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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

◯ **Yes** ◯ **No**

4. Consultation

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

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

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

5. Applicant Details

Name/s: John Mason

Email:

Phone number: Work Home 021 1529223

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

Postcode

6. Address for Correspondence

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

Name/s: Donaldsons Surveyors

Email:

Phone number:

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

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

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

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

Name/s: John Mason

Property Address/ Location:

Postcode

8. Application Site Details

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

Name/s: John Mason

Site Address/ Location: 192 Waipapa Road
Kerikeri

Postcode

Legal Description: Lot 3 DP 408584 **Val Number:**

Certificate of title: RT 431238

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

Site visit requirements:

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

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

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

9. Description of the Proposal:

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

Proposed subdivision to create two additional rural residential allotments

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

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

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

(more than one circle can be ticked):

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

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full) Donaldsons Surveyors Ltd

Email:

Phone number:

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

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

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

Name: (please write in full) Micah Donaldson

Signature:
(signature of bill payer

Date 12-May-2026

MANDATORY

15. Important Information:

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

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

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

15. Important information continued...

Declaration

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

Name: (please write in full) Micah Donaldson

Signature:

Date 12-May-2026

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

Checklist (please tick if information is provided)

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

Donaldson's Surveyors Limited

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DONALDSONS
REGISTERED LAND SURVEYORS

PLANNING REPORT

PROPOSED SUBDIVISION

J. MASON, 192 WAIPAPA ROAD, KERIKERI

Date: 12 May 2026 Reference: 8687

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INTRODUCTION

The owner of Lot 3 DP 408584 seeks Resource Consent to undertake a subdivision creating three lots at 192 Waipapa Road, Kerikeri.

The proposed subdivision will create the following allotments:

- Proposed Lot 1: 3038 m^2
- Proposed Lot 2: 3090 m^2
- Proposed Lot 3: 2561 m^2

The proposed allotment sizes are generally consistent with the character and pattern of development within the surrounding rural living environment and align with the intent of the Proposed District Plan for Rural Residential purposes. However, the proposal does not meet the controlled or discretionary activity standards for subdivision within the operative Rural Living Zone of the Far North District Plan and therefore requires resource consent as a non-complying activity in breach of rule 13.7.2.1(iv).

The site currently contains two established residential dwellings. The proposed subdivision boundaries are configured to separate these existing residential environments into individual allotments. As a consequence, the resulting boundary locations give rise to infringements of the setback from boundaries standards, allotment dimensions, and stormwater management. Land use consents are therefore required pursuant to Rule 8.7.5.1.6 (*Setback from Boundaries*) and 13.7.2.2 (*Allotment Dimensions*) and Rule 8.7.5.1.5 (*Stormwater Management*).

SITE DESCRIPTION

The properties legal reference:

Appellation:	**Lot 3 DP-408584**
Registered Owner:	J. Mason
Record of Tile:	431238
Total Area:	8689m^2

The site contains two existing dwellings, each with a detached garage. Access to both dwellings is via concrete strips with grassed centres, while former metalled parking areas are now landscaped as lawn. There are three existing entrances onto Waipapa Road, all of which would be upgraded as part of consent conditions. Sight visibility at each entrance is good in both directions, and the posted speed limit is 60 km/h.

Waipapa Road is in good condition along the site frontage and includes cycle lanes on both sides, as well as a footpath along the southern side of the carriageway.

The property features mature planting, landscaped gardens, and roadside screening, which help mitigate potential amenity impacts. The vacant portion of the site offers elevated ground with gentle contours, suitable for building and wastewater disposal.

Stormwater from all three lots currently sheetflows to the northeast. The proposal intends to provide a piped stormwater connection for each lot, which will reduce runoff towards the northeast and instead discharge to an existing Council drain located near the northwestern boundary.

The surrounding area exhibits a mixed natural-residential character, with residential development integrated into a predominantly rural residential setting. The prevailing allotment pattern comprises sites ranging from approximately 2,000m^2 to 4,000m^2. Of particular relevance are comparable allotments recently created along The Lakes Drive, which reinforce the established character and pattern of development in the locality.

RESOURCE MANAGEMENT ACT 1991

The subdivision of land falls under the Resource Management Act 1991 and is required to demonstrate compliance with provisions applicable to the activity and its status under the District Plan.

SCHEDULE 4
An application for Resource Consent for an activity must include the following, outlining aspects of relevance to the proposed activity and zone expectations:
ASSESSMENT OF THE ACTIVITY AGAINST THE MATTERS UNDER PART 2 RMA
Part 2 Purpose and Principles

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

(2)
In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—
(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The application site is well removed from its natural state being one a few larger lots in this location, particularly with frontage to Waipapa Road.

The site is absent of any known significant natural ecosystems and is not located within close proximity to any known ones.

Overall, there are no specific natural and physical resources of concern. The site is well established with excess land better utilised for further development, possible without being contrary to the Rural Living zones objectives and policies, or cause to the depletion of any bush or waterways.
The subdivision requires minimal earthworks, and future development can readily occur over an easy contour.

The applicant engaged the services of a stormwater management assessment, and detention control devices are proposed to ensure post-development effects meet pre-development conditions. Roof water is to be controlled in attenuation tanks located alongside existing and future dwellings on Lots 1 - 3.

Overall, stormwater from the site would be managed to mitigate effects on the environment via consent notice requirements and consent conditions with respect to the proposed pipe network. This defines a greatly improved outcome for stormwater disposal, reducing impacts on the lower catchment.

The applicant engaged the services of wastewater investigation to confirm the proposed lots are compliant with TP-58 guidelines.

The applicant engaged the services of a geotechnical assessment and this confirms that the site is suitable for building purposes subject to recommendations.

The applicant engaged the services of a traffic impact assessment and this confirms that the sites are suitable entry onto Waipapa Road.

Matters of national importance

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

The site is not averse to subdivision effects particularly impacts on wetlands, lakes or rivers. The impact on the coast is nil.

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

There are no known outstanding natural features or landscapes.

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

There are no areas of significant vegetation or habitats of indigenous fauna within the subject boundaries.

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

Not applicable.

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

The Ngāti Rehia Hapu Management Plan identifies key concerns regarding water quality and the fragmentation of indigenous vegetation, which the hapū are committed to protecting and enhancing. The proposed subdivision does not directly conflict with these concerns, as it involves no vegetation clearance or significant earthworks. Effluent disposal for the proposed lots will meet higher treatment standards through secondary treatment, and the site's soil characteristics provide effective soakage, thereby minimizing potential impacts. There will also be no effect on fisheries.

Ngāti Rehia has acknowledged that they are not inherently opposed to development but emphasize that any development must not adversely affect their heritage, culture, or the environment. The subject

site is located along Waipapa Road, much of which is zoned for residential use, and the subdivision optimizes the potential of an undersized property that is no longer suitable for rural activities.
Overall, the site is not in proximity to any identified cultural heritage sites as listed in the district plan or features of likely significance, including watercourses or other taonga. On this basis, and the fact the site is already predominantly develop with two established residences, the proposal is considered to have negligible environmental and cultural impact and aligns with the objective of preserving the existing environment while enabling appropriate development.

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

There are no known historic heritage sites.

(g) the protection of protected customary rights.

There are no known customary rights to consider.

Other matters

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

(a) kaitiakitanga:
(aa) the ethic of stewardship:
(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(e) [Repealed]
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(h) the protection of the habitat of trout and salmon:
(i) the effects of climate change:
(j) the benefits to be derived from the use and development of renewable energy.

The subdivision facilitates the efficient use of land zoned for Rural Living purposes, optimising the development potential of a property that is no longer suitable for traditional rural activities. By creating three residential allotments, the proposal increases the availability of residential land in Kerikeri, supporting housing demand and contributing to the economic vitality of the region. This includes potential benefits such as local construction activity, job creation, and investment in associated services and infrastructure, which collectively enhance social and economic wellbeing.

The site's orientation to the north allows for optimised passive solar gain and potential renewable energy use, promoting sustainable living and reducing long-term energy costs for future residents. The applicant has demonstrated a commitment to effective stormwater management and climate change adaptation measures, further reinforcing the sustainability and resilience of the development.

There are no known onsite habitats or ecological features of significance that would be affected by the proposal. While the subdivision may not directly enhance existing amenity values, it is consistent with the objectives and policies of the Rural Living Zone, which anticipate gradual intensification and infill development in established residential areas. The surrounding environment is undergoing a transition, and the proposed allotment pattern is compatible with the evolving character of the locality.

From a social and community perspective, the proposal provides additional housing options, enhancing accessibility and choice for a diverse range of residents and supporting a sense of community. Overall,

the development strikes an appropriate balance between environmental, social, and economic considerations, supporting the growth and housing needs of the region while maintaining the character and integrity of the existing environment.

Treaty of Waitangi

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

The proposal is not considered to contradict the Treaty of Waitangi's interpretations.
The subject site is residentially zoned, contains no identified sites of cultural significance, and the proposal does not affect any Treaty interests. Section 8 obligations are acknowledged but do not impact the lawful use or subdivision of the land.

ASSESSMENT OF THE ACTIVITY AGAINST 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;

Under various headings, the application covers all relevant provisions including, the Far North District Plan, National Environmental Standards, and Regional Policy Statement. There are no other relevant provisions.

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:*

The proposed subdivision is not expected to result in any significant adverse effects on the environment, including flora, fauna, or ecological values. The effects are considered **less than minor** when assessed against the permitted baseline for similar activities in the Rural Living Zone. No alternative locations or

methods are considered necessary, as the proposal efficiently utilises the existing site and avoids impacts on sensitive environmental features.

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

The proposed subdivision is not expected to result in any significant adverse environmental effects. Potential effects typical of residential development include effluent discharge, increased stormwater runoff, traffic movements, noise, and the visual presence of new structures. These effects are well-understood, mostly exist as a partially developed site, minor in scale, and compatible with the character of surrounding properties.

The development is consistent with the objectives and policies of the Rural Living Zone described following, which provide a framework for managing and mitigating potential effects. On this basis, the level of actual and potential environmental effects is **considered less than minor**, and no further investigation is required.

(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:

Effluent disposal would uphold high standards in accordance with TP-58 to ensure compliance with the Northland Regional Water and Soil Plan.
Effluent disposal standards would also be registered on a consent notice to inform future landowners of their responsibility to install secondary treatment for any new habitable building.

(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 no issues to address.

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

The proposal although being a discretionary activity is considered to present effects less than minor not to require neighbour's consultation.

To fully understand the potential effects of the subdivision and identify who may be affected, it is important to consider that the development, in its proposed configuration, mirrors a scenario where two buildings are a permitted activity. Under the Rural Living zone, a parent title area of 8000m^2 is sufficient to accommodate two residential units each with a secondary building, such as a home office or similar use.
The Rural Living zone encourages alternative accommodation and business activities, as outlined in the relevant objectives. As such, the provision for a secondary building is an established right, and its inclusion could result in a visual appearance of multiple buildings on the site. This is a key consideration

in assessing the potential visual and amenity impacts, as the overall development may reflect the presence of more structures than typically expected in a single residential setting.

However, these effects are anticipated to be manageable within the context of the zone's objectives and the existing character of the area.

> *8.7.4.4 That no limits be placed on the types of housing and forms of accommodation in the Rural Living Zone, in recognition of the diverse needs of the community.*
>
> *8.7.4.5 That non-residential activities can be established within the Rural Living Zone subject to compatibility with the existing character of the environment.*
>
> *8.7.4.6 That home-based employment opportunities be allowed in the Rural Living Zone.*

The concept of the **permitted baseline** provides a framework for understanding the level of development that the site could accommodate without requiring resource consent. Under the parent title, it is possible to construct secondary buildings, which could be used for purposes such as a home office, granny flat, or accommodation-style activity, without triggering additional regulatory requirements. To achieve this, the existing secondary dwelling would need to be integrated as part of such ancillary land use rather than functioning as an independent residential unit. This arrangement ensures that the site's traffic generation remains within the permitted limit of 20 one-way movements.

In this context, it is clear that the proposed subdivision does not result in a greater level of environmental or amenity effects than what is already permitted under the current zoning.

Therefore, while the subdivision creates new lots, it also limits the scope for future development compared to the broader allowances that would apply to the parent title, thereby reducing the potential for adverse effects.

(g) *if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:*

No monitoring appears necessary.

(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.

This is covered under the heading 'Northland Regional Policy Statement' below.

CLAUSE 7

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:

The proposal is considered to align with and promote the objectives of the Rural Living zone, while being compatible with surrounding land uses. It is anticipated to have no unreasonable adverse effects on the wider community, including social, economic, or cultural aspects.

Overall, the subdivision is designed to integrate smoothly with the existing environment, maintaining the rural character and minimizing any potential conflicts with neighbouring land uses.

(b) any physical effects on the locality, including any landscape, and visual effects.

No concern.

(c) Any effects on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity.

The subdivision does not result in any habitat disturbance. Future building activity would be within an area that has an easy contour, is cleared of any vegetation, and already has services available at the road boundary.

(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:

Key values outlined are not depleted.
There is no influence on Fisheries.

(e) any discharge of contaminants in to the environment, including any unreasonable emissions of noise, and options for the treatment and disposal of contaminants:

Stormwater and sewage are the main discharges and these both present a standard level of effects through use of best practice as described under their respective headings 'Chapter 13 assessment',

(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

To the best of our knowledge there are no concerns.

In summary, the proposal is seen as an activity that supports both the personal and broader community economic wellbeing, while promoting the efficient use of land near the urban periphery of Kerikeri. The development aligns with the region's growth objectives and contributes to the ongoing economic

vitality of the retail and construction sectors. By maximising the use of available land, the proposal helps meet local housing demand, stimulates economic activity, and supports sustainable growth in the area.

PERMITTED BASELINE

To understand the development potential of this 8,689 m² parcel, the following outlines credible, non-fanciful land use scenarios that could occur without requiring resource consent.
The assessment considers how the environment may appear as of right, and compares these effects with those arising from the proposed subdivision. The objective is to identify actual or permissible environmental effects and, where effects are more than minor, guide consultation with affected parties. The permitted baseline demonstrates activities a site can accommodate as of right and allows the council to disregard those effects when assessing resource consents.

Case law guidance:

- *Bayley v Manukau City Council* [1999] 1 NZLR 568 (CA) establishes that adverse effects arising from permitted activities are part of the existing environment and may be excluded from assessment.
- *Eyres Eco Park v Rodney District Council* (A147/04) confirms that existing use rights are considered part of the environment.

The receiving environment—beyond the subject site—is also relevant, as the subdivision may influence adjacent areas. When assessing effects, it is permissible and often necessary to consider the future state of the environment, including:

Modifications from permitted activities; and
Changes from resource consents already granted at the time of assessment.

For this site, common permitted land uses relate to home office or accommodation-type activities, where a primary dwelling and secondary buildings can be constructed without exceeding key Rural Living Zone standards:
Key parameters under the Operative District Plan:

- Impermeable surface: The site currently has 8% coverage; approximately 4% (347 m²) remains, allowing for a 100 m² secondary building.
- Building coverage: Maximum 10%; currently 413 m² (4.7%).
- Scale of activities: 1 person per 1,000 m² (total 4 persons on site at any time).
- Traffic movements: Maximum 20 one-way movements per day; foot traffic or minivan use is not restricted.

Based on these parameters, reasonable land use scenarios could include:

1. Bed and breakfast accommodation
2. Professional office (consulting or similar)
3. Small-scale café or takeaway operation
4. Trades base with client showroom (e.g., plumbing or electrician)

Although these scenarios are relatively constrained by zone standards, they are feasible with appropriate control measures. The most likely activity is a bed and breakfast, utilising a number of 30 m² secondary building for accommodation or office purposes, consistent with the objectives of the Rural Living Zone.

Overall, while a variety of land uses are technically possible, the permitted baseline demonstrates that the proposal does not introduce land uses that deviate substantially from those already anticipated under the current zoning. This comparison provides a robust framework for assessing the additional effects of the proposed subdivision.

NORTHLAND REGIONAL POLICY STATEMENT

The Northland Regional Policy Statement presents guidelines for the northland region but has limited relevance to this designated development zone and its absence of any vulnerable ecology.

3.4 Indigenous ecosystems and biodiversity
Safeguard Northland's ecological integrity by:
a) Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna;
b) Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and
c) Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.

There is no immediate risk to or impact on ecosystems. The site already has the base infrastructure in place.

4.6.1 Policy – Protecting the integrity of natural character, natural features and landscapes

b) By avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects of subdivision, use and development on natural character, natural features and natural landscapes in the following way;

(i) Ensuring the location, intensity, scale and form of subdivision and built development maintains, and is subservient to, predominantly natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins; and

(iii) Encouraging new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been significantly compromised

The proposal is in keeping with the policy intent being a site capable of further intensification without causing any significant adversity to natural character.
The size of the proposed lots is of scale and form that maintains, and is subservient to, the nature of the predominantly natural elements. There is no impact on high natural character or wetlands.

6.1.1 Policy – Regional and district plans
Regional and district plans shall:
(a) Only contain regulation if it is the most effective and efficient way of achieving resource management objective(s), taking into account the costs, benefits and risks;
(b) Be as consistent as possible;
(c) Be as simple as possible;
(d) Use or support good management practices;
(e) Minimise compliance costs and enable audited self-management where it is efficient and effective;
(f) Enable subdivision, use and development that accords with the Regional Policy Statement; and
(g) Focus on effects and where suitable use performance standards.

The proposed subdivision is small in scale and is not expected to generate any unreasonable adverse effects on the environment. The surrounding locality is characterised by rural living and residential development, and the site is already used for residential purposes.

When compared against the permitted baseline, the potential environmental effects are similar to those that could arise from permitted land use activities on the site. In this respect, the subdivision does not

materially increase the scale or intensity of development beyond what could reasonably occur as of right.

The proposal therefore represents a logical and efficient use of the land while remaining consistent with the established character of the surrounding environment. The resulting allotments utilise land that is not suitable for productive rural activity, thereby avoiding the fragmentation of versatile soils capable of supporting horticultural or agricultural production.

Part B) Regional urban design guidelines
Context
Quality urban design sees buildings, places and spaces not as isolated elements but as part of the whole town or city. In this regard, quality urban design:
(a) Takes a long-term view; and
(b) Recognises and builds on landscape context and character; and

Character
Quality urban design reflects and enhances the distinctive character and culture of our urban environments, and recognises that character is dynamic and evolving, not static. In this regard, quality urban design:

(a) Reflects the unique identity of each town, city and neighbourhood and strengthens the positive characteristics that make each place distinctive;

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

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

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

(b) Commercial and industrial activities in commercial and industrial zones;

The proposal does not conflict with the Regional Policy Statement, and the location is not vulnerable to the effects of development, being nothing more than infill development.

The proposal is not seen to clash with the Regional Policy Statement and therefore should be assessed under Resource Consent on an enabling basis.

NATIONAL ENVIRONMENTAL STANDARDS

The property is not known to be a HAIL site.

There are no other national environmental standards applicable to the application site and subdivision activity.

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.

2.2
Policy 3
Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

Policy 4
Freshwater is managed as part of New Zealand's integrated response to climate change.

Policy 6
There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration promoted.

Policy 9
The habitats of indigenous freshwater species are protected.

3.5 Integrated management
(1) Adopting an integrated approach ki uta ki tai, as required by Te Mana o te Wai, requires that local authorities must:
(a) recognise the interconnectedness of the whole environment, from the mountains and lakes, down the rivers to lagoons, estuaries and to the sea.

(b) recognise interactions between freshwater, land, water bodies, ecosystems, and receiving environments.
(c) manage freshwater, and land use and development, in catchments in an integrated and sustainable way to avoid, remedy, or mitigate adverse effects, including cumulative effect on the health and well-being of water bodies, freshwater ecosystems, and receiving environments.
(d) Encourage the co-ordination and sequencing of regional or urban growth.

The National Policy Statement emphasises that development should avoid adverse effects that could compromise wetlands or natural features associated with waterways. In this instance, the proposal does not involve activities that would adversely affect freshwater values. Earthworks associated with site establishment will be minimal in scale, and there are no identified inland wetlands within approximately 100 m of the site.

Rural residential land use is generally low risk in terms of causing water quality impacts, as it does not involve intensive land use activities or significant sources of contaminants. Wastewater disposal will be managed through on-site treatment systems designed to meet current environmental standards, ensuring that potential effects on groundwater and receiving environments remain appropriately managed.

Overall, the proposal is consistent with the integrated management principles of the National Policy Statement for Freshwater Management and is not expected to compromise the health or functioning of nearby freshwater systems.

DISTRICT PLAN

The property is located in the Rural Living zone and is not listed as having any Outstanding Landscape.

Rural Living Zone Context
The Rural Living Zone is an area of transition between town and country. The transition is expressed in terms mainly of residential intensity and lot sizes. The potential for the adverse effects of farming to be of concern for residential zones and vice versa, is reduced by the presence of the Rural Living Zone, where both rural and residential activities co-exist and form an area with a distinctive and separate character.

Environmental Outcomes Expected
8.7.2.1
A Rural Living Zone where residential living on small rural lots is compatible with those other rural activities that have an emphasis on production rather than lifestyle.

8.7.2.2
A Rural Living Zone where the controls on the activities ensure a high standard of privacy and amenity for residential activities.

The proposal proves compatible with the evident rural living trend along Waipapa Road.

OBJECTIVES AND POLICIES

The objectives and policies of the Rural Living Zone seek to enable low-density residential development on the urban periphery, while ensuring that the scale and intensity of development remains compatible with the surrounding rural and natural environment.

Objective **8.7.3.1** promotes a style of development where differing land uses at the urban edge are compatible. In this instance, the site is already developed with two established dwellings and associated

residential infrastructure. The proposed subdivision largely formalises these existing residential environments plus creating the one new vacant lot with an intensity that would not be inconsistent with the surrounding environment.

Objective **8.7.3.2** recognises that low-density residential development can occur on the urban periphery where more intensive development may generate adverse effects on the rural environment. The proposal maintains a low-density pattern of development consistent with the Rural Living Zone and does not introduce an intensity that would adversely affect the rural or natural character of the locality.

Policy **8.7.4.2** identifies that the Rural Living Zone is appropriate in areas where existing subdivision patterns have created a semi-urban character. The surrounding locality exhibits this pattern, with a mix of rural residential allotments and smaller lifestyle sites. The proposed subdivision reflects this established pattern and therefore reinforces the intended character of the zone.

Policy **8.7.4.3** requires that residential activities retain sufficient land area to provide outdoor space and accommodate on-site wastewater disposal where reticulated services are not available. Each proposed allotment will retain sufficient area to support residential use, including the provision of on-site effluent disposal systems that meet current environmental standards.

Policies **8.7.4.4**, **8.7.4.5**, and **8.7.4.6** recognise the diversity of residential forms and the ability for compatible non-residential and home-based activities to occur within the zone. The proposed subdivision does not restrict these opportunities and maintains the flexibility anticipated within the Rural Living Zone.

Overall, the proposal aligns with the intent of the Rural Living Zone by supporting low-density residential development within an environment that already exhibits a semi-urban rural living character. The subdivision utilises land that is not suited to productive rural activity and maintains compatibility with surrounding land uses. Any potential effects are considered less than minor, and the development is consistent with the objectives and policies of the zone.

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

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

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

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

The proposal is consistent with, and supports, the objectives and policies for subdivision in the area. There is no disconnect with the existing environment, nor does the proposal result in any adverse environmental impacts contrary to the subdivision intentions.

ALLOTMENT SIZES 13.7.2

(Table 7)

Status	Rural Living Zone (Far North District Plan)
Discretionary Activity	*The minimum lot size is 3,000m² (with provision for stormwater and wastewater disposal as a necessary part of the application).*

Lot 1 = 3038m² **Lot 2 = 3090m²** **Lot 3 = 2561m²**

The proposed subdivision does not fully comply with the minimum lot size requirements under the Rural Living Zone and is therefore considered a non-complying activity (Table 7). Notably, Lot 3 falls below the 3,000m² minimum, while Lots 1 and 2 only marginally exceed the threshold.

Despite this, the character of the immediate environment establishes a clear precedent for smaller allotments, with many existing lots in the vicinity around 3,000 m². This context supports the appropriateness of the proposed lot sizes and demonstrates that the subdivision is consistent with the established pattern of development in the area.

Effluent disposal and stormwater management have been assessed and will be implemented in accordance with the relevant standards, ensuring the proposal does not create adverse environmental effects.

All proposed lots do not fully comply with the allotment shape parameter under the 3 m setback standard.

Lots 2 and 3 contain existing built development, and as such, the shape parameter is of limited practical relevance. Access around the rear and sides of these lots remains achievable, with more than 3 m separation maintained between existing buildings and boundaries.

Lot 1 marginally fails to meet the shape parameter; this is illustrated on the scheme plan and does not materially affect access, functionality, or amenity.

As a result of these infringements, land use consent is required to address the breach of **Rule 13.7.2.2 - Allotment Dimensions**. The proposal has been designed to minimise any adverse effects, and all lots retain sufficient area for access, outdoor living, and on-site services.

RURAL LIVING ZONE

ASSESSMENT CRITERIA CHAPTER 13 FAR NORTH DISTRICT PLAN

Allotment Sizes and Dimensions
The proposed allotment sizes are suitable to accommodate essential infrastructure, including building footprints, parking, outdoor spaces, and the efficient management of effluent and stormwater.
These lot sizes are consistent with the character of the surrounding area.

This development represents infill growth, with a series of similarly sized allotments within the immediate and wider surrounds, contributing to the area's established pattern of land use.

13.10.1 ALLOTMENT SIZES AND DIMENSIONS
(a) Whether the allotment is of sufficient area and dimensions to provide for the intended purpose or land use, having regard to the relevant zone standards and any District wide rules for land uses.

Lots 2 & 3, as existing as-built examples, demonstrate how sites of this size can comfortably accommodate all necessary infrastructure without compromising outdoor living space. This vicinity is designated as a transition zone, and this is expressed in the Proposed District Plan where the minimum lot size reduces to 2000m^2, which aims to better utilize existing infrastructure and meet the growing demand for compact sites.
The Strategic Directions outlined in the Proposed District Plan includes:

- *Alignment with the Council's vision for the district's development and environmental quality, as set out in Far North 2100, the district's 80-year strategy;*

- *Fostering a prosperous economy by enabling a wide range of rural and urban business activities in appropriate locations;*

- *Managing urban growth through the integration of existing and future infrastructure, ensuring sufficient land and opportunities to meet housing and business growth demands.*

This proposal aligns with and supports these strategic objectives.

(b) Whether the proposed allotment sizes and dimensions are sufficient for operational and maintenance requirements.
No concern.

(c) The relationship of the proposed allotments and their compatibility with the pattern of the adjoining subdivision and land use activities, and access arrangements.
The proposal has been demonstrated to be compatible with the wider development trends.

(d) Whether the cumulative and long term implications of proposed subdivisions are sustainable in terms of preservation of the rural and coastal environments.
No concerns the site is alienated land and its further utilisation for residential purposes of this scale promotes sustainable development consistent with council strategic direction.

Hazards
To the best of our knowledge there are no known natural hazards onsite. Flooding does occur in proximity.

Water Supply
There is a public water supply located along Waipapa Road, from which a new connection may be available to Lot 1. If this is not available, domestic water supply will be provided by roof runoff collected in storage tanks.

In regards to firefighting; Lots 2 & 3 are asbuilt situations and therefore would not be subject to firefighting mitigation. Lot 1 however, is a vacant site and a consent notice would need to register on the title that requires a firefighting water storage of 10,000 lt for any habitable building up to 300m^2, and anything larger would need to be in accordance with Fire & Emergency NZ standards.

Stormwater
Lot 1 is vacant and could be developed without breaching the permitted impermeable surface cover standard. Mitigation for increased impermeable surface areas is proposed through the requirement for stormwater detention at the sites future building stage.

Lots 2 & 3 reflect established land use scenarios. While the existing impermeable surface coverage calculates over the permitted standard, this exceedance is appropriately **offset** by the proposed treatment of future building activity on Lot 1. Specifically, all impermeable surfaces on proposed Lot 1 can be fully mitigated through the recommended stormwater detention measures implemented by way of consent notice on the title of Lot 1.

In other words, a typical site is permitted up to 12.5% impermeable surface coverage without any detention measures, the proposal effectively reduces the operative threshold for Lot 1 to 0%, and any further impermeable surface on Lot 2 & 3 would also be subject to detention at that time. This ensures that the overall stormwater effects of the subdivision are mitigated, notwithstanding the current existing exceedance on Lots 2 & 3.
The engineers report includes a recommendation that the existing stormwater off roves on Lots 2 & 3 be mitigated in detention tanks, however that should only be required in the event Lot 1 is not limited to a 0% impermeable surface cover. If conditions of consent can be configured as an "either" "or" scenario that would achieve a fair outcome.

For clarity, this approach does not create a requirement for resource consent for all future impermeable surfaces on Lot 1. The underlying rule framework remains unchanged, i.e 12.5% permitted impermeable surface standard under Rule 8.7.5.1.5 (Stormwater Management). However, the proposed consent notice will require, at the building consent stage, that any new impermeable surfaces be supported by appropriate stormwater attenuation measures. This mechanism ensures that stormwater effects are appropriately managed while remaining consistent with the intent and application of the relevant district plan provisions.

Lots 2 & 3:
Minor land use consents are therefore requested on that basis for Stormwater Management exceeding 12.5% impermeable surface area on proposed Lots 2 & 3, and that any future building activity be subject to stormwater detention measures, which would transpire by default of requiring a further land consent at that development stage.

Lot 1:
Be required to provide, within its net area a means for the disposal of collected stormwater from the roof of all buildings and impervious surfaces, in such a way so as to avoid or mitigate any adverse effects of stormwater runoff on receiving environments, including downstream properties.

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

A consent notice is proposed for any building activity on Lot 1 to require stormwater attenuation for 1%, 10% & 50% AEP storm events in accordance with Council Engineering Standards and Guidelines.

Land Use consent can therefore be issued in confidence to allow both Lots 2 & 3 an impermeable surface coverage as shown on the attached scheme plan, subject to all impermeable surfaces on Lot 1 being attenuated at the future building stage.

Refer to the proposed consent notice wording below.

In addition, the applicant proposes as a condition of consent to install a piped stormwater connection serving Lots 1 & 2, which will connect to the existing Council drainage network located within the Gross easement ("GA") on DP 594357. This approach will improve the management of stormwater runoff by reducing the current sheet flow discharge toward the northeast, which presently drains across Lot 2 DP 544271, thereby improving the overall stormwater management within the local catchment.

Lot 3 is able to discharge stormwater from rooves into the road side drain. The applicant offers a condition of consent to provide evidence that a 100mm pipe connection from the water tank has been provided to Waipapa roadside drain.

13.7.3.4 STORMWATER DISPOSAL

(a) All allotments shall be provided, within their net area, with a means for the disposal of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces, in such a way so as to avoid or mitigate any adverse effects of stormwater runoff on receiving environments, including downstream properties. This shall be done for a rainfall event with a 10% Annual Exceedance Probability (AEP).

All proposed allotments are capable of containing and managing stormwater collected from roofs for a 10% AEP rainfall event. Stormwater generated from buildings will be conveyed via the proposed piped stormwater system which connects to the Gross Easement ("GA") shown on DP 594357. This connection provides a controlled discharge point to the existing stormwater drainage network.
Ground surface runoff will continue to disperse via natural sheet flow across the site, following the existing contour toward the local catchment. This reflects the current hydrological behaviour of the site and the piped network would reduce pressure on this catchment.

(b) The preferred means of disposal of collected stormwater in urban areas will be by way of piping to an approved outfall, each new allotment shall be provided with a piped connection to the outfall laid at least 600mm into the net area of the allotment. This includes land allocated on a cross lease or company lease. The connection should be at the lowest point of the site to enable water from driveways and other impervious surfaces to drain to it. Where it is not practical to provide stormwater connections for each lot then the application for subdivision shall include a report detailing how stormwater from each lot is to be disposed of without adversely affecting downstream properties or the receiving environment.

The proposed pipeline upholds this requirement.

(c) The provision of grass swales and other water retention devices such as ponds and depressions in the land surface may be required by the Council in order to achieve adequate mitigation of the effects of stormwater runoff.

Given the relatively small scale of the subdivision, the existing topography, and the proposed piped stormwater connection, the use of open drains or swales is not considered necessary or appropriate for this site. A piped system combined with natural sheet flow across the landscaped surfaces provides an efficient and practical means of stormwater management.
For any future building development, stormwater detention measures will be required to manage peak runoff flows. This requirement will be secured through a consent notice registered on the titles of Lots 1–3, ensuring that stormwater attenuation is implemented at the building stage in accordance with Council engineering standards.

(d) All subdivision applications creating sites 2ha or less shall include a detailed report from a Chartered Professional Engineer or other suitably qualified person addressing stormwater disposal.

A stormwater assessment report prepared by a suitably qualified professional accompanies this application and outlines stormwater management options. The report confirms that stormwater disposal can be adequately achieved on-site and that the proposed infrastructure will avoid adverse effects on the receiving environment.

(d) Where flow rate control is required to protect downstream properties and/or the receiving environment then the stormwater disposal system shall be designed in accordance with the onsite control practices as contained in "Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003). In considering a controlled (subdivision) activity application under Rule 13.7.3.4 the Council will restrict the exercise of its control to the following matters:

(i) Control of water-borne contaminants, litter, and sediments
The proposed stormwater system will convey primarily roof water and surface runoff from low-intensity rural residential land uses. As such, the risk of contaminant generation is low. Standard construction and erosion control practices will be implemented during any future development to minimise sediment discharge.

(ii) Capacity of existing and proposed stormwater disposal systems
Stormwater will discharge to the existing drainage infrastructure within the Gross Easement ("GA"), which forms part of the established local drainage network. The connection will ensure that stormwater is conveyed in a controlled manner without exceeding the capacity of the downstream system.

(iii) Effectiveness of mitigation measures and low impact design principles
The proposal incorporates a combination of piped conveyance, on-site attenuation for future development, and natural sheet flow across permeable surfaces. This approach reflects low-impact stormwater design principles by maintaining infiltration and reducing peak runoff rates.

(iv) Location, scale, and construction of stormwater infrastructure
The proposed stormwater infrastructure is modest in scale and appropriately located to service the three allotments. Installation of a piped connection to the existing easement ensures efficient and reliable stormwater management for a Q10 event, while minimising disturbance to the surrounding environment.

(v) Measures required to give effect to any drainage or catchment management plan
There are no known drainage or catchment management plans affecting this site that impose additional requirements. The proposed stormwater management approach is therefore considered appropriate for the local catchment context.
The lower catchment currently receives surface runoff from Lots 1–3 through natural sheet flow.

Existing allotment boundaries and building layouts on properties within the lower catchment are already configured to avoid the influence of runoff from the upper catchment. Accordingly, the proposal will not create new drainage patterns or increase the extent of stormwater displacement beyond current conditions. As a result, the potential effects on the lower catchment are considered to be adequately managed under the proposed stormwater arrangements.

Sewage
An effluent disposal assessment has been prepared, and this describes sufficient area including for 100% backup disposal field without compromise to stormwater drainage patterns or breach to setback standards.

Energy Supplies & Telecommunications
Comments from service providers Top Energy Ltd and Chorus NZ Ltd are attached.
Requirements are to provide documentation that the service providers of electricity and telecommunications are satisfied with the arrangements made for the provision of services.

Easements & Covenants
There are no existing easements or covenants over the property.
There is an existing stormwater easement in Gross over adjoining Lot 1 DP 594357, which is beneficial to Lots 1 – 3 for piped discharge.

The applicant offers the following land covenants pursuant to Section 221 RMA:

1 *In conjunction with the construction of any additional building/s (excluding those existing as at March 2026), the owner of the Lot shall submit to Council a report and design, prepared by a Suitably Qualified and Experienced Person, in accordance with Council's Engineering Standards 2023. The report must provide details of stormwater attenuation to 80% of pre-development flows for the 1%, 10% & 50% AEP rain events, including allowance for climate change, and maintenance program to be administered by the landowner, to the satisfaction of the council engineer.*
[Lots 1 - 3]

2 *In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system, the applicant shall submit with the Building Consent application an Onsite Wastewater Report prepared by a Suitably Qualified and Experienced Person in accordance with AS/NZS 1547:2012 or TP58. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus an appropriately sized reserve disposal area in accordance with the Northland Regional Council Regional Plan for Northland requirements.*
[Lot 1]

3 *Upon construction of any habitable building, sufficient water supply for firefighting purposes is to be provided and be accessible by firefighting appliances in accordance with Council's Engineering Standards 2023 and more particularly with the 'FENZ Fire Fighting Code of Practice SNZ PAS 4509:2008'. An alternative means of compliance with this standard will require written approval from Fire and Emergency NZ.*
[Lot 1]

4 *In conjunction with the construction of any building requiring building consent, a geotechnical report prepared by a Suitably Qualified and Experienced Person shall be provided.*
[Lot 1]

5 *The site is located in a Kiwi Present zone. All cats and dogs must be kept indoors or in a secure enclosure at night.*
[Lot 1]

Property Access
Lots 1 – 3 have existing lawfully established entrances onto Waipapa Road.
To comply with council engineering standards, conditions of consent need to include that all entrances be upgraded in accordance with Sheet 21 Type 1A – Light Vehicles - Council engineering standards and guidelines May 2023.

TRANSPORTATION

15.1.6A.2.1 TRAFFIC INTENSITY
This rule only applies when establishing a new activity or changing an activity on a site.

The Traffic Intensity Factor for a site in this zone is 20 daily one way movements. The Traffic Intensity Factor shall be determined by reference to Appendix 3A in Part 4.
This rule only applies when establishing a new activity on a site. It does not apply to existing activities, however, the Traffic Intensity Factor for the existing uses (apart from those exempted below) on site need to be taken into account when assessing new activities in order to address cumulative effects.
Exemptions: The first residential unit on a site, farming, forestry and construction traffic (associated with the establishment of an activity) are exempt from this rule.

Traffic occurs from single residential units and therefore all are exempt.

15.1.6B PARKING
15.1.6B.1 PERMITTED ACTIVITIES
15.1.6B.1.1 ON-SITE CAR PARKING SPACES

Where:
(i) an activity establishes; or
(ii) the nature of an activity changes; or
(ii) buildings are altered to increase the number of persons provided for on the site;

A site intended for a single residential unit (dwelling) requires 2 parks, and this is achievable on all lots having adequate tracking curves and manoeuvring areas without concern.

15.1.6B.1.2 - 15.1.6B.1.4 *(being access onto Williams Road, Kerikeri Road & Accessible car parks)*
Not applicable.

15.1.6B.1.5 CAR PARKING SPACE STANDARDS
All lots are able to create onsite carparks and achieve safe manoeuvring compliant with dimension standards of Appendix 3D.

15.1.6B.1.6 LOADING SPACES
Not applicable.

15.1.6C ACCESS
15.1.6C.1 PERMITTED ACTIVITIES

15.1.6C.1.1 Private accessways in all zones
(a) The construction of private accessway, in addition to the specifics also covered within this rule, is to be undertaken in accordance with Appendix 3B-1 in Part 4 of this Plan.

Appendix 3B-1
Standards for private access
Access is off Waipapa Road, which has a legal width of 20m & over with a sealed carriageway 6.0m wide plus cycle lanes and a footpath.
The vehicle speed limit along Waipapa Road has recently reduced to 60km/hr.

There are three existing entrances that were established well before the operative district plan or the earlier Engineering Standards & guidelines, and although lawfully established do require upgrading to meet the current rules and standards.
Visibility from all entrances achieves 100m + in either direction, compliant with the sight visibility standards set in the current Engineering Standards and Guidelines May 2023.

Appendix 3B-2
Standards for Roads to vest.

Not applicable.

Appendix 3C
Parking spaces required.

No concern.

Appendix 3D
Manoeuvring and parking space dimensions
(90° regular user = width 2.5m (total depth one row 11.6m)

No concern.

Appendix 3E
Tracking curves would be compliant without concern.

15.1.6C.1.1
(a)
The access complies with Appendix 3B1.
(b)
Applicable only to urban & commercial zones.
(c)
A private accessway may serve a maximum of 8 household equivalents.
There is no shared access.

(d) *Where a subdivision serves 9 or more sites, access shall be by public road.*
Not applicable.

(e) *Access shall not be permitted:*

(i) onto a State Highway or a Limited Access Road;
Not applicable.

(ii) onto an arterial or collector road within 90m of its intersection with an arterial road or a collector road;
Not applicable.

(iii) *onto an arterial or collector road within 30m of its intersection with a local road*;
Not applicable.

(iv) *onto a local road within 30m of its intersection with an arterial or collector road;*
Not applicable.

(v) *onto Kerikeri Road (both sides of the road along the portion between Maraenui Drive and Cannon Drive). This rule does not apply to sites with lawfully established access points (as at 6 September 2001) onto Kerikeri Road.*
Not applicable.

(vi) *onto Kerikeri Inlet Road from Lot 1 DP 404507 or Lot 1 DP 181291 (and any sites created as result of a subdivision of these lots), except from a single vehicle crossing or intersection at least 30m from the adjoining boundary with Lot 2 DP 103531 and with at least 115m visibility in each direction.*
Not applicable.

15.1.6C.1.2 *Private Accessways in urban zones*
Not applicable.

(b)
Commercial zones.
Not applicable.

(c) *All private accessways in all urban zones which serve two or more activities are to be sealed or concreted*
Not applicable.

15.1.6C.1.3 *Passing bays on private accessways in all zones*
Not applicable.

15.1.6C.1.4 *ACCESS OVER FOOTPATHS*
Not applicable.

15.1.6C.1.5 *VEHICLE CROSSING STANDARDS IN RURAL AND COASTAL ZONES*
(a) Private access off roads in the rural and coastal zones the vehicle crossing is to be constructed in accordance with Council's "Engineering Standards and Guidelines" (June 2004 – Revised 2009).

Conditions of consent may include that upgraded entrances be formed to Lots 1 - 3 in accordance with Council Engineering Standards May 2023.

15.1.6C.1.6 *Vehicle Crossing Standards in Urban zones*
Not applicable.

15.1.6C.1.7 *General Access Standards*

(a) *Provision shall be made such that there is no need for vehicles to reverse off a site except where there are less than 4 parking spaces gaining access from a local road.*

The lots are able to safely manoeuvre vehicles onsite without having to reverse onto legal road.

(b) *All bends and corners on the private accessway are to be constructed to allow for the passage of a Heavy Rigid Vehicle.*
No concerns.

(c) *Any access where legal width exceeds formation requirements shall have surplus areas (where legal width is wider than the formation) grassed.*
Berms are grassed.

(d) *Runoff from impermeable surfaces shall, wherever practicable, be directed to grass swales and/or shall be managed in such a way as will reduce the volume and rate of stormwater runoff and contaminant loads.*
No concerns.

15.1.6C.1.8 *Frontage to existing roads*
(a) Where any proposed subdivision has frontage to a road or roads that do not meet the legal road width standards specified by the Council in its "Engineering Standards and Guidelines" (June 2004 – Revised 2009), road widening shall be vested in the name of the Council.

The road frontage is in good condition with wide mown berms and the formation falls well within the legal road reserve.

(b) *Where any proposed subdivision has frontage to a road or roads that are not constructed to the standards specified by the Council in its "Engineering Standards and Guidelines" (June 2004 – Revised 2009), then the applicant shall complete the required improvements.*

Waipapa Road formation does not require any upgrading within the subject road frontage.
The road formation is considered to comply with current council engineering standards.

(c) *Where a site has more than one road frontage or frontage to a service lane or right-of-way (ROW) in addition to a road frontage, access to the site shall be in a place that:*
(i) facilitates passing traffic, entering and exiting traffic, pedestrian traffic and the intended use of the site;

Not applicable.

(ii) *is from the road or service lane or ROW that carries the lesser volume of traffic.*

Not applicable.

(d) *Where any proposed subdivision has frontage to a road on which the carriageway encroaches, or is close to the subject lot or lots, the encroachment or land shall vest in Council such that either the minimum berm width between the kerb or road edge and the boundary is 2m or the boundary is at least 6m from the centreline of the road whichever is the greater.*

No concern; the road boundary is well away from the formation edge.

15.1.6C.1.9 *New Roads*

Not applicable.

15.1.6C.1.10 *Service lanes, cycle and pedestrian accessways*

Not applicable.

15.1.6C.1.11 *Road designations*

Not applicable.

In summary the proposal complies with all transportation standards.

EFFECT OF EARTHWORKS AND UTILITIES

Soil
There is no soil disturbance required to complete the subdivision.
The life supporting capacity of the sites soil remains uncompromised.

Access to water bodies
Not applicable.

Land Use Incompatibility
The proposal is in keeping with the surrounding environment.

Proximity to Airports
No concern.

Natural Character of the coastal environment
The property does not have a coastal influence.

Energy Efficiency
The proposal is considered to adopt an acceptable level of energy efficiency being located in close walking distance to public facilities and the building site orientates with good solar gain.

RURAL LIVING ENVIRONMENT

ENVIRONMENTAL OUTCOMES EXPECTED
8.7.2.1 A Rural Living Zone where residential living on small rural lots is compatible with those other rural activities that have an emphasis on production rather than lifestyle.

8.7.2.2 A Rural Living Zone where the controls on the activities ensure a high standard of privacy and amenity for residential activities.

8.7.2.3 A Rural Living Zone where activities are self-sufficient in terms of water supply, sewerage and drainage, while not causing adverse effects on the environment.

The scale of the proposal respective to the nature of the subject environment is considered to uphold the outcomes expected.

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

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

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

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

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

8.7.4.5 That non-residential activities can be established within the Rural Living Zone subject to compatibility with the existing character of the environment.

8.7.4.6 That home-based employment opportunities be allowed in the Rural Living Zone.

The objectives and policies of the Rural Living Zone clearly signal that the zone is intended to enable broad and flexible diversification. In particular, the framework anticipates a wide range of residential outcomes, without prescriptive limitations on housing typology or form of accommodation. The policy

framework also explicitly provides for the establishment of compatible non-residential activities, recognising that a degree of mixed use is both anticipated and appropriate within this zone.
In this context, the proposed subdivision is consistent with the strategic intent and anticipated growth pattern of the Rural Living Zone. The scale, layout, and design of the development respond to the enabling nature of the provisions and reflect the transition from traditional rural land use to a more varied rural-residential environment.

The proposal will integrate with, rather than disrupt, the established character of the locality. It complements the surrounding pattern of development, respects spatial qualities, landscape setting, and amenity values, and ensures any associated effects are less than minor. Overall, the proposal promotes the intended function of the zone while maintaining alignment with the character and environmental qualities of the receiving environment.

NATURAL AND PHYSICAL RESOURCES

There is no vegetation clearance or earthworks required, meaning those effects are less than minor.

Existing Use on Lot 1

8.7 RURAL LIVING ZONE
8.7.5.1.1 RESIDENTIAL INTENSITY
There would be only one residential unit per lot. **Complies**

8.7.5.1.2 SCALE OF ACTIVITIES
Not applicable to standard residential use. **Complies**

8.7.5.1.3 BUILDING HEIGHT
The maximum height of any building shall be 9m.
The existing buildings are not over 9m. **Complies**

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

Lot 1 is vacant. **Complies**

Lot 2 has 15 % **Fails to comply**

Lot 3 has 13 %. **Fails to comply**

Stormwater mitigation is proposed to compensate for the minor exceedance occurring on Lots 2 & 3. Land Use consent is accordingly requested for this activity breach as described under the subdivision assessment.

Lot 1 is vacant, and all future impermeable surfaces would be subject to stormwater attenuation as described in the engineer's report attached *(prepared by Wilton Joubert, referenced 145963, dated 12 May 2026)*.

8.7.5.1.6 **SETBACK FROM BOUNDARIES**
The proposed boundary arrangement from existing buildings would include the following infringements:

Boundaries Lot 1 closest position = 1m from shipping containers**.**
Conditions of consent are to include that the shipping containers be removed prior to 224 certifications.
Boundaries Lot 2 closest position = 0.5m from the pool. **Fails to comply**
Boundaries Lot 3 closest position = 1.5m from the garage. **Fails to comply**

All other boundary to building setbacks comply.
Lot 2 has another pool alongside the western boundary, however this is not a permanent structure and therefore is not considered to be applicable.
The containers on Lot 1 are also temporary and therefore not applicable.

All infringements comply with fire safety setbacks with exception to the swimming pool on Lot 2.
Land Use consent is requested to breach the standard 3m setback.
Fire mitigation is not required for a concreate pool.

8.7.5.1.7 SCREENING FOR NEIGHBOURS – NON-RESIDENTIAL ACTIVITIES
Not applicable.

8.7.5.1.8 TRANSPORTATION
As discussed, both lots are able to comply with the transportation standards and there are no Right of Way easements required to secure access.

8.7.5.1.9 HOURS OF OPERATION - NON-RESIDENTIAL ACTIVITIES
Not applicable.

8.7.5.1.10 KEEPING OF ANIMALS
Not applicable.

8.7.5.1.11 NOISE
No concern with residential activity.

8.7.5.1.12 HELICOPTER LANDING AREA
Not applicable.

8.7.5.1.13 BUILDING COVERAGE
Building coverage allows for 10% **Compliant.**

ASSESSMENT

8.7.5.2.2 STORMWATER MANAGEMENT The maximum proportion or amount of the gross site area covered by buildings and other Impermeable Surfaces shall be 20% or 3300m², whichever is the lesser. In order for an activity to be regarded as a controlled activity a report must be prepared to demonstrate the likely effects of the activity on stormwater run-off and the means of mitigating run-off to no more than the levels that would result from the permitted threshold of buildings and other impermeable surface coverage in Rule 8.7.5.1.5. Any report required by this rule shall be prepared by a Chartered Professional Engineer or other suitably qualified person and must be provided to Council with an application for resource consent.

In assessing an application under this provision the Council will restrict the exercise of its discretion to:
(a) the extent to which building site coverage and Impermeable Surfaces contribute to total catchment impermeability and the provisions of any catchment or drainage plan for that catchment;

The subject buildings exist and therefore the subdivision action does not present or contribute to the total catchment impermeability.
Consent conditions include that a stormwater line be installed to allow a piped connection for Lots 1 – 2. Lot 3 includes a proposed stormwater easement allowing future connection into this network if / when required. This will reduce the amount of stormwater displacement into the lower natural sheetflow catchment.

(b) the extent to which Low Impact Design principles have been used to reduce site impermeability;
All impermeable surfaces on proposed Lot 1 will be subject to detention.
All **future** impermeable surfaces on Lots 2 & 3 will be subject to detention.

(c) any cumulative effects on total catchment impermeability;
The proposed mitigation avoids adverse cumulative effects.

(d) the extent to which building site coverage and Impermeable Surfaces will alter the natural contour or drainage patterns of the site or disturb the ground and alter its ability to absorb water;
No concern.

(e) the physical qualities of the soil type;
Refer to the engineers report.

(f) the availability of land for the disposal of effluent and stormwater on the site without adverse effects on the water quantity and water quality of water bodies (including groundwater and aquifers) or on adjacent sites;
Refer to the engineers report. No concern.

(g) the extent to which paved, Impermeable Surfaces are necessary for the proposed activity;
All are required.

(h) the extent to which landscaping and vegetation may reduce adverse effects of run-off;
Sufficient landscape exits.

(i) the means and effectiveness of mitigating stormwater runoff to that expected by permitted activity threshold.

This requirement is upheld through proposed mitigation measures.

In summary, a minor land use is requested to allow Lots 2 & 3 to exceed 12.5 % impermeable surface area under rule 8.7.5.1.5 Stormwater Management, as a controlled activity (compliant with 8.7.5.2.2), which allows 20% impermeable surface coverage.

8.7.5.3.6 SETBACK FROM BOUNDARIES
In assessing an application resulting from a breach of Rule 8.7.5.1.6 Setback from Boundaries the matters to which the Council will restrict its discretion are:

(a) the extent to which the building(s) reduces outlook and privacy of adjacent properties;
No concern these are asbuilt situations, and the only affected party is the applicant.

(b) the extent to which the buildings restrict visibility for access and egress of vehicles;
No impact.

(c) the ability to mitigate any adverse effects on the surrounding environment, for example by way of planting;
No need.

(d) Kerikeri Road Frontage
Not applicable.

(*e) the extent to which the buildings and their use will impact on the public use and enjoyment of adjoining esplanade reserves and strips and adjacent coastal marine areas.*
Not applicable.

PROPOSED DISTRICT PLAN

The site is located in the Rural Residential Zone (RRZ) under the Proposed District Plan and is not affected by any hazard overlays.

The proposed district plan zone rules have limited legal effect, and are shown only to distinguish uniformity with relevant objectives and policies.

The role of the Rural Residential zone is to provide an opportunity for people to enjoy a spacious, peri-urban living environment located close to a settlement. The Rural Residential zone is located on the fringe of the District's settlements and provides a transition to the surrounding Rural Production and/or Rural Lifestyle and Horticulture zones.

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

RRZ-O2 *The predominant character and amenity of the Rural Residential Zone is maintained and enhanced, which includes:*
a. peri-urban scale residential activities;
b. small-scale farming activities with limited buildings and structures;
c. smaller lot sizes than anticipated in the Rural Production or Rural Lifestyle Zones; and
d. a diverse range of rural residential environments reflecting the character and amenity of the adjacent urban area.
RRZ-O3 *The Rural Residential zone helps meet the demand for growth around urban centres while ensuring the ability of the land to be rezoned for urban development in the future is not compromised.*

RRZ-O4 *Land use and subdivision in the Rural Residential zone:*
a. maintains rural residential character and amenity values;
b. supports a range of rural residential and small-scale farming activities; and
c. is managed to control any reverse sensitivity issues that may occur within the zone or at the zone interface.

Policies

RRZ-P1 *Enable activities that will not compromise the role, function and predominant character and amenity of the Rural Residential Zone, while ensuring their design, scale and intensity is appropriate, including:*
a. rural residential activities;
b. small-scale farming activities;
c. home business activities;
d. visitor accommodation; and
e. small-scale education facilities.

RRZ-P2 *Avoid activities that are incompatible with the role, function and predominant character and amenity of the Rural Residential Zone including:*
a. activities that are contrary to the density anticipated for the Rural Residential Zone;
b. primary production activities, such as intensive indoor primary production or rural industry, that generate adverse amenity effects that are incompatible with rural residential activities; and
c. commercial or industrial activities that are more appropriately located in an urban zone or a Settlement Zone.

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

RRZ-P4 *Require all subdivision in the Rural Residential zone to provide the following reticulated services to the boundary:*
a. telecommunications:
i. fibre where it is available;
ii. copper where fibre is not available;
iii. copper where the area is identified for future fibre deployment.
b. local electricity distribution network.

The subdivision proposal is consistent with the objectives and policies without being repugnant to their intent.

Standards
The proposal is not subject to any of the Standards, either by default, having no legal effect or are not applicable.

District Wide Matters
Provisions under earthworks and natural hazards have immediate legal effect.
Other aspects with immediate legal effect include heritage, ecosystems and indigenous biodiversity, however are not considered applicable to the site or scale of activity at hand.

Subdivision
Subdivision is the process of dividing an allotment or building into one or more additional lots or units or changing an existing boundary location. The way an allotment is subdivided, including its size and shape is important as it not only determines the quality and character of development, but it also impacts on surrounding sites and the future use of the land. Subdivision affects the natural and physical environment and introduces long-term development patterns that are unlikely to be reversed.

Objectives
SUB-O1 Subdivision results in the efficient use of land, which:
a. achieves the objectives of each relevant zone, overlays and district wide provisions;
b. contributes to the local character and sense of place;
c. avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;

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

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

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

The proposal is considered to accord with the objectives and policies under the subdivision standards.

Rules
SUB-R3 Subdivision of land to create a new allotment
CON-1
1. The subdivision complies with standards:
SUB-S2 Requirements for building platforms for each allotment;
SUB-S3 Water supply;
SUB-S4 Stormwater management;
SUB-S5 Wastewater disposal;
SUB-S6 Telecommunications and power supply;
SUB-S7 Easements for any purpose;

CON-2
1. The subdivision complies with standards:
SUB-S1 Minimum allotment sizes
SUB-S8 Esplanades

The subdivision rules do not currently have legal effect.

Summary of Proposed District Plan
The proposed District Plan has limited legal effect, and those standards applicable all prove to have effects less than minor not to require further assessment.

The proposal is considered to accord with relevant objectives and policies under the proposed district plan without being repugnant to their intent.

SUMMARY

In summary, the subdivision assessment criteria reflect the purpose and principles of the Resource Management Act 1991 (RMA), particularly the sustainable management of natural and physical resources. Having regard to the scale, nature, and context of the proposal, no unreasonable adverse environmental effects are anticipated, either at the subdivision stage or as a result of subsequent development (relating to Lot 1 vacant site).

While the activity is classified as non-complying, the associated effects are assessed as less than minor.

The surrounding locality is characterised by a number of established 2,000m^2 - 3000m^2 allotments, which provides a clear and compelling indication of the receiving environment. In this context, the proposal is consistent with the established pattern of development and does not represent an incongruous or unanticipated outcome.

The subdivision is aligned with the objectives and policies of the Rural Living Zone and the broader Rural Environment framework. It supports the anticipated pattern of low-density rural-residential development while maintaining the character and amenity values of the area. The proposal is also consistent with the relevant objectives and policies of both the proposed and operative District Plans. Accordingly, it satisfies the gateway tests under section 104D of the RMA.

Non-Notification Request

Although the application is for a non-complying activity, it is appropriate that it be processed on a non-notified basis for the following reasons:

- *Any potential adverse environmental effects are assessed as less than minor;*
- *There is no rule or national environmental standard that requires public or limited notification;*
- *No persons are considered to be adversely affected;*
- *The applicant has not requested notification; and*
- *The proposal is consistent with the intent and outcomes anticipated for the Rural Living Zone and integrates appropriately with the existing environment.*

Given that the effects are no more than minor and the proposal is consistent with the relevant statutory objectives and policies, the applicant respectfully requests that the application be processed on a non-notified basis pursuant to the relevant provisions of the RMA for both the subdivision and land use activities.

CONCLUSION

The subject site does not display any environmentally sensitive or vulnerable characteristics that would render it unsuitable for subdivision. There are no identified features or constraints that would be adversely affected by the proposal, in particular, regarding the land use infringements, and the subdivision will not give rise to any degradation of the wider environmental context. The receiving environment is already characterised by rural-residential development, and the proposal will integrate with this established pattern.

The subdivision is consistent with the objectives and policies of the Rural Living Zone. The enabling framework anticipates this form and scale of development, and the assessment undertaken demonstrates that any actual or potential adverse effects will be less than minor.

The proposal has also been assessed against higher-order planning instruments. It is consistent with the Northland Regional Council Regional Policy Statement, and accords with the relevant provisions of the National Environmental Standards for Freshwater and the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. The application demonstrates compliance with the applicable policy and regulatory framework at both regional and national levels.

Furthermore, the proposal has been considered in light of Part 2 of the Resource Management Act 1991, which sets out the purpose and principles of the Act. The subdivision promotes the sustainable management of natural and physical resources and appropriately recognises the matters set out in sections 6 and 7. The application includes a balanced assessment of environmental effects and provides sufficient detail to meet the requirements of Schedule 4 respective to the permitted baseline.

Having regard to the overall statutory and policy framework, and given the absence of more than minor adverse effects, the proposal overall is considered appropriate for approval by the local authority, with standard conditions of consent.

Affiliated Land Use consents are supported for breach to “setback from boundary”, “allotment dimensions”, and “stormwater management”.

Micah Donaldson
MNZIS - Assoc.NZPI - RPSURV
DONALDSONS
Land / Engineering Surveyors and Development Planners

Quickmap Title Details

Information last updated as at 01 Mar 2026

RECORD OF TITLE
DERIVED FROM LAND INFORMATION NEW ZEALAND
FREEHOLD

Identifier **431238**

Land Registration District **North Auckland**

Date Issued 09 December 2009

Prior References

NA102D/230 NA42B/841

Type Fee Simple

Area 8689 square metres more or less

Legal Description Lot 3 Deposited Plan 408584

Registered Owners

John Rodney Mason

8327490.8 Mortgage to ASB Bank Limited - 9.12.2009 at 3:57 pm

Donaldson's Surveyors Limited

90 Kerikeri Road - PO Box 211
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DONALDSONS
REGISTERED LAND SURVEYORS

8687
12 May 2026

N. Cowley & J. Graham
Planning Division
Far North District Council
Private Bag 752
Kaikohe

Dear Nicola & Jo,

PROPOSED SUBDIVISION & LAND USE ACTIVITIES
J. MASON, 192 WAIPAPA ROAD, KERIKERI

We hereby submit this application for Resource Consent to undertake a subdivision to create 2 additional Rural Residential Lots in the Rural Living Zone. The proposal is assessed as a Non Complying Activity under Rule 13.7.1 of the operative District Plan.

This application is accompanied by the following supporting documentation:

- Application form & deposit $5143
- Planning Report
- Scheme Plan
- Record of Title
- Top Energy & Chorus Comments
- Geotec Report
- Wastewater & Stormwater Report

Yours faithfully,

Micah Donaldson
MNZIS - Assoc.NZPI
DONALDSONS
Registered Land / Engineering Surveyors and Development Planners

NZIS REGISTERED PROFESSIONAL SURVEYOR

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

Wilton Joubert Limited
09 527 0196
498 Hibiscus Coast Highway,
Orewa, Auckland, 0931

SITE	**192 Waipapa Road, Kerikeri**
LEGAL DESCRIPTION	**Lot 3 DP 408584**
PROJECT	**Proposed 3-Lot Subdivision**
CLIENT	**J R Mason**
REFERENCE NO.	**145963**
DOCUMENT	**Civil Site Suitability Report**
STATUS/REVISION NO.	**03 – Resource Consent**
DATE OF ISSUE	**12 May 2026**

Report Prepared For	Email
J R Mason	ross.mason@xtra.co.nz

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

1 EXECUTIVE SUMMARY

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

Legal Description:	Lot 3 DP 408584
Lot Sizes:	Proposed Lot 1 – 3,038m² (vacant) Proposed Lot 2 – 3,090m² (existing dwelling) Proposed Lot 3 – 2,561m² (existing dwelling)
Scope:	Civil Site Suitability Investigation: - Potable Water Recommendations - Wastewater Assessment - Stormwater Assessment - Access Recommendations
Development Proposals Supplied:	Subdivision Scheme Plan supplied by Donaldsons Registered Land Surveyors (Ref No: 8687, dated: March 2026)
District Plan Zone:	Rural Living Zone
Wastewater:	Recommendations for wastewater are provided in Section 7.
Stormwater Management – District Plan Rules:	Permitted Activity: 8.7.5.1.5 STORMWATER MANAGEMENT – The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 12.5% or 3,000m², whichever is the lesser. Controlled Activity: 8.7.5.2.2 STORMWATER MANAGEMENT – The maximum proportion or amount of the gross site area covered by buildings and other Impermeable Surfaces shall be 20% or 3300m², whichever is the lesser.
Stormwater Management:	It is expected that future development of Lot 1 will fall within the Permitted / Controlled Activity range and that the existing development within Lots 2 & 3 fall within the Controlled Activity range. A stormwater report including a District Plan Assessment will be required for any future development of Lot 1 that does not comply with Permitted Activity Rule (8.7.5.1.5) at Building Consent stage. Due to the high groundwater level observed on-site and localised ponding within the parent lot and surrounding properties, it is recommended to attenuate runoff resulting from the existing / future impermeable areas back to pre-development flows for the 20% AEP and 1% AEP storm events, adjusted for climate change. Stormwater mitigation / attenuation recommendations are provided in Section 8.
Access:	It is understood that Lot 1 will be serviced by a new access point from Waipapa Road. Lots 2 & 3 will continue to utilise their respective existing access points from Waipapa Road. The existing / proposed access points servicing the lots comply with FNDC's sight distance requirements. Access recommendations provided in Section 9.

2 SCOPE OF WORK

Wilton Joubert Ltd (WJL) was engaged by the client to undertake a civil site suitability assessment (flooding, potable water, wastewater, stormwater and access) to support a 3-lot subdivision of the subject site as per the supplied Scheme Plan Set prepared by Donaldsons Registered Land Surveyors (Ref No: 8687, dated: March 2026).

It is our understanding that the client intends to subdivide the existing property into three individual allotments, as depicted in the Scheme Plan below.

Proposed Lot 1 will encompass a vacant 3,038m² section of land within the western third of the parent lot.

Proposed Lot 2 will encompass 3,090m² and contains an existing dwelling.

Proposed Lot 3 will encompass 2,561m² and is located within the eastern third of the parent lot. Lot 3 contains an existing dwelling.

A Geotechnical Suitability Report (WJL Ref. 145962) has been completed for the proposed subdivision which should be read in conjunction with this report.

This report is intended only to support the Resource/Subdivision Consent application and does not replace the requirement for detailed engineering design and site-specific investigations at the Building Consent stage.

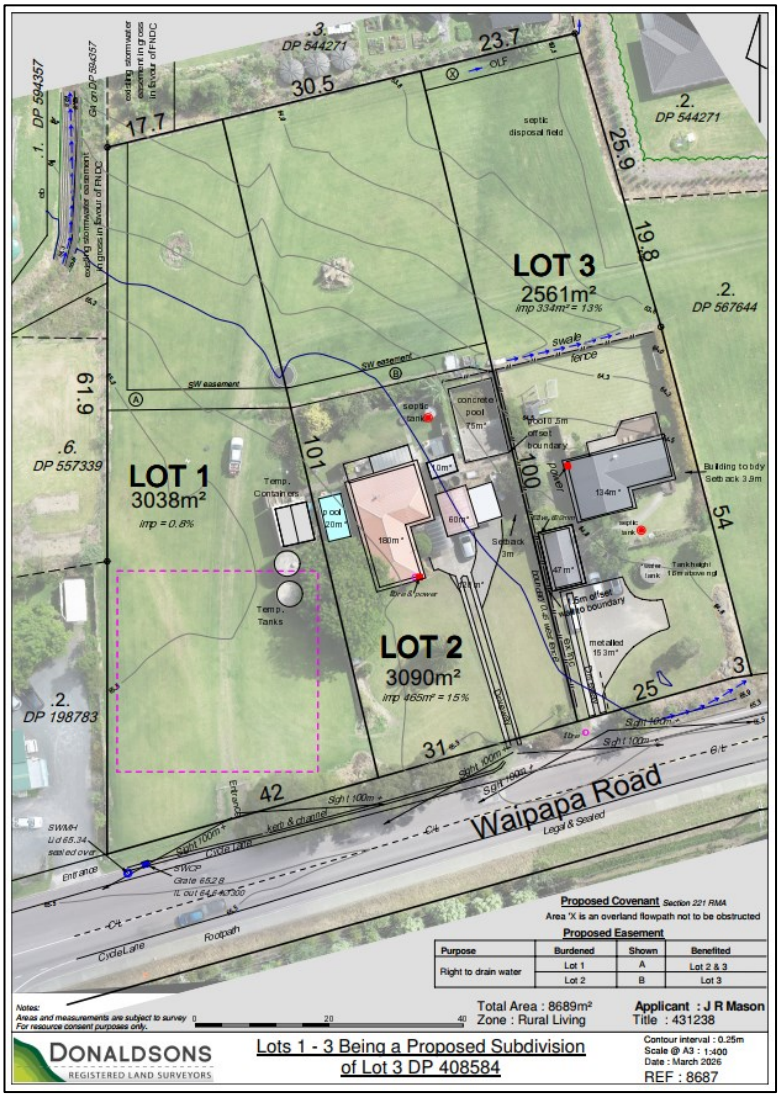

Figure 1: Snip of scheme plan prepared by Donaldsons Registered Land Surveyors (Ref No: 8687, dated: March 2026)

3 SITE DESCRIPTION

The proposed subdivision will be created across the following property, which is located off the northern side of Waipapa Road, accessed 2.4km east of the State Highway 10 intersection.

- 192 Waipapa Road, Kerikeri, legally described as Lot 3 DP 408584.

Figure 2: Snip from FNDC Water Services Map showing parent lot boundary (cyan), public stormwater (green) & public potable water (blue)

The surface area of the parent lot is 8,689m² and can be accessed via three existing vehicle crossing points from Waipapa Road. The two easternmost crossings form into two paved driveways, providing access to the two adjacent existing residential developments that cover the southeastern portion of the site. Vegetation mainly comprises of lawn, with intermittent trees present along the southern boundary.

Topographically speaking, the property lies within a broad, volcanic plateau and is near level to gently sloping, falling towards the northeast at inclinations averaging less than 3°.

The Far North District Council (FNDC) on-line GIS Water Services Map indicates that a public underground water service line bounds the road frontage boundary. No public stormwater, wastewater or potable water connections are shown for the site. However, we have received confirmation from the client that Lot 2's existing dwelling has a connection off the public water line.

4 PUBLISHED GEOLOGY

Local geology across the property and the wider surrounding land is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; Kerikeri Volcanic Group Late Miocene Basalt of Kaikohe – Bay of Islands Volcanic Field. These deposits are approximately 9.7 to 1.8 million years in age and described as; "*Basalt lava, volcanic plugs and minor tuff*." (Ref: GNS Science Website).

Figure 3: Screenshot aerial view from the New Zealand Geology Web Map

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

The subsoils encountered during WJL's fieldwork consisted predominantly of SILT. Approximately 150mm-350mm of TOPSOIL was overlying the investigated area. Groundwater was observed at a minimum depth of 0.2m below ground level (b.g.l).

Given the above, the site's subsoils have been classified as Category 4 in accordance with AS/NZS 1547:2012.

Given the subsoils encountered during WJL's fieldwork investigation, we recommend secondary level treatment or higher for any new wastewater system within the lots.

5 FLOODING

The Northland Regional Council Natural Hazards Map and the Far North District Council Hazards Map do not identify any modelled flooding within the subject site. On this basis, a detailed flood level and freeboard assessment is not considered necessary. It is recommended that finished floor levels are set a minimum of 150mm above natural ground level to provide an appropriate level of resilience against potential localised surface ponding.

6 POTABLE WATER SUPPLY

It is recommended that Lot 1's potable water be provided for by rainwater tanks in accordance with the Countryside Living Toolbox requirements. It is recommended to provide at least 2 x 25,000L tanks for potable water usage per new dwelling. The type of tank and volume is for the client to confirm.

Alternatively, it is recommended that Lot 1's potable water supply be provided by a connection off the existing public potable water main on the northern side of Waipapa Road.

7 WASTEWATER

Lot 1

No existing wastewater management system is present within Lot 1. As such, a new site-specific design in accordance with ASNZS: 1547 will be required by FNDC for any future development within the proposed lot.

Lots 2 & 3

The existing dwellings located within Lots 2 & 3 are serviced by proprietary on-site septic treatment systems with underground trench disposal fields. Based on the elevated groundwater conditions observed during the investigation, the existing wastewater systems on Lots 2 and 3 may not achieve current best-practice separation requirements. It is therefore recommended that the existing systems are upgraded to confirm compliance with the PRPN and AS/NZS 1547:2012.

7.1 DESIGN PARAMETERS

Wilton Joubert Ltd. recommends the installation of an approved Secondary Level Treatment Plant to service any future dwelling within Lot 1 and each existing dwelling within Lots 2 & 3. We recommend secondary or tertiary level treatment. Discharge from each system is required to be directed to a new disposal field consisting of pressure compensated drip irrigation lines within the respective lot boundaries.

The drip lines must be founded on a minimum 500mm thick topsoil bed to ensure adequate separation to the winter groundwater table. The drip lines are recommended to be surface laid on this mounded bed with a daily application rate of 3.5mm/day.

The drip lines must be securely pinned to the grounds surface and installed in a regular 'grid' pattern as far as practicable, with row spacings of no more than 1.0m. The grid should consist of drip lines split into individual rows not exceeding 65m, with a manual flushing valve at the end of each row. The manual flushing valves must be located within flush boxes for inspection and maintenance purposes. End-feeding the drip lines will lower the cost of installation, with each drip line only requiring one manual flushing valve. 65m long drip lines should be easily flushed by the pump supplied with the system.

The disposal field area requires re-covering with 100mm of bark or mulch and planted out at a density of 1 plant per m², to assist in evapotranspiration and nutrient removal. See a summary of the system below.

At the time of report writing, no specific development proposals have been provided for Lot 1. Accordingly, the following recommendations are based on a representative moderate-sized dwelling comprising four bedrooms. In addition, as the future potable water supply for Lot 1 has not yet been confirmed, the recommendations herein assume connection to a public potable water supply, representing a conservative design approach.

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

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

Development Type:	Residential Dwellings
Effluent Treatment Level:	Secondary (<BOD5 20 mg/L, TSS 30 mg/L)
Fill Encountered in Disposal Areas:	Not encountered
Water Source:	Lot 1: Public Water Main (assumed) Lot 2: Public Water Main Lot 3: Rainwater Collection Tank

Site Soil Category (AS/NZS 1547:2012):	Category 4 –SILT – Moderate Drainage
Existing / Assumed Number of Bedrooms:	Lot 1: 4 bedrooms (assumed) Lot 2: 4 bedrooms (existing) Lot 3: 3 bedrooms (existing)
Estimate House AS/NZS 1547:2012 Occupancy:	Lot 1: 6 persons Lot 2: 6 persons Lot 3: 5 persons
Loading Rate:	3.5mm/day
Typical Wastewater Design Flow Per Person:	Public Water Supply: 200L/person/day Rainwater Supply: 180L/person/day
Total Daily Wastewater Production:	Lot 1: 1,200L/day Lot 2: 1,200L/day Lot 3: 900L/day
Application Method:	Surface Laid PCDI Lines atop a minimum 500mm thick topsoil bed
Loading Method:	Dosed
Emergency Storage:	24 hours
Min. Disposal Area Requirement:	Lot 1: 343m² Lot 2: 343m² Lot 3: 257m²
Required Min. Reserve Area:	Lot 1: 103m² (30%) Lot 2: 103m² (30%) Lot 3: 78m² (30%)
Buffer Zone:	Not required
Cut-off Drain:	Not required

7.2 REQUIRED SETBACK DISTANCES

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

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

7.3 NORTHLAND REGIONAL PLAN ASSESSMENT

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

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and
2	The volume of wastewater discharged does not exceed two cubic metres per day, and
3	The discharge is not via a spray irrigation system or deep soakage system, and
4	The slope of the disposal area is not greater than 25 degrees, and
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand

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

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

Based on current observations, topography, and the subsoil conditions encountered during the investigation, the lots appear to contain sufficient undeveloped natural ground to accommodate both primary and reserve wastewater disposal areas in accordance with AS/NZS 1547:2012. Final system sizing, configuration, and positioning for Lot 1 will be confirmed at Building Consent stage.

7.4 ASSESSMENT OF ENVIRONMENTAL EFFECTS (Lots 2 & 3)

This report serves as a full AEE for the replacement of the on-site wastewater treatment and disposal systems that service the existing dwellings within Lots 2 & 3. Each report section displays compliance with the relevant council standards while providing explanations on how the proposed design of on-site effluent treatment system will prevent adverse effects on the surrounding environment.

In conclusion:

The systems have been designed in accordance with AS/NZS 1547:2012. They further comply with the setbacks stipulated in the PRPN.

It is anticipated that the proposed secondary treatment system and PCDI disposal systems for the sites will have a less than minor effect on the environment. The irrigation field areas will be surface laid atop 500mm thick topsoil beds, recovered in mulch or bark or topsoil, with introduced plantings facilitating evapotranspiration and nutrient removal.

Separation distances shall be maintained from the property's boundary and existing vegetation will assist with the retention, breakdown and uptake of effluent at the site and prevent effluent from being washed off-site. Given the appropriate separation distances to water sources, a reserve area of 30% and the discharge of secondary level of effluent treatment, the proposed wastewater disposal is considered to be suitable to protect the environment and the effects are deemed less than minor.

Additionally:

- To protect against any possible failure of the disposal areas, the reserve areas should remain undeveloped and should be maintained with a grassed/vegetated surface ready for the possible installation of additional drip lines into it.

- To protect the integrity of the disposal areas from unwanted damage from vehicles, persons or animals we recommend that adequate protection measures be put in place.

- To protect the physical treatment plant from misuse or neglect the manufacturer of the plant will supply a detailed maintenance schedule that must be adhered to. It is imperative that the operator of the system both schedule and undertake regular maintenance of the system to ensure its effectiveness.

Based on our site assessment and calculations, we consider that the sites are able to provide for the sustainable treatment and land application of domestic effluent generated from the existing residential dwellings.

Since the discharge volume does not exceed: three cubic metres per day, averaged over the month of greatest discharge, and six cubic metres per day over any 24-hour period, the application falls under a Permitted Activity and Northland Regional Council Resource Consent is not required.

8 STORMWATER MANAGEMENT

8.1 ASSESSMENT CRITERIA

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

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

Figure 4: Snip of FNDC Maps showing site in Rural Living Zone

The following Stormwater Management Rules Apply:

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

Controlled Activity: 8.7.5.2.2 STORMWATER MANAGEMENT – The maximum proportion or amount of the gross site area covered by buildings and other Impermeable Surfaces shall be 20% or 3300m², whichever is the lesser.

The table below is a summary of the proposed lots permitted impermeable areas, existing impermeable areas and their anticipated activity status:

	Site Area	Maximum Permitted Impermeable Area (12.5%)	Existing Impermeable Area	Anticipated Activity Status
Lot 1	3,038m²	380m²	n/a	Permitted / Controlled Activity
Lot 2	3,090m²	386m²	465m² (15%)	Controlled Activity
Lot 3	2,561m²	320m²	334m² (13%)	Controlled Activity

Given the above, it is expected that future development of Lot 1 will fall within the Permitted / Controlled Activity range and that the existing development within Lots 2 & 3 fall within the Controlled Activity range.

A stormwater report including a District Plan Assessment will be required for any future development of Lot 1 that does not comply with Permitted Activity Rule (8.7.5.1.5) at Building Consent stage.

Due to the high groundwater level observed on-site and localised ponding within the parent lot and surrounding properties, it is recommended to attenuate runoff resulting from the existing / future impermeable areas back to pre-development flows for the 20% AEP and 1% AEP storm events, adjusted for climate change.

Implementation of attenuation measures will reduce the rate of runoff discharged from the site, thereby limiting the potential for exacerbation of existing ponding and overland flow conditions. By slowing and temporarily storing stormwater, attenuation assists in maintaining the existing hydrological regime, reducing peak flow coincidence with downstream catchments, and minimising the risk of increased flood depths or extents on adjacent properties.

The Type IA storm profile was utilised for stormwater attenuation calculations in accordance with TR-55. HydroCAD® software has been utilised in design for a 20% AEP rainfall value of 170mm with a 24-hour duration and for a 1% AEP rainfall value of 307mm with a 24-hour duration utilised for calculations. Rainfall data was obtained from HIRDS and increased by 20% to account for climate change.

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

Stormwater management recommendations are provided below.

8.2 PRIMARY STORMWATER

8.2.1 Stormwater Runoff from Roof Areas

Lot 1

Stormwater runoff from the roof of any future buildings must be captured by a gutter system and conveyed to potable water / detention tank(s), or to a separate detention tank(s) located within Lot 1. Discharge and overflow from the rainwater tank(s) should be directed to the proposed private stormwater outlet line specified below via sealed pipes.

Lot 2

A detention tank is required to be installed for the attenuation of runoff resulting from the existing impermeable areas.

A proprietary guttering system is required to collect roof runoff from the existing roof areas and direct runoff to the below detention tank. Leaf guards and first flush diverters can be installed to minimise blockage of the attenuation tank. Other adequate protection measures may also be installed in the roof gutters and the tank's inlet. Any in-line protection systems must be installed at least 600mm above the tank inlet.

As per the attached design calculations, the design elements of the detention volume are as follows:

Proposed Tank	1 x 15,000 litre Promax Rainwater Tank (or approved equivalent)
Tank dimensions	3015mmØ (or greater) x 2540 mm high (or greater)
Outlet Orifice (20% AEP Control)	**19mm diameter orifice;** located >1900mm below the overflow outlet

Outlet Orifice (1% AEP Control)	**38mm diameter orifice;** located 1230mm above the 20% AEP Control Orifice
Overflow Outlet	**100mm diameter;** located at the top of the tank

Discharge from the detention tank must be transported via sealed pipes to the proposed private stormwater outlet line specified below. Refer to the appended Site Plan (145963-C001), Lot 2 Tank Detail (145963-C210) and calculation set for clarification.

The tank must be installed in accordance with the tank suppliers' details and specifications. Levels are to be confirmed by the contractor on-site prior to construction. Adequate fall (minimum 1% grade) from the tank's outlet to the discharge point is required. If this is not achievable, WJL must be contacted for review of the design.

Lot 3

Due to the poor condition of the existing potable water tank, it is recommended that the existing rainwater tank be decommissioned and replaced with new rainwater tanks to provide the existing dwelling with a potable water supply. The tank type is at the discretion of the client. A proprietary guttering system is required to collect roof runoff from the existing roof areas. A first flush diverter and/or leaf filters may be installed in-line between the gutters and the tank inlet. The tank inlet level should be at least 600mm below the gutter inlet and any in-line filters. Any filters will require regular inspection and cleaning to ensure the effective operation of the system. The frequency of cleaning will depend on current and future plantings around the existing roof areas. Provision should be made by the homeowner for top-up of the tanks via water tankers in periods of low rainfall.

All potable water tanks must be constructed level and fitted with balancing pipes at the top and near the base of each tank to connect all potable water tanks to each other. Due to inadequate water quality concerns, runoff from hardstand areas should not be allowed to drain to the potable water tanks.

The upper section of the potable water tanks is to act as a detention volume to achieve stormwater neutrality for the existing impermeable areas. One of the tanks is to be fitted with a 100mmØ overflow outlet with a flow attenuation outlet as specified below.

As per the attached design calculations, the design elements of the detention volume are as follows:

Proposed Tank	2 x 25,000 litre Concrete Rainwater Tanks (or approved equivalent)
Tank dimensions	3600mmØ (or greater) x 2600 mm high (or greater)
Outlet Orifice (20% AEP Control)	**27mm diameter orifice;** located >410mm below the overflow outlet
Outlet Orifice (1% AEP Control)	**46mm diameter orifice;** located 260mm above the 20% AEP Control Orifice
Overflow Outlet	**100mm diameter;** located at the top of the tank

Discharge from the potable water / detention tanks is to be directed to an outlet in the existing roadside drain along the northern side of Waipapa Road via sealed pipes. Refer to the appended Site Plan (145963-C001), Lot 3 Tank Detail (145963-C211) and calculation set for clarification.

The tank must be installed in accordance with the tank suppliers' details and specifications. Levels are to be confirmed by the contractor on-site prior to construction. Adequate fall (minimum 1% grade) from the tank's outlet to the discharge point is required. If this is not achievable, WJL must be contacted for review of the design.

Approval should be sought from Council for any works outside the property boundary.

8.2.2 Stormwater Runoff from Hardstand Areas

Stormwater runoff from future hardstand areas can sheet flow to lower-lying pasture to assist in evapotranspiration and passive mitigation. If this is not achievable without affecting neighbouring sites or structures, then this stormwater runoff from future hardstand areas must be managed with swales to prevent erosion/scouring. These should be sized to manage and provide capacity for secondary flows and mitigate flow velocity where appropriate. Swales are to direct runoff to silt traps with suitably sized grate / scruffy dome inlets, from which runoff may be piped to the discharge point specified below.

Alternatively, if sealed, driveways may be formed to shed runoff to catchpits installed per E1 of the NZ Building Code. Runoff collected via catchpits is to be directed to an outlet as specified below via sealed pipes.

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

8.2.3 Stormwater Runoff Discharge Point Lots 1 & 2

It is recommended to install a minimum 225mmØ (>1% grade) private stormwater line within Easements A & B to service Lots 1 & 2. The private stormwater line is recommended to directed runoff to a silt trap with a scruffy dome or grated inlet at the northwestern corner of Lot 1, which is to be utilised as a safe overflow point. The silt trap is to be fitted with a minimum 225mmØ (>1% grade) outlet pipe directing runoff to the existing overland flow path within neighbouring Lot 1 DP 594357. Refer to the appended Site Plan (145963-C001) for clarification.

Permission should be sought from Lot 1 DP 594357 for any works outside the property boundary.

8.3 SECONDARY STORMWATER

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

8.4 DISTRICT PLAN ASSESSMENT

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

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

13.10.4 – Stormwater Disposal

(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	No discharge permits are required. No resource consent issued documents stipulating specific requirements are known for the subject site or are anticipated to exist.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	The application is deemed compliant with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009

(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The application is deemed compliant with the Far North District Council Strategic Plan - Drainage.
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Stormwater management should be provided for the subject lot by utilising Low Impact Design Methods. Guidance for design should be taken from 'The Countryside Living Toolbox' design document, and where necessary, *"Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003).* Runoff resulting from existing / future impermeable areas is to be directed to rainwater tanks and silt traps / catchpits which are to direct runoff to existing open drains via sealed pipes. Runoff resulting from existing and future impermeable areas to be attenuated back to pre-development peak flows for the 20% AEP and 1% AEP storm events, adjusted for climate change.
(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.	Runoff resulting from existing / future impermeable areas is to be directed to rainwater tanks and silt traps / catchpits which are to direct runoff to existing open drains via sealed pipes. Existing and future impermeable areas is to be attenuated back to pre-development peak flows for the 20% AEP and 1% AEP storm events, adjusted for climate change.
(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	Runoff from roof areas is free of litter, chemical spillages, or contaminants from roads. Runoff resulting from future hardstand areas to be directed to silt traps / catchpits which provide pre-treatment of runoff by allowing for the settlement of sediment. Runoff from existing / future roof areas & future hardstand to be directed to outlet to existing open drains which act as bio-filter strips to filter out entrained pollutants.
(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	No alteration to waterways is proposed.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	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.	Not applicable.

(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Not applicable.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	Runoff resulting from existing and future impermeable areas is to be attenuated back to pre-development peak flows for the 20% AEP and 1% AEP storm events, adjusted for climate change to mitigate any adverse effects of the proposed development on the adjoining properties.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	Not applicable.
(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	Not applicable.
(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Easements A & B proposed – refer to appended Site Plan (145963-C001).
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Not applicable.
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	Not applicable.
(q) The need for and extent of any financial contributions to achieve the above matters.	Not applicable.
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Not applicable.

9 ACCESS

9.1 GENERAL

A preliminary access and vehicle crossing assessment has been undertaken for the proposed subdivision. It is understood that Lot 1 will be serviced by a new access point from Waipapa Road (herein referred to as Vehicle Crossing 1). Lots 2 & 3 will continue to utilise their respective existing access points from Waipapa Road (herein referred to as Vehicle Crossing 2 and Vehicle Crossing 3). The existing and proposed vehicle crossings have been assessed in accordance with the Far North District Council Engineering Standards (2023).

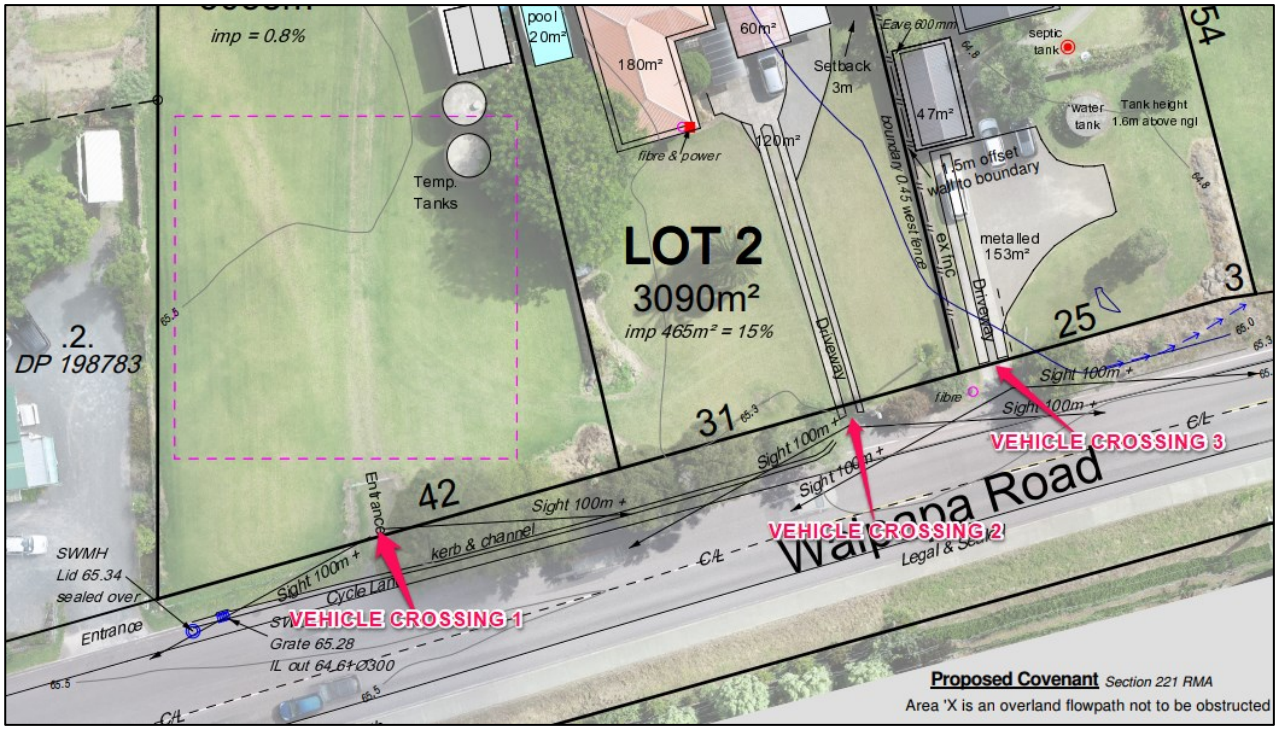

Figure 6: Annotated snip of scheme plan showing existing / proposed vehicle crossing locations

9.2 VEHICLE CROSSINGS

It is recommended that the vehicle crossing serving Lot 1 be constructed in accordance with the Far North District Council Engineering Standards (2023), Sheet 21 Type 1A – Light Vehicles.

The existing vehicle crossings are sealed; however, visible surface deterioration and localised damage are present. It is recommended that the crossings be repaired and reinstated to an appropriate standard. As part of these works, the crossing widths shall be reviewed and upgraded as necessary to ensure compliance with Type 1A (light vehicle) requirements in accordance with the Far North District Council Engineering Standards.

9.3 SIGHT DISTANCES

Waipapa Road has a general operating speed of 60km/hr and is classified as Primary & Secondary Collector. As such, the Far North District Council Engineering Standards (2023) – Sheet 4 notes that the minimum required sight distances for the vehicle crossings is 90m.

9.3.1 Vehicle Crossing 1

In compliance with the requirements of the Far North District Council (FNDC) Engineering Standards, the proposed vehicle crossing location provides ~180m of sight distance to the east and ~110m to the west.

Figure 6: Annotated photo showing available sight distance from Vehicle Crossing 1 to the east

Figure 7: Annotated photo showing available sight distance from Vehicle Crossing 1 to the west

9.3.2 Vehicle Crossing 2

In compliance with the requirements of the Far North District Council (FNDC) Engineering Standards, the existing vehicle crossing location provides ~160m of sight distance to the east and ~130m to the west.

Figure 8: Annotated photo showing available sight distance from Vehicle Crossing 2 to the east

Figure 9: Annotated photo showing available sight distance from Vehicle Crossing 2 to the southwest

9.3.3 Vehicle Crossing 3

In compliance with the requirements of the Far North District Council (FNDC) Engineering Standards, the existing vehicle crossing location provides ~180m of sight distance to the east and ~150m to the west.

Figure 10: Annotated photo showing available sight distance from Vehicle Crossing 3 to the east

Figure 11: Annotated photo showing available sight distance from Vehicle Crossing 3 to the west

10 LIMITATIONS

This report has been prepared for the benefit of the Client for the purpose of supporting a Resource/Subdivision Consent application for the project described herein and within the agreed scope of engagement. The report may be submitted to the relevant Territorial Authority for that purpose.

The Territorial Authority may rely on this report for the purposes of assessing the Resource Consent application, subject to the scope, assumptions, and limitations described herein. Any material changes to the development proposal, site conditions, or design assumptions from those described in this report should be referred to Wilton Joubert Limited for review.

This report remains the intellectual property of Wilton Joubert Limited. No responsibility or liability is accepted for the use of this report by any third party, or for any purpose other than that for which it was prepared, unless expressly agreed in writing. Any party choosing to rely on this report does so at their own risk.

While this report may be used in support of regulatory approvals, it does not remove the requirement for detailed, site-specific investigations, assessments, or inspections that may be required at subsequent design or Building Consent stages, in accordance with standard engineering practice.

The conclusions and recommendations in this report are based on information available at the time of preparation and are dependent on appropriate implementation during construction. Variations in site conditions or construction practices may affect performance and should be reviewed by a suitably qualified and experienced engineer if encountered.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Site Plan – C001 (1 sheet)
- Lot 2 Tank Detail – C210 (1 sheet)
- Lot 3 Tank Detail – C211 (1 sheet)
- Hand Auger Borehole Records (5 sheets)
- Calculation Set

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.
4. WASTEWATER FIELDS TO BE PLACED ATOP MINIMUM 500mm THICK RAISED TOPSOIL BEDS.

PROPOSED SILT TRAP WITH SCRUFFY DOME OR GRATED INLET TO BE PROVIDE SAFE OVERFLOW ESCAPE POINT

EXISTING OPEN DRAIN

INDICATIVE OUTLET TO EXISTING OPEN DRAIN. PERMISSION SHOULD BE SOUGHT FROM LOT 1 DP 594357 FOR ANY WORKS OUTSIDE THE PROPERTY BOUNDARY

NEW PRIVATE STORMWATER OUTLET LINE IN EASEMENT. 225Ø uPVC @ >1%

DISPOSAL AREA 343m²

DISPOSAL AREA 257m²

INDICATIVE DISPOSAL AREA 343m²

RESERVE AREA 78m²

RESERVE AREA 103m²

NEW DRAINAGE LINE FROM TANK TO NEW PRIVATE STORMWATER OUTLET LINE IN EASEMENT. 100Ø uPVC @ >1%

LOT 3 2,561m²

NEW 15,000L RAINWATER TANK FOR DETENTION. TO DIRECT RUNOFF TO NEW PRIVATE STORMWATER OUTLET LINE IN EASEMENT

SECONDARY LEVEL WASTEWATER TREATMENT PLANT. LOCATION TO BE CONFIRMED EMERGENCY STORAGE = >1200L (24 HOURS)

DRAINAGE LINE FROM ROOF GUTTERS TO BE REDIRECTED TO NEW 15,000L DETENTION TANK

INDICATIVE RESERVE AREA 103m²

NEW PRIVATE STORMWATER OUTLET LINE IN EASEMENT. 225Ø uPVC @ >1%

SW EASEMENT A

SW EASEMENT B

01 C210

SECONDARY LEVEL WASTEWATER TREATMENT PLANT. LOCATION TO BE CONFIRMED EMERGENCY STORAGE = >1000L (24 HOURS)

DRAINAGE LINE FROM ROOF GUTTERS TO BE REDIRECTED TO NEW 2 x 25,000L POTABLE WATER / DETENTION TANKS

SECONDARY LEVEL WASTEWATER TREATMENT PLANT. LOCATION TO BE CONFIRMED EMERGENCY STORAGE = >1200L (24 HOURS)

LOT 1 3,308m²

EXISTING POTABLE WATER TANK TO BE DECOMMISSIONED & REPLACED WITH NEW POTABLE WATER / DETENTION TANKS

INDICATIVE RAINWATER TANKS FOR POTABLE WATER / DETENTION. TO DIRECT RUNOFF TO NEW PRIVATE STORMWATER OUTLET LINE IN EASEMENT

2 x 25,000L RAINWATER TANKS FOR POTABLE WATER / DETENTION

02 C211

NEW DRAINAGE LINE FROM TANK TO EXISTING ROADSIDE DRAIN. 100Ø uPVC @ >1%

INDICATIVE DESIGNATED BUILDING PLATFORM 900m²

LOT 2 3,090m²

EXISTING ROADSIDE DRAIN

65.0

63.0

SW GW DP

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www.wiltonjoubert.co.nz

ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
01	MAY '26	GMB	STORMWATER MITIGATION REPORT

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

SERVICES NOTE

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

RESOURCE CONSENT

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

PROJECT TITLE: **LOT 3 DP 408584 192 WAIPAPA ROAD KERIKERI NORTHLAND**

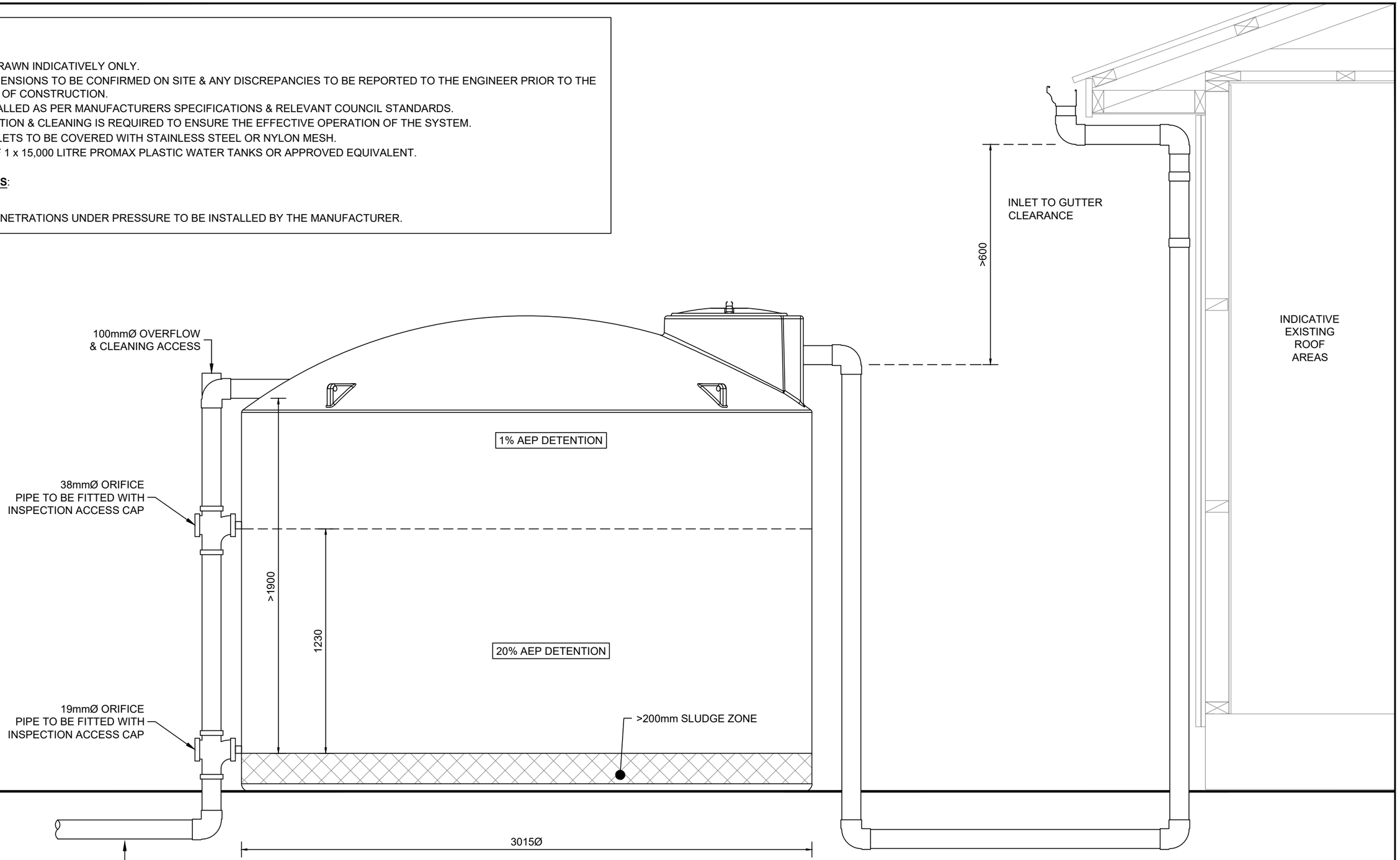
ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **1:500**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **145963-C001**
ISSUE: **01**

NOTES:

1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. ALL ORIFICE OUTLETS TO BE COVERED WITH STAINLESS STEEL OR NYLON MESH.
6. ASSUMED USE OF 1 x 15,000 LITRE PROMAX PLASTIC WATER TANKS OR APPROVED EQUIVALENT.

PLASTIC TANKS NOTES:

7. ALL OUTLETS / PENETRATIONS UNDER PRESSURE TO BE INSTALLED BY THE MANUFACTURER.



01 / C001 **LOT 2 TANK DETAIL**
N.T.S

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
01	MAY '26	GMB	STORMWATER MITIGATION REPORT

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

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

RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **LOT 2 TANK DETAIL**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

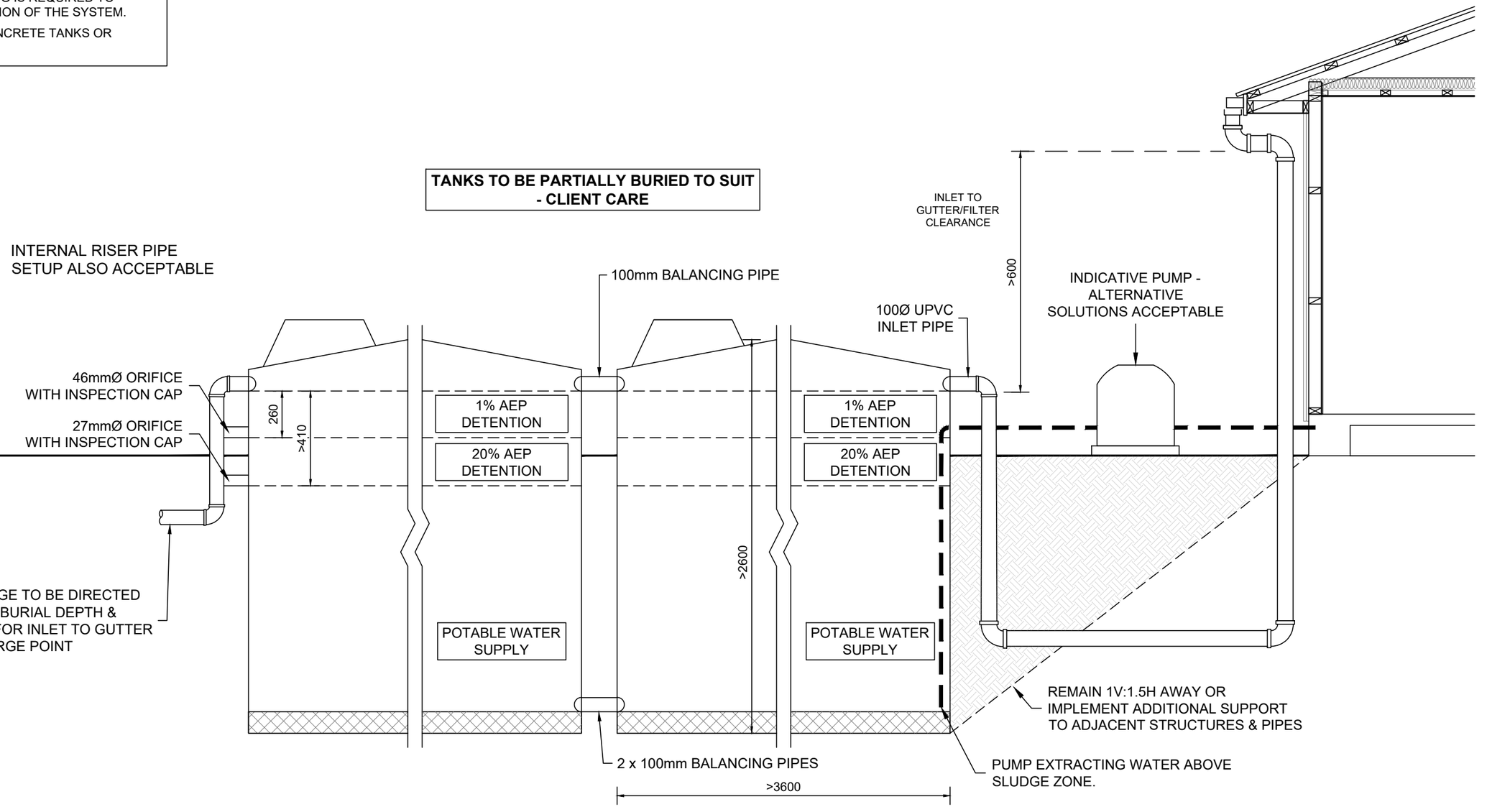
PROJECT TITLE: **LOT 3 DP 408584
192 WAIPAPA ROAD
KERIKERI
NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
N.T.S	NOT COORDINATED

DRAWING NUMBER: **145963-C210** ISSUE: **01**

NOTES:

1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANKS TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. ASSUMED USE OF 2 x 25,000L CONCRETE TANKS OR APPROVED EQUIVALENT.



02 / C001 **LOT 3 TANK DETAIL**
N.T.S

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
01	MAY '26	GMB	STORMWATER MITIGATION REPORT

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

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

RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **LOT 3 TANK DETAIL**
PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

PROJECT TITLE:
LOT 3 DP 408584
192 WAIPAPA ROAD
KERIKERI
NORTHLAND

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **N.T.S**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **145963-C211**
ISSUE: **01**

HAND AUGER : WW01

CLIENT: J R Mason
PROJECT: 3-Lot Subdivision
SITE LOCATION: 192 Waipapa Road, Kerikeri

JOB NO.: 145963 **SHEET:** 1 OF 1
START DATE: 27/03/2026 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: **ELEVATION:** Ground
FACTOR: **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, wet to saturated.	TS	0.2	27/03/2026					
Kerikeri Volcanic Group	NATURAL: Clayey SILT, brown, wet, low to moderate plasticity. 0.4m: Moderate plasticity. 1.1m: Orangey brown.		0.4, 0.6, 0.8, 1.0						
	EOH: 1.20m - Target Depth		1.2, 1.4						

TOPSOIL, FILL, CLAY, SILT, SAND, GRAVEL, PEAT, ROCK

REMARKS
End of borehole @ 1.20m (Target Depth: 1.20m)
Groundwater encountered @ 0.40m during drilling. Standing groundwater @ 0.20m.

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

LOGGED BY: JEM
CHECKED BY: BGS

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : WW02

JOB NO.: 145963 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** **DATUM:**

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

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, wet.		0.2						
Kerikeri Volcanic Group	NATURAL: SILT, minor clay, occasional gravels, brown, moist to wet, low plasticity.		0.4						
	Gravelly SILT, minor clay, orangey brown, moist, no to low plasticity.		0.6	▼ 27/03/2026					
			0.8						
			1.0						
	Clayey SILT, occasional gravels, orangey brown, wet, low plasticity.		1.2	▽					
	EOH: 1.20m - Target Depth		1.4						

REMARKS

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

Groundwater encountered @ 1.20m during drilling. Standing groundwater @ 0.60m.

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

LOGGED BY: JEM

CHECKED BY: BGS

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT Consulting Engineers

Wilton Joubert Orewa
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Address: 4/196 Centreway Road, Orewa 0931

HAND AUGER : WW03

JOB NO.: 145963 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, wet.	TS	0.2						
Kerikeri Volcanic Group	NATURAL: Clayey SILT, brown, wet, low plasticity.		0.4						
	0.6m: Orangey brown, moderate plasticity.		0.6						
			0.8	27/03/2026					
			1.0						
	EOH: 1.20m - Target Depth		1.2	▽					
			1.4						

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

REMARKS

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

Groundwater encountered @ 1.20m during drilling. Standing groundwater @ 0.90m.

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

LOGGED BY: JEM

CHECKED BY: BGS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA01

JOB NO.: 145962 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist to wet.	TS	0.2						
Kerikeri Volcanic Group	NATURAL: SILT, minor clay, brown, very stiff, moist, low plasticity.		0.4	▼ 27/03/2026	127	14	9.1		
			0.6						
	Clayey SILT, orangey brown, very stiff, wet, moderate plasticity.		0.8		158	42	3.8		
			1.0	▽					
			1.2		127	42	3.0		
			1.4						
	SILT, minor clay, orangey brown, very stiff, wet, no to low plasticity.		1.6		127	25	5.1		
	1.6m: Poor recovery.		1.8						
	2.0m: Stiff.		2.0		65	8	8.1		
	EOH: 2.10m - Too Hard To Auger		2.2		UTP	-	-	20+	
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						

REMARKS

End of borehole @ 2.10m (Target Depth: 5.00m)

Groundwater encountered @ 1.00m during drilling. Standing groundwater @ 0.40m.

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

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT Consulting Engineers

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Email: jobs@wjl.co.nz
Website: www.wiltonjoubert.co.nz

HAND AUGER : HA02

JOB NO.: 145962 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown and grey, moist to wet.	TS	0.0						
Kerikeri Volcanic Group	NATURAL: SILT, minor clay, brown, very stiff, moist, low plasticity.		0.2						
			0.4		144	56	2.6		
	Clayey SILT, yellowish brown, very stiff, moist to wet, moderate plasticity.		0.6						
			0.8	27/03/2026	152	45	3.4		
	0.9m: Orangey brown, wet.		1.0						
	1.2m: Stiff.		1.2		87	14	6.2		
	1.4m: Frequent clasts, orangey brown with grey mottles, low plasticity.		1.4	▽					
	1.6m: Very stiff.		1.6		197+	-	-		
			1.8						
	SILT, minor to some clay, orangey brown with grey mottles, very stiff, wet, low plasticity.		2.0		197+	-	-		
	2.1m: Poor recovery.		2.2						
	2.4m: Stiff.		2.4		65	14	4.6		
			2.6						
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.8					1	
								1	
								2	
			3.0					2	
								3	
			3.2					3	
								2	
			3.4					5	
								5	
			3.6					8	
								13	
			3.8					9	
								20+	

REMARKS

End of borehole @ 2.60m (Target Depth: 5.00m)

Groundwater encountered @ 1.40m during drilling. Standing groundwater @ 0.80m.

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

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

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Consulting Engineers

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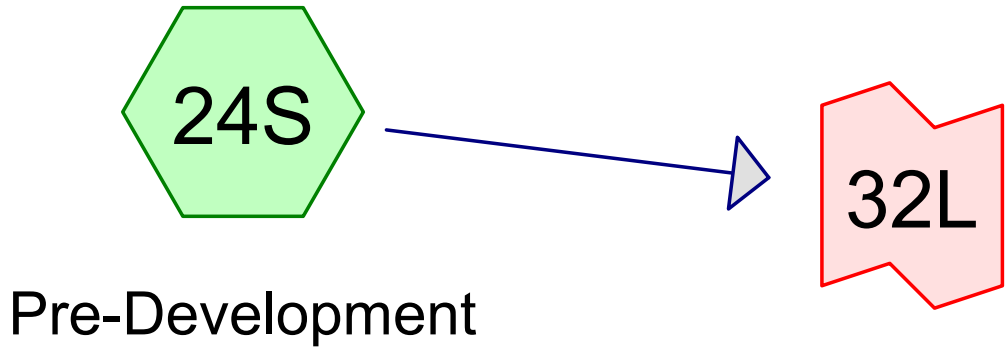
Lot 2: Pre-Development



Pre-Development

Pre-Development Peak Flows

Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 2
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 24S: Pre-Development Runoff Area=465.0 m² 0.00% Impervious Runoff Depth>220 mm
Tc=10.0 min CN=74 Runoff=7.31 L/s 102.4 m³

Link 32L: Pre-Development Peak Flows Inflow=7.31 L/s 102.4 m³
Primary=7.31 L/s 102.4 m³

Summary for Subcatchment 24S: Pre-Development

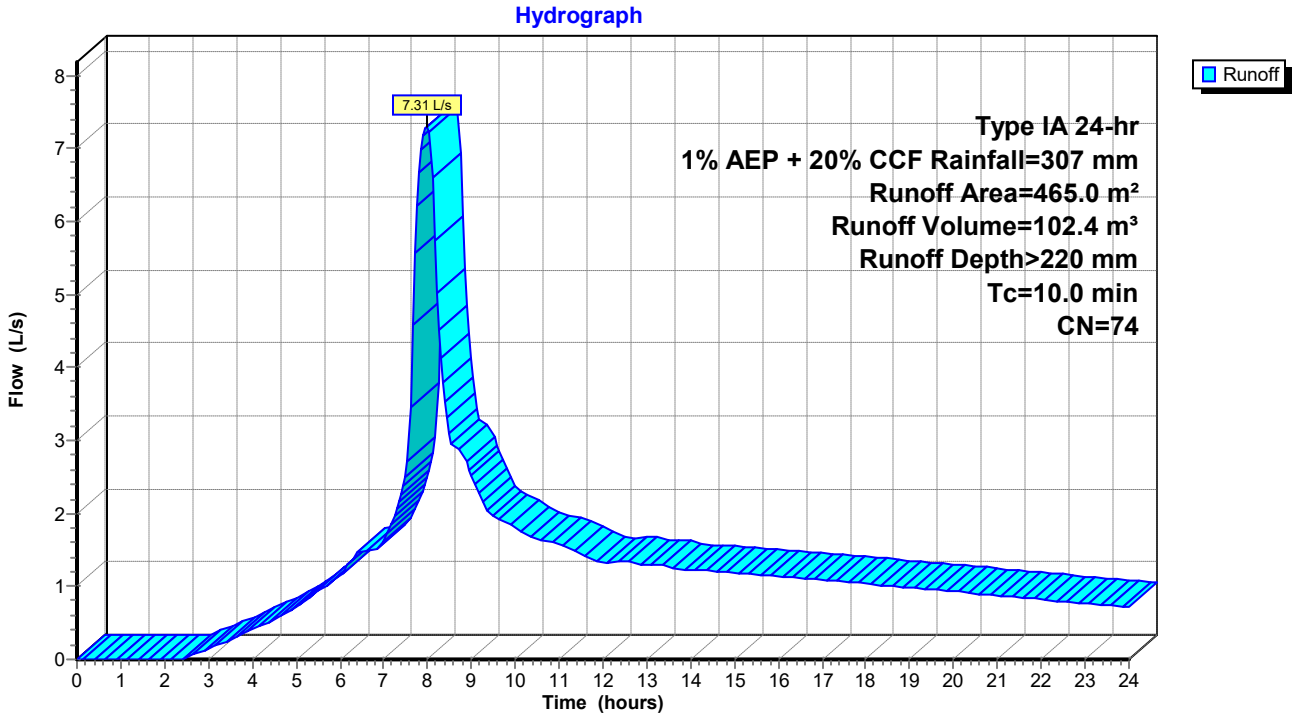
Runoff = 7.31 L/s @ 7.98 hrs, Volume= 102.4 m³, Depth> 220 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
465.0	74	>75% Grass cover, Good, HSG C
465.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 24S: Pre-Development

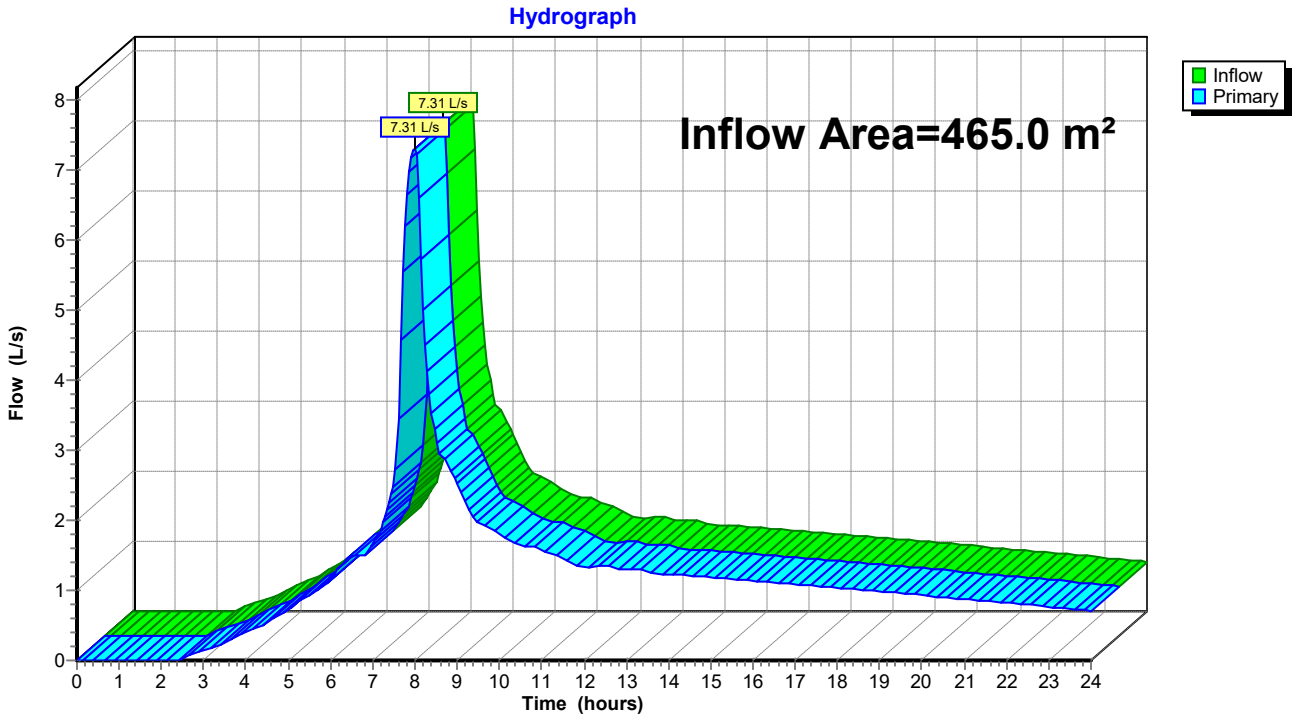


Summary for Link 32L: Pre-Development Peak Flows

Inflow Area = 465.0 m², 0.00% Impervious, Inflow Depth > 220 mm for 1% AEP + 20% CCF event
Inflow = 7.31 L/s @ 7.98 hrs, Volume= 102.4 m³
Primary = 7.31 L/s @ 7.98 hrs, Volume= 102.4 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 32L: Pre-Development Peak Flows



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 24S: Pre-Development Runoff Area=465.0 m² 0.00% Impervious Runoff Depth>96 mm
Tc=10.0 min CN=74 Runoff=2.99 L/s 44.4 m³

Link 32L: Pre-Development Peak Flows Inflow=2.99 L/s 44.4 m³
Primary=2.99 L/s 44.4 m³

Summary for Subcatchment 24S: Pre-Development

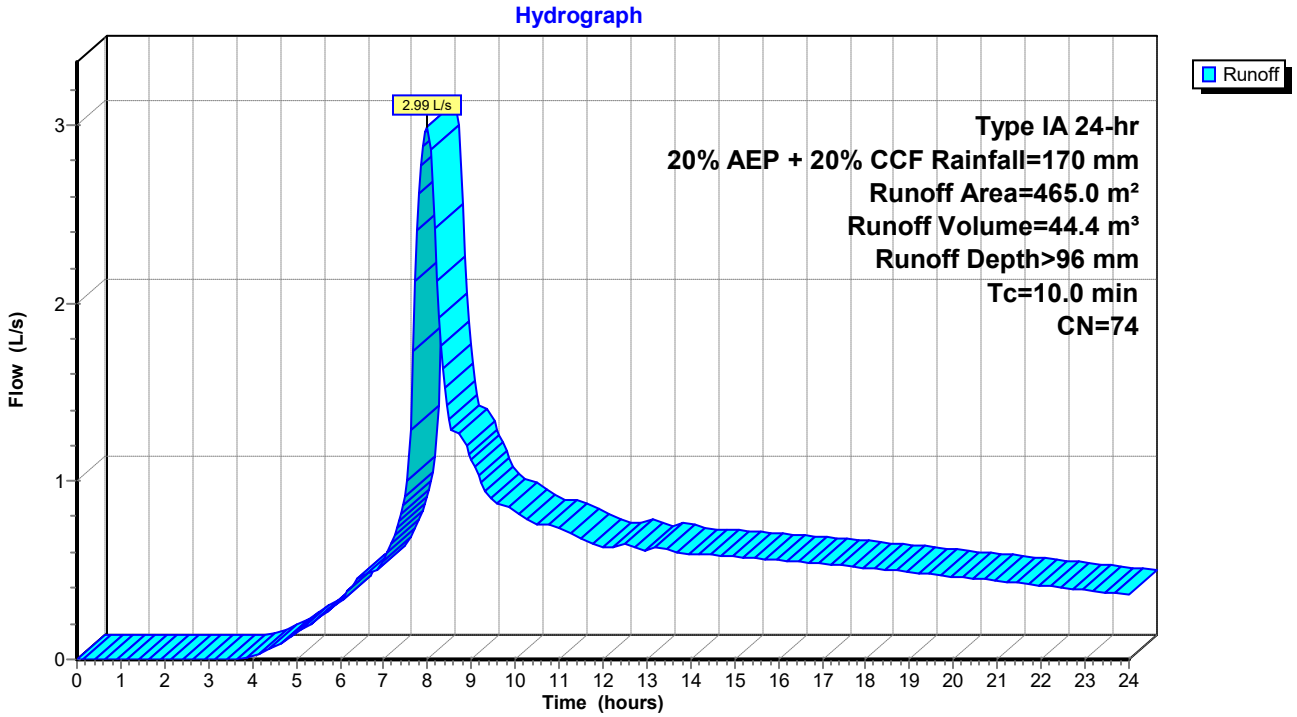
Runoff = 2.99 L/s @ 8.00 hrs, Volume= 44.4 m³, Depth> 96 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
465.0	74	>75% Grass cover, Good, HSG C
465.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 24S: Pre-Development

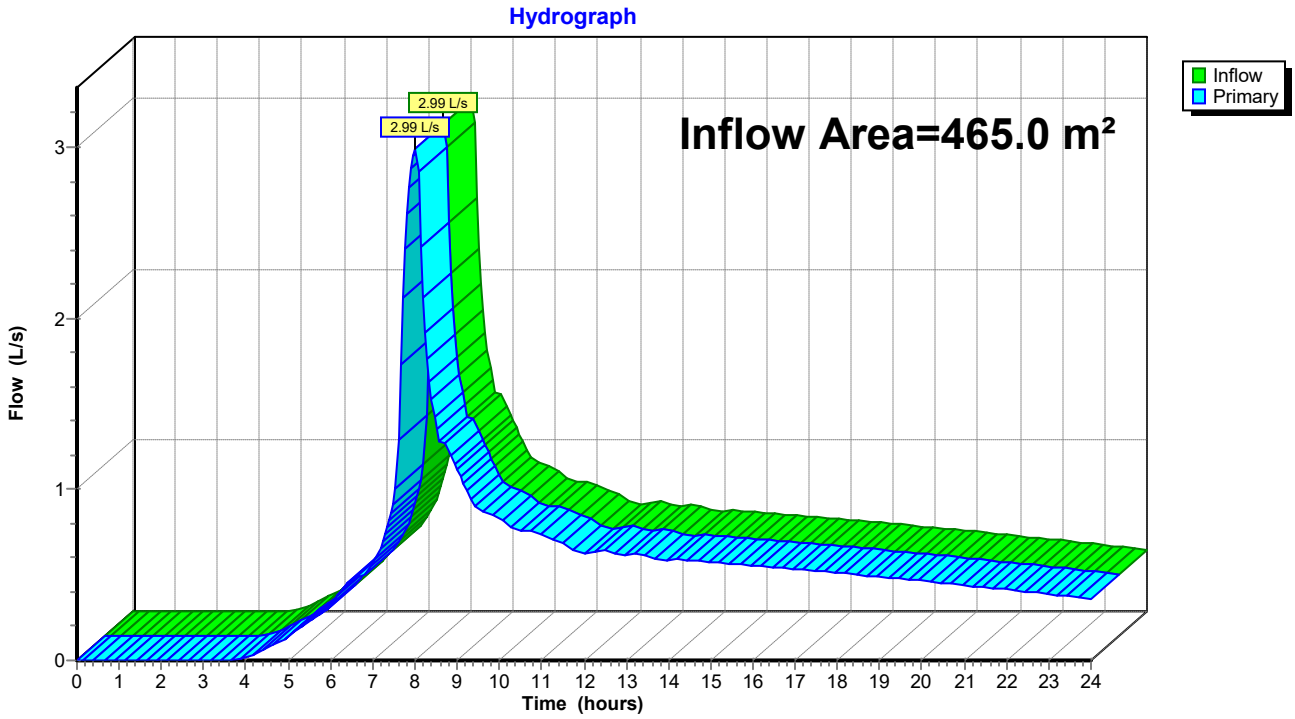


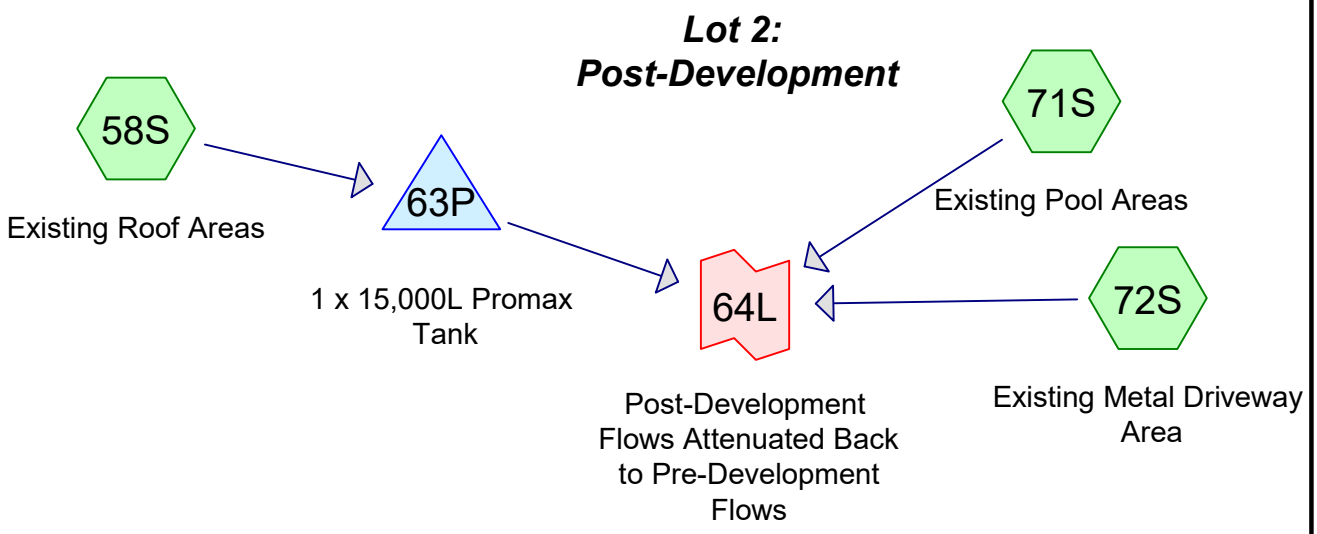
Summary for Link 32L: Pre-Development Peak Flows

Inflow Area = 465.0 m², 0.00% Impervious, Inflow Depth > 96 mm for 20% AEP + 20% CCF event
Inflow = 2.99 L/s @ 8.00 hrs, Volume= 44.4 m³
Primary = 2.99 L/s @ 8.00 hrs, Volume= 44.4 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 32L: Pre-Development Peak Flows





Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 2
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 58S: Existing Roof Runoff Area=250.0 m² 100.00% Impervious Runoff Depth>300 mm
Tc=10.0 min CN=98 Runoff=5.06 L/s 75.0 m³

Subcatchment 71S: Existing Pool Areas Runoff Area=95.0 m² 100.00% Impervious Runoff Depth>300 mm
Tc=10.0 min CN=98 Runoff=1.92 L/s 28.5 m³

Subcatchment 72S: Existing Metal Runoff Area=120.0 m² 0.00% Impervious Runoff Depth>272 mm
Tc=10.0 min CN=89 Runoff=2.31 L/s 32.6 m³

Pond 63P: 1 x 15,000L Promax Tank Peak Elev=1.833 m Storage=13.1 m³ Inflow=5.06 L/s 75.0 m³
Outflow=3.32 L/s 71.2 m³

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Inflow=7.27 L/s 132.3 m³
Primary=7.27 L/s 132.3 m³

Summary for Subcatchment 58S: Existing Roof Areas

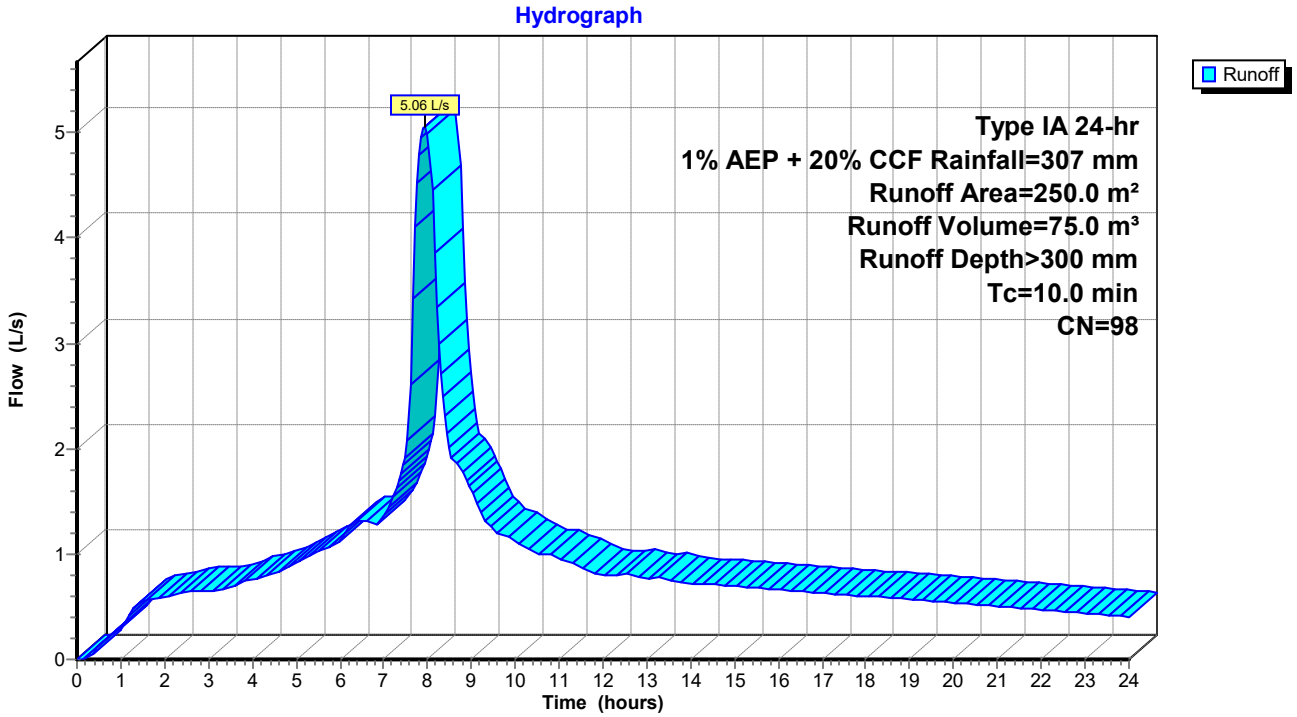
Runoff = 5.06 L/s @ 7.94 hrs, Volume= 75.0 m³, Depth> 300 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
250.0	98	Roofs, HSG C
250.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 58S: Existing Roof Areas



Summary for Subcatchment 71S: Existing Pool Areas

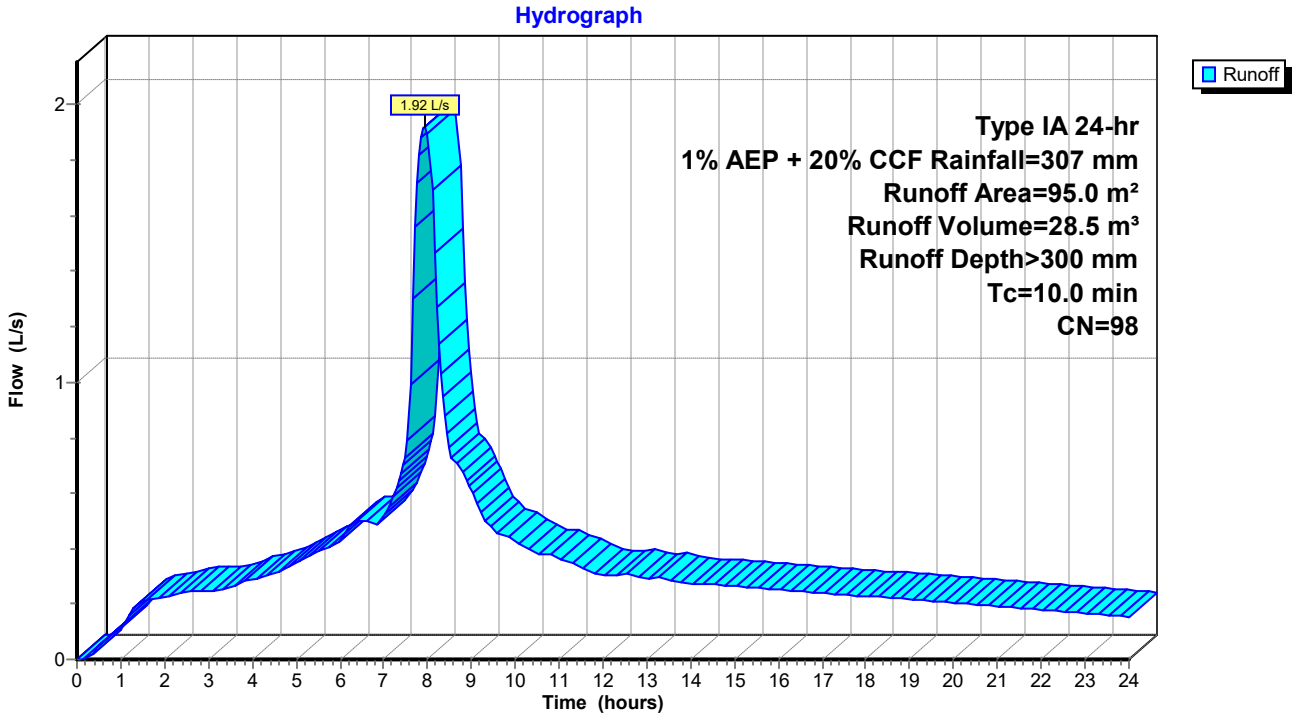
Runoff = 1.92 L/s @ 7.94 hrs, Volume= 28.5 m³, Depth> 300 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
95.0	98	Roofs, HSG C
95.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 71S: Existing Pool Areas



Summary for Subcatchment 72S: Existing Metal Driveway Area

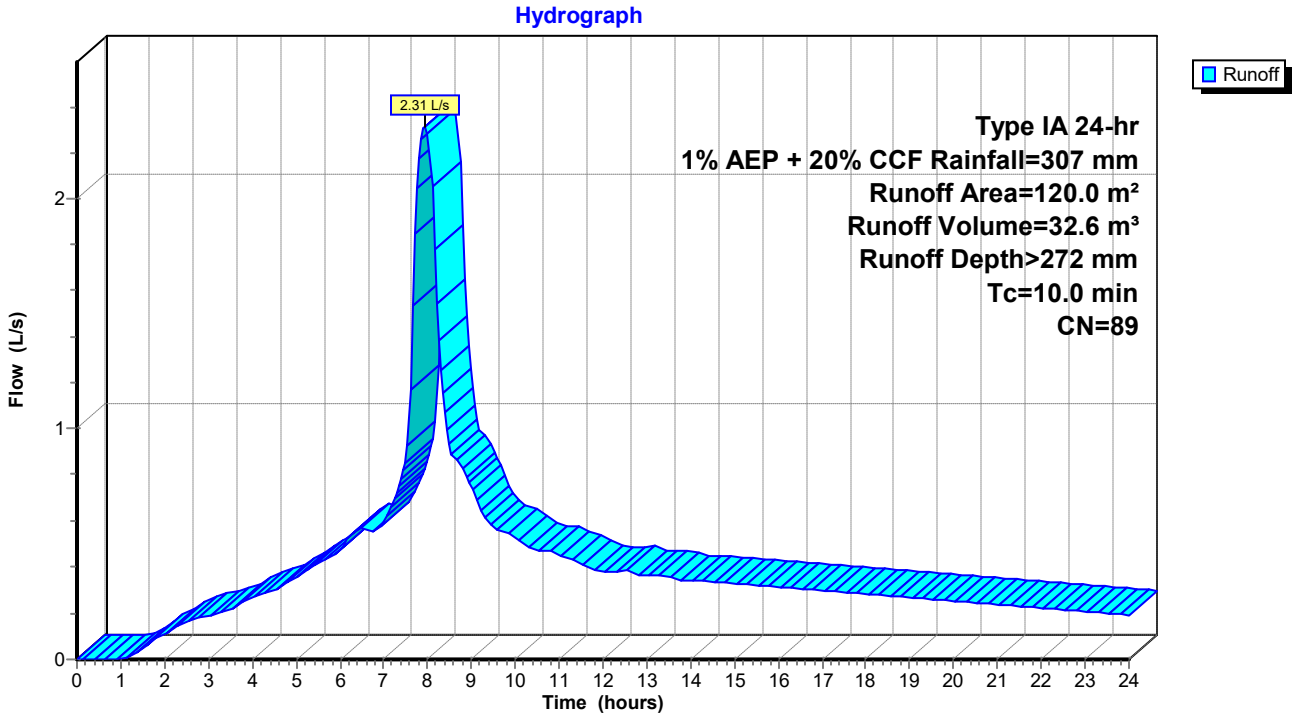
Runoff = 2.31 L/s @ 7.95 hrs, Volume= 32.6 m³, Depth> 272 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
120.0	89	Gravel roads, HSG C
120.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 72S: Existing Metal Driveway Area



Summary for Pond 63P: 1 x 15,000L Promax Tank

Inflow Area = 250.0 m², 100.00% Impervious, Inflow Depth > 300 mm for 1% AEP + 20% CCF event
Inflow = 5.06 L/s @ 7.94 hrs, Volume= 75.0 m³
Outflow = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³, Atten= 34%, Lag= 16.2 min
Primary = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.833 m @ 8.21 hrs Surf.Area= 7.2 m² Storage= 13.1 m³

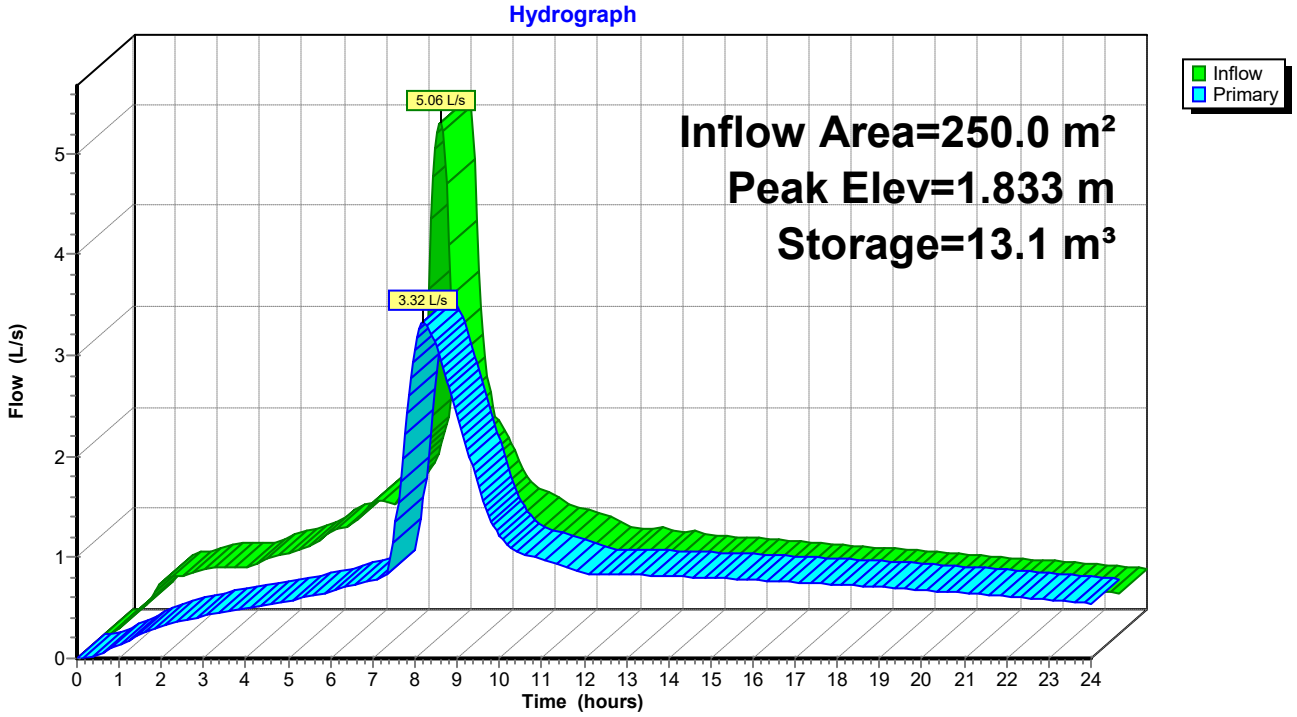
Plug-Flow detention time= 122.1 min calculated for 71.2 m³ (95% of inflow)
Center-of-Mass det. time= 83.6 min (727.6 - 644.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	18.2 m³	**3.02 mD x 2.54 mH Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**19 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	1.230 m	**38 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=3.32 L/s @ 8.21 hrs HW=1.832 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.02 L/s @ 3.59 m/s)
└**2=Orifice/Grate** (Orifice Controls 2.30 L/s @ 2.03 m/s)

Pond 63P: 1 x 15,000L Promax Tank

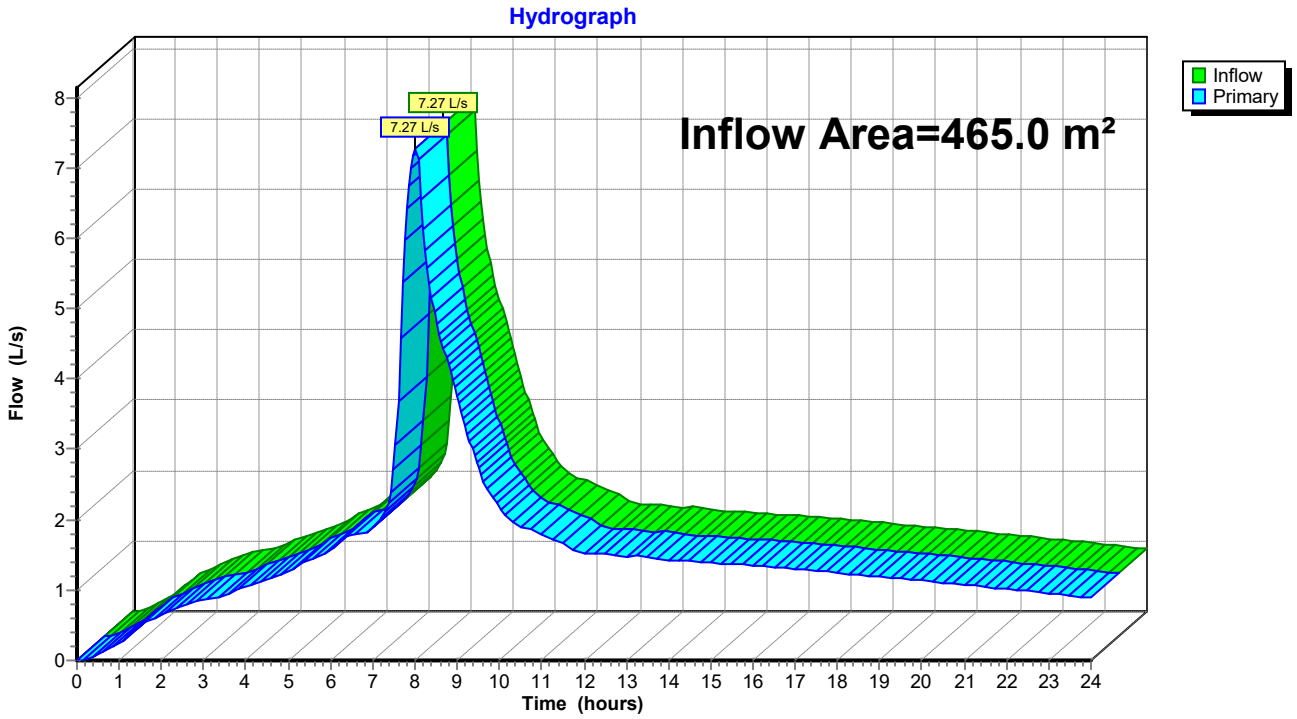


Summary for Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows

Inflow Area = 465.0 m², 74.19% Impervious, Inflow Depth > 285 mm for 1% AEP + 20% CCF event
Inflow = 7.27 L/s @ 8.02 hrs, Volume= 132.3 m³
Primary = 7.27 L/s @ 8.02 hrs, Volume= 132.3 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 58S: Existing Roof Runoff Area=250.0 m² 100.00% Impervious Runoff Depth>164 mm
Tc=10.0 min CN=98 Runoff=2.79 L/s 40.9 m³

Subcatchment 71S: Existing Pool Areas Runoff Area=95.0 m² 100.00% Impervious Runoff Depth>164 mm
Tc=10.0 min CN=98 Runoff=1.06 L/s 15.5 m³

Subcatchment 72S: Existing Metal Runoff Area=120.0 m² 0.00% Impervious Runoff Depth>137 mm
Tc=10.0 min CN=89 Runoff=1.18 L/s 16.4 m³

Pond 63P: 1 x 15,000L Promax Tank Peak Elev=1.228 m Storage=8.8 m³ Inflow=2.79 L/s 40.9 m³
Outflow=0.83 L/s 39.9 m³

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Inflow=2.95 L/s 71.9 m³
Primary=2.95 L/s 71.9 m³

Summary for Subcatchment 58S: Existing Roof Areas

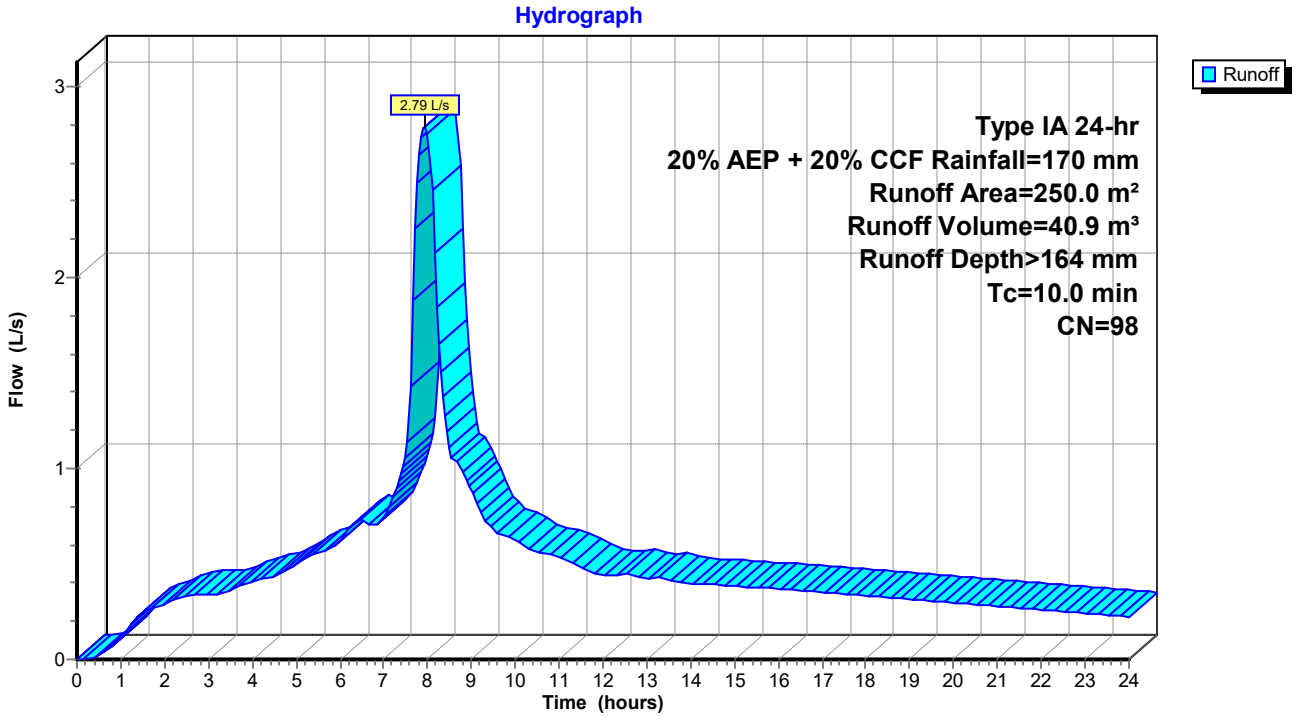
Runoff = 2.79 L/s @ 7.94 hrs, Volume= 40.9 m³, Depth> 164 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
250.0	98	Roofs, HSG C
250.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 58S: Existing Roof Areas



Summary for Subcatchment 71S: Existing Pool Areas

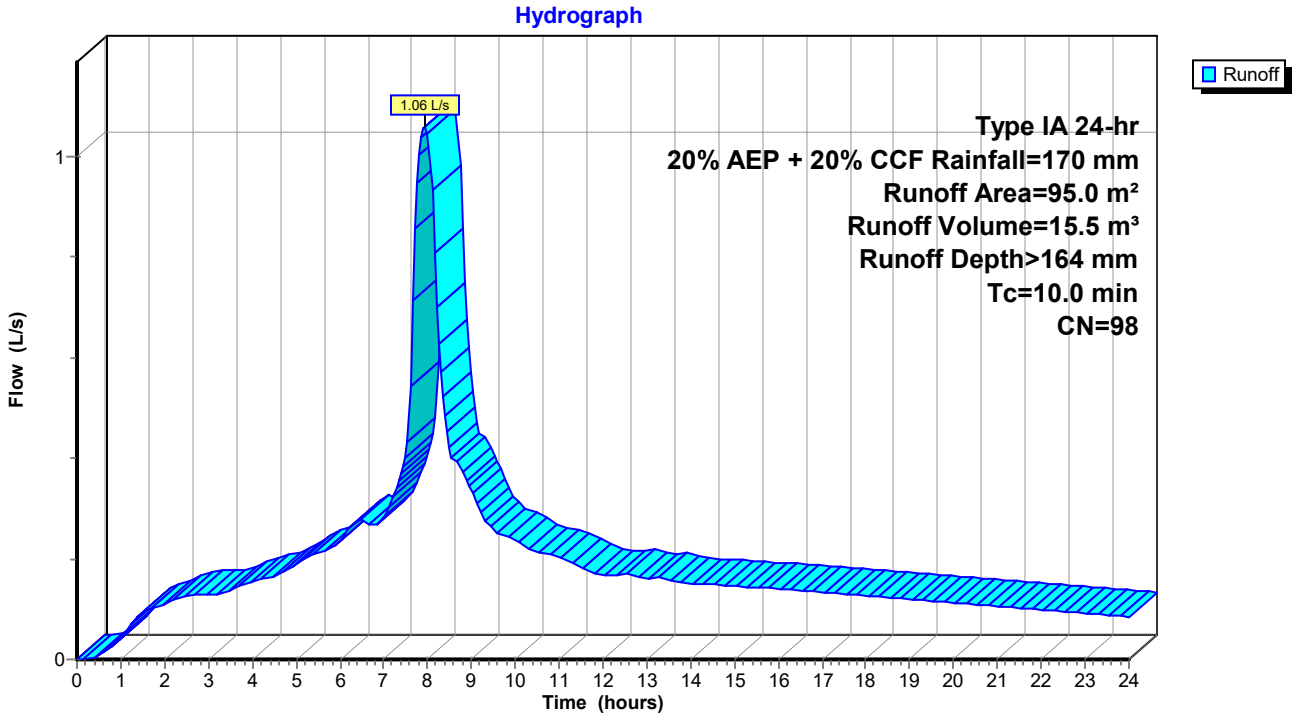
Runoff = 1.06 L/s @ 7.94 hrs, Volume= 15.5 m³, Depth> 164 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
95.0	98	Roofs, HSG C
95.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 71S: Existing Pool Areas



Summary for Subcatchment 72S: Existing Metal Driveway Area

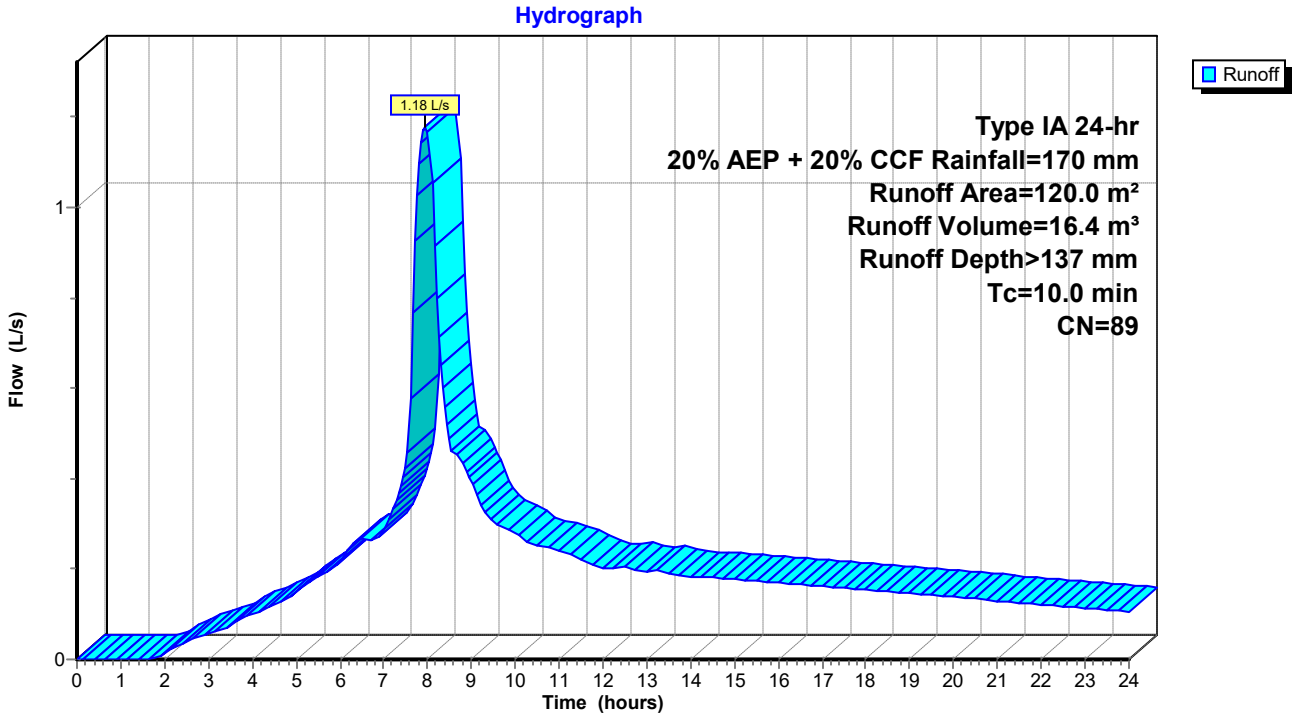
Runoff = 1.18 L/s @ 7.96 hrs, Volume= 16.4 m³, Depth> 137 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
120.0	89	Gravel roads, HSG C
120.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 72S: Existing Metal Driveway Area



Summary for Pond 63P: 1 x 15,000L Promax Tank

Inflow Area = 250.0 m², 100.00% Impervious, Inflow Depth > 164 mm for 20% AEP + 20% CCF event
Inflow = 2.79 L/s @ 7.94 hrs, Volume= 40.9 m³
Outflow = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³, Atten= 70%, Lag= 69.5 min
Primary = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.228 m @ 9.10 hrs Surf.Area= 7.2 m² Storage= 8.8 m³

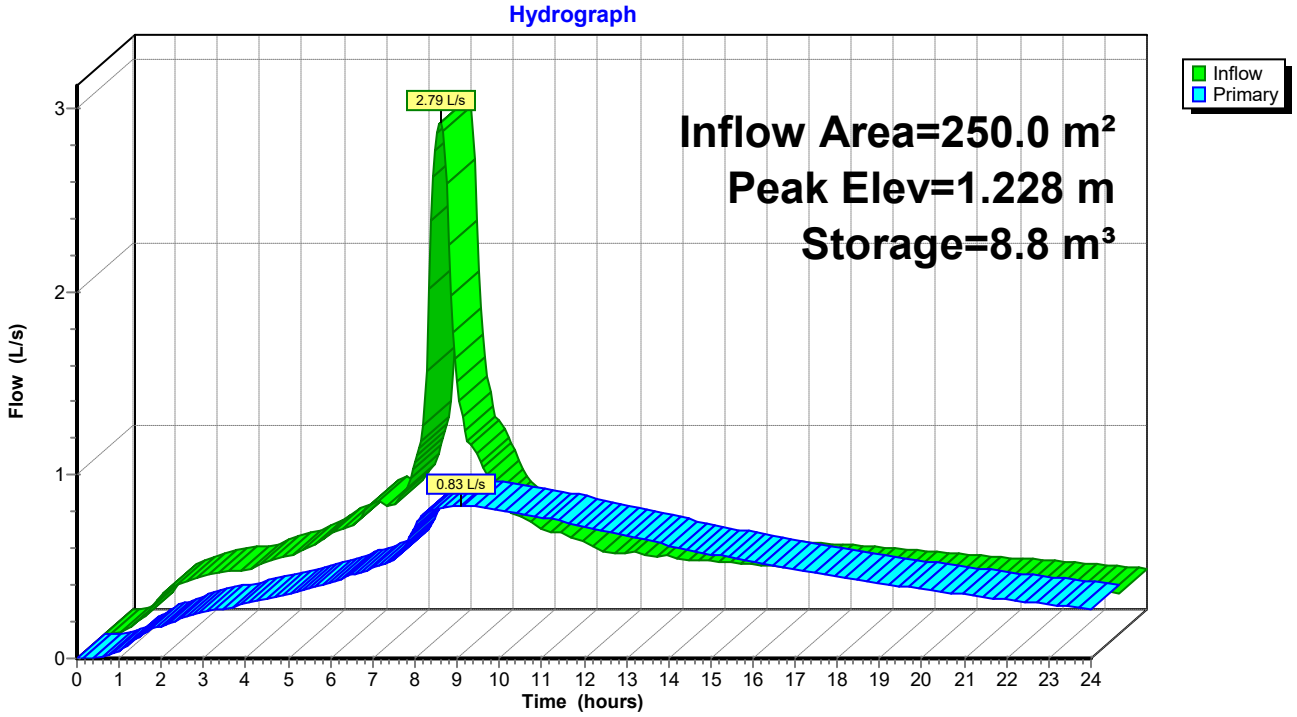
Plug-Flow detention time= 119.6 min calculated for 39.8 m³ (97% of inflow)
Center-of-Mass det. time= 100.8 min (752.3 - 651.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	18.2 m³	**3.02 mD x 2.54 mH Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**19 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	1.230 m	**38 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=0.83 L/s @ 9.10 hrs HW=1.228 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.83 L/s @ 2.93 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 63P: 1 x 15,000L Promax Tank

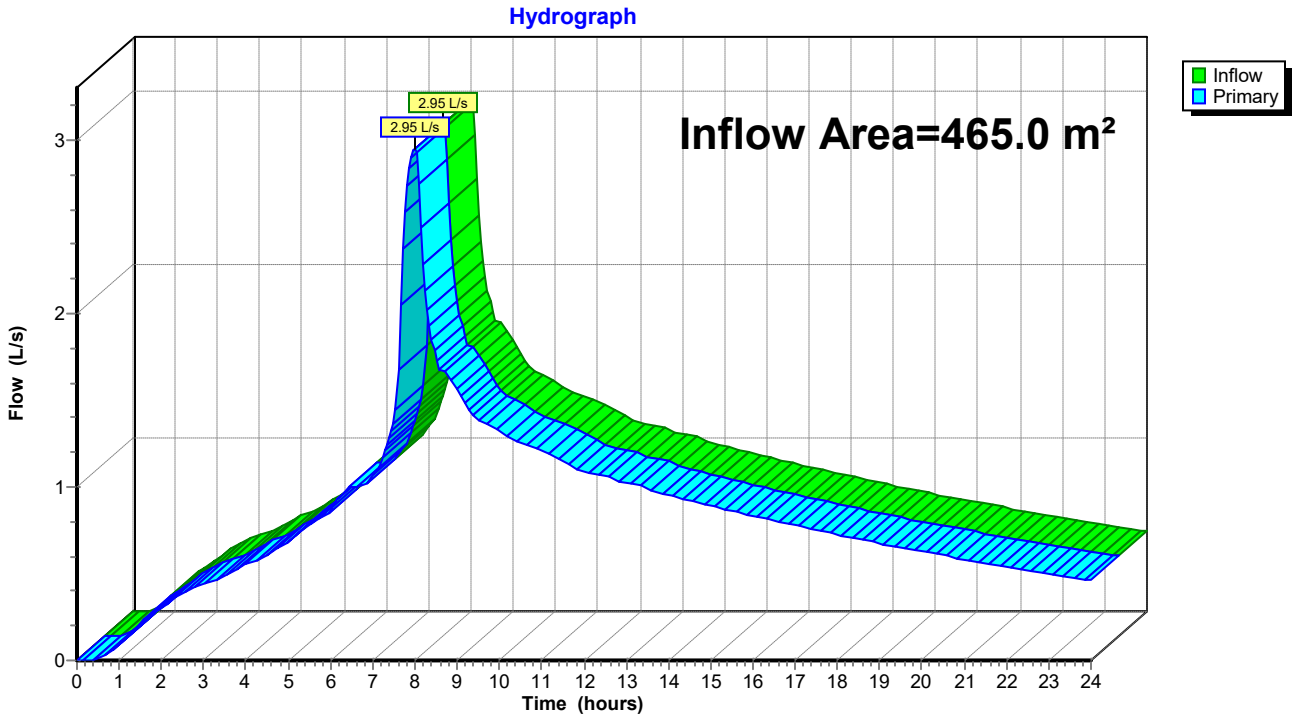


Summary for Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows

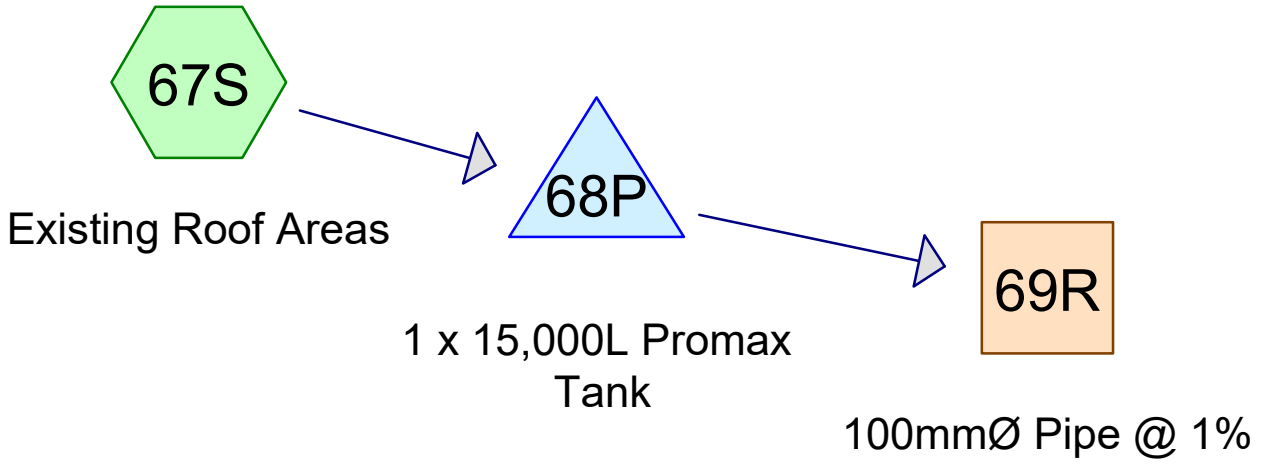
Inflow Area = 465.0 m², 74.19% Impervious, Inflow Depth > 155 mm for 20% AEP + 20% CCF event
Inflow = 2.95 L/s @ 7.98 hrs, Volume= 71.9 m³
Primary = 2.95 L/s @ 7.98 hrs, Volume= 71.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows



Lot 2: Pipe Sizing



Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 2
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 67S: Existing Roof Runoff Area=250.0 m² 100.00% Impervious Runoff Depth>300 mm
Tc=10.0 min CN=98 Runoff=5.06 L/s 75.0 m³

Reach 69R: 100mmØ Pipe @ 1% Avg. Flow Depth=0.05 m Max Vel=0.79 m/s Inflow=3.32 L/s 71.2 m³
100 mm Round Pipe n=0.011 L=10.00 m S=0.0100 m/m Capacity=6.10 L/s Outflow=3.32 L/s 71.2 m³

Pond 68P: 1 x 15,000L Promax Tank Peak Elev=1.833 m Storage=13.1 m³ Inflow=5.06 L/s 75.0 m³
Outflow=3.32 L/s 71.2 m³

Summary for Subcatchment 67S: Existing Roof Areas

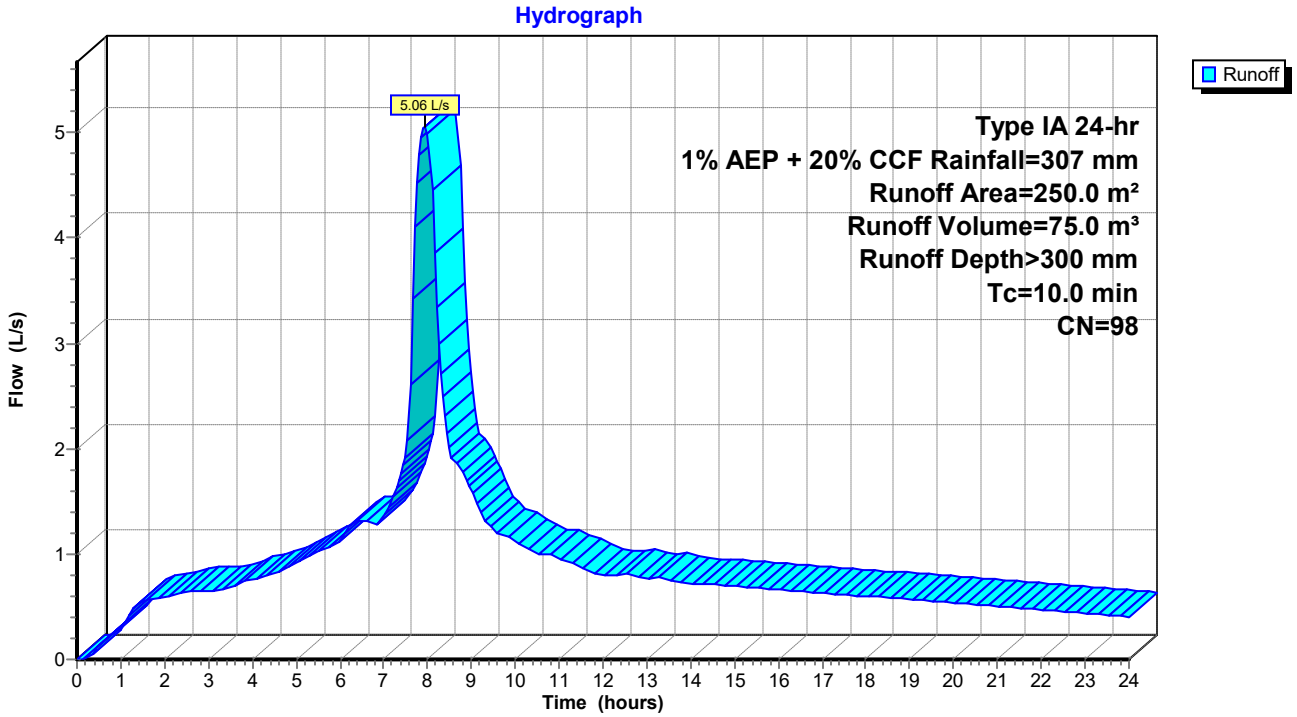
Runoff = 5.06 L/s @ 7.94 hrs, Volume= 75.0 m³, Depth> 300 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
250.0	98	Roofs, HSG C
250.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 67S: Existing Roof Areas



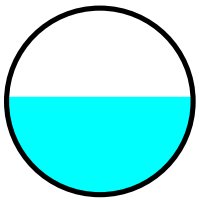
Summary for Reach 69R: 100mmØ Pipe @ 1%

Inflow Area = 250.0 m²,100.00% Impervious, Inflow Depth > 285 mm for 1% AEP + 20% CCF event
Inflow = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³
Outflow = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³, Atten= 0%, Lag= 0.2 min

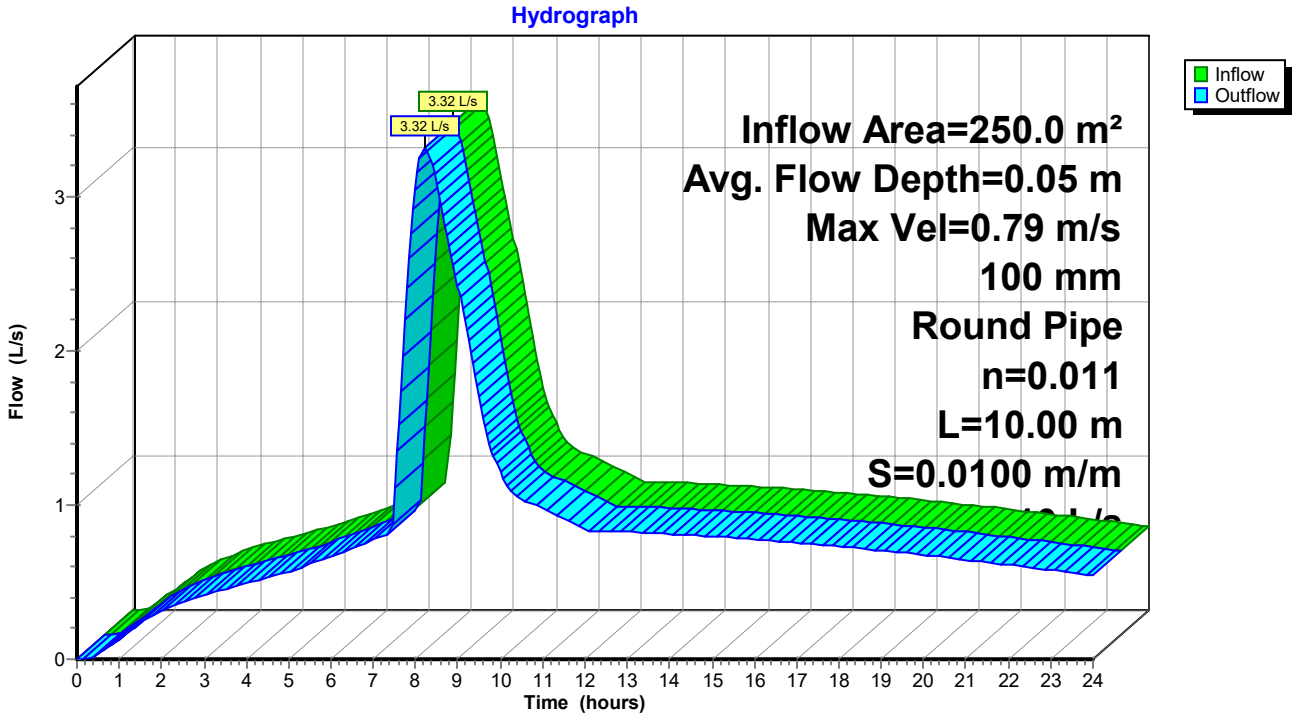
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.79 m/s, Min. Travel Time= 0.2 min
Avg. Velocity = 0.52 m/s, Avg. Travel Time= 0.3 min

Peak Storage= 0.0 m³ @ 8.21 hrs
Average Depth at Peak Storage= 0.05 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 6.10 L/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 10.00 m Slope= 0.0100 m/m
Inlet Invert= -1.000 m, Outlet Invert= -1.100 m



Reach 69R: 100mmØ Pipe @ 1%



Summary for Pond 68P: 1 x 15,000L Promax Tank

Inflow Area = 250.0 m², 100.00% Impervious, Inflow Depth > 300 mm for 1% AEP + 20% CCF event
Inflow = 5.06 L/s @ 7.94 hrs, Volume= 75.0 m³
Outflow = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³, Atten= 34%, Lag= 16.2 min
Primary = 3.32 L/s @ 8.21 hrs, Volume= 71.2 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.833 m @ 8.21 hrs Surf.Area= 7.2 m² Storage= 13.1 m³

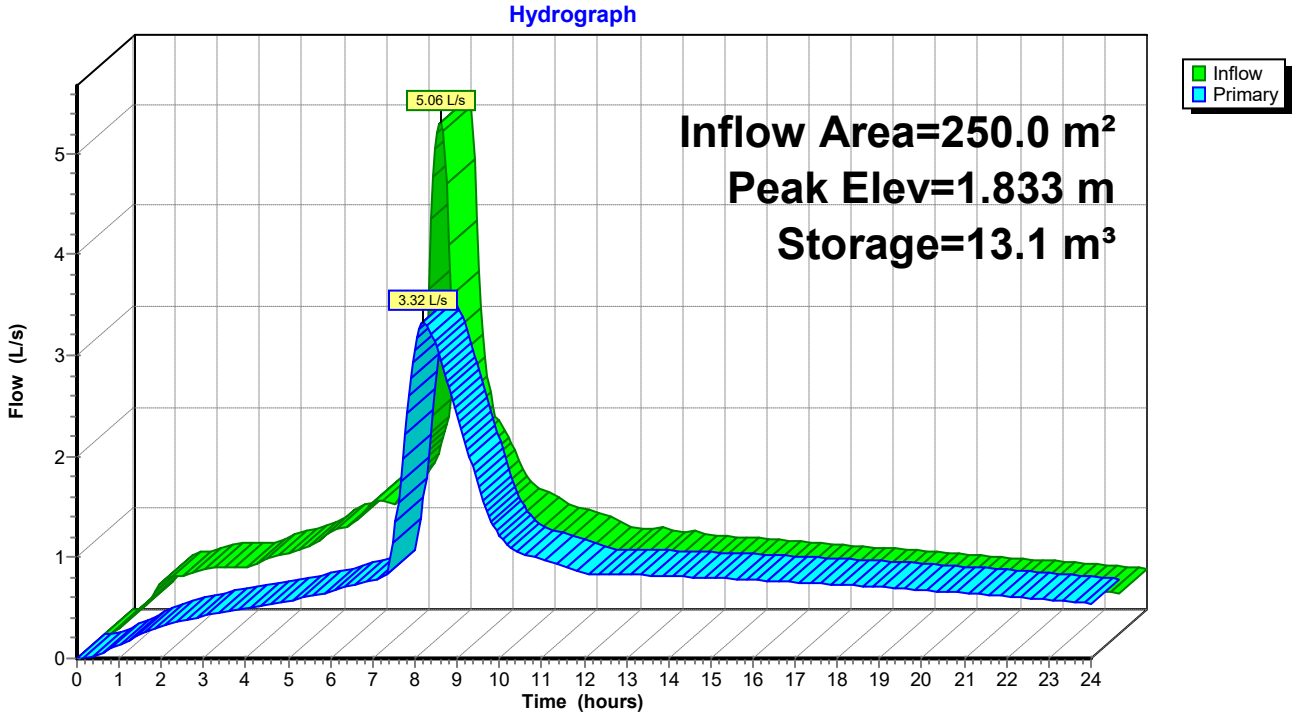
Plug-Flow detention time= 122.1 min calculated for 71.2 m³ (95% of inflow)
Center-of-Mass det. time= 83.6 min (727.6 - 644.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	18.2 m³	**3.02 mD x 2.54 mH Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**19 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	1.230 m	**38 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=3.32 L/s @ 8.21 hrs HW=1.832 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.02 L/s @ 3.59 m/s)
└**2=Orifice/Grate** (Orifice Controls 2.30 L/s @ 2.03 m/s)

Pond 68P: 1 x 15,000L Promax Tank



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 67S: Existing Roof Runoff Area=250.0 m² 100.00% Impervious Runoff Depth>164 mm
Tc=10.0 min CN=98 Runoff=2.79 L/s 40.9 m³

Reach 69R: 100mmØ Pipe @ 1% Avg. Flow Depth=0.02 m Max Vel=0.54 m/s Inflow=0.83 L/s 39.9 m³
100 mm Round Pipe n=0.011 L=10.00 m S=0.0100 m/m Capacity=6.10 L/s Outflow=0.83 L/s 39.9 m³

Pond 68P: 1 x 15,000L Promax Tank Peak Elev=1.228 m Storage=8.8 m³ Inflow=2.79 L/s 40.9 m³
Outflow=0.83 L/s 39.9 m³

Summary for Subcatchment 67S: Existing Roof Areas

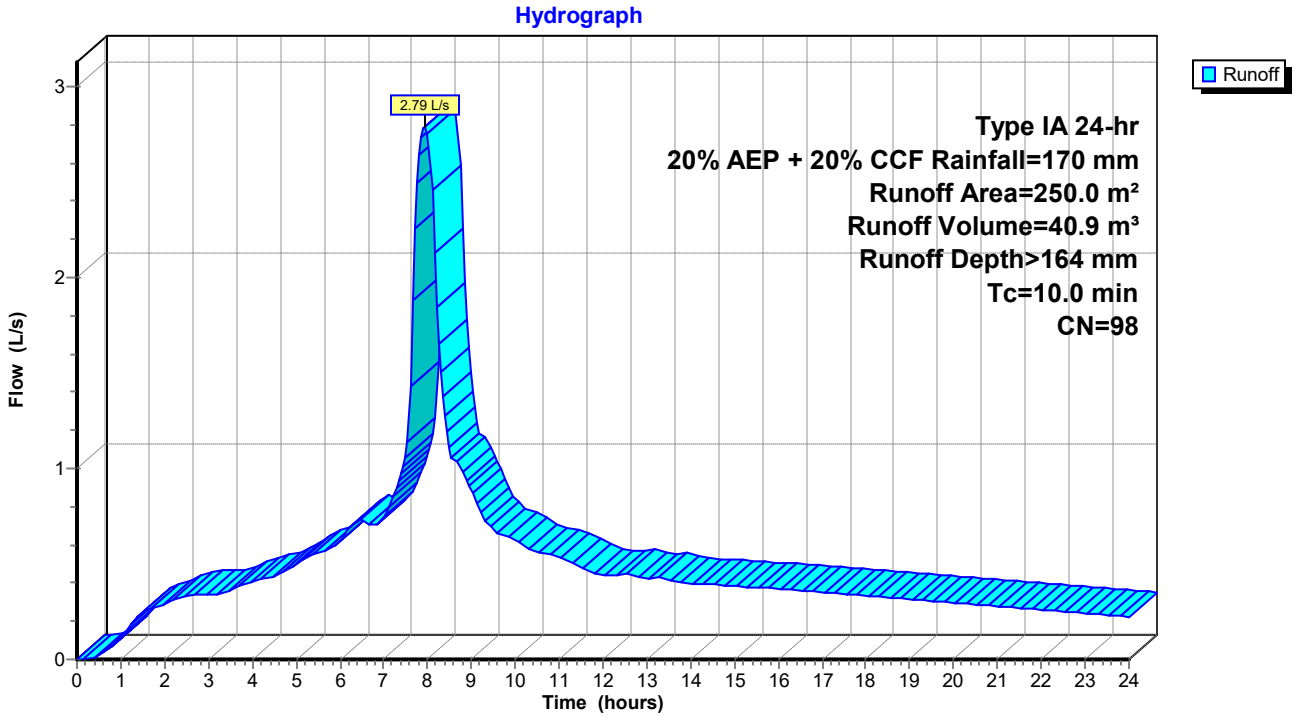
Runoff = 2.79 L/s @ 7.94 hrs, Volume= 40.9 m³, Depth> 164 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
250.0	98	Roofs, HSG C
250.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 67S: Existing Roof Areas



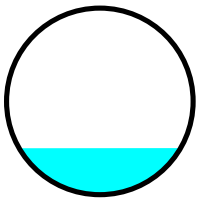
Summary for Reach 69R: 100mmØ Pipe @ 1%

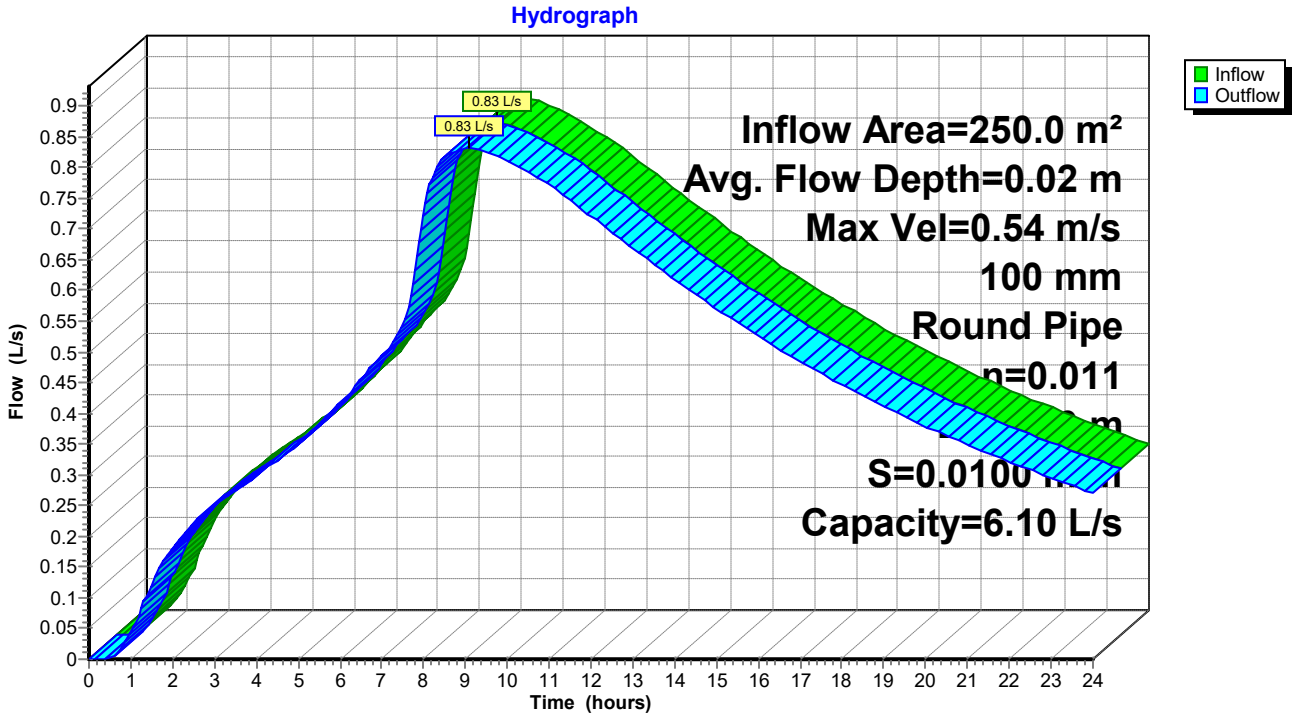
Inflow Area = 250.0 m²,100.00% Impervious, Inflow Depth > 160 mm for 20% AEP + 20% CCF event
Inflow = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³
Outflow = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.54 m/s, Min. Travel Time= 0.3 min
Avg. Velocity = 0.45 m/s, Avg. Travel Time= 0.4 min

Peak Storage= 0.0 m³ @ 9.10 hrs
Average Depth at Peak Storage= 0.02 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 6.10 L/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 10.00 m Slope= 0.0100 m/m
Inlet Invert= -1.000 m, Outlet Invert= -1.100 m





Summary for Pond 68P: 1 x 15,000L Promax Tank

Inflow Area = 250.0 m²,100.00% Impervious, Inflow Depth > 164 mm for 20% AEP + 20% CCF event
Inflow = 2.79 L/s @ 7.94 hrs, Volume= 40.9 m³
Outflow = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³, Atten= 70%, Lag= 69.5 min
Primary = 0.83 L/s @ 9.10 hrs, Volume= 39.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.228 m @ 9.10 hrs Surf.Area= 7.2 m² Storage= 8.8 m³

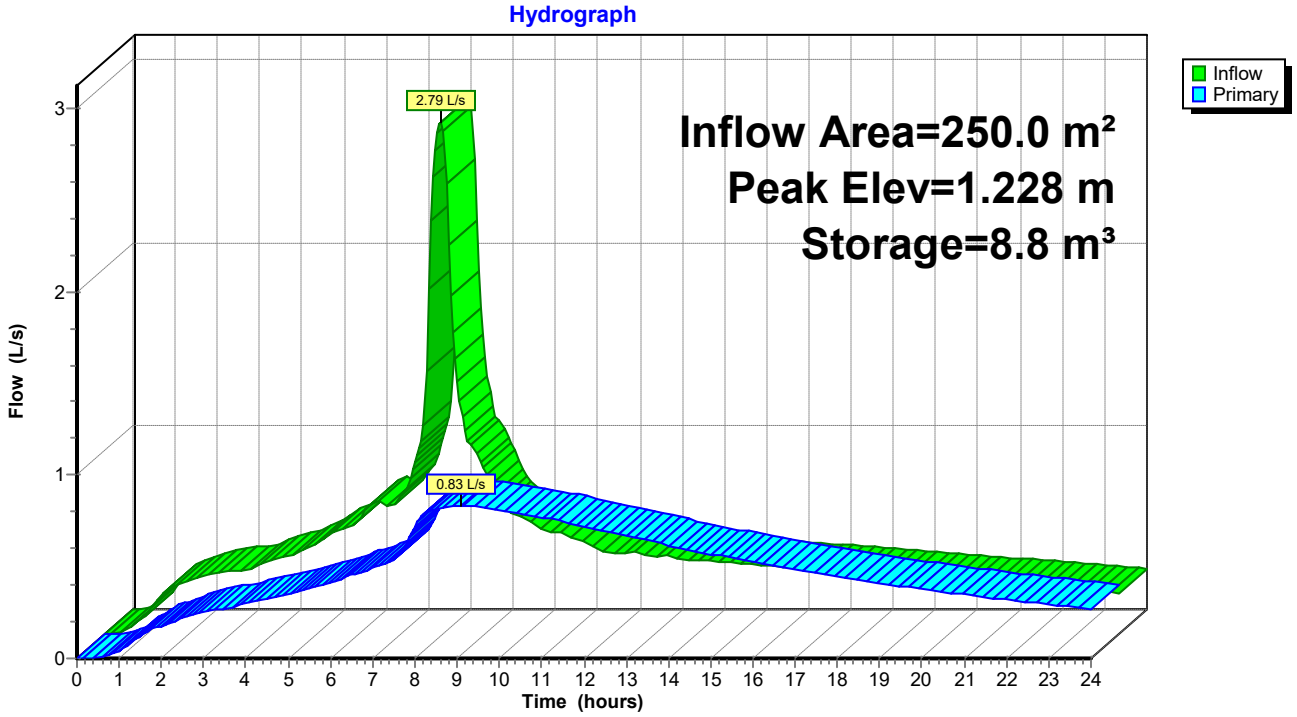
Plug-Flow detention time= 119.6 min calculated for 39.8 m³ (97% of inflow)
Center-of-Mass det. time= 100.8 min (752.3 - 651.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	18.2 m³	**3.02 mD x 2.54 mH Vertical Cone/Cylinder**

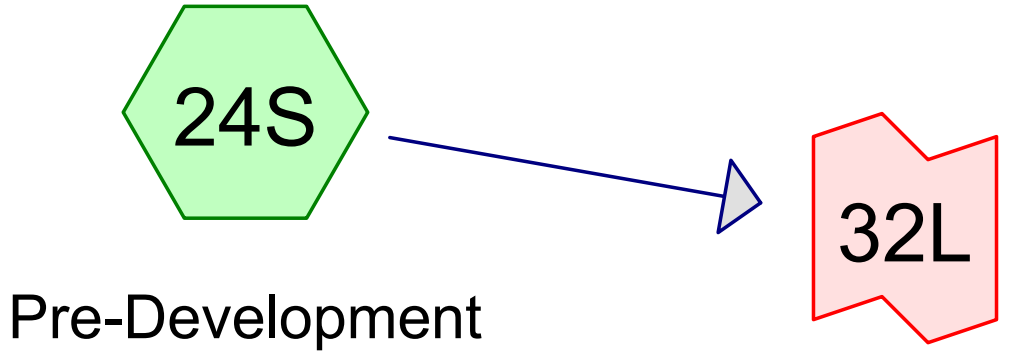
Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**19 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	1.230 m	**38 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=0.83 L/s @ 9.10 hrs HW=1.228 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.83 L/s @ 2.93 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 68P: 1 x 15,000L Promax Tank



Lot 3: Pre-Development



Pre-Development

Pre-Development Peak Flows

Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 3
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 24S: Pre-Development Runoff Area=334.0 m² 0.00% Impervious Runoff Depth>220 mm
Tc=10.0 min CN=74 Runoff=5.25 L/s 73.6 m³

Link 32L: Pre-Development Peak Flows Inflow=5.25 L/s 73.6 m³
Primary=5.25 L/s 73.6 m³

Summary for Subcatchment 24S: Pre-Development

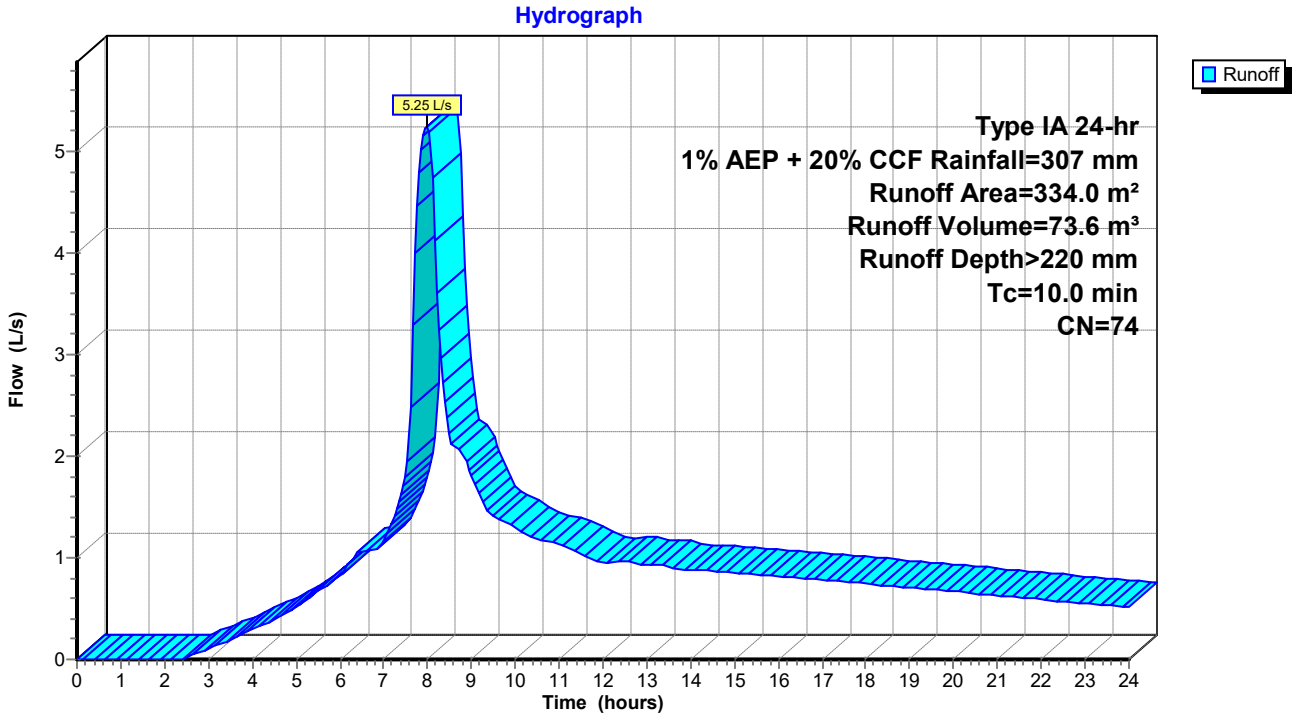
Runoff = 5.25 L/s @ 7.98 hrs, Volume= 73.6 m³, Depth> 220 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
334.0	74	>75% Grass cover, Good, HSG C
334.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 24S: Pre-Development

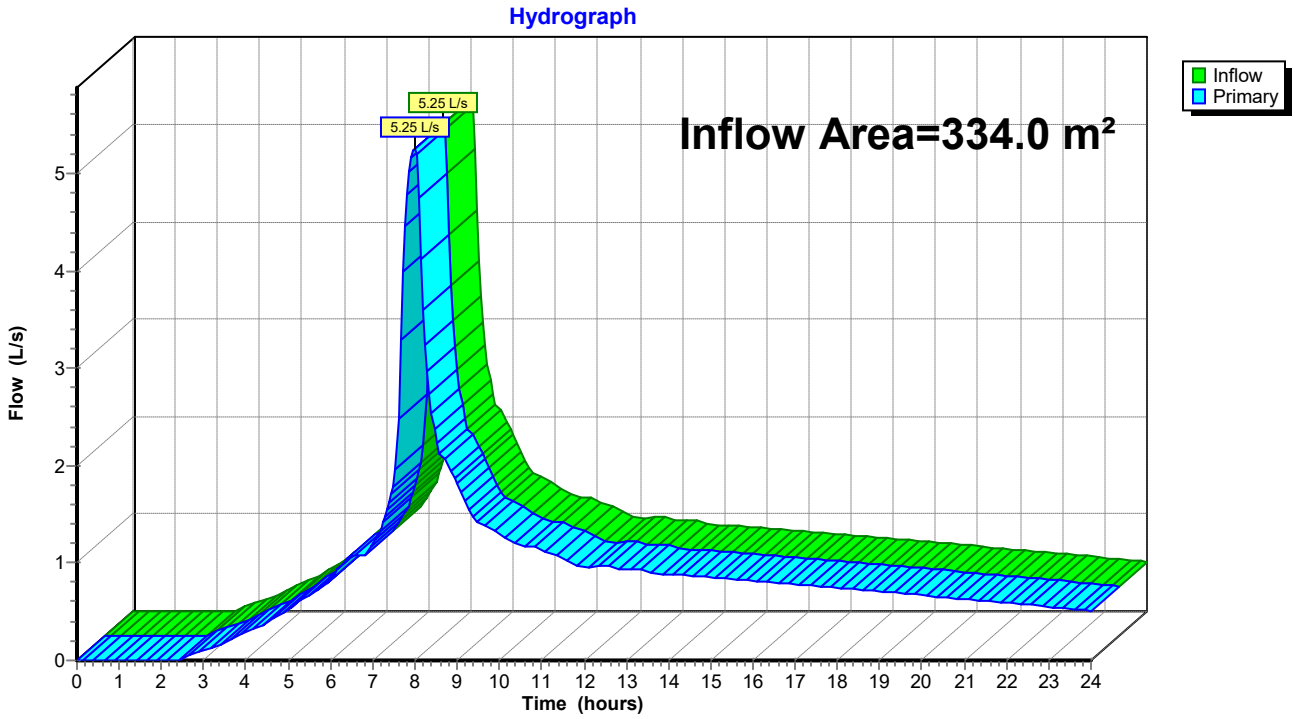


Summary for Link 32L: Pre-Development Peak Flows

Inflow Area = 334.0 m², 0.00% Impervious, Inflow Depth > 220 mm for 1% AEP + 20% CCF event
Inflow = 5.25 L/s @ 7.98 hrs, Volume= 73.6 m³
Primary = 5.25 L/s @ 7.98 hrs, Volume= 73.6 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 32L: Pre-Development Peak Flows



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 24S: Pre-Development Runoff Area=334.0 m² 0.00% Impervious Runoff Depth>96 mm
Tc=10.0 min CN=74 Runoff=2.15 L/s 31.9 m³

Link 32L: Pre-Development Peak Flows Inflow=2.15 L/s 31.9 m³
Primary=2.15 L/s 31.9 m³

Summary for Subcatchment 24S: Pre-Development

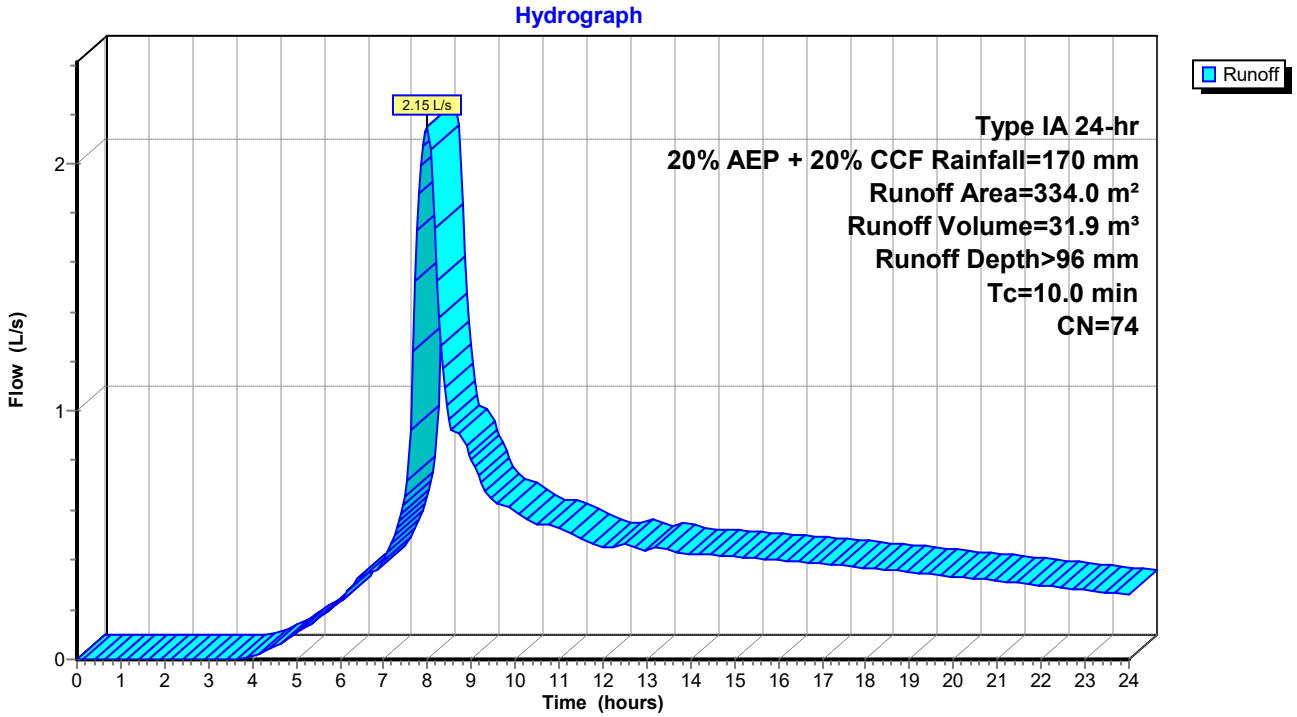
Runoff = 2.15 L/s @ 8.00 hrs, Volume= 31.9 m³, Depth> 96 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
334.0	74	>75% Grass cover, Good, HSG C
334.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 24S: Pre-Development

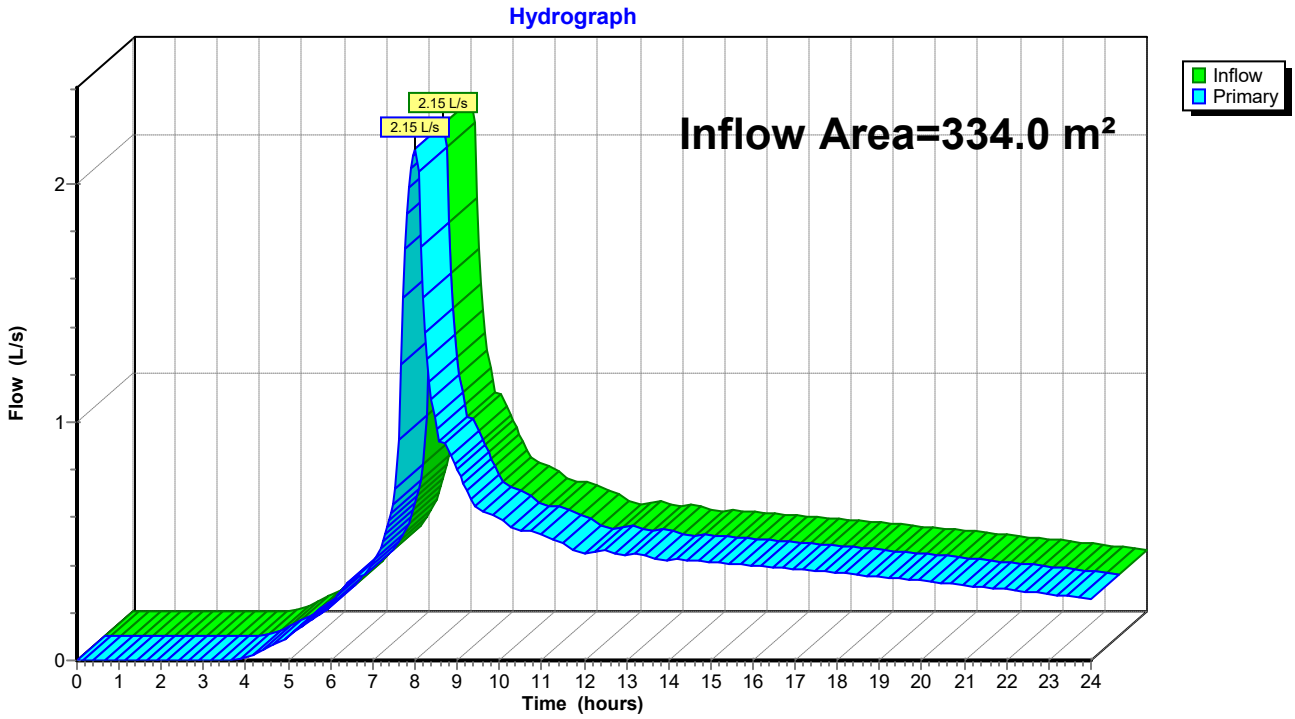


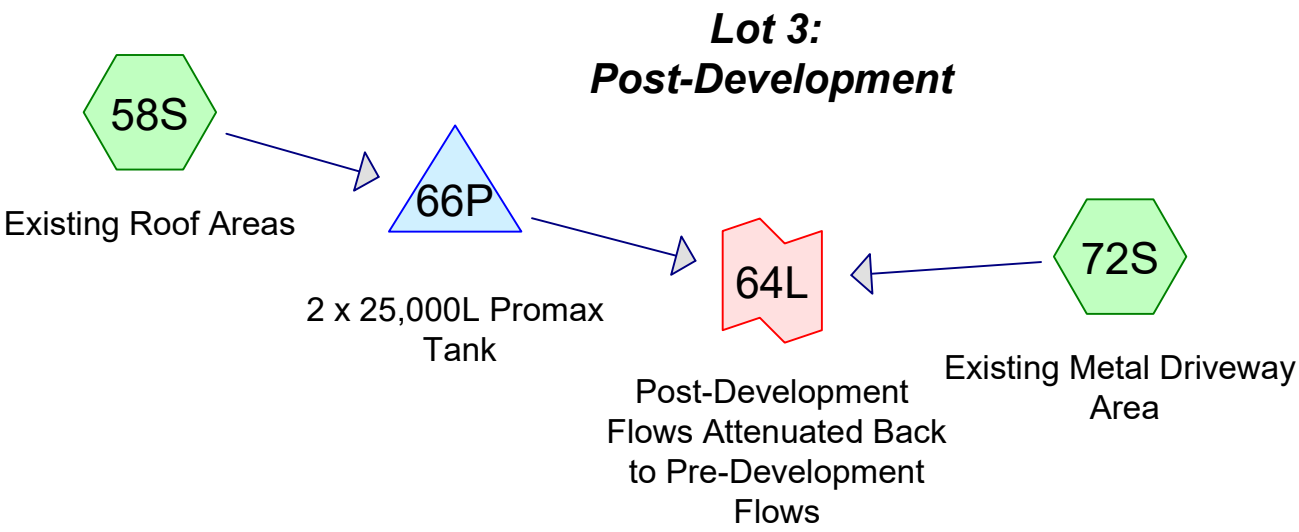
Summary for Link 32L: Pre-Development Peak Flows

Inflow Area = 334.0 m², 0.00% Impervious, Inflow Depth > 96 mm for 20% AEP + 20% CCF event
Inflow = 2.15 L/s @ 8.00 hrs, Volume= 31.9 m³
Primary = 2.15 L/s @ 8.00 hrs, Volume= 31.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 32L: Pre-Development Peak Flows





Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 3
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 58S: Existing Roof Runoff Area=181.0 m² 100.00% Impervious Runoff Depth>300 mm
Tc=10.0 min CN=98 Runoff=3.66 L/s 54.3 m³

Subcatchment 72S: Existing Metal Runoff Area=153.0 m² 0.00% Impervious Runoff Depth>272 mm
Tc=10.0 min CN=89 Runoff=2.95 L/s 41.5 m³

Pond 66P: 2 x 25,000L Promax Tank Peak Elev=0.403 m Storage=8.2 m³ Inflow=3.66 L/s 54.3 m³
Outflow=2.48 L/s 53.0 m³

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Inflow=5.23 L/s 94.6 m³
Primary=5.23 L/s 94.6 m³

Summary for Subcatchment 58S: Existing Roof Areas

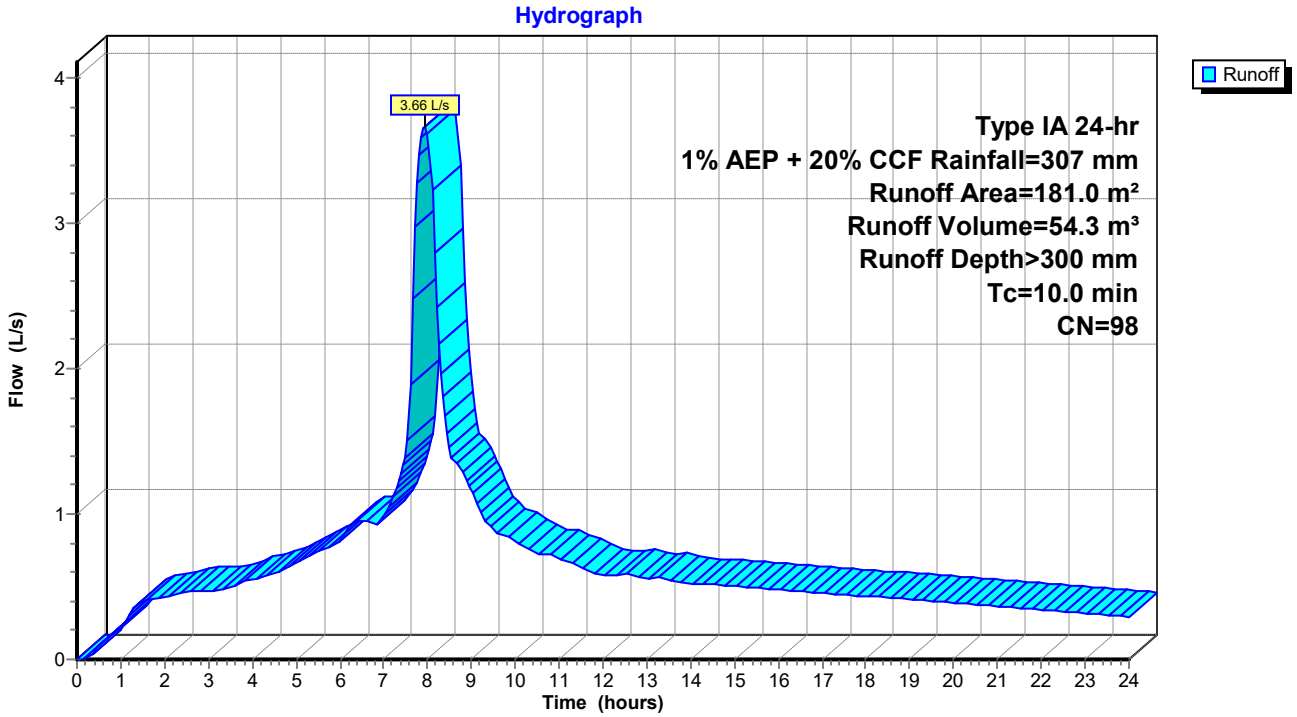
Runoff = 3.66 L/s @ 7.94 hrs, Volume= 54.3 m³, Depth> 300 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
181.0	98	Roofs, HSG C
181.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 58S: Existing Roof Areas



Summary for Subcatchment 72S: Existing Metal Driveway Area

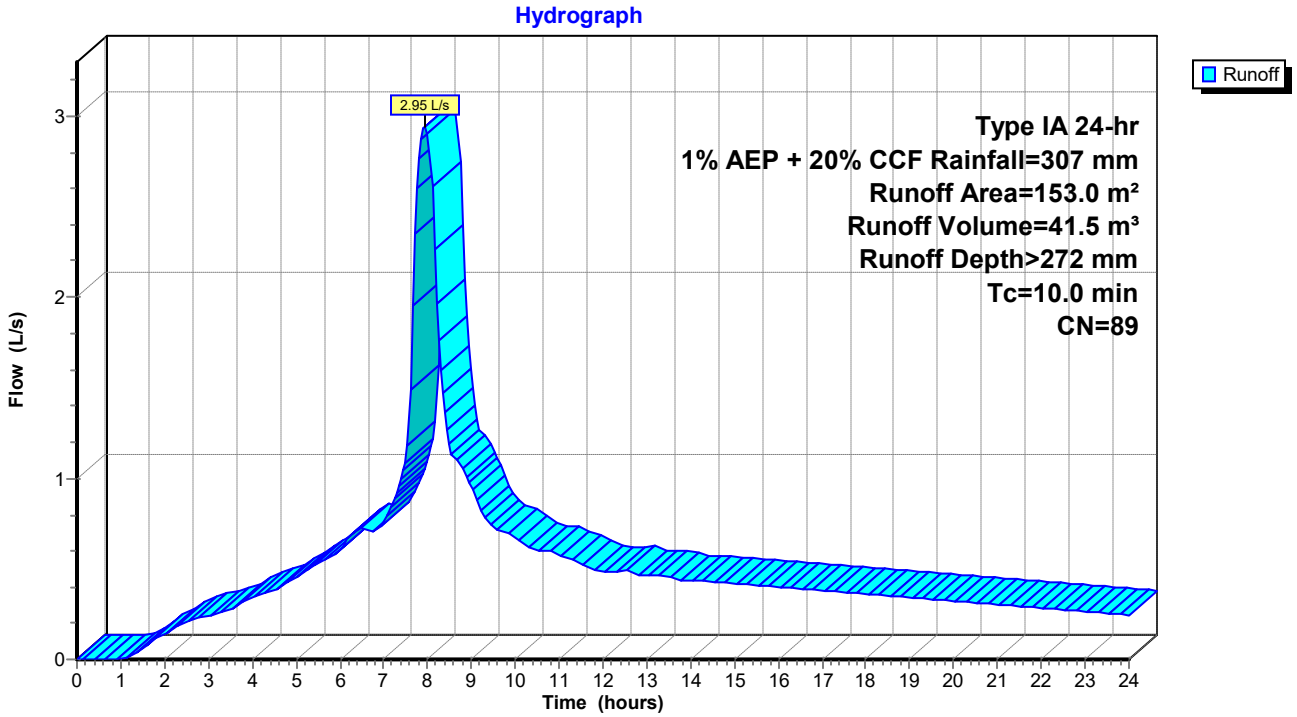
Runoff = 2.95 L/s @ 7.95 hrs, Volume= 41.5 m³, Depth> 272 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
153.0	89	Gravel roads, HSG C
153.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 72S: Existing Metal Driveway Area



Summary for Pond 66P: 2 x 25,000L Promax Tank

Inflow Area = 181.0 m²,100.00% Impervious, Inflow Depth > 300 mm for 1% AEP + 20% CCF event
Inflow = 3.66 L/s @ 7.94 hrs, Volume= 54.3 m³
Outflow = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³, Atten= 32%, Lag= 15.5 min
Primary = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.403 m @ 8.20 hrs Surf.Area= 20.4 m² Storage= 8.2 m³

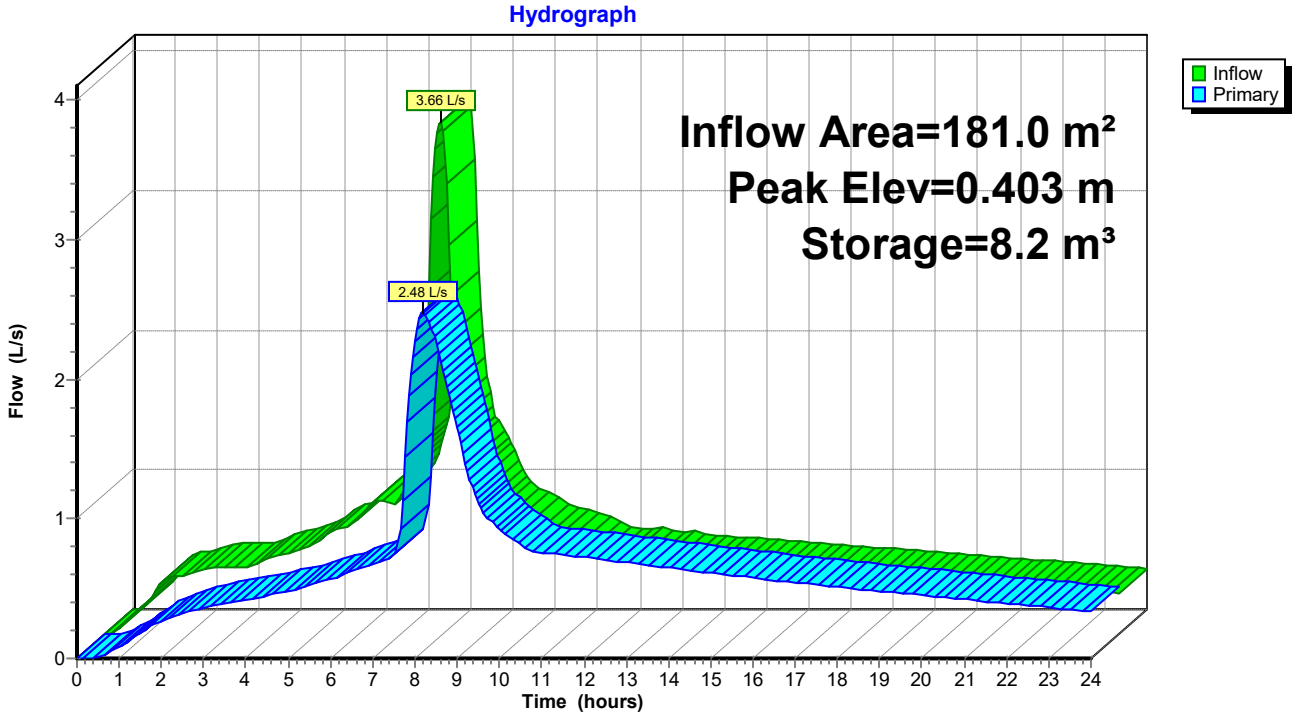
Plug-Flow detention time= 83.3 min calculated for 53.0 m³ (98% of inflow)
Center-of-Mass det. time= 64.7 min (708.7 - 644.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	52.9 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**27 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**46 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=2.48 L/s @ 8.20 hrs HW=0.403 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.95 L/s @ 1.66 m/s)
└**2=Orifice/Grate** (Orifice Controls 1.53 L/s @ 0.92 m/s)

Pond 66P: 2 x 25,000L Promax Tank

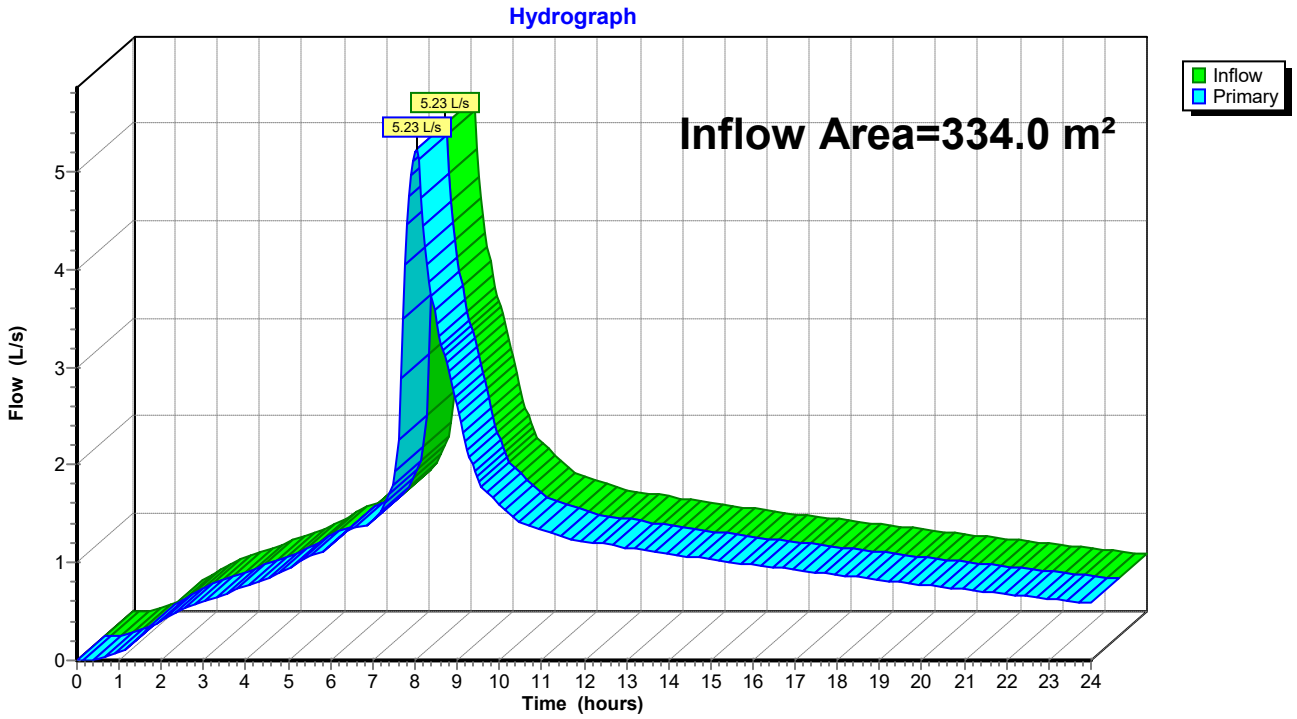


Summary for Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows

Inflow Area = 334.0 m², 54.19% Impervious, Inflow Depth > 283 mm for 1% AEP + 20% CCF event
Inflow = 5.23 L/s @ 8.03 hrs, Volume= 94.6 m³
Primary = 5.23 L/s @ 8.03 hrs, Volume= 94.6 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 58S: Existing Roof Runoff Area=181.0 m² 100.00% Impervious Runoff Depth>164 mm
Tc=10.0 min CN=98 Runoff=2.02 L/s 29.6 m³

Subcatchment 72S: Existing Metal Runoff Area=153.0 m² 0.00% Impervious Runoff Depth>137 mm
Tc=10.0 min CN=89 Runoff=1.51 L/s 21.0 m³

Pond 66P: 2 x 25,000L Promax Tank Peak Elev=0.252 m Storage=5.1 m³ Inflow=2.02 L/s 29.6 m³
Outflow=0.74 L/s 29.0 m³

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Inflow=2.15 L/s 50.0 m³
Primary=2.15 L/s 50.0 m³

Summary for Subcatchment 58S: Existing Roof Areas

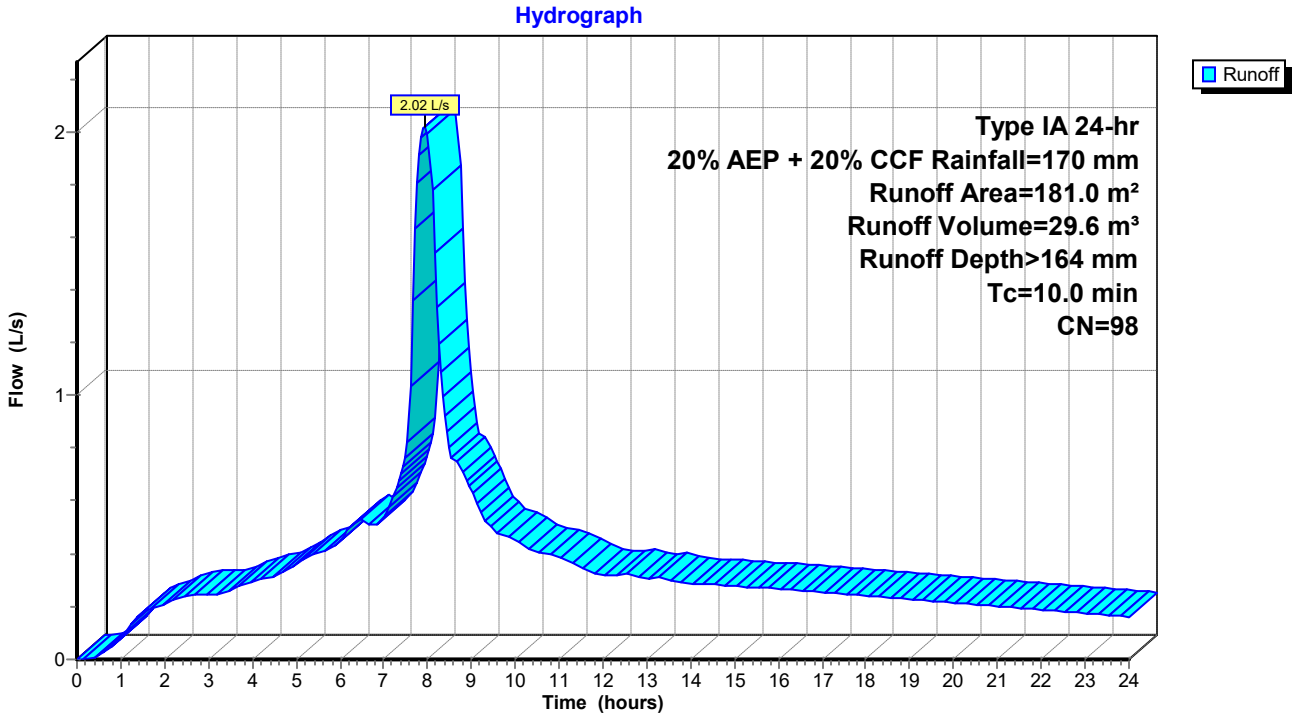
Runoff = 2.02 L/s @ 7.94 hrs, Volume= 29.6 m³, Depth> 164 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
181.0	98	Roofs, HSG C
181.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 58S: Existing Roof Areas



Summary for Subcatchment 72S: Existing Metal Driveway Area

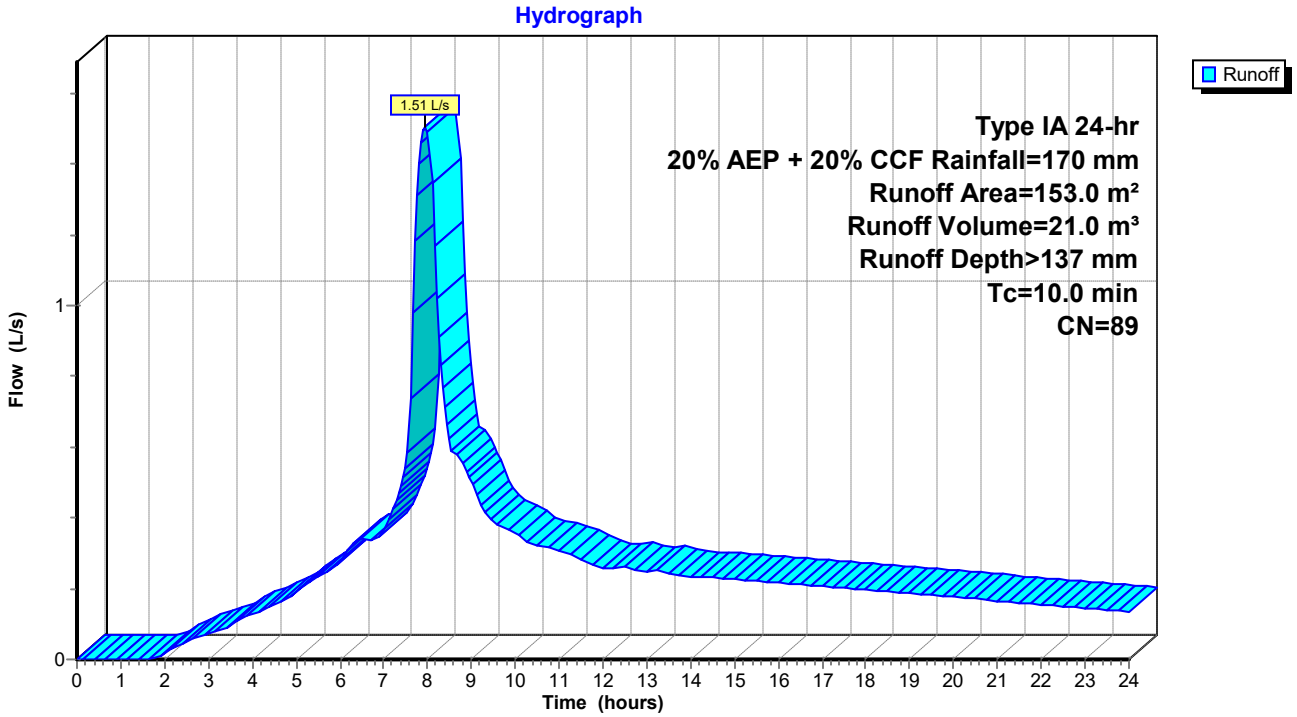
Runoff = 1.51 L/s @ 7.96 hrs, Volume= 21.0 m³, Depth> 137 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
153.0	89	Gravel roads, HSG C
153.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 72S: Existing Metal Driveway Area



Summary for Pond 66P: 2 x 25,000L Promax Tank

Inflow Area = 181.0 m², 100.00% Impervious, Inflow Depth > 164 mm for 20% AEP + 20% CCF event
Inflow = 2.02 L/s @ 7.94 hrs, Volume= 29.6 m³
Outflow = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³, Atten= 63%, Lag= 47.6 min
Primary = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.252 m @ 8.73 hrs Surf.Area= 20.4 m² Storage= 5.1 m³

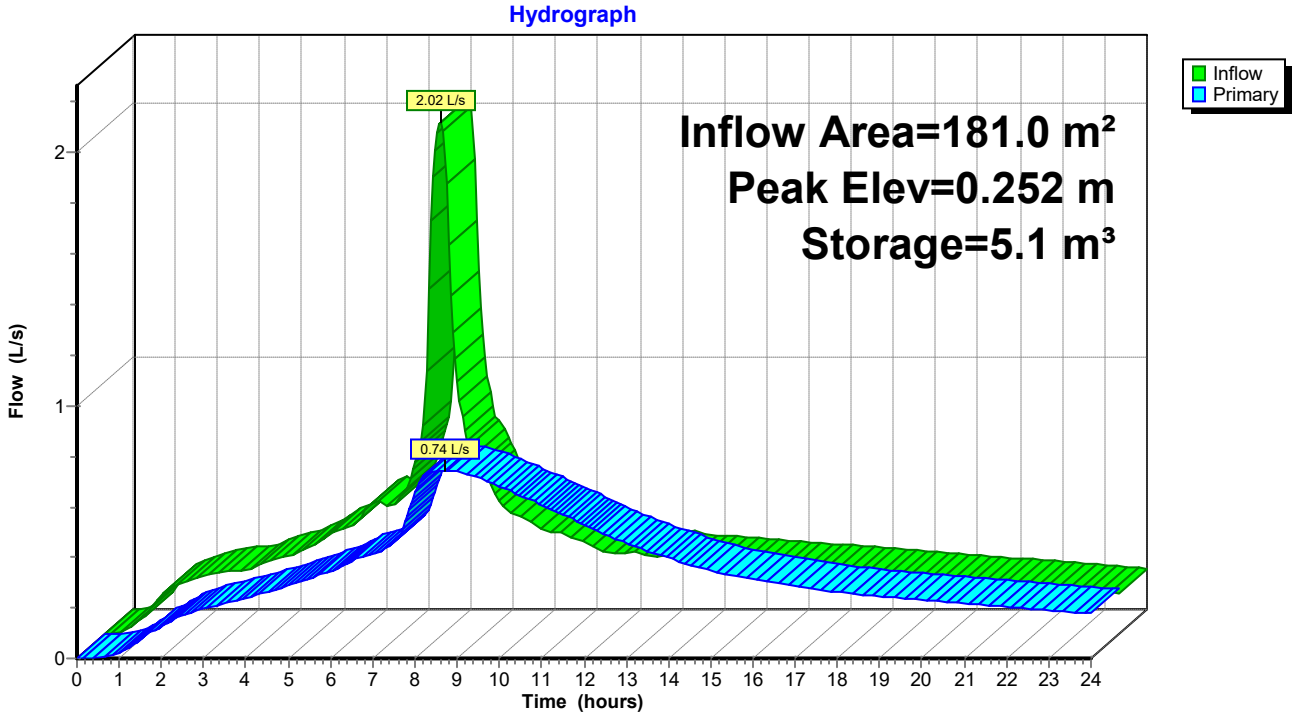
Plug-Flow detention time= 77.3 min calculated for 29.0 m³ (98% of inflow)
Center-of-Mass det. time= 62.8 min (714.3 - 651.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	52.9 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**27 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**46 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=0.74 L/s @ 8.73 hrs HW=0.252 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.74 L/s @ 1.30 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 66P: 2 x 25,000L Promax Tank

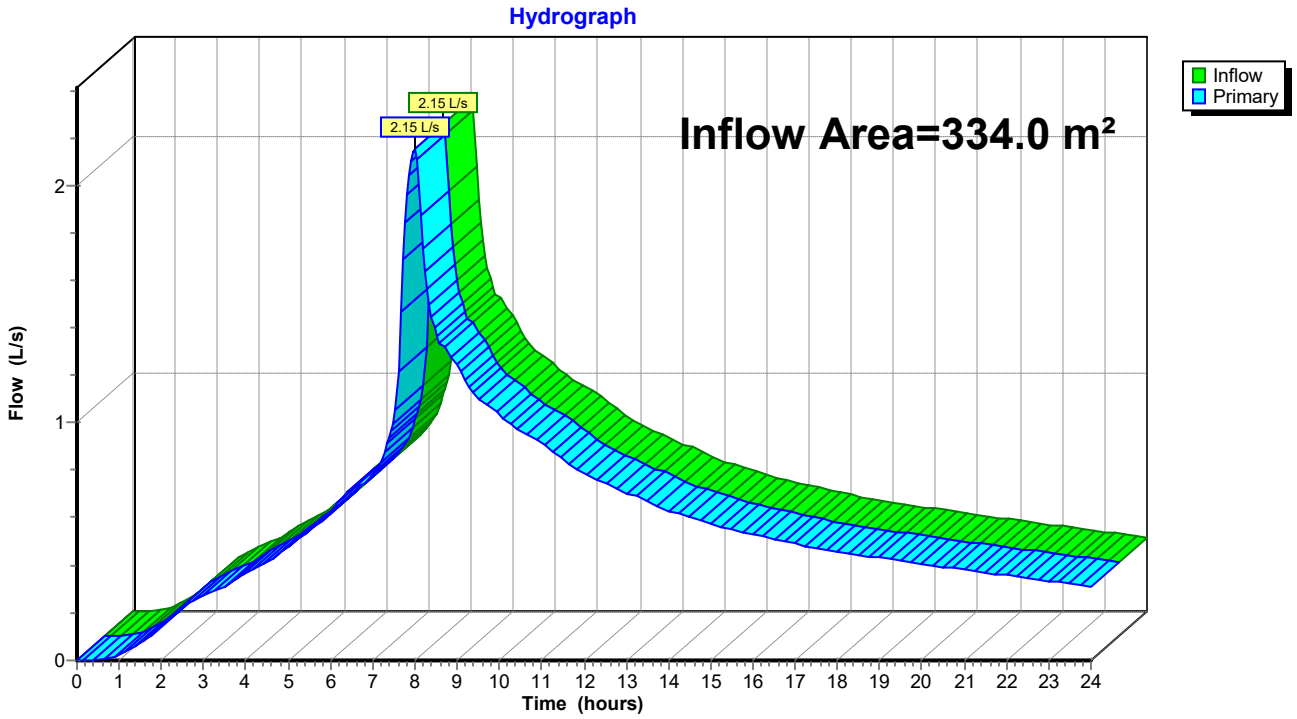


Summary for Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows

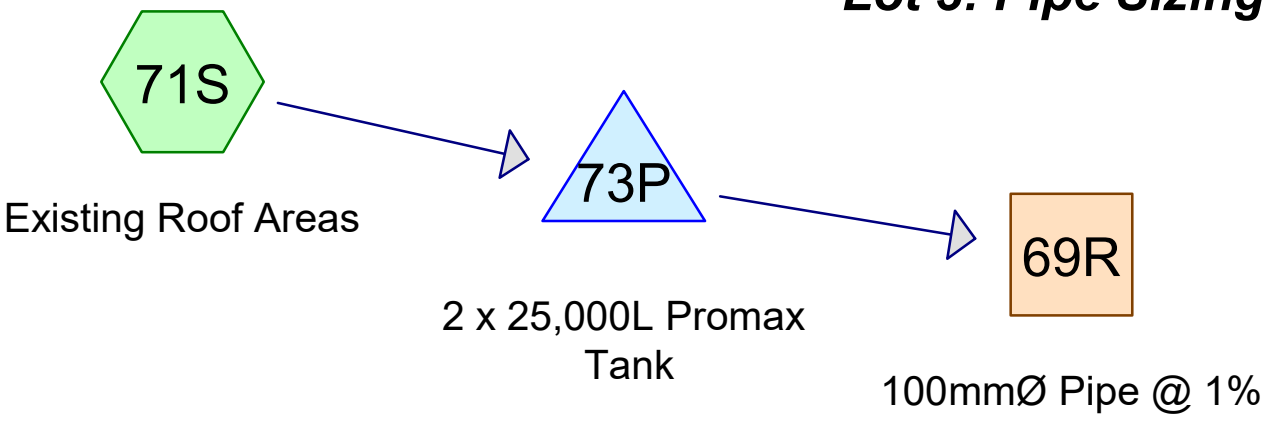
Inflow Area = 334.0 m², 54.19% Impervious, Inflow Depth > 150 mm for 20% AEP + 20% CCF event
Inflow = 2.15 L/s @ 8.00 hrs, Volume= 50.0 m³
Primary = 2.15 L/s @ 8.00 hrs, Volume= 50.0 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 64L: Post-Development Flows Attenuated Back to Pre-Development Flows



Lot 3: Pipe Sizing



Subcat Reach Pond Link

Routing Diagram for 145963 - Lot 3
Prepared by Wilton Joubert Limited, Printed 8/05/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 71S: Existing Roof Runoff Area=181.0 m² 100.00% Impervious Runoff Depth>300 mm
Tc=10.0 min CN=98 Runoff=3.66 L/s 54.3 m³

Reach 69R: 100mmØ Pipe @ 1% Avg. Flow Depth=0.04 m Max Vel=0.74 m/s Inflow=2.48 L/s 53.0 m³
100 mm Round Pipe n=0.011 L=10.00 m S=0.0100 m/m Capacity=6.10 L/s Outflow=2.48 L/s 53.0 m³

Pond 73P: 2 x 25,000L Promax Tank Peak Elev=0.403 m Storage=8.2 m³ Inflow=3.66 L/s 54.3 m³
Outflow=2.48 L/s 53.0 m³

Summary for Subcatchment 71S: Existing Roof Areas

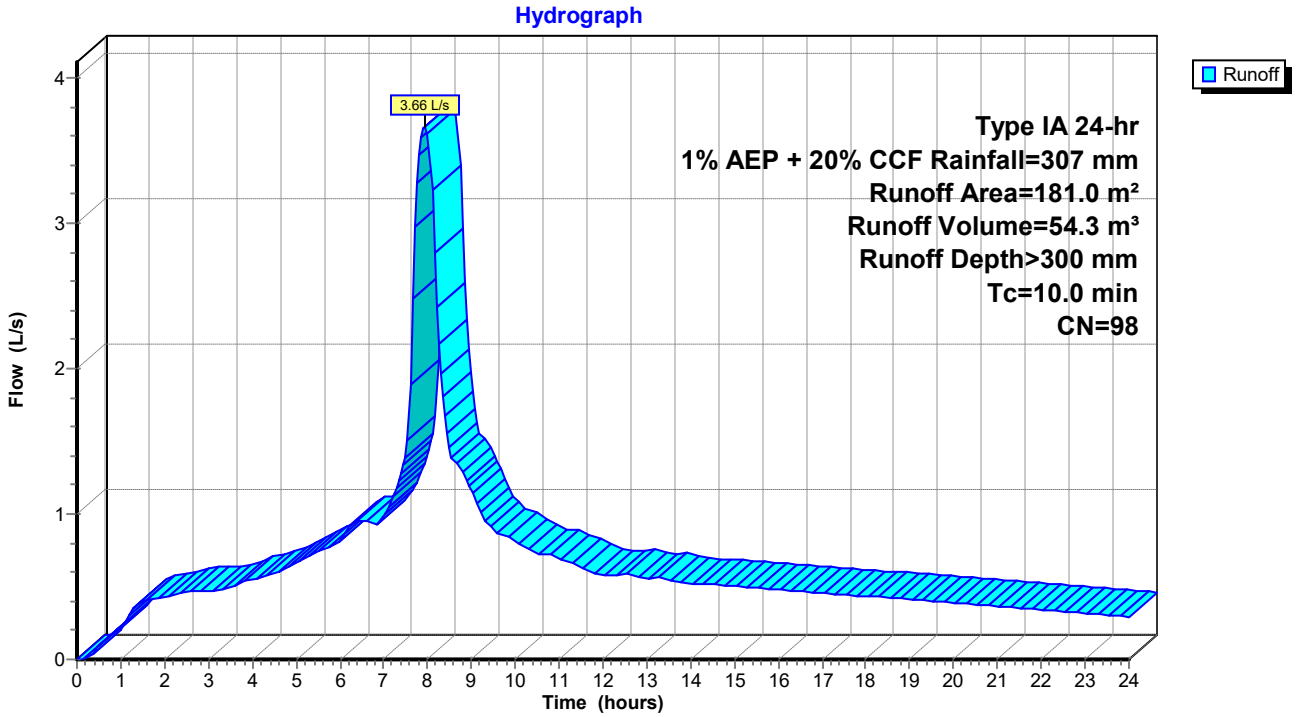
Runoff = 3.66 L/s @ 7.94 hrs, Volume= 54.3 m³, Depth> 300 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=307 mm

Area (m²)	CN	Description
181.0	98	Roofs, HSG C
181.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 71S: Existing Roof Areas



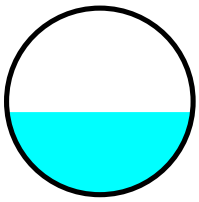
Summary for Reach 69R: 100mmØ Pipe @ 1%

Inflow Area = 181.0 m²,100.00% Impervious, Inflow Depth > 293 mm for 1% AEP + 20% CCF event
Inflow = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³
Outflow = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³, Atten= 0%, Lag= 0.2 min

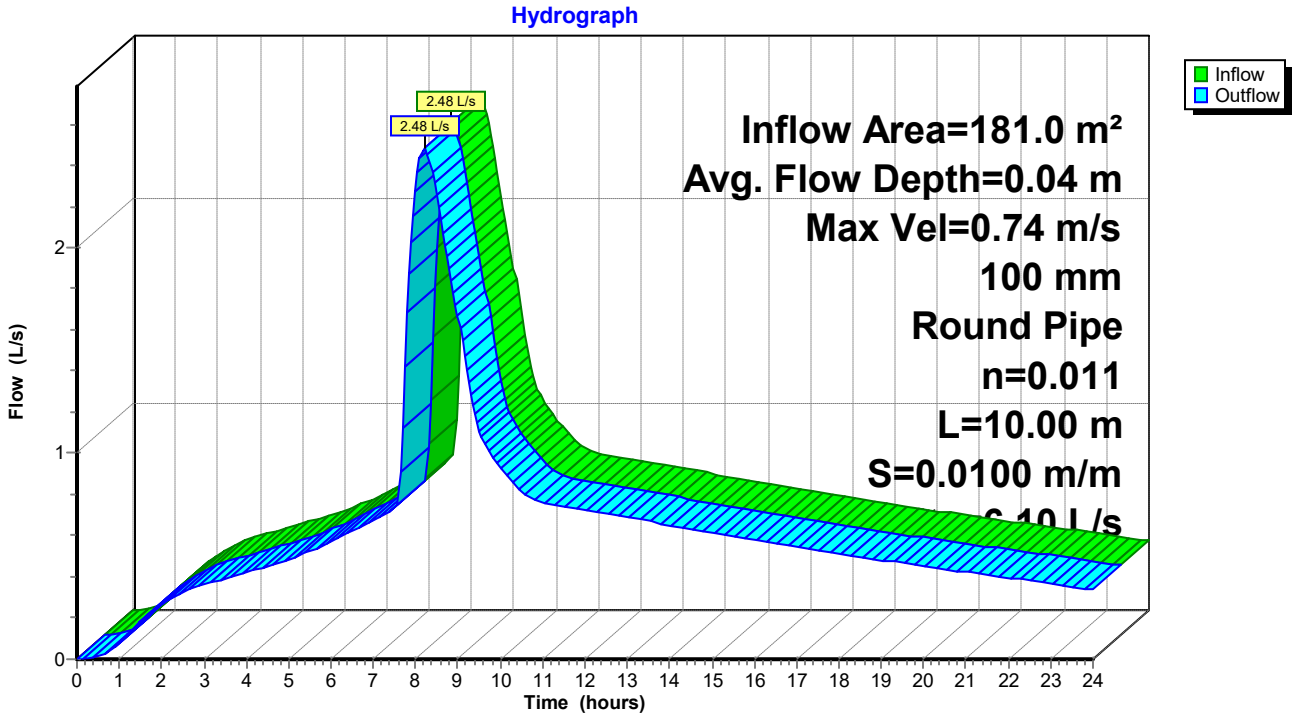
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.74 m/s, Min. Travel Time= 0.2 min
Avg. Velocity = 0.48 m/s, Avg. Travel Time= 0.3 min

Peak Storage= 0.0 m³ @ 8.20 hrs
Average Depth at Peak Storage= 0.04 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 6.10 L/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 10.00 m Slope= 0.0100 m/m
Inlet Invert= -1.000 m, Outlet Invert= -1.100 m



Reach 69R: 100mmØ Pipe @ 1%



Summary for Pond 73P: 2 x 25,000L Promax Tank

Inflow Area = 181.0 m²,100.00% Impervious, Inflow Depth > 300 mm for 1% AEP + 20% CCF event
Inflow = 3.66 L/s @ 7.94 hrs, Volume= 54.3 m³
Outflow = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³, Atten= 32%, Lag= 15.5 min
Primary = 2.48 L/s @ 8.20 hrs, Volume= 53.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.403 m @ 8.20 hrs Surf.Area= 20.4 m² Storage= 8.2 m³

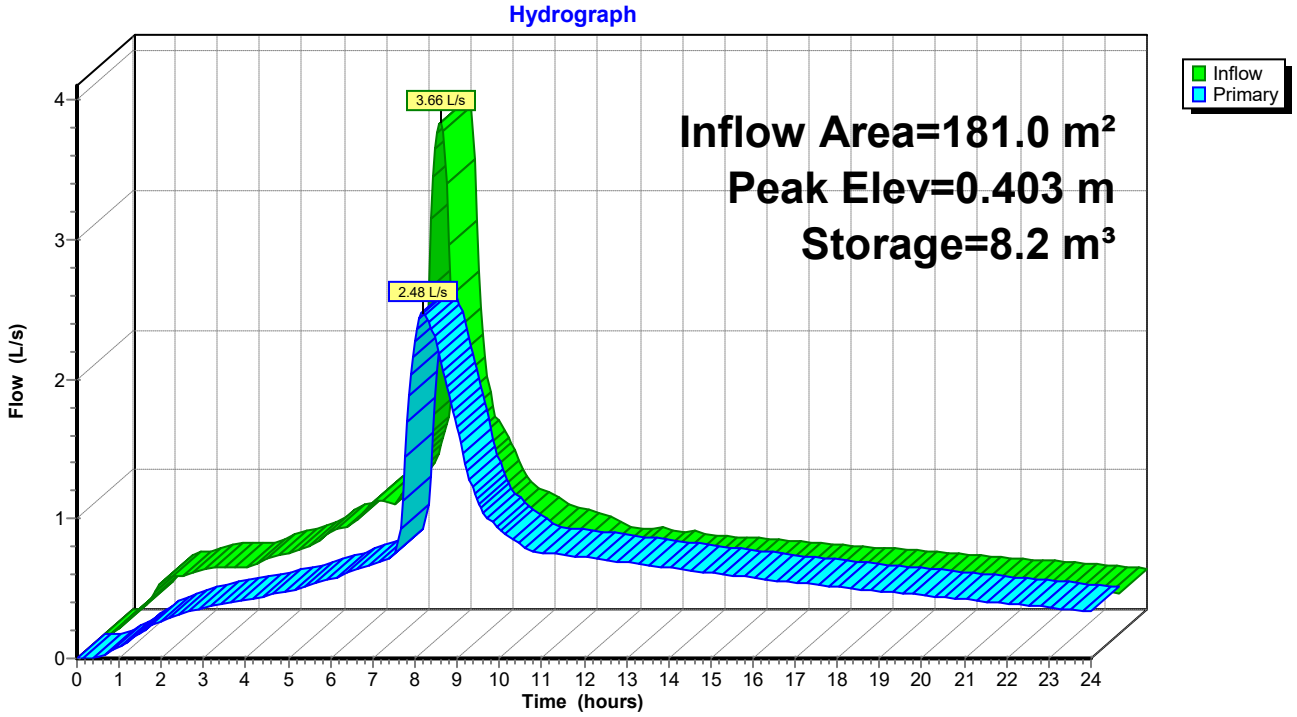
Plug-Flow detention time= 83.3 min calculated for 53.0 m³ (98% of inflow)
Center-of-Mass det. time= 64.7 min (708.7 - 644.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	52.9 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**27 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**46 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=2.48 L/s @ 8.20 hrs HW=0.403 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.95 L/s @ 1.66 m/s)
└**2=Orifice/Grate** (Orifice Controls 1.53 L/s @ 0.92 m/s)

Pond 73P: 2 x 25,000L Promax Tank



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 71S: Existing Roof Runoff Area=181.0 m² 100.00% Impervious Runoff Depth>164 mm
Tc=10.0 min CN=98 Runoff=2.02 L/s 29.6 m³

Reach 69R: 100mmØ Pipe @ 1% Avg. Flow Depth=0.02 m Max Vel=0.53 m/s Inflow=0.74 L/s 29.0 m³
100 mm Round Pipe n=0.011 L=10.00 m S=0.0100 m/m Capacity=6.10 L/s Outflow=0.74 L/s 29.0 m³

Pond 73P: 2 x 25,000L Promax Tank Peak Elev=0.252 m Storage=5.1 m³ Inflow=2.02 L/s 29.6 m³
Outflow=0.74 L/s 29.0 m³

Summary for Subcatchment 71S: Existing Roof Areas

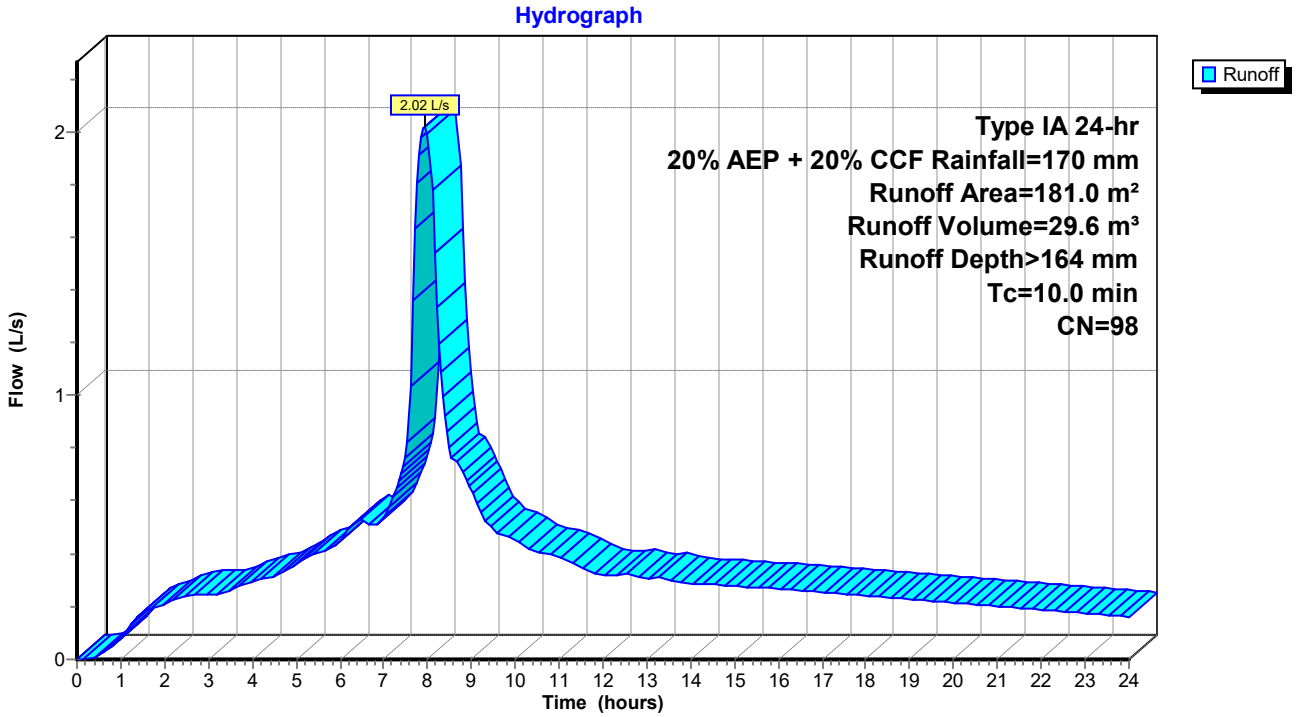
Runoff = 2.02 L/s @ 7.94 hrs, Volume= 29.6 m³, Depth> 164 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=170 mm

Area (m²)	CN	Description
181.0	98	Roofs, HSG C
181.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 71S: Existing Roof Areas



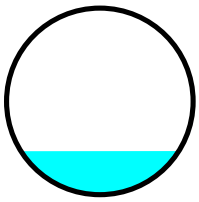
Summary for Reach 69R: 100mmØ Pipe @ 1%

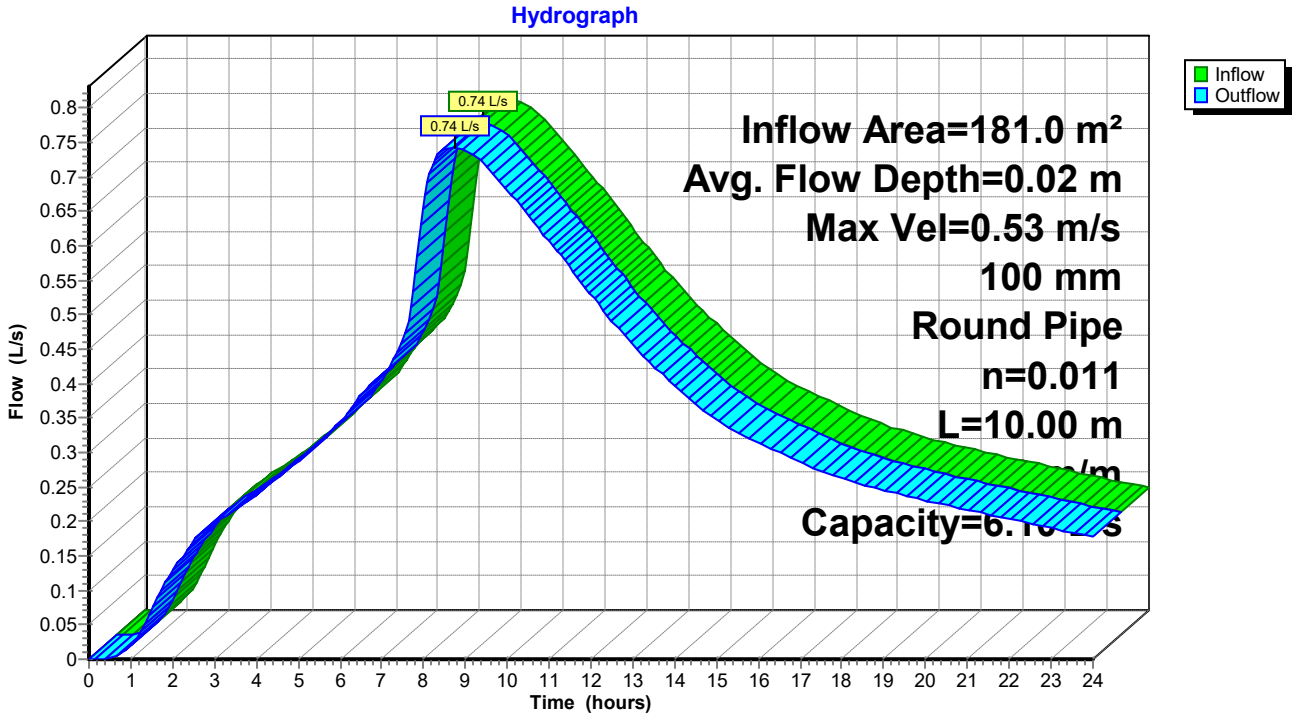
Inflow Area = 181.0 m²,100.00% Impervious, Inflow Depth > 160 mm for 20% AEP + 20% CCF event
Inflow = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³
Outflow = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.53 m/s, Min. Travel Time= 0.3 min
Avg. Velocity = 0.41 m/s, Avg. Travel Time= 0.4 min

Peak Storage= 0.0 m³ @ 8.73 hrs
Average Depth at Peak Storage= 0.02 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 6.10 L/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 10.00 m Slope= 0.0100 m/m
Inlet Invert= -1.000 m, Outlet Invert= -1.100 m





Summary for Pond 73P: 2 x 25,000L Promax Tank

Inflow Area = 181.0 m², 100.00% Impervious, Inflow Depth > 164 mm for 20% AEP + 20% CCF event
Inflow = 2.02 L/s @ 7.94 hrs, Volume= 29.6 m³
Outflow = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³, Atten= 63%, Lag= 47.6 min
Primary = 0.74 L/s @ 8.73 hrs, Volume= 29.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.252 m @ 8.73 hrs Surf.Area= 20.4 m² Storage= 5.1 m³

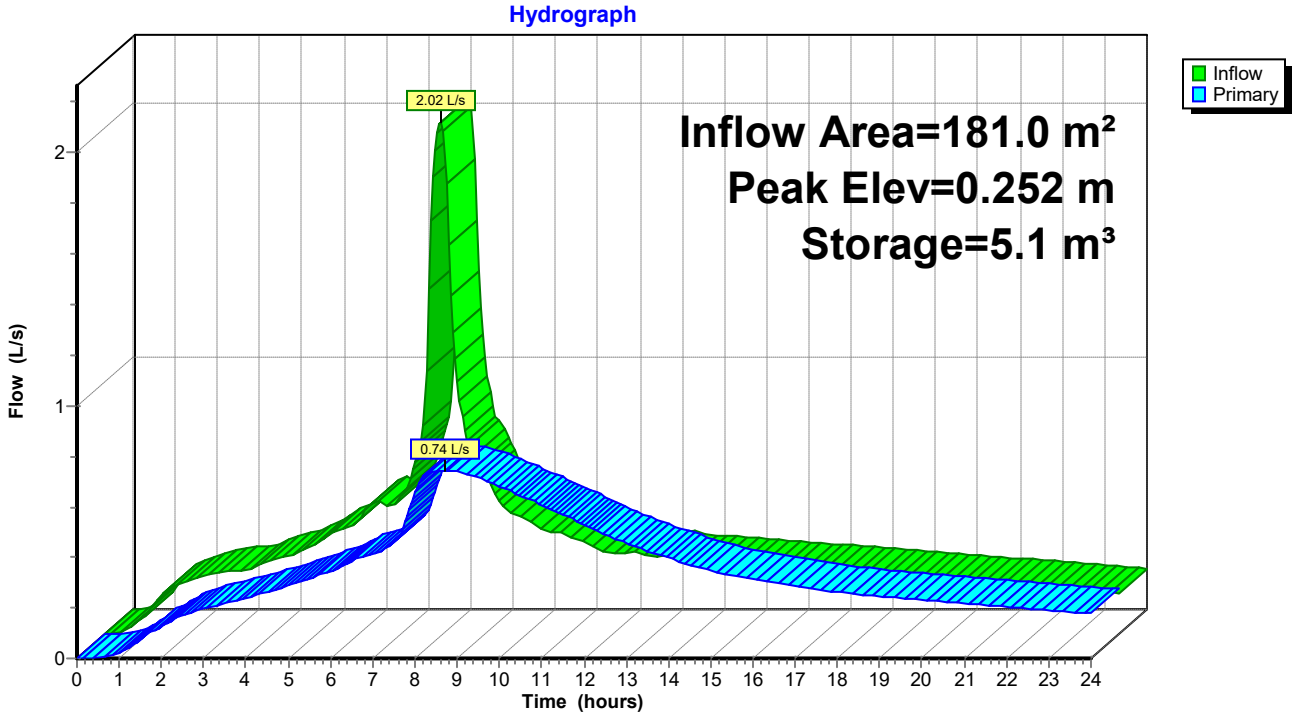
Plug-Flow detention time= 77.3 min calculated for 29.0 m³ (98% of inflow)
Center-of-Mass det. time= 62.8 min (714.3 - 651.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	52.9 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**27 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**46 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=0.74 L/s @ 8.73 hrs HW=0.252 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.74 L/s @ 1.30 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 73P: 2 x 25,000L Promax Tank



Wilton Joubert Limited
185 Waipapa Road,
Kerikeri 0230
09 527 0196

SITE	**192 Waipapa Road, Kerikeri**
LEGAL DESCRIPTION	**Lot 3 DP 408584**
PROJECT	**Proposed 3-Lot Subdivision (Proposed 1 Lot for Assessment)**
CLIENT	**J R Mason**
REFERENCE NO.	**145962**
DOCUMENT	**Site Assessment Report**
STATUS/REVISION NO.	**FINAL – Issued for Resource Consent**
DATE OF ISSUE	**16 April 2026**

Report Prepared For	Email
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1. EXECUTIVE SUMMARY

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

Development Type:	3-Lot subdivision (Proposed Lot 1 for assessment).
Development Proposals Supplied:	Yes – Subdivision Scheme Plan.
NZS3604 Type Structure(s):	Assumed to be.
Proposed Earthworks:	At this preliminary stage, we are not aware of any future earthwork proposals. Due to the neat level to very gently sloping nature of proposed Lot 1, only minor earthworks will be required to create a level building platform for any future concrete floor slab proposal.
Geology Encountered:	Kerikeri Volcanic Group.
Surficial Topsoil Encountered:	Yes – Surficial layers were encountered to a maximum depth of 0.20m below present ground level.
Overall Site Gradient in Proximity to Designated Building Platforms:	Near level to gently inclined.
Site Stability Risk:	Low risk of instability at the site.
Liquefaction Risk:	Negligible risk of liquefaction susceptibility.
Suitable Foundation Type(s):	Shallow foundations will generally be suitable to support a future development at the proposed Lot 1 designated building platform (DBP), provided they are designed to accommodate vertical movement of soil associated with Soil Reactivity **Class H – Highly Reactive**. Due to the variability in soil strengths and elevated groundwater levels across the DBP, we generally recommend site-specific Geotechnical investigations and/or assessments during the Building Consent stage.
Soil Bearing Capacity:	Yes – Stiff natural soils and Engineered Hardfill only. Geotechnical Ultimate Bearing Capacity = 200kPa.
NZBC B1 Expansive Soil Classification:	Class H – Highly Expansive (ys = 78mm).
NZS1170.5:2004 Site Subsoil Classification:	Class C – Shallow soil stratigraphy.
Minimum Footing Embedment Depth:	0.90m below finished ground levels and 0.30m into competent natural ground, whichever is deeper.
Underground Services:	Considering the existing developed nature of the site, other underground services, public or private, mapped, or unmapped, of any type could be also present. A thorough service-search should be carried out prior to commencement of any

	excavations to locate the exact locations of the underground services.
Consent Application Report Suitable for:	**Resource Consent.** Future development proposals require site-specific Geotechnical investigations and/or assessments during the Building Consent stage.

2. INTRODUCTION

2.1. SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by **J R Mason** (the Client) to undertake a geotechnical assessment of the above site, where we understand, it is proposed to subdivide the existing property into three individual allotments.

The primary purpose of this report is to provide Geotechnical assessments along with preliminary design recommendations pertaining to future residential development within vacant proposed Lot 1. Proposed Lot 2 and 3 will both contain existing residential developments and are subsequently excluded from our assessments.

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

2.2. SUPPLIED INFORMATION

At the time of preparing this report, we were supplied with a Subdivision Scheme Plan depicting the proposed development, dated March 2026 (Ref: 8687), prepared by Donaldson's Surveyors.

Any revision of the supplied Subdivision Scheme Plan with Geotechnical implications should be referred to us for review.

3. SITE DESCRIPTION

The proposed development will be created across the following property (the site), which is located off the northern side of Waipapa Road, accessed 2.4km east of the State Highway 10 intersection:

- 192 Waipapa Road, Kerikeri, legally described as Lot 3 DP 408584.

The site is shown on our appended Site Plan (Drawing No. 145962-G600) and in Figure 1 below.

Figure 1: Aerial view with the subject property highlighted in cyan (from Far North District Council's online GIS database).

The surface area of the subject site is 8,689m^2 and can be accessed via three existing vehicle crossing points from Waipapa Road. The two easternmost crossings form into two paved driveways, providing access to the two adjacent existing residential developments that cover the southeastern portion of the site. Vegetation mainly comprises of lawn, with intermittent trees present along the southern boundary.

Topographically speaking, the property lies within a broad, volcanic plateau and is near level to gently sloping, falling towards the northeast at inclinations averaging less than 3°.

The Far North District Council (FNDC) on-line GIS Water Services Map indicates that a public underground water service line bounds the road frontage boundary. No underground services are depicted as traversing beneath the site.

4. DEVELOPMENT PROPOSALS

Based on our review of the supplied Subdivision Scheme Plan, we understand that it is proposed to subdivide the existing property into three individual allotments ranging between 2,561m² and 3,090m² in area. Proposed Lot 2 and 3 will both contain existing residential developments and as such, are excluded from our assessments.

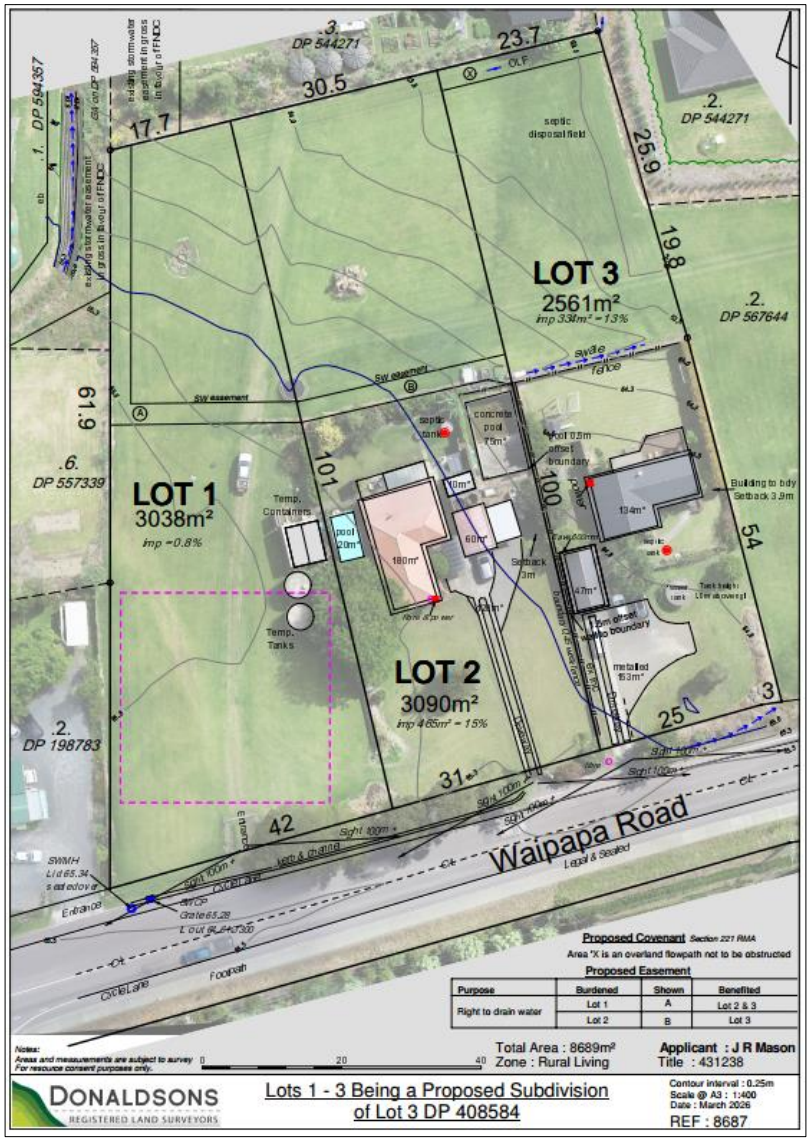


Figure 2: Subdivision Scheme Plan depicting the proposed development (from Donaldson's Surveyors).

We have been engaged to provide Geotechnical assessments along with preliminary design recommendations pertaining to future residential development within a 30m x 30m (900m²) designated building platform (DBP) at proposed Lot 1. For the purposes of this report, we have assumed any future development will comprise of a lightweight building, designed and constructed to apply loads generally in keeping with the requirements of NZS3604:2011.

At this preliminary stage, we are not aware of any future earthwork proposals. Due to the near level to gently sloping nature of proposed Lot 1, only minor earthworks will be required to create a level building platform for any future concrete floor slab proposal.

Figure 3: Site photograph looking south towards the proposed Lot 1 DBP.

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

5. PUBLISHED GEOLOGY

Local geology across the property and the wider surrounding land is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; **Kerikeri Volcanic Group Late Miocene Basalt of Kaikohe – Bay of Islands Volcanic Field**.

These deposits are approximately 9.7 to 1.8 million years in age and described as; "*Basalt lava, volcanic plugs and minor tuff*" (Ref: GNS Science Website).

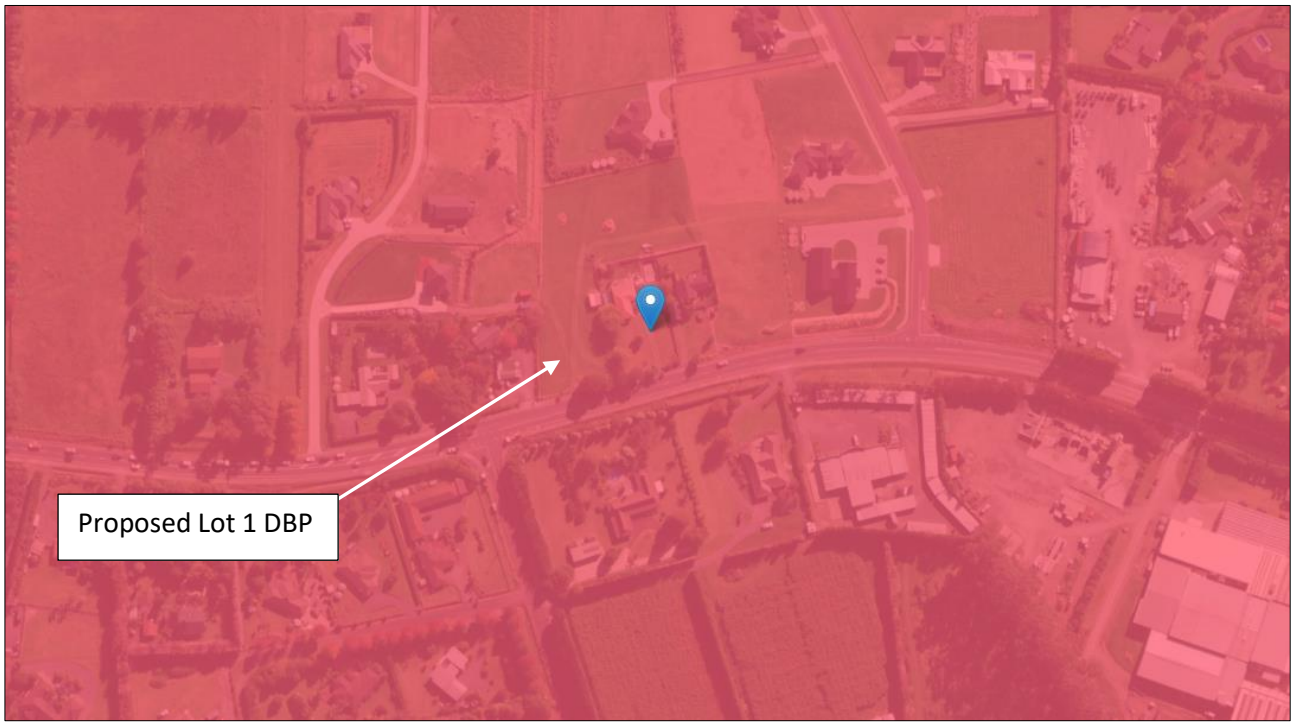


Figure 4: Screenshot from the New Zealand Geology Web Map hosted by GNS Science.

6. GEOTECHNICAL INVESTIGATION

Our fieldwork, as depicted on our appended Site Plan, was undertaken on 27 March 2026 and involved:

- Drilling 2 (no.) 50mm diameter hand auger boreholes (HA01 to HA02 inclusive) to depths ranging between 2.1m and 2.6m below present ground level (bpgl), and
- Dynamic Cone Penetrometer (DCP-Scala) tests were undertaken from the base of each borehole to refusal depths ranging between 2.2m and 3.9m bpgl.

7. GEOTECHNICAL FINDINGS

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

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

7.1. TOPSOIL

Surficial topsoil was encountered in both boreholes to a maximum depth of 0.20m bpgl.

7.2. NATURAL GROUND

The underlying natural deposits encountered were consistent with our expectations of slightly 'gleyed' Kerikeri Volcanic Group deposits, comprising stiff to very stiff SILT and clayey SILT. HA01 terminated on harder deposits at a depth of 2.1m bpgl, whilst HA02 was terminated at a depth of 2.6m bpgl due to groundwater suction.

Measured in-situ BS1377 adjusted peak Vane Shear Strengths ranged between 65kPa and greater than 197kPa, the latter being where soil strength was in excess of the shear vane capacity, or the vane was unable to penetrate the soil (UTP).

DCP-Scala testing below the base of HA01 immediately terminated on a refusal blow count of greater than 20 per 100mm penetration. Blow counts below the base of HA02 were initially loose, ranging between 1 and 2 to a depth of 3.0m bpgl, before essentially ranging between 3 and 13 to a depth of 3.8m bpgl and ultimately refusing on very dense deposits (20+ blows) at a depth of 3.9m bpgl.

The ratio of peak to remoulded vane shear strength values measured within the boreholes were noticeably variable, ranging between 2.6 and 9.1, indicating the underlying subsoils fluctuate between 'Moderately Sensitive and Extra Sensitive' subgrade.

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

7.3. GROUNDWATER

Groundwater was encountered in both boreholes at depths ranging between 1.0m to 1.4m bpgl, ultimately stabilising at standing levels ranging between 0.40m to 0.80m bpgl on the day of our investigation.

7.4. SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling:

Table 1: Stratigraphic Summary Table

Investigation Hole ID	Termination Depth (m)	Depth to Base of Surficial Topsoil (m)	Vane Shear Strength Range within Natural Ground (kPa)	DCP-Scala Blow Count Range Per 100mm Penetration Below Borehole Base	DCP-Scala Refusal (20+ Blows) Depth Below Borehole Base (m)	Standing Groundwater Depth (m)
HA01	2.1 (1)	0.20	65 - UTP	20+	2.2	0.40
HA02	2.6 (2)	0.15	65 - 197+	1 - 20+	3.9	0.80

Table Note: (1) Too hard to hand auger, (2) No recovery due to groundwater suction, NE= Not encountered.

7.5. EXPANSIVE SOILS

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

In this instance, in the absence of laboratory testing, but instead adopting the visual-tactile method as per AS2870, considering the variability of the slightly 'gleyed' volcanic soils encountered, together with the elevated groundwater levels present across the DBP, we have adopted a conservative primary classification estimate of the soils underlying the site as follows:

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

Effects of expansive soils for future construction will require mitigation by way of specific engineering design (SED) deepened footings, or a reinforced, stiffened raft slab foundation system. Foundation design recommendations are given in the appropriate Conclusion and Recommendation sections below.

8. GEOTECHNICAL ASSESSMENTS

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

- Qualitative slope stability, and
- Liquefaction susceptibility.

8.1. QUALITATIVE SLOPE STABILITY

Due to the near level to gently sloping nature of the proposed Lot 1 DBP, land instability is not considered to be a constraint or risk to the proposed development.

8.2. LIQUEFACTION SUSCEPTIBILITY

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

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

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

- The FNDC online GIS Hazard Map categorises the DBP as an '*Undetermined*' Liquefaction Vulnerability area. The remaining existing Lot area is within an '*Unlikely*' zone,
- Stiff to very stiff, slightly 'gleyed' soils of the Kerikeri Volcanic Group encountered during our investigations,
- DCP-Scala penetrometer testing below the base of each borehole refusing on very dense stratum at depths ranging between 2.2m to 3.9m bpgl,
- Groundwater was encountered in both boreholes at depths ranging between 1.0m to 1.4m bpgl, ultimately stabilising at standing levels ranging between 0.40m to 0.80m bpgl on the day of our investigation,
- The DBP is situated in a broad, elevated volcanic plateau, set no less than approximately RL64m New Zealand Vertical Datum (NZVD), with good water-shedding characteristics down to the northeast,
- There are no known active faults traversing through or close to the site, and
- Soils of the Kerikeri Volcanic Group underlie the site (geological age +1.8My).

8.3. LIQUEFACTION ASSESSMENT CONCLUSION

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

9. CONCLUSIONS AND RECOMMENDATIONS

Based on our observations, site survey, record research, hand auger borehole investigation and in-situ testing as described herein, we consider on reasonable grounds that this report can be submitted to the Territorial Authority in support of a Resource Consent application for subdividing the subject site, substantiating that in terms of section 106 of the Resource Management Act and its current amendments, either:

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

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

Therefore, we are satisfied that the proposed Lot 1 DBP should be generally suitable for future residential construction in terms of NZS3604:2011, provided the recommendations of this report are adhered to and future development proposals are subject to site-specific Geotechnical investigations and/or assessments during the Building Consent stage.

9.1 PRELIMINARY FOUNDATION DESIGN RECOMMENDATIONS

Shallow foundations will generally be suitable to support a future development at the DBP, provided they are designed to accommodate vertical movement of soil associated with Soil Reactivity **Class H – Highly Reactive**.

Due to the variability in soil strengths and elevated groundwater levels across the DBP, we generally recommend site-specific Geotechnical investigations and/or assessments during the Building Consent stage.

9.1.1. SHALLOW FOUNDATION BEARING CAPACITY

The following approximate bearing capacity values are considered to be appropriate for the design of shallow foundations, which will require refinement during the Building Consent stage, subject to founding directly within competent natural ground and/or engineered hardfill, for which careful Geo-Professional inspections of the subgrade should be undertaken to check that underlying ground conditions are in keeping with our expectations:

Table 2: Bearing Capacity Values

Parameters	Kerikeri Volcanic Group Soils
Geotechnical Ultimate Bearing Capacity	200 kPa
ULS Dependable Bearing Capacity (Φ=0.5)	100 kPa

When finalising the development proposals, it should be checked that all foundations lie outside 45° envelopes rising from 0.50m below the invert of service trenches, unless such foundation details are found by SED to be satisfactory. Deeper foundation embedment or piles may be required for any surcharging foundations.

9.1.2. SHALLOW FOUNDATIONS ON EXPANSIVE SOILS

As described earlier in this report, we have estimated the classification of the site subsoils as follows:

- NZBC B1 Expansive Soil Class H

- Upper Limit of Characteristic surface movement (y_s) 78mm

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

Where required, all bored footings should be embedded a minimum of 0.90m below finished ground levels and 0.30m into competent natural ground, whichever is deeper.

9.2 NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

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

9.3 SITE EARTHWORKS

At this preliminary stage, we are not aware of any future earthwork proposals. Due to the near level to gently sloping nature of proposed Lot 1, only minor earthworks will be required to create a level building platform for any future concrete floor slab proposal.

We recommend that earthworks only be undertaken during periods of fine weather. Timber subfloor construction should be undertaken during the summer period of the year where groundwater levels are anticipated to be less elevated; however, some provision should also be given for the use of pumps to drain footing excavations prior to concrete pouring.

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

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

9.4 SITE CLEARANCE & PREPARATION

The competency of the exposed subgrade underlying any proposed concrete floor slab foundation and where required, at the invert of all bored footings should be confirmed by a Geo-Professional. In this regard, we recommend the stripping of all vegetation, topsoil and any non-engineered fill deposits encountered beneath any proposed concrete floor slab foundation, prior to requesting Geo-Professional inspection(s) of the stripped ground to confirm that the underlying natural subgrade conditions are in keeping with the expectations of this report. Without such inspections being undertaken, a Chartered Professional Geotechnical Engineer is unable to issue a Producer Statement - PS4 – Design Review which could result in the failure to meet Building Consent requirements as set by Council as conditions of consent.

9.5 SUBGRADE PROTECTION

The subgrade beneath any proposed concrete floor slab foundation should not be exposed for any prolonged period but should be covered with a 100mm thick layer of granular fill, such as GAP40 basecourse, as soon as possible.

Likewise, where required, all bored footing inverts should be poured as soon as possible once inspected by a Geo-Professional or covered with a protective layer of site concrete.

If subgrade degradation occurs by:

- Excessive drying out resulting in desiccation shrinkage cracking, it will be necessary to either re-hydrate the subgrade or undercut the degraded material and replace with compacted hardfill, or
- Excessive subgrade softening after a period of wet weather resulting in weakened soils, it will be necessary to undercut the degraded material and replace with compacted hardfill.

9.6 HARDFILL COMPACTION

Engineered, compacted hardfill should be utilised for all fills beneath any proposed concrete floor slab foundation. The compaction of the hardfill should be undertaken using either a heavy plate compactor or a steel wheeled roller with low frequency dynamic compaction. Hardfill layers should not exceed 0.15m at a time, and where the total depths exceed 0.60m, there is likely to be a Building Consent condition for observation/testing of the hardfill by a Geo-Professional. We recommend achieving the following compacted target values, with equivalence testing using either a Clegg Impact Hammer or DCP-Scala.

Table 3: Compaction Criteria (for granular fill only)

Foundation Support Type	CBR	Equivalent Clegg Impact Value (CIV)	Equivalent DCP-Scala Penetrometer Blows
Foundation Footings & Beams **(Over a depth of no less than twice the foundation width)**	≥ 10%	Minimum 20 Average 25	≥5 blows/100mm (NZS3604)
Floor Slabs	≥ 7%	Minimum 18 Average 20	≥3.5 blows/100mm (NZS3604)

9.7 GENERAL SITE WORKS

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

Furthermore:

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

9.8 LONG-TERM FOUNDATION CARE & MAINTENANCE

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

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

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

To this end, care should be taken to avoid:

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

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

10. STORMWATER & SURFACE WATER CONTROL

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

All stormwater runoff from any new roof and paved areas should be collected in sealed pipes and be discharged to a Council approved stormwater system.

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

11. ON-SITE WASTEWATER DISPOSAL

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

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

12. UNDERGROUND SERVICES

The FNDC on-line GIS Water Services Map indicates that a public underground water service line bounds the road frontage boundary. No underground services are depicted as traversing beneath the site.

Considering the existing developed nature of the site, other underground services, public or private, mapped, or unmapped, of any type could be also present.

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

13. LIMITATIONS

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

This report has been commissioned solely for the benefit of our Client, **J R Mason,** in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial

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

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

Because soil is not a homogeneous, manufactured building component, there always exists a level of risk that inferences about soil conditions across the greater site, which have been drawn from isolated 'pinprick' locations and may be subject to localized variations. Therefore, the foregoing statements are Professional Opinion, based on a limited collection of information, some of which is factual, and some of which is inferred. For these reasons, it must be appreciated that the investigation is not deemed complete until the construction works enable confirmation of design assumptions.

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

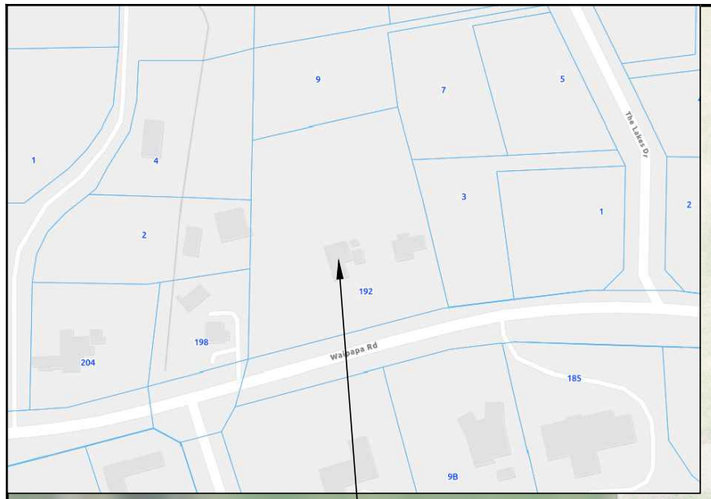
Yours faithfully,

WILTON JOUBERT LIMITED

Appendices:

WJL Site Plan (1 sheet)

Hand Auger Borehole Records (2 sheets)



SITE LOCATION

IMAGE SOURCE:
FAR NORTH DISTRICT COUNCIL LOCALMAPS

A

B

LOT 1
3038m²

LOT 2
3090m²

LOT 3
2561m²

INDICATIVE DESIGNATED BUILDING PLATFORM

HA01

HA02

65.5 65.4 65.3 65.2 65.2 65.2 65.1 65.0 64.9 64.8 64.7 64.6 64.5 64.4 64.3

0m 5m 15m 30m

SCALE 1:300

SYMBOL KEY	
⊕	HAND AUGER LOCATIONS

NOTES:

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

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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	APR '26	SJP	ISSUED WITH GEOTECHNICAL SUITABILITY REPORT

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

SERVICES NOTE

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

GEOTECHNICAL

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **3-LOT SUBDIVISION**

PROJECT TITLE:
LOT 3 DP 408584
192 WAIPAPA ROAD
KERIKERI
NORTHLAND

ORIGINAL DRAWING SIZE:	OFFICE:
A3	KERIKERI
DRAWING SCALE: 1:300	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 145962-G600	ISSUE: A

HAND AUGER : HA01

JOB NO.: 145962 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist to wet.	TS	0.2						
Kerikeri Volcanic Group	NATURAL: SILT, minor clay, brown, very stiff, moist, low plasticity.		0.4	▼ 27/03/2026	127	14	9.1		
			0.6						
	Clayey SILT, orangey brown, very stiff, wet, moderate plasticity.		0.8		158	42	3.8		
			1.0	▽					
			1.2		127	42	3.0		
			1.4						
	SILT, minor clay, orangey brown, very stiff, wet, no to low plasticity.		1.6		127	25	5.1		
	1.6m: Poor recovery.		1.8						
	2.0m: Stiff.		2.0		65	8	8.1		
	EOH: 2.10m - Too Hard To Auger		2.2		UTP	-	-	20+	
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						

REMARKS

End of borehole @ 2.10m (Target Depth: 5.00m)

Groundwater encountered @ 1.00m during drilling. Standing groundwater @ 0.40m.

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

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT Consulting Engineers

185 Waipapa Road, Kerikeri 0295
Phone: 09-945 4188
Email: jobs@wjl.co.nz
Website: www.wiltonjoubert.co.nz

HAND AUGER : HA02

JOB NO.: 145962 **SHEET:** 1 OF 1

START DATE: 27/03/2026 **NORTHING:** **GRID:**

CLIENT: J R Mason **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 192 Waipapa Road, Kerikeri **FACTOR:** 1.41 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown and grey, moist to wet.	TS	0.0						
Kerikeri Volcanic Group	NATURAL: SILT, minor clay, brown, very stiff, moist, low plasticity.		0.2						
			0.4		144	56	2.6		
	Clayey SILT, yellowish brown, very stiff, moist to wet, moderate plasticity.		0.6						
			0.8	27/03/2026	152	45	3.4		
	0.9m: Orangey brown, wet.		1.0						
	1.2m: Stiff.		1.2		87	14	6.2		
	1.4m: Frequent clasts, orangey brown with grey mottles, low plasticity.		1.4	▽					
	1.6m: Very stiff.		1.6		197+	-	-		
			1.8						
	SILT, minor to some clay, orangey brown with grey mottles, very stiff, wet, low plasticity.		2.0		197+	-	-		
	2.1m: Poor recovery.		2.2						
	2.4m: Stiff.		2.4		65	14	4.6		
			2.6						
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.8					1	
								1	
								2	
			3.0					2	
								3	
			3.2					3	
								2	
			3.4					5	
								5	
			3.6					8	
								13	
			3.8					9	
								20+	

REMARKS

End of borehole @ 2.60m (Target Depth: 5.00m)

Groundwater encountered @ 1.40m during drilling. Standing groundwater @ 0.80m.

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

LOGGED BY: JEM

CHECKED BY: CSH

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT
Consulting Engineers

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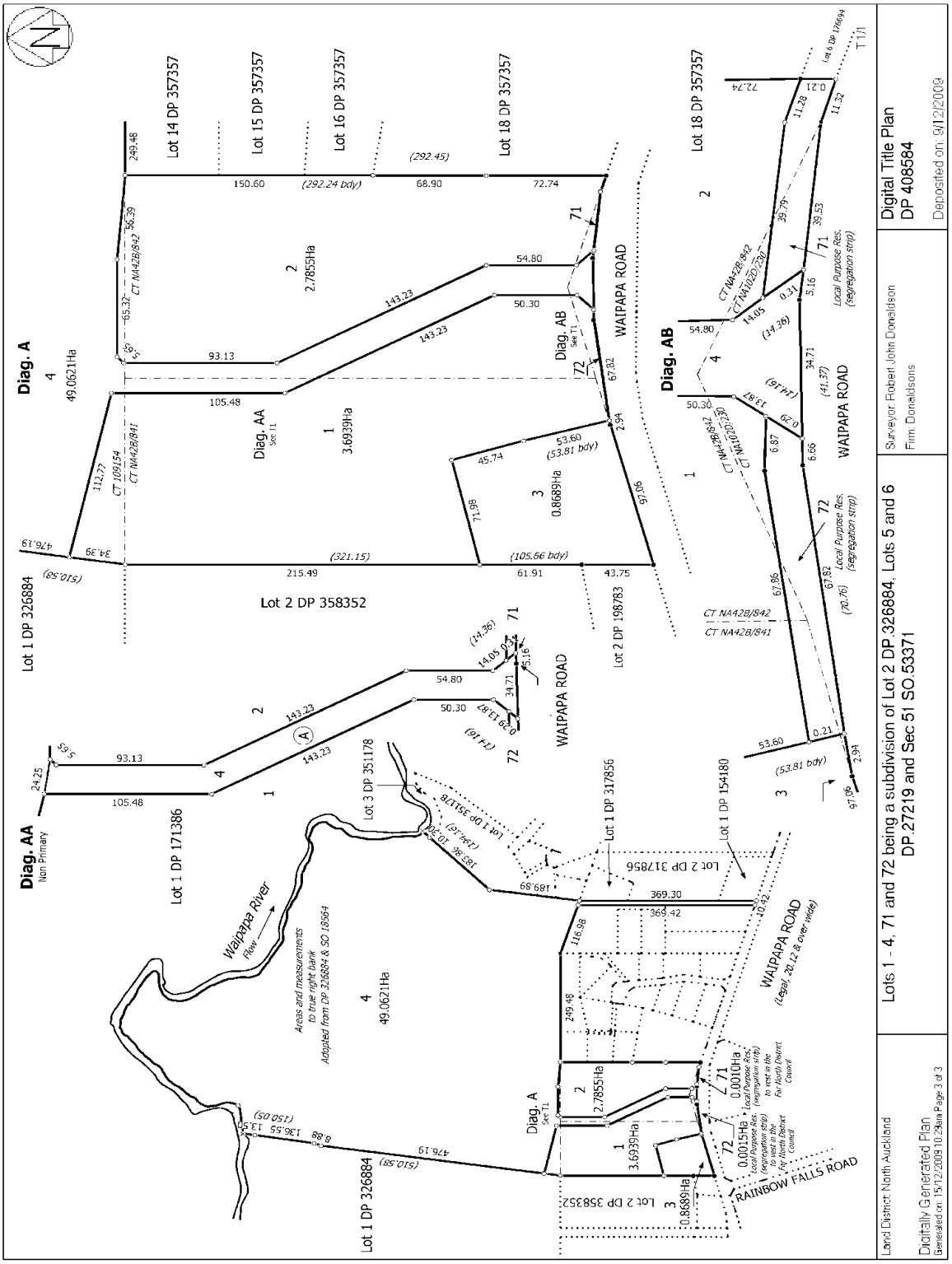
Lot 14 DP 357357
Lot 15 DP 357357
Lot 16 DP 357357
Lot 18 DP 357357
Diag. A
Diag. AA
Diag. AB
WAIPAPA ROAD
RAINBOW FALLS ROAD
Lot 1 DP 326884
Lot 2 DP 358352
Lot 2 DP 198783
Lot 1 DP 171386
Lot 3 DP 351178
Lot 1 DP 317856
Lot 1 DP 154180
Lot 2 DP 317856
Waipapa River
Flow
Areas and measurements to true right bank Adopted from DP 326884 & SO 18564
Lots 1 - 4, 71 and 72 being a subdivision of Lot 2 DP 326884, Lots 5 and 6 DP 27219 and Sec 51 SO 53371
Digital Title Plan DP 408584
Deposited on: 9/12/2009
Surveyor: Robert John Donaldson
Firm: Donaldsons
Land District: North Auckland
Digitally Generated Plan
Generated on: 15/12/2009 10:29am Page 3 of 3

Chorus New Zealand Limited

27 March 2026

Chorus reference: 11560916

Attention: Donaldson's Surveyors Ltd

Quote: New Property Development

2 connections at 190 Waipapa Road, Kerikeri, Far North District, 0230

Your project reference: 8687 Mason

Thank you for your enquiry about having Chorus network provided for the above development.

Chorus is pleased to advise that, as at the date of this letter, we are able to provide reticulation for this property development based upon the information that has been provided:

Fibre network	$2,800.00

The total contribution we would require from you is **$3,220.00 (including GST)**. This fee is a contribution towards the overall cost that Chorus incurs to link your development to our network. This quote is valid for 90 days from 27 March 2026. This quote is conditional on you accepting a New Property Development Contract with us for the above development.

If you choose to have Chorus provide reticulation for your property development, please log back into your account and finalise your details. If there are any changes to the information you have supplied, please amend them online and a new quote will be generated. This quote is based on information given by you and any errors or omissions are your responsibility. We reserve the right to withdraw this quote and requote should we become aware of additional information that would impact the scope of this letter.

Once you would like to proceed with this quote and have confirmed all your details, we will provide you with the full New Property Development Contract, and upon confirmation you have accepted the terms and paid the required contribution, we will start on the design and then build.

For more information on what's involved in getting your development connected, visit our website www.chorus.co.nz/develop-with-chorus

Kind Regards

Chorus New Property Development Team

Top Energy Limited
John Butler Centre
60 Kerikeri Rd, PO Box 43
Kerikeri 0245, New Zealand
+64 (0)9 407 0600

Micah Donaldson
Donaldsons Surveyors Limited
PO Box 211
KERIKERI

Email: micah@donaldsons.net.nz

To Whom It May Concern:

RE: PROPOSED SUBDIVISION
JR Mason – 190 Waipapa Road, Kerikeri. Lot 3 DP 408584.

Thank you for your recent correspondence with attached proposed subdivision scheme plans.

Top Energy's requirement is that power be made available for the additional lots. Top Energy advises that there is an existing power supply to proposed lots 2 & 3. Design and costs to provide a power supply to proposed lot 1 would be provided after application and an on-site survey have been completed.
Link to application: Top Energy | Top Energy

In order to get a letter from Top Energy upon completion of your subdivision, a copy of the resource consent decision must be provided.

Yours sincerely

Aaron Birt
Planning and Design
E: aaron.birt@topenergy.co.nz

Proposed Covenant *Section 221 RMA*

Area 'X is an overland flowpath not to be obstructed

Proposed Easement

Purpose	Burdened	Shown	Benefited
Right to drain water	Lot 1	A	Lot 2 & 3
	Lot 2	B	Lot 3

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

0 20 40

Total Area : 8689m²
Zone : Rural Living

Applicant : J R Mason
Title : 431238

DONALDSONS
REGISTERED LAND SURVEYORS

Lots 1 - 3 Being a Proposed Subdivision of Lot 3 DP 408584

Contour interval : 0.25m
Scale @ A3 : 1:400
Date : March 2026
REF : 8687