Far North District Council

Office Use Only
Application Number:

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APPLICATION FOR RESOURCE CONSENT OR FAST-TRACK RESOURCE CONSENT

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA))
(If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Form 9)

Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges – both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a Council Resource Consent representative to discuss this application prior to lodgement? ~~Yes~~ / No

2. Type of Consent being applied for (more than one circle can be ticked):

O Land Use O Fast Track Land Use* O **Subdivision** O Discharge

O Extension of time (s.125) √ Change of conditions (s.127) O Change of Consent Notice (s.221(3))

O Consent under National Environmental Standard (e.g. Assessing and Managing Contaminants in Soil)

O Other (please specify)

***The fast track for simple land use consents is restricted to consents with a controlled activity status and requires you provide an electronic address for service.**

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

~~Yes~~ / No

4. Applicant Details:

Name/s: Solid Holdings Ltd

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

Postal Address: (*or* alternative method of service under section 352 of the Act)

5. Address for Correspondence: *Name and address for service and correspondence (if using an Agent write their details here).*

Name/s: Donaldson's Surveyors Ltd

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

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.

6. 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: Kerry Lupi

Property Address/: Location 2624 State Highway 10, kerikeri

7. Application Site Details:

Location and/or Property Street Address of the proposed activity:

Site Address/ Location: 2624 State Highway 10, kerikeri

Legal Description: Lot 1 DP 84384

Val Number:

Records of Title: RT NA88C/568

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.

8. Description of the Proposal:

Please enter a brief description of the proposal here. Attach a detailed description of the proposed activity and drawings (to a recognized scale, e.g. 1:100) to illustrate your proposal. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Proposed variation to subdivision approval RC 2220069.

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or 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) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification? ~~Yes~~/No

10. Other Consent required/being applied for under different legislation (more than one circle can be ticked):

O ~~Building Consent~~ ~~(BC ref # if known)~~ O ~~Regional Council Consent~~ ~~(ref # if known)~~

O ~~National Environmental Standard consent~~ O ~~Right of Way Section 348 LGA~~

11. 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 (further information in regard to this NES is available on the Council's planning web pages):

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)

O yes √ no O don't know
Exempt as production land

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle).

√ yes O no O don't know

√ Subdividing land

O Changing the use of a piece of land

O Disturbing, removing or sampling soil

O Removing or replacing a fuel storage system

12. 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.

Please attach your AEE to this application. √ See w*ithin the planning report*

13. 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 all names in full) Donaldson's Surveyors Limited

Email: [redacted]

Postal Address: [redacted]

Phone Numbers: [redacted]

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

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

Name: Micah Donaldson

Signature: [redacted] (signature of bill payer – **mandatory**) Date: 20 August 2024

14. 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.

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

Name: Micah Donaldson (please print)

Signatu[redacted](signature) Date: 20 August 2024

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

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)
√ 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
o Reports from technical experts (if required)
o Copies of other relevant consents associated with this application
o Location and Site plans (land use) AND/OR
√ Location and Scheme Plan (subdivision)
o 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.

Digital Applications may be submitted via E- mail to: Planning.Support@fndc.govt.nz

Only one copy of an application is required, but please note for copying and scanning purposes, documentation should be:

UNBOUND **SINGLE SIDED** **NO LARGER THAN A3 in SIZE**

Donaldson's Surveyors Limited

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Kerikeri 0245 - Northland - New Zealand

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DONALDSONS
REGISTERED LAND SURVEYORS

PLANNING REPORT

PROPOSED SUBDIVISION RESOURCE CONSENT VARIATION

SOLID HOLDINGS LIMITED

2624 STATE HIGHWAY 10, KERIKERI

Date: 20 August 2024 Reference: 7407

CONTENTS

INTRODUCTION

The applicant Solid Holdings Ltd has resource consent approval to subdivide to create four additional lots referenced RC2220069.

Lot 1 = 2.2ha
Lot 2 = 2.6ha
Lot 3 = 2.0ha
Lot 4 = 4.0ha
Lot 5 = 4.0ha

The property is zoned Rural Production and the subdivision activity was approved as a Restricted Discretionary Activity under the Far North District Plan, compliant with the 2ha subdivision rule.

The applicant furthermore obtained consent under the National Environmental Standards as a discretionary activity to allow Lots 1, 3 - 5 to remain as active HAIL sites.

The applicant now seeks a variation to the resource consent to reflect a change in the boundary layout between Lots 1 & 2. The boundary relocation is to capture a new driveway that services Lot 2.

The new driveway to Lot 1 and future buildings sites on Lots 1 & 2 are anticipated to be located within 100m of a defined wetland, and consequently require consent under the Northland Regional authority.

Additionally, the applicant seeks minor changes to text errors noted in the resource consent.

SITE DESCRIPTION

The application site legal reference:

Estate	Lot Number Deposited Plan	Area	Proprietor	Record of Title
Fee Simple	Lot 1 DP 84384	15.1279 ha	Solid Holdings Limited	NA88C/568

The property defines an active rural production block absent of any dwellings, located along State Highway 10, Kerikeri near the Sandys Road turn off.

The intention is to subdivide all lots as production blocks rather than establishing them for lifestyle purposes, supported with basic assessments to ensure the new site are suitable for mandatory onsite effluent disposal.

All sites have an easy grade sloping towards a gully aligned in a north south direction.

The site is served by a metalled access formation extending approximately 600m to the east, the full length of the southern boundary as a legal right of way over adjoining Lot 15 DP 540604, and another extends to the north alongside the eastern boundary of Lot 1, which would service Lot 2. No additional access formations are required.

There is a double width entrance off State Highway 10 that is well formed, and as a consent condition would be upgraded to NZTA 'Diagram E' standard.

DISTRICT PLAN

The property is located within the Rural Production zone and is not influenced by any Resource overlays.

TABLE 13.7.2.1: MINIMUM LOT SIZES

Restricted Discretionary Activity

3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m^2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000;

4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is ***2ha****, and where the subdivision is created from a site that existed at or prior to 28 April 2000;*

The parent title issued in 1992, with an available area of 15.12ha, capable of upholding 'point 4'.

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

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

Not applicable.

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

The subdivision does not compromise the Department of Conservation's ability to manage and administer crown land.

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

The site has no vegetation that would be compromised by the subdivision.

The central gully is located more than 10m from any future earthworks, and where it is within 100m, the applicant has demonstrated stormwater management techniques that uphold the permitted activity standards of the NES Freshwater Regulations 2020, as confirmed by Northland Regional Council.

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

There is adequate area to locate a building without infringing on the 20m setback from bush.

In considering whether or not to impose conditions on applications for restricted discretionary subdivision activities the Council will restrict the exercise of its discretion to the following matters:
(1) the matters listed in ***13.7.3***;

ALLOTMENT DIMENSIONS

(Buildable Area)

Zone	Minimum Dimension
Rural Production	30m x 30m

The allotments continue to have sufficient area to achieve allotment shape parameters.

13.7.3 ASSESSMENT

Property Access

The proposed allotment layout alters the influence on an identified wetland located on Lots 1 and 2. The proposed access to Lot 2 is within 100 meters of the wetland and requires a culvert crossing through a watercourse that meets the definition of a river. Consequently, the access construction requires specific design to comply with the permitted activity standards of the Proposed Regional Plan (rules C2.1.8) and the NES Freshwater 2020 (rules 62 and 70).

To meet the permitted activity standards for impermeable surfaces within 100m of a wetland it is necessary to demonstrate that the stormwater discharge from those surfaces would not increase the water levels in the wetland. To achieve that stormwater soakage is proposed to absorb excess stormwater displaced from the access formation (*see attached stormwater management assessment prepared by Donaldsons Surveyors).*

To meet the permitted standards for a culvert crossing through a "river," in this instance, it is necessary to use a pipe size that is 1.3 times the width of the natural flowpath. The applicant has prepared designs and assessments that uphold these standards, with NRC approval (*see attached culvert construction prepared by Donaldson Surveyors).*

There are no other influences or changes to the access standards.

Hazards
There is no change in effects from hazards.

Water Supply
There is no change to water supply requirements, other than a private irrigation water supply that involves Lots 1 – 4 as defined on the updated scheme plan attached. Not this is not a conditional easement and therefore does not involve local authority.

Stormwater
The stormwater management assessment requires that Lots 1 – 3 include a consent notice on the respective titles specifying any impermeable surface areas (including metalled surfaces) be subject to attenuation, for purpose of mitigating impacts on a wetland located within 100m.

Landowner shall submit a stormwater attenuation design prepared by an SQEP with any building consent or earthworks permit application for any roof surface area over 25m² and/or driveway construction that is within 100m of the wetland defined on Lots 1 & 2, that satisfies both 50% & 10% AEP storm events plus climate change allowance RCP 6.0 2081-2100.

Landowners are responsible for the ongoing maintenance and repair of any stormwater detention or retention devices, and maintenance shall be routinely carried out every 2 months, with any issues/faults to be instructed for repair by registered drainlayer:

- *Check and remove debris at gutter inlets (gutter guard or similar).*
- *Check and remove debris at detention outlet.*
- *Check and remove debris at the overflow.*
- *Any sediment build-up in detention devices of more than 50mm be removed.*
- *Rock soakage devices be monitored during heavy rainfall events to ensure continued functionality, and the substrate material be replaced when failure is evident.*

Sewage
There is no change to wastewater disposal.

Energy Supplies & Telecommunications
There is no change to the supply of these services.

Easements - Covenants
Proposed and existing easements are described on the scheme plan.
The only change is that the "Right of Way" to Lot 2 over Lot 1 is no longer required, instead having an independent access ingress.

A proposed consent notice is to document standard land use requirements, relating to firefighting, and no reticulation of power or telephone, and in addition stipulate the HAIL site restrictions.

There is one additional consent notice as required for stormwater management, as referred to above.

The property is not located in a high-density Kiwi zone to require restrictions on cats and dogs.

Access to Reserves and Waterways
No concern.

Land Use Incompatibility
There is no change to land use incompatibility.

Building Locations
At this point in time any building sites are indicative with ample area available.
Indicative building sites have been shown on Lot 1 & 2 to demonstrate their "permitted" status under the Regional authority rules and regulations, provided that specific stormwater management occurs from their impermeable surfaces.

NATURAL AND PHYSICAL RESOURCES

Earthworks are required to construct the access formation to Lot 2 and the proposed culvert crossing involves a fill height that exceeds 1.5m. The total height is designed at (RL 165.93 – 162.6 = 3.3m).

12.3.6.1.1
Excavation and/or filling, excluding mining and quarrying, on any site in the Rural Production Zone or Kauri Cliffs Zone is permitted, provided that:
(a) it does not exceed 5,000m³ in any 12 month period per site; and
(b) it does not involve a continuous cut or filled face exceeding an average of 1.5m in height over the length of the face i.e. the maximum permitted average cut and fill height may be 3m.

12.3.6.3 DISCRETIONARY ACTIVITIES
An activity is a discretionary activity if: (a) it does not comply with one or more of the standards for permitted or restricted discretionary activities as set out under Rules 12.3.6.1 and 12.3.6.2 above; or

12.3.7 ASSESSMENT CRITERIA

(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;

The applicant has had designed an access formation that adheres to the stringent permitted activity standards outlined in the Northland Regional Plan. These standards specifically pertain to impermeable surface structures located within 100 meters of a wetland, ensuring minimal environmental impact and compliance with regional regulations.
In addition to the access formation, the applicant has also developed comprehensive sediment control plans. These plans are designed to mitigate any potential sediment runoff during the physical construction phase, thereby protecting the surrounding ecosystem. The sediment control measures will be rigorously implemented throughout the construction process to maintain environmental integrity and adhere to best practices in construction management.

(b) any effects on the life supporting capacity of the soil;

No concern. The earthworks occurs outside active horticultural land. All soil would remain onsite.

(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 proposed culvert crossing improves the current situation where the pipe is undersized and causes water flow congestion.

(d) any reduction in water quality;
Sediment control serves to mitigate the effects of sediment displacement, and any possible reduction in water quality would be less than minor.

(*e) any loss of visual amenity or loss of natural character of the coastal environment*;

The excavated fill area would include rock facing to improve stability and general visual amenity value.
Bare soil would revegetate quickly with grass.
There is no impact on 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);

There are none.

(g) the extent to which the activity may adversely affect areas of significant indigenous vegetation or significant habitats of indigenous fauna;

The effects are considered appropriately managed to meet industry guidelines, not to cause any significant adverse effects on the subject environment.

The proposed culvert pipe design improves on the current situation where the culvert is currently above water level causing an obstruction for fish passage.

(h) the extent to which the activity may adversely affect heritage resources, especially archaeological sites;

No concern.

(*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 concern.

(j) any cumulative adverse effects on the environment arising from the activity;

There are none.

(k) the effectiveness of any proposals to avoid, remedy or mitigate any adverse effects arising from the activity;

This has been demonstrated though obtaining support from the Northland Regional Council.

(l) the ability to monitor the activity and to take remedial action if necessary;

No concern if monitoring is required.

(m) the criteria in Section 11.20 Development Plans in Part 2.

Development Plans were not considered necessary.

(n) the criteria (p) in Section 17.2.7 National Grid Yard

Not applicable.

In summary, the effects from fill required to complete the culvert crossing is consistent with normal subdivision works, and should be considered to uphold rule; 13.6.8 SUBDIVISION CONSENT BEFORE WORK COMMENCE - *When the subdivision consent is granted, provided all the necessary calculations and assessment of effects is provided with the application, the subdivision consent application shall be deemed to include consent to excavate or fill land, and clear vegetation to the extent authorised by the consent and subject to any conditions in the consent.*

RESOURCE MANAGEMENT ACT 1991

Part 2

Purpose and principles

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 proposed variation introduces additional adverse impacts on the wetland environment due to increased stormwater discharge from impermeable surfaces in proximity. However, the applicant has commissioned comprehensive professional assessments, which demonstrate that these associated effects can be effectively managed without compromising wetland water levels. This capability to manage the impacts underscores a commitment to the sustainable management of natural and physical resources.

SCHEDULE 4 RMA 1991
An application for Resource Consent for an activity must include the following:

Assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b)

Section 104(1)(b)
any relevant provisions of—
(i) a national environmental standard:
(ii) other regulations:
(iii) a national policy statement:
(iv) a New Zealand coastal policy statement:
(v) a regional policy statement or proposed regional policy statement:
(vi) a plan or proposed plan;

Relevant provisions are covered within this attached stormwater assessment and concludes permitted status.

(3)
An application must also include an assessment of the activity's effects on the environment that –

(a) *includes the information required by clause 6*
(b) *address the matters specified in clause 7; and*
(c) *includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.*

CLAUSE 6
(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 effects on the environment, a description of any possible alternative locations or methods for undertaking the activity:*

As a result of the proposed stormwater mitigation measures, the activity will not cause any significant adverse effects on the environment.

(b) *an assessment of the actual or potential effects on the environment of the activity.*

The level of effects are considered adequately understood and representative of "less than minor".

(c) *if the activity includes the use of hazardous substances and installations, an assessment of any risk to the environment that are likely to arise from such use.*

Not applicable.

(d) *if the activity includes the discharge of any contaminants, 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 variation does not introduce any contaminants.

(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 effects:*

There are none considered necessary.

(f) *identification of the persons affected by the activity and consultation undertaken, and any response to the views of any person consulted:*

There are none.

(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:*

The Northland Regional Council may conduct monitoring.

(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 concern.

(2)
A requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

CLAUSE 7 – Assessment of Environmental Effects
7 Matters that must be addressed by assessment of environmental effects

(1) An assessment of an 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:
There is no adverse caused to the wider community.

(b) any physical effects on the locality, including any landscape, and visual effects.
The proposal maintains within guideline framework.

(c) Any effects on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity.
There is no unreasonable physical damage to ecosystems.

(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural values, or other special value, for present and future generations:
No concern.

(e) any discharge of contaminants in to the environment, including any unreasonable emissions of noise, and options for the treatment and disposal of contaminants:
No concerns.

(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.
No concern.

NORTHLAND REGIONAL POLICY STATEMENT

In summary, the proposal continues to align with the Regional Policy Statement's Regional form and design guidelines without concern.

NATIONAL POLICY STATEMENT

FOR FRESHWATER MANAGEMENT 2020

Part 1
1.3 Fundamental concept – Te Mana o te Wai
(1) Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

Objectives and Policies
2.1
The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that priorities:
(a) first, the health and wellbeing of water bodies and freshwater ecosystems
(b) second, the health needs of people (such as drinking water)
(c) third, the ability of people and communities to provide for their social, economic and cultural wellbeing, now and in the future.

70 Permitted activities
(1)
The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area is a permitted activity if it complies with the conditions.
Conditions
(2)
The conditions are that—
(a)
the culvert must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert; and

The flowrate calculations determine that approximately the same water velocity exists within the proposed culvert pipe as it does within the natural stream environment.

(b)
the culvert must be laid parallel to the slope of the bed of the river or connected area; and

The culvert pipe is laid parallel to the natural slope of 5%.

(c)
the mean cross-sectional water velocity in the culvert must be no greater than that in all immediately adjoining river reaches; and
The cross sectional water velocity in the culvert is calculated at 0.06m²/s.
The cross sectional water velocity in the natural flow is calculated at 0.08m²/s.
There is no increase the water velocity.

(d)
the culvert's width where it intersects with the bed of the river or connected area (s) and the width of the bed at that location (w), both measured in metres, must compare as follows:

(i)
where $w \leq 3$, $s \geq 1.3 \times w$:

The connected area of the water flow is 0.6m.
Therefore: 1.3 x 0.6 = **0.78m**
The proposed culvert width at the connected area is the coord length = 0.78m and this increase up to 0.9m (total width of the culvert pipe).

(ii)
where $w > 3$, $s \geq (1.2 \times w) + 0.6$; and

Not applicable.

(e)
the culvert must be open-bottomed or its invert must be placed so that at least 25% of the culvert's diameter is below the level of the bed; and

The culvert pipe invert is placed so that 25% (0.225m) is below the level of the bed.

(f)
the bed substrate must be present over the full length of the culvert and stable at the flow rate at or below which the water flows for 80% of the time; and

The substrate of the watercourse is sediment, and this would form the base of the culvert.

(g)
the culvert provides for continuity of geomorphic processes (such as the movement of sediment and debris).

The culvert sizing proves adequate for up to a 1:100year storm event, which means the pipe would self-flush excessive sediment and debris.

The required stormwater discharge and diversion within 100m of a wetland has been appropriately managed.

NORTHLAND REGIONAL PLAN - PROPOSED

As described in the attached culvert assessment the works culvert installation is able to comply with the permitted activity standards of the NRC plan rule C2.1.8 – Construction and installation of structure.

Conditions of subdivision approval may include that the works comply with Rule C2.3 General Conditions.

UPDATED CONSENT CONDITIONS

The following describes the updated resource consent conditions and includes minor error corrections.

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

1.

The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons Registered Land Surveyors, referenced Lots 1-5 being a proposed subdivision of Part Lot 1 DP 84384, dated ~~July 2021~~ August 2024, and attached to this consent with the Council's "Approved Stamp" affixed to it.

2.

(b) Areas shown as X and Y to be subject to land covenants for wetland protection notices (See condition 4(l)~~(xi))~~ (ix).

(c) Areas subject to vegetation protection on Lot 1 and Lot 2. Where achievable, the areas subject to vegetation protection shall be 1.5m wide from either side of the centreline of the trunks of the shelterbelts/hedges/trees and plant lines. This condition shall not apply to the existing shelterbelt if written confirmation is provided by a Licenced Cadastral Surveyor confirming that the shelterbelts along the northern boundary on Lot 1 adjoining Lot 1 DP 145840

and the southern boundary on Lot 2 adjoining Lot 1 DP 145840 are wholly within Lot 1 DP 145840 (2640 State Highway 10). (See condition 4 (l)~~(x))~~ (viii).

3. Prior to the approval of the survey plan pursuant to Section 223 of the Act, the consent holder shall:

(a) Provide to Council written confirmation from a Licenced Cadastral Surveyor that all access formations are compliant with the following widths, or such works shall be designed in accordance with the Council's current Engineering Standards and NZS4404:2004.

In particular, the plans and details shall show:

i. Access on the first 480m from the vehicle crossing of Easement A formed to provide a 5m wide metalled formation, excluding the existing culvert crossing located approximately 165m from the State Highway, where it may be impractical to widen.

ii. Access on Easement A past the first 480m from the vehicle crossing formed to provide a 3m wide metalled formation with passing bays.

~~*iii. Access on easement B formed to provide a 3m wide metalled formation.*~~

iv. Proposed erosion and sediment control measures required to undertake the development of the site.

v. A formed and sealed entrance to Easement A in accordance with the requirements of ~~Waka Kotahi~~ (NZTA - Waka Kotahi).

Note: If upgrades of Right of Way A ~~require~~ include widening of the existing culvert, the applicant shall provide evidence that consent has been obtained from the Northland Regional Council (if required) and construct a culvert crossing of the stream. The culvert design shall include a catchment calculation carried out by a suitably qualified engineer to determine the required culvert size and shall include culvert head walls and carriageway construction to withstand the stream from overtopping the crossing without scouring.

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

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

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

Check this is the correct contact!

(d) Upon completion of the works specified in condition 223~~(1)~~ (a) above, provide certification of the work from a IQP engineer that all work has been completed in accordance with the approved plans.

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

(ii) In conjunction with the construction of any building or access formation, the lot owner shall submit for the approval of Council a report prepared by a suitably qualified IQP engineer, detailing the on-site ~~retention and~~ flow attenuation of stormwater from the site such that the flow is limited to the pre development level for rainfall events ~~up to those with a 2% AEP~~ including 10% & 50% AEP.

[Lots 1-~~5~~ 3]

(ix) Areas shown X and Y on the survey plan are set aside for Wetland Protection. Management of activities on Lots 1, 2 and 3, with respect to the natural wetland areas is to be undertaken so that the natural range of water levels and the natural ecosystem of plants and animals they support do not change as a result of such activities, except by way of a consent from the Council. No land clearance, soil disturbance or the erection or placement of any structures within these areas are permitted without the express written approval of the Regional Council authority.

Condition 4(l) requires renumbering.

CONCLUSION

The subdivision variation assessment under the Rural Production zone guidelines demonstrates a level of effects that are less than minor that warrant local authority support.

Micah Donaldson
Assoc.NZPl

DONALDSONS
Land / Engineering Surveyors and Development Planners

Quickmap Title Details

Information last updated as at 18-Aug-2024

RECORD OF TITLE
DERIVED FROM LAND INFORMATION NEW ZEALAND
FREEHOLD

Identifier **NA88C/568**

Land Registration District **North Auckland**

Date Issued 01 October 1992

Prior References

NA40D/670

Type Fee Simple

Area 15.1279 hectares more or less

Legal Description Part Lot 1 Deposited Plan 84384

Registered Owners

Solid Holdings Limited

Subject to Section 59 Land Act 1948

Appurtenant hereto are water rights specified in Easement Certificate 489682.2 - 2.3.1979 at 9.03 am

The easements specified in Easement Certificate 489682.2 are subject to Section 37 (1) (a) Counties Amendment Act 1961

B130373.1 Gazette Notice (N.Z. Gazette 26.8.1992 p.2786) declaring the part State Highway No.10 (Pakaraka to Awanui) from it's junction with Waipapa Road to the Whangaroa County Boundary to be a limited access road - 26.11.1982 at 11.45 am

Appurtenant hereto is a right of way and telephone and electricity rights specified in Easement Certificate C323975.6 - 18.11.1991 at 10.02 am

Subject to an electricity right over part marked D on Plan 145840 specified in Easement Certificate C323975.6 - 18.11.1991 at 10.02 am

Some of the easements specified in Easement Certificate C323975.6 are subject to Section 309 (1) (a) Local Government Act 1974

Appurtenant hereto is a right of way and a right to convey water, electricity and telecommunications created by Easement Instrument 11639314.1 - 23.7.2020 at 4:19 pm

FAR NORTH DISTRICT COUNCIL
FAR NORTH OPERATIVE DISTRICT PLAN
DECISION ON RESOURCE CONSENT APPLICATION (SUBDIVISION)
Amended as per s133A

Resource Consent Number: 2220069-RMASUB

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

Solid Holdings Limited

The activity to which this decision relates:
Subdivision to create four additional allotments in the Rural Production zone.

Subject Site Details

Address:	2624 State Highway 10, Kerikeri 0295
Legal Description:	Pt Lot 1 DP 84384
Record of Title reference:	NA-88C/568

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

1. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Donaldsons Registered Land Surveyors, referenced Lots 1-5 being a proposed subdivision of Part Lot 1 DP 84384, dated July 2021, and attached to this consent with the Council's "Approved Stamp" affixed to it.

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

   (a) All easements listed within the proposed easement schedule to be duly granted or reserved.

   (b) Areas shown as X and Y to be subject to land covenants for wetland protection notices (See condition 4(l)(xi)).

   (c) Areas subject to vegetation protection on Lot 1 and Lot 2. Where achievable, the areas subject to vegetation protection shall be 1.5m wide from either side of the centreline of the trunks of the shelterbelts/hedges/trees and plant lines. This condition shall not apply to the existing shelterbelt if written confirmation is provided by a Licenced Cadastral Surveyor confirming that the shelterbelts along the northern boundary on Lot 1 adjoining Lot 1 DP 145840 and the southern boundary on Lot 2 adjoining Lot 1 DP 145840 are wholly within Lot 1 DP 145840 (2640 State Highway 10). (See condition 4 (l)(x)).

3. Prior to the approval of the survey plan pursuant to Section 223 of the Act, the consent holder shall:

   (a) Provide to Council written confirmation from a Licenced Cadastral Surveyor that all access formations are compliant with the following widths, or such

works shall be designed in accordance with the Council's current Engineering Standards and NZS4404:2004.

In particular, the plans and details shall show:

i. Access on the first 480m from the vehicle crossing of Easement A formed to provide a 5m wide metalled formation.
ii. Access on Easement A past the first 480m from the vehicle crossing formed to provide a 3m wide metalled formation with passing bays.
iii. Access on easement B formed to provide a 3m wide metalled formation.
iv. Proposed erosion and sediment control measures required to undertake the development of the site.
v. A formed and sealed entrance to Easement A in accordance with the requirements of Waka Kotahi (NZTA).

Note: If upgrades of Right of Way A require widening of the existing culvert, the applicant shall provide evidence that consent has been obtained from the Northland Regional Council (if required) and construct a culvert crossing of the stream. The culvert design shall include a catchment calculation carried out by a suitably qualified engineer to determine the required culvert size and shall include culvert head walls and carriageway construction to withstand the stream from overtopping the crossing without scouring.

(b) Provide a plan prepared by a licenced cadastral surveyor that shows the shelterbelt/trees, hedging along the northern boundary on Lot 1 adjoining Lot 1 DP 145840 and the southern boundary on Lot 2 adjoining Lot 1 DP 145840 are located within the subject site or on adjacent property being Lot 1 DP 145840 (2640 State Highway 10).

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

(a) Following approval of the plans and selection of the contractor, provide to Council:
i. Details of the successful contractor
ii. Details of the planned date and duration of the contract
iii. Details of the supervising engineer
iv. A traffic management plan.

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

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

(c) The consent holder is to ensure that stormwater diversion and silt control measures are in place prior to the commencement of earthworks.

(d) Upon completion of the works specified in condition 223(1) above, provide certification of the work from a IQP engineer that all work has been completed in accordance with the approved plans.

(e) Provide to Council written confirmation from a Licenced Cadastral Surveyor that the access carriageway is fully contained within the easements provided for access.

(f) Crossing place CP 83B shall be upgraded in accordance with Waka Kotahi's (the New Zealand Transport Agency) Diagram E standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the Waka Kotahi (NZTA) Network Manager.

(g) Provide to Council, correspondence from Waka Kotahi (NZTA) confirming that works in the State Highway, including the upgrading of the vehicle crossing, have been constructed to Waka Kotahi's (NZTA) standards.

(h) Should the shelterbelt located along the northern boundary on Lot 1 adjoining Lot 1 DP 145840 and the southern boundary on Lot 2 adjoining Lot 1 DP 145840 be wholly contained within the adjoining lot being Lot 1 DP 145840 (2640 State Highway 10) (See condition 2(c)), then a row of trees or hedge species shall be planted along the northern boundary on Lot 1 adjoining Lot 1 DP 145840 and the southern boundary on Lot 2 adjoining Lot 1 DP 145840.

(i) Provide for Councils approval a preferred road name and two alternatives for the private right of way (Easement A). The applicant is advised that in accordance with Community Board policy, road names should reflect the history of the Area.

(j) Provide evidence of payment to Council for the cost of purchasing and installing a road name sign for the private right of way.

(k) Provide evidence that an ecologist has delineated the wetland extent for protection.

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

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

[Lots 1-5]

(ii) National Environmental Standard for Freshwater Regulations 2020.
Wetland/s were identified within the lot subject to the above legislation. Any development within 100m of the wetlands identified on the

approved plan referenced: Lots 1 – 5 being a proposed subdivision of Part Lot 1 DP 84384 may require consent from Regional Council. Activities covered by the regulations include the taking, use, damming, diversion, or discharge of water outside, but within a 100m setback from, a natural wetland.

[Lots 1-5]

(i) At the time of building consent, the consent holder shall ensure that a treatment and disposal system is constructed generally in accordance with the recommendations contained within the design report prepared by Kerikeri Drainage Ltd dated 10/06/21, and included with the documents submitted with RC2220069-RMASUB.

[Lots 1-5]

(ii) In conjunction with the construction of any building, the lot owner shall submit for the approval of Council a report prepared by a suitably qualified IQP engineer, detailing the on-site retention and flow attenuation of stormwater from the site such that the flow is limited to the pre development level for rainfall events up to those with a 2% AEP.

[Lots 1-5]

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

[Lots 1-5]

(iv) At the time of lodging an application for building consent, the applicant is to provide a report from a Chartered Professional Engineer with recognised competence in relevant geotechnical and structural matters, which a site investigation, sets out the specific design of the building's foundations and indicates the programme of supervision of the foundation construction.

[Lots 1-5]

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

[Lots 1-5]

(vi) The Lot is identified as being within a kiwi present zone. Any cats and/or dogs kept onsite must be kept inside and/or tied up at night to reduce the risk of predation of North Island brown kiwi by domestic cats and dogs.

[Lots 1-5]

(vii) Due to horticultural activities taking place in the vicinity and dwelling to be constructed on the lot which will utilise rainwater as a potable water supply will require a suitable water filtration system to be installed.

[Lots 1-5]

(viii) Consent Notice only required if it is determined by condition 2(c) that the shelterbelt/hedging is within Lot 1 and Lot 2:
The shelterbelt/hedge within area[s] [Z] are to be protected from removal. The shelterbelt/hedge may be trimmed as required to maintain an effective barrier while maintaining a height of 2.3m – 2.7m between the Lots and Lot 1 DP 145840 (2640 State Highway 10).

[Lots 1 and 2]

(ix) Areas shown X and Y on the survey plan are set aside for Wetland Protection. Management of activities on Lots 1, 2 and 3, with respect to the natural wetland areas is to be undertaken so that the natural range of water levels and the natural ecosystem of plants and animals they support do not change as a result of such activities, except by way of a consent from the Council. No land clearance, soil disturbance or the erection or placement of any structures within these areas are permitted without the express written approval of Council.

[Lots 1, 2, 3]

(x) Any new dwelling on the site located closer than 40m from the road boundary must be designed, constructed and maintained to achieve a design noise level of 40dB LAeq (24h) inside all habitable spaces. In order to confirm compliance with the consent notice requirements, a design report prepared by an acoustics specialist must be submitted to the Far North District Council prior to the construction or alteration of any dwelling. The design shall take into account future permitted use of the State Highway for existing roads by the addition of 3 dB to existing measured or predicted levels.

[Lots 1 and 2]

Advice Notes

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

Reasons for the Decision

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

2. The application is for a Restricted Discretionary resource consent, as such under 104C only those matters over which council has restricted its discretion have been considered, these matters are:

    - 13.8 for Restricted Discretionary Subdivision Activities

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

Chapter 13 – Subdivision

Objectives: 13.3.1, 13.3.2, 13.3.5, 13.3.11
Policies: 13.4.1, 13.4.2, 13.4.3, 13.4.6, 13.4.8, 13.4.13, 13.4.14

The subdivision creates four additional allotments under the Restricted Discretionary criteria within the Rural Production zone, therefore is anticipated by the District Plan. The subdivision is consistent with the purpose of the zone and promotes the sustainable management of the productive intent of the zone.

No cultural or heritage effects were identified. The site has been identified as being located within a kiwi present habitat. The protection of the North Island brown kiwi is provided for by keeping domestic cats and dogs tied up and/or inside at night on all allotments.

The proposal is not contrary to the relevant objectives and policies of the District Plan.

3. In accordance with an assessment under s104(1)(b) of the Act the proposal is consistent with the relevant statutory documents.
    - The Northland Regional Policy Statement 2018
    - The Northland Regional Plan 2019

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

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

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

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

Approval
This resource consent has been prepared by Jo Graham, Resource Planner and is granted under delegated authority (pursuant to section 34A of the Resource Management Act 1991) from the Far North District Council by:

P.J. Killalea.

Pat Killalea, Principal Planner

Date:23rd September 2021

Amended version pursuant to s133A granted under delegated authority by:

Pat Killalea, Principal Planner

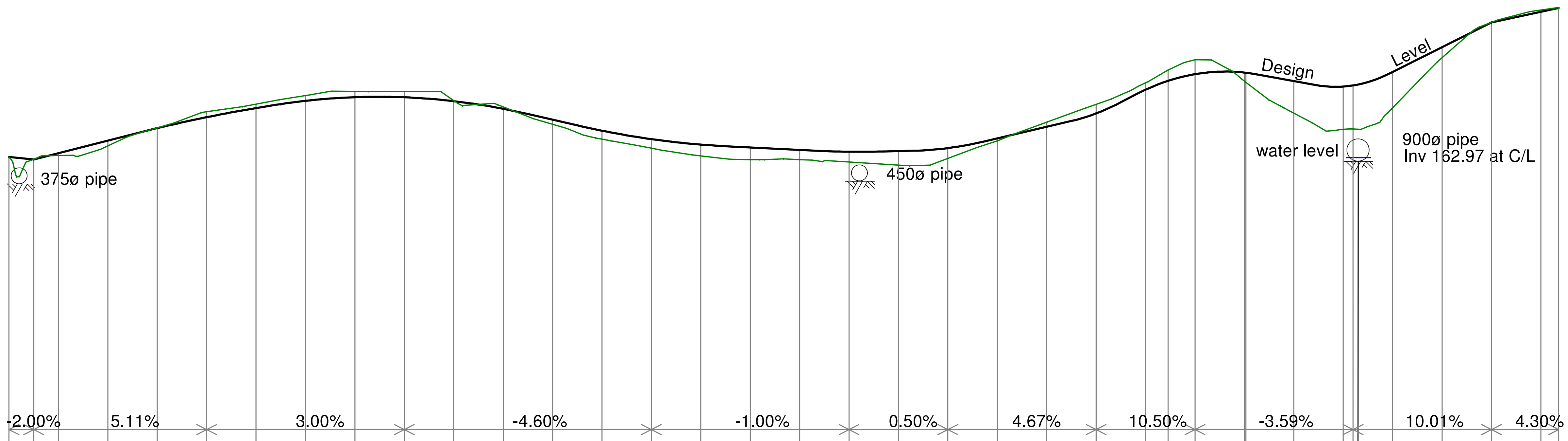
Date: 24th September 2021

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

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

The consent is given effect to; or

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



Datum R.L. 150.00

Chainage	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00
Cut/Fill	-0.00		+0.09	+0.22	-0.01	-0.22	-0.16	-0.21	-0.24	-0.24	-0.02	-0.07	+0.19
FINISHED	163.01	162.91	163.17	163.68	164.18	164.62	164.99	165.28	165.43	165.42	165.27	164.96	164.52
NATURAL	163.01		163.07	163.46	164.19	164.84	165.15	165.49	165.67	165.66	165.29	165.04	164.33

Chainage	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	230.00	234.55
Cut/Fill	+0.34	+0.37	+0.46	+0.49	+0.39	+0.42	+0.56	+0.42	+0.10	-0.19	-0.37	-0.28	-0.44
FINISHED	164.07	163.74	163.51	163.40	163.30	163.23	163.25	163.37	163.77	164.23	164.77	165.73	166.09
NATURAL	163.73	163.37	163.06	162.91	162.91	162.81	162.69	162.96	163.67	164.42	165.14	166.01	166.53

Chainage	240.00	250.00	250.32	260.00	270.00	272.00	272.96	280.00	290.00	300.00	310.00	313.59
Cut/Fill	-0.58	+0.35	+0.39	+1.30	+1.73			+1.45	+0.42	+0.00	-0.07	+0.00
FINISHED	166.36	166.42	166.42	166.08	165.86	165.91		166.45	167.45	168.45	168.88	169.04
NATURAL	166.94	166.08	166.03	164.78	164.13			165.00	167.03	168.45	168.95	169.04

Scale Horizontal 1:1000 Vertical 1:200

PROPOSED ACCESS - LONGSECTION PLAN

No.	Revision	Date Approved

DONALDSONS
REGISTERED LAND SURVEYORS

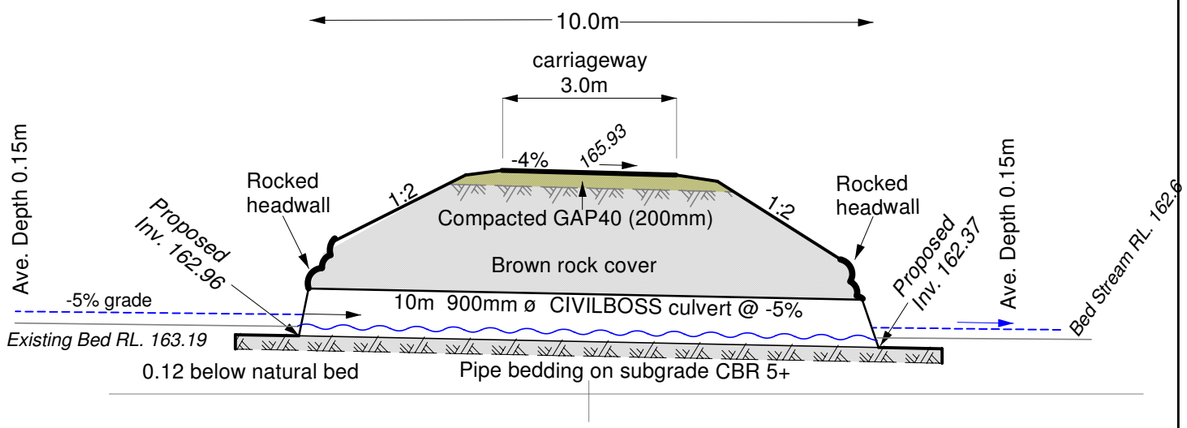
Do not scale drawing
Nominal scale shown are @ A3
Check all dimensions on site before construction

		Checked	Date
Surveyed			
Designed			July 2024
Drawn			JM
Approved			

Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Access Design to Lot 2
Dir: 7407 Access Design - Longsection

Job No. 7407

Cadastral / engineering surveyors, development planners, resource consent managers - ANZ bank building, 90 Kerikeri Road, Kerikeri, Northland, New Zealand - www.donaldsons.net.nz - email: info@donaldsons.net.nz - phone:09 4079182



FISH PASSAGE CULVERT

not to scale

CATCHMENT AREA 14 ha

Q10 = 2040 l/s

Q100 = 3030 l/s

Boundary

batter

Rocked sides 1:2

Stream Bed Level 163.19

Culvert IL 162.96

Proposed Culvert Coordinate:
N: 990715.889
E: 320567.961

CL metal RL 165.93

-5%

Proposed Culvert
6m 900ø
CIVILBOSS SN8
Grade 5%
Rocked headwall

Proposed Access Formation

Culvert IL 162.37

Stream Bed Level 162.6

Grade 1:20

Natural Stream
Average width 0.6
Average depth 0.15

cb

No.	Revision	Date Approved

DONALDSONS
REGISTERED LAND SURVEYORS

Do not scale drawing
Nominal scale shown are @ A3
Check all dimensions on site before construction

	Checked	Date
Surveyed		
Designed		July 2024
Drawn		JM
Approved		

Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Stormwater Culvert Design to Lot 2 (fish passage)

Scale: 1:100 at A3
Contour Interval: 0.5m

Job No. 7407

Donaldson's Surveyors Limited

90 Kerikeri Road - PO Box 211
Kerikeri 0245 - Northland - New Zealand

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DONALDSONS
REGISTERED LAND SURVEYORS

CULVERT CONSTRUCTION

PERMITTED DEVELOPMENT WORKS

K. & S. LUPI, 2624 STATE HIGHWAY 10, KERIKERI

REFERENCE: 7407
DATE: AUGUST 2024

Land Use Activity Description

The applicants require a new replacement culvert through a low flow river on their orchard block (Lot 1 DP 84384) to improve accessibility to a proposed house site. This will allow vehicles to freely move across the watercourse without being compromised by flood events up to 1% AEP.

NES FRESHWATER REGULATIONS 2020

62 Requirement for all activities: information about structures and passage of fish

(1)

The placement is a culvert pipe within the bed of a river.

A river as defined by the RMA:

> *river means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)*

(2)

The information specified in this regulation must be collected and provided to the relevant regional council, together with the time and date of its collection within 20 working days after the activity is finished.

(3) The information is:

(a) the type of structure

The structure is a standard culvert crossing for motor vehicles.

(b) the geographical co-ordinates of the structure

The crossing location in terms of Geodetic Mount Eden 2000:
N. 990715.889
E. 320567.961

(c) the flow of the river or connected area (whether none, low, normal, or high)

Low flow.

(d) whether the water is tidal at the structures location

Non tidal.

(e) at the structure location;

(i) The width of the river or connected areas at the waters surface

The average flow width is 0.6m, excluding artificial stagnant zones.

(ii) the width of the bed of the river or connected area

The bed width or connected area is calculated at 0.78m (chord length within pipe)

(f) whether there are improvements to the structure to mitigate any effects the structure may have on the passage of fish.

The flow velocity (depth velocity) under natural conditions within the channel is 0.08m^2/s, and within the culvert pipe is 0.06m^2/s. This is a low velocity environment that does not require mitigation to improve fish passage.

(g) whether the structure protects particular species, or prevents access by particular species to protect other species.

The structure does not protect a particular species.

(h) the likelihood that the structure will impede the passage of fish.

No concern.

(i) visual evidence (for example photographs) that shown both ends of the structure, viewed upstream and downstream.

Refer to the culvert plan for all site information.

63 Requirement for culvert activities: information about culverts

(1)

This regulation applies to any activity that—

(A)

is the placement, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area; and

(B)

is a permitted activity, or a class of activity that requires a resource consent, whether under this subpart or otherwise.

(2)

The information specified in this regulation must be collected and provided to the relevant regional council, together with the time and date of its collection, within 20 working days after the activity is finished,—

(A)

for a permitted activity; or

(B)

as a condition of a resource consent granted for the activity, for another class of activity.

70 Permitted activities

(1)

The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area is a permitted activity if it complies with the conditions.

Conditions

(2)

The conditions are that—

(a)

the culvert must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert; and

The flowrate calculations determine that approximately the same water velocity exists within the proposed culvert pipe as it does within the natural stream environment.

(b)

the culvert must be laid parallel to the slope of the bed of the river or connected area; and

The culvert pipe is laid parallel to the natural slope of 5%.

(c)

the mean cross-sectional water velocity in the culvert must be no greater than that in all immediately adjoining river reaches; and

The cross sectional water velocity in the culvert is calculated at 0.06m²/s.
The cross sectional water velocity in the natural flow is calculated at 0.08m²/s.
There is no increase the water velocity.

(d)

the culvert's width where it intersects with the bed of the river or connected area (s) and the width of the bed at that location (w), both measured in metres, must compare as follows:

(i)

where $w \leq 3$, $s \geq 1.3 \times w$:

The connected area of the water flow is 0.6m.
Therefore: 1.3 x 0.6 = **0.78m**
The proposed culvert width at the connected area is the coord length = 0.78m and this increase up to 0.9m (total width of the culvert pipe).

(ii)

where $w > 3$, $s \geq (1.2 \times w) + 0.6$; and

Not applicable.

(e)
the culvert must be open-bottomed or its invert must be placed so that at least 25% of the culvert's diameter is below the level of the bed; and

The culvert pipe invert is placed so that 25% (0.225m) is below the level of the bed.

(f)
the bed substrate must be present over the full length of the culvert and stable at the flow rate at or below which the water flows for 80% of the time; and

The substrate of the watercourse is sediment, and this would form the base of the culvert.

(g)
the culvert provides for continuity of geomorphic processes (such as the movement of sediment and debris).

The culvert sizing proves adequate for up to a 1:100year storm event, which means the pipe would self-flush excessive sediment and debris.

Northland Regional Plan

Rule C2.1.8 Construction and installation of structures

The erection, reconstruction, placement, alteration, or extension of a structure in, on, under or over the bed of a lake or river, any associated temporary damming, taking or diversion of water around the activity site, and any associated bed disturbance or deposition of a substance in, on, or under the bed, are permitted activities, provided:

3) for culvert crossings:
a) the contributing catchment is less than 300 hectares, and

The catchment area is 13.1ha.
Compliant.

b) the culvert length under the crossing parallel to river flow must not exceed 25 metres when necessary for a road or railway line, otherwise it must not exceed 10 metres, and

The culvert is for a driveway and does not exceed a span greater than 10m.
Compliant.

c) the culvert is designed such that flow velocity will not impede fish passage during normal flow conditions, and

The velocity under medium flow conditions at 0.06m²/s does not impede fish passage.
Compliant.

d) culvert approaches and fill placed on the river or lake bed must be free of organic matter, and

Any fill being placed in or on the river bed for purpose of supporting the culvert pipe would be blue metal without any organic matter.
Compliant.

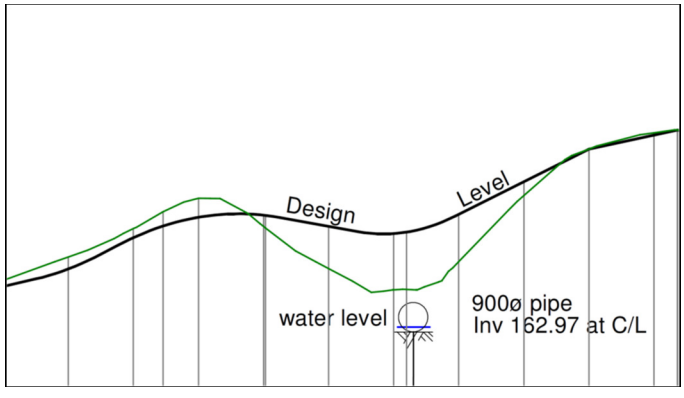
e) the total height of the crossing crest must be:
i. no more than 3.5 metres above the invert level of the culvert inlet, and

The culvert RL is 162.97 and the top of the access formation is RL 165.86. The height difference is 2.9m.
Compliant.

ii. within the manufacturer's maximum height specifications for the culvert, and

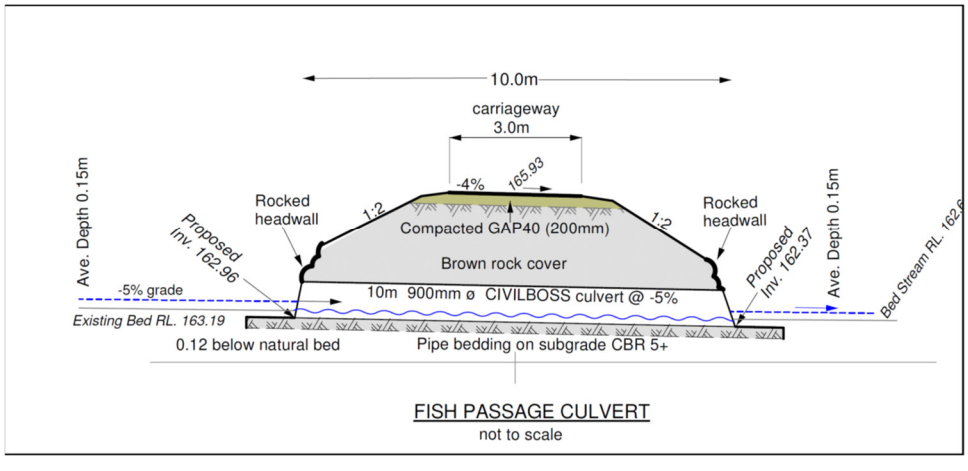
Manufacturer recommendations are to not exceed a pipe cover depth of 6m.
Compliant.

iii. below the riverbank level unless it is necessary for a road, and
The crossing crest is below the top of the gully banks to ensure any water overtopping is directly over the crest and not directed around the sides.



f) the culvert must be either open bottomed or installed so that the base is set a minimum of 25 percent and a maximum of 50 percent of the culvert diameter below the stream bed, and

The culvert is set to 25% of the culvert diameter below the stream bed.
Compliant.



g) on request by the Regional Council, records of structure design and flow calculations must be made available within 10 working days of the request, and

Calculations are available.
Compliant.

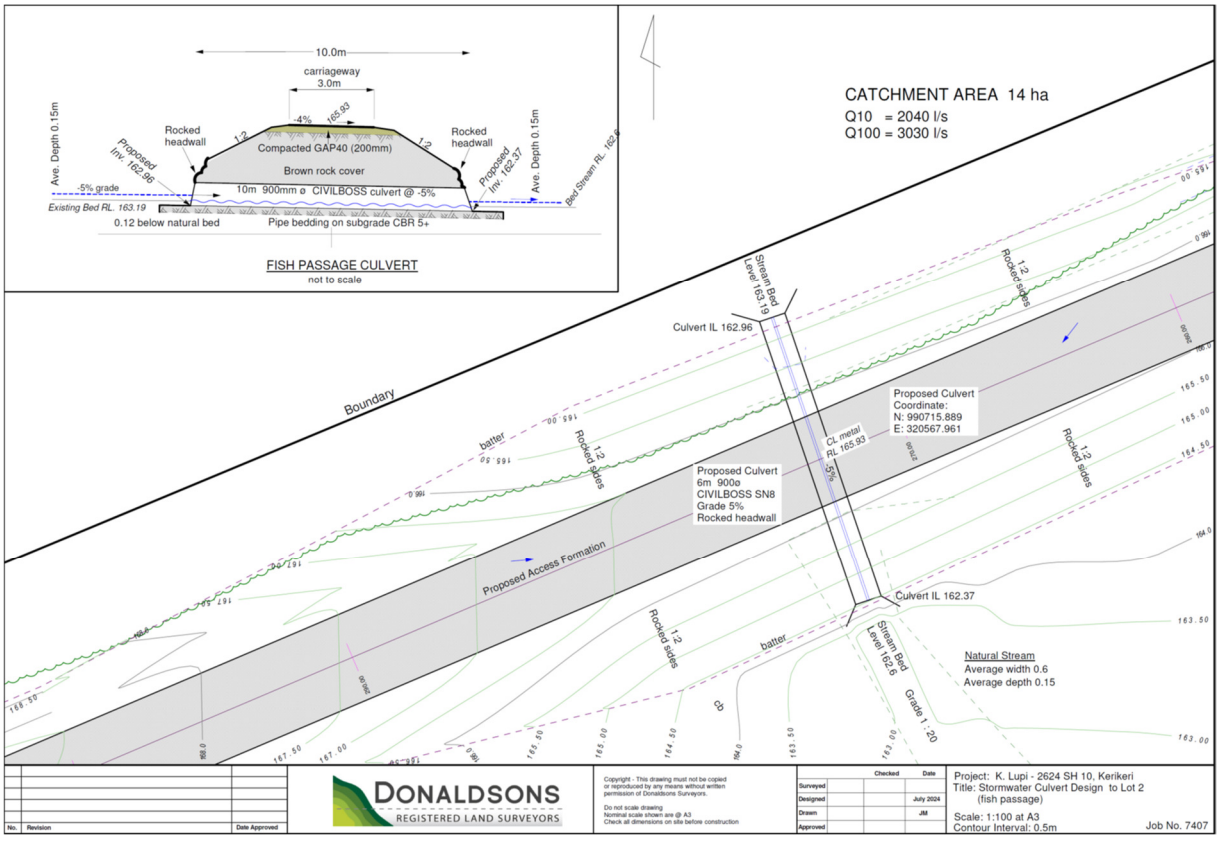
h) the culvert is not in a significant wetland, an Outstanding Freshwater Body or mapped (refer I Maps | Ngā mahere matawhenua): i. Outstanding Natural Character Area, or ii. Outstanding Natural Feature, or iii. Site or Area of Significance to Tāngata Whenua, and

There are no listed signfincat wetlands, outstanding freshwater bodies, outstanding natural character, natural features, or sites of significance to Tāngata Whenua.
Compliant.

The information list —

(A) the culvert's asset identification number, if known:	Civilboss pipe
(B) whether the culvert's ownership is— **(I)** held by the Crown (for example, the Department of Conservation), a regional council, a territorial authority, the New Zealand Transport Agency, or KiwiRail Holdings Limited; or **(II)** held publicly by another person or organisation; or **(III)** held privately; or **(IV)** unknown:	Private ownership
(C) the number of barrels that make up the culvert:	1 complete length 10m
(D) the culvert's shape:	Circular
(E) the culvert's length:	10 metres
(F) the culvert's diameter or its width and height:	900mm diameter
(G)	None

the height of the drop (if any) from the culvert's outlet:	
(H) the length of the undercut or erosion (if any) from the culvert's outlet:	N/A
(I) the material from which the culvert is made:	Twin Wall Polypropylene Pipe
(J) the mean depth of the water through the culvert:	0.15 metres (river flow depth)
(K) the mean water velocity in the culvert:	0.43 m/sec
(L) whether there are low-velocity zones downstream of the culvert:	Yes < 0.3m/sec
(M) the type of bed substrate that is in most of the culvert:	Sediment
(N) whether there are any remediation features (for example, baffles or spat rope) in the culvert:	None required
(O) whether the culvert has wetted margins:	Yes same as creek water depth (average 0.15 metres)
(P) the slope of the culvert:	-5%
(Q) the alignment of the culvert:	Bearing of 341 degrees
(R) the numbers of each other type of structure to which this subpart applies, or of wingwalls or screens, on the culvert:	2 x rock headwalls
(S) if there is any apron or ramp on the culvert, the information required by regulation 68 for each of them.	N/A


10.0m
carriageway
3.0m
-4%
165.93
Rocked headwall
1:2
Compacted GAP40 (200mm)
Brown rock cover
Rocked headwall
1:2
Ave. Depth 0.15m
Proposed Inv. 162.96
-5% grade
10m 900mm ø CIVILBOSS culvert @ -5%
Proposed Inv. 162.37
Ave. Depth 0.15m
Bed Stream RL. 162.8
Existing Bed RL. 163.19
0.12 below natural bed
Pipe bedding on subgrade CBR 5+
FISH PASSAGE CULVERT
not to scale
CATCHMENT AREA 14 ha
Q10 = 2040 l/s
Q100 = 3030 l/s
Boundary
batter
Rocked sides
1:2
Stream Bed Level 163.19
Culvert IL 162.96
Proposed Culvert Coordinate:
N: 990715.889
E: 320567.961
CL metal RL 165.93
-5%
Proposed Culvert
6m 900ø
CIVILBOSS SN8
Grade 5%
Rocked headwall
Proposed Access Formation
Culvert IL 162.37
Stream Bed Level 162.6
Grade 1 : 20
cb
Natural Stream
Average width 0.6
Average depth 0.15
DONALDSONS
REGISTERED LAND SURVEYORS
Copyright - This drawing must not be copied or reproduced by any means without written permission of Donaldsons Surveyors.
Do not scale drawing
Nominal scale shown are @ A3
Check all dimensions on site before construction
Surveyed
Designed
Drawn
Approved
July 2024
JM
Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Stormwater Culvert Design to Lot 2 (fish passage)
Scale: 1:100 at A3
Contour Interval: 0.5m
Job No. 7407

Applicant : Solid Holdings Limited
Title : NA88C/568
Total Area : 15.1279 ha
Zone : Rural Production

PROPOSED LAND COVENANT *Sec. 221 RMA*
Areas shown X, Y & F are for wetland protection

Areas and measurements are subject to survey
For Resource Consent purposes only

EXISTING EASEMENT

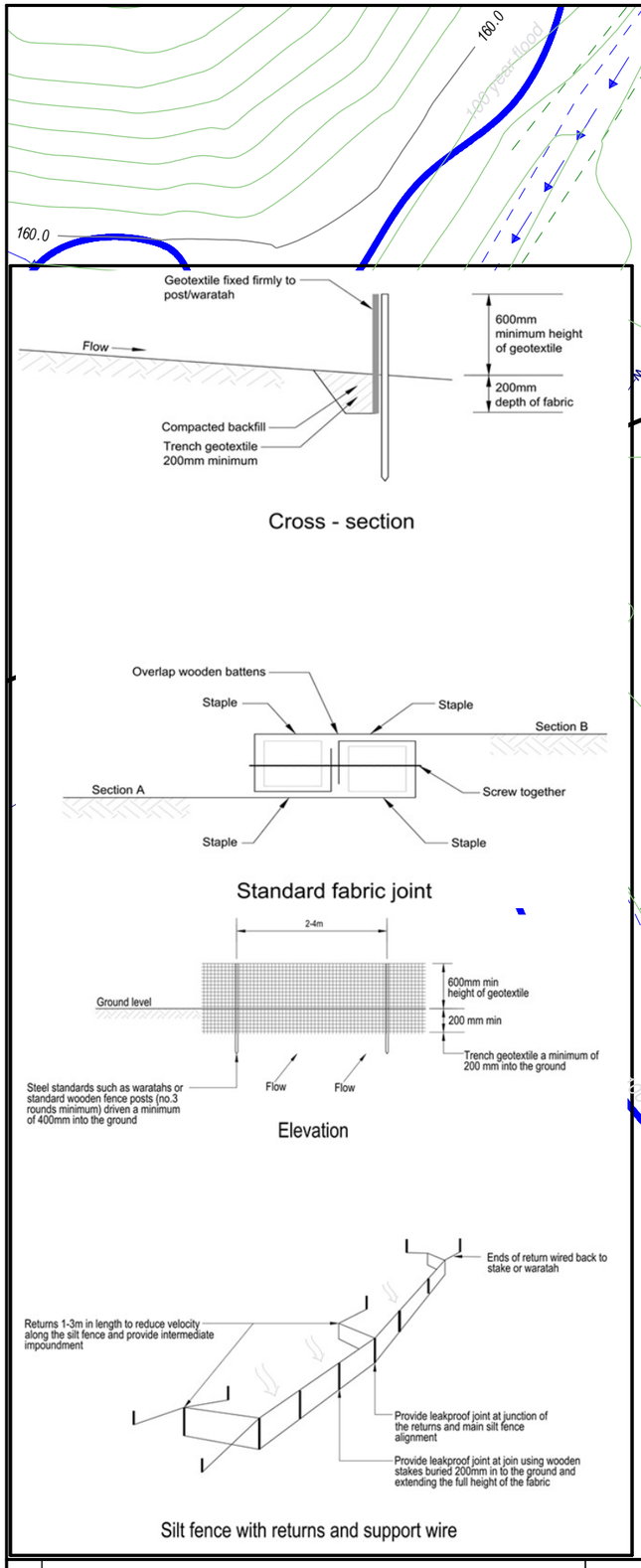
Purpose	Shown	Burdened	Creating Doc.
Right of way Right to convey electricity telecommunications water	A	Lot 15 DP 160317	DP 540604
Electricity	B D	Lot 1	EC C323975.6
PROPOSED EASEMENT			
Right to convey water supply	C D E F G	Lot 1	Lots 3 & 4
	H	Lot 2	Lots 3 & 4
	I	Lot 3	Lot 4
Right to drain stormwater	J	Lot 2	Lot 3

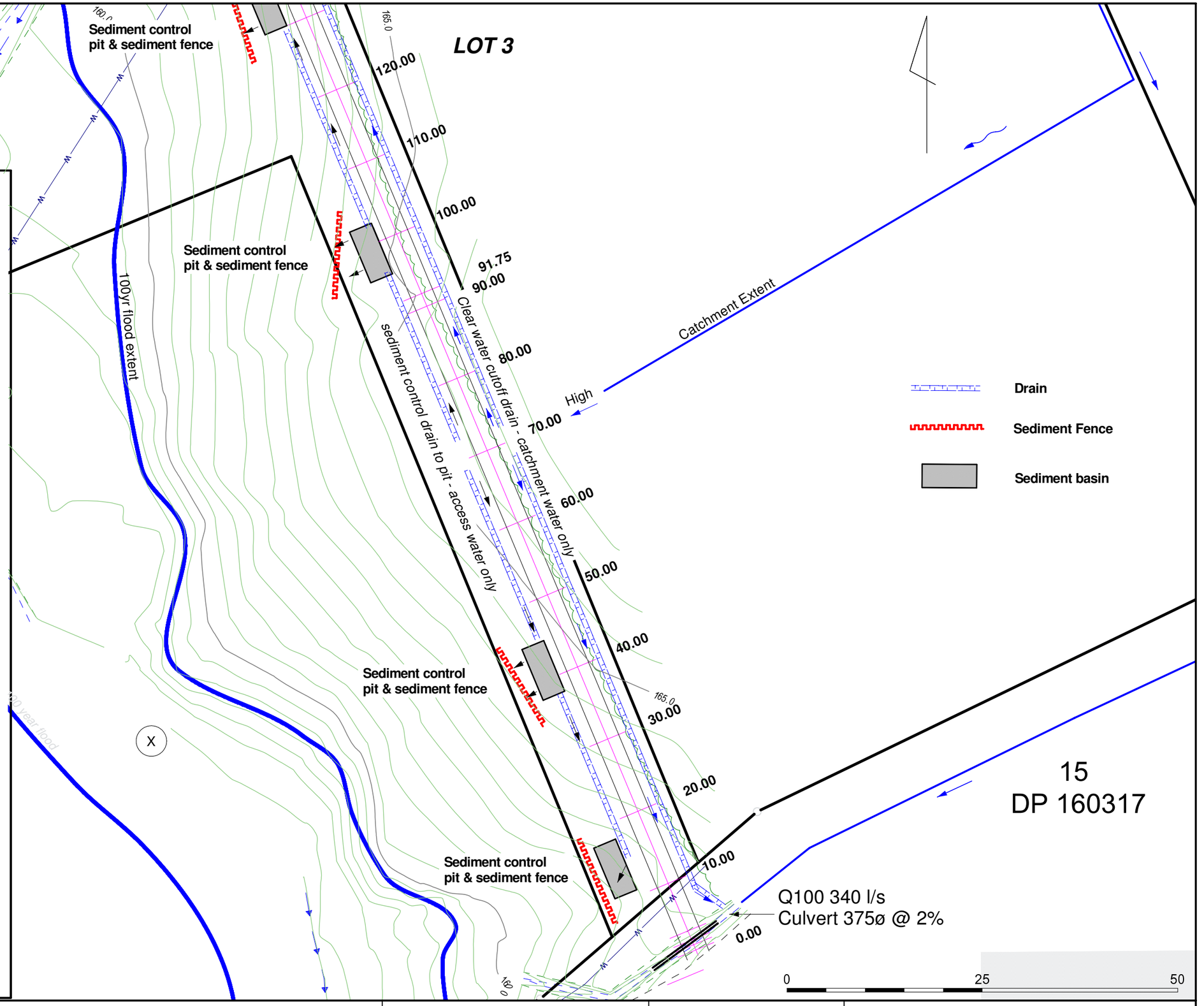
DONALDSONS
REGISTERED LAND SURVEYORS

Lots 1 - 5 being a proposed subdivision of Part Lot 1 DP 84384

Ref: 7407 Scheme 5.mjo / dg
Contour interval : 1m
Scale @ A3 : 1 : 2100
Date : August 2024

REF : 7407





SEDIMENT PLAN 1 OF 2

No.	Revision	Date Approved

DONALDSONS
REGISTERED LAND SURVEYORS

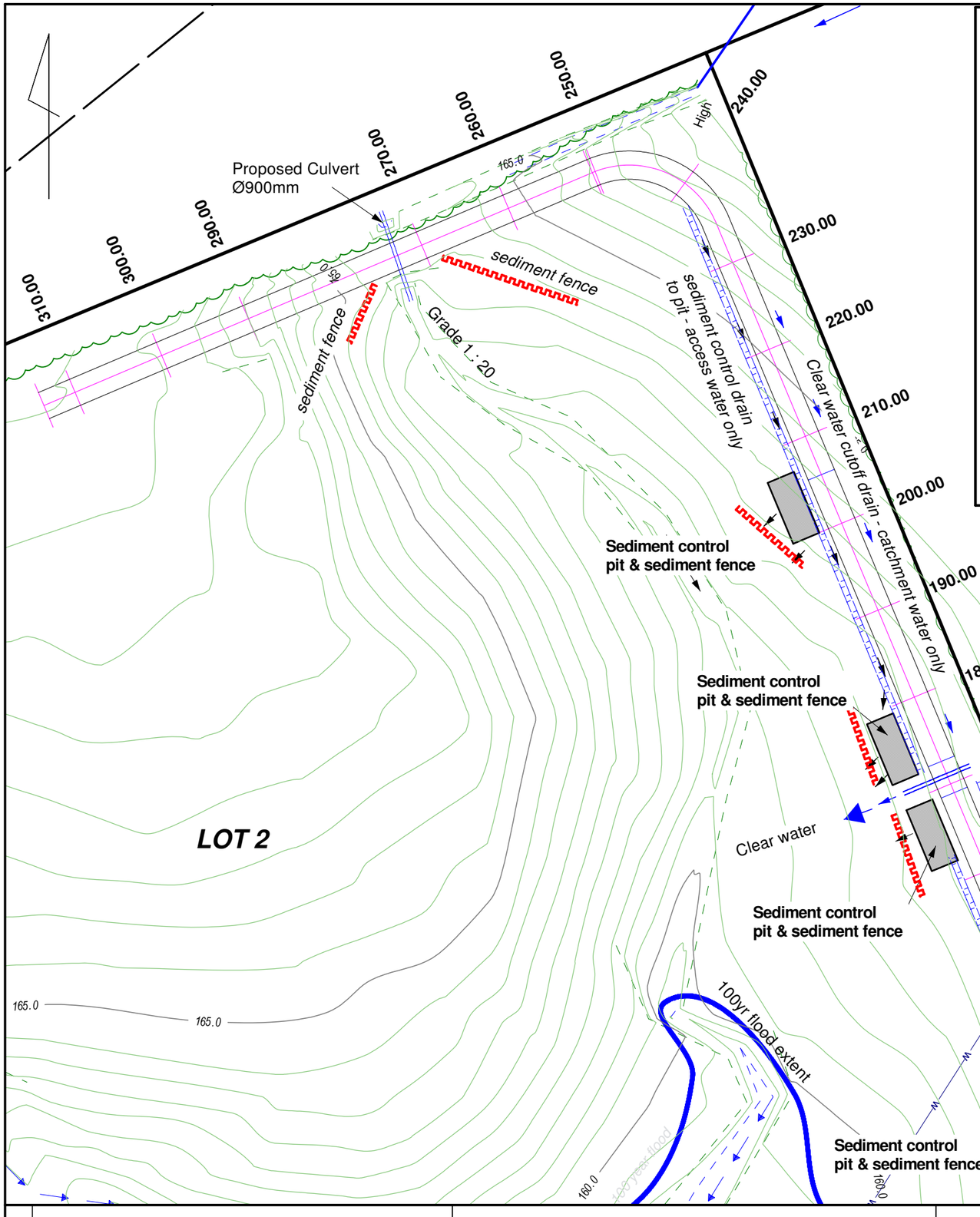
	Checked	Date
Surveyed		
Designed		July 2024
Drawn		JM
Approved		

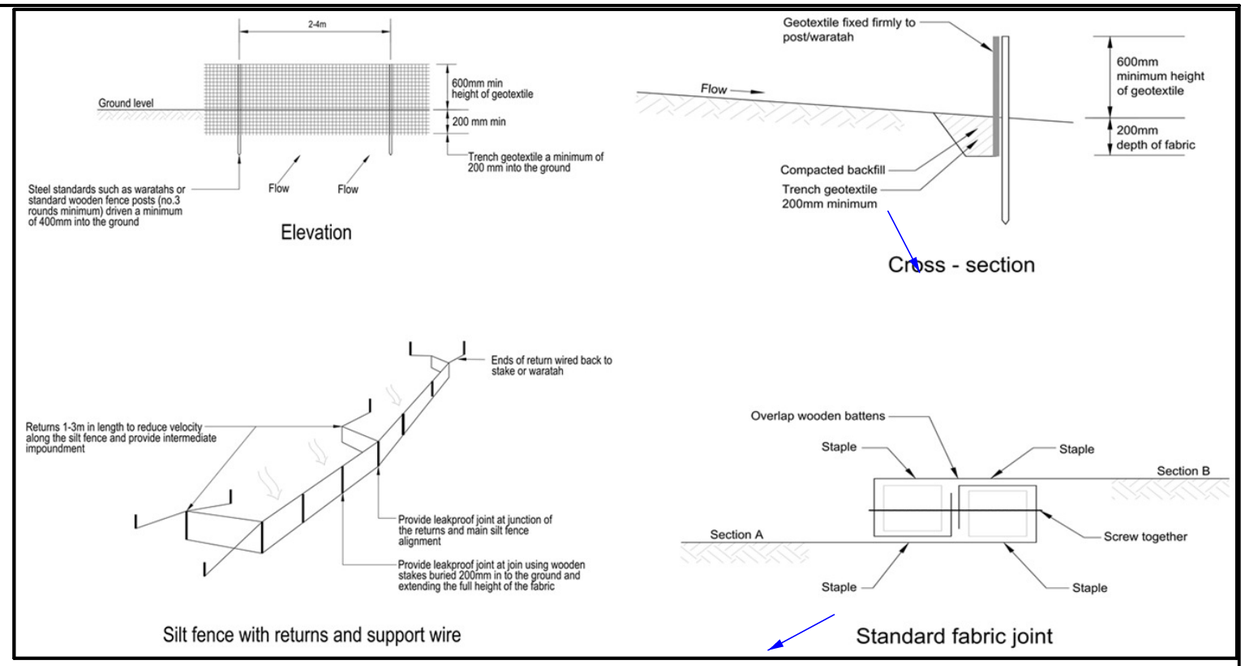
Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Access Design to Lot 2

Scale: 1:500 at A3

Job No. 7407

Cadastral / engineering surveyors, development planners, resource consent managers - ANZ bank building, 90 Kerikeri Road, Kerikeri, Northland, New Zealand - www.donaldsons.net.nz - email: info@donaldsons.net.nz - phone:09 4079182





Drain

Sediment Fence

Sediment basin

0 25 50

SEDIMENT PLAN 2 OF 2

No.	Revision	Date Approved

DONALDSONS
REGISTERED LAND SURVEYORS

Do not scale drawing
Nominal scale shown are @ A3
Check all dimensions on site before construction

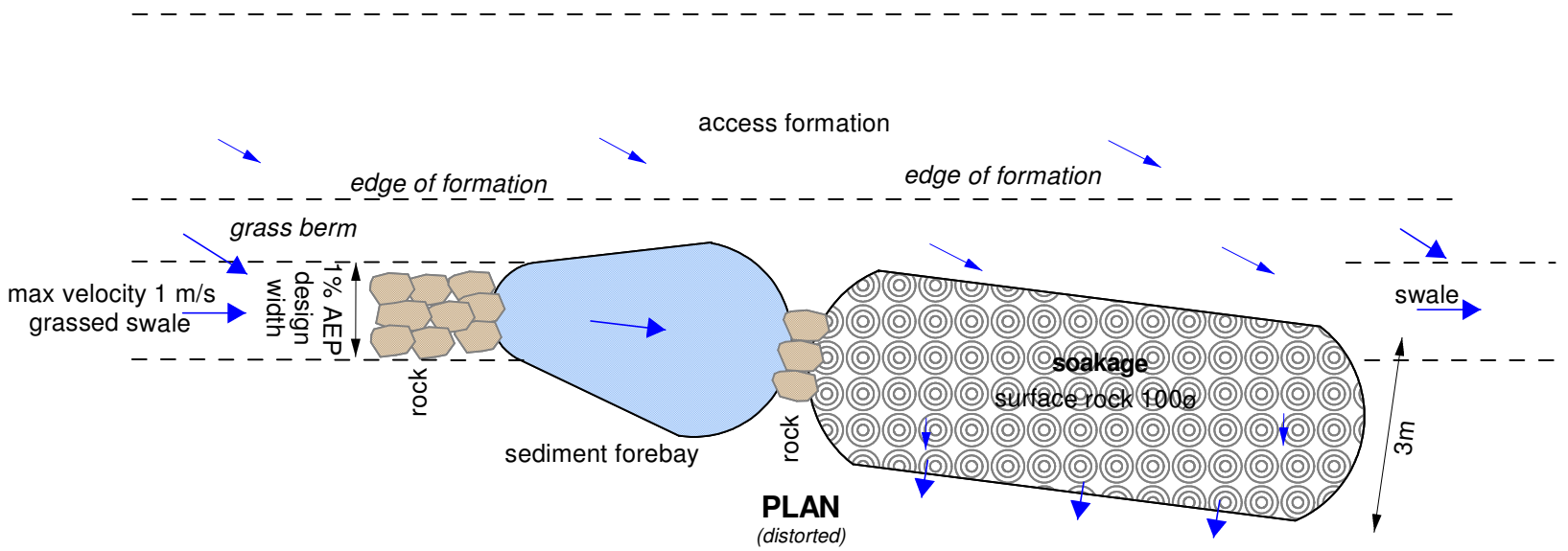
		Checked	Date
Surveyed			
Designed			July 2024
Drawn			JM
Approved			

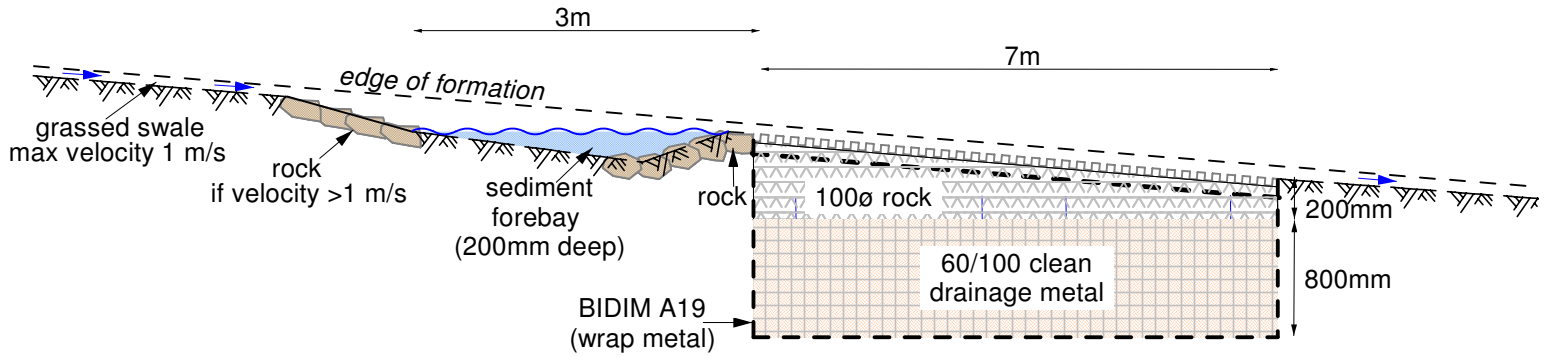
Project: K. Lupi - 2624 SH 10, Kerikeri

Title: Access design to Lot 2

Scale: 1:500 at A3

Job No. 7407





SECTION
(distorted)

DONALDSONS
REGISTERED LAND SURVEYORS

SOAK TRENCH DETAIL

7407 Soakage Detail - dg Soak Rural
Date: August 2024
7407

Donaldson's Surveyors Limited

90 Kerikeri Road - PO Box 211
Kerikeri 0245 - Northland - New Zealand

P 09 407 9182
F 09 407 7366
E info@donaldsons.net.nz
W www.donaldsons.net.nz

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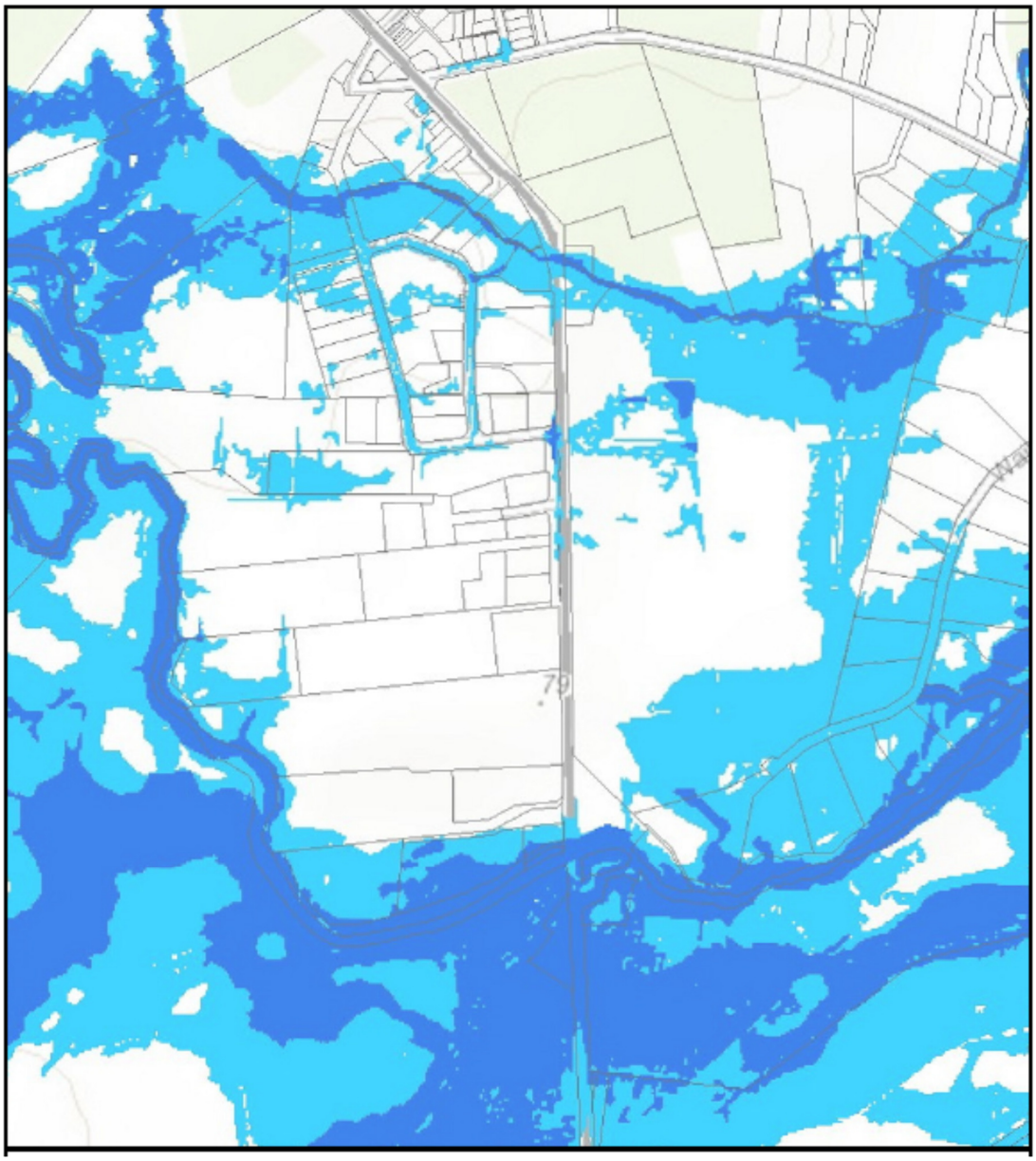
REGISTERED LAND SURVEYORS



STORMWATER MANAGEMENT ASSESSMENT

7407
15 August 2024
K. & S. LUPI, 2624 STATE HIGHWAY 10, KERIKERI

CSNZ THE CONSULTING SURVEYORS OF NEW ZEALAND
A DIVISION OF THE NEW ZEALAND INSTITUTE OF SURVEYORS

NZIS Registered Professional Surveyor.
Member of the Consulting Surveyors of New Zealand.

Introduction

The applicant is preparing to subdivide Pt Lot 1 DP 84384 in the Rural Production zone under the Far North District Plan, creating five lifestyle lots, of which three lots require impermeable surface construction within 100m of a wetland.

Under the authority of the Northland Regional Council (NES Freshwater Regulations 2020), a resource consent is not required if the landowner can demonstrate that stormwater resulting from increases in impermeable surfaces will be managed effectively to ensure that the discharge rate into wetlands remains unchanged, and that any gully culvert crossing facilitates 'fish passage'.

The assessment describes means to reduce the outflow rate of stormwater from proposed access formation and future building activities that could occur on Lots 1 -3. Additionally, design parameters allow for a new culvert crossing to uphold expectations for fish passage.

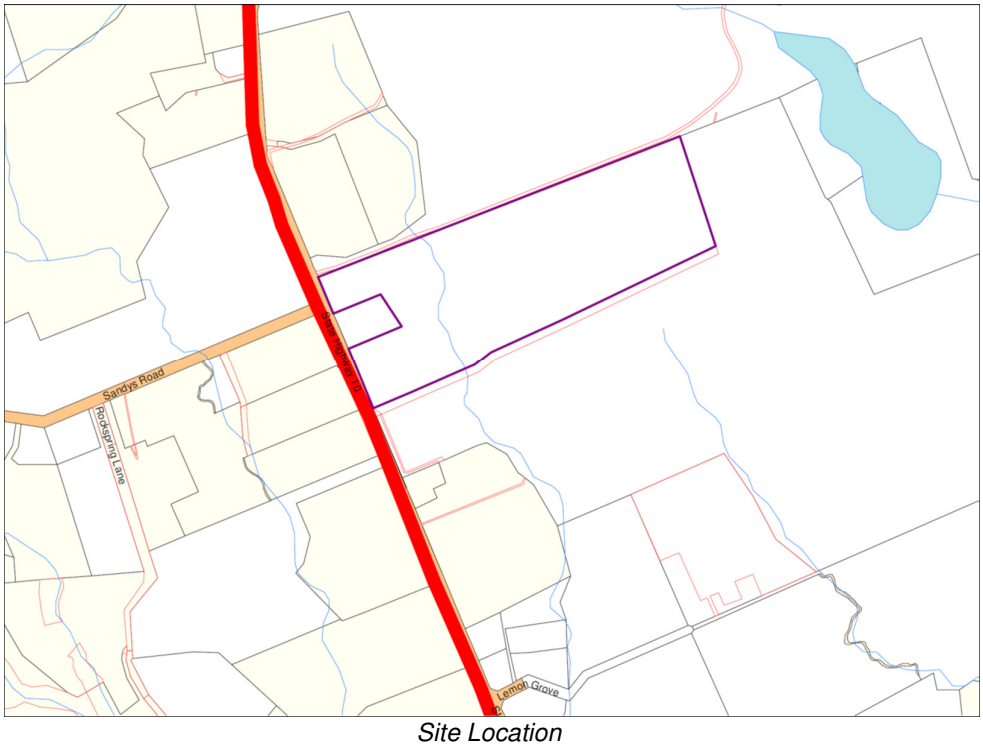
The proposed mitigation measures will align as closely as practicable with the low-impact design principles outlined in Guideline Document GD01 and other relevant guidelines. Stormwater management will be based on 50% AEP and 10% AEP events, as these events have the most significant impact on wetlands. Events with a 1% or 2% AEP events result in extensive saturation regardless of stormwater management measures.

Limitations

Donaldson's Surveyors Ltd provides this information as a recommendation for the purpose of a Stormwater Management assessment under Regional and Local Council Plans. The information and opinions contained within this report align with relevant council's stormwater attenuation directives and shall be for the use of our client and the Council, and shall not be used in any other context, unless agreed to by Donaldson's Surveyors Ltd.
Donaldson's Surveyors Ltd shall not be liable for any failures or damages associated with the recommendations or the physical construction or any lack of maintenance.

Site Description

The site features a gently undulating contour with a central wetland. There are two proposed building sites: one on Lot 1 and the other on Lot 2, both located within 100 meters of the wetland.
The proposed access route for Lot 2 follows the eastern side of the wetland and extends along the northern boundary through a gully to the proposed building site. A culvert crossing will be required through the gully and will adhere to fish passage standards.
The soil type is mapped as Okaihau gravelly friable clay (OK), which is well-drained to excessively well-drained. The gully is well-vegetated with rank grass and scrub. The lower margins of the gully are recorded as subject to flooding on NRC maps, and the 100-year flood extent is identified on the attached wetland plan.



Site Location

Stormwater management Principles

Resource Management (National Environmental Standards for Freshwater) Regulations 2020
Other Activities
54 Non Complying activities
The following Activities are non-complying activities if they do not have another status under the subpart:
(a) Vegetation clearance within, or within a 10m setback from a natural inland wetland.
(b) Earthworks within or within a 10m setback from a natural wetland.
(c) *The taking, use, damming, diversion or discharge of water within or within a 100m setback from a natural inland wetland –*
If –
(i) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and
(ii) the taking, use, damming, or diversion will change, or is likely to change the water level range or hydrological function of the wetland.

(d) The discharge of water into water within, or within a 100m setback from, a natural inland wetland if –
(i) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and
(ii) the taking, use, damming, or diversion will change, or is likely to change the water level range or hydrological function of the wetland

According to the NES, driveways and roofs cause stormwater diversion effects, increasing the quantity of water discharged. Consequently, access and future buildings without stormwater design treatment would breach standards 54(c) and 54(d).
Additionally, a proposed culvert crossing through the gully, defined as a "river," must comply with the NZ Fish Passage Guidelines 2022. Without specific design, this would breach the NES Freshwater 2020.

Natural wetland means a wetland (as defined by the Act) that is not
(a) A wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, and existing or former natural wetland
(b) A geothermal wetland
(c) Any improved pasture that at the commencement date is dominated by (that is more than 50% of) exotic pasture species and is subject to temporary rain derived water pooling.

RMA definition
Wetland:
wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions

Stormwater Management Devices GD01
A1.2
The scope of this guideline document is confined to the management of stormwater, which is defined as: "Rainfall runoff from land, including constructed impervious areas such as roads, pavement, roofs and urban areas which may contain dissolved or entrained contaminants, and which is diverted and discharged to land and water."

B1.0 Design process for stormwater management devices
Stormwater management must be considered early in the overall design process to ensure the site meets the hydrologic needs of the post-development catchment. It is important that a comprehensive land planning assessment is done, taking into consideration the proposed development land use and the effects on the wider catchment, both upstream and downstream. This will ensure stormwater management is designed for, alongside all other aspects of the development.

Stormwater Management Design

The following are recommended design criteria to better manage the effects of stormwater on wetlands:

1) *construct driveway formations to generally allow catchment water to continue displacing to the same part of the gully wetland as it would under natural conditions*
2) *where possible align access formations perpendicular to contours*
3) *direct driveway surface water to soakage pits and/or detention basin devices for pre-treatment via grassed or rocked swales.*
4) *to ensure upper catchment sheet flow does not enter pretreatment devices, construct cutoff swales to divert upper catchment sheetflow and direct this under the access formation.*
5) *Along flat grades with minimal influence on wetlands (>100m away), keep the access formation flush with natural ground.*
6) *capture roof surface stormwater and apply attenuation before releasing to ground via a spreader device or soak pit.*

Stormwater attenuation reduces post-development discharges from the site, and this report demonstrates management techniques for access formations and roof surface areas, utilising detention methods.

Future roof surface impermeable areas are to be controlled in a dedicated water tank with the outflow directed to either a spreader device laid parallel to the contour or a bubble up style soak pit, allowing stormwater to displace naturally into the vegetated gully.

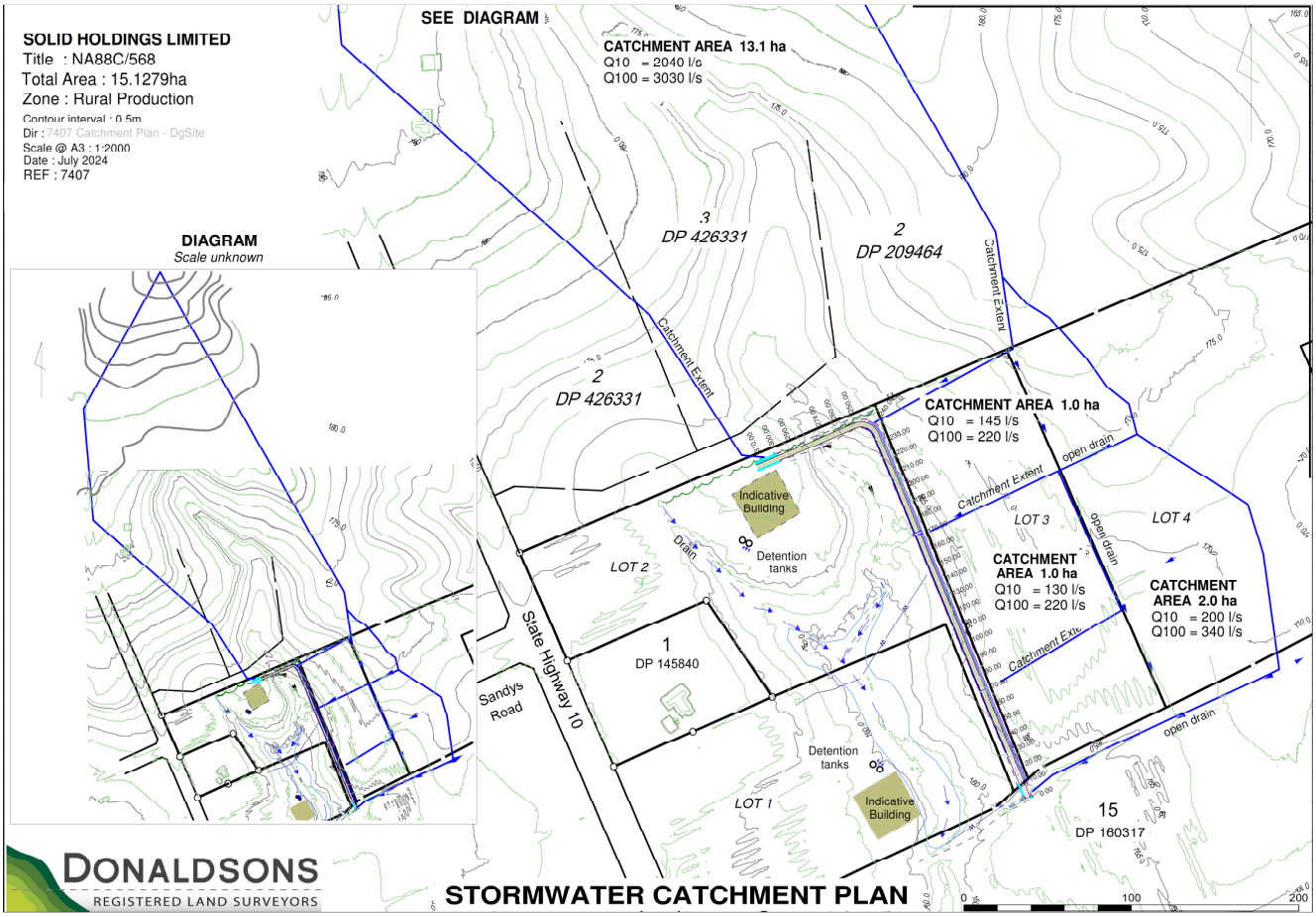
Attenuation storage volumes have been calculated with hydrology software using the SCS method. Calculations adopt a 24hr IDF based SCS TR-55 type 1A, configured using HIRDS RCP6.0 2081-2100 climate change data, with restricted attenuation in accordance with Council Engineering Standards and Guidelines 2023 .

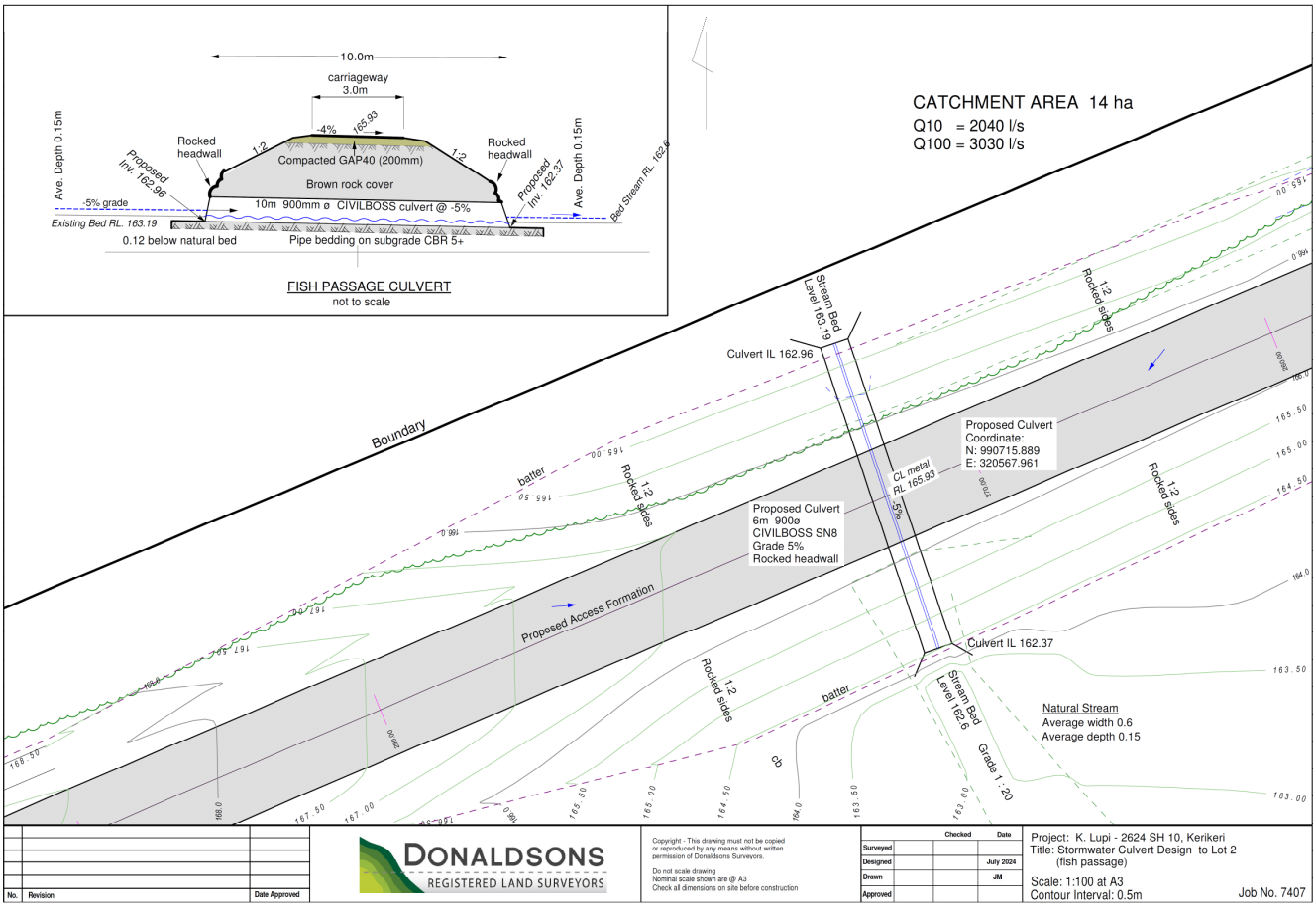
Using site based IDF values this replicates the peak storm period in depth and intensity.

The soil type adopted for SCS calculations is category ‘C’, and calculations employ the weighted volume method, defined by a junction combining independently calculated ‘permeable’ and ‘impermeable’ surfaces. The adopted hydrological Group ‘C’ defines a land use description “**open space with average condition grass**”; for this a **value of 74** has been adopted, being good condition.

The SCS or NRCS method is based on the variable source area concept for promoting runoff. The variable source concept is based on part of the catchment contributing to runoff at an increasing rate with increasing rainfall. It can be demonstrated that a unique storage function can be defined across a catchment representing the catchment type (land use, soil type etc.).

The following calculations provide an example of detention methods that revert post development effects to mimic predevelopment levels, without over restricting the outflows, on the basis that stormwater management in this instance, is specifically for wetland management not flood mitigation. The methods are divided into two categories, one manages roof surfaces utilising detention tanks, and the other manages driveway surfaces utilising soakage. Soak rates are estimated based on the soil type.


SOLID HOLDINGS LIMITED
Title : NA88C/568
Total Area : 15.1279ha
Zone : Rural Production
Contour interval : 0.5m
Dir : 7407 Catchment Plan - DgSite
Scale @ A3 : 1:2000
Date : July 2024
REF : 7407
SEE DIAGRAM
DIAGRAM
Scale unknown
CATCHMENT AREA 13.1 ha
Q10 = 2040 l/s
Q100 = 3030 l/s
CATCHMENT AREA 1.0 ha
Q10 = 145 l/s
Q100 = 220 l/s
CATCHMENT AREA 1.0 ha
Q10 = 130 l/s
Q100 = 220 l/s
CATCHMENT AREA 2.0 ha
Q10 = 200 l/s
Q100 = 340 l/s
DP 426331
DP 209464
DP 145840
DP 160317
LOT 1
LOT 2
LOT 3
LOT 4
Indicative Building
Detention tanks
Catchment Extent
open drain
Drain
State Highway 10
Sandys Road
DONALDSONS
REGISTERED LAND SURVEYORS
STORMWATER CATCHMENT PLAN
0
100
200


10.0m
carriageway 3.0m
-4%
Rocked headwall
1:2
Compacted GAP40 (200mm)
Brown rock cover
10m 900mm ø CIVILBOSS culvert @ -5%
5% grade
Existing Bed RL. 163.19
0.12 below natural bed
Pipe bedding on subgrade CBR 5+
Ave. Depth 0.15m
Proposed Inv. 162.96
Proposed Inv. 162.37
Bed Stream RL. 162.6
FISH PASSAGE CULVERT
not to scale
CATCHMENT AREA 14 ha
Q10 = 2040 l/s
Q100 = 3030 l/s
Boundary
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Rocked sides
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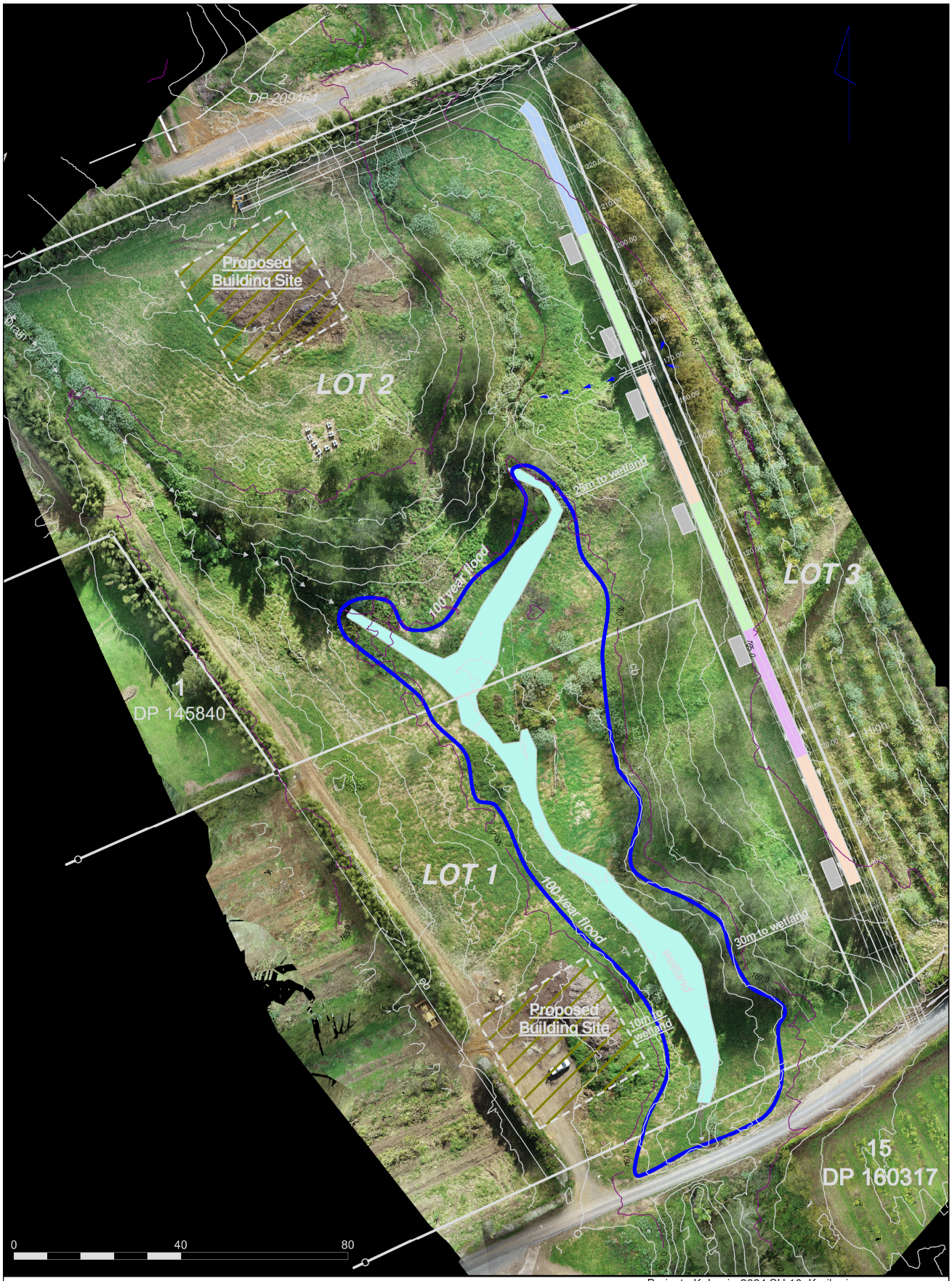
CL metal RL 165.93
Proposed Culvert Coordinate:
N: 990715.889
E: 320567.961
Proposed Culvert
6m 900ø
CIVILBOSS SN8
Grade 5%
Rocked headwall
Proposed Access Formation
Culvert IL 162.37
Stream Bed Level 162.6
Grade 1 :20
Natural Stream
Average width 0.6
Average depth 0.15
DONALDSONS
REGISTERED LAND SURVEYORS
Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Stormwater Culvert Design to Lot 2
(fish passage)
Scale: 1:100 at A3
Contour Interval: 0.5m
Job No. 7407

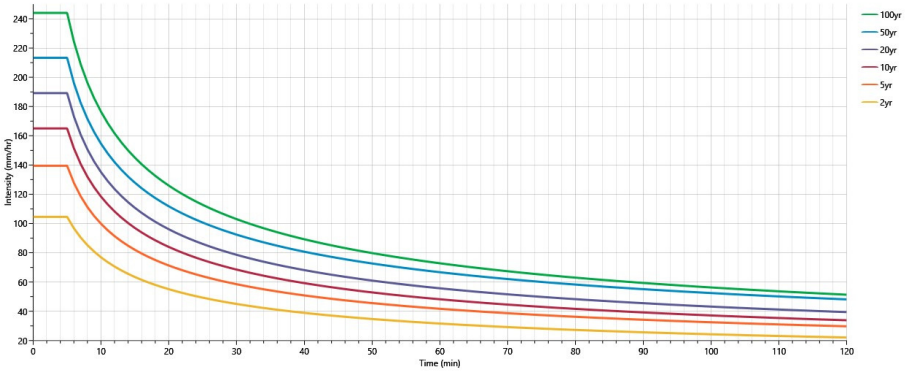


DONALDSONS
REGISTERED LAND SURVEYORS

SITE PLAN OF WETLAND AREA & 100 YEAR FLOOD EXTENT

Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Stormwater discharge & diversion within 100m of wetland
Scale: 1:800 @ A3
Contour Interval: 1m
July 2024
Job No. 7407

Stormwater flow rate and storage analysis



HIRDS RAINFALL DATA RCP6.0 – 2081-2100

For representation proposes, the assessment following describes detention requirements for a future dwelling assuming a standard size of 200m² roof area.

ROOF SURFACE STORMWATER ATTENUATION CALCULATIONS

1 in 2 Year Storm Event

Q50 (RCP6.0 – 2081-2100)

Pre Nat **Hyd. No. 1**

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0010 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.03 hrs
Time Interval	= 2 min	Runoff Volume	= 15.9 cum
Drainage Area	= 0.02 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Nat **Hyd. No. 2**

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0000 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.03 hrs
Time Interval	= 2 min	Runoff Volume	= 0.0794 cum
Drainage Area	= 0.0 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Roof **Hyd. No. 3**

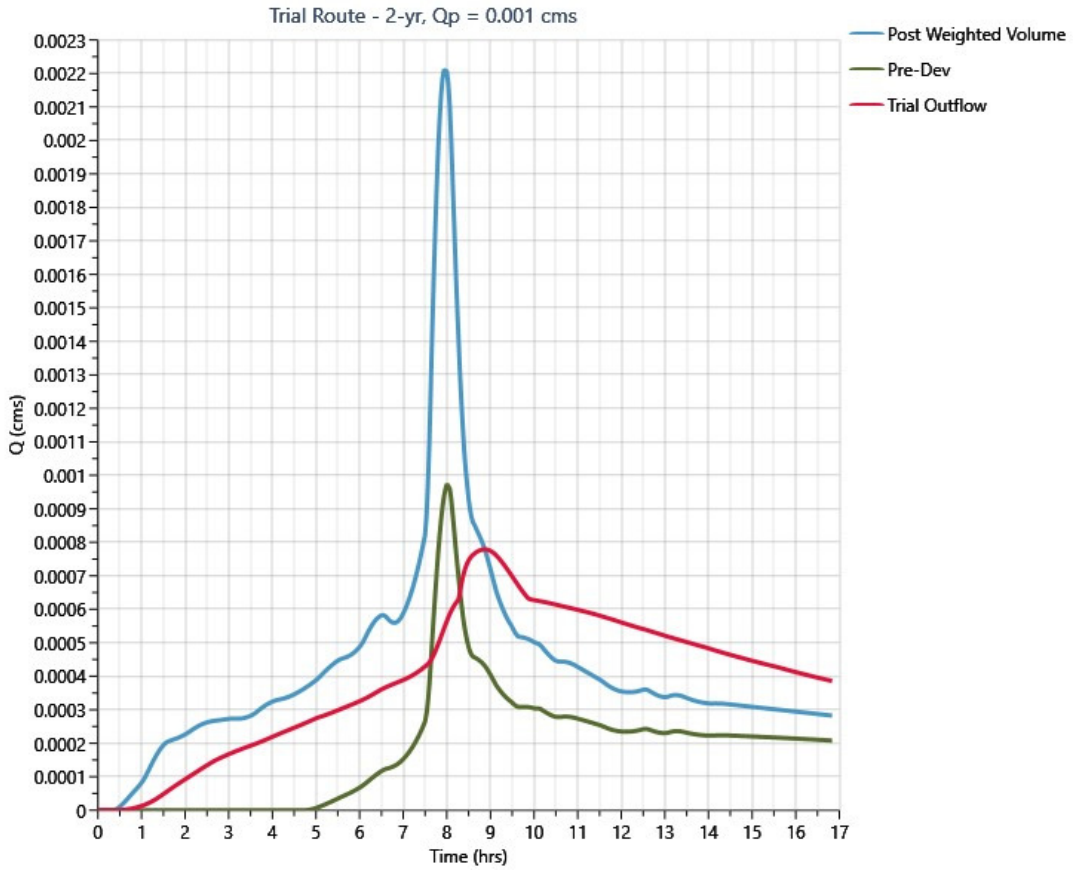
Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0022 cms
Storm Frequency	= 2-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Runoff Volume	= 32.6 cum
Drainage Area	= 0.02 ha	Curve Number	= 98
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

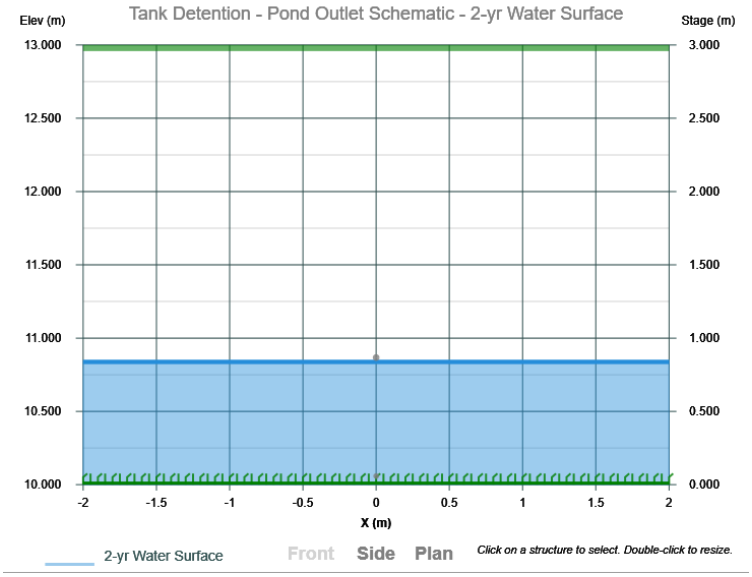
Post Weighted Volume — Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 0.0022 cms
Storm Frequency	= 2-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Hydrograph Volume	= 32.7 cum
Inflow Hydrographs	= 2, 3	Total Contrib. Area	= 0.02 ha

Post tank detention — Hyd. No. 5

Hydrograph Type	= Pond Route	Peak Flow	= 0.0007 cms
Storm Frequency	= 2-yr	Time to Peak	= 9.07 hrs
Time Interval	= 2 min	Hydrograph Volume	= 32.6 cum
Inflow Hydrograph	= 4 - Weighted Volume	Max. Elevation	= 10.874 m
Pond Name	= tank	Max. Storage	= 7.425 cum





1 in 10 Year Storm Event

Q10 (RCP6.0 – 2081-2100)

Pre Nat **Hyd. No. 1**

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0022 cms
Storm Frequency	= 10-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Runoff Volume	= 31.9 cum
Drainage Area	= 0.02 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Nat **Hyd. No. 2**

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0000 cms
Storm Frequency	= 10-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Runoff Volume	= 0.1594 cum
Drainage Area	= 0.0 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Roof **Hyd. No. 3**

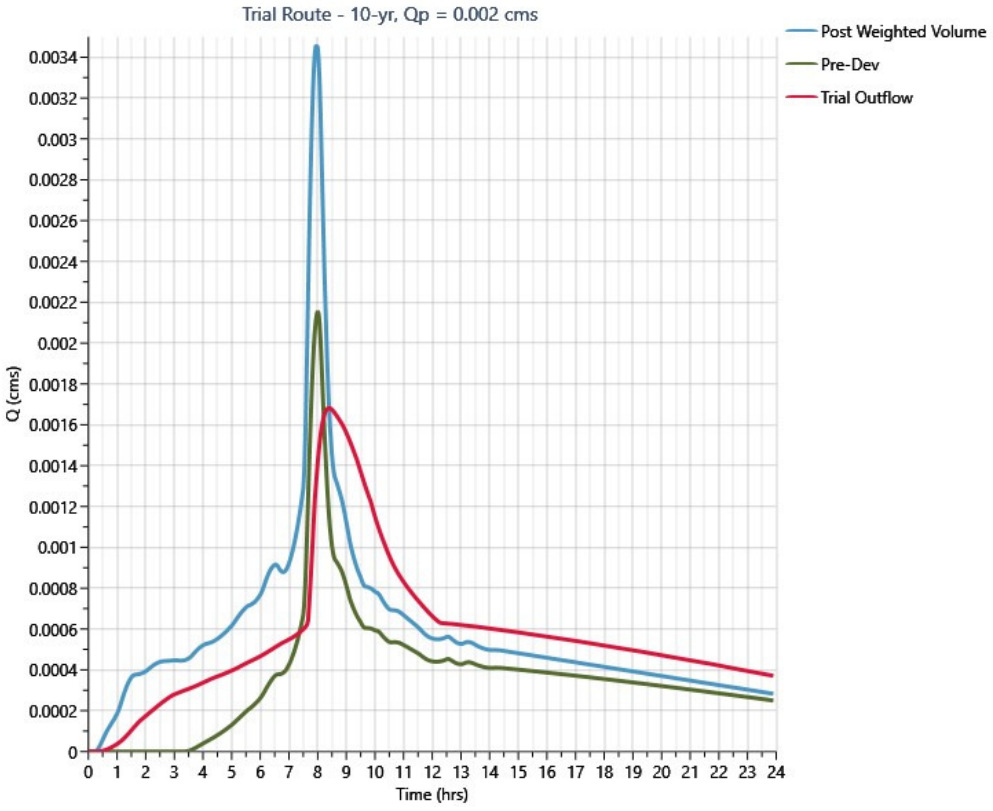
Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0035 cms
Storm Frequency	= 10-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Runoff Volume	= 51.5 cum
Drainage Area	= 0.02 ha	Curve Number	= 98
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

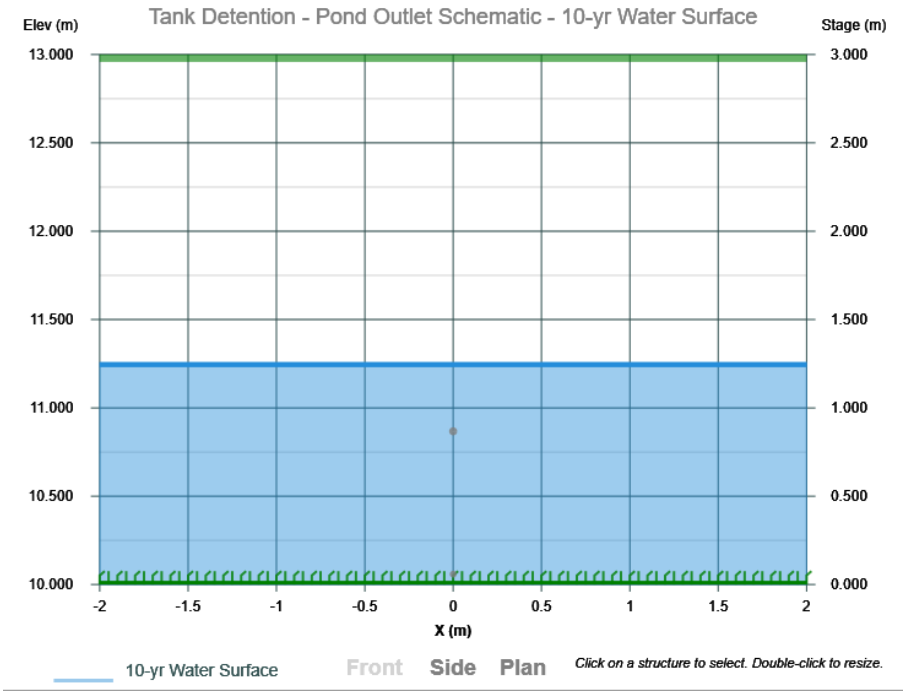
Post Weighted Volume — Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 0.0035 cms
Storm Frequency	= 10-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Hydrograph Volume	= 51.7 cum
Inflow Hydrographs	= 2, 3	Total Contrib. Area	= 0.02 ha

Post tank detention — Hyd. No. 5

Hydrograph Type	= Pond Route	Peak Flow	= 0.0017 cms
Storm Frequency	= 10-yr	Time to Peak	= 8.40 hrs
Time Interval	= 2 min	Hydrograph Volume	= 51.5 cum
Inflow Hydrograph	= 4 - Weighted Volume	Max. Elevation	= 11.274 m
Pond Name	= tank	Max. Storage	= 10.8 cum





Attenuation Tank storage volumes & outlet pipe sizes

Tank

Stage-Storage

User Defined Contours	
Description	**Input**
Bottom Elevation, m	10.000
Voids (%)	100.000
Volume Calc	Ave End Area

Stage / Storage Table				
Stage (m)	**Elevation (m)**	**Contour Area (sqm)**	**Incr. Storage (cum)**	**Total Storage (cum)**
0.000	10.000	9	0.0000	0.0000
0.500	10.500	9	4.250	4.250
1.000	11.000	9	4.250	8.500
1.500	11.500	9	4.250	12.8
2.000	12.000	9	4.250	17.0
2.500	12.500	9	4.250	21.3
3.000	13.000	9	4.250	25.5

Tank Detention

Culvert / Orifices	Culvert	Orifice		
		1 (i)	2 (i)	3
Rise, mm		18	25	
Span, mm		18	25	
No. Barrels		1	1	
Invert Elevation, m		10.050	10.855	
Orifice Coefficient, Co		0.650	0.650	

SUMMARY OF ROOF ATTENUATION DESIGN

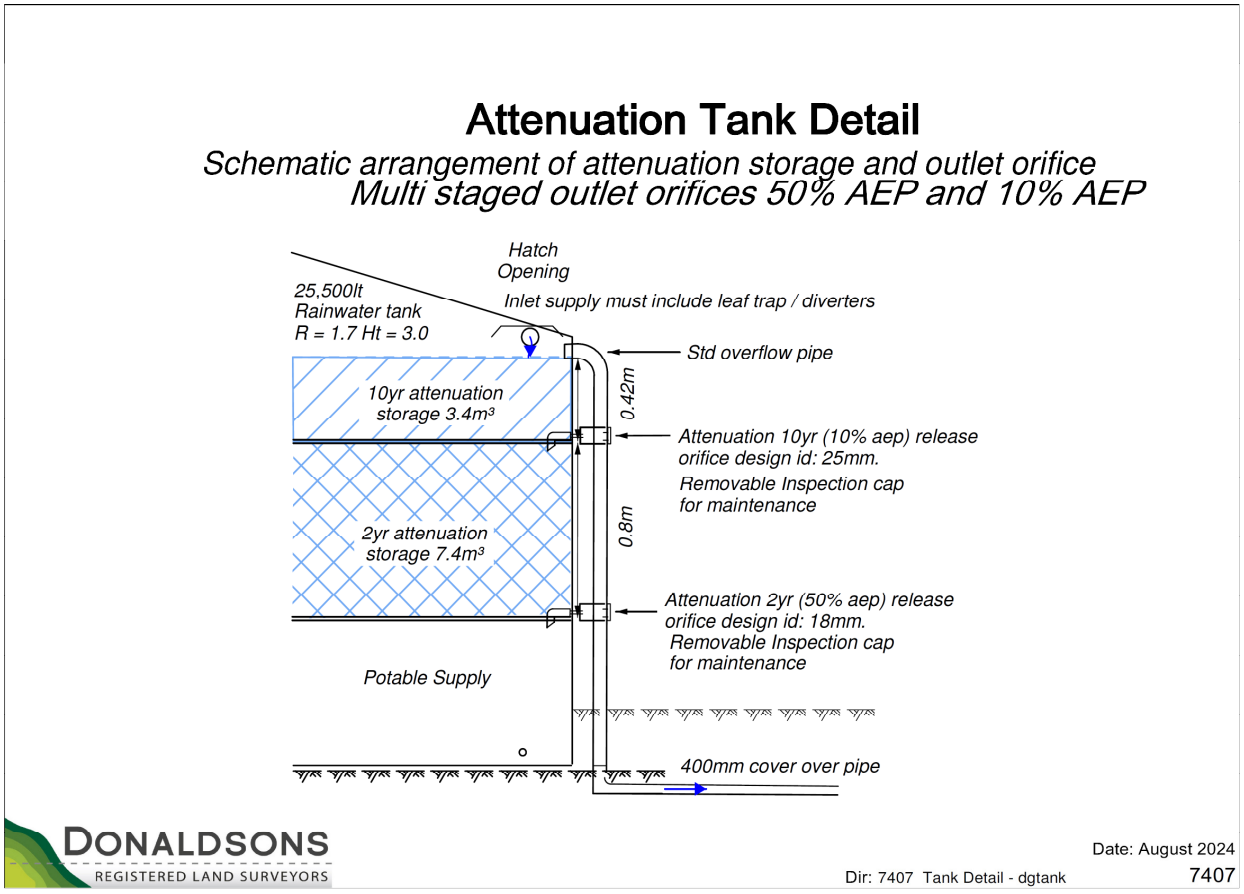
Roof Attenuation - using a standard tank 25m³ (1.7m radius)

2-yr V = 7.4m³ with outlet orifice = **18mm** located at the base of tank.
10-yr V = 3.4m³ (**total volume 10.8m³**) with outlet orifice **25mm** located 0.8m above the Q_{10} outlet.

Q_{10} predevelopment flow is 2.2 lt/sec and the detention process reduces the post development flow of 3.5lt/sec to 1.7 lt/sec being 80% of predevelopment rates.

This demonstrates an effective reduction of roof surface stormwater replicating similarities to predevelopment conditions.

Although a further attenuation volume reduction of 40% may be considered based on potable reuse tank storage in accordance with the Council Engineering Standards and Guidelines 2023 (4.3.21.2), such a reduction is not deemed appropriate. Not applying this reduction appropriately accounts for the areas of the driveway that remain unattenuated due to limitations in implementation.



DRIVEWAY SURFACE STORMWATER ATTENUATION CALCULATIONS

1 in 2 Year Storm Event

Q50 (RCP6.0 – 2081-2100)

Pre Pre Natural — Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0005 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.03 hrs
Time Interval	= 2 min	Runoff Volume	= 8.018 cum
Drainage Area	= 0.01 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Natural — Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0000 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.03 hrs
Time Interval	= 2 min	Runoff Volume	= 0.0794 cum
Drainage Area	= 0.0 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Gravel — Hyd. No. 3

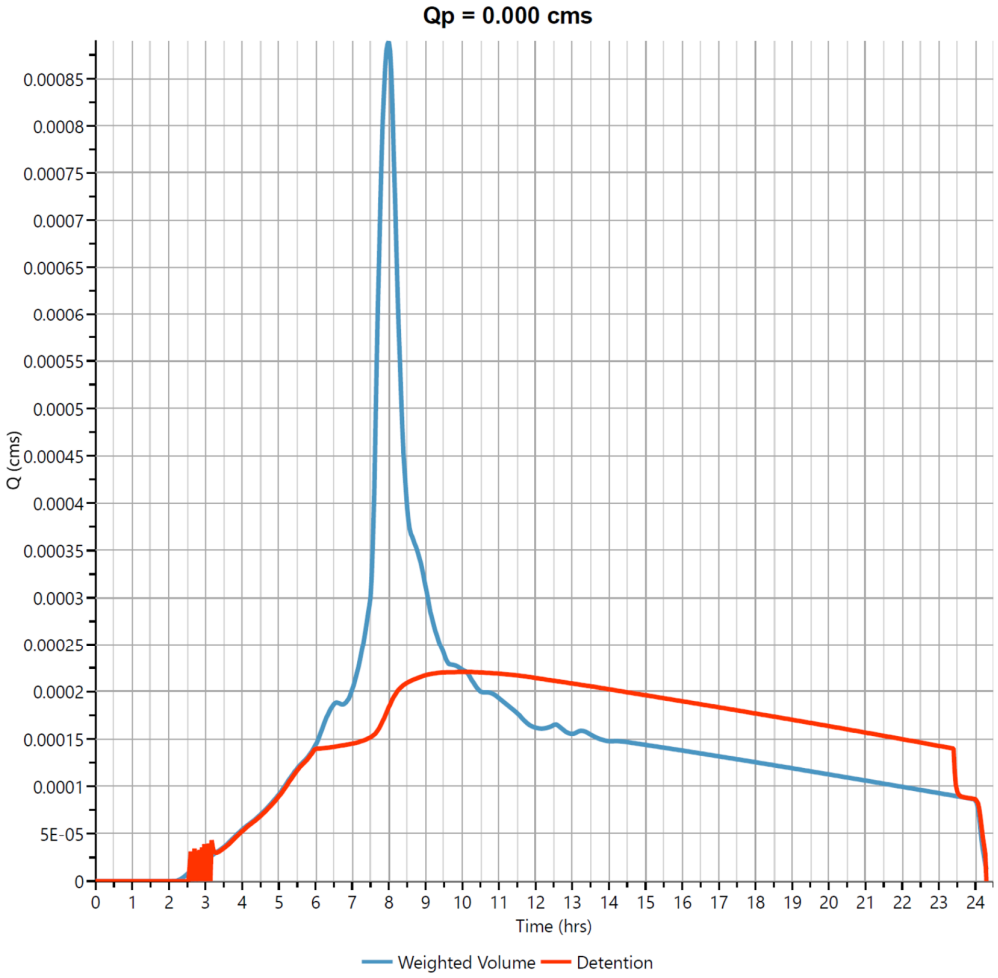
Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0009 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Runoff Volume	= 12.5 cum
Drainage Area	= 0.01 ha	Curve Number	= 85
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 168 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

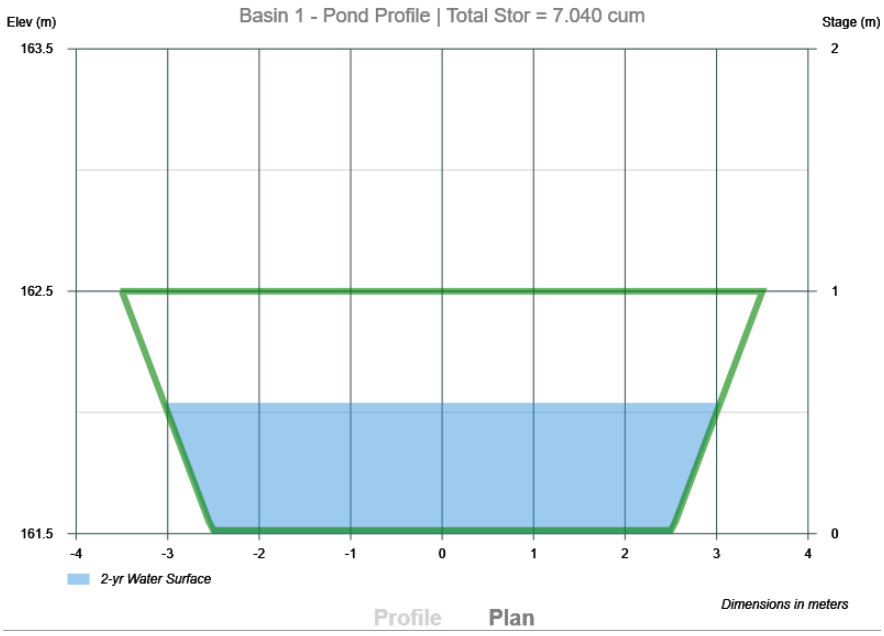
Post Weighted Volume — Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 0.0009 cms
Storm Frequency	= 2-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Hydrograph Volume	= 12.6 cum
Inflow Hydrographs	= 2, 3	Total Contrib. Area	= 0.01 ha

Post Detention — Hyd. No. 5

Hydrograph Type	= Pond Route	Peak Flow	= 0.0002 cms
Storm Frequency	= 2-yr	Time to Peak	= 10.13 hrs
Time Interval	= 2 min	Hydrograph Volume	= 12.6 cum
Inflow Hydrograph	= 4 - Weighted Volume	Max. Elevation	= 161.939 m
Pond Name	= Basin 1	Max. Storage	= 2.324 cum


Qp = 0.000 cms
Q (cms)
0.00085
0.0008
0.00075
0.0007
0.00065
0.0006
0.00055
0.0005
0.00045
0.0004
0.00035
0.0003
0.00025
0.0002
0.00015
0.0001
5E-05
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Time (hrs)
Weighted Volume
Detention


Basin 1 - Pond Profile | Total Stor = 7.040 cum
Elev (m)
Stage (m)
163.5
162.5
161.5
2
1
0
-4 -3 -2 -1 0 1 2 3 4
2-yr Water Surface
Profile
Plan
Dimensions in meters

1 in 10 Year Storm Event

Q10 (RCP6.0 – 2081-2100)

Pre Pre Natural — Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0011 cms
Storm Frequency	= 10-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Runoff Volume	= 16.1 cum
Drainage Area	= 0.01 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Natural — Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0000 cms
Storm Frequency	= 10-yr	Time to Peak	= 8.00 hrs
Time Interval	= 2 min	Runoff Volume	= 0.1594 cum
Drainage Area	= 0.0 ha	Curve Number	= 68
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

Post Gravel — Hyd. No. 3

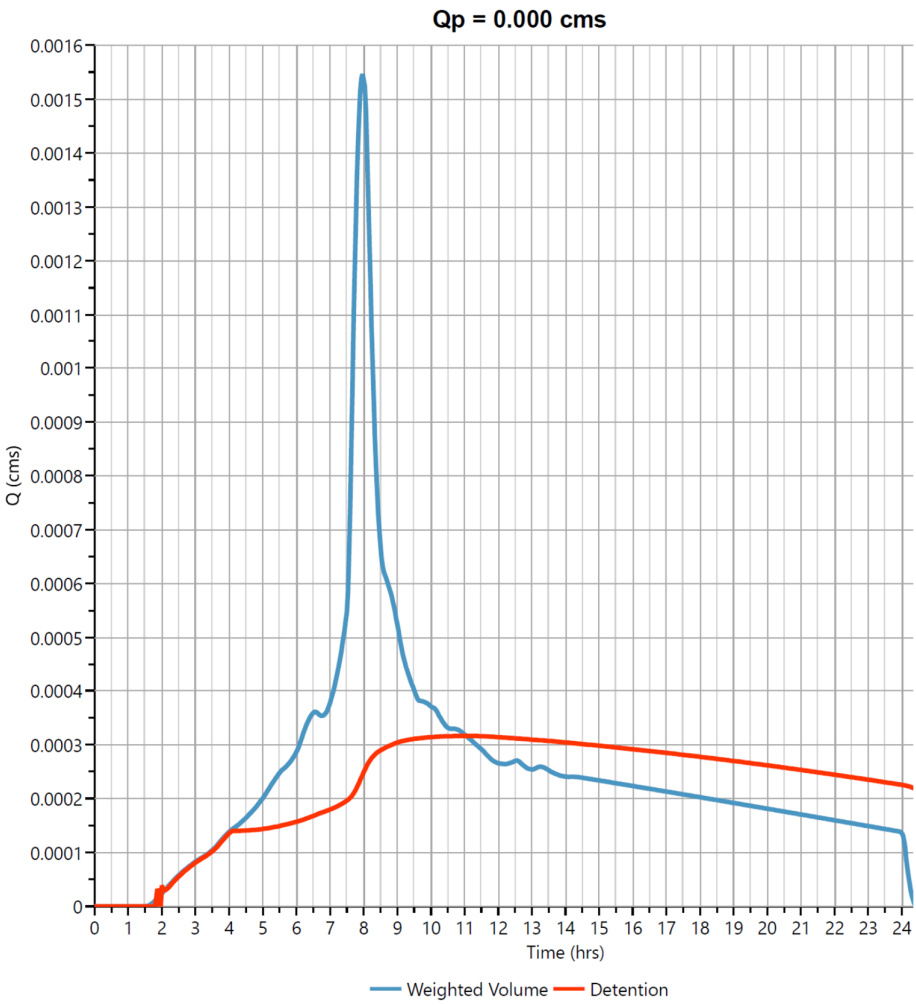
Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.0015 cms
Storm Frequency	= 10-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Runoff Volume	= 21.6 cum
Drainage Area	= 0.01 ha	Curve Number	= 85
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 262 mm	Design Storm	= Type IA
Storm Duration	= 24 hrs	Shape Factor	= 0.16

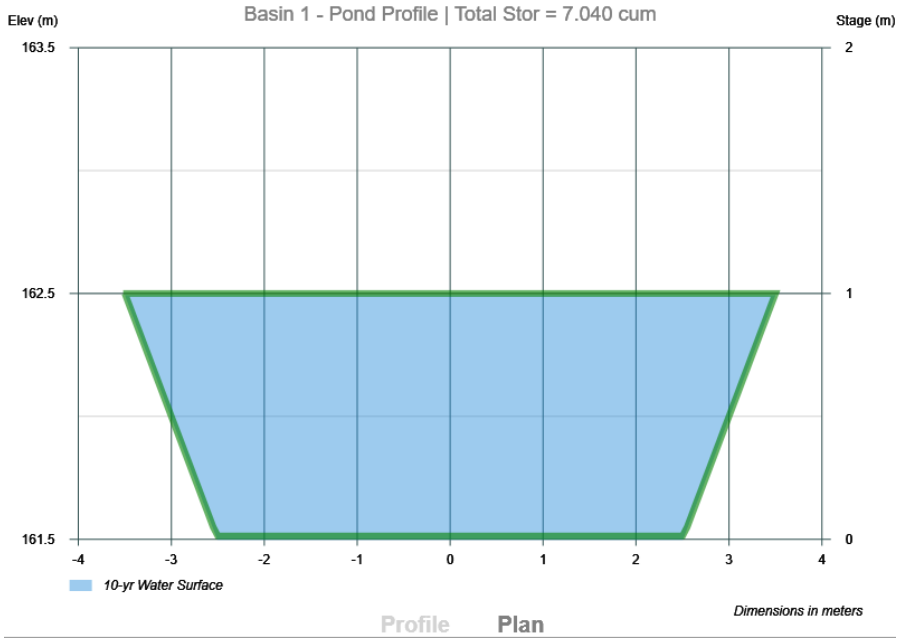
Post Weighted Volume — Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 0.0015 cms
Storm Frequency	= 10-yr	Time to Peak	= 7.97 hrs
Time Interval	= 2 min	Hydrograph Volume	= 21.8 cum
Inflow Hydrographs	= 2, 3	Total Contrib. Area	= 0.01 ha

Post Detention — Hyd. No. 5

Hydrograph Type	= Pond Route	Peak Flow	= 0.0003 cms
Storm Frequency	= 10-yr	Time to Peak	= 11.03 hrs
Time Interval	= 2 min	Hydrograph Volume	= 21.8 cum
Inflow Hydrograph	= 4 - Weighted Volume	Max. Elevation	= 162.363 m
Pond Name	= Basin 1	Max. Storage	= 5.686 cum


Qp = 0.000 cms
Q (cms)
0.0016
0.0015
0.0014
0.0013
0.0012
0.0011
0.001
0.0009
0.0008
0.0007
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Time (hrs)
Weighted Volume
Detention


Basin 1 - Pond Profile | Total Stor = 7.040 cum
Elev (m)
Stage (m)
163.5
162.5
161.5
2
1
0
-4 -3 -2 -1 0 1 2 3 4
10-yr Water Surface
Profile
Plan
Dimensions in meters

Soakage storage volume

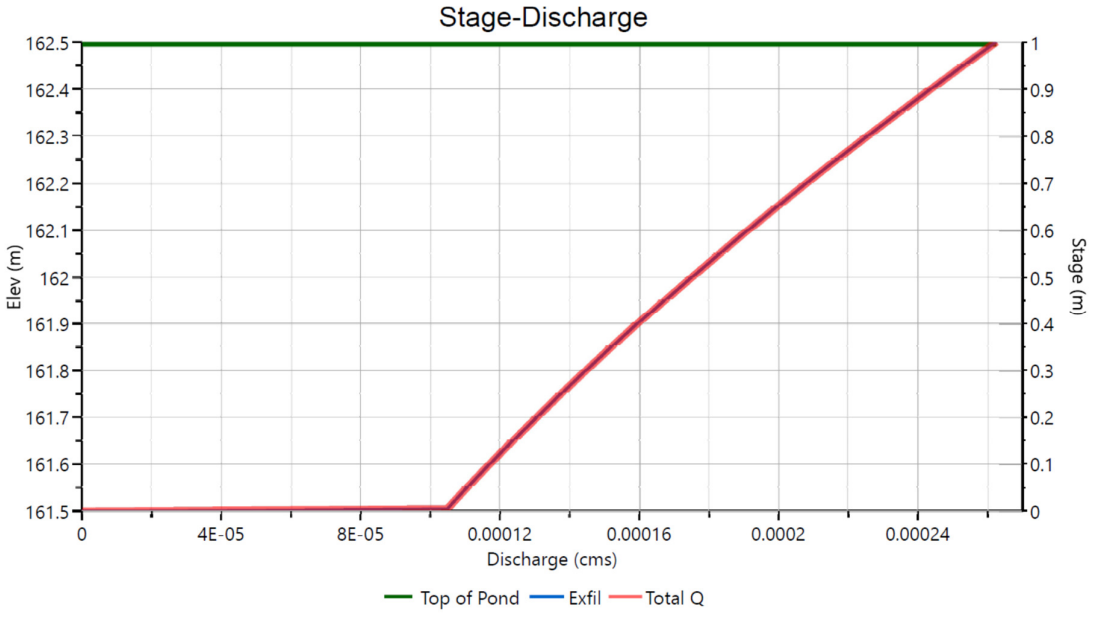
Basin 1

Stage-Storage

Trapezoid	
Description	**Input**
Bottom Elevation, m	161.500
Bottom Length, m	5.000
Bottom Width, m	2.500
Side Slope, H:1	1.000
Total Depth, m	1.000
Voids (%)	33.000

Stage / Storage Table				
Stage (m)	**Elevation (m)**	**Contour Area (sqm)**	**Incr. Storage (cum)**	**Total Storage (cum)**
0.000	161.500	13	0.0000	0.0000
0.050	161.550	13	0.2125	0.2125
0.100	161.600	14	0.2252	0.4377
0.150	161.650	15	0.2382	0.6759
0.200	161.700	16	0.2516	0.9275
0.250	161.750	17	0.2653	1.193
0.300	161.800	17	0.2793	1.472
0.350	161.850	18	0.2937	1.766
0.400	161.900	19	0.3084	2.074
0.450	161.950	20	0.3234	2.398
0.500	162.000	21	0.3387	2.736
0.550	162.050	22	0.3544	3.091
0.600	162.100	23	0.3704	3.461
0.650	162.150	24	0.3867	3.848
0.700	162.200	25	0.4034	4.251
0.750	162.250	26	0.4204	4.672
0.800	162.300	27	0.4377	5.109
0.850	162.350	28	0.4554	5.565
0.900	162.400	29	0.4734	6.038
0.950	162.450	30	0.4917	6.530
1.000	162.500	32	0.5103	7.040

Ancillary	
Exfiltration, mm/hr	30.000**
Tailwater Elevation, m	



SUMMARY OF SOAKAGE DESIGN

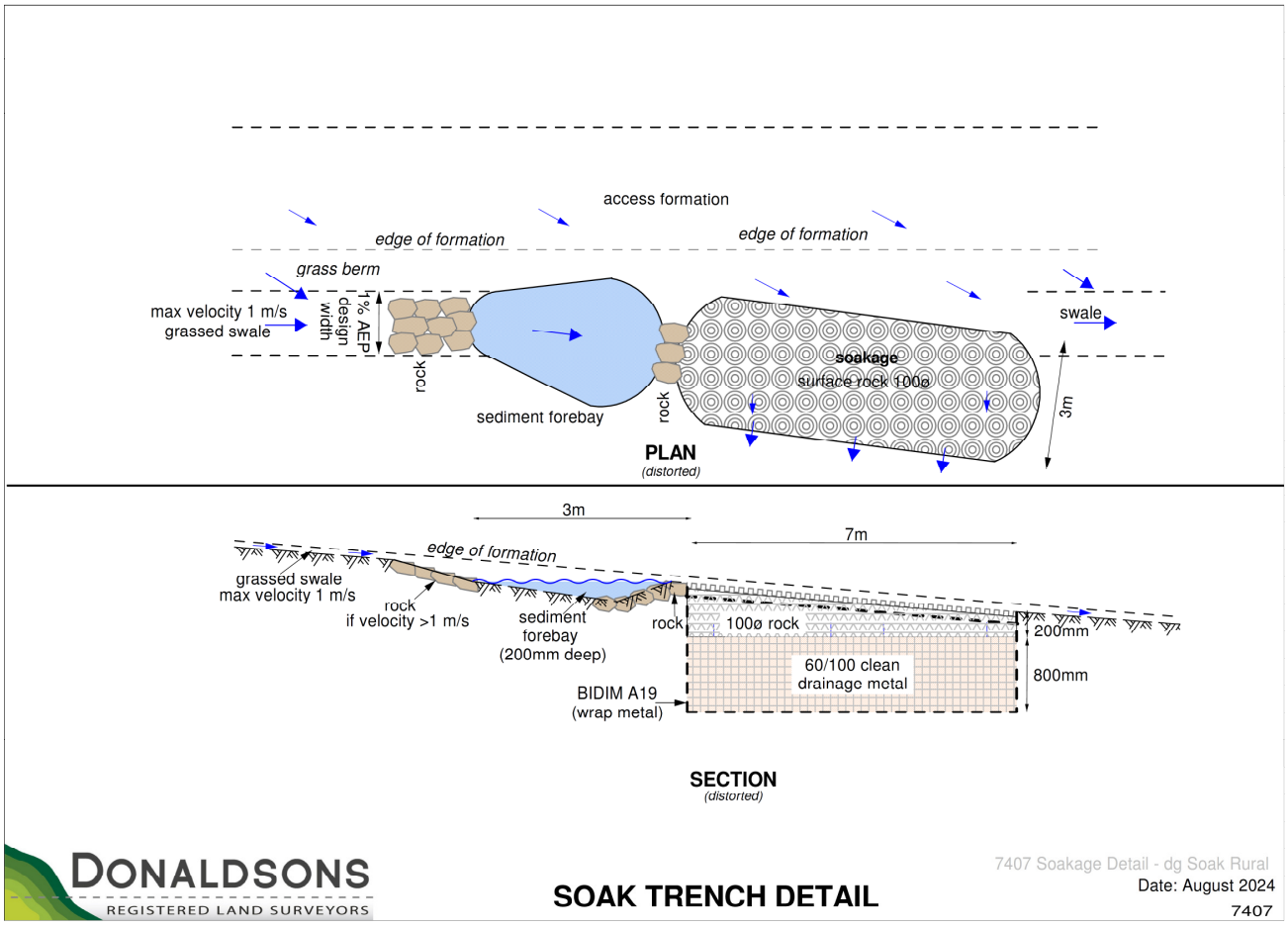
Driveway attenuation and pre-treatment by soakage

A 3.0m wide access formation at 30m increments creates a treatment surface area of approximately 100m². It is proposed to create at 30m increments 21m³ soakage holes of dimension approximately (5.0 l x 2.5 w x 1.0 d with 1:1 sides). An estimated exfiltration rate 30mm/hr, and a void ratio of 33% provides a storage volume of 7m³.

Attenuation storage volume required:
Q_{50} V = 2.3m³
Q_{10} V = 3.3m³ (**total volume 5.6m³**)

Q_{10} predevelopment flow is 1.1 lt/sec and the detention process reduces the post development flow of 1.5lt/sec to 0.3 lt/sec.

This approach effectively reduces ground surface stormwater, replicating predevelopment conditions. It also treats non-point source contaminants potentially displaced from the driveway. The proposed storage volume exceeds estimates, providing additional capacity to compensate for areas of the access that are impractical to attenuate.



Regional Authority assessment parameters under the NES Regulation 2020

54 Non-Complying Activities

(a)
vegetation clearance within, or within a 10 m setback from, a natural inland wetland:

There is no vegetation clearance required.

(b)
earthworks within, or within a 10 m setback from, a natural inland wetland:

All earthwork exceeds a distance of 10m from a wetland.

(c)
the taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland if—
(i)
there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and

Stormwater is technically diverted within 100m of the wetland, as a consequence of the table drains alongside the access formation, however the upper catchment water continues to be directed into the wetland under similar conditions as it does currently.
The surface water from the proposed access formation is treated in small increments of approximately 30m into soak pits, and from there the water then displaces to the wetland, replicating similar conditions to that currently.

(ii)
the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland:

The recommended stormwater management is considered sufficient such that the water level within the wetland would remain unchanged.

Because the stormwater management is considered sufficient to keep the water level in the wetland unchanged, it suggests that the system in place is well-designed to handle stormwater runoff without causing fluctuations in the wetland's water balance. This means that:

- **Stormwater Capture and Control**: The system should effectively capture and manage runoff from storms to prevent excessive water flow into or out of the wetland.

- **Hydrological Balance**: It maintains the natural hydrological balance of the wetland, ensuring that neither excess water nor insufficient water disrupts the ecosystem.

- **Long-Term Stability**: The management practices are expected to maintain the wetland's water levels consistently over time, which is crucial for preserving the habitat and ecological functions of the wetland.

Overall, this indicates that the management practices should be able to protect the wetland's ecological health and functionality by preventing detrimental changes to its water levels.

(d)
the discharge of water into water within, or within a 100 m setback from, a natural inland wetland if—

(i)
there is a hydrological connection between the discharge and the wetland; and

Discharge of stormwater from the access formation and two proposed building sites (one on Lot 1 and the other on Lot 2) are within 100m, and therefore would constitute a hydrological connection.

(ii)
the discharge will enter the wetland; and

Discharge would enter the wetland.

(iii)
the discharge will change, or is likely to change, the water level range or hydrological function of the wetland.

Based on the proposed stormwater management the discharge would not change the water level range or hydrological function of the wetland.

In summary, based on the proposed stormwater management, the access design does not serve to breach (a) – (d).

55(3) The general **conditions relating to water quality and movement are as follows**:

(a) The activity must not result in the discharge of a contaminant if the receiving environment includes any natural wetland in which the contaminant, after reasonable mixing, causes or may cause 1 or more of the following effects:

i) The production of conspicuous oil or grease films, scum or foams or floatable or suspended materials.

Comment: The potential for unreasonable contamination due to post-development activities, particularly concerning stormwater runoff, is minimal. Any contaminants, such as small amounts of oil or herbicides from weed control, are expected to be at levels low enough not to produce visible oil, grease films or change in PH levels. These minor contaminants will likely be absorbed into the soil and plant matter, aided by the proposed soakage controls and first-flush treatment mechanisms.
During construction, all machinery will be strategically positioned away from any watercourses, and refuelling operations will be conducted in a controlled and safe manner to prevent environmental impact.

ii) A conspicuous change in colour or visual clarity.

Comment: The potential risk of water discoloration is most significant during the construction phase. To effectively manage and minimize this risk, the applicant will be required to submit a comprehensive sediment control plan as part of the earthworks permit application.

iii) An emission of objectionable odour

Comment: There are no concerns in this regard.

iv) The contamination of freshwater to the extent that it is not suitable for farm animals to drink.

Comment: There are no concerns in this regard. Positive outcomes are anticipated through use of low impact stormwater management techniques, and proposed wetland protection measures incorporated with the subdivision activity.

v) Adverse effects on aquatic life that are more than minor

Comment: No concerns have been identified in this area. Positive outcomes are expected due to the implementation of low-impact stormwater management techniques and proposed wetland protection measures.

(b)
the activity must not increase the level of flood waters that would, in any flood event (regardless of probability), inundate all or any part of the 1% AEP floodplain (but see subclause (4)); and

The proposal includes stormwater management controls purpose-built for the site conditions and includes attenuation to manage flow rates. The site is not subject to any 1% AEP floodplain.

(c)
the activity must not alter the natural movement of water into, within, or from any natural wetland (but see subclause (5)); and

The recommended development design criteria include methods to mitigate the impact of stormwater on wetlands. These measures are expected to effectively reduce any actual or potential adverse effects. The stormwater treatment process utilises detention for roof surface areas and retention for ground surface areas to attenuate runoff, thereby replicating pre-development conditions before the water is released into the wetland through the surface layer.
During construction, a temporary sediment decanting basin is advisable, and the recommended soakage devices could be employed temporarily for this purpose. The movement of water into the wetland is not anticipated to unreasonably alter the existing ecology.

(d)
the activity must not involve taking or discharging water to or from any natural wetland (but see subclause (5)); and

The activity does not involve extracting water from the wetland, and there will be no increase in the rate of water discharged to the wetland due to the implementation of pre-development versus post-development mitigation measures. Consequently, the activity effectively mitigates the impact of discharging water within a 100-meter radius of the wetland.

(e)
debris and sediment must not—

(i)
be placed within a setback of 10 m from any natural wetland; or

The culvert crossing is not located within a wetland.
There would be no sediment placed within 10 m of the wetland.

(ii)
be allowed to enter any natural wetland.

Sediment controls, as outlined in GD01, are designed to prevent sediment from entering the wetland to the greatest extent practicable. These measures are standard requirements for earthwork permit applications as mandated by the local authority.

5)
Despite subclause (3)(c) and (d), the temporary taking, use, damming, or diversion of water around a work site, or discharges of water into the water around a work site, may be undertaken if the following conditions are complied with:
(a)
the activity must be undertaken during a period when there is a low risk of flooding; and

The intention is to carry out the works over the drier summer months.

(b)
the activity must be undertaken only for as long as necessary to achieve its purpose; and

The works are reasonably small scale and would occur over a short period of time estimated 2 weeks.

(c)
before the activity starts, a record must be made (for example, by taking photographs) of the original condition of any affected natural wetland's bed profile and hydrological regime that is sufficiently detailed to enable compliance with paragraph (d) to be verified; and

The earthwork contractor is to maintain a record of photographs.

(d)
the bed profile and hydrological regime of the natural wetland must be returned to their original condition no later than 14 days after the start of the activity; and

There is no intention to alter the profile or hydrological characteristics of any wetland. Any existing modifications, which predate current regulations, are unlikely to cause significant harm to the wetland's integrity. The subdivision boundaries have been carefully aligned to avoid the need for new crossing points through the wetland, while the existing crossing maintains existing use rights.

(e)
if the activity is damming, the dam must be no higher than 600 mm; and

The activity does not involve damming.

(f)
if the activity is a diversion that uses a pump, a fish screen with mesh spacing no greater than 3 mm must be used on the intake.

The diversion does not involve a pumping water.

General condition: earth stability and drainage

(7)

The general condition relating to earth stability and drainage is that the activity must not create or contribute to—

(a)

the instability or subsidence of a slope or another land surface; or

There are no known slope instability issues.

(b)

the erosion of the bed or bank of any natural wetland; or

There are no signs of erosion.

(c)

a change in the points at which water flows into or out of any natural wetland; or

There is no change.

The existing open drains collecting stormwater from the wider catchment areas will maintain the same flowpath and bypass the proposed retention soakage devices.

Impermeable surface areas from the access formation would be contained within an independent open drain along the western side of the formation, allowing that water to be isolated and treated independently from the wider catchment stormwater.

(d)

a constriction on the flow of water within, into, or out of any natural wetland; or

The proposal seeks to maintain the status quo.

(e)

the flooding or overland flow of water within, or flowing into or out of, any natural wetland.

The proposed activity will not affect overland flowpaths or increase flooding within the gully margins. The proposed culvert crossing is a replacement of the existing crossing, and increases the culvert pipe size to be sufficient to cope with a 1:100year storm event, and additionally designs the crossing so that water is able to overtop without deviating from the central gully route. Recommended mitigation measures are aimed at reducing stormwater discharge rates during typical storm events, through to larger 10yr storm events. These measures are designed to manage stormwater displacement from impermeable and semi-impermeable surfaces, and incorporate low-impact design elements with soakage provisions.

Culvert Placement

62

(1)

This regulation applies to any activity that—

(a)

is the placement, alteration, extension, or reconstruction of any of the following structures in, on, over, or under the bed of any river or connected area:

(i) a culvert:

(ii) a weir:

(iii) a flap gate (whether passive or non-passive):

(iv) a dam:

(v) a ford; and

(2)
The information specified in this regulation must be collected and provided to the relevant regional council, together with the time and date of its collection, within 20 working days after the activity is finished.

This is described in the information checklist attached and would be provided to NRC within 20 working days of completion.

63
Requirement for culvert activities: information about culverts
(1)
This regulation applies to any activity that—
(a) *is the placement, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area; and*
(b) *is a permitted activity, or a class of activity that requires a resource consent, whether under this subpart or otherwise.*

(2)
The information specified in this regulation must be collected and provided to the relevant regional council, together with the time and date of its collection, within 20 working days after the activity is finished,—
(a) *for a permitted activity; or*
(b) *as a condition of a resource consent granted for the activity, for another class of activity.*

This is described in the information checklist attached and would be provided to NRC within 20 working days of completion.

70 Permitted activities
(1)
The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area is a permitted activity if it complies with the conditions.

The culvert is deemed to be within a watercourse that, by definition, qualifies as a river.

Conditions
The conditions are described in the attached culvert construction detail document and plans, upholding the permitted criteria.

Northland Regional Plan (Proposed)

Rule C2.1.8 Construction and installation of structures

Similarly, this assessment under is described in the attached culvert construction detail document and plans, upholding the permitted criteria.

Local Authority assessment parameters for stormwater management

(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	The proposal complies with NRC Plan permitted standards. It is acknowledged that the cut off drains and increased stormwater discharge would occur within 100m of an inland wetland. The stormwater management design however reduces the impact such that there would not be any measurable change to the water levels. The culvert placement upholds low impact design with provision for fish passage. Overall, the proposal meets the permitted activity thresholds.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	Stormwater management would comply with relevant engineering standards.
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The proposal is considered to comply.
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Stormwater discharge from proposed impermeable surfaces reduce flows rates, volumes, and water quality entering the gully, upholding low impact design.
(e) The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.	All impermeable and semi impermeable surfaces within 100m of a wetland would be subject to detention or retention control methods. This assessment covers the access to proposed Lot 2,and the proposed building sites on proposed Lots 2 & 3.
(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	The likelihood of any litter is negligible.
(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	All stormwater discharge retains open natural flow paths.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	Not applicable.
(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	The outfall is capable to accepting the runoff.
(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Attenuation is recommended to satisfy these aspects.

(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	The proposed mitigation measures are considered to uphold a less than minor effect not to cause any adversity.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	All stormwater is drained by gravity.
(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	There is no change to natural grades.
(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Not applicable.
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	N/A
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	N/A.
(q) The need for and extent of any financial contributions to achieve the above matters.	N/A
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	N/A

RECOMMENDATIONS

Construction access formations within 100m of the identified wetland are to include soakage to control stormwater displaced from impermeable surfaces.
Construction of buildings on Lots 1, 2 & 3 within 100m of the identified wetland are to include detention to control stormwater discharge from rooves.
Sediment control be in accordance with GD05.
All construction is to comply with the Proposed Northland Regional Plan rule C.2.3 General conditions.

The applicant requires a variation to the approved subdivision resource consent RC 2220069 to suit the proposed access configuration, and accordingly the following consent conditions are recommended.

Local Authority conditions of Resource Consent to include:

The consent holder shall register a Consent Notice on the title of Lots 1 - 3;

Landowner shall submit a stormwater attenuation design prepared by an SQEP with any building consent or earthworks permit application for any roof surface area over 25m² and/or driveway construction that is within 100m of the wetland defined on Lots 1 & 2, that satisfies both 50% & 10% AEP storm events plus climate change allowance RCP 6.0 2081-2100.

Landowners are responsible for the ongoing maintenance and repair of any stormwater detention or retention devices, and maintenance shall be routinely carried out every 2 months, with any issues/faults to be instructed for repair by registered drainlayer:

- *Check and remove debris at gutter inlets (gutter guard or similar).*
- *Check and remove debris at detention outlet.*
- *Check and remove debris at the overflow.*
- *Any sediment build-up in detention devices of more than 50mm be removed.*
- *Rock soakage devices be monitored during heavy rainfall events to ensure continued functionality, and the substrate material be replaced when failure is evident.*

CONCLUSION

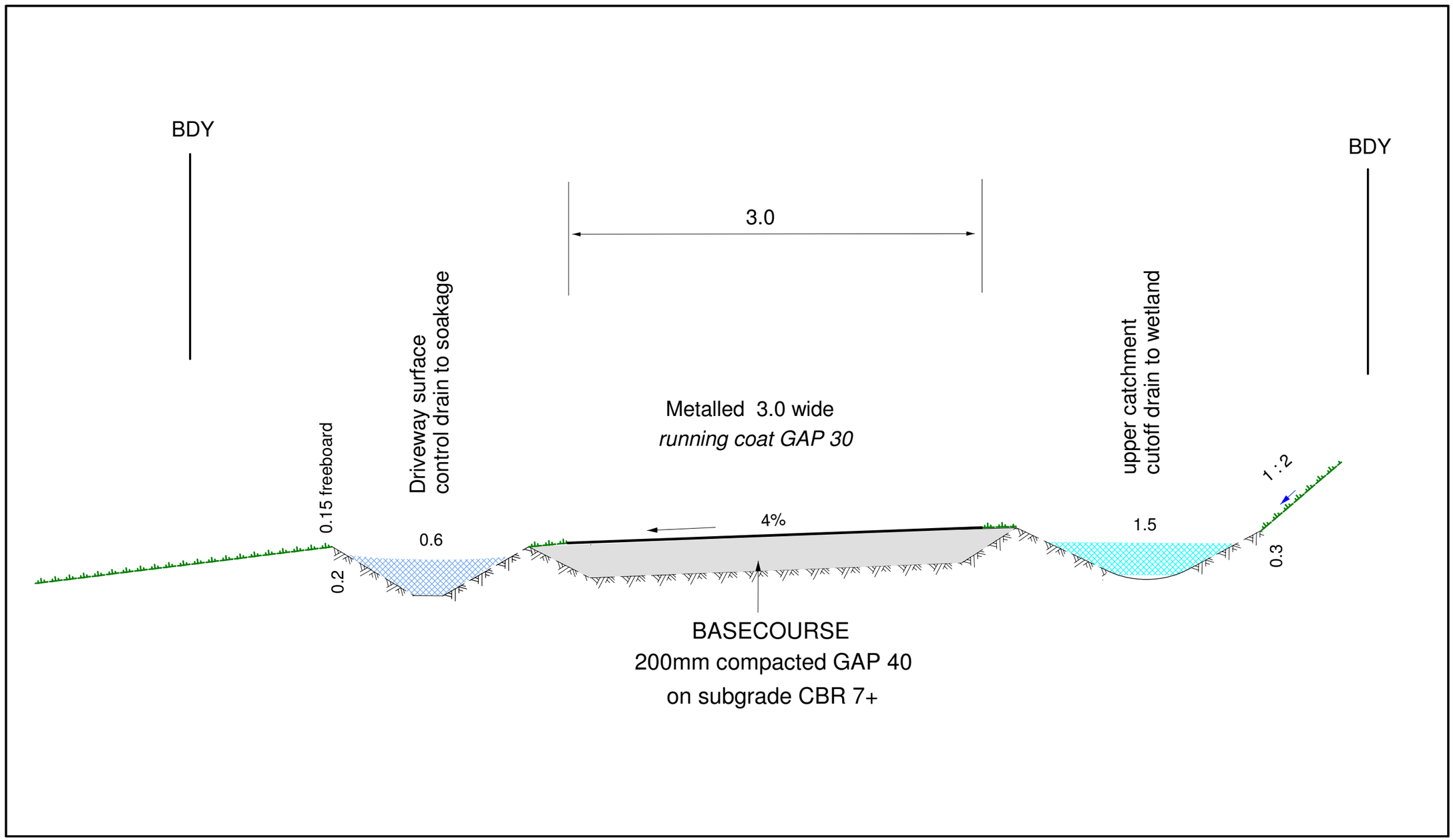
The applicant seeks to increase impermeable surfaces within 100 meters of a wetland, and plans to replace an existing culvert located within a watercourse that is deemed to be a “river”.

It has been shown that, if construction adheres to the stormwater management assessment, the project will comply with the NES 2020 'Freshwater' regulations.
The recommended stormwater neutrality measures will ensure that post-development peak flows from future buildings and driveways are reduced to pre-development levels for 10% and 50% AEP events, including considerations for climate change.
The recommended culvert pipe installation has an increased size to reduce normal flow velocities and has the pipe submerged by 25% of the culvert diameter to ensure appropriate conditions for fish passage.

The proposal is therefore expected to result in a less than minor impact on the surrounding environment in terms of stormwater effects.

Micah Donaldson
DONALDSONS
Land engineering surveyors & development planners

NZIS
REGISTERED PROFESSIONAL SURVEYOR



TYPICAL CROSS SECTION

		Checked	Date
Surveyed			
Designed	JM		Aug. 2024
Drawn			
Revised			

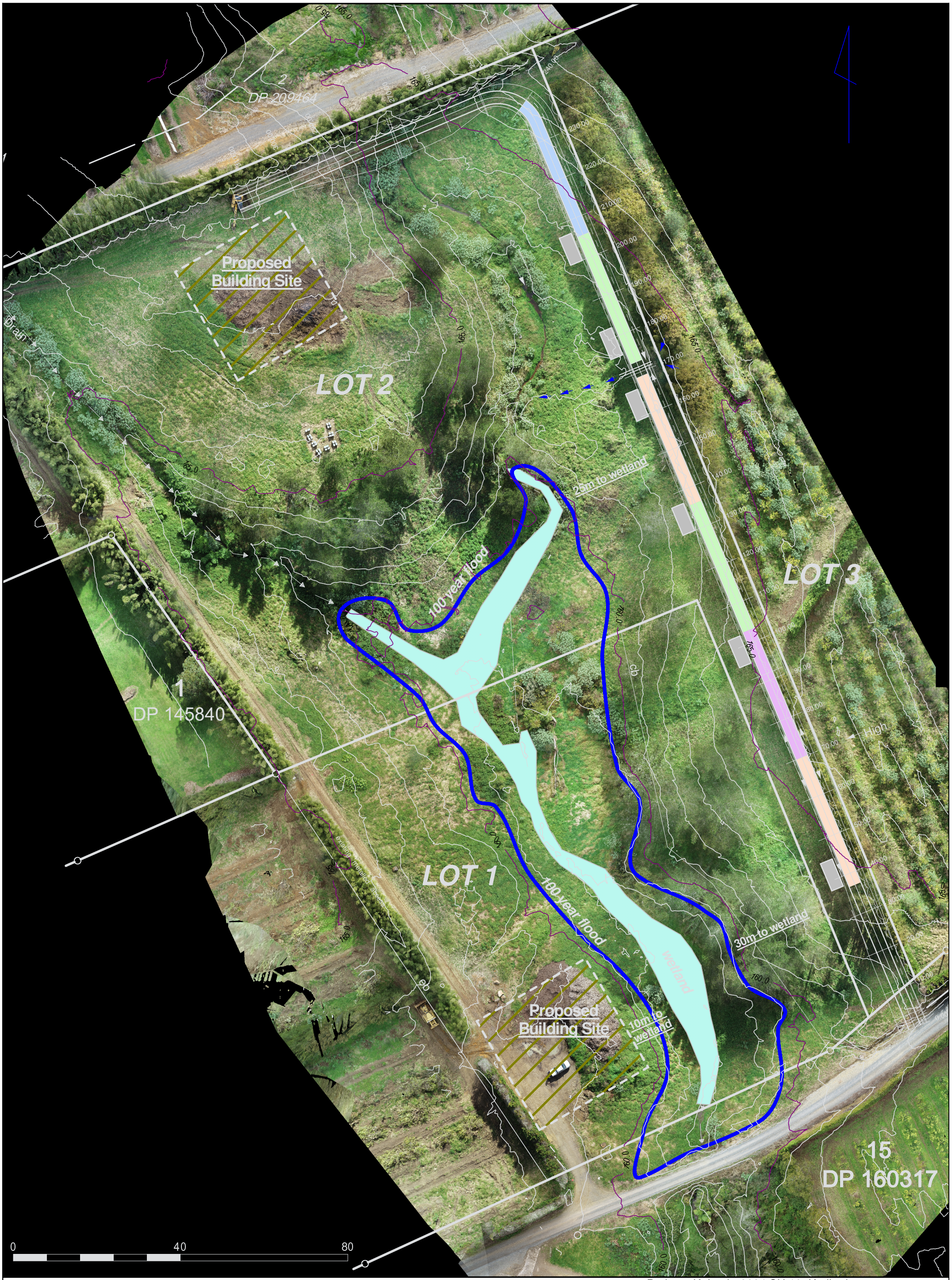
Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Access Design to Lot 2

Scale: 1 :500 at A3
Dir: 7407 Engineering\7407 Typical Xsecs.mjo

Ref 7407

DONALDSONS
REGISTERED LAND SURVEYORS
Cadastral / engineering surveyors, development planners, resource consent managers - ANZ bank building, 90 Kerikeri Road, Kerikeri, Northland, New Zealand - www.donaldsons.net.nz - email: info@donaldsons.net.nz - phone:09 4079182

1:500



DONALDSONS
REGISTERED LAND SURVEYORS

SITE PLAN OF WETLAND AREA & 100 YEAR FLOOD EXTENT

Project: K. Lupi - 2624 SH 10, Kerikeri
Title: Stormwater discharge & diversion within 100m of wetland
Scale: 1:800 @ A3
Contour Interval: 1m
July 2024
Job No. 7407