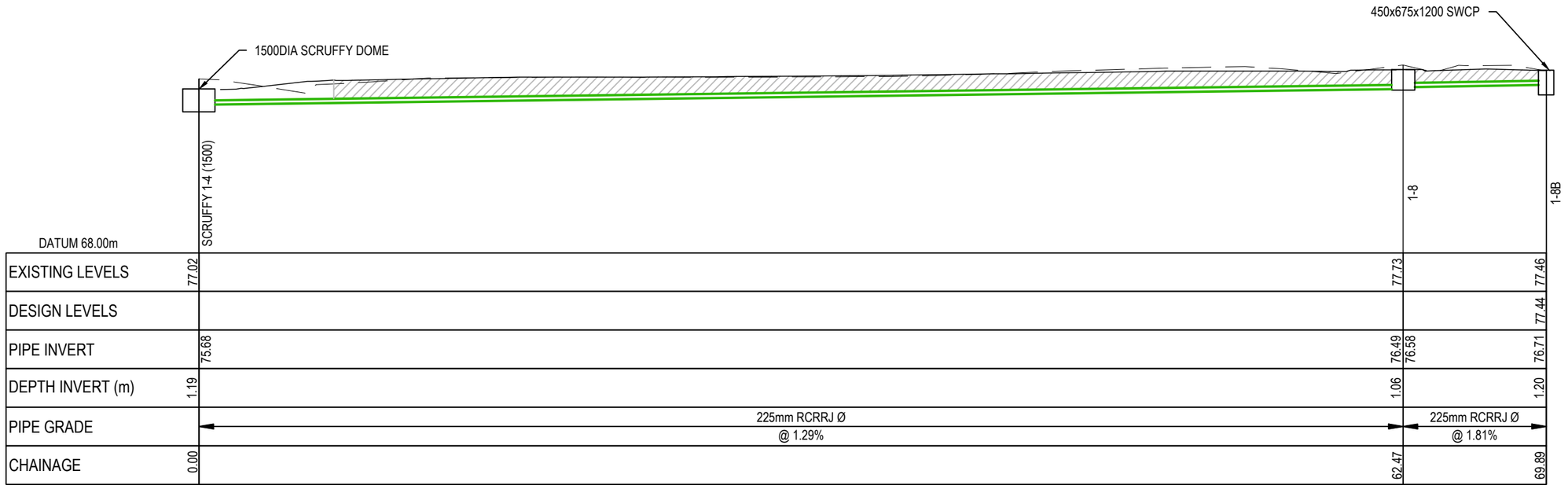
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Drainage Plan
Sheet 2 of 6

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4002	Rev	A





PROPOSED STORMWATER LONGSECITON 1-4 TO 1-8B
SCALE 1:250 @ A3

Notes

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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

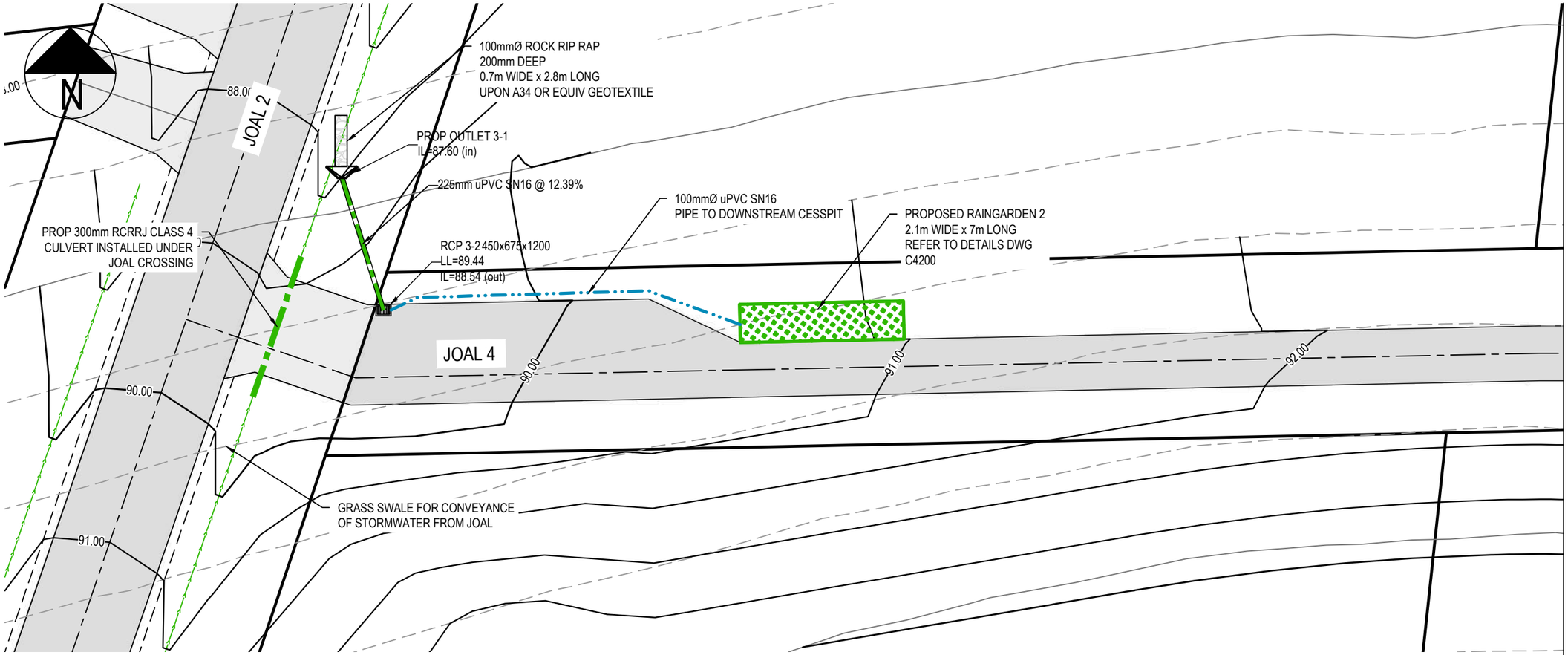
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

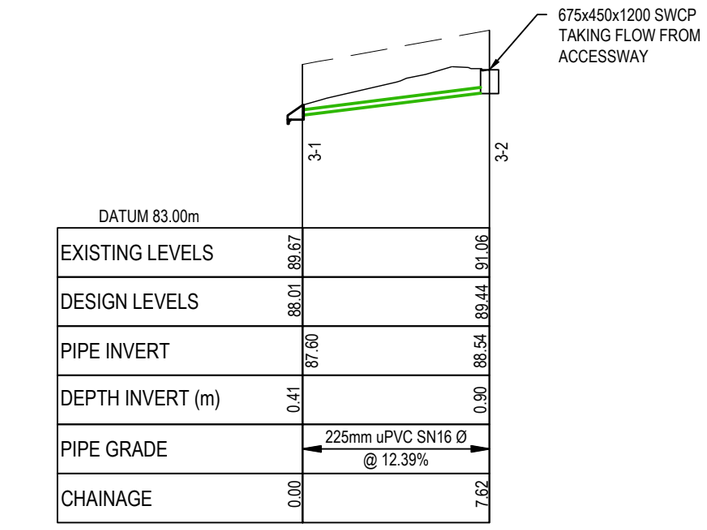
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Drainage Plan
Sheet 3 of 6

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4003	Rev	A





PROPOSED STORMWATER LONGSECITON 3-1 TO 3-2
SCALE 1:250 @ A3

Notes

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2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
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LEGEND

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- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

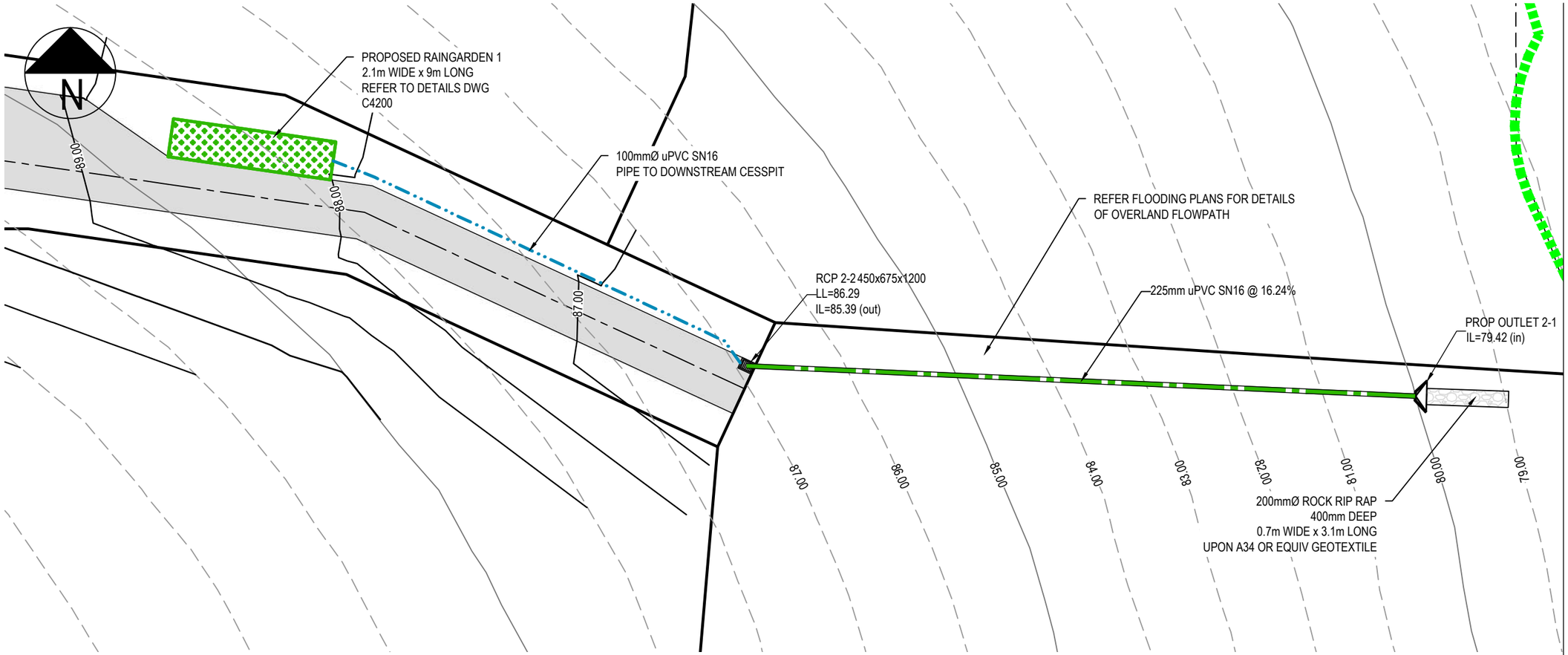
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

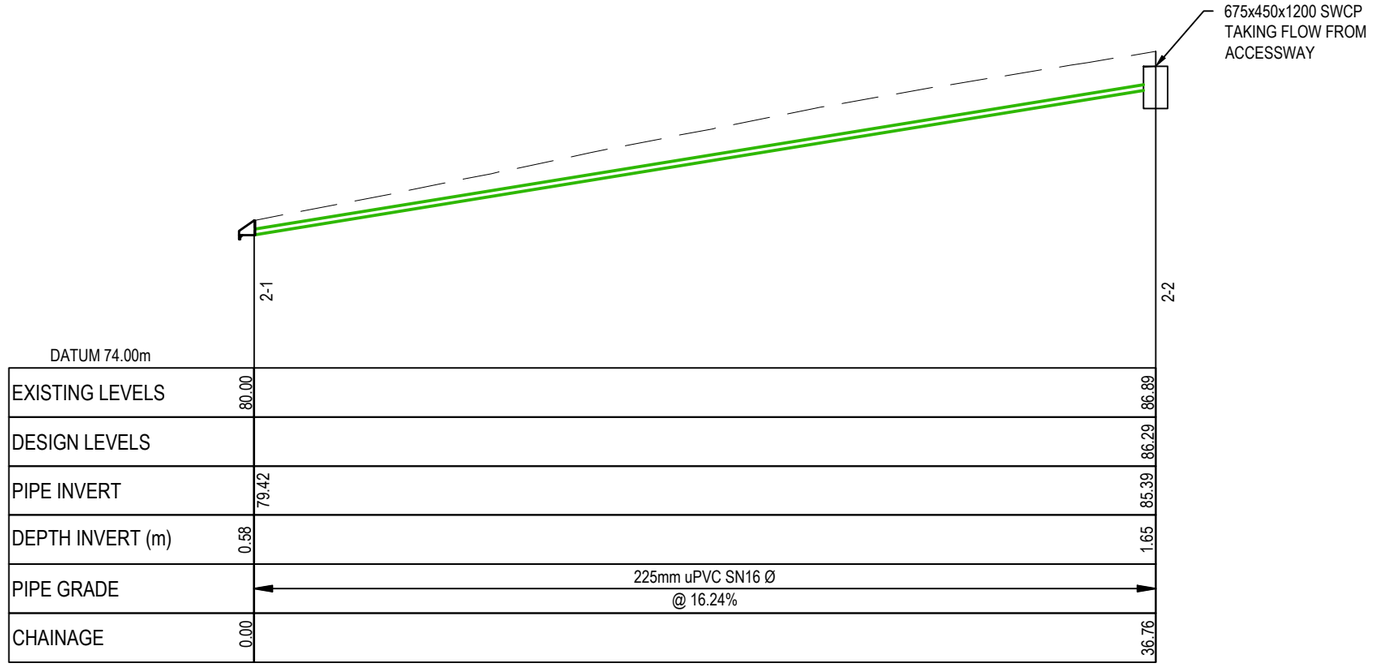
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Drainage Plan
Sheet 4 of 6

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4004	Rev	A





PROPOSED STORMWATER LONGSECITON 2-1 TO 2-2
SCALE 1:250 @ A3

Notes

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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

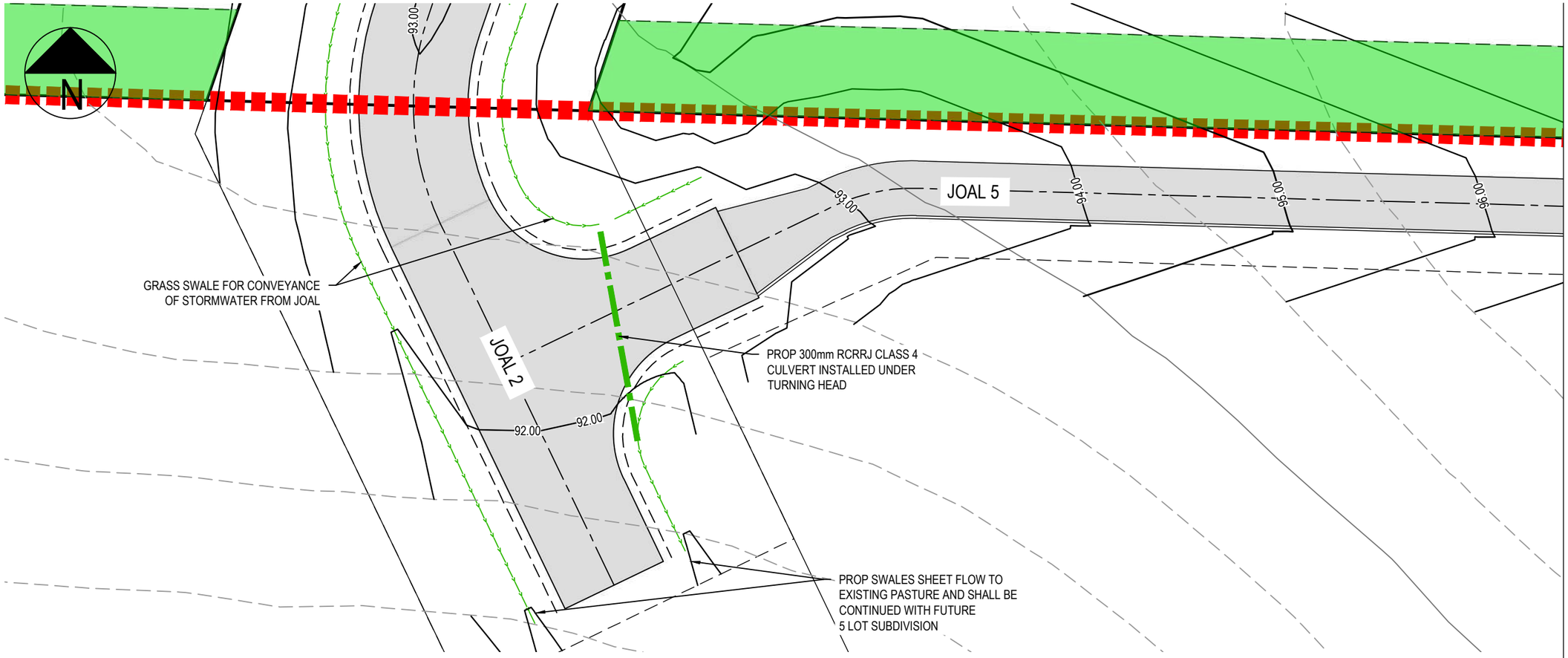
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Drainage Plan
Sheet 5 of 6

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4005	Rev	A



Notes

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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

conquel CONSULTING
Contact: admin@conquel.co.nz
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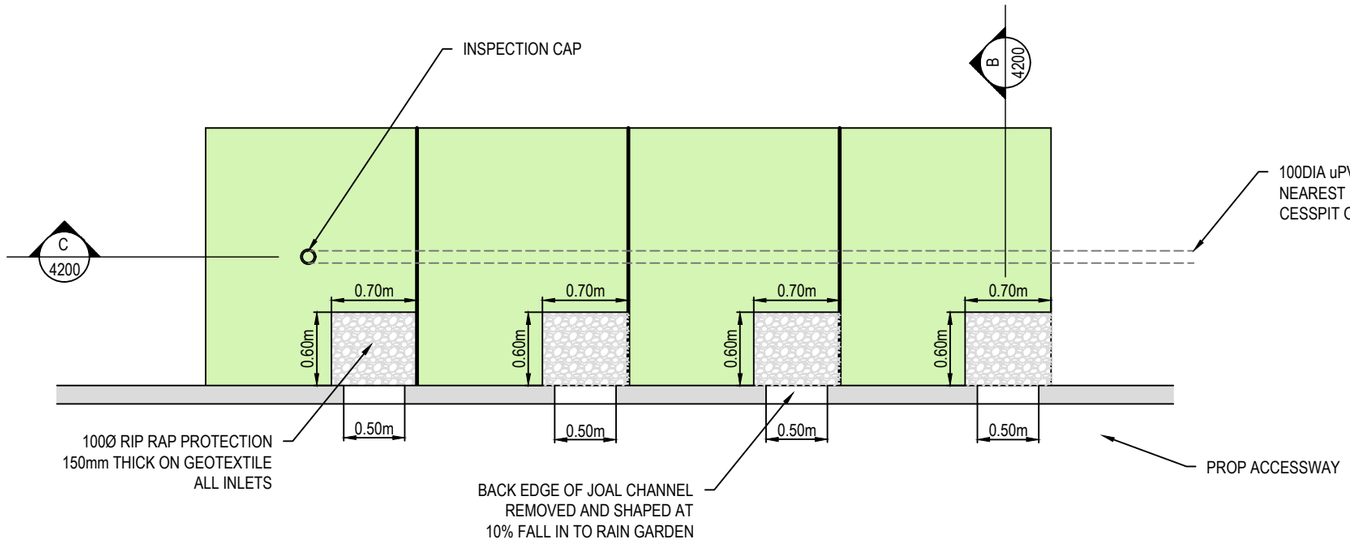
Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Drainage Plan

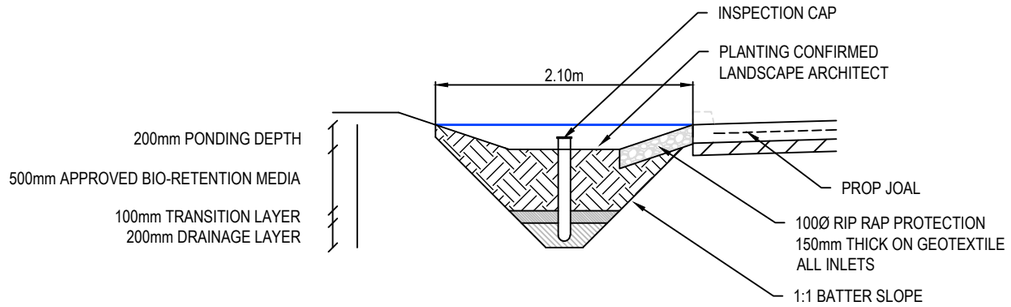
Sheet 6 of 6

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

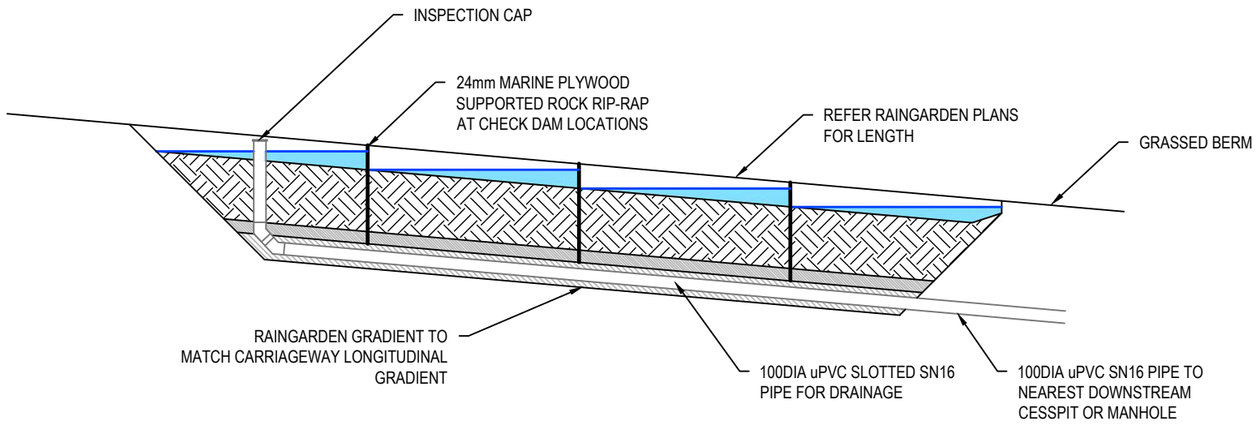
Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4006	Rev	A



TYPICAL RAINGARDEN PLAN VIEW
SCALE 1:50 @ A3



RAINGARDEN CROSS SECTION B
SCALE 1:50 @ A3



RAINGARDEN CROSS SECTION C
SCALE 1:50 @ A3

Notes:
1. Bio-retention areas to be a minimium of 1m away from property boundaries.
2. Inlet design to ensure no concerntrated flows into Bio-retention areas
3. Bio-retention devices to have 200mm ponding depth above the bed
4. The planting soil mix used shall be 0.5m deep, and have long term hydraulic conductivity (Ks) of 100mm/hr
5. Transition layer is to consist of washed sand over washed fine gravel
6. A minimium if 50mm bedding later to be provided for the perforated drain pipe and media shall be sized as "d85 > 1 x size of perforation'
7. The Bio-rentention area are designed for the Water Quality Volume (WQV) only and larger flows are to be bypassed to the kerb channel and primary stormwater network.
8. Weir spacing to be adjusted to suit road grade min 200mm ponding depth must be achieved between each weir.

Notes
1. All works to be in accordance with Far North Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. It is the contractors responsibility to locate all services that may be affected by their operations.
5. Pipe bedding: 0 - 10% granular bedding,10 - 20% weak concrete bedding.greater than 20% weak concrete bedding (7mpa plus anti scour blocks at 6m crs).
6. Each connection shall be marked by a 50mmx50mm treated pine stake extending 600mm above ground level with the top painted. this marker post shall be placed alongside a timber marker installed at the time of pipelaying and extending from the connection to 150mm below finished ground level. connections shall be accurately indicated on "as built" plans.
7. Approved hardfill is to be used in backfilling of all road crossings and vehicle crossings to council standards.
8. Heavy duty manhole lids and frames to be used in trafficked areas.
9. All manholes are to be 1050mmØ precast concrete unless shown otherwise.
10. All cesspits shall be 675x450x1200 unless noted otherwise.
11. All catchpit leads shall have min cover 1.0m.
12. All lines to be abandoned shall be sealed at each end and coordinated with council staff.
13. All uPVC pipes shall be SN16 unless shown otherwise.
14. All concrete pipes shall be Class 4 under pavement areas, Class 2 in berm and lots.
15. Drainlayer shall confirm all existing inverts and confirm they match design to Engineer before starting works.
4. Private Drainage shall comply in full with E1/AS1 building code for storm water.

LEGEND

EX BDY
PROP BDY
PR SW PUBLIC
PR SW PRIVATE
PR SW SUBSOIL
PR SW SWALE
PR RAINGARDEN
PR HARDFILL BACKFILL
EX/PROP SWMH
PROP SWCP SINGLE
PROP SWCP DOUBLE
PR SW LOT CON
PR WW LOT CON

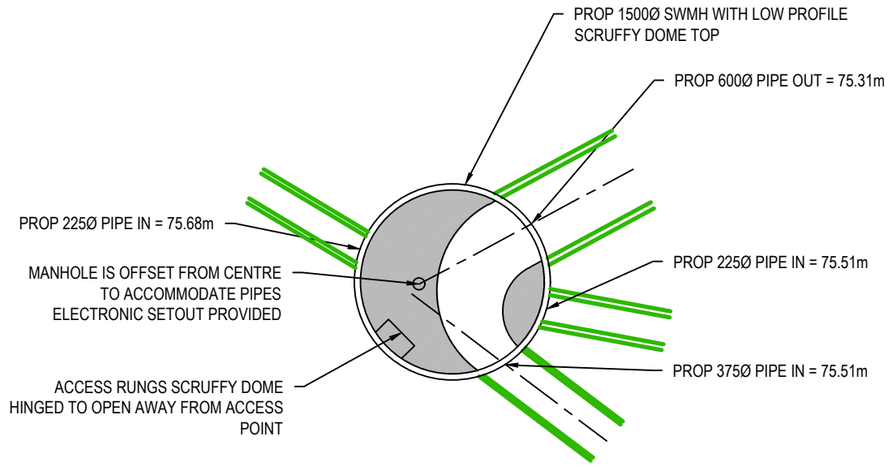
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater
Rain Gardens
Details Sheet 1 of 2

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4200	Rev	A



SCRUFFY DOME 1-4 DETAIL A
SCALE 1:50 @ A3

Notes

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2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
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LEGEND

- EX BDY
- PROP BDY
- PR SW PUBLIC
- PR SW PRIVATE
- PR SW SUBSOIL
- PR SW SWALE
- PR RAINGARDEN
- PR HARDFILL BACKFILL
- EX/PROP SWMH
- PROP SWCP SINGLE
- PROP SWCP DOUBLE
- PR SW LOT CON
- PR WW LOT CON

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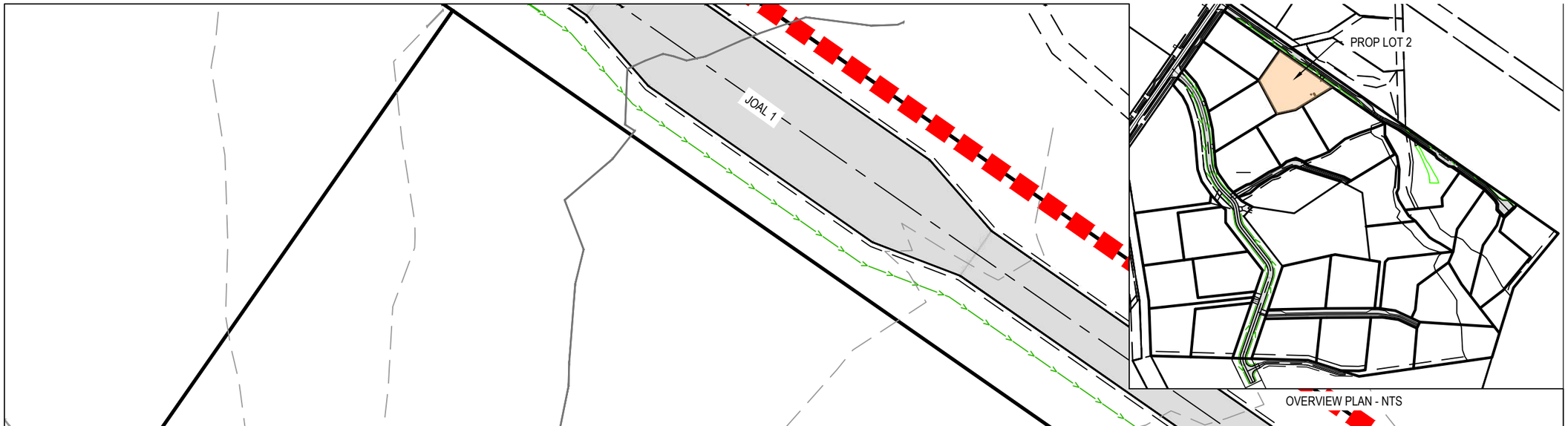
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Stormwater Details
Sheet 2 of 2

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	12/25

Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RC DRAINAGE.DWG		
Drawing no.	C4201	Rev	A



Notes

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate any underground services prior to the commencement of works.
3. All bends and connections to be no more than 45°.
4. All connections to existing drains shall be carried out by a licensed drain layer / plumber.
5. Drainage shall comply in full with E1/AS1 building code for storm water.
6. All catchpits shall have half syphons installed.
7. All waste water drains shall be uPVC to AS/NZS 1260.
8. Wastewater shall comply in full with AS/NZS 3500.2 - 2003 and/or G13 building code.
9. Water systems shall comply with G12 Building Code.
10. Fire Fighting shall be in accordance with SNS PAS 4509:2008
11. Future owners under building consent applications will need to determine final fire fighting volumes in general the following required:
    - 11.1. 200m2 house or less needs 10m3 tank, over this requires 20m3 tank
    - 11.2. Tanks need to be located minimium of 6m away from building
    - 11.3. Tanks lid shall be no more than 1.5m above ground or an approved coupling installed
    - 11.4. Static water sources or pools within 90m maybe considered
    - 11.5. Vehicle access of 3m width and 4m vertical clearance

LEGEND

- EX BDY
- PROP BDY
- W — PR WATER PRIVATE
- PROP STORMWATER
- PROP DISPERSAL TRENCH

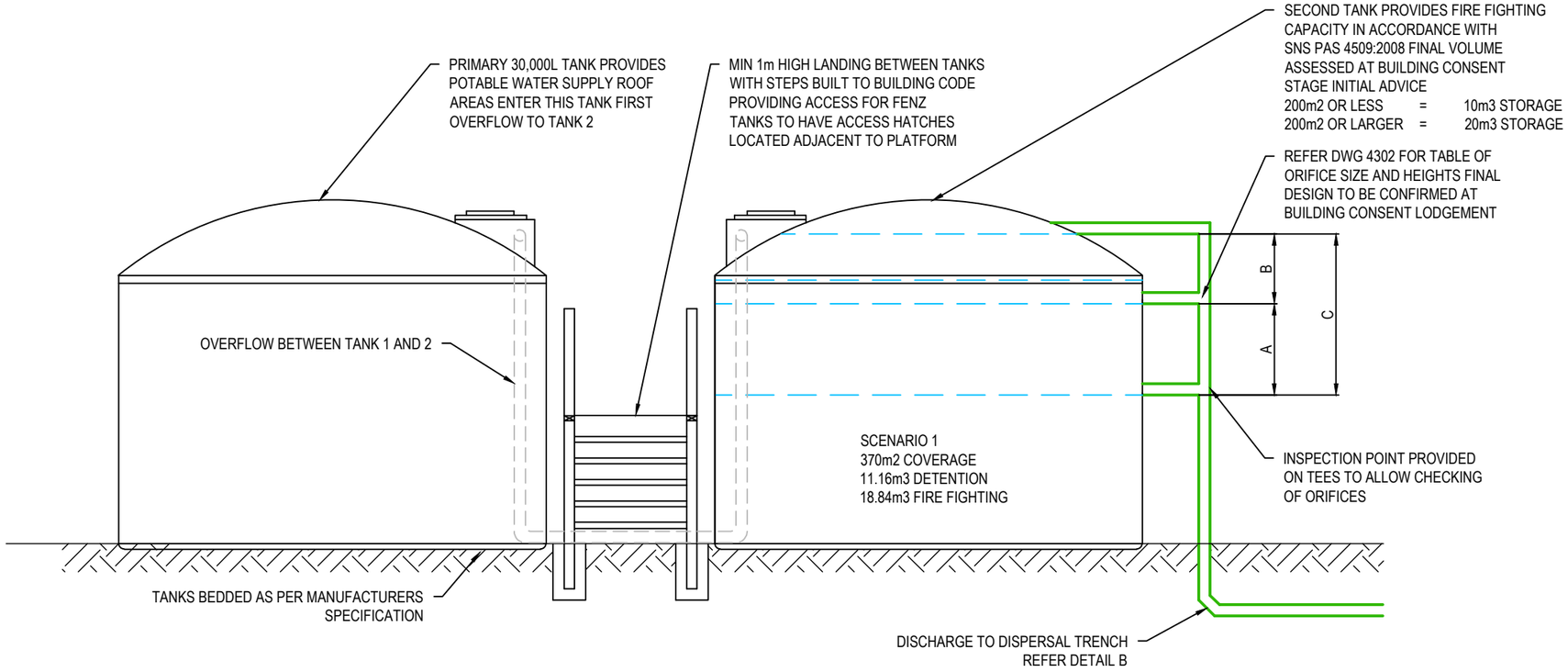
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

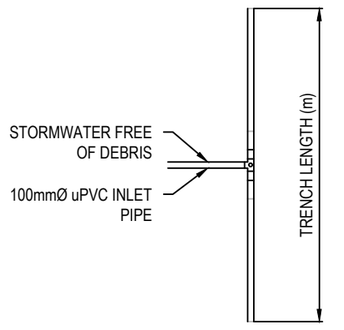
Proposed Typical Stormwater Mitigation Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

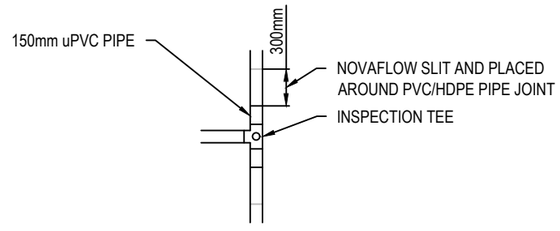
Project no.	10401		
Scale	1:250 @ A3		
Cad file	10401 RIDDELL SW MITIGATION.DWG		
Drawing no.	C4300	Rev	A



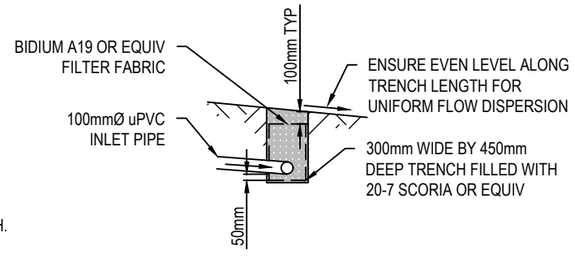
TYPICAL ATTENUATION DETAIL A
SCALE 1:50 @ A3



PLAN VIEW



PIPE CONNECTION DETAIL



DISPERSAL TRENCH SECTION

NOTE:
FAR NORTH COUNCIL ENGINEERING STANDARDS 4.2.5 REQUIRES FLOW TO BE DISPERSED AT <2 litres/sec/m. FOR EXAMPLE PEAK DISCHARGE OF 12l/s WOULD REQUIRE A 6m LINEAR LENGTH OF DISPERSAL TRENCH.

TYPICAL DISPERSAL TRENCH DETAIL B
SCALE 1:50 @ A3

Notes
1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate any underground services prior to the commencement of works.
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    - 11.5. Vehicle access of 3m width and 4m vertical clearance

LEGEND
- EX BDY
- PROP BDY
- PROP WATER LEVEL
- PROP STORMWATER

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Contact: admin@conquel.co.nz
Phone: +64224914223

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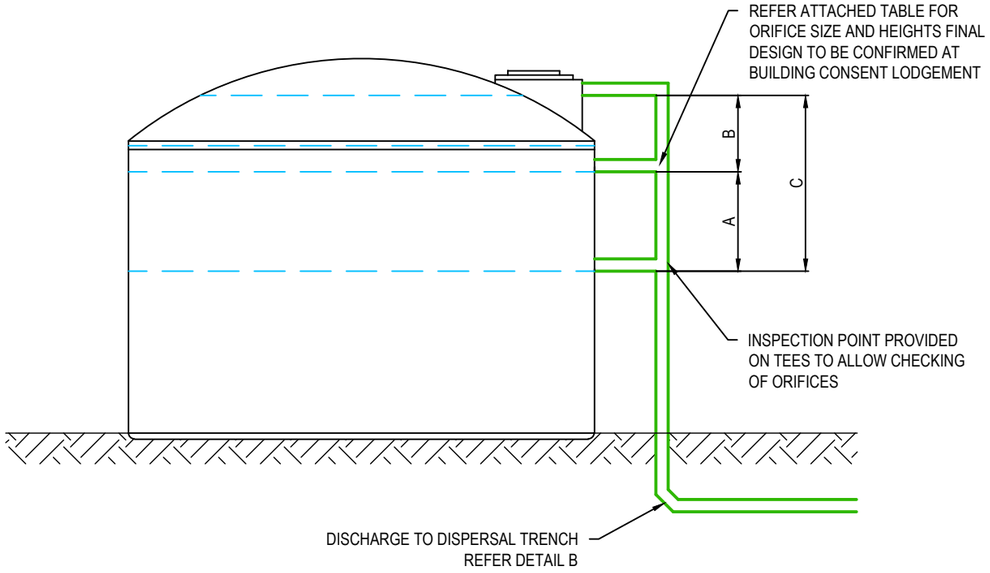
Riddell Road
Kerikeri

Proposed Typical Stormwater Mitigation Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to Plan		
Cad file	10401 RIDDELL SW MITIGATION.DWG		
Drawing no.	C4301	Rev	A



TYPICAL ATTENUATION TANK DETAIL
SCALE 1:50 @ A3

Scenario	Total impervious Area (m^2) (50% collected)	Event	Dimension	Orifice Height (m)	Orifice Size (mm)	Water Level (m)	Volume (m3)
1	370	5 yr	A	0.00	18	0.62	5.97
		10 yr	B	0.62	34	0.80	7.70
		100 yr	C	N/A	N/A	1.16	11.16
2	400	5 yr	A	0.00	18	0.69	6.64
		10 yr	B	0.69	34	0.89	8.56
		100 yr	C	N/A	N/A	1.29	12.41
3	450	5 yr	A	0.00	18	0.81	7.79
		10 yr	B	0.81	38	1.02	9.81
		100 yr	C	N/A	N/A	1.43	13.76
4	500	5 yr	A	0.00	18	0.93	8.95
		10 yr	B	0.93	38	1.17	11.26
		100 yr	C	N/A	N/A	1.65	15.87
5	600	5 yr	A	0.00	20	1.04	10.01
		10 yr	B	1.04	38	1.33	12.80
		100 yr	C	N/A	N/A	1.93	18.57

REFER TO COOK COSTELLO ATTENUATION REPORT
"LOT 2 DP 543664 39 RIDDELL ROAD, KERIKERI'
PROJECT NUMBER 17857 DATED 9/12/2025

Notes

1. All works to be in accordance with Far North Council Standards.
2. It is the contractors responsibility to locate any underground services prior to the commencement of works.
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    - 11.5. Vehicle access of 3m width and 4m vertical clearance

LEGEND

- EX BDY
- PROP BDY
- PROP WATER LEVEL
- PROP STORMWATER

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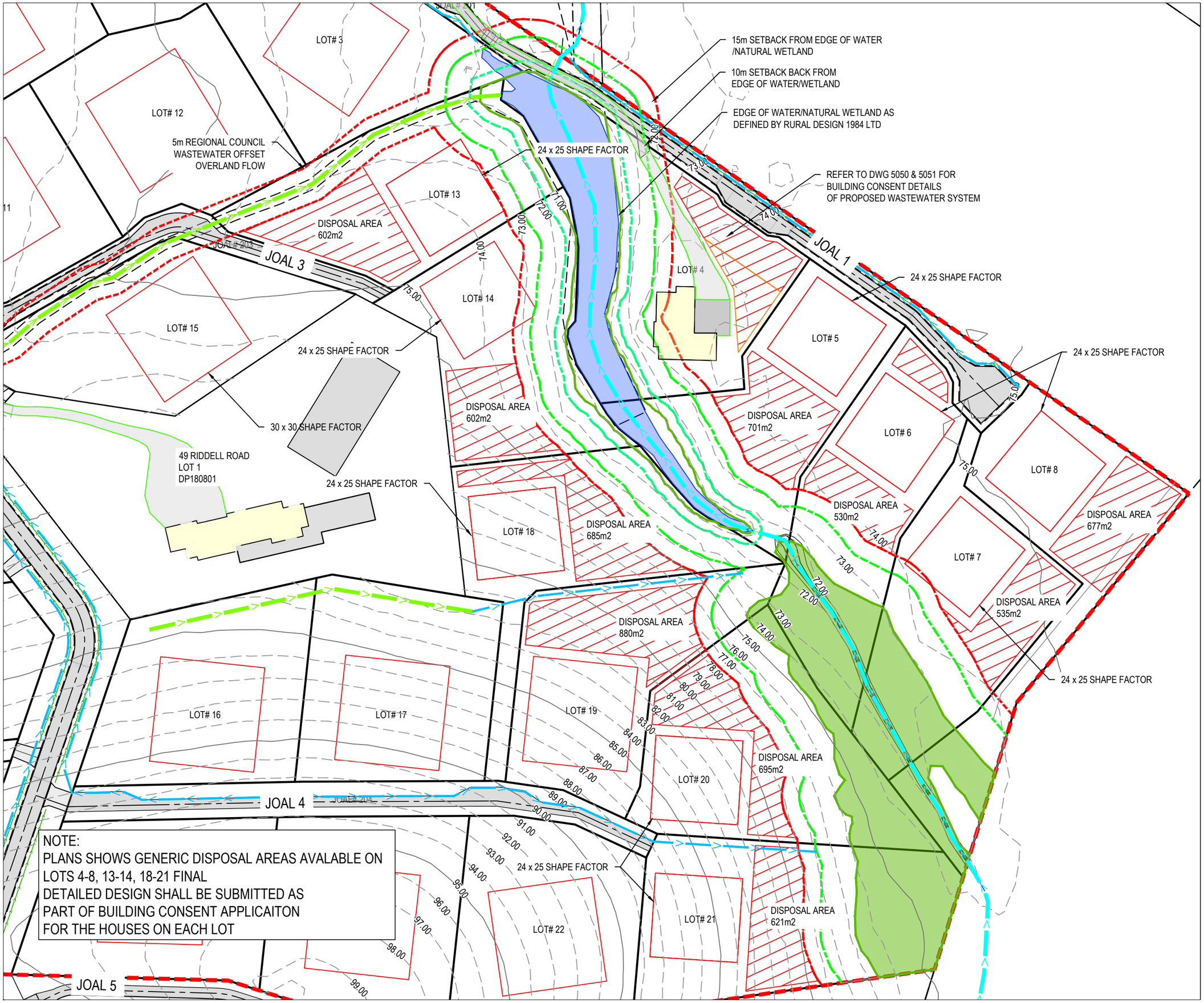
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Typical Stormwater Mitigation Details Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/25
Surveyed		KM	09/25
Designed		GB	09/25
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to Plan		
Cad file	10401 RIDDELL SW MITIGATION.DWG		
Drawing no.	C4302	Rev	A



NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. Origin of levels = Code C30D Name RM 58 SO 55465
   - Northing 982430.570
   - Easting 326338.700
   - Elevation 57.74
5. Boundaries are subject to final survey.
6. Extent of Wetland Plotted from information provided by Rural Design Limited from site walkover survey.
7. Development will have design standards requiring the following house construction: Minimum GFA 180m2 inclusive of double internal garage (equates to 3 bedroom with study for purpose of Wastewater Assessment volumes)
8. Treatment system to be aerated wastewater treatment systems (AWTS) or equivalent, with disposal via subsurface drip irrigation (pressure compensating) or above ground if within vegetated/planted areas.
9. 23m x 24m Shape factor shown to lots around watercourse which equates to 20% (600m2) total impervious coverage under stormwater controls.
10. Final specific design completed by Chartered Engineer or suitability qualified specialist on each lot with Building Consent Applications.
11. Contours are at 1m intervals.

LEGEND

- EX BDY
- PR BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX EASEMENT
- PR EASEMENT
- EX WATERCOURSE
- EX FLOWPATH
- EX NATURAL WETLAND
- EX WETLAND 3m OFFSET
- EX WETLAND 10m OFFSET
- EX WETLAND 15m OFFSET
- PR OVERLAND FLOW
- PR DISPOSAL AREAS
- PR 30x30 PLATFORM

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Overview
Wastewater Disposal Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	12/2025
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	10/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL WW.DWG		
Drawing no.	C5000	Rev	A

Appendix C - Engineering Calculations

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Sheet

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Estimated Sediment Yield from Universal Soil Loss
Job Number	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Catchment Area# 1

14845 m^2

Estimate of sediment generation **A = R*K*LS*C*P** **tonnes/ha/yr**

where

Rainfall Erosion Index **R =** 0.008828*P^2.2*1.7

where P = 72.848

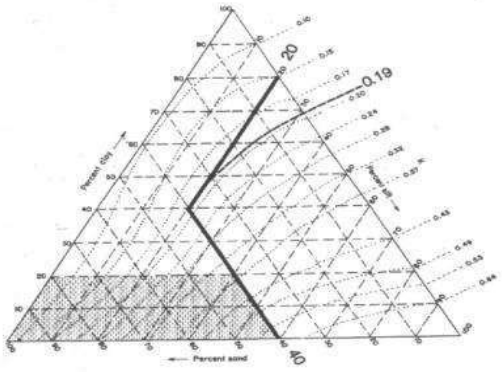
P is calculated by taking the 2yr 24 hour rainfall from ARC TP108 Figure A.1 and multiplying by 0.628

TP108 2yr = 116

Therefore **R = 187.7716568** **J/ha**

Soil Erodibility Factor **K = K*organic factor*imperial to metric factor**

Figure 1: Triangular Nomograph for Estimating K Values



Goldman et al. 1986

where from geotechincal report and/or assumed

% sand 10

% silt 50

% clay 40

Therefore from Figure 1 of USLE fact sheet unadjusted K= 0.36

assumed

% organic 0

Note clay assumed 0% topsoil 4%

Therefore From table 1 of USLE fact sheet correction factor for organic material = 0.1

metric to imperial correction factor = 1.32

Table 1

K Value	Correction factor when percent organic matter is 0% (clay)	1%	2%	3%	4% (topsoil)
Greater than 0.40	+ 0.14	+ 0.07	0	- 0.07	- 0.14
0.20 – 0.40	+ 0.10	+ 0.05	0	- 0.05	- 0.10
Less than 0.20	+ 0.06	+ 0.03	0	- 0.03	- 0.06

Therefore **K = 0.6072** **tonnes/unit of R**

Slope Length and Steepness Factor **LS =** From Appendix 1 equation

Assuming

Slope Length = 228

Maximum Elevation = 92

Minimum Elevation = 79

Slope As a % 5.70

Therefore m = 0.5

Therefore **LS = 0.95**

Ground Cover Factor **C =** 1 Assumed site as **Bare Soil** and taking value from Table 2

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Sheet

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Estimated Sediment Yield from Universal Soil Loss
Job Number	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Roughness Factor **P =** **1.32** Assumed site as **Bare Soil** and taking value from Table 2

Table 2

Treatment	C factor	P factor
Bare Soil		
- compacted and smooth	1.0	1.32
- track walked on contour	1.0	1.2
- rough irregular surface	1.0	0.9
- disked to 250 mm depth	1.0	0.8
Native vegetation (undisturbed)	0.01	1.0
Pasture (undisturbed)	0.02	1.0
Establishing grass	0.1	1.0
Mulch – on subsoil[2]	0.15 (3 month period only)	1.0
Mulch – on topsoil[3]	0.05 (3 month period only)	1.0

Therefore **A = 143.20 tonnes/ha/yr**

Estimate of Sediment yield S_{yield} = **A*Ae*SD*SCE*D** **tonnes / per 3months**

where

Estimate of sediment generation	**A** =	**143.20**	**tonnes/ha/yr**
Area of exposure	**Ae** =	**1.4845**	**ha**
Sediment Delivery Ratio	**SDR** =	**0.5**	
Sediment Control Measure Efficiency	**SCE** =	**0.5**	%
Duration of Exposure	**D** =	**0.25**	**yrs**

Therefore S_{yield} = **13.286** **tonnes / per 3months**

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Sheet 1 of 3

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Sediment Pond Sizing SRP 1
Job Numbe	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

	Catchment Area 1
	14845 m^2
Pond Volume 3% of Area	445.35 m^3
Dead Storage 30% of volume	133.605 m^3
Live Storage 70% of volume	311.745 m^3
Decant Dewatering (3l/s/ha)	4.4535 l/s

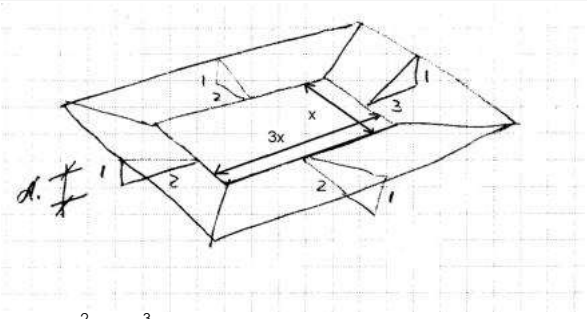
Size Decent

Standard decent	4.5 l/s	=	200 holes
Therefore	4.45 l/s	=	198 holes

Pond Dimensions

x = width of pond base
v = 445.35 m^3
d = 1 m

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1



3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 3x^2d+8.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	3	x^2+	8.5	x+	-435.35
x	=	10.71	width of pond base		x3	32.14
or	=	-13.546119				

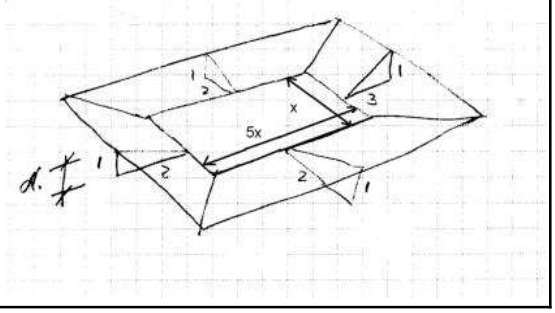
Check = 445.35 m^3

5:1 ratio

$v = (((5x^2)+((x+4d)(5x+5d)))/2)d$ => $v = 5x^2d+12.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	5	x^2+	12.5	x+	-435.35
x	=	8.16	width of pond base		x5	40.82
or	=	-10.664484				

Check = 445.35 m^3



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Sheet 2 of 3

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Dead Storage Depth Calculations
Job Numbe	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

	Catchment Area 1
	14845 m^2
Pond Volume 3% of Area	296.9 m^3
Dead Storage 30% of volume	89.07 m^3
Live Storage 70% of volume	207.83 m^3
Decant Dewatering (3l/s/ha)	4.4535 l/s

Dead Storage Depth

Pond Dimensions

x = 10.712786

v = 89.07 m^3

d = Dead storage depth

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1

3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 10d^3+8.5xd^2+3x^2d$ cubic equation to find "d"

				a		b		c
0	=		d^3+	9.1058677	d^2+	34.429132	+d	-8.907
Q	=	2.26						
R	=	28.74						
S	=	3.86						
T	=	-0.59						
d	=	0.243	depth of dead storage					

Check v = 89.069978 m^3

Conquel Consulting

Sheet 3 of 3

Job Title	**39 Riddell Road, Kerikeri**						
Calc Title	**GD006 - Emergency Spillway**						
Job Numbe	**10401**						
Author	**GB**	**Checked**	**TS**	**Date**	**9/12/2025**	**Rev**	**A**

Enter Spillway Batter Slope horizontal 2 vertical 1
Enter Spillway Gradient 0.2 %
Base Width of Spillway = Base Width of Pond 10.71 m

Rational Formula

Q=CIA NIWA HIRDS Rainfall Data - 1% AEP

Assume C 1
I (m/sec) 0.0000425 (153mm/hr)
A (m^2) 14845

=> Q 0.6309125 (m3/sec)
Q 630.9125 (l/sec)

Mannings

$V=(1/n)R^{2/3}S^{1/2}$ R=A/P Q=AV

Flow path is firm earth

n = 0.018

Where: H = depth of channel P = wetted parameter A = Sectional Area
S = slope of channel

SPILLWAY - CATCHMENT A

H	P	A	S	R	V	Q	
0.1	11.159999	1.0912786	0.002	0.0977848	0.5273393	0.575474	To Low
0.11	11.204721	1.2026064	0.002	0.1073303	0.5611222	0.6748092	To High
0.14	11.338885	1.53899	0.002	0.1357268	0.6561746	1.0098462	To High
	10.712786	0	0.002	0	0	0	To Low
	10.712786	0	0.002	0	0	0	To Low

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Sheet 1 OF 4

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Decanting Earth Bund Sizing DEB 1
Job Numbe	10401

Author	GB	Checked	-	Date	9/12/2025	Rev	A

	Catchment Area 1
	2304 m^2
Pond Volume 2% of Area	46.08 m^3
Dead Storage 30% of volume	13.824 m^3
Live Storage 70% of volume	32.256 m^3
Decant Dewatering (3l/s/ha)	0.6912 l/s

Size Decent

Standard decent	4.5 l/s	=	200 holes
Therefore	0.69 l/s	=	31 holes

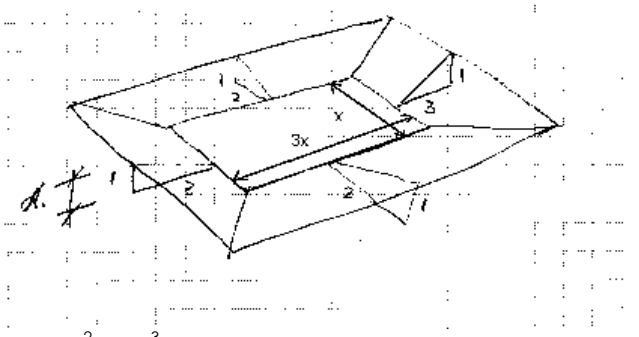
Pond Dimensions

x = width of pond base

v = 46.08 m^3

d = 1 m

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1



3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 3x^2d+8.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	3	x^2+	8.5	x+	-36.08
x	=	2.33	width of pond base		3x	6.99
or	=	-5.1628128				

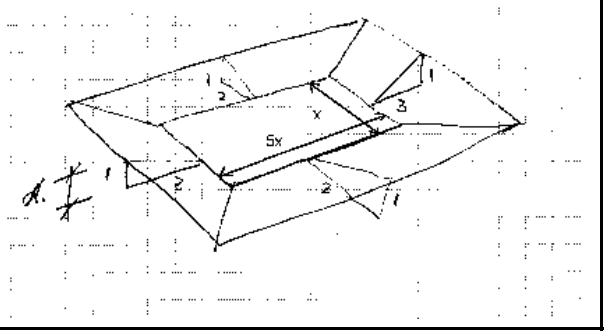
Check = 46.08 m^3

5:1 ratio

$v = (((5x^2)+((x+4d)(5x+5d)))/2)d$ => $v = 5x^2d+12.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	5	x^2+	12.5	x+	-36.08
x	=	1.71	width of pond base		5x	8.56
or	=	-4.2128534				

Check = 46.08 m^3



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Sheet 2 OF 4

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Decanting Earth Bund Sizing DEB 2
Job Number	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Catchment Area 3

	1285	m^2
Pond Volume 2% of Area	25.7	m^3
Dead Storage 30% of volume	7.71	m^3
Live Storage 70% of volume	17.99	m^3
Decant Dewatering (3l/s/ha)	0.3855	l/s

Size Decent

Standard decent	4.5 l/s	=	200 holes
Therefore	0.39 l/s	=	17 holes

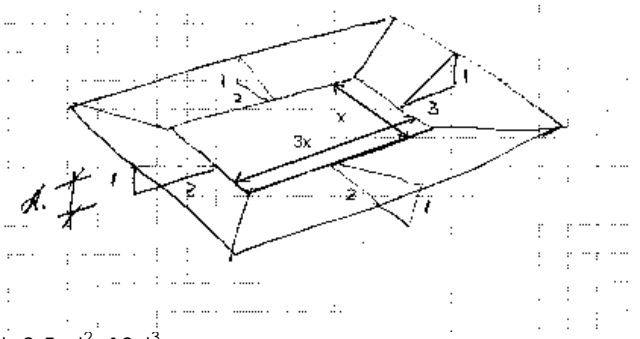
Pond Dimensions

x = width of pond base

v = 25.7 m^3

d = 1 m

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1



3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 3x^2d+8.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	3	x^2+	8.5	x+	-15.7
x	=	1.27	width of pond base	3x		3.82
or	=	-4.1074431				

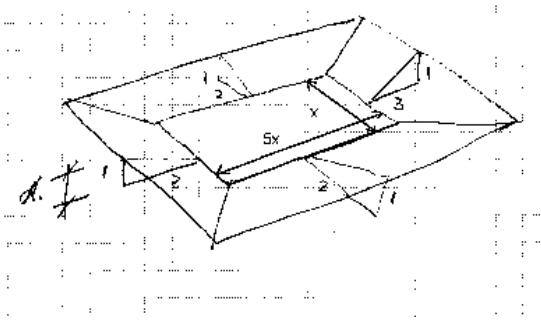
Check = 25.7 m^3

5:1 ratio

$v = (((5x^2)+((x+4d)(5x+5d)))/2)d$ => $v = 5x^2d+12.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	5	x^2+	12.5	x+	-15.7
x	=	0.92	width of pond base	5x		2.76
or	=	-3.4185248				

Check = 25.7 m^3



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Sheet 3 OF 4

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Decanting Earth Bund Sizing DEB 3
Job Number	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Catchment Area 11

2526 m^2

Pond Volume 3% of Area	75.78 m^3
Dead Storage 30% of volume	22.734 m^3
Live Storage 70% of volume	53.046 m^3
Decant Dewatering (3l/s/ha)	0.7578 l/s

Size Decent

Standard decent	4.5 l/s	=	200 holes
Therefore	0.76 l/s	=	34 holes

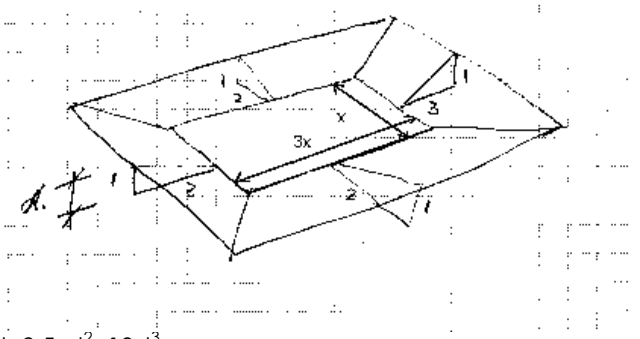
Pond Dimensions

x = width of pond base

v = 75.78 m^3

d = 1 m

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1



3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 3x^2d+8.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	3	x^2+	8.5	x+	-65.78
x	=	3.48	width of pond base		3x	10.43
or	=	-6.3088657				

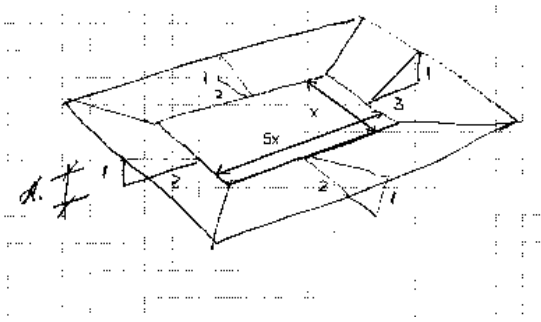
Check = 75.78 m^3

5:1 ratio

$v = (((5x^2)+((x+4d)(5x+5d)))/2)d$ => $v = 5x^2d+12.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	5	x^2+	12.5	x+	-65.78
x	=	2.59	width of pond base		5x	12.93
or	=	-5.0864697				

Check = 75.78 m^3



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Sheet 4 OF 4

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD006 - Decanting Earth Bund Sizing DEB 4
Job Number	10401

Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Catchment Area 12

	2495	m^2
Pond Volume 3% of Area	74.85	m^3
Dead Storage 30% of volume	22.455	m^3
Live Storage 70% of volume	52.395	m^3
Decant Dewatering (3l/s/ha)	0.7485	l/s

Size Decent

Standard decent	4.5 l/s	=	200 holes
Therefore	0.75 l/s	=	33 holes

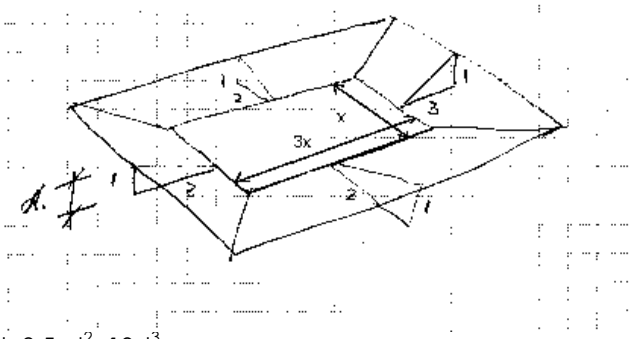
Pond Dimensions

x = width of pond base

v = 74.85 m^3

d = 1 m

These calculations allow for the sides and outlet end of the pond to be at a slope of 2:1 and for the inlet end of the pond to be at a slope of 3:1



3:1 ratio

$v = (((3x^2)+((x+4d)(3x+5d)))/2)d$ => $v = 3x^2d+8.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	3	x^2+	8.5	x+	-64.85
x	=	3.44	width of pond base		3x	10.33
or	=	-6.2770793				

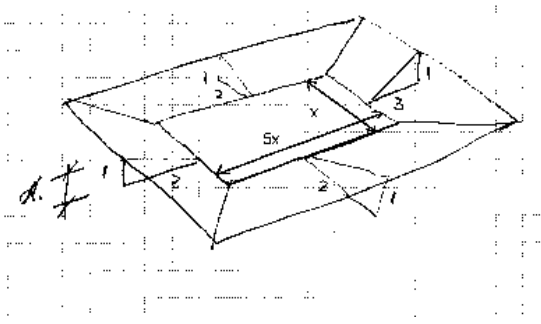
Check = 74.85 m^3

5:1 ratio

$v = (((5x^2)+((x+4d)(5x+5d)))/2)d$ => $v = 5x^2d+12.5xd^2+10d^3$ quadratic equation to find "x"

		a		b		c
0	=	5	x^2+	12.5	x+	-64.85
x	=	2.56	width of pond base		5x	12.81
or	=	-5.0621516				

Check = 74.85 m^3



N

RIDDELL ROAD

CATCHMENT S
1096m2

CATCHMENT R
4191m2

LOT# 1

JOAL 1

CATCHMENTS R, S COMBINE

75.00

LOT# 9

4510
QQ

CATCHMENT U
928m2

4510
RR

CATCHMENT T
5662m2

CATCHMENTS R, S, T, U COMBINE
AND DISCHARGE EXISTING POND
VIA SWALE

JOAL# 203

LOT# 10

LOT# 3

CATCHMENT M-1
1162m2

EXTENT OF 100YR FLOW

LOT# 12

CATCHMENT N-1
640m2

CATCHMENT Q
11385m2

4511
SS

55 RIDDELL ROAD
LOT 1
DP543664

CATCHMENT N-2
422m2

LOT# 11

4509
OO

4510
PP

LOT# 13

CATCHMENT M-2
916m2

CATCHMENT O
3444m2

JOAL# 202

CATCHMENT L
7805m2 (impervious)
417m2 (pervious)
GWE Report

EXISTING EASEMENT AND OVERLAND
FLOWPATH THROUGH SITE

JOAL 3

LL
4508

JOAL 2

LOT# 14

LOT# 15

4509
NN

CATCHMENT F, G, L, M, N, H, I, J, K COMBINE
AT CULVERT UNDER JOAL 3
10YR FLOW THROUGH CULVERTS
100YR FLOW RUNS OVER

CATCHMENT H, I, J, K, L, M COMBINE
AT CULVERT UNDER JOAL 2
10YR FLOW THROUGH CULVERTS
100YR FLOW RUNS OVER

JOAL# 201

4509
MM

EXTENT OF 100YR FLOW

CATCHMENT P
8574m2

CATCHMENT SHEET FLOWS TO EXISTING
POND/WATERCOURSE

LOT# 25

LOT# 26

4508
KK

49 RIDDELL ROAD
LOT 1
DP180801

LOT#
18

80.00

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. Origin of levels = sm xxxx so xxxx(xxxx)
   published rl=xx.xx, sourced from the linz digital geodetic database.
5. Boundaries are subject to final survey.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR SITE EXTENT
- EX STORMWATER
- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4502	Rev	A

NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR SITE EXTENT
- EX STORMWATER
- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

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Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4503	Rev	A

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR SITE EXTENT
- EX STORMWATER
- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4504	Rev	A

CONQUEL CONSULTANTS

Job Number	Sheet	Rev		Author	Date	Checked	
10401	1	A	Calc Title: Pipe Capacity Design	GB	28/11/2025	TS	

2.1c increase

Rainfall Depth	HIRDS V4 10YR	
HIRDs Rainfall	183	
Climate change Increase	219.6	

Pipe ks factor = 0.15 mm (pipes up to 1.0m dia)
0.6 mm (pipes over 1.0m dia)

Far North Climate Change 20%

	CN Number	
Impervious area	98	
Pervious	74	
Proposed JOALS	88.4	Equivalent CN - (60% impervious coverage, 40% pervious coverage)
THAB & local business	93.2	Equivalent CN - (80% impervious coverage, 20% pervious coverage)
Rural Residential Lots	78.8	Equivalent CN - (20% impervious coverage, 80% pervious coverage)

CATCHMENT	Flow From	SW Line	Catchment Area	CN	Peak Flow rate - 10YR ARI	Cum. Flow	Pipe dia	Gradient	Capacity	Percent Capacity	Remaining	Velocity	Check
number	*description*	*letter*	*m2*		*l/s*	*l/s*	*m*	*%*	*l/s*	*%*	*l/s*	*m/s*	OK
Catchment A and B - JOAL and Swale Sizing													
A	LOTS	JOAL Channel	3551	78.8	107.0	107.0							
A	JOAL	JOAL Channel	967	88.4	33.2	140.2							
B	LOTS	Flowpath/Pipe	1335	78.8	40.2	180.4	0.225	16.24	251.9	71.6%	71.5	6.33	OK
Catchment C and D - Swale Sizing													
C	LOTS	Flowpath	5640	78.8	170.0	170.0	Section FF - Refer Mannings Calculations						
D	LOTS	Flowpath	3359	78.8	101.2	271.2	Section GG - Refer Mannings Calculations						
Catchment E - JOAL swale sizing													
E	JOAL	Swale	1327	88.4	45.5	45.5	Section HH - Refer Mannings Calculations						
Catchment F, G, H - JOAL swale sizing													
F	LOTS	JOAL Channel	3476	78.8	104.7	104.7							
F	JOAL	3-2 TO 3-1	1218	88.4	41.8	146.5	0.225	12.39	220.0	66.6%	73.4	5.53	OK
G	JOAL	300 Culvert	615	88.4	21.1	167.6	0.300	11.50	449.6	37.3%	282.0	6.36	OK
H	JOAL	1-5A to 1-4	1649	88.4	56.5	224.1	0.375	1.20	259.7	86.3%	35.5	2.35	OK
Catchment I, J, K, L, M - Swale, Culvert sizing													
I	JOAL	Swale	615	88.4	21.1	21.1	Section JJ - Refer Mannings Calculations						
J	JOAL	Swale	1294	88.4	44.4	65.5	Section KK - Refer Mannings Calculations						
M-1	JOAL	1-8 to 1-4	1162	88.4	39.8	39.8							
N-1	JOAL	1-8 to 1-4	640	88.4	21.9	61.8	0.225	1.29	70.8	87.2%	9.0	1.78	OK
M-2	JOAL	1-4A to 1-4	916	74.0	25.3	25.3	0.225	1.00	62.3	40.5%	37.1	1.57	OK

Note: Flows calculated on MPD ignoring detention/mitigation of flows and includes climate change

CONQUEL CONSULTANTS

Job Number	Sheet	Rev		Author	Date	Checked	
10401	2	A	Calc Title: Pipe Capacity Design	GB	28/11/2025	TS	

2.1c increase

Rainfall Depth	HIRDS V4 10YR	
HIRDs Rainfall	183	
Climate change Increase	219.6	

Far North Climate Change 20%

Pipe ks factor = 0.15 mm (pipes up to 1.0m dia)
0.6 mm (pipes over 1.0m dia)

	CN Number	
Impervious area	98	
Pervious	74	
Proposed JOALS	88.4	Equivalent CN - (60% impervious coverage, 40% pervious coverage)
THAB & local business	93.2	Equivalent CN - (80% impervious coverage, 20% pervious coverage)
Rural Residential Lots	78.8	Equivalent CN - (20% impervious coverage, 80% pervious coverage)

CATCHMENT	Flow From	SW Line	Catchment Area	CN	Peak Flow rate - 10YR ARI	Cum. Flow	Pipe dia	Gradient	Capacity	Percent Capacity	Remaining	Velocity	Check
number	*description*	*letter*	*m2*		*l/s*	*l/s*	*m*	*%*	*l/s*	*%*	*l/s*	*m/s*	OK
Catchment - I, J, K, L, M Swale, JOAL 2 Culvert sizing													
Incoming Flow	Catchment F, G, H					224.1							
Incoming Flow	Catchment I, J, M-1 & 2 and N-1					152.5							
L	LOTS	to 1-4 Scruffy	7805	98.0	284.5	661.1							
L	LOTS	to 1-4 Scruffy	417	74.0	11.5	672.6							
K	LOTS	1-4 to 1-3	13105	78.8	394.9	1067.5	0.600	2.10	1170.8	91.2%	103.3	4.14	OK
Catchment O, P, Q - Swale, JOAL 3 Culvert Sizing													
Incoming flow catchment F, G, H, I, J, K, L, M, N-1						1067.5							
N-2	JOAL	1-3B to 1-3	422	88.4	14.5	14.5	0.225	17.32	260.1	5.6%	245.6	6.54	OK
O	LOTS	Swale to 1-2	3444	78.8	103.8	1185.8	Section NN - Refer Mannings Calculations						
P	LOTS	1-2 to 1-1	8574	78.8	258.4	1444.1	0.750	2.00	2042.7	70.7%	598.5	4.62	OK
Q	LOTS	1-1 to Pond	11385	78.8	343.1	1787.2	Section PP - Refer Mannings Calculations						
Catchment R, S, T, U - JOAL swale sizing													
R	LOTS	2-1 to 1-3	4191	78.8	126.3	126.3							
S	JOAL	Channel	1096	88.4	37.6	163.9	Section QQ - Refer Mannings Calculations						
T	LOTS	Swale	5662	78.8	170.6	334.5							
U	JOAL	Swale	928	88.4	31.8	366.3	Section RR - Refer Mannings Calculations						

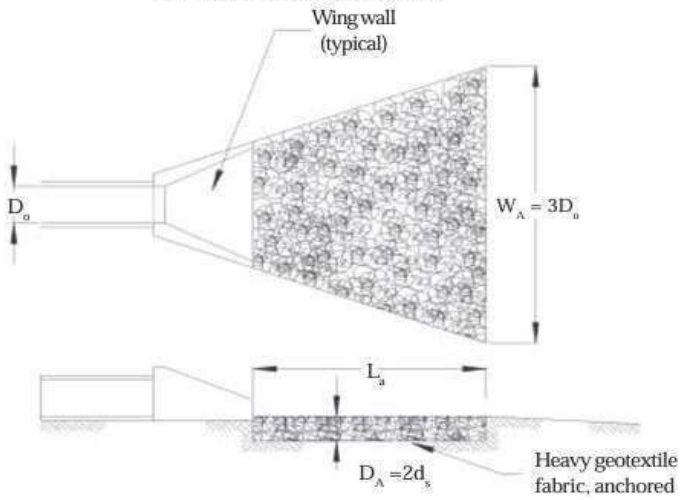
Note: Flows claculated on MPD ignoring detention/mitigation of flows and includes climate change

Conquel Consulting						Sheet	1 OF 4
Job Title	39 Riddell Road, Kerikeri						
Calc Title	TP10 Stormwater Outfall Calculation						
Job Number	10401						
Author	GB	Checked	TS	Date	10/12/2025	Rev	A

Stormwater Outlet 1-1

Pipe Size	750	
Gradient	2.00%	
V=	4.62	m/s
Fo =	1.5548418	
ds	291.53	say 300mm dia rock
Width	2250	mm
La	8444	mm
Da	583.06569	say 600mm rock depth

Figure 13-2
Schematic of outfall protection

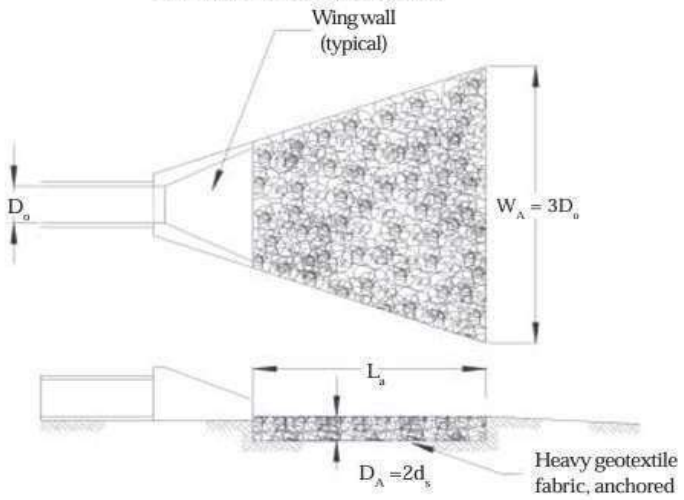


Conquel Consulting						Sheet	2 of 4
Job Title	39 Riddell Road, Kerikeri						
Calc Title	TP10 Stormwater Outfall Calculation						
Job Number	10401						
Author	GB	Checked	TS	Date	10/12/2025	Rev	A

Stormwater Outlet 1-3

Pipe Size	600	
Gradient	2.00%	
V=	4.04	m/s
Fo =	1.3596452	
ds	203.95	say 200mm dia rock
Width	1800	mm
La	6161	mm
Da	407.89357	say 400mm rock depth

Figure 13-2
Schematic of outfall protection

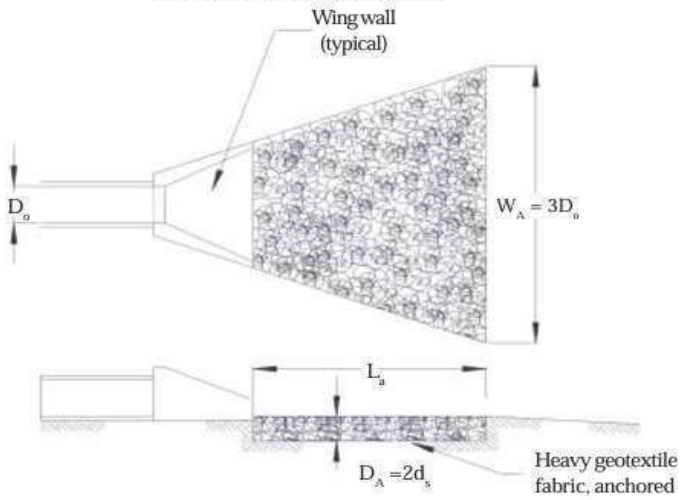


Conquel Consulting						Sheet	3 of 4
Job Title	39 Riddell Road, Kerikeri						
Calc Title	TP10 Stormwater Outfall Calculation						
Job Number	10401						
Author	GB	Checked	TS	Date	10/12/2025	Rev	A

Stormwater Outlet 2-1

Pipe Size	225	
Gradient	16.24%	
V=	6.33	m/s
Fo =	2.1303352	
ds	119.83	say 100mm dia rock
Width	675	mm
La	3056	mm
Da	239.66271	say 200mm rock depth

Figure 13-2
Schematic of outfall protection

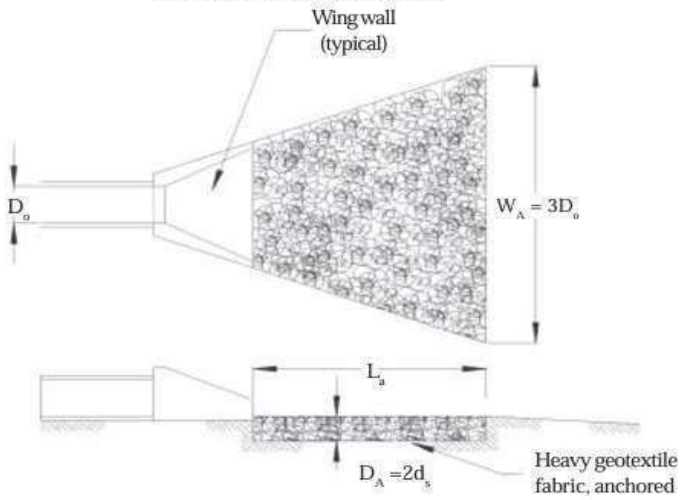


Conquel Consulting						Sheet	4 of 4
Job Title	39 Riddell Road, Kerikeri						
Calc Title	TP10 Stormwater Outfall Calculation						
Job Number	10401						
Author	GB	Checked	TS	Date	10/12/2025	Rev	A

Stormwater Outlet 3-1

Pipe Size	225	
Gradient	12.39%	
V=	5.53	m/s
Fo =	1.8610986	
ds	104.69	say 100mm dia rock
Width	675	mm
La	2832	mm
Da	209.37359	say 200mm rock depth

Figure 13-2
Schematic of outfall protection



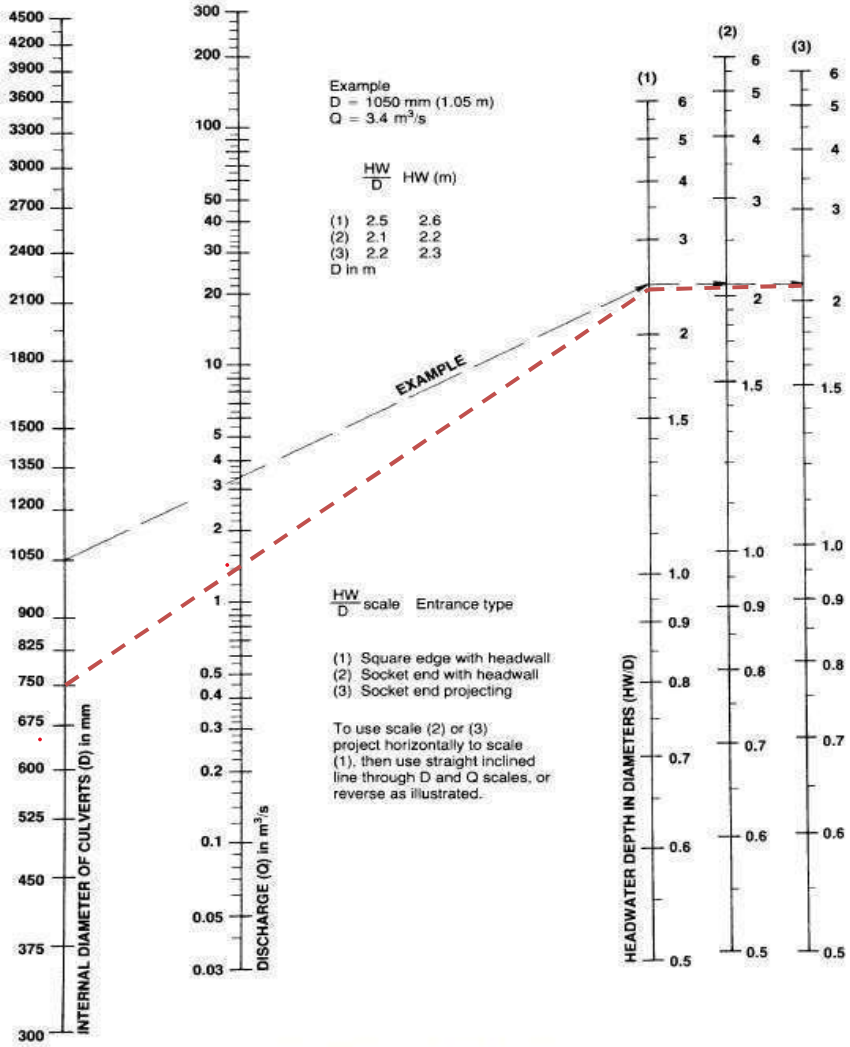
Conquel Consulting						Sheet	1 of 2
Job Title	39 Riddell Road, Kerikeri						
Calc Title	Culvert JOAL 3 - CPAA Sizing 10YR						
Job Number	10401						
Author	GB	Checked	TS	Date	28/11/2025	Rev	A

Culvert Name JOAL 3

Q100	1.44	m3/s	Include 20% climate change
Culvert Size	0.75	m	
HW/D	2.1	m	(From chart below)
HW	1.575		Total Depth from Invert of Culvert to Convey flow

HW - Depth of water at the inlet above the invert of culvert

Outcome - 10yr flow will be conveyed through culvert 1.7m head avalable from crest in JOAL



HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

Figure 3.3
Adapted from [3.4]

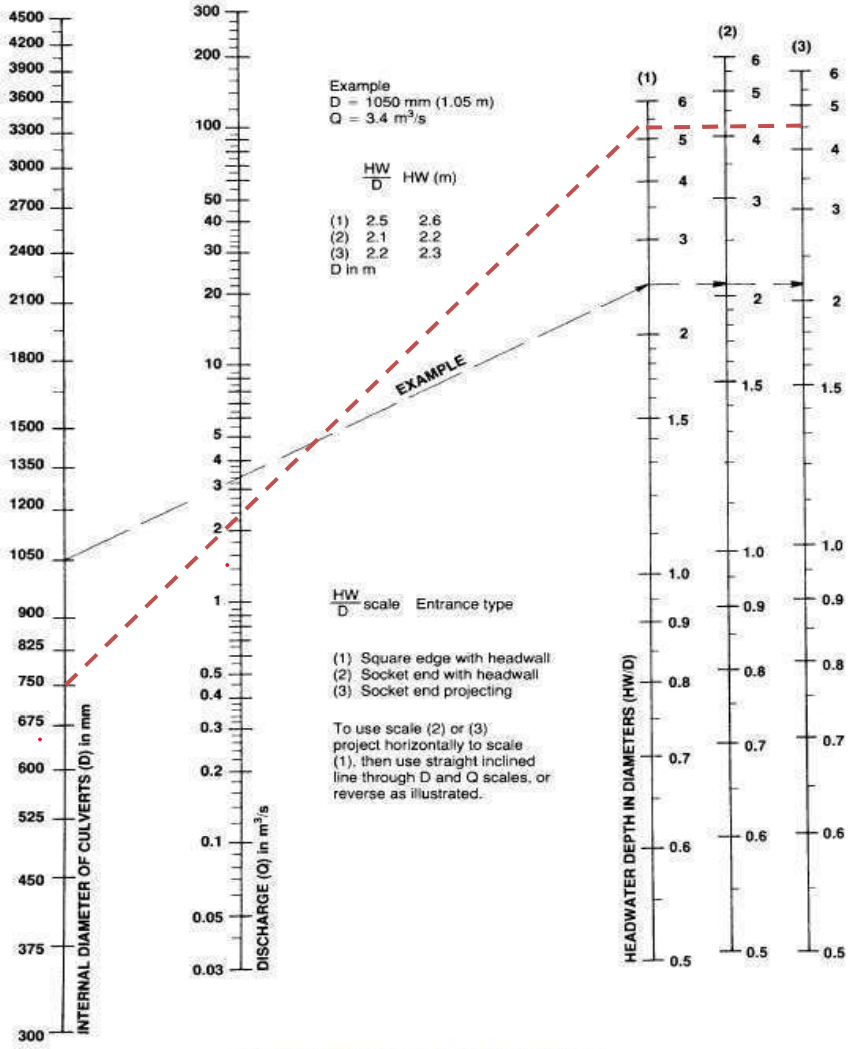
Conquel Consulting						Sheet	2 of 2
Job Title	39 Riddell Road, Kerikeri						
Calc Title	Culvert JOAL 3 - CPAA Sizing 100YR						
Job Number	10401						
Author	GB	Checked	TS	Date	28/11/2025	Rev	A

Culvert Name JOAL 3

Q100	2.353	m3/s	Include 20% climate change
Culvert Size	0.75	m	
HW/D	4.2	m	(From chart below)
HW	3.15		Total Depth from Invert of Culvert to Convey flow

HW - Depth of water at the inlet above the invert of culvert

Outcome - JOAL will overtop in 100yr refer mannings calcs for flow depth assessment



HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

Figure 3.3
Adapted from [3.4]

Conquel Consulting						Sheet	1 of 1
Job Title	39 Riddell Road, Kerikeri						
Calc Title	Rain garden Sizing						
Job Number	10401						
Author	GB	Checked	TS	Date	9/12/2025	Rev	A

Rain Garden Sizing for Water Quality Treatment

Water Quality Flow Rational Method as per GD01

i	10	mm/hr
	2.7778E-06	m/s
C	0.95	Impervious
	0.2	Berm
Weighted C	0.84	85% Impervious

Media Bed area from Equation 13 GD01

	0.00028	m/s
Kmedia	1	m/hr

2) Calculate the minimum area of the bioretention device:

$$A = \frac{WQF}{(0.5 \times K_{(media)})}$$ Equation 13

Where	A	-	Area of bioretention media bed at its narrowest point (m^2)
	WQF	-	Water quality flow (m^3/hr)
	$K_{(media)}$	-	Infiltration rate of bioretention media (m/hr)
	Safety factor for clogging	-	0.5

Note: Bioretention area must be greater than 2% of total catchment area

Raingarden ID	RG 1	RG 2		
Catchment ID	H	F		
Catchment Area (m2)	367	236		
Water Quality Flow (m3/s)	0.001	0.001		
Required Area RG Media Bed (m2)	6.97	4.48		
Prop RG Width (m)	2.1	2.1		
Prop RG Length(m)	9	7		
Prop RG ponding Area (m2)	18.9	14.7		
Media Bed Bottom Width (m)	0.9	0.9		
Media Bed Bottom Length (m)	7.8	5.8		
Area RG Narroest Point (m)	7.02	5.22		
Media Bed Ok?	**OK**	**OK**		
2% of Catchment Area (m2)	7.34	4.72		
Ponding Area > 2% Total Catchment?	**OK**	**OK**		

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Sheet 1 OF 6

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD01 Swale Calculation - JOAL 1 (3m SINGLE CROSSFALL)
Job Number	10401

Author	GB	Checked	TS	Date	12/10/2025	Rev	A

Catchment	R, S,
CH	10.4
CH	200
Length	189.6

Enter Values
Fixed calculations

Swale with trapezoidal cross-section
Grass length 50mm

		Water Quality Flow		10yr Flow
Flow rate Q	m^3/s	**0.0015**	Q=V*A	**0.126**
Channel slope S		**3.0%**		3.0%
Depth d	m	**0.050**		**0.160**
Z=1/sideslope		**3**		3.0
Manning's n for 50mm grass		0.250		0.030
Hydraulic radius R	m	0.034		***0.090***
Base width b=Qn/d.R^0.67.S^0.5-Zd	m	0.200		0.200
Is b< 2m ? (required for grassed swales)		**OK**	V=R^.667*S^.5/n	1.157
Width at water level T=b+2dZ	m	0.500		1.160
Cross-sectional area A=bd+Zd^2	m^2	0.018		0.109
Velocity V=Q/A	m/s	**0.086**		**1.157**
Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.034		0.090
Is velocity V < 0.8m/s ?		**OK**	**Is velocity V < 1.5m/s ?**	**OK**
To meet TP10 stormwater treatment specification:				
Minimum allowable travel time t	s	**540**	**Target Flow (pipe calcs)**	**0.126**
Minimum swale length L	m	**46.3**		

50mm GRASS HEIGHT USED

WQV Discharge Volume

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	R, S,		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	568.8	0.0015	1.501

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	**0**
Longtitudial Slope %	m/m	**0.030**
Length between check dams	m	**0**
Total Length Swale		**0**
Length between check dams		**0.000**
Number of Check Dams		**#DIV/0!**

Note: Need check flow over check dams for freeboard

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Sheet 2 OF 6

Job Title	39 Riddell Road, Kerikeri
Calc Title	GD01 Swale Calculation - JOAL 1 (3m SINGLE CROSSFALL)
Job Number	10401

Author	GB	Checked	TS	Date	12/10/2025	Rev	A

Catchment	E
CH	240
CH	394
Length	154

Enter Values
Fixed calculations

Swale with trapezoidal cross-section
Grass length 50mm

		Water Quality Flow		10yr Flow
Flow rate Q	m^3/s	**0.0012**	Q=V*A	**0.044**
Channel slope S		**3.0%**		3.0%
Depth d	m	**0.050**		**0.100**
Z=1/sideslope		**3**		3.0
Manning's n for 50mm grass		0.250		0.030
Hydraulic radius R	m	0.034		***0.060***
Base width b=Qn/d.R^0.67.S^0.5-Zd	m	0.200		0.200
Is b< 2m ? (required for grassed swales)		**OK**	V=R^.667*S^.5/n	0.885
Width at water level T=b+2dZ	m	0.500		0.800
Cross-sectional area A=bd+Zd^2	m^2	0.018		0.050
Velocity V=Q/A	m/s	**0.070**		**0.885**
Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.034		0.060
Is velocity V < 0.8m/s ?		**OK**	**Is velocity V < 1.5m/s ?**	**OK**
To meet TP10 stormwater treatment specification:				
Minimum allowable travel time t	s	**540**	**Target Flow (pipe calcs)**	**0.0455**
Minimum swale length L	m	**37.6**		

50mm GRASS HEIGHT USED

WQV Discharge Volume

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	E		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	462	0.0012	1.219

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	**0**
Longtitudial Slope %	m/m	**0.030**
Length between check dams	m	**0**
Total Length Swale		**0**
Length between check dams		**0.000**
Number of Check Dams		**#DIV/0!**

Note: Need check flow over check dams for freeboard

Conquel Consulting

Job Title	39 Riddell Road, Kerikeri			Sheet	3 OF 6		
Calc Title	GD01 Swale Calculation - JOAL 2 (5.5 CROWNED)						
Job Number	10104						
Author	GB	Checked	-	Date	12/10/2025	Rev	A

Catchment	N, M
CH	10.05
CH	170
Length	159.95

Enter Values
Fixed calculations

Swale with trapezoidal cross-section
Grass length 50mm

		Water Quality Flow		10yr Flow
Flow rate Q	m^3/s	**0.001**	Q=V*A	**0.079**
Channel slope S		**0.8%**		0.8%
Depth d	m	**0.050**		**0.150**
Z=1/sideslope		**3**		3.0
Manning's n for 50mm grass		0.250		0.030
Hydraulic radius R	m	0.038		***0.095***
Base width b=Qn/d.R^0.67.S^0.5-Zd	m	0.400		0.400
Is b< 2m ? (required for grassed swales)		**OK**	V=R^.667*S^.5/n	0.618
Width at water level T=b+2dZ	m	0.700		1.300
Cross-sectional area A=bd+Zd^2	m^2	0.028		0.128
Velocity V=Q/A	m/s	**0.042**		**0.618**
Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.038		0.095
Is velocity V < 0.8m/s ?		**OK**	**Is velocity V < 1.5m/s ?**	**OK**
To meet TP10 stormwater treatment specification:				
Minimum allowable travel time t	s	**540**	**Target Flow (pipe calcs)**	**0.0712**
Minimum swale length L	m	**22.8**		

50mm GRASS HEIGHT SINGLE SIDE OF ROAD CHECKED

WQV Discharge Volume

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	N, M		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	439.863	0.001	1.161

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	**0**
Longtitudial Slope %	m/m	**0.008**
Length between check dams	m	**0**
Total Length Swale		**0**
Length between check dams		**0.000**
Number of Check Dams		**#DIV/0!**

Note: Need check flow over check dams for freeboard

Conquel Consulting

Job Title	39 Riddell Road, Kerikeri			Sheet	4 OF 6		
Calc Title	GD01 Swale Calculation - JOAL 2 (5.5 CROWNED)						
Job Number	10104						
Author	GB	Checked	-	Date	12/10/2025	Rev	A

Catchment	F, G
CH	170
CH	340
Length	170

Enter Values
Fixed calculations

Swale with trapezoidal cross-section Grass length 50mm		Water Quality Flow		10yr Flow
Flow rate Q	m^3/s	0.001	Q=V*A	0.2591
Channel slope S		11.5%		11.5%
Depth d	m	0.050		0.140
Z=1/sideslope		3		3.0
Manning's n for 50mm grass		0.250		0.030
Hydraulic radius R	m	0.038		*0.089*
Base width b=Qn/d.R^0.67.S^0.5-Zd	m	0.400		0.400
Is b< 2m ? (required for grassed swales)		OK	V=R^.667*S^.5/n	2.257
Width at water level T=b+2dZ	m	0.700		1.240
Cross-sectional area A=bd+Zd^2	m^2	0.028		0.115
Velocity V=Q/A	m/s	0.045		2.257
Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.038		0.089
Is velocity V < 0.8m/s ?		OK	**Is velocity V < 1.5m/s ?**	too fast
To meet TP10 stormwater treatment specification:				
Minimum allowable travel time t	s	540	**Target Flow (pipe calcs)**	0.224
Minimum swale length L	m	24.2		

THIS SECTION OF JOAL DOES NOT ACHIEVE WQV DUE TO GRADIENT

WQV Discharge Volume

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	F, G		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	467.5	0.001	1.234

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	0
Longtitudial Slope %	m/m	0.115
Length between check dams	m	0
Total Length Swale		0
Length between check dams		0.000
Number of Check Dams		#DIV/0!

Note: Need check flow over check dams for freeboard

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Sheet 5 OF 6

Job Title	39 Riddell Road, Kerikeri						
Calc Title	GD01 Swale Calculation - Central Swale						
Job Number	10104						
Author	GB	Checked	-	Date	12/10/2025	Rev	A

Catchment	JOAL 2 DISCHARGE TO CENTRAL SWALE				
CH	NA			Enter Values	
CH	NA			Fixed calculations	
Length	70				

Swale with trapezoidal cross-section Grass length 50mm		Water Quality Flow		10yr Flow
Flow rate Q	m^3/s	**0.002**	Q=V*A	**1.457**
Channel slope S		**2.6%**		2.6%
Depth d	m	**0.050**		**0.335**
Z=1/sideslope		**3**		3.0
Manning's n for 50mm grass		0.250		0.030
Hydraulic radius R	m	0.045		***0.223***
Base width b=Qn/d.R^0.67.S^0.5-Zd	m	1.200		1.200
Is b< 2m ? (required for grassed swales)		**OK**	V=R^.667*S^.5/n	1.973
Width at water level T=b+2dZ	m	1.500		3.210
Cross-sectional area A=bd+Zd^2	m^2	0.068		0.739
Velocity V=Q/A	m/s	**0.037**		**1.973**
Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.045		0.223
Is velocity V < 0.8m/s ?		**OK**	**Is velocity V < 1.5m/s ?**	**too fast**
To meet TP10 stormwater treatment specification:				
Minimum allowable travel time t	s	**540**	**Target Flow (pipe calcs)**	**1.45**
Minimum swale length L	m	**19.7**		

WQV Discharge Volume

50mm GRASS HEIGHT SINGLE SIDE OF ROAD CHECKED
takes flows from JOAL 2 CH170-340 and treats WQV

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	JOAL 2 DISCHARGE TO CENTRAL SWALE		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	935	0.002	2.467

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	**0**
Longtitudial Slope %	m/m	**0.026**
Length between check dams	m	**0**
Total Length Swale		**0**
Length between check dams		**0.000**
Number of Check Dams		**#DIV/0!**

Note: Need check flow over check dams for freeboard

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Sheet 6 OF 6

Job Title	39 Riddell Road, Kerikeri						
Calc Title	GD01 Swale Calculation - Central Swale						
Job Number	10104						
Author	GB	Checked	-	Date	12/10/2025	Rev	A

Catchment	JOAL 3 DISCHARGE TO CENTRAL SWALE - BELOW JOAL 3 CULVERT					
CH	NA			Enter Values		
CH	NA			Fixed calculations		
Length	74					
	Swale with trapezoidal cross-section		**Water Quality Flow**		**10yr Flow**	
	Grass length 50mm					
	Flow rate Q	m^3/s	**0.001**	Q=V*A	**1.830**	
	Channel slope S		**2.0%**		2.0%	
	Depth d	m	**0.050**		**0.400**	
	Z=1/sideslope		**3**		3.0	
	Manning's n for 50mm grass		0.250		0.030	
	Hydraulic radius R	m	0.045		***0.257***	
	Base width b=Qn/d.R^0.67.S^0.5-Zd	m	1.200		1.200	
	Is b< 2m ? (required for grassed swales)		**OK**	V=R^.667*S^.5/n	1.907	
	Width at water level T=b+2dZ	m	1.500		3.600	
	Cross-sectional area A=bd+Zd^2	m^2	0.068		0.960	
	Velocity V=Q/A	m/s	**0.021**		**1.907**	
	Hydraulic radius R=A/(b+2*d*sqrt(Z^2+1)	m	0.045		0.257	
	Is velocity V < 0.8m/s ?		**OK**	**Is velocity V < 1.5m/s ?**	**too fast**	
	To meet TP10 stormwater treatment specification:					
	Minimum allowable travel time t	s	**540**	**Target Flow (pipe calcs)**	**1.793**	
	Minimum swale length L	m	**11.5**			

50mm GRASS HEIGHT JOAL 3 TOTAL AREA

WQV Discharge Volume takes flows from JOAL 2 CH170-340 and treats WQV

Q=CIA WQV EVENT I= 10 (mm/hr)

Catchment	JOAL 3 DISCHARGE TO CENTRAL SWALE - BEL		I (m/sec)	A (m2)	Q (m3/sec)	Q (l/sec)
E-Road	0.95	Actual	2.77778E-06	545	0.001	1.438

Note *Impervious Trafficable area only for WQV sizing of Swale*

Check Dam Sizing (Slopes Greater than 5%)

Height of check Dam	m	**0**
Longtitudial Slope %	m/m	**0.020**
Length between check dams	m	**0**
Total Length Swale		**0**
Length between check dams		**0.000**
Number of Check Dams		**#DIV/0!**

Note: Need check flow over check dams for freeboard

Appendix D – Wastewater Report & example treatment layout

RIDDELL ROAD

39 RIDDELL ROAD
LOT 2
DP543664

55 RIDDELL ROAD
LOT 1
DP543664

49 RIDDELL ROAD
LOT 1
DP180801

REFER PLAN C5101

PROP LOT 4

NOTES

1. All bends and connections to be no more than 45°.
2. All connections to existing drains shall be carried out by a licensed drain layer / plumber.
3. Drainage shall comply in full with E1/AS1 building code for storm water.
4. All catchpits shall have half syphons installed.
5. All waste water drains shall be uPVC to AS/NZS 1260.
6. Wastewater shall comply in full with AS/NZS 3500.2 - 2003 and/or G13 building code.
7. Refer to hydraulic engineers drawings for building plumbing beyond that shown including down pipe sizes.
8. All pipes shall be SN16 grade unless otherwise stated.
9. Drainlayer shall locate and confirm connection invert before starting building works.
10. Plans to be read in conjunction with hydraulic engineers and differences shall be clarified before contractor starts.
11. All chamber lids shall have a minimum 200mm maximum 300 throat to provide sufficient cover for landscape and pavement over the top.
12. Existing Private Drainage layout plotted from Building consent 980131 granted on the 12/08/1999 and covered the whole dwelling including wastewater and stormwater disposal.
13. Contractor shall locate and confirm location of private drainage before starting work onsite.

LEGEND

- EX BDY
- PROP FUTURE BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX STORMWATER
- EX WASTEWATER
- EX NATURAL WETLAND
- EX WETLAND 3m SETBACK
- EX WETLAND 10m SETBACK
- EX WETLAND 15m SETBACK
- EX HOUSE
- EX SW POND
- PR WASTEWATER
- PR PRIMARY DISPOSAL
- PR RESERVE DISPOSAL
- PR CUTOFF DRAIN

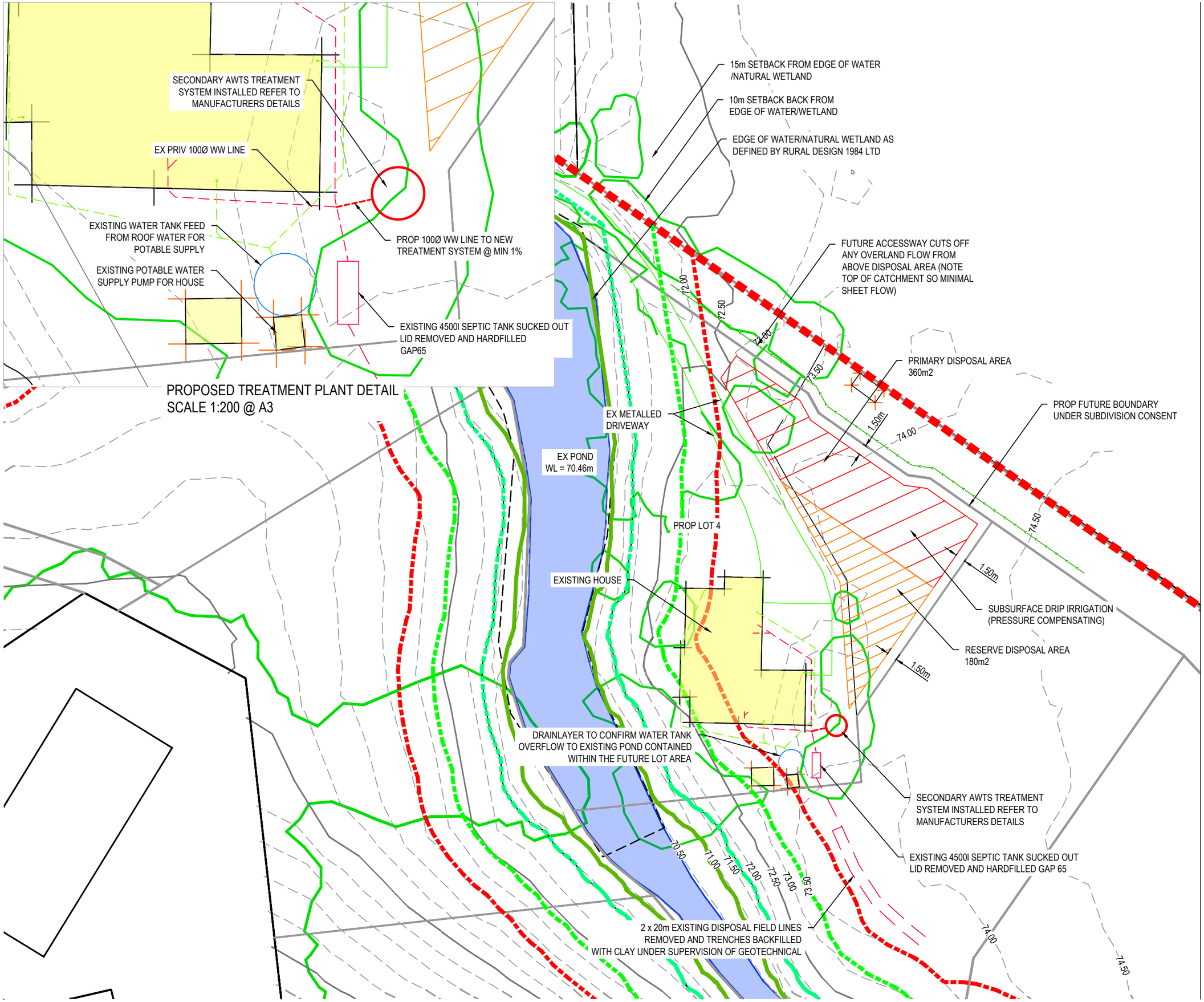
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited Riddell Road Kerikeri

Overview Proposed Lot 4 Wastewater Plan

No.	Revision (Description)	Name	Date
A	Building Consent	GB	11/25
Surveyed		KM	09/25
Designed		TS	11/25
Drawn		GB	11/25
Checked		GB	11/25

Project no.	10401		
Scale	1:2000 @ A3		
Cad file	10401 RIDDELL WW LOT 4.DWG		
Drawing no.	C5050	Rev	A



NOTES

1. All bends and connections to be no more than 45°.
2. All connections to existing drains shall be carried out by a licensed drain layer / plumber.
3. Drainage shall comply in full with E1/AS1 building code for storm water.
4. All catchpits shall have half syphons installed.
5. All waste water drains shall be uPVC to AS/NZS 1260.
6. Wastewater shall comply in full with AS/NZS 3500.2 - 2003 and/or G13 building code.
7. Refer to hydraulic engineers drawings for building plumbing beyond that shown including down pipe sizes.
8. All pipes shall be SN16 grade unless otherwise stated.
9. Drainlayer shall locate and confirm connection invert before starting building works.
10. Plans to be read in conjunction with hydraulic engineers and differences shall be clarified before contractor starts.
11. All chamber lids shall have a minimum 200mm maximum 300 throat to provide sufficient cover for landscape and pavement over the top.
12. Existing Private Drainage layout plotted from Building Consent 980131 granted on the 12/08/1999 and covered the whole dwelling including wastewater and stormwater disposal.
13. Contractor shall locate and confirm location of private drainage before starting work onsite.

LEGEND

- EX BDY
- PROP FUTURE BDY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX STORMWATER
- EX WASTEWATER
- EX NATURAL WETLAND
- EX WETLAND 3m SETBACK
- EX WETLAND 10m SETBACK
- EX WETLAND 15m SETBACK
- EX HOUSE
- EX SW POND
- PR WASTEWATER
- PR PRIMARY DISPOSAL
- PR RESERVE DISPOSAL
- PR CUTOFF DRAIN

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Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Lot 4
Wastewater System
Plan

No.	Revision (Description)	Name	Date
A	Building Consent	GB	11/25
Surveyed		KM	09/25
Designed		TS	11/25
Drawn		GB	11/25
Checked		GB	11/25

Project no.	10401		
Scale	1:500 @ A3		
Cad file	10401 RIDDELL WW LOT 4.DWG		
Drawing no.	C5051	Rev	A

JOB:		
39 Riddell Road - existing dwelling on lot 14		
SUBJECT:		
Wastewater Cal-Single Dwelling		
BY:	DATE:	JOB NO:
TSmith - CPEng	24/11/25	10401

ONSITE WASTEWATER TREATMENT - DISPOSAL FIELD

TP 58

TOTAL WASTEWATER DEMAND

Domestic Demand		1,080	l/day
Commercial Demand		0	l/day
Total Wastewater Demand	**Q**	**1,080**	**l/day**

SOIL CATEGORY

Soil Category		**5**	
Soil Type		Sandy Clay Loam/Clay Loam	
Drainage		Moderate to Slow Drainage	
Disposal Type		**Areal**	
Areal Loading Rate		**3.00**	mm/day
Areal Loading Rate	**DLR**	**3.00**	**mm/day**

LAND DISPOSAL METHOD

Land Disposal Method	**Subsurface Drip Irrigation**

DISPOSAL AREA SIZE

Add % due to slope factor — not req'd as 1.5% slope

Site Area		**3000**	m²	
Area to Flow Ratio		2.8	m²/l/day	
Minimum Disposal Area Required		360	m²	*calcs + % for slope*
Line Spacing	W	**1.0**	m	
Disposal Line Length Required	L	360	m	
Disposal Area Size Required		**360**	**m²**	
Reserve Area Percentage		**50%**		
Additional Reserve Area		0	m²	
Additional Reserve Area		180	m²	50% reserve PDCI's
Additional Reserve Area		0	m²	
Additional Reserve Area		0	m²	
Additional Reserve Area		0	m²	
Additional Reserve Area		0	m²	
Additional Reserve Area		0	m²	
Total Disposal Area Size		**360**	**m²**	

JOB:		
39 Riddell Road - existing dwelling on lot 14		
SUBJECT:		
Wastewater Cal-Single Dwelling		
BY:	DATE:	JOB NO:
TSmith CPEng	24/11/25	10401

ONSITE WASTEWATER TREATMENT - DOMESTIC:

TP 58

WASTEWATER DEMAND - DOMESTIC

Water Source **On-Site Roof Tank Supply**

Domestic Wastewater: Category		Bedrooms	Additional Rooms	People per House	Number of Houses	Unit Usage l/p/day	Total l/day
B		**3**	**1**	6	**1**	180	1,080
Total Domestic Wastewater Demand							**1,080** **l/day**

Table 24: Domestic wastewater flow allowances - per capita

Category	*Description*	*Supply Source:*	
		Roof	*Bore/Retic.*
A	*Up-market/luxury households with extra wastewater producing fixtures*	*220*	*220*
B	***Households with standard fixtures including 11 L flush water cisterns. These flow allowances should also be used for all rental properties***	***180***	*200*
C	*Households with dual flush toilet/s and standard fixtures low water use dishwasher and no garbage grinder*	*160*	*180*
D	*Households with 6/3 flush toilet/s and standard water reduction fixtures and no garbage disposal grinder*	*145*	*165*
E	*Households with full water reduction fixtures on all water outlets, no bath and no garbage grinder*	*120*	*145*
F	*Households with full water reduction fixtures without permanent electricity supply*	*100*	*120*
G	*Decreased flow allowances for households with full water reduction facilities as in Category E*	*115*	*135*
H	*Households with full water reduction facilities plus reclaimed water recycle for toilet cistern flushing*	*100*	*115*
I	*Households – blackwater only (based on a 11 L flush toilet)*	*66*	*66*
J	*Households – blackwater only (based on a 11/5.5 L flush toilet)*	*45*	*45*
K	*Households – blackwater only (based on a 6/3 L flush toilet)*	*25*	*25*
L	*Households – greywater only*	*130*	*140*
M	*Households – greywater only (with extra water reduction)*	*100*	*115*

Appendix E – FENZ approval of 10m³ fire water storage (email)

From: tonyjsmith00@gmail.com
To: "Goffin, Jason"
Cc: Glen Bellingham
Subject: RE: 39 Riddell Road - Fire Water 251211
Date: Thursday, 11 December 2025 1:02:31 pm
Attachments: image005.png
image006.png
image007.png
image008.png
image009.png

Many thanks for your call and the prompt response Jason

We will take these asp[ects into account in our subdivision design/layout and ensure that reports reflect that during detailed dwelling design, the vegation clearance will be assessed by FNDC

Regards
Tony Smith
021 987 662
tonyjsmith00@gmail.com

From: Goffin, Jason <Jason.Goffin@fireandemergency.nz>
Sent: Thursday, 11 December 2025 12:34 pm
To: tonyjsmith00@gmail.com
Subject: RE: 39 Riddell Road - Fire Water 251211

Hi Tony,

Thanks for the email.
As this has no provision for reticulation. The use of tanks for each property is the best option.
On some subdivisions communal tanks farms have been utilised and located within 90m of each lot.
Individual tanks are generally looked at the building consent stage when we can determine the size of the dwelling and their requirements.
In Northland we require 10000 litres of firefighting water for dwellings less than 200 square metres and 20000 litres for anything larger.
The lids of the tanks need to be no higher than 1.5 m above ground level or otherwise an approved coupling will be required.
The distance between the tank and dwelling is required to be a minimum of 6 metres away especially if the tank is constructed of plastic.
Alternative static water sources will be considered consisting of spring fed ponds or swimming pools provided they are within 90m of the structure.
We generally require a minimum of 3m vehicular access width and 4 m height clearance.

Also please be aware of the FNDC dripline requirement where vegetation is required to be spaced 20m away from dwellings and if this is encroached a RC may be required.

I hope this information is of assistance.

Kind Regards

Jason Goffin
Advisor Risk Reduction – Kaitohutohu Matua Whakaheke Moorea
Specialist Fire Investigator – Kaititiro Ahi Maatanga
Te Tai Tokerau
Te Hiku Region 1
9 Homestead Road Kerikeri

Mobile: 027 7066467
Email: jason.goffin@fireandemergency.nz
Fire Fact "A House Fire Can Become Fatal within 5 Minutes"

From: tonyjsmith00@gmail.com <tonyjsmith00@gmail.com>
Sent: Thursday, 11 December 2025 11:03 AM
To: NorthlandDistrict-RRTeam <NorthlandDistrict-RRTeam@fireandemergency.nz>
Subject: 39 Riddell Road - Fire Water 251211

> You don't often get email from tonyjsmith00@gmail.com. Learn why this is important

Many thanks Roger, please could someone in the RRTeam help me with this.

Regards
Tony Smith

FLOOD REPORT

39 RIDDELL ROAD, KERIKERI

Prepared for:

Taraire Tahi Limited

January 2026

conquel CONSULTING

PROJECT INFORMATION

CLIENT:	Taraire Tahi Limited
PROJECT:	10401

DOCUMENT CONTROL

DATE OF ISSUE:	22/01/2026
REVISION	A
AUTHOR	 Glen Bellingham Director
REVIEWED BY	 Tony Smith Senior Engineer CMEngNZ, CPEng

REVISION HISTORY

DATE:	REVISION	AUTHOR	REVIEWED
22/01/2026	A	GB	TS

Contents

1. OVERVIEW

1.1. PROJECT

The objective of this report is to provide an analysis of the Existing and Proposed Overland Flow Paths (OLFPS) and Flooding extents in terms of peak flows and water levels to confirm any restrictions on house platforms and finished floor levels the site is identified in figure 1.1 below.

The analysis will be for a 100-year ARI (Average Recurrence Interval) storm with allowances for climate change effects (20% increase to Rainfall depth in accordance Far North Engineering Standards).

Figure 1.1 – Proposed Development

1.2. EXISTING FLOWPATHS AND FLOODING

Overland Flow Paths (OLFP)

According to Northland Regional Council Hazard property viewer no identified flood hazards or major overland flow paths are identified within the property.

However, based upon site walkover and detailed survey, two flowpaths have been identified within the subject property:

- Flow Path A with a catchment of 16.62Ha and enters the southern boundary before flowing northward to existing pond
- Flow Path B with a catchment of 6.82ha which starts within the western boundary of site before flowing eastwards to existing pond

Flooding within the property is contained to the existing defined overland flow paths, watercourse and pond located on the north-eastern boundary. This existing pond has twin 375mm diameter stormwater culverts as the primary discharge point and a formed concrete weir/spillway across the driveway. The pond has a live storage depth of 0.78m elevation.

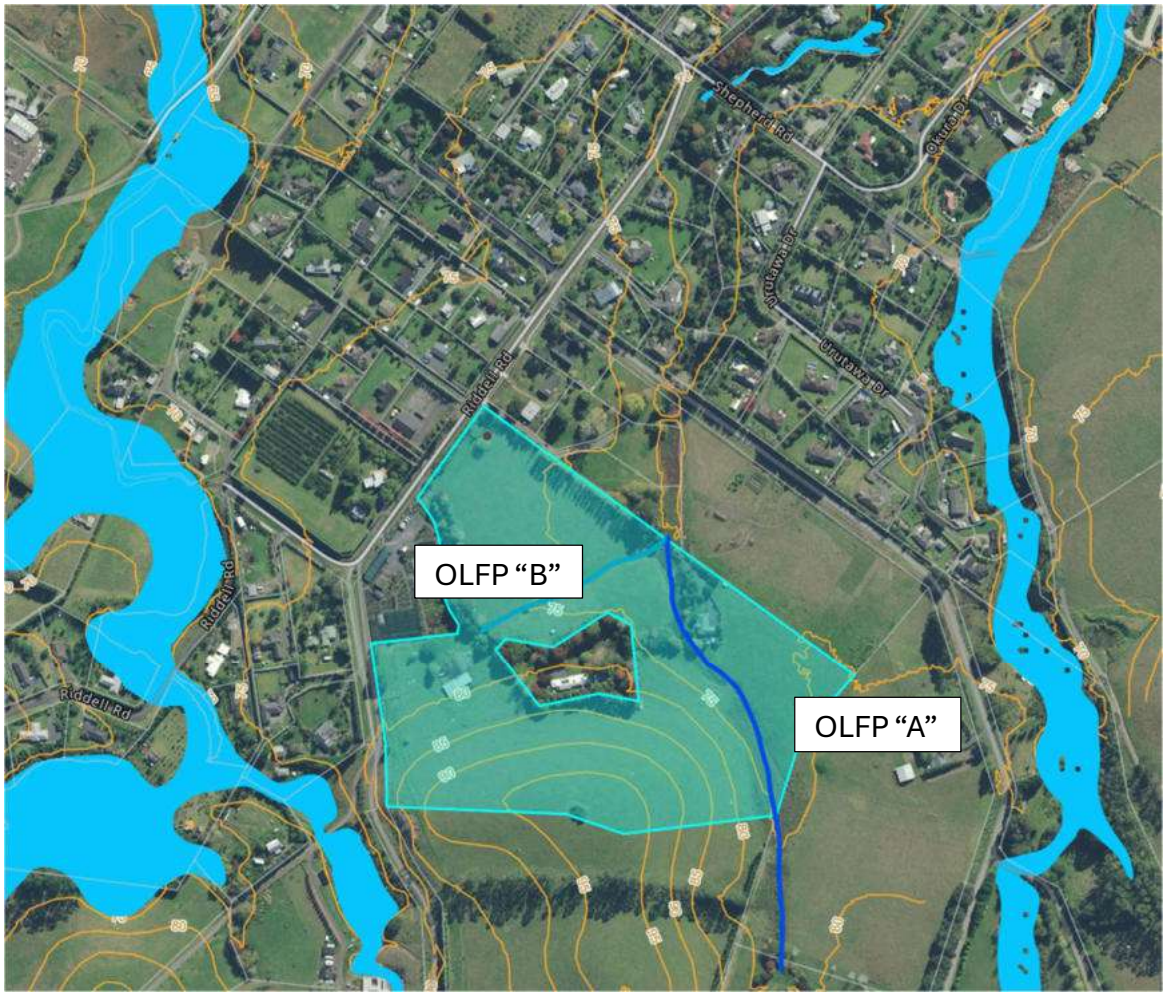

Figure 1.2-1 Northland Regional Council Flood Hazard

1.3. TOPOGRAPHY

The site is situated on the southern side of Riddell Road and is currently in mature pasture and grazed with cattle. The site rises from RL=76 at the public road to a high point on the southern boundary of RL=98. The site is characterised by gently sloping lower are falling towards the southeast from Riddell Road which discharges to an existing pond at RL=70, while the second half of the site rises at a maximum gradient of 20% to a defined ridgeline line.

1.4. OVERLAND FLOW ANALYSIS

A 2D flood modelling has been conducted to assess the flowpaths within the subject site using the Maximum Probable Development (MPD) coverage and ignoring the proposed mitigation of 5, 10 and 100yr events to 80% of pre-development levels. This generates a worst-case scenario enabling the identification of OLFPs and flood-prone areas. The entire catchment will be modelled as rain on grid using TP108 to determine flows.

1.5. STORMWATER MODELLING METHODOLOGY

The model has been assessed for a 100yr ARI storm including effects of climate change in accordance with NIWA High Intensity Rainfall Design System applying a 20% increase to Rainfall depth in accordance Far North Engineering Standards.

1.6. SOURCES OF DATA

Attribute	**Organisation**
Catchment Plans	Generated from Topographical Survey and GIS data
Contours	Conquel Site Survey and walkover to New Zealand Vertical Datum 2016.

1.7. REFERENCE TECHNICAL DOCUMENTS

- Far North District Council Engineering Standards
- NZS 4404:2010 ENGINEERING AND SUBDIVISION STANDARDS POLICY
- Technical Publication TP108 – Stormwater modelling runoff

2. HYDROLOGICAL MODEL OF OVERLAND FLOW

2.1. METHODOLOGY

The analysis was done using the following steps:

1. Delineation of the catchments
2. Calculation of time of concentration using Slope by Equal Area method
3. Calculation of parameters using TP108
3. Flow assessment and generation of flow hydrographs using TP108
4. Flood depth detection through Civil 3D Hydraflow Express/Mannings Formula

2.2. RAINFALL DATA

The NIWA High Intensity Rainfall Design System (HIRDS) V4 provides the following rainfall depths for the subject site.

Site Details | Historical Data | RCP2.6 Scenario | RCP4.5 Scenario | RCP6.0 Scenario | RCP8.5 Scenario

Rainfall depths (mm) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h
1.58	0.633	10.5	15.1	18.8	26.9	38.3	63.9	84.9	108
2	0.500	11.5	16.6	20.5	29.5	42.0	70.2	93.2	119
5	0.200	14.9	21.4	26.6	38.3	54.6	91.5	122	156
10	0.100	17.3	25.0	31.1	44.8	63.9	107	143	183
20	0.050	19.8	28.6	35.6	51.4	73.4	124	165	211
30	0.033	21.3	30.8	38.3	55.3	79.0	133	178	228
40	0.025	22.3	32.3	40.2	58.1	83.1	140	187	240
50	0.020	23.1	33.5	41.7	60.3	86.2	146	195	250
60	0.017	23.8	34.5	42.9	62.1	88.8	150	201	258
80	0.013	24.8	36.0	44.8	64.9	92.9	157	210	270
100	0.010	25.6	37.2	46.3	67.0	96.0	162	217	279
250	0.004	28.9	41.9	52.2	75.8	109	184	247	316

2-1 HIRDS Rainfall Data

In Accordance with Far North Engineering standards 20% climate change factor shall be added to intensity with the following outcome:

100yr (pre) = 279mm

100YR (post) = 334.8mm

2.3. CATCHMENT SIZE

Figure 2-2 provides an overview of the modelled catchment areas these have been determined by a mix of topographic survey, drone photogrammetry and physical site walkover.

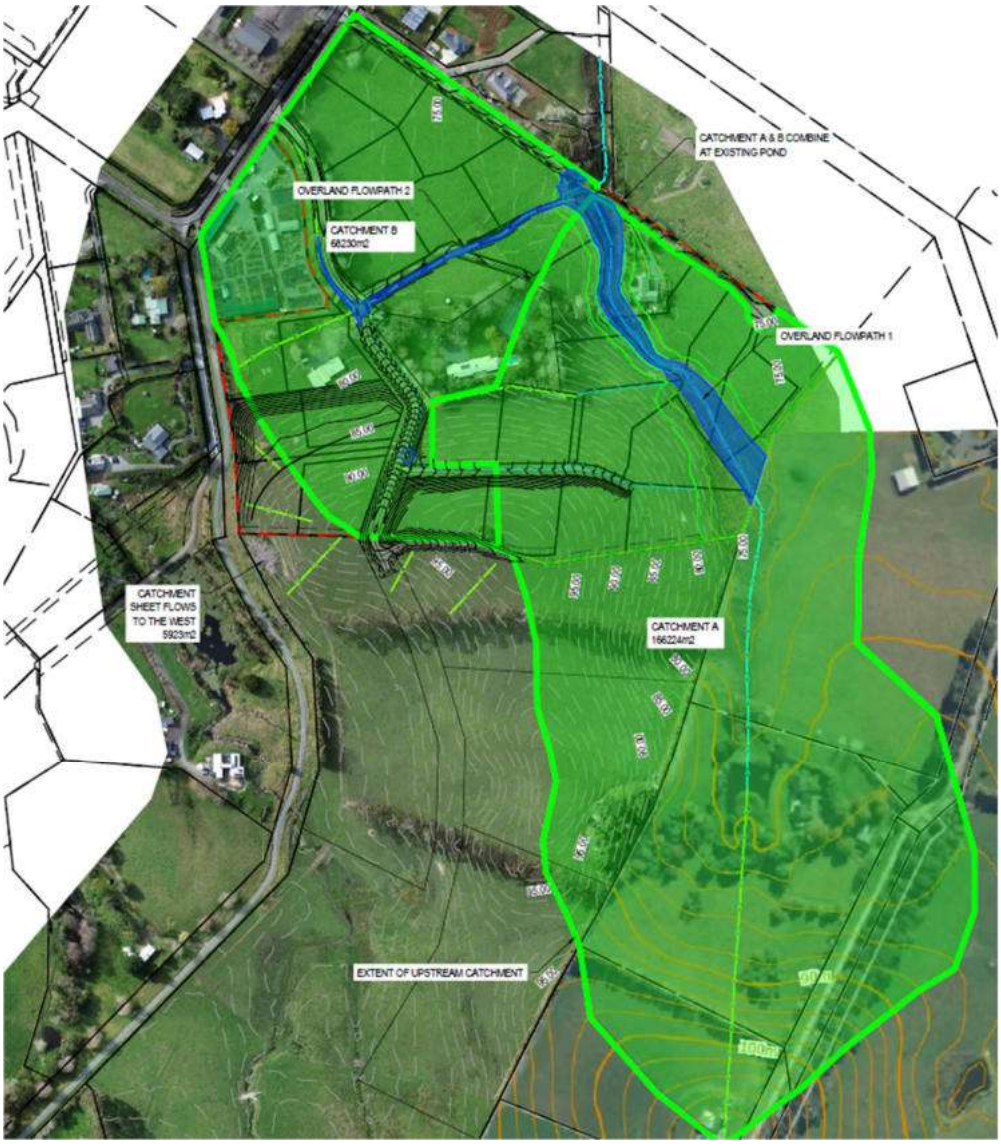

Figure 2-2 Catchment Delineation Map

2.4. LAND-USE AND SOILS

The soil is assumed to be Group C (Weathered Mudstone and Sandstone) based upon geotechnical report provided by Cook Costello for the subject site. Most of the catchment is intensively grazed land with existing housing, sheds and impervious surfaces present.

3. PRE-DEVELOPMENT SCENARIO

Catchments A and B which generate overland flow paths 1 and2, are shown in Figure 2-2. The flow paths converge at the existing pond located on the centre-eastern boundary of the site. The following catchment parameters are used within the TP108 model:

Overland Flowpath 1 - Existing defined watercourse running south to north within the site with well-defined banks and features, conveys upstream water from 27A and 27B Riddell Road.

Catchment	**A**
Total Catchment	16.622 Ha
Average Impervious Area %	4.3%
CN (weighted)	75
Ia (mm)	4.8
100 Year Flow (m^3/s)	8.155

Overland Flowpath 2 - Existing defined grassed channel running west to east which is currently in mature grazed pasture and only has water present after heavy rainfall events which conveys water from 49 and 55 Riddell Road.

Catchment	**B**
Total Catchment	6.823 Ha
Average Impervious Area %	15.6%
CN	77.7
Ia (mm)	4.2
100 Year Flow (m^3/s)	3.431
Combined Discharge A+B (m^3/s)	11.59

The existing pond located at bottom of catchment is "online" and takes all flows and acts as an existing detention pond with the following storage available.

Elevation (m)	**Depth(m)**	**Volume(m^3)**
70.46	0	0
70.5	0.04	64
70.75	0.25	509
71	0.25	1042
71.24	0.24	1662

4. POST DEVELOPMENT SCENARIO

4.1. OFLP 1

This central watercourse traverses through the site and has been identified as a "natural wetland" and the area will have riparian/wetland planting for the length of watercourse before it reaches the existing pond. The development proposes no changes to this area or the levels within.

Catchment	**A**
Total Catchment	16.622 Ha
Average Impervious Area %	10.12%
CN (weighted)	75.6
Ia (mm)	4.5
100 Year Flow (m^3/s)	8.10

Detailed Cross Sections using terrain model data from topographical Survey have been completed with the following controls:

- Conservative total flow for Catchment A has been used for extent of flooding
- Mannings value "n" 0.070 for natural channel with vegetation
- Gradient uses surveyed levels along stream
- No allowance for flow mitigation

Section Number	**Flow Volume (m^3/s)**	**Flow Depth (m)**	**100yr WL (m)**
AA	8.198	1.5	73.55
BB	8.198	1.4	72.68
CC	8.198	0.65	72.25

These section locations are shown below in Figure 4.1 OLFP 1

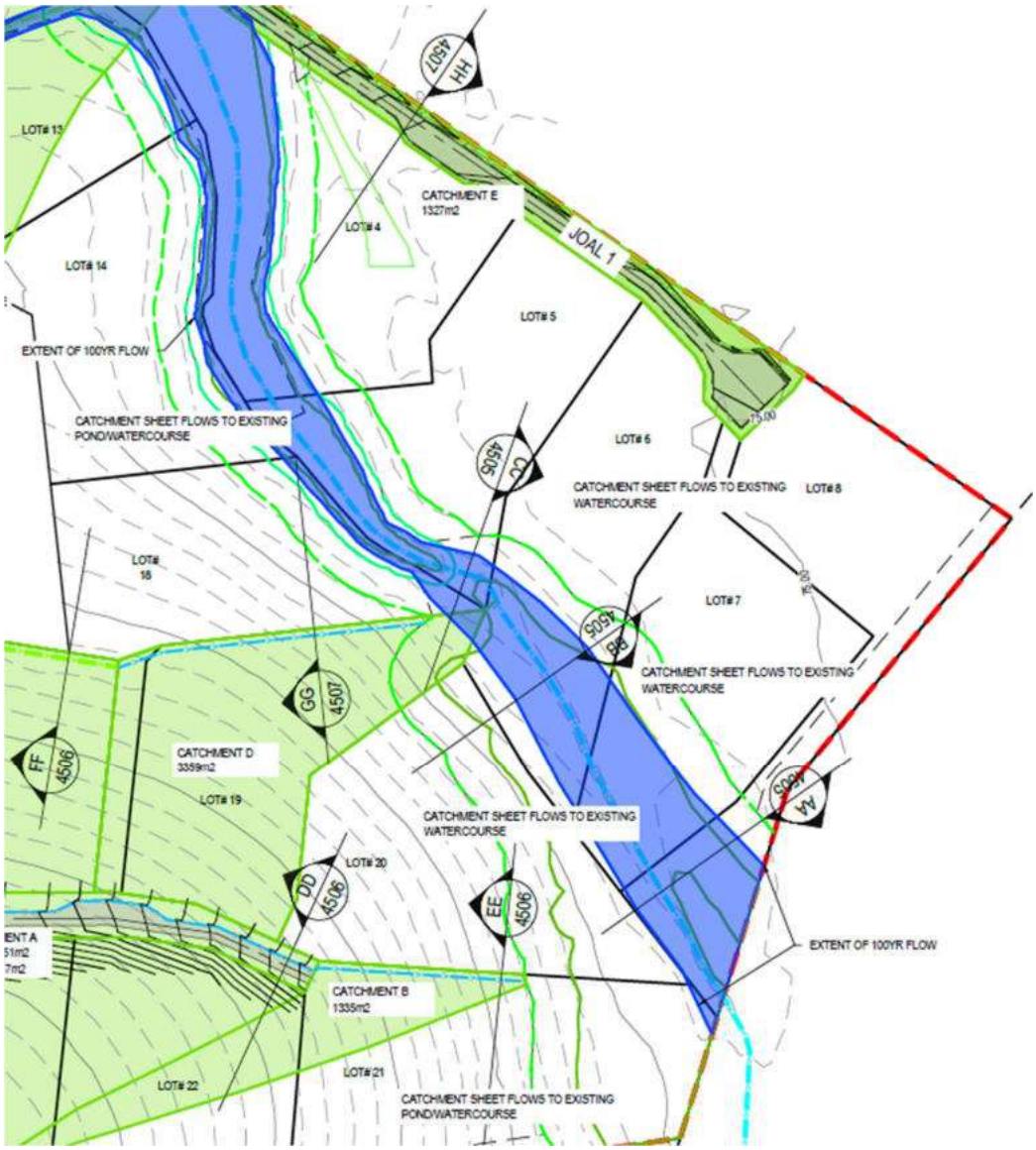

Figure 4-1 OLFP 1

4.2. OFLP 2

This existing pasture overland flowpath through the site is poorly defined and does not accurately flow within the existing easement for drainage in favour of 55 Riddell Road. The development proposes to trim a trapezoid channel flowing within the existing easement, with 1.2m level base and 1 in 3 sides slopes, this will create a uniform channel and control all overland flows up to and including the 100yr event, while providing water quality treatment along the 160m length.

The overland flow traverses JOAL 2 and JOAL 3 which have culverts designed to convey the 10yr event, while the 100yr event has been designed to sheet flow over the JOALs. The final depth of flow is compliant with AustRoads – Safety Provisions for Floodway's Over Roads with m^2/s being less than the 0.35 required for residential roads.

Catchment	B
Total Catchment	6.823 Ha
Average Impervious Area %	46.6%
CN (weighted)	78.9
Ia (mm)	3.4
100 Year Flow (m³/s)	3.36

Detailed Cross Sections using terrain model data from topographical Survey and design surface have been completed with the following controls:

- Conservative total flow for Catchment B with no mitigation controls
- Mannings value "n" 0.030 for artificial channel with grass
- Mannings value "n" 0.012 for concrete JOALS
- Gradient uses design levels for Swale
- No allowance for flow mitigation

Section Number	Flow Volume (m³/s)	Flow Depth (m)	100yr WL (m)
MM	1.328	0.1	77.04
NN	2.353	0.5	74.44
OO	2.353	0.12	74.33
PP	2.926	0.4	72.14

These section locations are shown below in Figure 4.2 OLFP 1

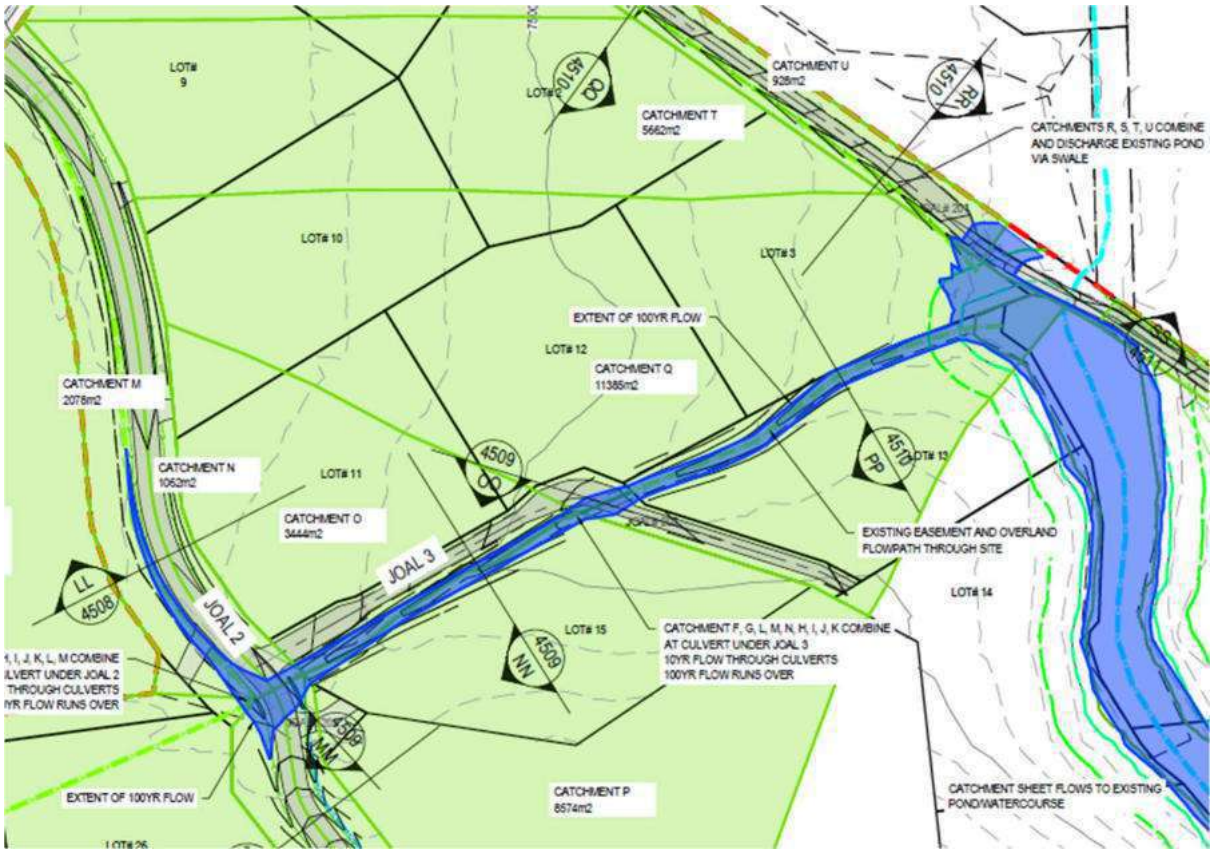

Figure 4-2 OLFP 1

5. FINISHED FLOOR LEVEL

The buildings FFL's within the development will meet the minimum freeboard in accordance with Far North Engineering Standards and NZS 4404:2010 requirements.

- Habitable dwellings (including attached garages) 0.5 m
- Commercial and industrial buildings 0.3 m
- Non-habitable residential buildings and detached garages 0.2 m

Please refer to the flooding plan and the existing flooding cross section for flood level details. A minimum freeboard of 500mm will be provided for the residential lots to ensure sufficient protection against flooding. Since each lot is quite large and the OLFP runs along the boundary, it is reasonable to set a minimum FFL on both sides of the site. This allows the building platforms to be at different levels rather than on the same level and the future designer to interpolate the minimum finished floor level between these two defined points.

Table 5.1 summaries the minimum FFL for the affected lots.

LOT No.	FREEBOARD	FLOOD LEVEL (High side)	MINIMUM FFL (High side)	FLOOD LEVEL (Low side)	MINIMUM FFL (Low side)
3	0.5m	72.34	RL 72.84m	71.24 (Pond WL)	RL 71.74m
4	0.5m	71.24 (Pond WL)	RL 71.74m	71.24 (Pond WL)	RL 71.74m
5	0.5m	72.25	RL 72.75m	71.24 (Pond WL)	RL 71.74m
6	0.5m	72.68	RL 73.18m	72.25	RL 72.75m
7	0.5m	73.55	RL 74.05m	72.68	RL 73.18m
11	0.5m	76.03	RL 76.53m	74.24	RL 74.74m
12	0.5m	74.24	RL 74.74m	72.46	RL 72.96m
13	0.5m	72.98	RL 73.48m	71.24 (Pond WL)	RL 71.74m
14	0.5m	71.24 (Pond WL)	RL 71.74m	71.24 (Pond WL)	RL 71.74m
15	0.5m	76.03	RL 76.53m	74.33	RL 74.83m
18	0.5m	72.25	RL 72.75m	71.24 (Pond WL)	RL 71.74m
26	0.5m			76.03	RL 76.53m

Table 5-1 – Finished Floor Levels

6. CONCLUSIONS

This analysis of the overland flow paths at 39 Riddell Road indicates that the proposed development will effectively manage stormwater rainwater runoff in all design events while mitigating potential flooding impacts on downstream properties. The analysis utilised advanced modelling techniques, including HEC-HMS and TP108, Mannings and Civil 3D Hydraflow Express to assess peak flows and water level constraints for a 100-year storm event, incorporating anticipated rainfall increases due to climate change.

The existing topography is characterised by two main overland flow paths converging at the central-eastern end of the site, of which OLFP 2 will have the channel reformed to contain and clearly define the extent of 100yr event.

In summary, the proposed development aligns with best practices for stormwater management and is expected to operate without adversely affecting the existing floodplain conditions or downstream properties. With the implementation of the proposed measures, the site will be well-prepared to handle stormwater effectively, maintaining the capacity of the landform to receive and convey rainfall-runoff in all design events without affecting future buildings.

7. Appendices

Appendix A – Overland Flow and Flooding Plans

NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.
4. Origin of levels = sm xxxx so xxxx(xxxx) published rl=xx.xx, sourced from the linz digital geodetic database.
5. Boundaries are subject to final survey.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR SITE EXTENT
- EX STORMWATER
- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4502	Rev	A

55 RIDDELL ROAD
LOT 1
DP543664

CATCHMENT M
2078m2

CATCHMENT N
1062m2

CATCHMENT L
7805m2 (impervious)
417m2 (pervious)
GWE Report

CATCHMENT O
3444m2

CATCHMENT Q
11385m2

LOT# 11
LOT# 12
LOT# 13
LOT# 14
LOT# 15
LOT# 4

EXTENT OF 100YR FLOW

CATCHMENT F, G, H, I, J, K, L, M, N, O, P
COMBINE AT CULVERT UNDER JOAL 3

JOAL 1
JOAL 3
JOAL 2
JOAL 4
JOAL 5

4509 OO
4508 LL
4509 NN
4509 MM
4508 KK
4508 JJ
4507 II
3200 GG
3200 FF
3200 DD

CATCHMENT I, J, K, L, M COMBINE
AT CULVERT UNDER JOAL 2

CATCHMENT P
8574m2

CATCHMENT SHEET FLOWS TO EXISTING
POND/WATERCOURSE

49 RIDDELL ROAD
LOT 1
DP180801

CATCHMENT C CROSSES
ENTRY LOT 18 DETAILED
DESIGN AS PART OF
BUILDING CONSENT IN
FUTURE TO BE COMPLETED

LOT# 18
LOT# 25
LOT# 26
LOT# 27
LOT# 28
LOT# 29
LOT# 30
LOT# 16
LOT# 17
LOT# 19
LOT# 20
LOT# 21
LOT# 22
LOT# 23
LOT# 24

80.00
85.00
90.00
95.00

CATCHMENT K
13105m2

CATCHMENT J
1294m2

CATCHMENT H
1649m2

CATCHMENT C
5640m2

CATCHMENT D
3359m2

CATCHMENT F
LOTS 3476m2
JOAL 1218m2

CATCHMENT A
LOTS 3551m2
JOAL 967m2

CATCHMENT I
615m2

CATCHMENT G
615m2

CATCHMENT B
1335m2

JOAL SHEET FLOWS
TO PASTURE WITHIN RURAL ZONE

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PR SITE EXTENT
- EX STORMWATER
- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

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Contact: admin@conquel.co.nz
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Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
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Surveyed		DW	09/25
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Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4503	Rev	A

NOTES

1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND

- EX BDY
- PR BDY
- EX EASEMENT
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- PR STORMWATER
- EX/PROP SWMH
- EX FLOW DIRECTION
- PR-FLOWPATH 100YR
- PR-EXTENT 100YR
- PR-100YR FLOOD
- PR-SW-CATCHMENT
- PR-SW-SHEET FLOW

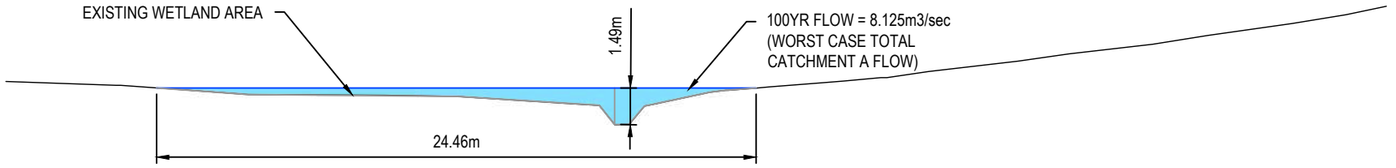
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed Catchment and Flowpath Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

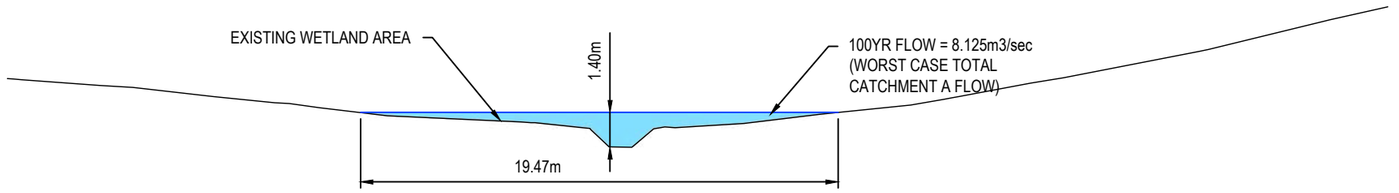
Project no.	10401		
Scale	1:1000 @ A3		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4504	Rev	A



DATUM 70.00m

EXISTING LEVELS	73.85	73.14	74.53	76.91
DESIGN LEVELS	73.85	73.14	74.53	76.91
CUT/FILL	0.00	0.00	0.00	0.00
CHAINAGE	0.00	20.00	40.00	56.28

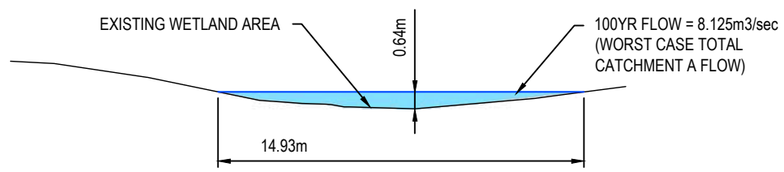
SECTION AA - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



DATUM 68.00m

EXISTING LEVELS	74.07	72.35	73.56	77.00
DESIGN LEVELS	74.07	72.35	73.56	77.00
CUT/FILL	0.00	0.00	0.00	0.00
CHAINAGE	0.00	20.00	40.00	56.28

SECTION BB - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



DATUM 68.00m

EXISTING LEVELS	73.53	71.84	72.48
DESIGN LEVELS	73.53	71.84	72.48
CUT/FILL	0.00	0.00	0.00
CHAINAGE	0.00	20.00	25.45

SECTION CC - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

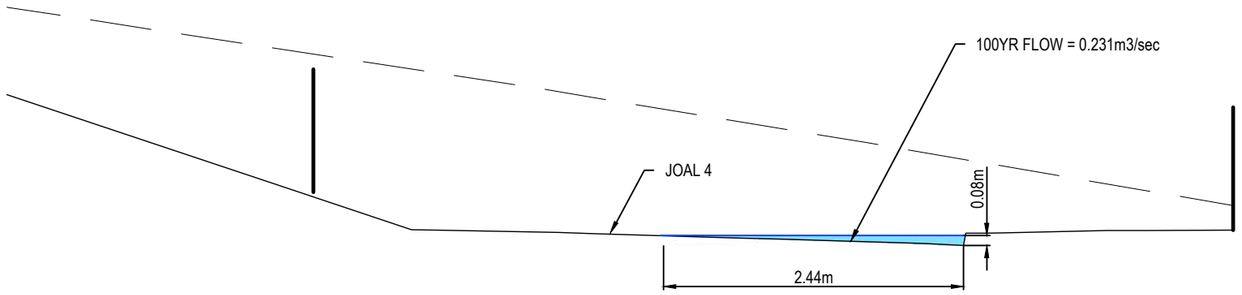
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

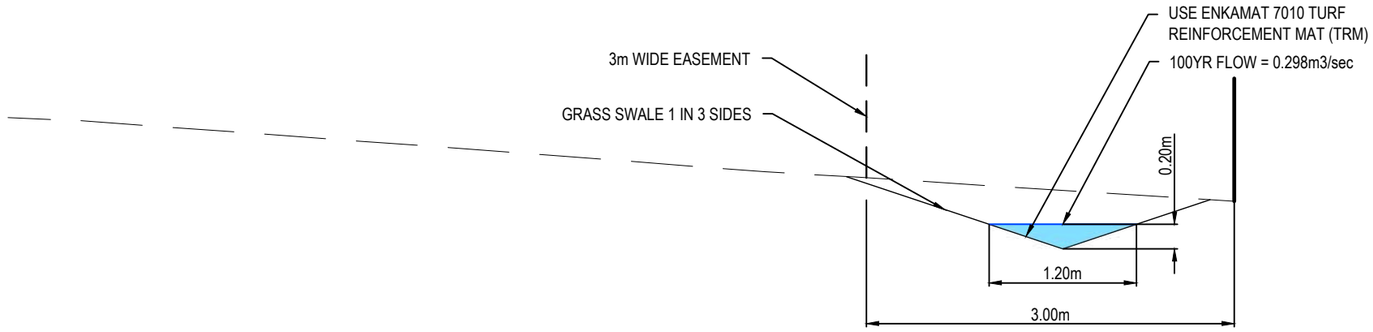
Proposed 100YR
Cross Sections
Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

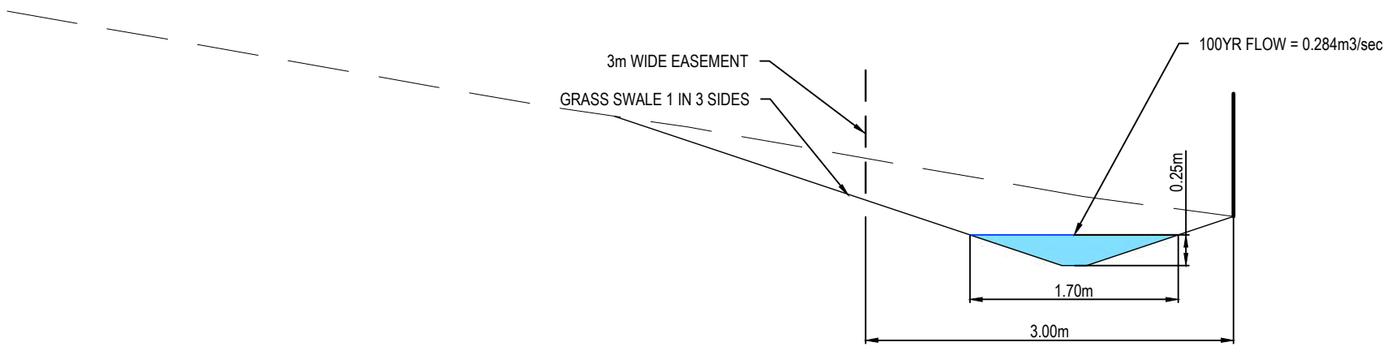
Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4505	Rev	A



SECTION DD - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



SECTION EE - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



SECTION FF - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

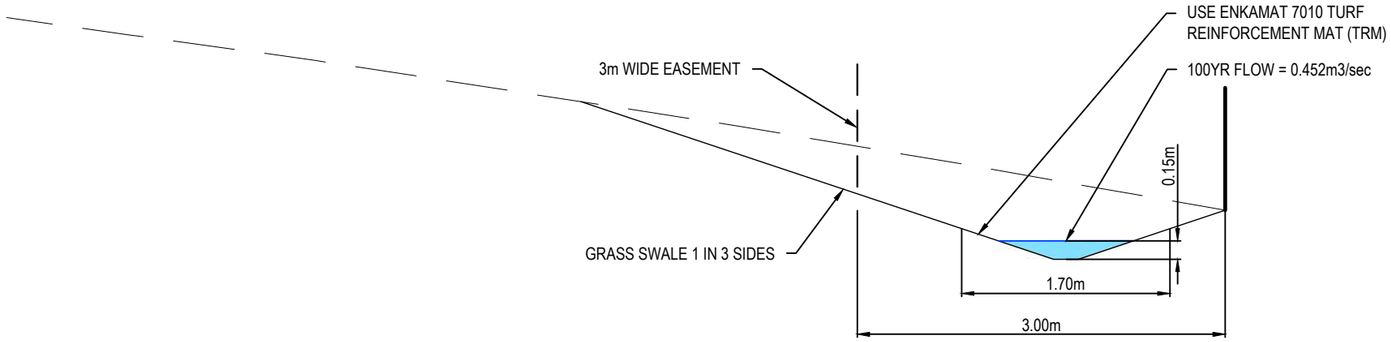
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

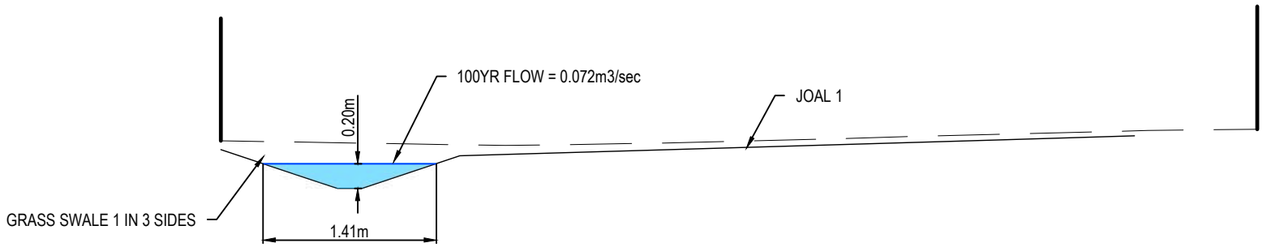
Proposed 100YR Cross Sections Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

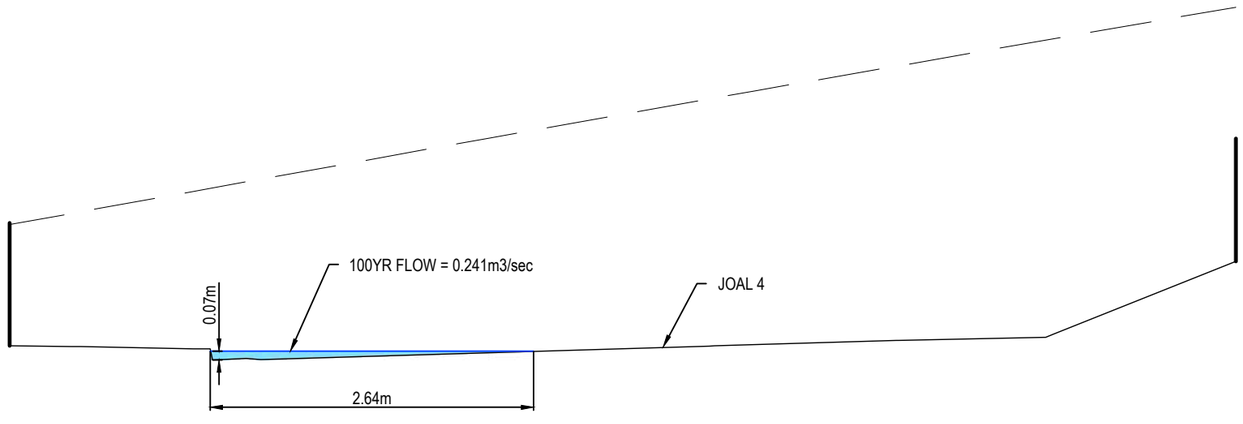
Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4506	Rev	A



SECTION GG - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



SECTION HH - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4504 FOR LOCATION



SECTION II - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

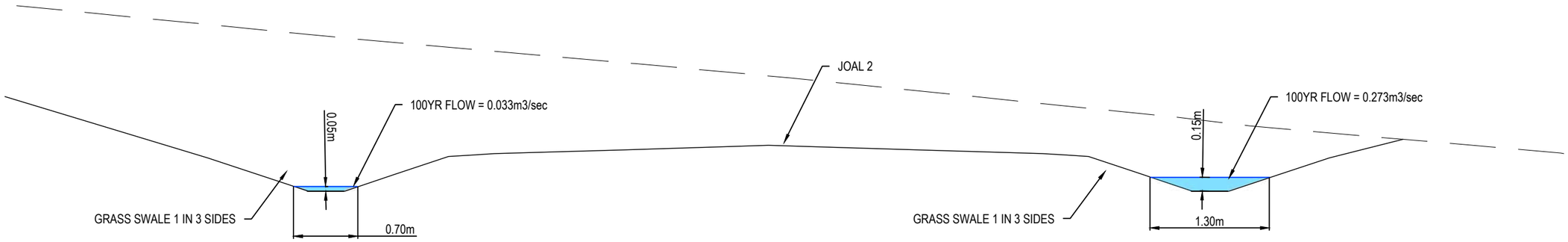
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

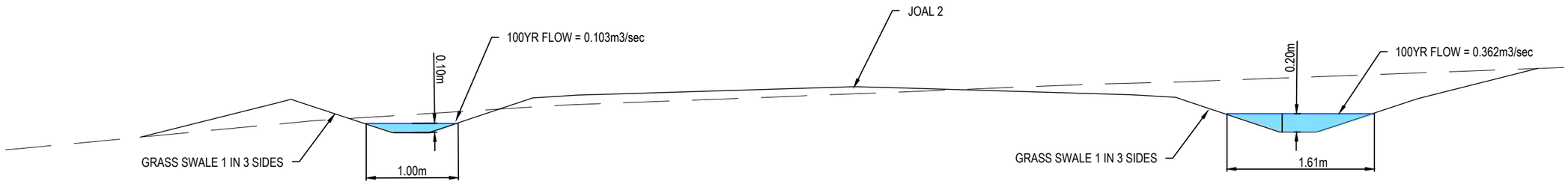
Proposed 100YR
Cross Sections
Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

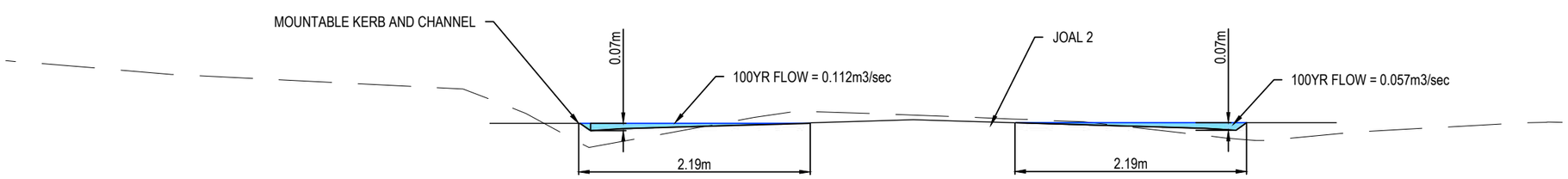
Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4507	Rev	A



SECTION JJ - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION



SECTION KK - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION



SECTION LL - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

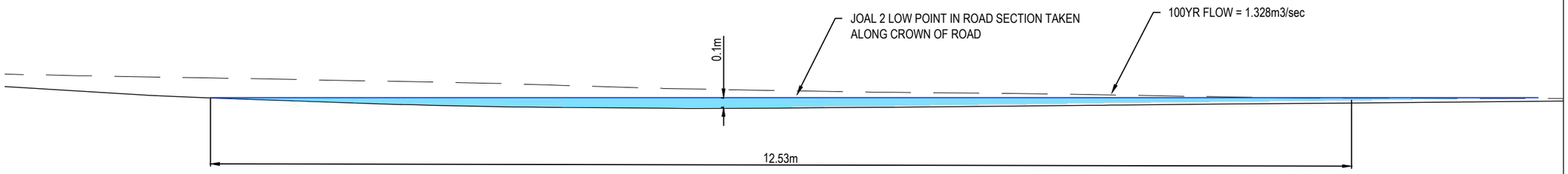
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

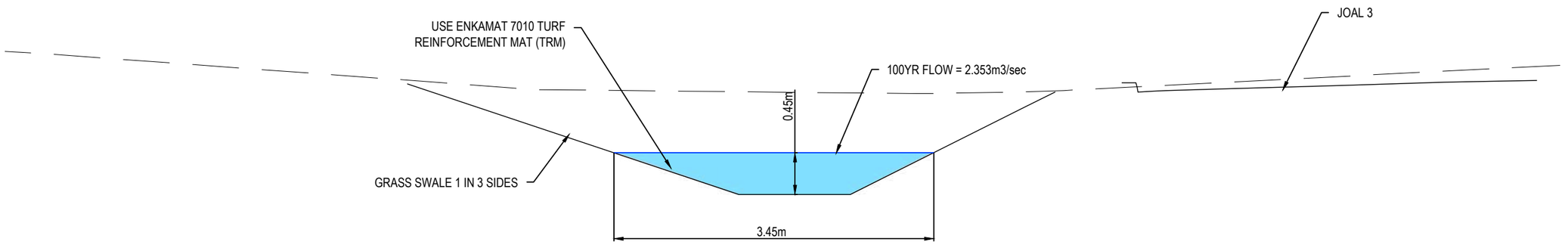
Proposed 100YR
Cross Sections
Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

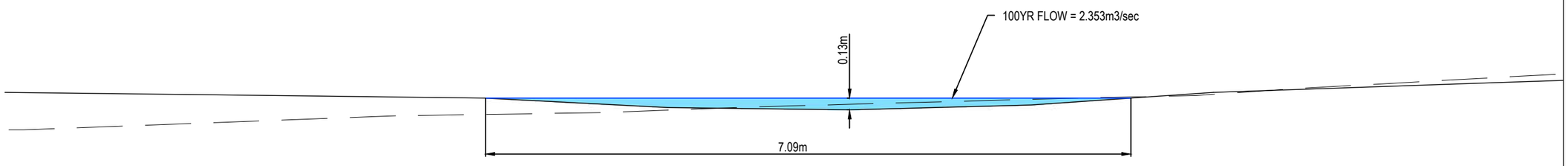
Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4508	Rev	A



SECTION MM - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION



SECTION NN - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION



SECTION OO - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4503 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

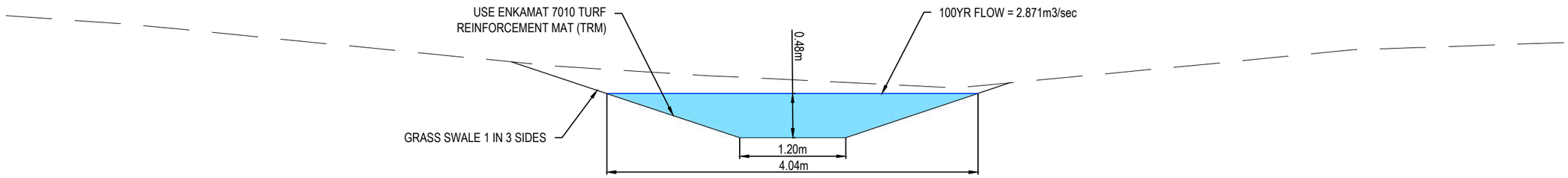
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

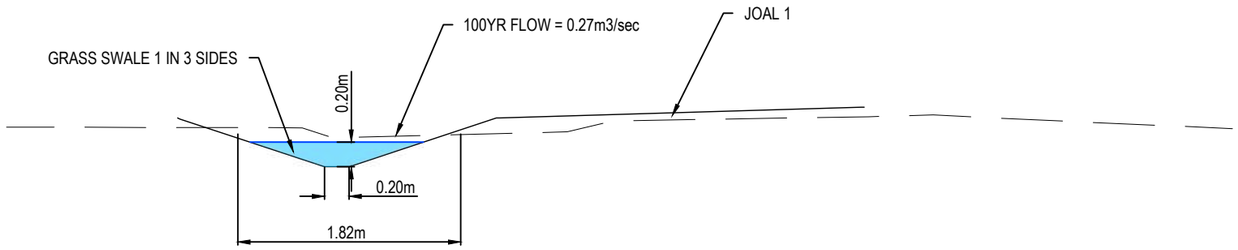
Proposed 100YR
Cross Sections
Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4509	Rev	A



SECTION PP - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4502 FOR LOCATION



SECTION QQ - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4502 FOR LOCATION

SECTION RR - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4502 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

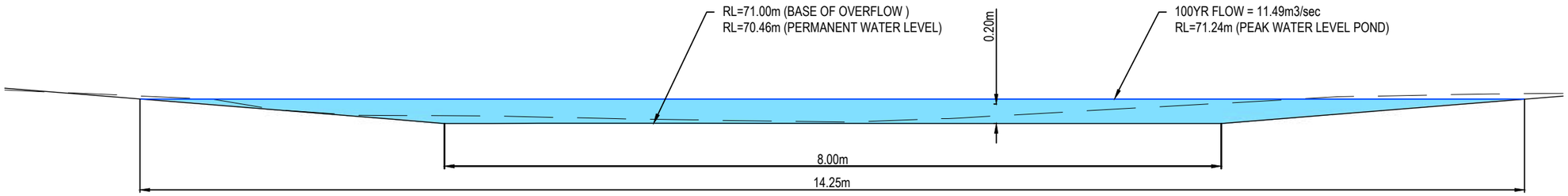
conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed 100YR
Cross Sections
Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4510	Rev	A



SECTION SS - OVERLAND FLOWPATH
SCALE 1:50 @ A3
REFER DRAWING C4502 FOR LOCATION

NOTES
1. All works to be in accordance with Far North District Council Standards.
2. Coordinates in terms of NZ Geodetic Datum Mt Eden 2000.
3. Levels in terms of the Auckland Vertical Datum 2016.

LEGEND
- EX BDY
- PR BDY
- EX EASEMENT
- EX GL PROFILE
- PR GL PROFILE
- PR-WL 100YR
- PR-100YR FLOWPATH

conquel CONSULTING
Contact: admin@conquel.co.nz
Phone: +64224914223

Taraire Tahi Limited
Riddell Road
Kerikeri

Proposed 100YR Cross Sections Plan

No.	Revision (Description)	Name	Date
A	Resource Consent	GB	11/25
Surveyed		DW	09/25
Designed		-	-
Drawn		GB	09/25
Checked		TS	11/25

Project no.	10401		
Scale	Refer to Drawing		
Cad file	10401 RIDDELL FLOODING.DWG		
Drawing no.	C4511	Rev	A