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)
- ◯ **Other (please specify)** _____
- ◯ **Discharge**
- ◯ **Change of Consent Notice (s.221(3))**
- ◯ **Extension of time (s.125)**

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

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

✔ **Yes** ◯ **No**

4. Consultation

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

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

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: McClelland Family Trust

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: Lynley Newport

Email: [redacted]

Phone number:

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

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

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

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

Name/s: D & G McClelland (# 132A) & Cara McClelland (#138)

Property Address/ Location: [redacted]

8. Application Site Details

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

Name/s:	as per item 7 above
Site Address/ Location:	Postcode
Legal Description:	[redacted] **Val Number:**
Certificate of title:	

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

Site visit requirements:

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

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

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

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.

Subdivision in the Rural Production Zone to create one additional lot; land use consent for breaches of Stormwater Management permitted and controlled activity rules.

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) DAVID MCCLELLAND

Email: [redacted]

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) DAVID MCCLELLAND

Signature:
(signature of bill payer) [redacted]

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) DAVID MCCLELLAND

Signature: [redacted]

Checklist (please tick if information is provided)

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

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

THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10802.1 (FNDC)

22 August 2025

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed Subdivision and land use at 132A and 138 Stanners Road – McClelland Family Trust

I am pleased to submit application on behalf of the McClelland Family Trust, for a proposed subdivision and land use consent (breaches of Stormwater Management rules) on land at Stanners Road, Kerikeri, zoned Rural Production. The application is a non complying activity.

The application fee of $5,143 has been paid separately via direct credit.

Regards

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

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

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

McClelland Family Trust

PROPOSED SUBDIVISION & LAND USE CONSENT (for Stormwater Management as a result of reduced lot area)

132A & 138 Stanners Road, Kerikeri

PLANNER'S REPORT & ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The applicants propose to carry out a subdivision of their title at 132A Stanners Road and adjoining title at 138 Stanners Road, whereby 3 titles will be created from two existing titles (one additional). The premise is that land to be in proposed Lot 2 will be subdivided from the applicants' 132A Stanners Road property, but that an equal sized portion of the smaller 138 Stanners Road property will be transferred from 138 back into 132A. The net result is the productive land area of Lot 3 is unaltered and the land being taken off 138 makes little difference to productivity given that the property was only 6,500m^2 in the first instance.

The current situation sees Lot 3 DP 434818 (132A) of 5.0196ha; and Lot 2 DP 327279 (138) of 6491m^2 in area. The proposal will see Lot 1 (#138's dwelling, driveway and curtilage area) of 3,400m^2 ; new Lot 2 of 3,680m^2 (informally #148 and containing existing access, turning area and building); and balance Lot 3 (#132A with existing dwelling) of 4.9575ha, resulting in no change to the area available for grazing (the current production use on the land), noting Lot 2's existing coverage.

The properties (132A and 138) both have existing dwellings and their own crossings/access off Stanners Road. In addition there is a formed crossing at 148 Stanners Road, to service new Lot 2. The larger lot 3's access is shared with other properties.

Refer to *Appendix 1* for a copy of the Scheme Plan.

In addition to the subdivision, land use consent is required because of the reduced area around existing impermeable surface coverage to remain in Lot 1's adjusted total site area, and additionally for existing and future coverage to be within proposed Lot 2 – in both instances to the discretionary activity level.

1.2 Scope of this Report

This assessment and report accompanies the Resource Consent Application made by our clients, and is provided in accordance with Section 88 and Schedule 4 of the Resource Management Act 1991. The application seeks consent to carry out a subdivision & land use as a non complying activity.

The name and address of the owner of the property is contained in the Form 9 Application form. There are no other activities that are part of the proposal to which the application relates, and no other resource consents required other than those addressed in this application.

2.0 PROPERTY DETAILS

Location:	132A & 138 Stanners Road, Kerikeri – refer to Location Map in Appendix 2

Legal description & CFS's:	531164; Lot 3 DP 434818 (5.0196ha) and 110853; Lot 2 DP 327279 (6491m^2)
	Copies of Records of Title are attached in Appendix 3, along with relevant instruments.

3.0 SITE DESCRIPTION

3.1 Physical characteristics

Both titles support existing dwellings with ancillary buildings and access. The larger title's dwelling is set amongst expansive gardens/landscaping, with terraced banks leading down to the small man-made lake on its north eastern boundary.

The ground rises away to the north of the house into grassed pasture with some shelter planting. This pasture, subdivided for grazing purposes, continues around the other title (and an adjoining site, to the northern boundary. Outside of this title's northeastern boundary is the water course that feeds the small lake.

Looking north towards cottage to be in Lot 1, across pasture that will become part of large balance Lot 3.

The area proposed to be in a new Lot 2, at the north end, has an entrance off Stanners Road, an internal metal driveway with expansive turning circle, and an old ex-dairy shed building. There is mature vegetation at road frontage and near the building, with grassed areas making up the balance of the proposed lot. The ground is reasonably level throughout.

The smaller title at 138 Stanners Road supports a house with attached garage, and detached shed. It is effectively encircled by the larger title. The buildings have been in place for some time and there are established gardens and peripheral plantings that screen the cottage quite well. This site is relatively level, with a slight downward fall to the east, north and south, away from the house.

Looking east from the centre of proposed Lot 2, towards its proposed eastern boundary with large balance Lot 3.

There is an operating (consented) quarry on the adjoining large rural holding (owned and operated by the Lupi's). The nearest part of the quarry (sediment pond) will be 180m from any new dwelling constructed within Lot 2. This is approximately 250-300m between the quarry and the existing dwelling on the smaller title, and nearly 400m separately between the quarry and the existing dwelling at 132A.

Surrounding land supports residential living with some larger rural holdings, some of which is in horticultural but most of which is in grazing.

3.2 Mapped characteristics

The properties are zoned Rural Production in the Operative District Plan (ODP) and Horticulture in the Proposed District Plan (PDP). The sites are not identified as containing any outstanding landscape or natural features. They are not flood or erosion prone. The properties are within a much larger generic area identified as potentially having 'kiwi present'. There are no mapped cultural or heritage resources on either title.

Both titles are within a larger area mapped as containing LUC Class 3s2 soils.

3.3 Legal Interests

The smaller Lot 2 DP 327279 has an appurtenant right of way and electricity, telecommunications and water rights easement registered as an interest. The larger Lot 3 DP 434818 also has appurtenant right of way and electricity, telecommunications and water supply rights, along with being subject to a right of way and electricity, telecoms and water supply rights over part marked A on DP 434818. A copy of D528686.2 is attached at part of Appendix 3. No existing legal interests are affected by this subdivision.

3.4 Consent History

Subdivision Consent history

CFR 110853 was one of three titles created by RC 2030871, issued in 2003. CFR 531164 is essentially Lot 3 of that same subdivision. Since then, however, CFR 531164 was created as a result of a boundary adjustment subdivision with the adjoining Lot 4 DP 135331, RC 2110028 refers. More recently the applicants applied for and were granted RC 2180713, a boundary adjustment between the two current application sites. The applicants chose not to give effect to that subdivision. It is a relevant consideration given that the consent provided for the same reduced area lot at #138 Stanners Road as currently being applied for. The Council clearly, therefore, considered the reduced lot area acceptable and sustainable.

Other Resource Consent and Building Consent history:

CFR 110853 (138 Stanners Road, the smaller title):

ABP 4058859, issued in 1986 for the dwelling.
BC 1999-0365 for a fireplace.
BC 2001-1508 freestanding fireplace.
BC 2005-1478 for a workshop, issued in 2005. This also required land use consent (RC 2050834) for breach of setback from boundary.

CFR 531164 (132A Stanners Road, the larger title):

BC 2004-1696/0 and associated PIM 2004-0985 – for new 304m^2 dwelling; both issued in 2004.
BC 2004-2331/0 for a swimming pool, also issued in 2004.
BC 2010-357/0 for a 76m^2 farm building, issued in 2009.
BC 2015-1058/0 for a fireplace.

The property file also contains 2000791, issued in 2000 for a right of way over Lot 1 DP 135331 and Lot 2 DP 135331.

4.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

Clauses 2 & 3: Information required in all applications

(1) An application for a resource consent for an activity must include the following:	
(a) a description of the activity: .	Refer Sections 1 and 5 of this Planning Report.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this Planning Report.
(b) a description of the site at which the activity is to occur:	Refer to Section 3 of this Planning Report.

(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	No other activities are part of the proposal. The application is for subdivision, and resulting land use consent for breach of stormwater management, both pursuant to the FNDC's ODP.
(e) a description of any other resource consents required for the proposal to which the application relates:	None are required.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 7 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): *(a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	Refer to Sections 5 and 7 of this Planning Report.
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	Refer to section 5.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource	The site is not within an area subject to a customary marine title group. Not applicable.

management matters set out in that planning document (for the purposes of section 104(2B)).	
(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:* *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):* *(g) the locations and areas of land to be set aside as new roads.*	Refer to Scheme Plans in Appendix 1.

Clause 6: Information required in assessment of environmental effects

(1) An assessment of the activity's effects on the environment must include the following information:	
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:	Refer to Section 6 of this planning report. The activity will not result in any significant adverse effect on the environment.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this planning report.
(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:	Not applicable as the application does not involve hazardous installations.
(d) if the activity includes the discharge of any contaminant, a description of— *(i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and* *(ii) any possible alternative methods of discharge, including discharge into any other receiving*	The subdivision does not involve any discharge of contaminant.

environment:	
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 9 of this planning report.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	No monitoring is required as the scale and significance of the effects do not warrant it.
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	No protected customary right is affected.

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

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 6 and 9 of this planning report and also to the assessment of objectives and policies in Section 7.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 6. The site has no high or outstanding landscape or natural character values.
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 6. The subdivision has no effect on ecosystems or habitat.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	Refer to Section 6. The site has no aesthetic, recreational, scientific, historical, spiritual or cultural values that I am aware of, that will be adversely affected by the act of subdividing.
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.

options for the treatment and disposal of contaminants:	
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to hazard. The proposal does not involve hazardous installations.

5.0 ACTIVITY STATUS

5.1 Operative Far North District Plan

The properties are zoned Rural Production. No Resource features apply.

Table 13.7.2.1 Minimum Lot Sizes applies:

(i) RURAL PRODUCTION ZONE

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
The minimum lot size is 20ha. Note 1: Reference should also be made to the minimum lot size applying to land within an Outstanding Landscape, Outstanding Landscape Feature or Outstanding Natural Feature (see below in this Table and Rule 13.7.2.5). Note 2: Subdivision in the Pouerua Heritage Precinct (refer Maps 35, 41 and HP1), is a discretionary subdivision activity. Note 3: Subdivision within 100m of the boundary of the Minerals Zone is a restricted discretionary activity.	1. Subdivision that complies with the controlled activity standard, but is within 100m of the boundary of the Minerals Zone; 2. The minimum lot size is 12ha; or 3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is 2ha, and where the subdivision is created from a site that existed at or prior to 28 April 2000;.....	1. The minimum lot size is 4ha; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m² and there is at least 1 lot in the subdivision with a minimum size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 3. A subdivision in terms of a management plan as per Rule 13.9.2 may be approved. 4. Subdivision in the Pouerua Heritage Precinct (refer Maps 35, 41 and HP1), is a discretionary subdivision activity. Note 1: There is no restriction on the number of 4ha lots in a subdivision (clause 1). Note 2: The effect of the rule under clause 2 is that there is a once-off opportunity to subdivide a maximum of two small lots from a site existing at 28 April 2000. Subdivision of small lots which does not meet this rule is a noncomplying activity unless the lots are part of a Management Plan application.

Were it not for the age of title, the subdivision would fit the discretionary activity option above that allows for up to three lots of a minimum 2000m^2 area, provided one lot remains over 4ha. However, the titles are both younger than April 2000. The application is therefore a non complying subdivision.

Other Rules:

Zone Rules:

The proposal results in the existing impermeable surfaces within proposed Lot 1 accounting for more than 15% coverage of the new total site area (estimated at approximately 836m^2, or 24.6%). In addition, existing and proposed impermeable surface coverage to be within proposed Lot 2 does/will exceed 15% coverage (estimated to be approximately 834m^2, or 22.7%). **Consent is sought in both instances (Lots 1 & 2) for breaches of Rules 8.6.5.1.3 (15%) and 8.6.5.2.1 (20%).**

Existing and proposed building coverage on all lots will remain below 12.5% of total site area (permitted activity).

District Wide Rules:

Chapter 12.1 Landscapes and Natural Features does not apply as there is no landscape or natural feature overlay applying to the site.

Chapter 12.2 Indigenous Flora and Fauna does not apply as no clearance of indigenous vegetation is proposed.

Chapter 12.3 Soils and Minerals does not apply as no subdivision site works (earthworks) will be required other than minor works at the access. No earthworks internal to the lots will be required as part of subdivision site works.

Chapter 12.4 Natural Hazards does not apply as the site is not subject to any coastal hazard as currently mapped in the Operative District Plan (the only hazards with rules). There are no area of trees/bush within 20m of any building site to be within the only vacant lot created.

Rules in Chapters 12.5, 5A and 5B Heritage do not apply as the site contains no heritage values or sites, no notable trees, no Sites of Cultural Significance to Maori and no registered archaeological sites. The site is not within any Heritage Precinct.

Chapter 12.7 Waterbodies does not apply as the subdivision does not include any buildings or other impermeable surfaces, nor on-site wastewater system, breaching the setback requirements specified in this chapter and there is no indigenous wetland within which works are being proposed.

Chapter 12.8 Hazardous Substances does not apply as the activity being applied for is not a hazardous substances facility.

Chapter 12.9 does not apply as the activity does not involve renewable energy.

Chapter 14 Financial Contributions (esplanade reserve) is not relevant as there is no qualifying water body.

Chapter 15.1 Traffic, Parking and Access

I have not identified any breaches of rules in Chapter 15.1. There is existing legal access to the dwelling within Lot 3 and no change is being made to the number of users of that access. There is existing legal access to the cottage to remain in Lot 1 and no change to the number of users of that crossing. There is an existing crossing formed to proposed Lot 2, believed adequate for its intended use.

5.2 Proposed District Plan

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

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

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

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

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

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

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

Ecosystems and Indigenous Biodiversity – Rules IB-R1 to R5 inclusive.

No indigenous vegetation clearance is proposed.

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

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

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

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

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

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

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Allotment sizes and dimensions

Lots 1 & 3 support existing residential development. Civil engineering reporting shows that the smaller Lot 1 can continue to support such a use. The lot remains of sufficient size and dimension to accommodate the existing development and associated services.

The slightly larger Lot 2 is the only 'vacant' title in terms of supporting residential living, albeit it contains driveway/access; turning circle and renovated ex-dairy shed building. The site is more rectangular than square which results in a 'tight fit' in terms of being able to accommodate a strictly 'square' 30m x 30m building envelope whilst meeting the 10m boundary setback on north and south boundaries. For the sake of completeness a breach of the rule requiring an absolutely square 30m x 30m building envelope, whilst achieving 10m setback from boundary, is included in this application. There is more than 900m^2 of building envelope available within the site. In addition the Civil Engineering report shows that the lot is of a suitable size and dimensions to support future residential living.

6.2 Natural and Other Hazards

There no known natural hazards affecting the application site(s). In addition the Civil and Geotechnical assessment supporting the application found that there was a low risk of instability within the only vacant Lot 2, and negligible risk of liquefaction. Refer to section 9 of the Civil and Geotechnical Assessment in Appendix 4 which addresses s106 requirements.

6.3 Water Supply

Dwellings are existing within Lots 1 & 3, with their own water supplies, primarily via roof catchment. There is also stock water, reticulated to troughs. A future dwelling within Lot 2 will also be reliant on roof catchment, for both potable and fire fighting supply. If the Council considers it necessary it can impose its standard consent notice clause in regard to water supply, on Lot 2 only.

6.4 Stormwater Disposal

Stormwater management is covered comprehensively in the Site Assessment Report by Wilton Joubert Consulting Engineers and attached to this application in Appendix x. Refer specifically to Section 13 of that report. General recommendations within the report include:

- Uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect soil bearing conditions;
- All stormwater runoff from new roof and paved areas should be collected in sealed pipes and be discharged to a stable disposal point that is well clear of the future building site (on Lot 2);
- Concentrated overflows from any source must not be discharged into or onto the ground in an uncontrolled fashion.

The report recommends that as a condition of consent, the location and extent of the existing stormwater management system on Lot 1 should be assessed by a suitably qualified person to ensure that it is (a) in good operating order; and (b) within the new lot's boundaries. The report goes on to recommend an appropriate amount of attenuation. As noted earlier, the Council has previously consented a similar lot size to that being proposed in this current application.

In regard to Lot 2, a site-specific stormwater design should be provided at time of building consent. Runoff from the roof of any future buildings should be captured by a gutter system and conveyed to rainwater tanks for reuse supply. Overflow from rainwater tanks should be directed to a discharge point via sealed pipes. Runoff from hardstand areas may shed to lower-lying grassed areas via even sheet flow, clear of any structures. Where even sheet flow is not possible because of contour, concentrated flows should be managed with swales to prevent scouring/erosion. As with Lot 1, the report recommends an appropriate level of attenuation to be achieved.

6.5 Sanitary Sewage Disposal

The Site Assessment Report in Appendix x addresses wastewater in its section 12. The existing system for the dwelling within the large balance lot has not been investigated to any degree given (a) the lot size; (b) and location of the existing dwelling in relation to any new boundaries; and (c) its relatively young age.

The existing wastewater system servicing the cottage within Lot 1 will require assessment to ascertain whether all components are within the new proposed lot boundaries. If any part of the existing wastewater system is found to be located outside the respective lot boundaries,

it should be relocated within the proposed lot limits, or alternatively an appropriate sewage drainage easement should be put in place, the preference being relocation. This can be s223 requirement. As noted earlier, the Council has previously consented the same sized lot as that now being proposed.

The Site Assessment Report assesses proposed vacant Lot 2 for on-site wastewater. It assesses soil category as Category 4. The report found that the subsoils encountered are appropriate for either primary or secondary level treatment systems. Indicative designs for both scenarios are provided.

6.6 Energy Supply & Telecommunications

Power and telecommunications services are existing for the existing residential development. Connections to these services are not a requirement of rural subdivisions. Nonetheless, Lot 2's proximity to existing power infrastructure should mean there would be no issue in securing a future power connection if and when required.

6.7 Easements for any purpose

There are no proposed easements.

6.8 Property Access

Crossings (three) are all existing. As there is no increased usage of the existing Lots 1 & 3 crossing, no upgrading should be required. Sight distances for all existing crossings are good and the standards of crossings is good.

Existing crossing into proposed Lot 2, taken from Lot 2's gateway

6.9 Effects of Earthworks and Utilities

No earthworks will be required to give effect to this subdivision. The Civil and Geotechnical Assessment report contains some general recommendations in terms of future development within Lot 2.

6.10 Building Locations & Amenity

The only additional future residential development will be within proposed Lot 2, which already contains built environment and access driveway. Lot 2 is effectively in-fill residential development along Stanners Road. There are already three dwellings in succession, and Lot 2 will sit between two of those dwellings.

Looking towards Stanners Road from inside proposed Lot 2

Looking towards northern boundary and dwelling on the adjacent property

I believe a future residential dwelling can be located within Lot 2, over 10m from northern and southern boundaries, with appropriate landscaping implemented and retained to ensure less than minor effects on adjacent properties' privacy and amenity.

Notwithstanding this, Written Approvals have been obtained from the owners of properties to the north and south of proposed Lot 2.

Looking across at southern boundary (furthest brown timber fencing), and buildings on the adjacent lot to the south.

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

The sites are zoned Rural Production with no resource feature overlays. They contain none of the above 'resources' as listed in the District Plan, the Regional Policy Statement, or the Department of Conservation's Protected Natural Area publications. There are no archaeological sites identified on the NZAA ArchSite web site, and no listed Sites of Significance to Maori on or near the application site. There is no land set aside for Conservation purposes anywhere in the vicinity.

The land is within a vast area of land mapped as a "kiwi present" area. However, there is no kiwi habitat anywhere close by. The surrounding land is developed for grazing, residential use, and further to the west and south, horticulture. In addition there is a quarry to the north. It is highly unlikely that this specific area supports any kiwi population.

Development is existing and nearby lots developed for residential use are not subject to any restrictions in regard to dogs and cats. There are no existing restrictions in regard to the keeping of dogs or cats on the application titles either. I do not believe it is reasonable to place any restrictions on the keeping of dogs or cats and an Advice Note on the consent will suffice.

6.12 Soil

The proposal, in creating Lot 2, removes a thin rectangular piece of grazing from the current 132A title. However, in exchange, it takes a larger area of grazing from 138 Stanners Road and places that back within the larger title – a net gain in land available for grazing associated with the larger, more productively viable holding. This, in my opinion has a positive effect in maintaining the life supporting capability of soil.

6.13 Access to waterbodies

The sites do not immediately adjoin any natural waterbodies to which public access is necessary or warranted.

6.14 Land use compatibility (reverse sensitivity)

The surrounding area exhibits a mix of uses. The application site is utilised for residential living and grazing. Adjacent properties are in residential use and/or grazing. Across the road there is a commercial enterprise, and further to the north there is a quarry. Even further afield there is some land in horticulture.

This is the existing consented environment within which it is proposed to introduce another residential activity. Potential reverse sensitivity effects may arise from:

(a) The presence of a commercial activity across the road (existing);
(b) The presence of an operating quarry (existing but not immediately adjoining); and
(c) Horticultural activity (existing but some distance away).

The commercial activity is a contracting business with very little day time activity occurring from what I observed while on site. It is not immediately opposite the new Lot 2. There are already 3 residential uses in reasonable proximity.

The quarry has been in existence for some considerable time and has expanded to the lineal limits of the resource being quarried, with operations now extending vertically as opposed to laterally (horizontally). The nearest part of the quarry to the application's Lot 2 is established bunding/banks and a sediment pond just beyond that. Any dwelling established on Lot 2 will be at least 180m from the vegetated bund forming a barrier to the pond and worked area beyond.

Remaining horticultural activity in the general area is on land at least two properties away from proposed Lot 2, either across Stanners Road, or well to the east and south.

In summary I am of the opinion that the creation of one additional lot in an area already containing a substantial number of residential units, amongst various productive and commercial uses, will create less than minor adverse reverse sensitivity effects.

6.15 Proximity to Airports

Not relevant.

6.16 Natural Character of the Coastal Environment

The sites are not zoned Coastal and are not defined as being within the Regional Policy Statement's "coastal environment".

6.17 Energy Efficiency and renewable Energy Development/Use

Not relevant.

6.18 National Grid Corridor

Not relevant. The National Grid does run through the application site.

6.19 Other Matters

Cumulative Effect:

The proposal creates potential for a future residential development, however in terms of built environment it does not create any cumulative effect, given the proposed additional lot already contains a building, an access, fencing and a crossing. Stanners Road in this location, is wide, straight and has numerous crossings. One more access point, existing in any event, and additional traffic that might result from future residential development, will create less than minor adverse cumulative effects.

Precedent Effect:

Where an application is a non complying activity, consideration of precedent effects is required. Over an extended number of years, the current density and layout of residential titles has evolved. The current 132A title includes a rectangular piece of land, nestled between two residential titles, somewhat physically dis-connected to the larger grazing unit and containing buildings and access/internal vehicle turning and manouevring area. That rectangular piece of land is developed to the extent that it contains very little grazing area. It is an efficient, sustainable and logical use of land to 'swap' the land for grazing land more proximate to the overall grazing usage of the 132A property. Noting the presence of three residential titles already existing along Stanners Roads, it is an efficient use of land to provide for in-fill in the form of another residential title, especially where access is already formed.

I believe there are sufficient aspects of this proposal that are unique and I do not believe the proposed subdivision creates a precedent that threatens the integrity of the Operative District Plan.

7.0 STATUTORY ASSESSMENT

7.1 District Plan Objectives and Policies

Subdivision Objectives

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

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

13.3.5 To ensure that all new subdivisions provide a reticulated water supply and/or on-site water storage and include storm water management sufficient to meet the needs of the activities that will establish all year round.

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

13.3.9 To ensure, to the greatest extent possible, that all new subdivision supports energy efficient design through appropriate site layout and orientation in order to maximise the ability to provide light, heating, ventilation and cooling through passive design strategies for any buildings developed on the site(s).

Section 6.0 of this report addresses the matters raised in the above objectives. The subdivision is considered to be more consistent than not with the purpose of the zone and to promote sustainable management of natural and physical resources of the District.

Development can be carried out without creating adverse effects, including reverse sensitivity effects, of a minor or more than minor nature. There are no hazards identified. Water supply and on-site wastewater treatment and disposal is existing, or can be provided for within proposed additional lot boundaries.

The interests of Maori have been taken into account.

Policies

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

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

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

13.4.5 That access to, and servicing of, the new allotments be provided for in such a way as will avoid, remedy or mitigate any adverse effects on neighbouring property, public roads (including State Highways), and the natural and physical resources of the site caused by silt runoff, traffic, excavation and filling and removal of vegetation.

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

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

13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to ***s6 matters****. In addition subdivision, use and development shall avoid adverse effects as far as practicable by using techniques including:*
(a) clustering or grouping development within areas where there is the least impact on natural character and its elements such as indigenous vegetation, landforms, rivers, streams and wetlands, and coherent natural patterns;
(b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area;
(c) providing for, through siting of buildings and development and design of subdivisions, legal public right of access to and use of the foreshore and any esplanade areas;
(d) through siting of buildings and development, design of subdivisions, and provision of access that recognise and provide for the relationship of Maori with their culture, traditions and taonga including concepts of mauri, tapu, mana, wehi and karakia and the important contribution Maori culture makes to the character of the District (refer Chapter 2 and in particular Section 2.5 and Council's "Tangata Whenua Values and Perspectives" (2004);
(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension, enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;
(f) protecting historic heritage through the siting of buildings and development and design of subdivisions.
(g) achieving hydraulic neutrality and ensuring that natural hazards will not be exacerbated or induced through the siting and design of buildings and development.

The subdivision preserves the existing character of the site in relation to its Rural Production zoning and does not create any adverse cumulative effects of a more than minor nature.

Access is existing. There are minimal adverse effects on neighbouring properties, public roads or natural and physical resources. Water storage is existing.

The interests of Maori have been taken into account, as have section 6 matters. The remainder of Policy 13.4.13 above is directed largely at management plan subdivisions, which this proposal is not.

In summary, I believe the proposal to be consistent with the relevant objectives and policies in the Subdivision chapter of the District Plan.

<u>Rural Production Zone Objectives and Policies</u>

Objectives:

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

8.6.3.2 To enable the efficient use and development of the Rural Production Zone in a way that enables people and communities to provide for their social, economic, and cultural well being and for their health and safety.

8.6.3.3 To promote the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.

8.6.3.6 To avoid, remedy or mitigate the actual and potential conflicts between new land use activities and existing lawfully established activities (reverse sensitivity) within the Rural Production Zone and on land use activities in neighbouring zones.

8.6.3.7 To avoid remedy or mitigate the adverse effects of incompatible use or development on natural and physical resources.

8.6.3.8 To enable the efficient establishment and operation of activities and services that have a functional need to be located in rural environments.

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

Policies

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

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

8.6.4.3 That land management practices that avoid, remedy or mitigate adverse effects on natural and physical resources be encouraged.

8.6.4.4 That the type, scale and intensity of development allowed shall have regard to the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.

8.6.4.5 That the efficient use and development of physical and natural resources be taken into account in the implementation of the Plan.

8.6.4.7 That although a wide range of activities that promote rural productivity are appropriate in the Rural Production Zone, an underlying goal is to avoid the actual and potential adverse effects of conflicting land use activities.

8.6.4.8 That activities whose adverse effects, including reverse sensitivity effects cannot be avoided remedied or mitigated are given separation from other activities

8.6.4.9 That activities be discouraged from locating where they are sensitive to the effects of or may compromise the continued operation of lawfully established existing activities in the Rural production zone and in neighbouring zones.

The above objectives and policies are repetitious, around four main themes:

(a) Enabling a wide range of activities;
(b) Ensuring reverse sensitivity effects are avoided, remedied or mitigated so that production uses can continue;
(c) Maintenance and enhancement of amenity values;
(d) Sustainable and efficient use and development of natural and physical resources.

I consider the proposal to be consistent with the rural production objectives and policies.

7.2 Proposed District Plan (PDP) Objectives and Policies

Relevant objectives and policies in the PDP include those pertaining to Subdivision and those pertaining to the Horticulture Zone.

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

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

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

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

I consider the subdivision to represent an efficient use of the land, consistent with the objectives of the zone, overlays and district wide provisions. The site contains predominantly LUC Class 3s2 soils that, as far as the applicants are aware, have never been used for intensive horticulture, but rather to support stock grazing. The subdivision, although creating an additional lot, has a net positive effect in regard to the amount of grazing land associated with the large balance lot. The site does not contain any outstanding natural landscape or character, and there is no significant indigenous vegetation.

All lots have existing built development. The proposal retains 'rural' character; the likelihood of reverse sensitivity issues arising will not increase unduly; and the vacant lot can be developed whilst avoiding risk from natural hazards. Adverse effects on the environment are considered to be less than minor and not requiring mitigation (SUB-O1).

The site does contain land that meets the current definition of 'highly productive land' as laid out in the National Policy Statement Highly Productive Land. However, it is noted that there is the likelihood of that NPS being reviewed under the current coalition government's resource

management reforms. It is noted that the Council has somewhat over zealously zoned a large area of land, including the application site, Horticulture in the PDP, and that the future of the zone is far from certain given the changes being mooted at central government level, as well as submissions on the PDP. The zone, as it currently sites, incorporates areas not mapped as LUC Class 1, 2 or 3. It contains an operating quarry, also on land that is not LUC 1, 2 or 3. In short, the Council has taken a broad brush, and inappropriate, approach to its PDP mapping in identifying its horticultural zone.

The property is currently, and has historically been, used for stock grazing rather than intensive horticulture.

The site is not in the Coastal Environment. There are no Sites or Areas of Significance to Maori or any sites of Historic Heritage (as mapped or scheduled in the PDP) within the site, and no Significant Natural Areas as mapped or scheduled in the PDP. There are no areas of indigenous vegetation (SUB-O2).

The site is not within an urban area and will never be serviced by a Council reticulated 3 waters system. The site is accessed off existing sealed Council road (SUB-O3). There is no qualifying waterbody with a boundary with a lot of less than 4ha to which esplanade requirements might apply. There is no public access across the application site to any of the reserve land and none is proposed.

SUB-P1
Enable boundary adjustments that:
.....

Not relevant – application is not a boundary adjustment.

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

Not relevant.

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

The subdivision results in lots that I believe are consistent with the characteristics and qualities of the zone in the immediate environs of Stanners Road, albeit this may not be considered to be the 'desired' characteristics and qualities of a Horticulture Zone per se – but I believe that zoning to be misleading and erroneous.

Even if the Horticulture Zone was appropriate, whilst the proposal creates a residential allotment as opposed to a horticultural allotment, this does not mean automatically there is an inconsistency with the purpose of the zone. The Horticulture Zone contains houses, with residential use to be expected. The proposed lot sizes cannot be consistent with the PDP's minimum allotment sizes. However, both the zone itself, along with its provisions have been

heavily submitted on as part of the PDP hearings process and there is no certainty of either remaining as currently proposed. Neither the zone, nor its provisions have any legal effect at this point in time. The lots are of an adequate size and appropriate shape to contain building platforms (existing on two lots in any event), and that have legal and physical access.

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

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

SUB-P5
Manage subdivision design and layout in the General Residential, Mixed Use and Settlement zone....

N/A.

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

The subdivision is not in an urban area and there is no nearby Council administered or operated infrastructure except for the road.

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

No qualifying water body.

SUB-P8 *Avoid rural lifestyle subdivision in the Rural Production zone unless the subdivision:*
- *a. will protect a qualifying SNA in perpetuity and result in the SNA being added to the District Plan SNA schedule; and*
- *b. will not result in the loss of versatile soils for primary production activities.*

N/A – not zoned Rural Production.

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

N/A.

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

N/A.

SUB-P11
Manage subdivision to address the effects of the activity requiring resource consent including (but not limited to) consideration of the following matters where relevant to the application:

a.consistency with the scale, density, design and character of the environment and purpose of the zone;
b. the location, scale and design of buildings and structures;
c.the adequacy and capacity of available or programmed development infrastructure to accommodate the proposed activity; or the capacity of the site to cater for on-site infrastructure associated with the proposed activity;
d. managing natural hazards;
e. Any adverse effects on areas with historic heritage and cultural values, natural features and landscapes, natural character or indigenous biodiversity values; and
f. any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

No consent is required under the PDP so the above policy has little relevance. In summary I believe the proposed subdivision to be more consistent than not with the PDP's objectives and policies in regard to subdivision.

The site is zoned Horticulture in the Proposed District Plan. Earlier in my report I express the view that this is not an appropriate zoning and provide reasons for that opinion. Notwithstanding that, the proposal is assessed below.

Objectives

HZ-O1
The Horticulture zone is managed to ensure its long-term availability for horticultural activities and its longterm protection for the benefit of current and future generations.

HZ-O2
The Horticulture zone enables horticultural and ancillary activities, while managing adverse environmental effects on site.

HZ-O3
Land use and subdivision in the Horticulture zone:
a.avoids land sterilisation that reduces the potential for highly productive land to be used for a horticulture activity;
b. avoids land fragmentation that comprises the use of land for horticultural activities;
c.avoids any reverse sensitivity effects that may constrain the effective and efficient operation of primary production activities;
d. does not exacerbate any natural hazards;
e. maintains the rural character and amenity of the zone;
f. is able to be serviced by on-site infrastructure.

The site has not, to the applicants' knowledge, ever been used for intensive horticulture. Similarly land to the north and north west has not been used for intensive horticulture. There is other land in the wider environs that has been or is currently in horticulture. What this demonstrates is that the broad brush approach taken by the Council to identify a Horticulture Zone, roughly based on a LUC mapping system at too large a scale to be applicable to specific sites, is fraught with difficulties and likely to have a large portion of inaccuracies. I do not believe the proposal adversely impacts on the long term protection and availability of land for horticultural use.

The proposal does not 'sterilise' the land, i.e. does not result in any net reduction in soils available for soil based use. The proposed addition lot contains one small paddock, with the balance of the area having metalled accessway; concrete coverage and building coverage. The undeveloped portion of 138 Stanners Road is being added to the larger balance lot, as a more efficient use of grazing land.

The proposal does not fragment highly productive land because (a) it is questionable whether the land is actually 'highly productive'; (b) the land has not proven suitable for horticultural use, otherwise it would be in such a use; and (c) the amount of land available for a soil-based use (grazing) on the larger balance allotment is unchanged, if not increased.

The proposal does not exacerbate natural hazards and maintains the rural character and amenity of the area. The lots are all capable of on-site servicing.

Policies

HZ-P1
Identify a Horticulture zone in the Kerikeri/Waipapa area using the following criteria:
a. presence of highly productive land suitable for horticultural use;
b. access to a water source, such as an irrigation scheme or dam able to support horticultural use; and
c. infrastructure available to support horticultural use.

This policy applies to the consent authority, not an individual property owner. Refer to earlier comment querying the methodology used.

HZ-P2
Avoid land use that: ....

Not relevant as the application is a subdivision, not a land use.

HZ-P3
Enable horticulture and associated ancillary activities that support the function of the Horticulture zone, where:
a. adverse effects are contained on site to the extent practicable; and
b. they are able to be serviced by onsite infrastructure.

Not relevant as the subdivision does not include a horticulture or associated ancillary activity.

HZ-P4
Ensure residential activities are designed and located to avoid, or otherwise mitigate, reverse sensitivity effects on horticulture activities, including adverse effects associated with dust, noise, spray drift and potable water collection.

The application does not include residential activities, but does provide for future residential use on the proposed vacant lot. If the Council considers it necessary it can include a consent notice condition requiring the filtration of roof collected water for potable use. However, it is noted that there are no horticultural properties immediately adjacent to the additional lot.

HZ-P5

Manage the subdivision of land in the Horticulture zone to:
a.avoid fragmentation that results in loss of highly productive land for use by horticulture and other farming activities;
b.ensure the long-term viability of the highly productive land resource to undertake a range of horticulture uses;
c. enable a suitable building platform for a future residential unit; and
d. ensure there is provision of appropriate onsite infrastructure.

Refer to earlier comments and to assessment under 7.3 National Policy Statement – Highly Productive Land. I believe the proposal is consistent with parts (a) and (b) in that it does not result in the loss of highly productive land for use by horticulture and other farming activities. There is very little, if any, change to the area of land available for grazing and the long term viability of any highly productive land resource, if indeed the land is even part of such a resource, is not therefore compromised. The proposal is consistent with parts (c) and (d) of the above policy.

HZ-P6

Encourage the amalgamation or boundary adjustments of Horticulture zoned land where this will help to make horticultural activities more viable on the land.

Existing grazing associated with a small residential/lifestyle lot is being transferred to the larger balance grazing lot – considered a practical reallocation of land.

HZ-P7

Manage land use and subdivision to address the effects of the activity ***requiring resource consent****, including (but not limited to) consideration of the following matters where relevant to the application:*
a. whether the proposal will increase production potential in the zone;
b. whether the activity relies on the productive nature of the soil;
c. consistency with the scale and character of the rural environment;
d. location, scale and design of buildings or structures;
e. for subdivision or non-primary production activities:
  i. scale and compatibility with rural activities;
  ii. potential reverse sensitivity effects on primary production activities and existing infrastructure;
  iii. the potential for loss of highly productive land, land sterilisation or fragmentation
f. at zone interfaces:
  i. any setbacks, fencing, screening or landscaping required to address potential conflicts;
  ii.the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable;
g.the capacity of the site to cater for on-site infrastructure associated with the proposed activity, including whether the site has access to a water source such as an irrigation network supply, dam or aquifer;
h. the adequacy of roading infrastructure to service the proposed activity;
i.Any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity;
j.Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

No consent is required under the PDP and the above policy is therefore of limited relevance. I consider the subdivision to maintain rural character and amenity and the lots are suitable for their intended use.

7.2 Part 2 Matters

5 Purpose

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

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

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

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

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

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

6 Matters of national importance

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

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

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

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

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

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

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

(g) the protection of protected customary rights:

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

The application site does not contain or affect any of the matters listed under Section 6 as Matters of National Importance.

7 Other matters

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

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

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

8 Treaty of Waitangi

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

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

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

7.3 National Policy Statement – Highly Productive Land

The National Policy Statement for Highly Productive Land is relevant given that (a) the site is zoned Rural Production (under the ODP – the only plan with legal effect in regard to zoning); and (b) the application site is mapped as containing LUC 3 soils - according to the 1:50,000 LUC maps used by the Council. It is noted that site specific assessment of some individual properties in the area, by a suitably qualified specialist using the same methodology as that referred to in the NPS HPL, have been shown to not have any LUC 3 soils at all.

Clause 3.5(7) reads:

Until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that, at the commencement date:

(a) is

(i) zoned general rural or rural production; and

(ii) LUC 1, 2, or 3 land; but

(b) is not: (i) identified for future urban development; or

(ii) subject to a Council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle.

The site therefore falls within the definition of "highly productive land" as outlined in 3.5(7) above. However, the site has never been economically productive in terms of horticultural use, instead used for grazing.

An assessment of the proposal against the Objective and Policies of the NPS-HPL follows:

2.1 Objective:
Highly productive land is protected for use in land-based primary production, both now and for future generations.

2.2 Policies
Policy 1: Highly productive land is recognised as a resource with finite characteristics and long term values for land-based primary production.
Policy 2: The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.
Policy 3: Highly productive land is mapped and included in regional policy statements and district plans.
Policy 4: The use of highly productive land for land-based primary production is prioritised and supported.
Policy 5: The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement.
Policy 6: The rezoning and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.
Policy 7: The subdivision of highly productive land is avoided, except as provided in this National Policy Statement.
Policy 8: Highly productive land is protected from inappropriate use and development.
Policy 9: Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

The proposal sees an equal amount of 'land' swapped between residential allotments and a larger grazing unit – in fact adds land to the grazing unit. Whilst I do not regard such land to be 'highly' productive – being questionably LUC class 3 and with limitations – nonetheless the proposal does not impact on the availability of such land. The land remains 'protected for

use in land-based primary production'. The proposal is therefore consistent with the Objective.

Policies 1-5 are all aimed at providing guidance to regional and district councils and do not apply to individual property owners and what they do on their land. Policy 6's priority is re-zoning – again something territorial authorities do as opposed to individual property owners. It does, however, also use the word 'development' which would include building. The policy requires the avoidance of development of highly productive land as rural lifestyle, except as provided in this NPS. Policy 7 is explicitly about 'subdivision' and requires that the subdivision of highly productive land be avoided, except as provided for in this NPS. I consider the NPS provides for the proposal being applied for. I address this in more detail below.

Policy 8 focuses on 'inappropriate use and development'. I consider the proposal to be entirely appropriate for the site and circumstances and as such the proposal is consistent with this policy.

Policy 9 focuses on reverse sensitivity. The land proposed to be within Lot 2 is immediately adjacent to pasture land, where a small number of stock are sometimes grazed. This grazing land is also within the overall application site. Beyond the pasture to the east is bush, then more pasture land. The nearest horticultural land use in an easterly direction is half a kilometre away beyond the intervening bush area. There is no horticultural land use to the north. There is a covered blueberry operation across Stanners Rd, the nearest part of which is 170m away and separated from the proposed Lot 2 by the road and two other properties. Approximately 180m to the south, separated by three intervening properties, an access and dense well established shelter planting, there is more horticultural land use activity. In short, reverse sensitivity effects are readily managed simply by distance and intervening properties and features.

The current government is looking to amend the NPS HPL in regard to the inclusion of all LUC class 3 soils with the realisation that this category encompasses an enormous amount of land and includes a wide range of soils, some of which are not at all suitable for horticultural production because of limitations such as leaching; excessive drainage characteristics; shallow top soil; overly wet – the list of constraints goes on. However, until such time as sensible and practical identification of truly highly productive land occurs, we are stuck with the current NPS.

Section 3.8 of the NPS HPL reads:

3.8 Avoiding subdivision of highly productive land
(1) Territorial authorities must avoid the subdivision of highly productive land unless one of the following applies to the subdivision, and the measures in subclause (2) are applied:
(a) the applicant demonstrates that the proposed lots will retain the overall productive capacity of the subject land over the long term:
(b) the subdivision is on specified Māori land:

(c) the subdivision is for specified infrastructure, or for defence facilities operated by the New Zealand Defence Force to meet its obligations under the Defence Act 1990, and there is a functional or operational need for the subdivision.
(2) Territorial authorities must take measures to ensure that any subdivision of highly productive land:
(a) avoids if possible, or otherwise mitigates, any potential cumulative loss of the availability and productive capacity of highly productive land in their district; and
(b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on surrounding land-based primary production activities.

Parts (b) and (c) of (1) do not apply. However, I believe part (a) does apply. The land to be in Lot 2 is not productive, containing lawn & boundary plantings; driveway; turning area; building; concrete pads – with only a very small paddock between the 'developed' area and adjacent residential lot. Another paddock, currently associated with 138 Stanners Road, a residential site, is being transferred from that residential site, back into the large balance lot – adding to that larger lot's overall productive capacity. In short, subdividing a small area of land with no tangible productive capacity into a separate lot, and transferring another paddock area associated with an existing residential allotment into the larger balance grazing area, 'will retain the overall productive capacity of the subject land over the long term'. Part (a) is therefore met and the territorial authority need not avoid the subdivision.

Clause (2) can also be satisfied. There is no cumulative loss of the availability and productive capacity of highly productive land in the district. And the subdivision will have no reverse sensitivity effects on surrounding land-based primary production activities on highly productive land. Mitigation of the effects of the subdivision in regard to the matters in clause (2), if required at all, is achieved through distance (part (b)) and the layout and size of lots proposed (part (a)).

I am not concerned about the requirements of 3.9 of the NPS HPL that requires the avoidance of inappropriate use or development of highly productive land that is not land-based primary production because the proposed Lot 2 is already mostly out of any productive use due to its existing built environment. Part 2(g) provides for small-scale land use activities that have no impact on the productive capacity of the land, and this proposal is consistent with that, and therefore an appropriate use.

7.4 Other National Policy Statements and National Environmental Standards

NES Freshwater

The site does not contain any 'natural inland wetlands', nor any waterbodies in the vicinity of any future works.

NES Assessing and Management Contaminants in Soil to Protect Human Health

The applicant is not aware of the sites ever having supported an activity or industry as listed in the Ministry for the Environment HAIL. The site is not listed on the Regional Council's Selected Land Use database as containing any HAIL status sites. As such the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health does not apply.

NPS Indigenous Biodiversity

The site does not contain any indigenous vegetation of any note. I do not consider the NPS IB to be relevant.

7.5 Regional Policy Statement

The Regional Policy Statement for Northland contains objectives and policies related to infrastructure and regional form and economic development. These are enabling in promoting sustainable management in a way that is attractive for business and investment. The proposal is consistent with these objectives and policies.

Objective 3.6 Economic activities – reverse sensitivity and sterilisation

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

(a) Reverse sensitivity for existing:

(i) Primary production activities; .....

The associated Policy to the above Objective is ***Policy 5.1.1 – Planned and coordinated development***.

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

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

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

(f) Ensures that plan changes and subdivision to / in a primary production zone, do not materially reduce the potential for soil-based primary production on land with highly versatile soils, or if they do, the net public benefit exceeds the reduced potential for soil-based primary production activities; and ...

Policy 5.1.1 seeks to ensure that subdivision in a primary production zone does not "*materially reduce the potential for soil-based primary production on land with highly versatile soils, or if they do, the net public benefit exceeds the reduced potential for soil-based primary production activities*".

This has been discussed at length elsewhere in this planning report. The subdivision does not "*materially reduce the potential for soil-based primary production on land with highly versatile soils*".

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);.....

In regard to this subdivision, it is considered that adverse reverse sensitivity issues are likely to be less than minor.

8.0 s104D GATEWAY TEST FOR NON COMPLYING ACTIVITIES

S104D of the Act requires a consent authority to be satisfied of one or other, or both, of the following thresholds to be met, before it can consider granting consent.

(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or

(b) the application is for an activity that will not be contrary to the objectives and policies of—

(i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or

(ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or

(iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

The application will not create adverse effects on the environment of a more than minor nature. I do not believe the application is contrary to the objectives and policies of the Operative District Plan and Proposed District Plans in their entirety or to the extent that the proposal should not proceed. I consider the proposal to meet at least one of the gateway tests, if not both.

9.0 s95A-E ASSESSMENT & CONSULTATION

9.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. No such circumstances exist. Step 2 of s95A specifies the circumstances that preclude public notification. No such circumstance exists and Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances, neither of which exists. The application is not subject to a rule or national environmental standard that requires public notification. This report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. In summary public notification is not required pursuant to Step 3 of s95A.

9.2 S95B Limited Notification Assessment

A consent authority must follow the steps set out in s95B to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified

pursuant to s95A. Step 1 identifies certain affected groups and affected persons that must be notified. None exist in this instance. Step 2 of s95B specifies the circumstances that preclude limited notification. No such circumstance exists and Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified. The application is not for a boundary activity and the s95E assessment below concludes that there are no affected persons to be notified. There is no requirement to limited notify the application pursuant to Step 3.

9.3 S95D Level of Adverse Effects

The AEE in this report assesses effects on the environment and concludes that these will be no more than minor.

9.4 S95E Affected Persons

A person is an 'affected person' if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor). A person is not an affected person if they have provided written approval for the proposed activity. Written Approvals have been obtained from the owners of properties immediately to the north and south of the proposed additional Lot 2 – refer to Appendix 5.

No other adjacent property owners are considered adversely affected given that the other lots support existing development and there is already residential development in the immediate environs. No pre lodgement consultation has been considered necessary with tangata whenua, Heritage NZ, Department of Conservation or NZTA (Waka Kotahi).

10.0 CONCLUSION

The site is considered suitable for the proposed subdivision, and effects on the wider environment are no more than minor. The proposal is more consistent than not with the relevant objectives and policies of the Operative and Proposed District Plans and relevant objectives and policies of the Regional Policy Statement and relevant National Policy Statements, as well as Part 2 of the Resource Management Act.

There is no District Plan rule or national environmental standard that requires the proposal to be publicly notified and no persons have been identified as adversely affected by the proposal. No special circumstances have been identified that would suggest notification is required.

It is therefore requested that the Council grant approval to the subdivision on a non notified basis, subject to appropriate conditions.

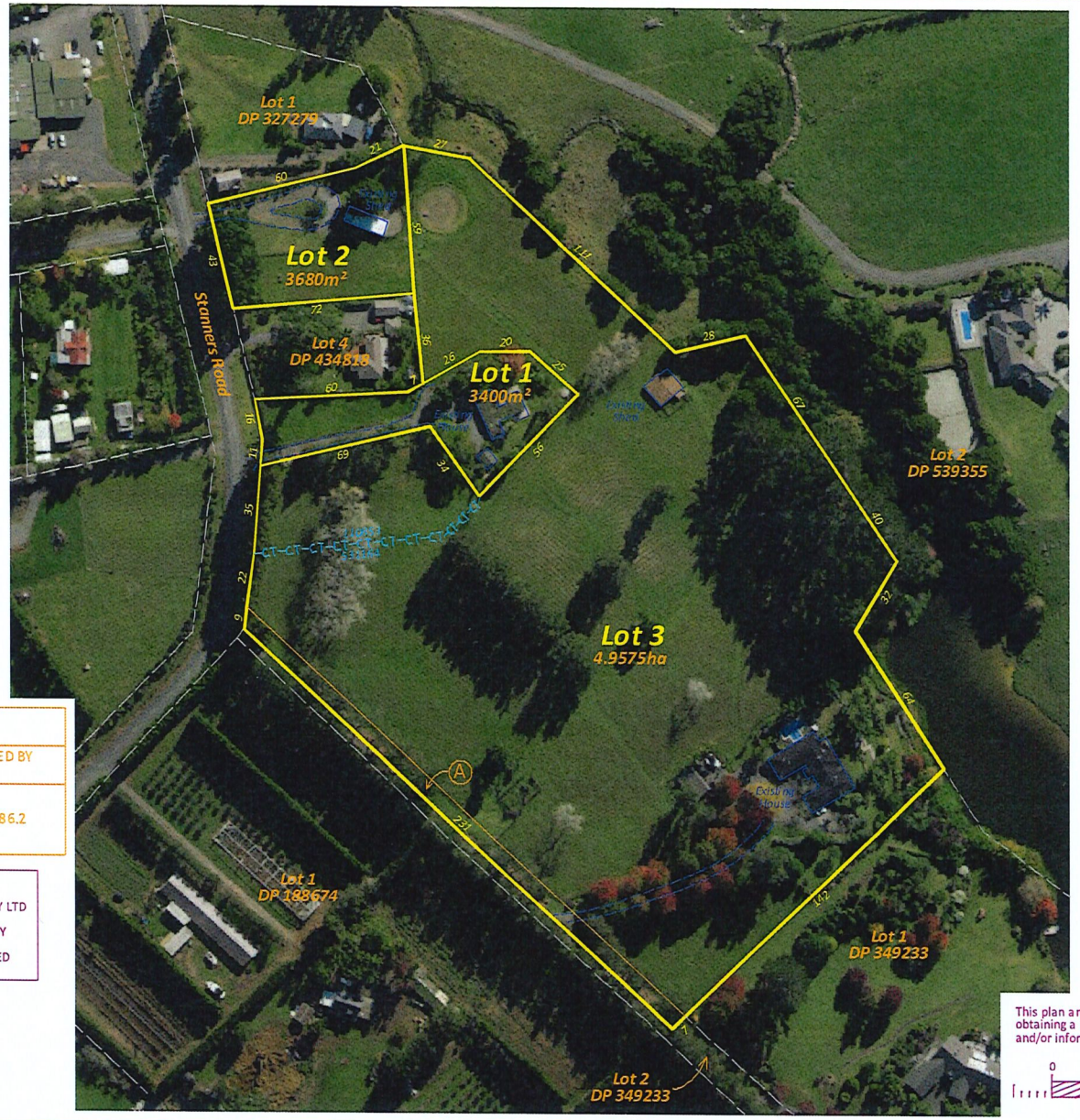
Signed Dated 22nd August 2025
Lynley Newport,
Senior Planner
Thomson Survey Ltd

11.0 LIST OF APPENDICES

Appendix 1	Scheme Plan(s)
Appendix 2	Location Plan
Appendix 3	Records of Title and Relevant Instruments
Appendix 4	Site Assessment Report (Combined Geotechnical and Civil Assessment)
Appendix 5	Written Approvals

Appendix 1

Scheme Plan(s)



EXISTING EASEMENT

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	Ⓐ	LOT 3 HEREON	D528686.2

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 110853 & 531164
Total Area: 5.6687ha
Zoning: Rural Production
Resource features: NIL

0 15 75 150m

Bar Scale 1:2500 @ A4

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

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, KERIKERI

PREPARED FOR: AARAN TRUSTEE LTD

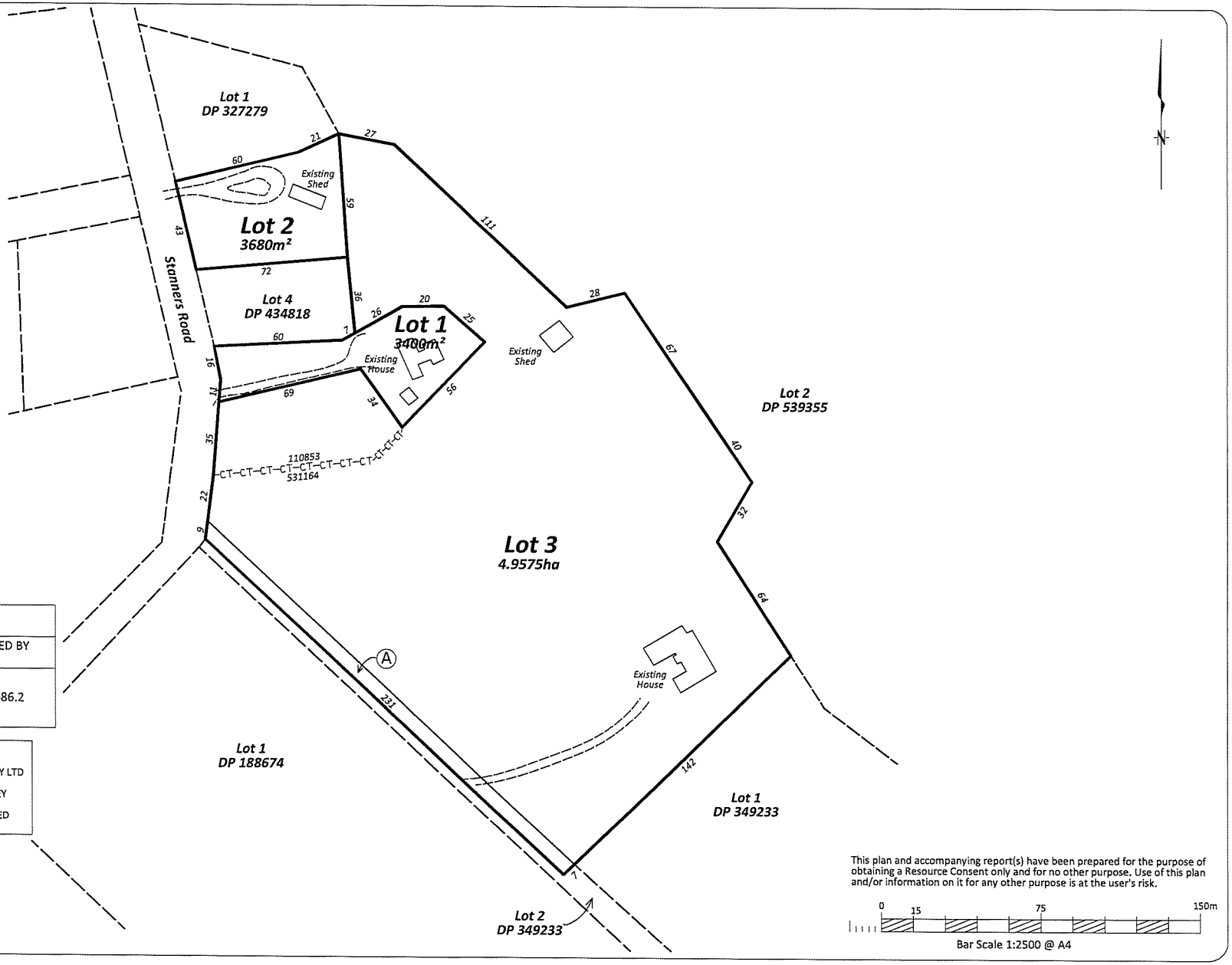
	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	12.08.25

ORIGINAL
SCALE 1:2500
SHEET SIZE A4

10802 Scheme 20250716 A4

Surveyors Ref. No: 10802

Sheet 1 of 1



EXISTING EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	Ⓐ	LOT 3 HEREON	D528686.2

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 110853 & 531164
Total Area: 5.6687ha
Zoning: Rural Production
Resource features: NIL

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

Bar Scale 1:2500 @ A4

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Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, KERIKERI

PREPARED FOR: AARAN TRUSTEE LTD

	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	12.08.25

10802 Scheme 20250716 A4

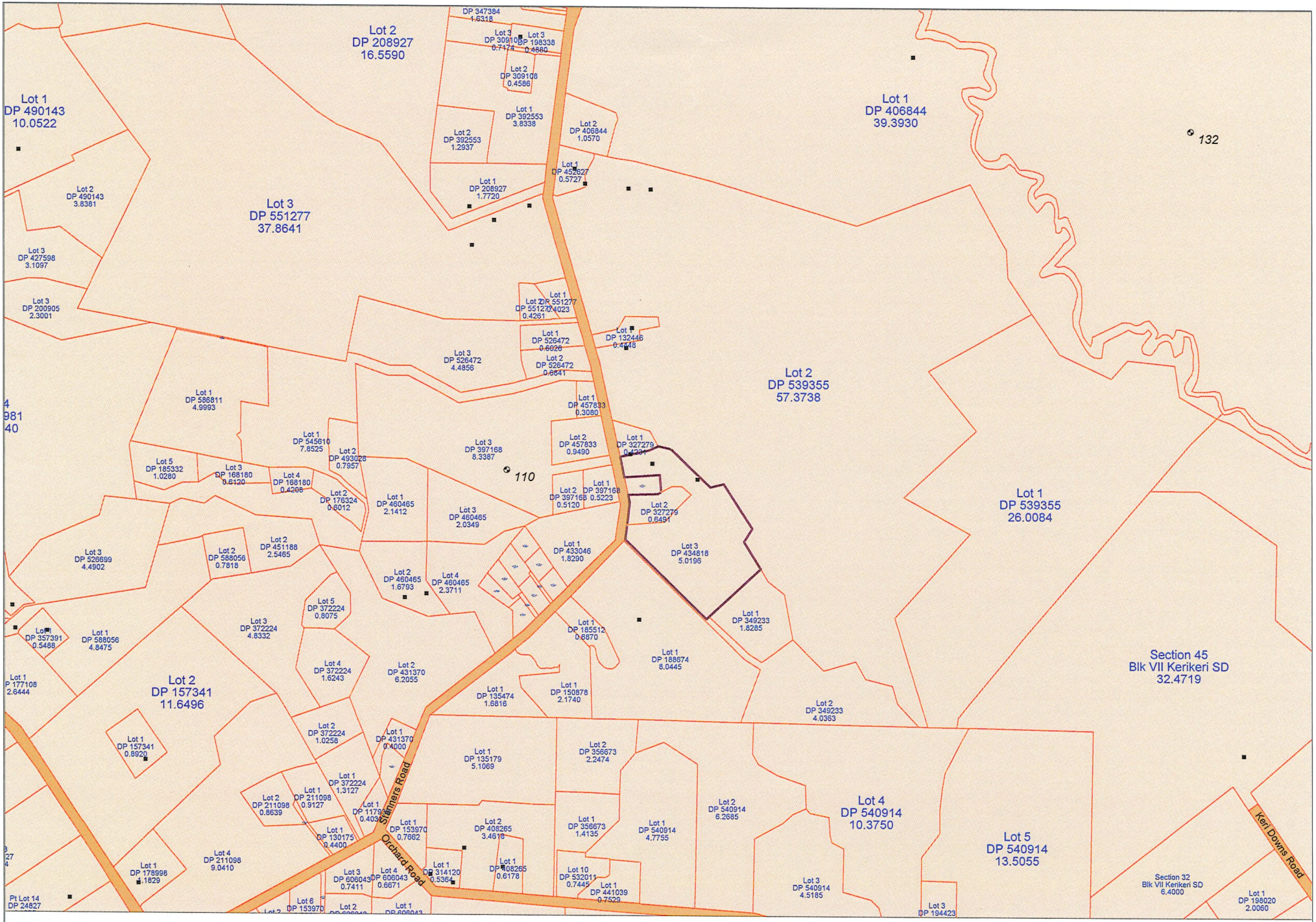
ORIGINAL
SCALE 1:2500
SHEET SIZE A4

Surveyors Ref. No: 10802

Sheet 1 of 1

Appendix 2

Location Plan



0 200 400 600 800 1000 1200m

QuickMap
Custom Software Ltd

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

Scale 1:10000 Topographical and Cadastral map derived from LINZ data. Printed: 22-Aug-2025 12:02.

Appendix 3

Records of Title and Relevant Instruments

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier	**531164**
Land Registration District	**North Auckland**
Date Issued	21 April 2011

Prior References
110854

Estate	Fee Simple
Area	5.0196 hectares more or less
Legal Description	Lot 3 Deposited Plan 434818

Original Registered Owners
David Scott McClelland, Gillian Janette McClelland and Richard George Ashwell Palmer

Interests

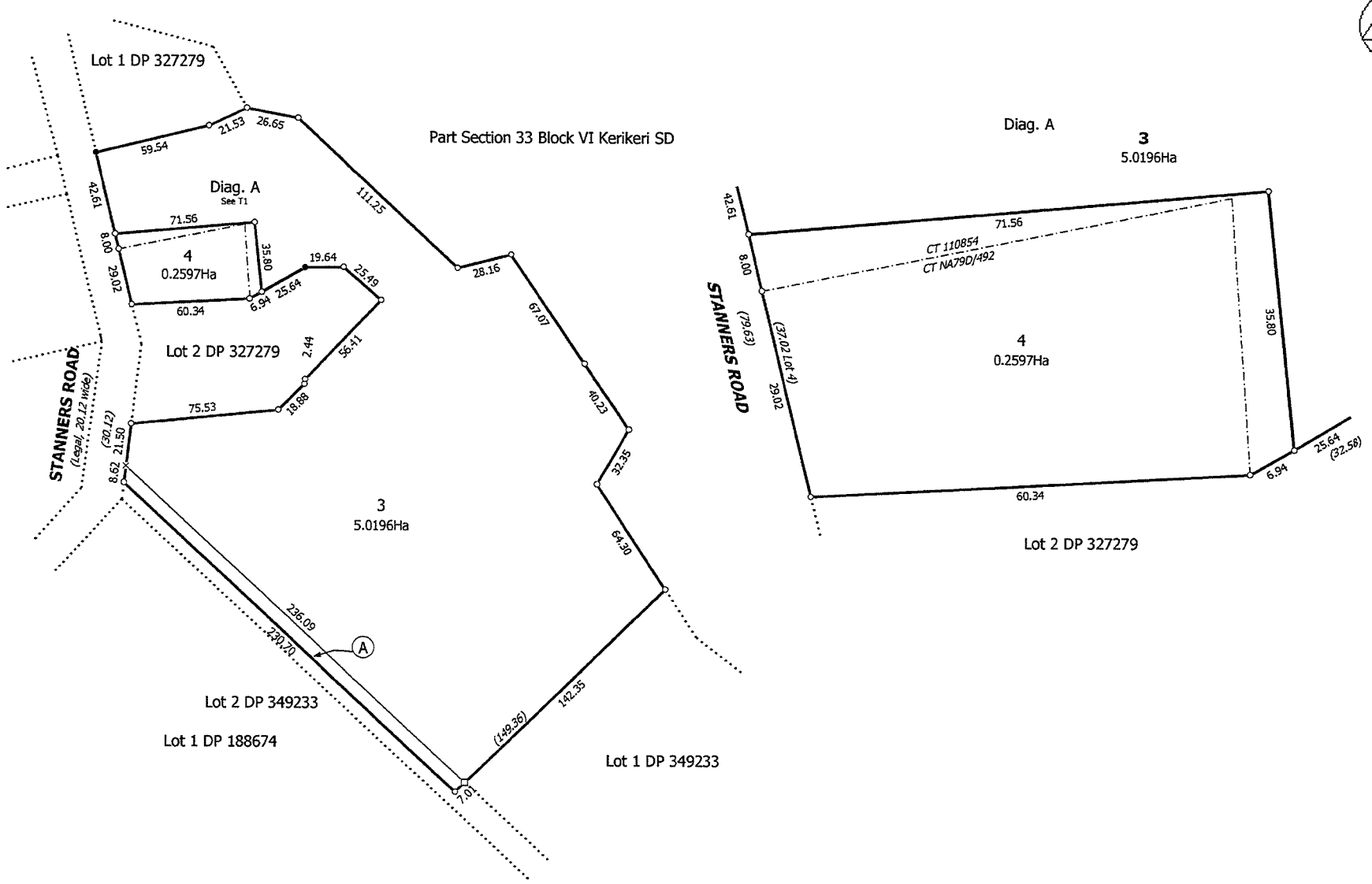
Appurtenant hereto is a right of way and electricity, telecommunications and water supply rights created by Transfer D528686.2 - Produced 15.8.2000 at 9:00 am and entered 15.8.2000 at 9.00 am

Subject to Section 59 Land Act 1948

Subject to a right of way and electricity, telecommunications and water supply rights over part marked A on DP 434818 created by Transfer D528686.2 - Produced 2.8.2000 at 9.00 am and entered 15.8.2000 at 9.00 am

6209646.1 Mortgage to ASB Bank Limited - 9.11.2004 at 9:00 am

6429048.2 Variation of Mortgage 6209646.1 - 20.5.2005 at 9:00 am



Ref 5663

T 1/1

Land District: North Auckland Digitally Generated Plan Generated on: 10/05/2011 10:22am Page 4 of 4	Lots 3 & 4 Being a Subdivision of Lot 3 DP 327279 and Lot 4 DP 135331	Surveyor: Robert John Donaldson Firm: Donaldsons	Title Plan DP 434818 Deposited on: 21/04/2011

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**110853**
Land Registration District	**North Auckland**
Date Issued	28 October 2003

Prior References
NA79D/489

Estate	Fee Simple
Area	6491 square metres more or less
Legal Description	Lot 2 Deposited Plan 327279

Registered Owners
Cara McClelland

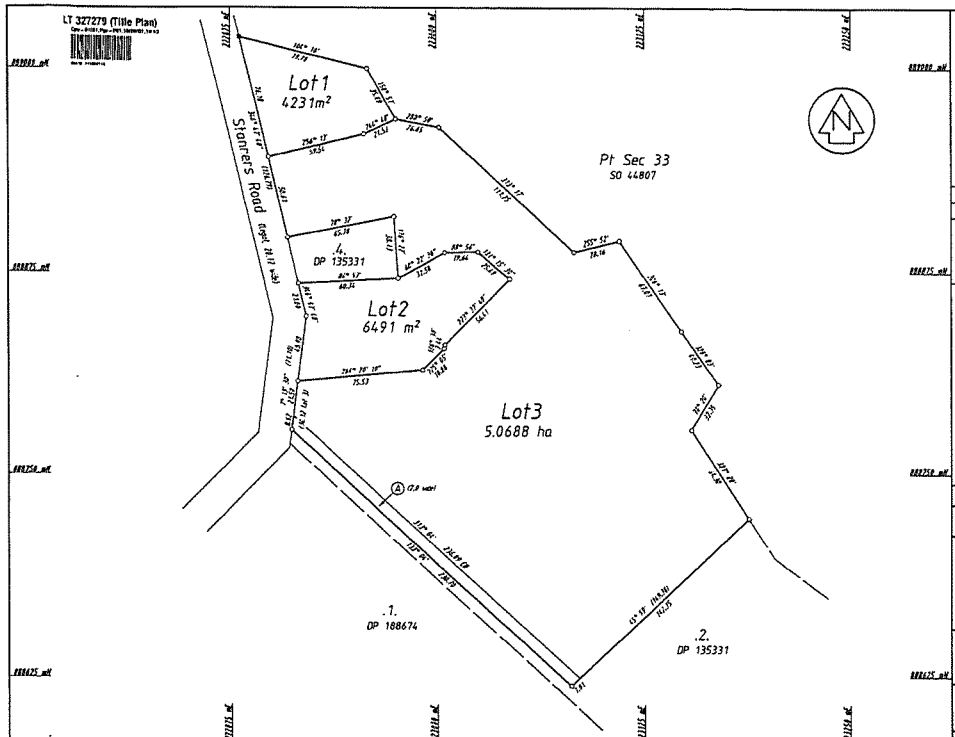
Interests

Subject to Section 59 Land Act 1948

Appurtenant hereto is a right of way and electricity, telecommunications and water rights created by Transfer D528686.2 - produced 2.8.2000 at 9.00 am and entered 15.8.2000 at 9:00 am

12059953.2 Mortgage to Arran Trustee Limited - 1.4.2021 at 4:30 pm

LT 327279 (Title Plan)



Approvals

I hereby certify that this plan was approved pursuant to Section 223 of the Resource Management Act 1991 on the 29th day of August 2003

Authorised Officer

EXISTING EASEMENT

Purpose	Servient Tenement	Shown	Creating Document
Right of Way Right to transmit Electricity & Telecommunications Right to supply water	Lot 3	A	D578684.2

New CT Allocated

Lot 1 : 110852
Lot 2 : 110853
Lot 3 : 110854

Class of Survey :

Lots 1 & 2 - Class I
Lot 3 - Class III

Total Area 6.1410 ha

Comprised in CT 79D/489 (all)

I, Robert John Donaldson of Kaukapakapa, being a person entitled to practice as a licensed cadastral surveyor, certify that -

a) The surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor - General's Rules for Cadastral Survey 2002/2

b) This dataset is complete, and has been created in accordance with that Act and those Rules.

Signed ... Dated 19/8/03

Field Book ..... Traverse Book .....

Reference Plans .....

Examined ..... Checked .....

Approved as to Survey by Land Information NZ on

26/9/2003

Deposited by Land Information NZ on

28/10/2003

LAND DISTRICT NORTH AUCKLAND	Lots 1 - 3 being a Subdivision of Lot 1 DP 135331	TERRITORIAL AUTHORITY FAR NORTH DISTRICT Surveyed by R.J.DONALDSON & ASSOCIATES Ref. 9367 Scale 1 : 1250 Date August 2003	File Received 10 SEP 2003 Instructions	DP 327279

Appendix 4

Site Assessment Report (Combined Geotechnical and Civil Assessment)

Wilton Joubert Limited
09 945 4188
185 Waipapa Road,
Kerikeri

SITE	**132A & 138 Stanners Road, Kerikeri**
LEGAL DESCRIPTION	**Lot 3 DP 434818 & Lot 2 DP 327279**
PROJECT	**Proposed 3-Lot Subdivision**
CLIENT	**Arran Trust**
REFERENCE NO.	**141536**
DOCUMENT	**Site Assessment Report (Combined Geotechnical and Civil Assessments)**
STATUS/REVISION NO.	**FINAL – Issued for Resource Consent**
DATE OF ISSUE	**29 July 2025**

Report Prepared For	Email
Arran Trust	dave@dmcdevelopments.co.nz

Geotechnical Assessment	**Authored by**	**S. Page**	Engineering Technician	shaun@wjl.co.nz	
	Reviewed by	**A. Brooke** *NZDE (Civil)*	Engineering Technician	aidan@wjl.co.nz	
	Approved by	**C. Hegedus** *BETech (Geotech) CPEng, CMEngNZ*	Senior Geotechnical Engineer	csaba@wjl.co.nz	

Civil Assessment	**Authored by**	**P. McSweeney** *BE (Hons)*	Civil Engineer	patrick@wjl.co.nz	
	Reviewed and Approved by	**B. Steenkamp** *BEng (Civil) BSc (Geology) CPEng, CMEngNZ*	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.

Development Type:	3-Lot subdivision (1 Lot for assessment).
Development Proposals Supplied:	Yes – Subdivision scheme plan. No architectural drawings for proposed Lot 2.
Geology Encountered:	Kerikeri Volcanic Group
Surficial Topsoil, Non-Engineered Fill & Buried Topsoil Encountered:	Yes – Up to 0.20m thick layers.
Overall Site Gradient in Proximity to Development:	Near level.
Site Stability Risk:	Low risk of instability at proposed Lot 2.
Liquefaction Risk:	Negligible risk of liquefaction susceptibility at proposed Lot 2.
Suitable Foundation Type(s):	Reinforced, raft slab foundation system, slab-on-grade with deepened perimeter strip footings, or timber subfloor suspended on bored, concrete encased, timber pile foundations.
Soil Bearing Capacity:	Yes – Competent Natural Ground & Engineered Fill Only. Geotechnical Ultimate Bearing Capacity= 300kPa.
NZBC B1 Expansive Soil Classification:	Class M – Moderately Expansive (y_s = 44mm).
Minimum Footing Embedment Depths:	0.9m below finished ground levels and 0.3m into competent natural ground, whichever is deeper.
NZS1170.5:2004 Site Subsoil Classification:	Class C – Shallow soil stratigraphy.
Earthworks:	Minimal earthworks (less than 0.60m) will be required to create a level building platform for concrete floor slab construction.
Consent Application Report Suitable for:	**Resource Consent** This report is not intended to support any Building Consent application. Once future site-specific development proposals for proposed Lot 2 have been finalised, they should be referred to WJL for review prior to submission for a Building Consent application.

Stormwater Management – District Plan Rules:

8.6.5.1.3 – **Permitted Activities – Stormwater Management** – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

Lot	Permitted Impermeable Area (15%)	Anticipated Activity Status
1	510m²	Discretionary
2	552m²	Discretionary
3	7436m²	Permitted

Stormwater Management:

- Any future development of the proposed lots which does not comply with Permitted Activity Rule (8.6.5.1.3) will require a stormwater report including a District Plan Assessment.
  On-site runoff flow attenuation should be provided for developments not complying with Permitted Activity Rule 8.6.5.1.3. Tank attenuation concepts are provided for proposed lots 1 & 2.
  Lot 1 Detention Volume = 7.8m³
  Lot 2 Detention Volume = ~6.7m³ (specific design TBC)
- Existing stormwater management systems are to be located and confirmed to be in good operating condition and within the bounds of the respective lot's proposed boundaries by a suitably qualified professional.
- Stormwater runoff from the roof of any future buildings must be captured by a gutter system and conveyed to existing or new potable water tanks on the corresponding lot.
- Discharge and overflow from the potable water tanks should be directed to a dispersal device or suitable alternative.

It is recommended to shape future proposed hardstand areas to shed runoff to large, vegetated areas and / or to stormwater catchpits for runoff conveyance to the lot's stormwater dispersal device / discharge outlet.

2. INTRODUCTION

2.1. SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by **Arran Trust** (the Client), to undertake geotechnical and civil assessments across 132A and 138 Stanners Road, where we understand, it is proposed to subdivide the existing two properties into three individual allotments.

The subdivision essentially comprises:

- The creation of a new vacant Lot across the northwestern corner of 132A Stanners Road, and
- Amalgamating approximately 3,000m² of land that covers the southwestern portion of 138 Stanners Road into the new Lot area for 132A Stanners Road.

The primary purpose of this report is to provide:

- Geotechnical and civil assessments along with preliminary design recommendations pertaining to future residential development within the vacant Lot, designated as Lot 2 in accordance with the Subdivision Scheme Plan supplied (Refer to Section 2.2 and 4 below), and
- Civil assessments of the existing residential development that currently occupies 138 Stanners Road, designated Lot 1 in accordance with the Subdivision Scheme Plan.

It is our understanding that this report will be submitted to support a Resource Consent application for the proposed subdivision.

2.2. SUPPLIED INFORMATION

At the time of preparing this report, we were supplied with a Subdivision Scheme Plan (1 sheet), prepared by Thomson Survey Limited, titled; '*Proposed Subdivision of Lot 2 DP 327289 & Lot 3 DP 434818, Stanners Road, Waipapa*', dated 16 July 2025 (Ref: 10802. The scheme plan is appended to this report and shown in Figure 2 below.

Any revision of the supplied preliminary Subdivision Scheme Plan with geotechnical implications should be referred to WJL for review. This report is not intended to support any Building Consent application. Once future site-specific development proposals for proposed Lot 2 have been finalised, they should be referred to WJL for review prior to submission for a Building Consent application.

3. SITE DESCRIPTION

The subject adjoining properties are positioned in the northwestern outskirts of the Kerikeri District and are located off the eastern side of Stanners Road, both accessed approximately 1.4km northeast of the State Highway 1 intersection.

132A Stanners Road is legally titled Lot 3 DP 434818 and encompasses an approximate area of 5 hectare, whilst 138 Stanners Road is legally titled Lot 2 DP 327279 and encompasses an approximate area of 6,500m².

Although proposed Lot 2 appears to have a physical address, being 148 Stanners Road, the site does not contain a separate legal description and is positioned within the legal confinements of 132A Stanners Road.

Broadly speaking, the proposed subdivision development is set on a northeast to east facing, gently inclined volcanic shelf that descends to a watercourse along the eastern boundary. The watercourse is a tributary arm of the Kapiro Stream and trends northwest to southeast.

The development is covered in pasture, with small pockets of trees and bush scattered throughout.

At the time of preparing this report, we note that the Far North District Council (FNDC) on-line GIS Water Services Map indicates that reticulated water, wastewater and stormwater connections are not available along Stanners Road.

Both properties and proposed Lot 2 are depicted on our appended Site Plan (Drawing No. 141536-G600) and in Figure 1 below.

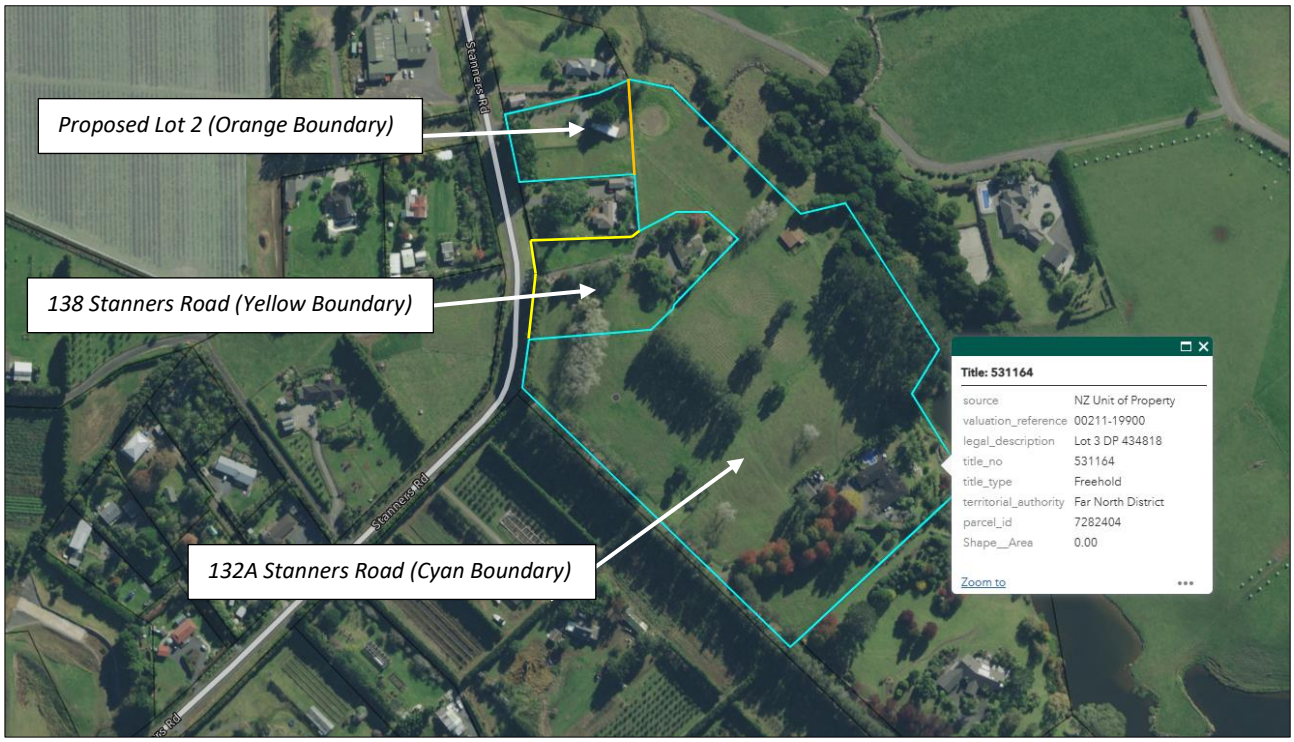


Figure 1: Screenshot aerial view from the Northland Regional Council (NRC) on-line GIS Natural Hazards Map.

4. DEVELOPMENT PROPOSALS

In reviewing the Subdivision Scheme Plan, it is our understanding that the client intends to subdivide the existing property into three individual allotments as follows:

- Lot 1 will encompass an area of 3,400m² and will contain the existing residential development that currently occupies 132 Stanners Road,
- Lot 2 will encompass a vacant area of 3,680m² across the northwestern corner of 132A Stanners Road for future residential development, and
- Lot 3 will encompass an area of 4.9575ha and will contain the existing residential development that currently occupies 132A Stanners Road.

Figure 2: Screenshot of the Subdivision Scheme Plan supplied by Thomson Survey Limited.

Geotechnical Assessment

We have been engaged to provide an assessment and preliminary recommendations pertaining to future residential development within proposed Lot 2. A 30m x 30m (900m²) designated building platform (DBP) was identified on-site with the Client for assessment and is depicted on our appended Site Plan (Drawing No. 141536-G600).

Proposed Lot 2 covers a broad, fenced area of land across the northwestern corner of 132A Stanners Road. The Lot will be accessed at the northwestern boundary corner, directly off Stanners Road, via an existing, circular aggregate driveway that traverses towards an existing shed near the northeastern boundary corner. The topography across the site is generally near level and above a height of RL98m New Zealand Vertical Datum (NZVD). The site is covered in pasture, with a shelterbelt bounding the roadside boundary.

Figure 3: Site photograph looking north-westerly towards proposed Lot 2.

At this preliminary stage, we have assumed any future dwelling will be designed and constructed to apply loads generally in keeping with the requirements of NZS3604:2011.

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.

Civil Assessment

We have also been engaged to undertake an assessment of the suitability of existing services and the feasibility of implementation of new services where required pertaining to stormwater and wastewater management at the proposed lots for existing developments and any future development at proposed Lot 2.

The principal objectives of the civil assessment are to provide a general assessment of existing services, on-site effluent disposal design concepts, on-site stormwater attenuation design concepts and general recommendations for the management of stormwater runoff.

5. GEOLOGY

Local geology across the property and wider surrounding influential 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 1.8 to 9.7 million years in age and described as; "*Basalt lava, volcanic plugs and minor tuff*" (Ref: GNS Science Website).

Figure 4: Screenshot aerial view from the New Zealand Geology Web Map. Blue marker depicts 138 Stanners Road.

6. GEOTECHNICAL INVESTIGATION

WJL undertook a geotechnical investigation of proposed Lot 2 on 15 July 2025, comprising of the following:

- A walkover inspection, and
- Drilling three 50mm diameter hand auger boreholes (HA01 to HA03 inclusive) across the DBP to refusal depths ranging between 2.0m and 2.6m below existing ground level (BEGL).

The soil sample arisings from the HAs were logged in accordance with the "*Field Description of Soil and Rock*", New Zealand Geotechnical Society (NZGS), December 2005.

In-situ undrained Vane Shear Strengths were measured at the invert of each HA and then adjusted in accordance with the NZGS; Guidelines for Handheld Shear Vane Testing, August 2001, with strengths classified in accordance with the NZGS Field Classification Guidelines; Table 2.10, December 2005. The materials identified are described in detail on the appended records, together with the results of the various tests undertaken, plus the groundwater conditions as determined during time on site.

The HA locations are depicted on our appended Site Plan (Drawing No. 141536-C001).

7. GEOTECHNICAL FINDINGS

The following is a summary of the ground conditions encountered in our investigation. Please refer to the appended logs for greater detail.

7.1. TOPSOIL

Surficial topsoil layers of up to 0.20m thickness were overlying all three HAs.

7.2. NATURAL GROUND

The underlying natural deposits encountered across future Lot 2 DBP were consistent with our expectations of Kerikeri Volcanic Group deposits, comprising of a very stiff slightly clayey SILT crust to depths ranging between 1.8m and 2.3m BEGL, overlying less weathered, very stiff to hard, gravelly SILT and SILT deposits which quickly terminated on inferred, harder basalt rock.

Measured in-situ, BS1377 adjusted peak Shear Vane Strengths all exceeded 197kPa and/or 220kPa, where soil strength was in excess of the shear vane capacity, or the vane was Unable to Penetrate into the soil (UTP).

No peak to remoulded Shear Vane Strength ratios were able to be obtained. Based on experience, we generally assess the underlying subgrade as being 'Moderately Sensitive.'

Figure 5: Site photograph of the typical HA soil arisings (HA01: 0.0m to 2.4m BEGL).

7.3. GROUNDWATER

Groundwater was not encountered in any of our HAs. Our fieldwork investigation was undertaken on a fine weather day during the winter period, with similar fine weather conditions occurring the day before our investigation. Approximately 10mm of rainfall fell on 13 July 2025.

7.4. 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, considering the no to low plastic, silty and gravelly nature of the underlying subsoils, together with our extensive experience within volcanic settings across the Kerikeri Region which have yielded Class A, Class S and Class M results during laboratory testing, we recommend a primary classification as follows:

- NZBC B1 Expansive Soil Class M
- Upper Limit of Characteristic surface movement (y_s) 44mm

Expansive soil will require mitigation by either deepened footings or a specifically designed reinforced, stiffened raft slab foundation system. Preliminary foundation design recommendations are given in Section 9 below.

7.5. 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)	Groundwater Depth (m)
HA01	2.4	0.20	220+ / UTP	NE
HA02	2.6	0.20	220+ / UTP	NE
HA03	2.0	0.20	197+ / UTP	NE

Note: NE = Not Encountered, UTP = Unable to Penetrate

8. GEOTECHNICAL ASSESSMENTS

As appropriate to the site conditions, we have carried out the following geotechnical analyses for the Lot 2 DBP:

- Qualitative slope stability, and
- Liquefaction susceptibility.

8.1. QUALITATIVE SLOPE STABILITY

The DBP is positioned on broad, near level ground that is sufficiently setback from any significantly inclined slopes.

Our assessment has also considered the following:

- Very stiff to hard weathered soils of the Kerikeri Volcanic Group encountered during our investigations. This includes inferred hard basalt rock from approximately 2.0m to 2.6m BEGL,
- There are no known active faults traversing through the property or wider surrounding land,
- The DBP is situated in an elevated location, set no less than RL98m NZVD, with good water shedding characteristics,
- No visual signs of ground instability were observed at the time of our investigation, and
- Lack of groundwater within our HAs on the day of our investigation.

Based on the above, in accordance with the criteria given in Section 2 of the FNDC Engineering Standards (Version 0.6), dated May 2023, we assess the site is within a Low Stability Hazard Zone.

8.2. LIQUEFACTION ASSESSMENT

Liquefaction is a natural phenomenon whereby prolonged seismic shaking induces an increase in pore water pressure, which in turn decreases the effective stress of silt/fine sand-like soil deposits. Excess pore water pressure (EPWP) can build to such an extent that the effective stress of the underlying soil is reduced to near zero, whereby the soils no longer carry shear strength and behave as a semi solid/fluid. In such a scenario, excess pore water pressures will follow the path of least resistance to eventual dissipation, which can lead to the migration of liquefied soils towards the surface, or laterally towards a free-face (edge of slope, riverbank, etc.) or layers that have not yet undergone liquefaction.

At the time of preparing this report, we note that the FNDC on-line GIS Liquefaction Vulnerability Map indicates that the property and wider surrounding land lies within an '*Unlikely*' zone.

We have carried out a liquefaction susceptibility assessment in order to identify the risk of ground damage during a seismic event, based on the following items:

- There are no known active faults traversing through the property or wider surrounding land,
- There is no historical evidence of liquefaction at the property,
- The DBP is situated in an elevated location, set no less than RL98m NZVD, with good water shedding characteristics,
- Very stiff to hard in-situ measured Vane Shear Strengths recorded during our investigation,
- Lack of groundwater within our HAs,
- The subsoils beneath the DBP comprise of cohesive soils that are not generally considered susceptible to liquefaction, and
- The subsoils beneath the DBP are underlain by Kerikeri Volcanic Group deposits, being 1.8 to 9.7 million years in age, allowing for adequate consolidation in comparison to younger, Holocene age material (10,000 years).

Based on the above, we conclude that the subsoils beneath the DBP have a negligible risk of liquefaction susceptibility and liquefaction damage is therefore considered to be unlikely.

9. CONCLUSIONS AND RECOMMENDATIONS

Based on our fieldwork investigation, subsoil testing results, walkover inspection and stability commentary as described above, 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 Lot 2 DBP should be generally suitable for future residential construction in terms of NZS3604:2011, subject to:

- Future site-specific development design being in accordance with our recommendations given in Section 9 below, and

- Once future site-specific development proposals for proposed Lot 2 have been finalised, they should be referred to WJL for review prior to submission for a Building Consent application.

9.1 PRELIMINARY FOUNDATION DESIGN FOR PROPOSED LOT 2

Shallow foundations will be suitable to support a new dwelling provided they are designed to accommodate vertical movement of soil associated with Soil Reactivity **Class M – Moderately Reactive.**

The site will be suitable for either a reinforced, raft slab foundation system, slab-on-grade with deepened perimeter strip footings, or timber subfloor suspended on bored, concrete encased, timber pile foundations.

9.1.1. SHALLOW FOUNDATION BEARING CAPACITY

The following bearing capacity values are considered to be appropriate for the design of shallow foundations, subject to founding directly within competent natural ground and/or engineered fill, for which careful Geo-Professional inspections of the subgrade should be undertaken to check that the underlying conditions are in keeping with our expectations:

Table 2: Shallow Bearing Capacity Values

Geotechnical Ultimate Bearing Capacity	300 kPa
ULS Dependable Bearing Capacity (Φ=0.5)	150 kPa

When finalising 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 specific engineering design (SED) to be satisfactory. Deeper foundation embedment with piles may be required for any surcharging foundations.

During inspections, it is important to exercise caution to verify that the natural ground meets the recommended bearing capacity mentioned in this report. This is crucial for preserving structural integrity.

9.1.2. SHALLOW FOUNDATIONS ON EXPANSIVE SOILS

As described earlier in this report, we have estimated the classification of the soils:

- NZBC B1 Expansive Soil Class M
- Upper Limit of Characteristic surface movement (ys) 44mm

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 are 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 the proposed foundations.

For strip and bored footings, we recommend a minimum embedment of 0.60m below finished ground levels and 0.30m into competent natural ground, whichever is deeper.

9.1.3. NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

We consider the DBP to be underlain with a Class C – Shallow Soil stratigraphy.

9.2 SITE EARTHWORKS

Minimal earthworks (less than 0.60m) will be required to create a level building platform for concrete floor slab construction.

Generally, and as directed by a suitably experienced engineer, 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
- Chapter 2 “Site Development Suitability (Geotechnical and Natural Hazards” of the Far North District Council Engineering Standards, (Version 0.6 issued May 2023).

9.3 TEMPORARY AND LONG-TERM EARTHWORKS

We recommend that earthworks only be undertaken during periods of fine weather conditions.

During times of inclement weather, earthworks should be shaped to assist in stormwater run-off. The toe of all batter excavations should be shaped to avoid ponding water, as saturating site soils could result in a reduction of bearing capacities.

At this preliminary stage, all cuts and fills should be limited to a height of 0.60m and batter grade of 1V:3H without review.

All exposed soils should be re-grassed or planted as soon as practicable to aid in stabilization.

The structural designer and building contractor should ensure that satisfactory Factor of Safety’s against ground instability are available at all stages of future development.

9.4 GENERAL SITE WORKS

We stress that all work should be undertaken in a careful and safe manner so that Health & Safety is not compromised, and that suitable Erosion & 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.

9.5 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. UNDERGROUND SERVICES

Underground services, public or private, mapped, or unmapped, of any type may be present, hence we recommend staying on the side of caution during the commencement of any work within the proposed development area.

11. DRAWING REVIEW AND/OR FURTHER GEOTECHNICAL ASSESSMENT

Once future site-specific development proposals have been finalised, they should be referred to us for review prior to submission for a Building Consent application to verify that the recommendations contained in this report have been incorporated into the development proposal.

12. WASTEWATER

Lots 1 & 3 – Existing Structures

To our knowledge, the existing structures located within Proposed Lots 1 & 3 are currently serviced by proprietary on-site wastewater management systems.

It is expected that the entirety of each existing structure's wastewater management system, including trenches, are located within the structures' corresponding newly proposed boundaries in each proposed stage.

Given the above, it is recommended that the existing wastewater management systems servicing the existing structures continue to do so.

If any part of the existing wastewater system is found to be located outside the respective lot boundaries, it must be relocated within the proposed lot limits.

A council-approved suitably qualified professional should undertake an on-site investigation of the extent of the existing systems and provide confirmation that these are in good operating condition and are fully contained within the boundaries.

Lot 2 – Future Development

A new site-specific design in accordance with the AS/NZS: 1547 / TP58 design manual will be required by FNDC for any future development within this lot. This should be conditioned as part of the Resource Consent process.

12.1 SOIL CATEGORY

In general terms, the subsoils encountered consisted predominantly of Clayey SILT and SILT. Approximately 200mm of TOPSOIL was overlying the investigated area. Refer to the appended 'BH Logs'. Given the above, the site's soils have been classified as **Category 4** in accordance with the AS/NZS:1547-2012 design manual.

12.2 DESIGN PARAMETERS

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.

As no development proposals are available at this stage for the eventual residential development within Lot 2, our recommendations have been based on a moderate size dwelling containing 4 bedrooms.

The subsoils encountered on-site are appropriate for primary treatment systems and secondary treatment systems. As such, indicative wastewater designs for both scenarios are provided below.

Alternative designs to the below are also acceptable subject to detailed design.

12.2.1 Summary of Preliminary Design Parameters for a Primary Treatment System

Development Type:	Residential Dwelling
Effluent Treatment Level:	Primary (<BOD5 30 mg/L, TSS 45 mg/L)
Fill Encountered in Disposal Areas:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (AS/NZS 1547:2012):	Category 4 –Clay Loams
Estimate House Occupancy:	6 Persons
Land Disposal Method:	Conventional Trenches
Loading Rate:	12.5mm/day
Typical Wastewater Design Flow Per Person	180L/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Estimated Total Daily Wastewater Production per Lot:	1,080L
Loading Method:	Dosed loading by pump or syphon
Emergency Storage Capacity:	Total holding capacity = ~4,500L Required storage time = 48 hours
Overall Bed Length Required **where;** **L = Q / (DLR x W)** **L = length in m** **Q = design daily flow rate in L/day** **DLR = daily loading rate in mm/day** **W = width in m**	L = 1080 / (12.5 x 0.6) = 144m
Recommended Field Setup:	12 x 12mL x 0.6mW with 1.0m spacings, See appended Site Plan (141536-C300)
Primary Disposal Area:	Basal = 86.4m² Total Covered Area = 215m² (including spacings)
Reserve Disposal Area:	Total Covered Reserve Area = 215m² (100%)

Buffer Zone:	Not Required
Cut-off Drain:	Not Required

12.2.2 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:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (AS/NZS 1547:2012):	Category 4 – Clay Loams
Estimate House Occupancy:	6 Persons
Loading Rate:	PCDI System – 3.5mm/day (AS/NZS 1547:2012)
Estimated Total Daily Wastewater Production per Lot:	1,080L
Typical Wastewater Design Flow Per Person:	180L/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Application Method:	Surface Laid PCDI Lines
Loading Method:	Dosed
Minimum Tank size:	>1,080L
Emergency Storage:	24 hours
Estimated Min. Disposal Area Requirement:	309m²
Required Min. Reserve Area:	93m² (30%)
Buffer Zone:	Not required
Cut-off Drain:	Not required

12.2.3 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:

Feature	Primary treated domestic type wastewater	Secondary and tertiary treated domestic type wastewater	Greywater
Exclusion areas			
Floodplain	5 percent annual exceedance probability	5 percent annual exceedance probability	5 percent annual exceedance probability
Horizontal setback distances			
Identified stormwater flow path (including a formed road with kerb and channel, and water-table drain) that is down-slope of the disposal area	5 metres	5 metres	5 metres
River, lake, stream, pond, dam or natural wetland	20 metres	15 metres	15 metres
Coastal marine area	20 metres	15 metres	15 metres
Existing water supply bore	20 metres	20 metres	20 metres
Property boundary	1.5 metres	1.5 metres	1.5 metres
Vertical setback distances			
Winter groundwater table	1.2 metres	0.6 metres	0.6 metres

Figure 6: Table 9 of the PRPN (Proposed Regional Plan for Northland).

12.3 NORTHLAND REGIONAL PLAN ASSESSMENT

Any existing wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.1 of the Proposed Regional Plan for Northland:

C.6.1.1 Existing on-site domestic type 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 discharge volume does not exceed:
	a) three cubic metres per day, averaged over the month of greatest discharge, and
	b) six cubic metres per day over any 24-hour period, and

2	the following reserve disposal areas are available at all times:
	a) one hundred percent of the existing effluent disposal area where the wastewater has received primary treatment or is only comprised of greywater, or
	b) thirty percent of the existing effluent disposal area where the wastewater has received at least secondary treatment, and
3	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
4	wastewater irrigation lines are at all times either installed at least 50 millimetres beneath the surface of the disposal area or are covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
5	the discharge does not contaminate any groundwater supply or surface water, and
6	there is no surface runoff or ponding of wastewater, and
7	there is no offensive or objectionable odour beyond the property boundary.

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 as outlined above.

13. STORMWATER MANAGEMENT

13.1 ASSESSMENT CRITERIA

The site lies within the Far North District. 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. The site resides in a Rural Production Zone.

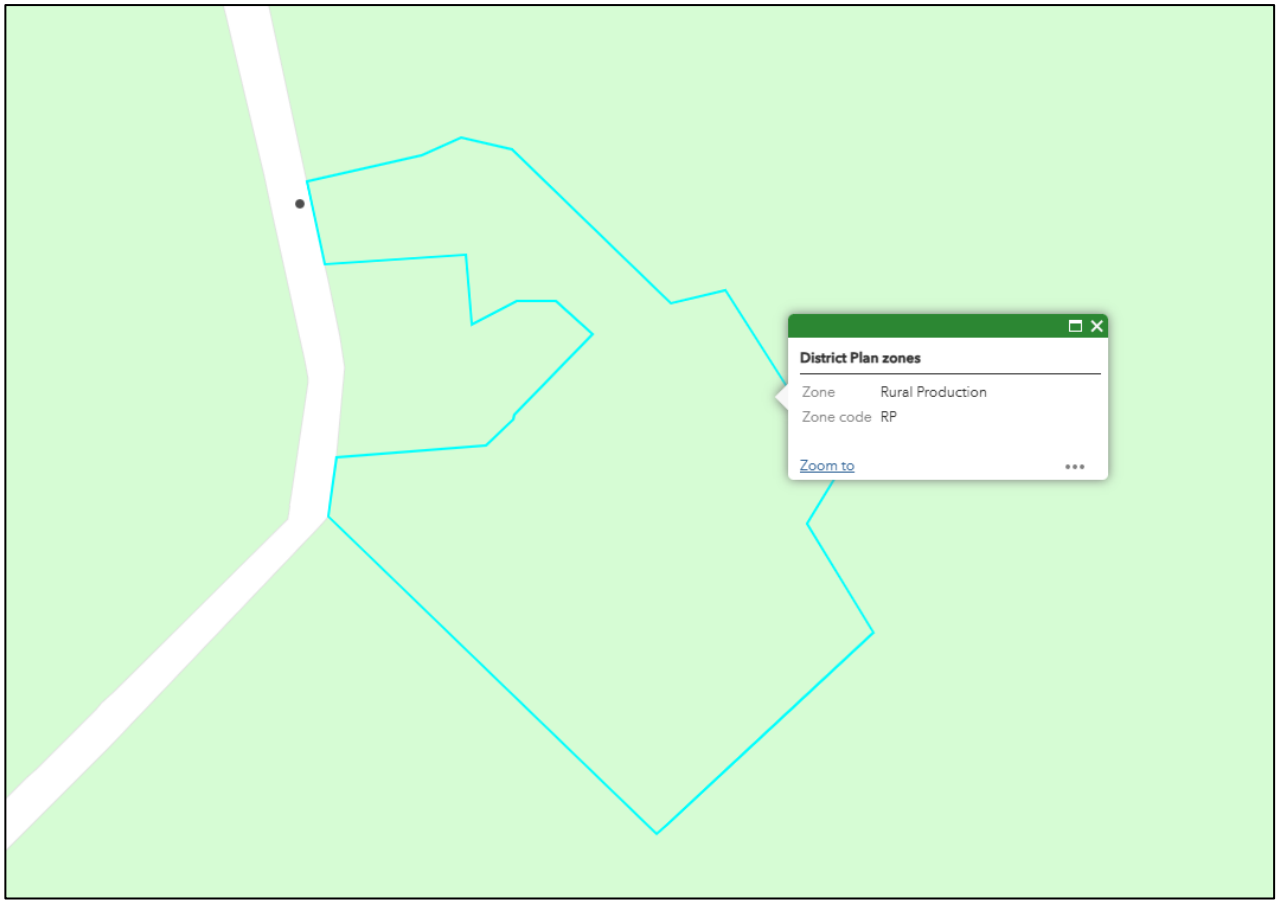


Figure 7: Snip of FNDC Maps showing site in Rural Production Zone.

The following Stormwater Management Rules Apply:

8.6.5.1.3 – **Permitted Activities – Stormwater Management** – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

8.6.5.2.1 – **Controlled Activities – Stormwater Management** – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), the proposed lots must not exceed an impermeable area of 15%. The maximum permitted impermeable area and anticipated activity status for the proposed lots are as follows:

Lot	Permitted Impermeable Area (15%)	Controlled Impermeable Area (20%)	Existing Impermeable Areas (m²)	Additional Impermeable Area Estimation (m²)	Anticipated Activity Status
1	510m²	680m²	~836m²	-	Discretionary
2	552m²	736m²	~534m²	300m²	Discretionary
3	7436.25m²	9915m²	~1162m²	-	Permitted

Existing impermeable coverage was estimated using the provided plans and aerial imagery.

A site-specific attenuation report in accordance with the Far North District Council Engineering Standards will be required for any future development on Proposed Lot 2 not meeting the criteria of Permitted Activity Rule (8.6.5.1.3). The existing impermeable coverage on Proposed Lot 1 will also trigger Discretionary Activity status as a result of the subdivision – a site-specific attenuation design to address this is contained in Section 13.2 below.

In this case, it is recommended that hydraulic neutrality should be provided for the 20% AEP and 1% AEP storm events across the total impermeable area exceeding the permitted coverage level. Additional considerations for stormwater management as outlined in the FNDC District Plan Section 11.3 (Discretionary Activity) will also be required.

Indicative tank attenuation design parameters are given below to demonstrate the feasibility of implementing attenuation on-site. The Type IA storm profile was utilised in attenuation calculations in accordance with TR-55. HydroCAD® software has been utilised in calculations for 20% AEP and 1% AEP rainfall values of 155mm and 278mm respectively with a 24-hour duration. Rainfall data was obtained from HIRDS and increased by 20% to account for climate change.

In addition, to appropriately mitigate stormwater runoff from future proposed impermeable areas, we recommend utilising Low Impact Design Methods as a means of stormwater management. Design guidelines 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.

13.2 GENERAL RECOMMENDATIONS

Uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect soil bearing conditions.

All stormwater runoff from new roof and paved areas should be collected in sealed pipes and be discharged to a stable disposal point that is well clear of the future building site.

Under no circumstances should concentrated overflows from any source be discharged into or onto the ground in an uncontrolled fashion.

13.3 LOT 1 PRIMARY STORMWATER

13.3.1 Lot 1 - Existing Stormwater Management System

It is our understanding that the existing dwelling on Proposed Lot 1 is currently serviced by an existing stormwater management system.

The location and extent of the stormwater management system, including any drainage lines, reuse tanks, and/or discharge points/devices is to be determined on-site by a suitably qualified professional and confirmed as being in good operating condition and contained within the proposed lot boundaries.

13.3.2 Attenuation

Lot 1's existing impermeable area exceeds the permitted coverage threshold by ~326m². On-site runoff attenuation in accordance with the criteria outlined in Section 13.1 of this report is required.

It is recommended that attenuation be provided via a detention volume in the upper section of the existing on-site rainwater tanks with the following specifications:

Assumed Tank dimensions	3500m Ø (or greater) x 2600mm high (or greater)
Outlet orifice (20% AEP control)	**40mm diameter orifice**; located >410mm below the overflow outlet - 257mm water elevation - 4.9m³ Storage
Outlet orifice (1% AEP control)	**58mm diameter orifice**; located 260mm above the primary control orifice - 403mm water elevation - 7.8m³ Storage

Refer to the appended Lot 1 Tank Detail for further detail.

13.3.3 Discharge Point

The existing discharge point is to be located and confirmed to be adequate and inside the new lot boundary. If the above is not met then a new dispersal device must be installed in accordance with the Countryside Living Toolbox requirements.

13.4 LOT 2 PRIMARY STORMWATER

For any future development at Proposed Lot 2, a site-specific stormwater design should be provided with specifications for drainage element sizing, attenuation design and an assessment of environmental effects in accordance with the District Plan.

13.4.1 Stormwater Runoff from Roof Areas

Stormwater runoff from the roof of any future buildings must be captured by a gutter system and conveyed to rainwater tanks for reuse supply.

Discharge and overflow from the rainwater tanks should be directed to a discharge point as specified below via sealed pipes.

13.4.2 Stormwater Runoff from Hardstand Areas

Where driveways are formed perpendicular to the slope of the topography, the driveway may shed runoff to lower-lying grassed areas via even sheet flow, well clear of any structures. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.

Where even sheet flow is not practicable, concentrated flows 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.

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.

13.4.3 Attenuation Feasibility

Lot 2 will require attenuation in accordance with the criteria outlined in Section 13.1 of this report for the existing / future impermeable areas exceeding the permitted threshold.

The below detention configuration has been provided for an assumed future development consisting of an additional 250m² dwelling and 50m² driveway to demonstrate that on-site attenuation in compliance with the applicable criteria is feasible.

It is recommended that attenuation be provided via a detention volume in the upper section of any future potable water tanks. For the purposes of this report, it is assumed that 2 x 25,000L Rainwater Tanks with a 3500mmØ are used. In this case, the following orifice outlet specifications would be sufficient to achieve attenuation in accordance with the criteria outlined in Section 13.1 of this report.

Outlet orifice (20% AEP control)	**58mm diameter orifice**; located >350mm below the overflow outlet - 219mm water elevation - 4.2m³ Storage
Outlet orifice (1% AEP control)	**66mm diameter orifice**; located 220mm above the primary control orifice - 349mm water elevation - 6.7m³ Storage

The above coverage scenario is only intended to demonstrate the feasibility of on-site attenuation via rainwater tanks and is not an indication of anticipated future development coverage.

13.4.4 Discharge Point

It is recommended that stormwater runoff from Lot 2 be directed via sealed pipes to a dispersal device at the northern corner of the property, conveying runoff to the downslope gulley and stream via even sheet flow to promote the filtration and evapotranspiration of runoff.

It is anticipated that a 100mmØ (minimum >1% grade) outlet would be sufficient to drain the stormwater runoff from the roof areas in the above development scenario. An upsized or steeper line may be required if runoff from hardstand areas is to be collected and piped to the discharge point.

13.5 SECONDARY STORMWATER

Where required, overland flows and similar 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.

13.6 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).* All roof runoff will be collected by rainwater tanks for conveyance to a safe outlet point. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.

(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.	As above. Runoff from new roof areas will be collected, directed to rainwater tanks and discharged in a controlled manner to a designated outlet, reducing scour and erosion. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.
(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. Future proposed hardstand areas are best shaped to shed to large pasture areas via sheet flow to ensure that runoff does not concentrate. Large downslope pasture areas 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.	Outlet locations are to be determined during detailed design and are to be located such that there are no adverse effects on adjacent 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.	Not applicable.
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	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.

As the post-subdivision impermeable coverage on Proposed Lot 1 will be a Discretionary Activity, the Council will exercise its discretion to review the following matters below, (a) through (m) of the FNDC District Plan Cl 11.3.

In respect of matters (a) through (m), we provide the following comments:

(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;	Impermeable surface intensification will result from the proposed subdivision. Through the implementation of Low impact design principles and on-site attenuation, the adverse effects of runoff can be mitigated to levels similar/equivalent to permitted activity levels.
(b) the extent to which Low Impact Design principles have been used to reduce site impermeability;	Through the implementation of Low impact design principles and on-site attenuation, the effective site impermeability and adverse effects of runoff will be mitigated.
(c) any cumulative effects on total catchment impermeability;	Impermeable surface intensification will result from the proposed subdivision. Given that the intensification is addressed through on-site attenuation to Permitted levels of peak flow for the 20% AEP and 1% AEP design storms, we do not consider the effects on total catchment impermeability to be excessive or significantly detrimental to the receiving environment.

(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 alterations to the existing structures or site topography are proposed.
(e) the physical qualities of the soil type;	Slightly clayey SILT. Good drainage.
(f) Any adverse effects on the life supporting capacity of the soils;	No alterations to the existing structures or topography are proposed. No adverse effects on life supporting capacity of the soils is anticipated.
(g) 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;	The existing stormwater and wastewater services on-site are to be located and confirmed in good operating condition as specified in the previous sections.
(h) the extent to which paved, Impermeable Surfaces are necessary for the proposed activity;	No alterations to impermeable surfaces or paving are proposed.
i) the extent to which land scaping and vegetation may reduce adverse effects of run-off;	Existing plantings / trees will aid in the treatment and velocity reduction of runoff. No specific planting regime is recommended as part of the subdivision.
(j) Any recognised standards promulgated by industry groups;	N/A
(k) the means and effectiveness of mitigating stormwater runoff to that expected by permitted activity threshold.	Attenuation to Permitted levels of peak flow for the 20% AEP and 1% AEP design storms, accounting for climate change, is recommended in the previous sections.
(l) The extent to which the proposal has considered and provided for climate change;	The attenuation calculations have accounted for climate change effects in accordance with the FNDC Engineering Standards 2023.
(m) the extent to which stormwater detention ponds and other engineering solutions are used to mitigate any adverse effects.	Attenuation to Permitted levels of peak flow for the 20% AEP and 1% AEP design storms, accounting for climate change, via a tank detention volume is recommended in the previous sections.

14. 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, **Arran Trust**, in relation to the project 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 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.

The recommendations provided in this geotechnical report are in accordance with the findings from our shallow investigation. However, it is important to acknowledge that additional refinement of the investigation and analysis may be necessary to meet the specific requirements set by the local council.

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.

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:

Subdivision Scheme Plan (1 sheet)

Geotechnical Site Plan (1 sheet)

Hand Auger Borehole Records (3 sheets)

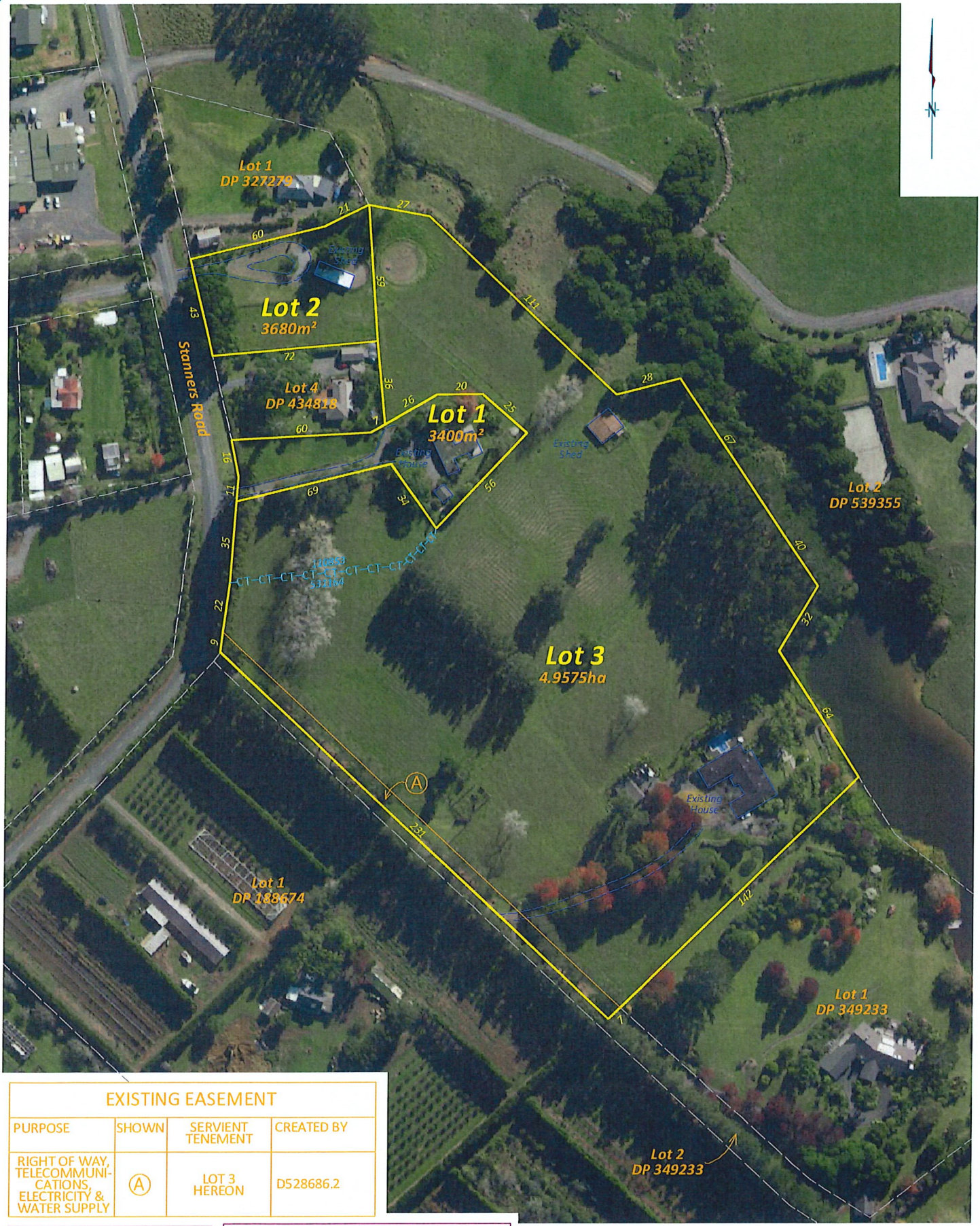
'*Foundation Maintenance and Footing Performance*' homeowner's guide, published by CSIRO (4 sheets)

Civil Suitability Site Plan (1 sheet)

Lot 2 Wastewater Management Site Plan (1 sheet)

Lot 1 Tank Detail (1 sheet)

Stormwater Calculation Set (36 sheets)



EXISTING EASEMENT

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	(A)	LOT 3 HEREON	D528686.2

Local Authority: Far North District Council
Comprised in: 110853 & 531164
Total Area: 5.6687ha
Zoning: Rural Production
Resource features: NIL

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

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

Bar Scale 1:1500 @ A3

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Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, WAIPAPA

PREPARED FOR: AARAN TRUSTEE LTD

	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	16.07.25

10802 Scheme 20250716

ORIGINAL
SCALE 1:1500
SHEET SIZE A3

Surveyors Ref. No: 10802

Sheet 1 of 1

NOTES:

1. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LINZ DATA SERVICE. EXISTING SERVICES LOCATIONS AND CONDITIONS ON-SITE MAY VARY - THIS PLAN IS NOT TO BE USED FOR SERVICE LOCATION IN CONSTRUCTION.
2. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
3. 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.

WILTON JOUBERT
Consulting Engineers
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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
00	JUL '25	PM	SITE SUITABILITY REPORT

DESIGNED BY: PM
DRAWN BY: PM
CHECKED BY: BGS
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:
GEOTECHNICAL SITE PLAN

PROJECT DESCRIPTION:
SITE SUITABILITY REPORT

PROJECT TITLE:
PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818 STANNERS ROAD WAIPAPA

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **1:250**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **141536-G600**
ISSUE: **00**

HAND AUGER : HA01

JOB NO.: 141536 **SHEET:** 1 OF 1

CLIENT: Dave McClelland
PROJECT: 2-Lot Subdivision (1-Lot for Assessment)
SITE LOCATION: 132A Stanners Road, Kerikeri

START DATE: 15/07/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **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, moist.	TS	0.2	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, some/minor clay, brown, very stiff, moist, slightly plastic, occasional orange, yellow and brown weakly and strongly fused clast inclusions.		0.4		220+	-	-		
	0.4m: Frequent orange, yellow and brown weakly and strongly fused clast inclusions.		0.6						
	0.6m: Becoming orangey brown, occasional orange, yellow and brown weakly and strongly fused clast inclusions.		0.8		220+	-	-		
			1.0						
			1.2		UTP	-	-		
			1.4						
			1.6		220+	-	-		
			1.8						
			2.0		220+	-	-		
	2.2m: Frequent pockets of yellow and black silt.		2.2						
	SILT, trace clay, orangey brown, hard, no plasticity (friable), occasional weakly and strongly fused clast inclusions.		2.4						
	EOH: 2.40m - Refusal (Basalt Rock Inferred)				UTP	-	-		
			2.6						
			2.8						

TOPSOIL FILL CLAY SILT SAND GRAVEL PEAT ROCK

REMARKS
End of borehole @ 2.40m (Target Depth: 3.00m)

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

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA02

JOB NO.: 141536 **SHEET:** 1 OF 1

CLIENT: Dave McClelland
PROJECT: 2-Lot Subdivision (1-Lot for Assessment)
SITE LOCATION: 132A Stanners Road, Kerikeri

START DATE: 15/07/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4802 **ELEVATION:** Ground
FACTOR: 1.57 **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, moist.	TS	0.2	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, some/minor clay, brown, very stiff, moist, slightly plastic.		0.4		220+	-	-		
	0.4m: Frequent orange weakly and strongly fused clast inclusions.		0.6						
	0.6m: Becoming orangey brown, occasional orange, yellow and brown weakly and strongly fused clast inclusions.		0.8		220+	-	-		
			1.0						
			1.2		220+	-	-		
			1.4						
	1.6m: Occasional black and dark grey weakly and strongly fused clast inclusions.		1.6		220+	-	-		
			1.8						
			2.0		220+	-	-		
	2.1m: Occasional pockets of white silt.		2.2						
	Gravelly (Clast) SILT, trace clay, orangey brown mottled black and dark grey, very stiff to hard, moist to wet, no plasticity (friable).		2.4		220+	-	-		
	EOH: 2.60m - Refusal (Basalt Rock Inferred)		2.6		UTP	-	-		
			2.8						

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

REMARKS
End of borehole @ 2.60m (Target Depth: 3.00m)

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

LOGGED BY: SJP
CHECKED BY: CSH

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

CLIENT: Dave McClelland
PROJECT: 2-Lot Subdivision (1-Lot for Assessment)
SITE LOCATION: 132A Stanners Road, Kerikeri

JOB NO.: 141536 **SHEET:** 1 OF 1
START DATE: 15/07/2025 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: 1994 **ELEVATION:** Ground
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 / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2	Groundwater Not Encountered					
Kerikeri Volcanic Group	NATURAL: SILT, some/minor clay, brown, very stiff, moist, slightly plastic, occasional weakly and strongly fused clast inclusions.		0.4		197+	-	-		
	0.5m: Frequent weakly and strongly fused clast inclusions.		0.6						
	0.8m: Becoming orangey brown.		0.8		197+	-	-		
	1.2m: Becoming no to low plasticity (slightly friable).		1.0						
			1.2		197+	-	-		
			1.4						
			1.6		UTP	-	-		
	Slightly Gravelly (Clast) SILT, minor clay, orangey brown with occasional yellow silt pockets, hard, moist, no plasticity (friable).		1.8						
			2.0						
	EOH: 2.00m - Refusal (Basalt Rock Inferred)				UTP	-	-		
			2.2						
			2.4						
			2.6						
			2.8						

SOIL DESCRIPTION
TOPSOIL CLAY SAND PEAT
FILL SILT GRAVEL ROCK

REMARKS
End of borehole @ 2.00m (Target Depth: 3.00m)

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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FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE

Preventing soil-related building movement

This Building Technology Resource is designed as a homeowner's guide on the causes of soil-related building movement, and suggested methods to prevent resultant cracking.

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the home owner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement. Generally soil classification is provided by a geotechnical report.

SOIL TYPES

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups – granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. Table 1 below is a reproduction of Table 2.1 from Australian Standard AS 2870-2011, Residential slabs and footings.

CAUSES OF MOVEMENT

SETTLEMENT DUE TO CONSTRUCTION

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take place because of the expulsion of moisture from the soil or because of the soil's lack of resistance to local compressive or shear stresses. This will usually take place during the first few months after construction but has been known to take many years in exceptional cases.

These problems may be the province of the builder and should be taken into consideration as part of the preparation of the site for construction.

EROSION

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

SATURATION

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume, particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

SEASONAL SWELLING AND SHRINKAGE OF SOIL

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below, from AS 2870). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

SHEAR FAILURE

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.

In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

TREE ROOT GROWTH

Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.

TABLE 1. GENERAL DEFINITIONS OF SITE CLASSES.

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes

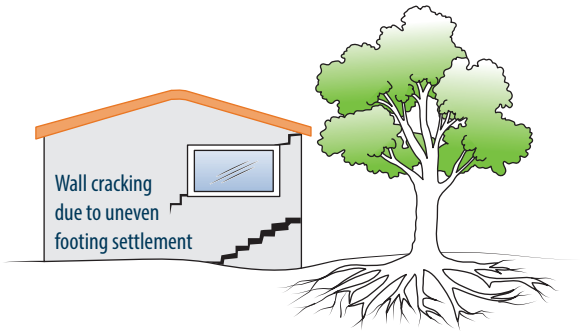

FIGURE 1 Trees can cause shrinkage and damage.

- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

UNEVENNESS OF MOVEMENT

The types of ground movement described above usually occur unevenly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior through absorption. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Shrinkage usually begins on the side of the building where the sun's heat is greatest.

EFFECTS OF UNEVEN SOIL MOVEMENT ON STRUCTURES

EROSION AND SATURATION

Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

SEASONAL SWELLING/SHRINKAGE IN CLAY

Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated, and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry, and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

MOVEMENT CAUSED BY TREE ROOTS

In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

COMPLICATIONS CAUSED BY THE STRUCTURE ITSELF

Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

EFFECTS ON FULL MASONRY STRUCTURES

Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also

exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

EFFECTS ON FRAMED STRUCTURES

Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation causes a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

EFFECTS ON BRICK VENEER STRUCTURES

Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

WATER SERVICE AND DRAINAGE

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem. Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.
- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

SERIOUSNESS OF CRACKING

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. Table 2 below is a reproduction of Table C1 of AS 2870-2011.

AS 2870-2011 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

PREVENTION AND CURE

PLUMBING

Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them, with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

GROUND DRAINAGE

In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject may be regarded as an area for an expert consultant.

PROTECTION OF THE BUILDING PERIMETER

It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill.

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

CONDENSATION

In buildings with a subfloor void, such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

TABLE 2. CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS.

Description of typical damage and required repair	Approximate crack width limit	Damage category
Hairline cracks	<0.1 mm	0 – Negligible
Fine cracks which do not need repair	<1 mm	1 – Very Slight
Cracks noticeable but easily filled. Doors and windows stick slightly.	<5 mm	2 – Slight
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired.	5–15 mm (or a number of cracks 3 mm or more in one group)	3 – Moderate
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted.	15–25 mm but also depends on number of cracks	4 – Severe

Source: Reproduced with the permission of Standards Australia Limited © 2011. Copyright in AS 2870-2011 Residential slabs and footings vests in Standards Australia Limited.

Warning: Although this Building Technology Resource deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders, and mould.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

THE GARDEN

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

EXISTING TREES

Existing trees may cause problems with the upheaval of footings by their roots, or shrinkage from soil drying. If the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. Soil drying is a more complex issue and professional advice may be required before considering the removal or relocation of the tree.

INFORMATION ON TREES, PLANTS AND SHRUBS

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information.

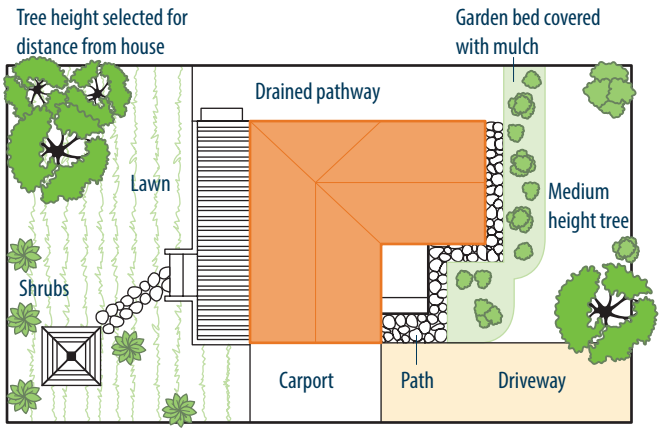

FIGURE 2 Gardens for a reactive site.

EXCAVATION

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

REMEDIATION

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the home owner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.

NOTES:

1. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LINZ DATA SERVICE. EXISTING SERVICES LOCATIONS AND CONDITIONS ON-SITE MAY VARY - THIS PLAN IS NOT TO BE USED FOR SERVICE LOCATION IN CONSTRUCTION.
2. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
3. 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.

NEW LOT 2 / LOT 3 BOUNDARY

LOT 1 DP 327279

LOT 2 EXISTING SHED

INDICATIVE RAINWATER TANKS DISCHARGING TO DISPERSAL DEVICE NORTH OF STRUCTURES, CONVEYING RUNOFF TO GULLEY/STREAM VIA EVEN SHEET FLOW

NEW LOT 2
3,680m²

SW

LOT 3 EXISTING SHED

EXISTING EFFLUENT TREATMENT & DISPOSAL SYSTEM TO BE LOCATED & CONFIRMED WITHIN NEW PROPOSED LOT BOUNDARY, OTHERWISE SYSTEM RELOCATED TO WITHIN LOT BOUNDARY.

NEW LOT 1
3,400m²

LOT 2 EXISTING DRIVEWAY

INDICATIVE AVAILABLE RESERVE AREA (TRENCHES) FOR NEW DEVELOPMENT AT PROPOSED LOT 2 TO BE KEPT CLEAR OF STRUCTURES

30x30 DESIGNATED BUILDING PLATFORM

NEW LOT 3
4.9575ha

LOT 1 EXISTING HOUSE & SHED

LOT 3 EXISTING HOUSE

LOT 4 DP 434818

EXISTING STORMWATER MANAGEMENT SYSTEM TO BE LOCATED AND CONFIRMED WITHIN BOUNDS OF PROPOSED LOT 1, OTHERWISE SYSTEM RELOCATED TO WITHIN LOT 1 **OR** SPECIFIC DESIGN TO BE PROVIDED.
TANK ATTENUATION TO BE PROVIDED VIA RETROFITTING OF FLOW CONTROL ORIFICES IN EXISTING RAINWATER REUSE TANKS - **REFER TANK DETAIL C210**.

INDICATIVE AVAILABLE AREA FOR EFFLUENT DISPOSAL (TRENCHES OR PCDI) AND RESERVE AREA (PCDI) FOR NEW DEVELOPMENT AT PROPOSED LOT 2

EXISTING ROADSIDE DRAIN & CULVERT UNDER LOT 2 VEHICLE CROSSING

LOT 1 EXISTING DRIVEWAY

EXISTING LOT BOUNDARY TO BE SUPERSEDED

STANNERS ROAD

NEW AMALGAMATED LOT 3 BOUNDARY

LOT 3 EXISTING DRIVEWAY

LOT 1 DP 188674

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www.wiltonjoubert.co.nz

ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
00	JUL '25	PM	SITE SUITABILITY REPORT

DESIGNED BY: PM
DRAWN BY: PM
CHECKED BY: BGS
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.

RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

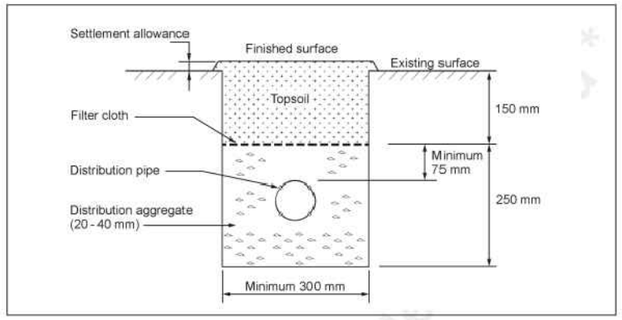
DRAWING TITLE:
CIVIL SUITABILITY SITE PLAN

PROJECT DESCRIPTION:
SITE SUITABILITY REPORT

PROJECT TITLE:
PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818 STANNERS ROAD WAIPAPA

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:1000	NOT COORDINATED

DRAWING NUMBER: 141536-C001
ISSUE: 00

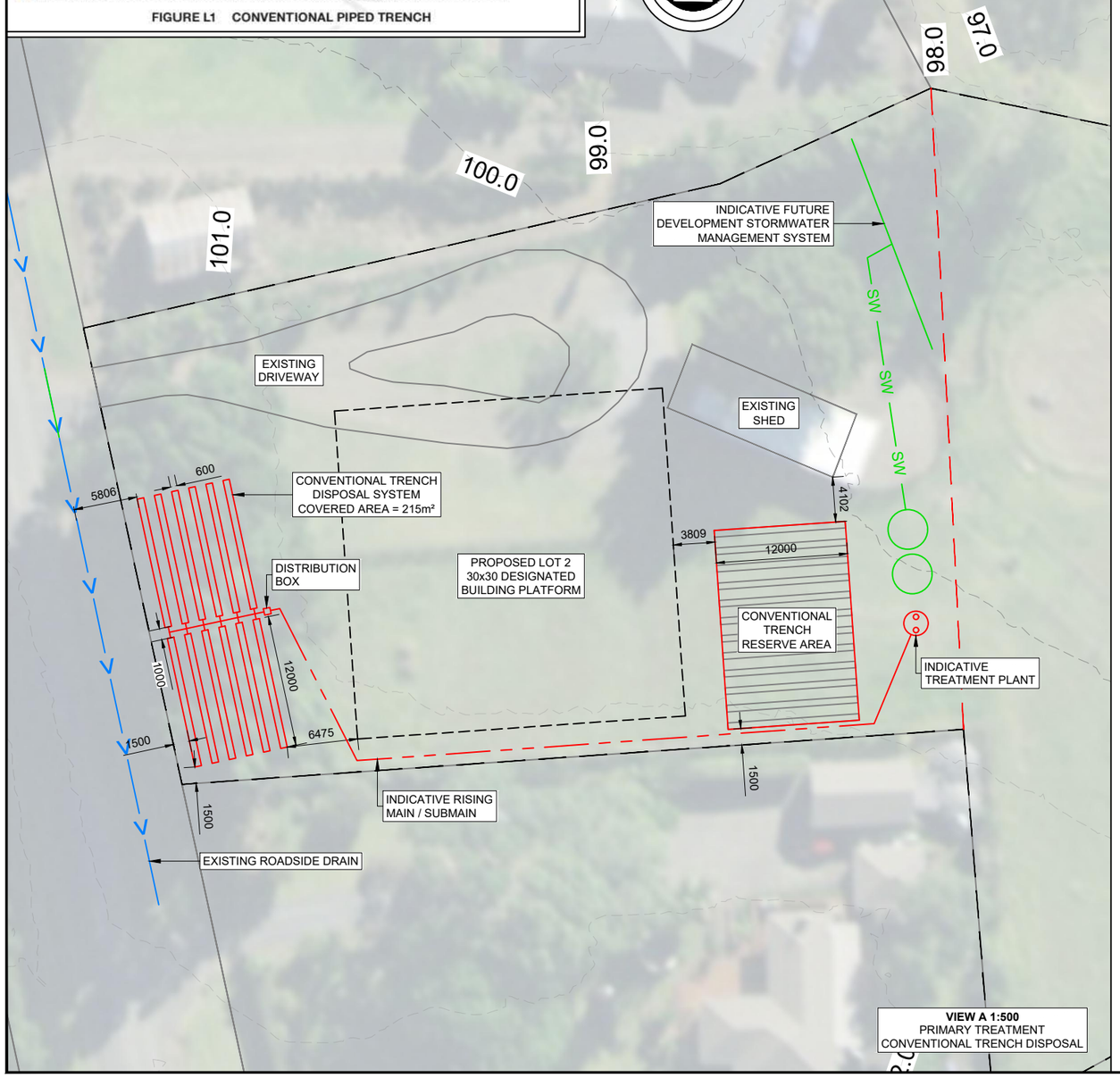


NOTE: LPED lines can be used to replace distribution pipes when dose loading effluent into trenches.

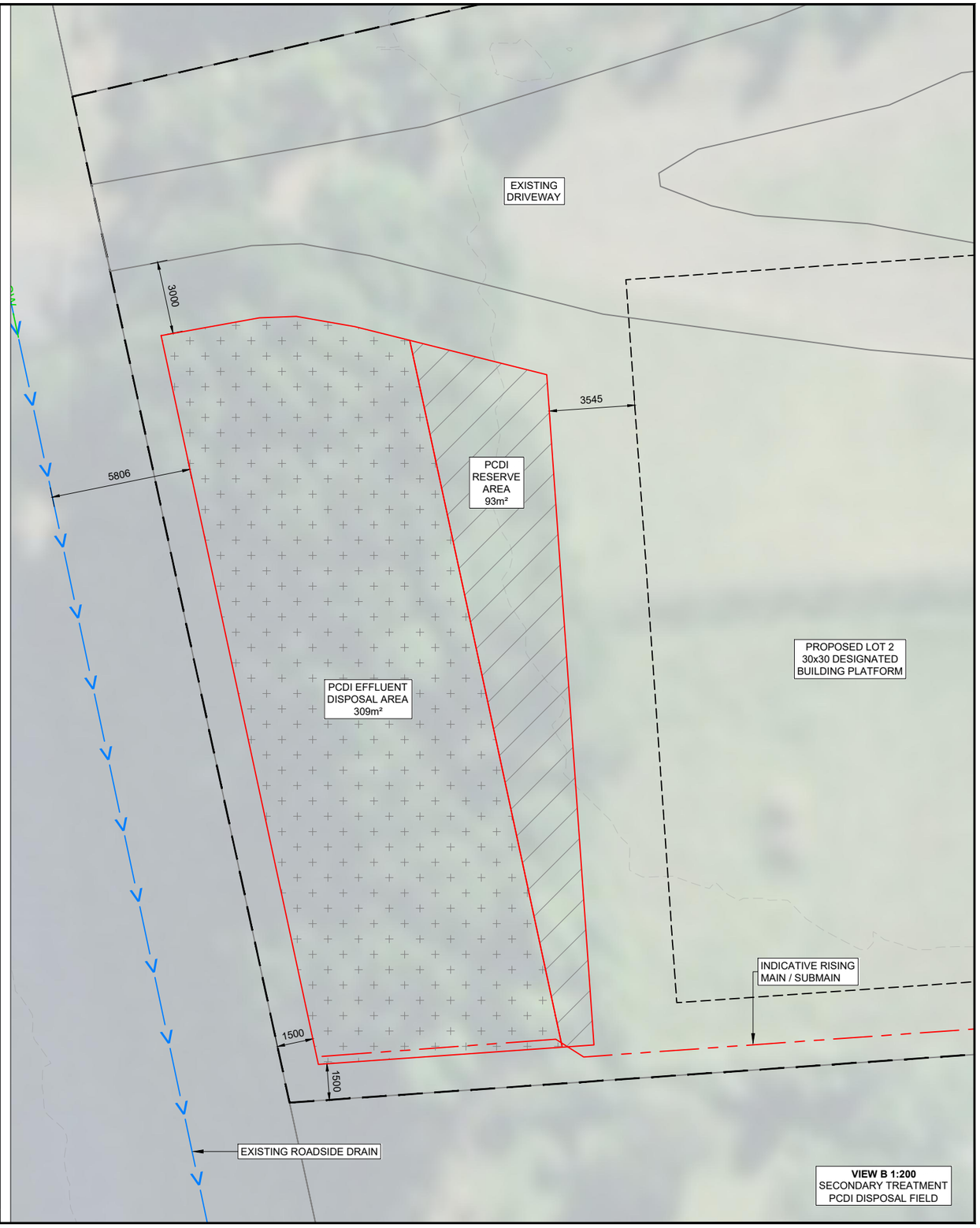
FIGURE L1 CONVENTIONAL PIPED TRENCH

NOTES:

1. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LINZ DATA SERVICE. EXISTING SERVICES LOCATIONS AND CONDITIONS ON-SITE MAY VARY - THIS PLAN IS NOT TO BE USED FOR SERVICE LOCATION IN CONSTRUCTION.
2. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
3. 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.



VIEW A 1:500
PRIMARY TREATMENT
CONVENTIONAL TRENCH DISPOSAL



VIEW B 1:200
SECONDARY TREATMENT
PCDI DISPOSAL FIELD

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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
00	JUL '25	PM	SITE SUITABILITY REPORT

DESIGNED BY: PM
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RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE:
LOT 2 WASTEWATER MANAGEMENT SITE PLAN

PROJECT DESCRIPTION:
SITE SUITABILITY REPORT

PROJECT TITLE:
PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818 STANNERS ROAD WAIPAPA

ORIGINAL DRAWING SIZE: A3
OFFICE: OREWA
DRAWING SCALE: AS SHOWN
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 141536-C300
ISSUE: 00

NOTES:

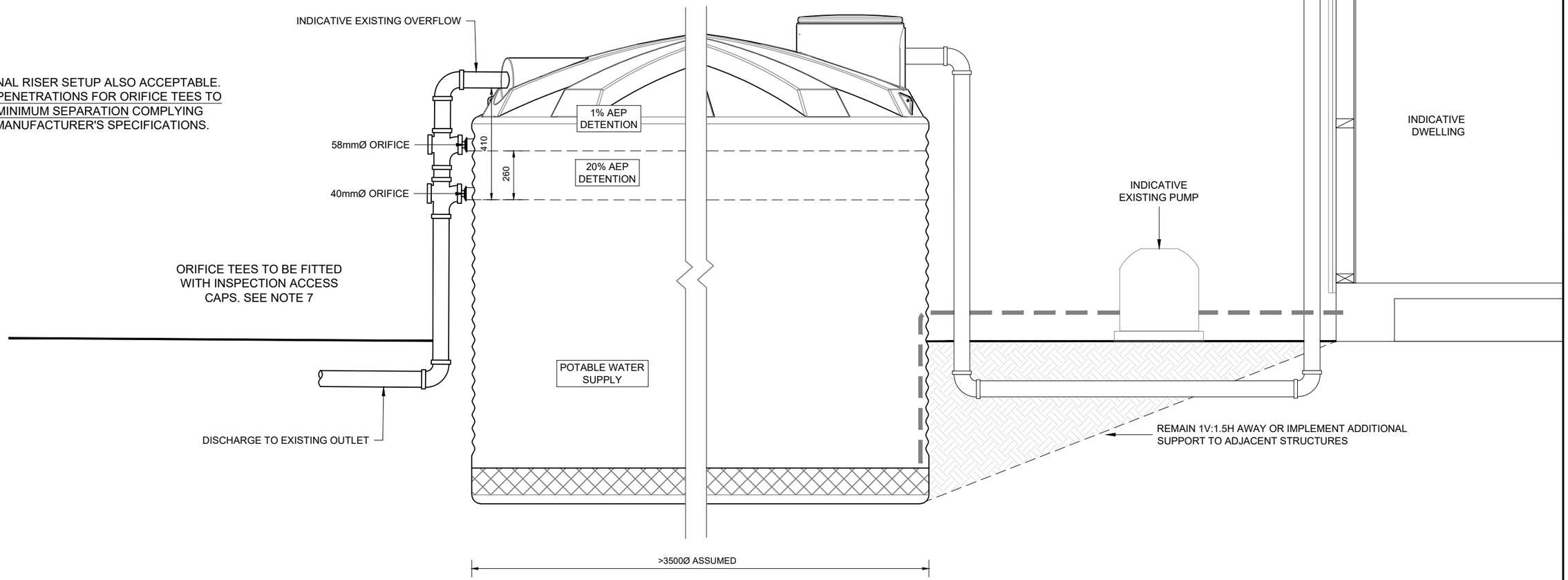
1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & 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 A 25,000 LITRE PLASTIC WATER TANK OR SIMILARLY APPROVED.

PLASTIC TANK NOTES:

7. ALL OUTLETS / PENETRATIONS UNDER HIGH WATER PRESSURE TO BE INSTALLED BY THE MANUFACTURER OR WITH MANUFACTURER'S APPROVAL.

TANK DETAIL TO BE PROVIDED TO TANK MANUFACTURER FOR REVIEW PRIOR TO INSTALLATION. FAILURE TO COMPLY WITH TANK MANUFACTURER'S SPECIFICATIONS MAY RESULT IN VOIDING OF TANK WARRANTY

INTERNAL RISER SETUP ALSO ACCEPTABLE. TANK PENETRATIONS FOR ORIFICE TEES TO HAVE MINIMUM SEPARATION COMPLYING WITH MANUFACTURER'S SPECIFICATIONS.



01 C200 **TANK DETAIL** N.T.S

WILTON JOUBERT
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Wanaka: 03 443 6209
www.wiltonjoubert.co.nz

ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
00	JUL '25	PM	SITE SUITABILITY REPORT

DESIGNED BY: PM
DRAWN BY: PM
CHECKED BY: BGS
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.

RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

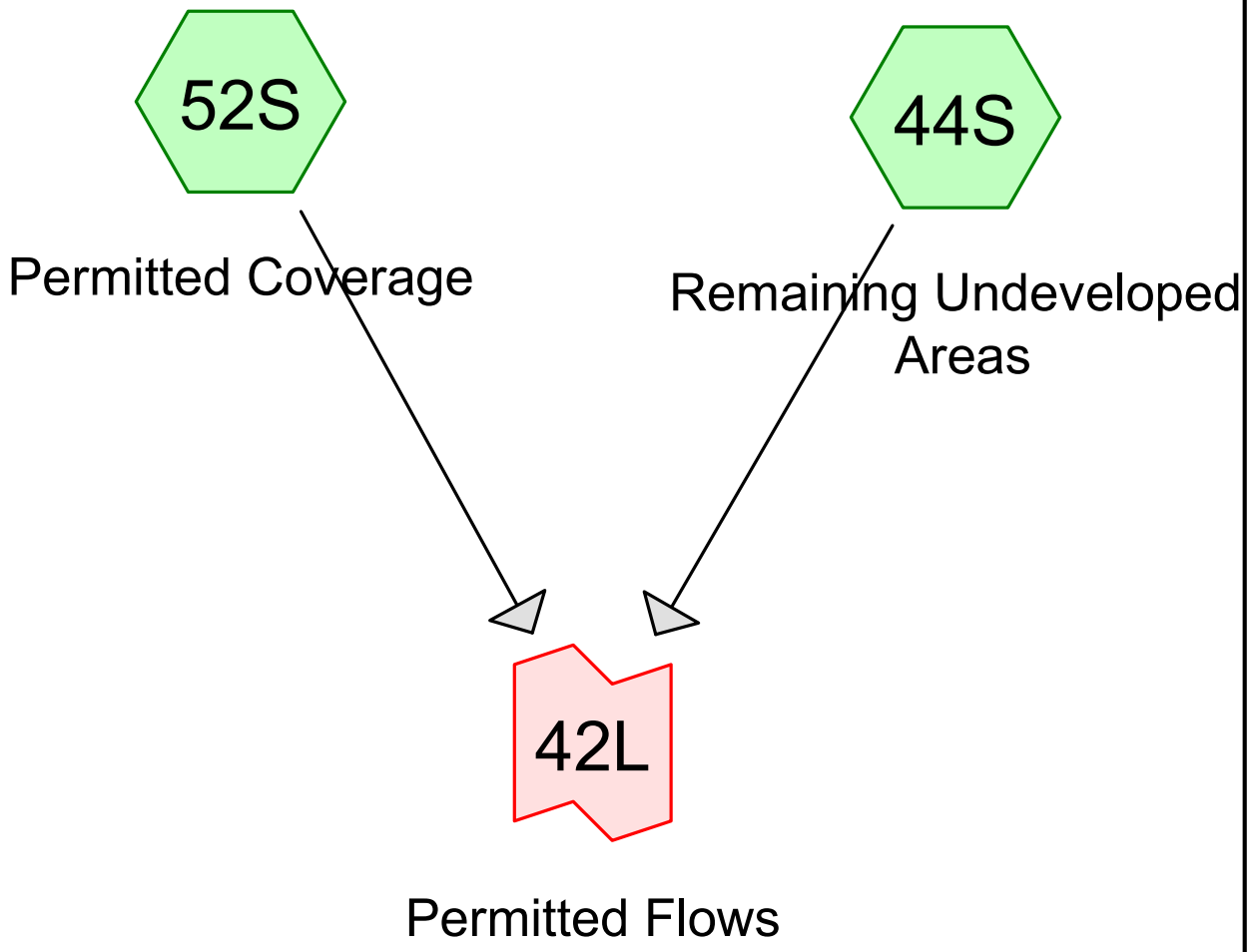
DRAWING TITLE: **LOT 1 TANK DETAIL**

PROJECT DESCRIPTION: **SITE SUITABILITY REPORT**

PROJECT TITLE: **PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818 STANNERS ROAD WAIPAPA**

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **N.T.S**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **141536-C210**
ISSUE: **00**

Lot 1 - Permitted Flows



Subcat Reach Pond Link

Routing Diagram for 141536
Prepared by {enter your company name here}, Printed 23/07/2025
HydroCAD® 10.00-26 s/n 10413 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 44S: Remaining Undeveloped Areas

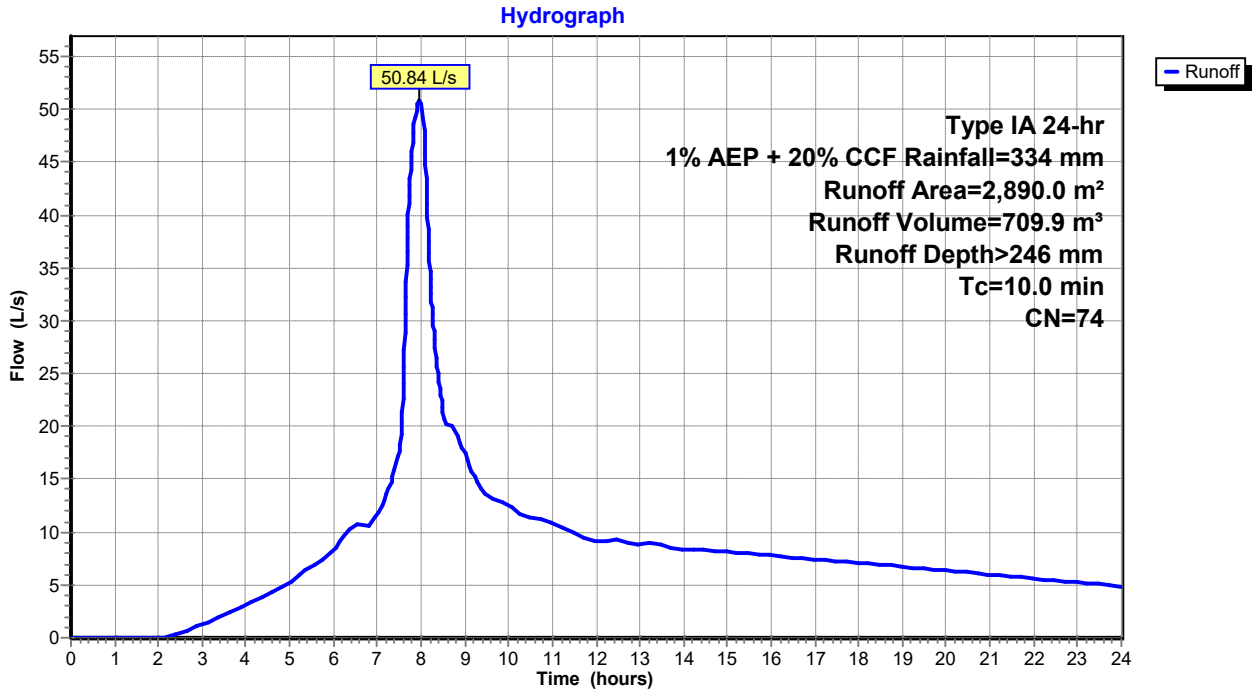
Runoff = 50.84 L/s @ 7.97 hrs, Volume= 709.9 m³, Depth> 246 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	2,890.0	74	
	2,890.0	74	100.00% Pervious Area

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

Subcatchment 44S: Remaining Undeveloped Areas



Summary for Subcatchment 52S: Permitted Coverage

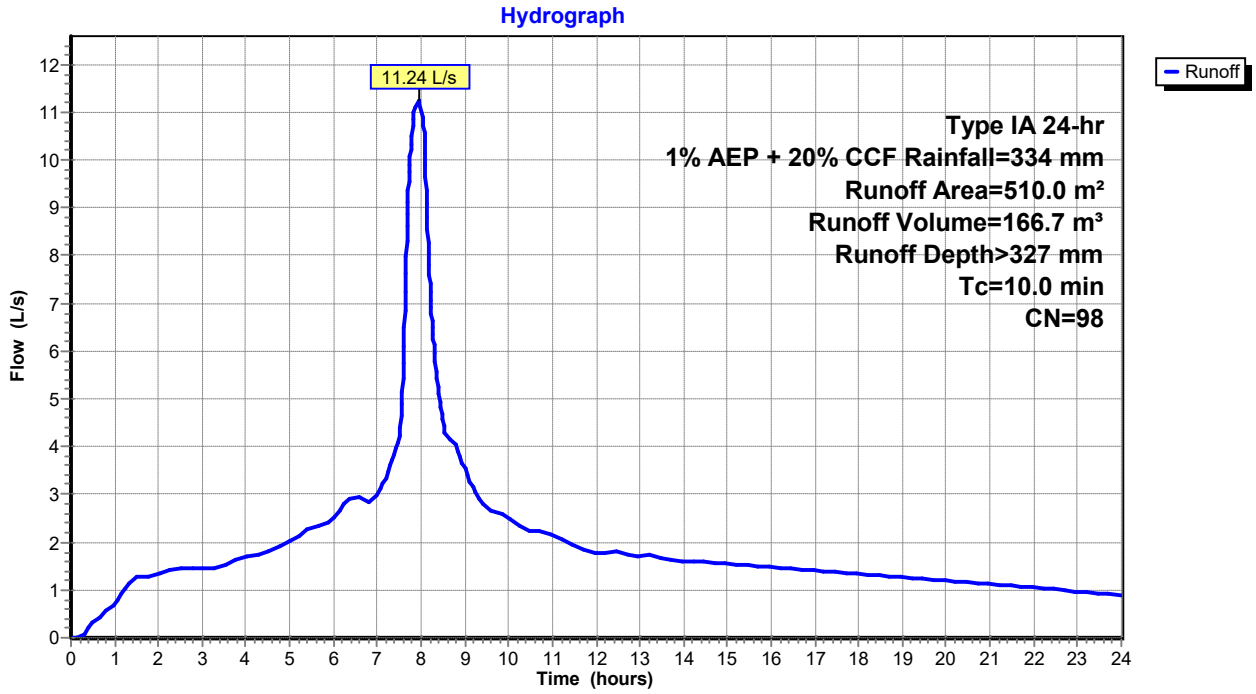
Runoff = 11.24 L/s @ 7.94 hrs, Volume= 166.7 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	510.0	98	
	510.0	98	100.00% Impervious Area

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

Subcatchment 52S: Permitted Coverage

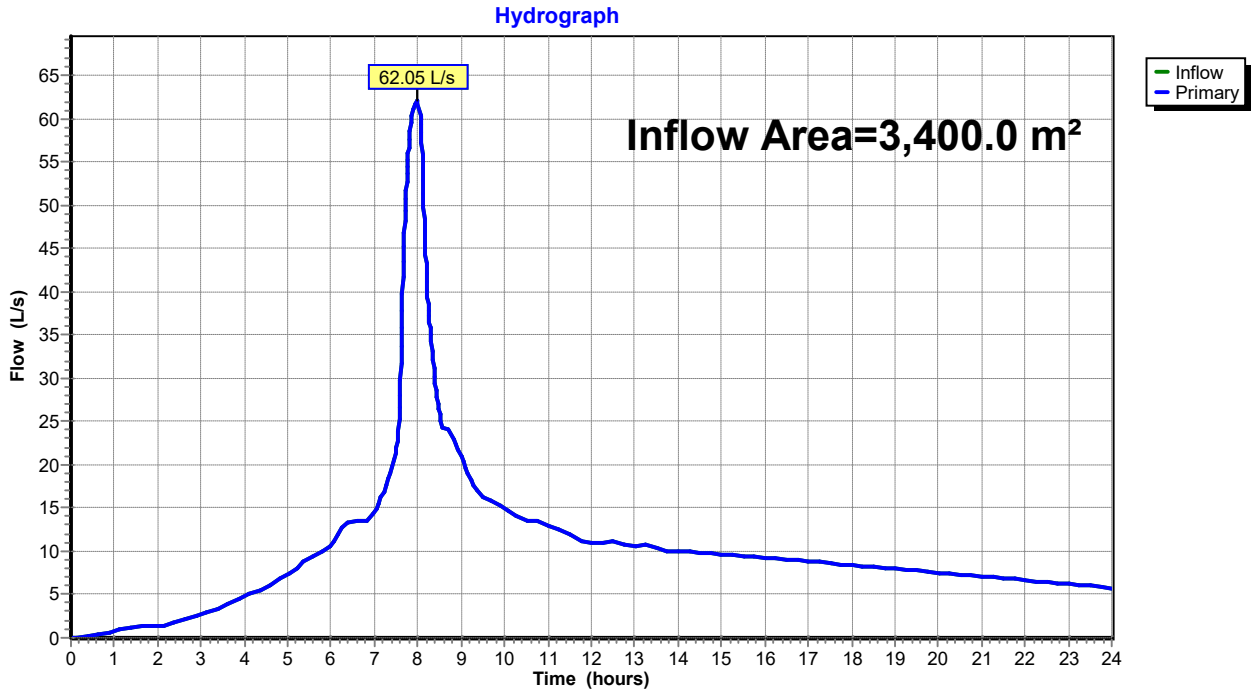


Summary for Link 42L: Permitted Flows

Inflow Area = 3,400.0 m², 15.00% Impervious, Inflow Depth > 258 mm for 1% AEP + 20% CCF event
Inflow = 62.05 L/s @ 7.97 hrs, Volume= 876.7 m³
Primary = 62.05 L/s @ 7.97 hrs, Volume= 876.7 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 42L: Permitted Flows



Summary for Subcatchment 44S: Remaining Undeveloped Areas

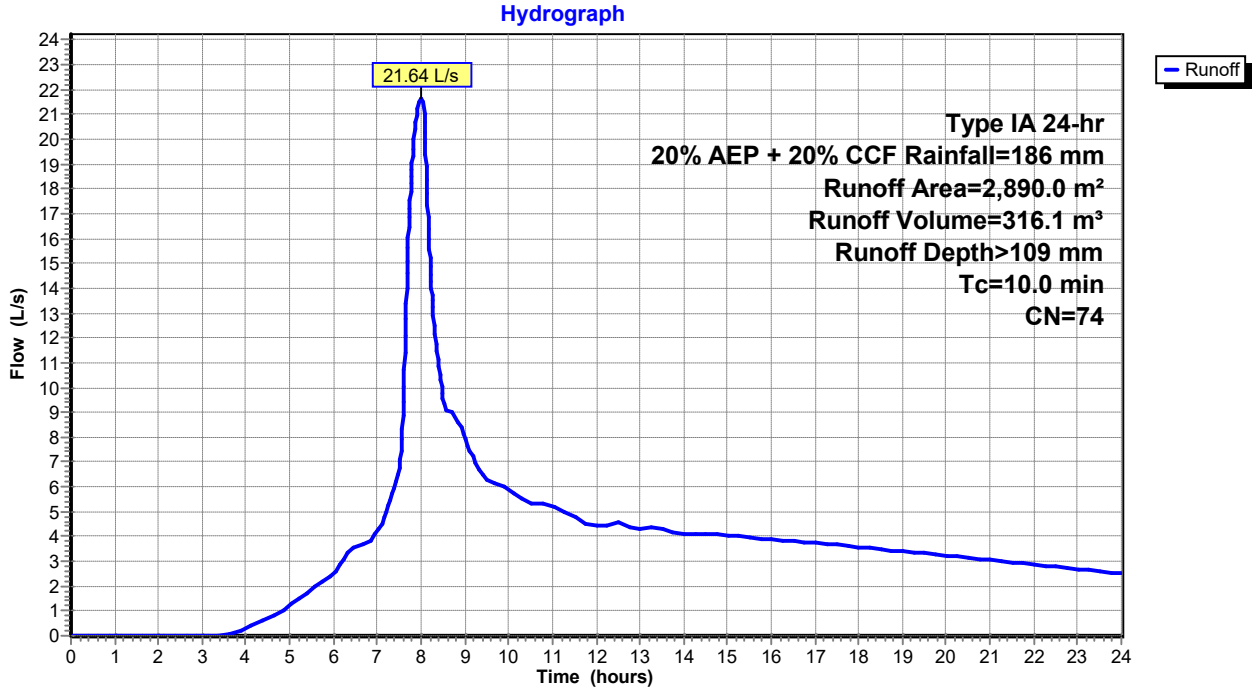
Runoff = 21.64 L/s @ 8.01 hrs, Volume= 316.1 m³, Depth> 109 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	2,890.0	74	
	2,890.0	74	100.00% Pervious Area

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

Subcatchment 44S: Remaining Undeveloped Areas



Summary for Subcatchment 52S: Permitted Coverage

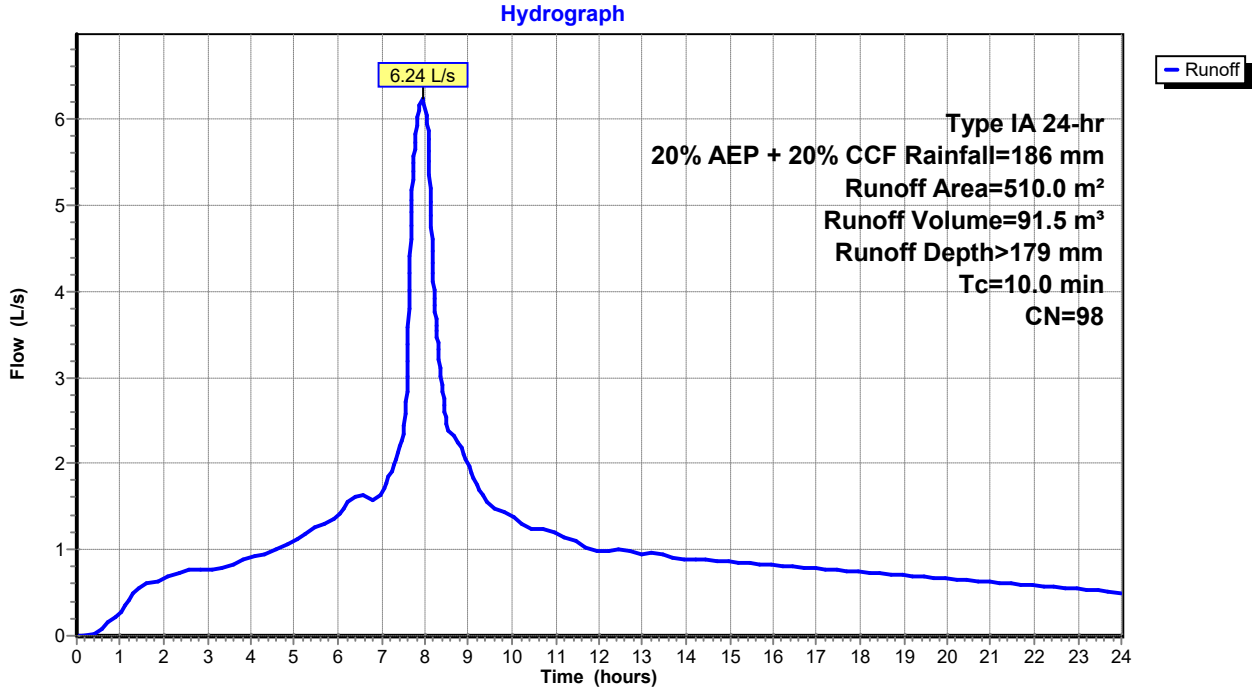
Runoff = 6.24 L/s @ 7.94 hrs, Volume= 91.5 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	510.0	98	
	510.0	98	100.00% Impervious Area

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

Subcatchment 52S: Permitted Coverage

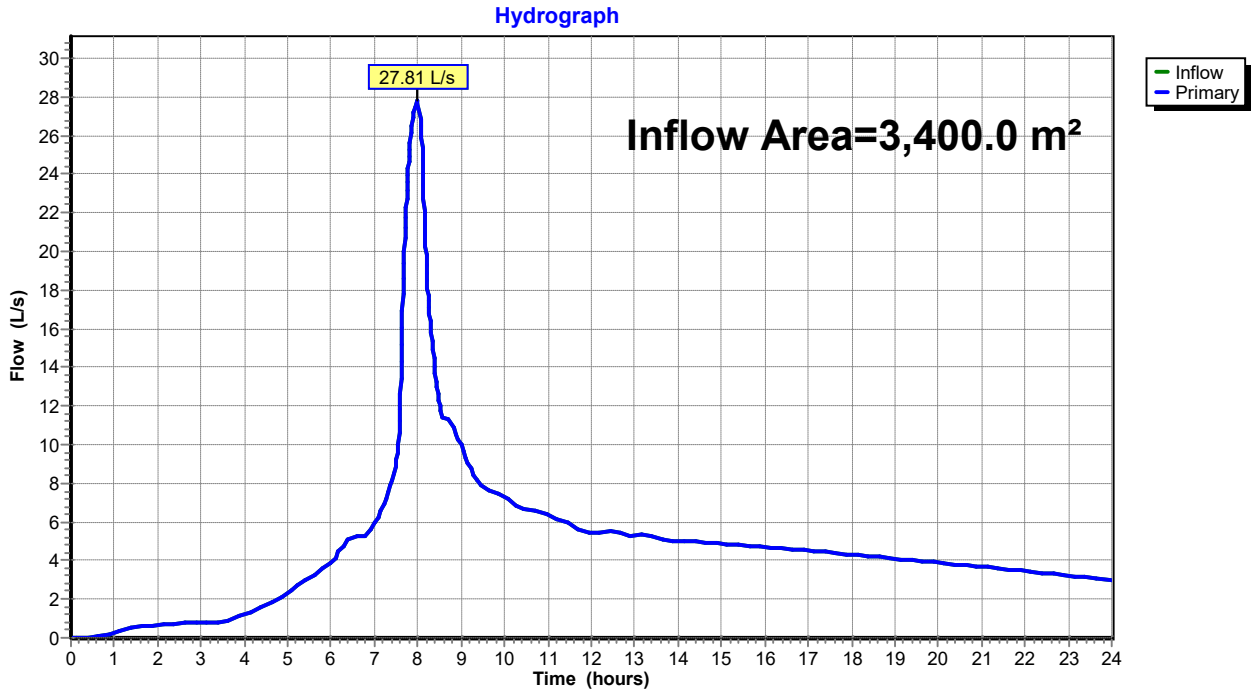


Summary for Link 42L: Permitted Flows

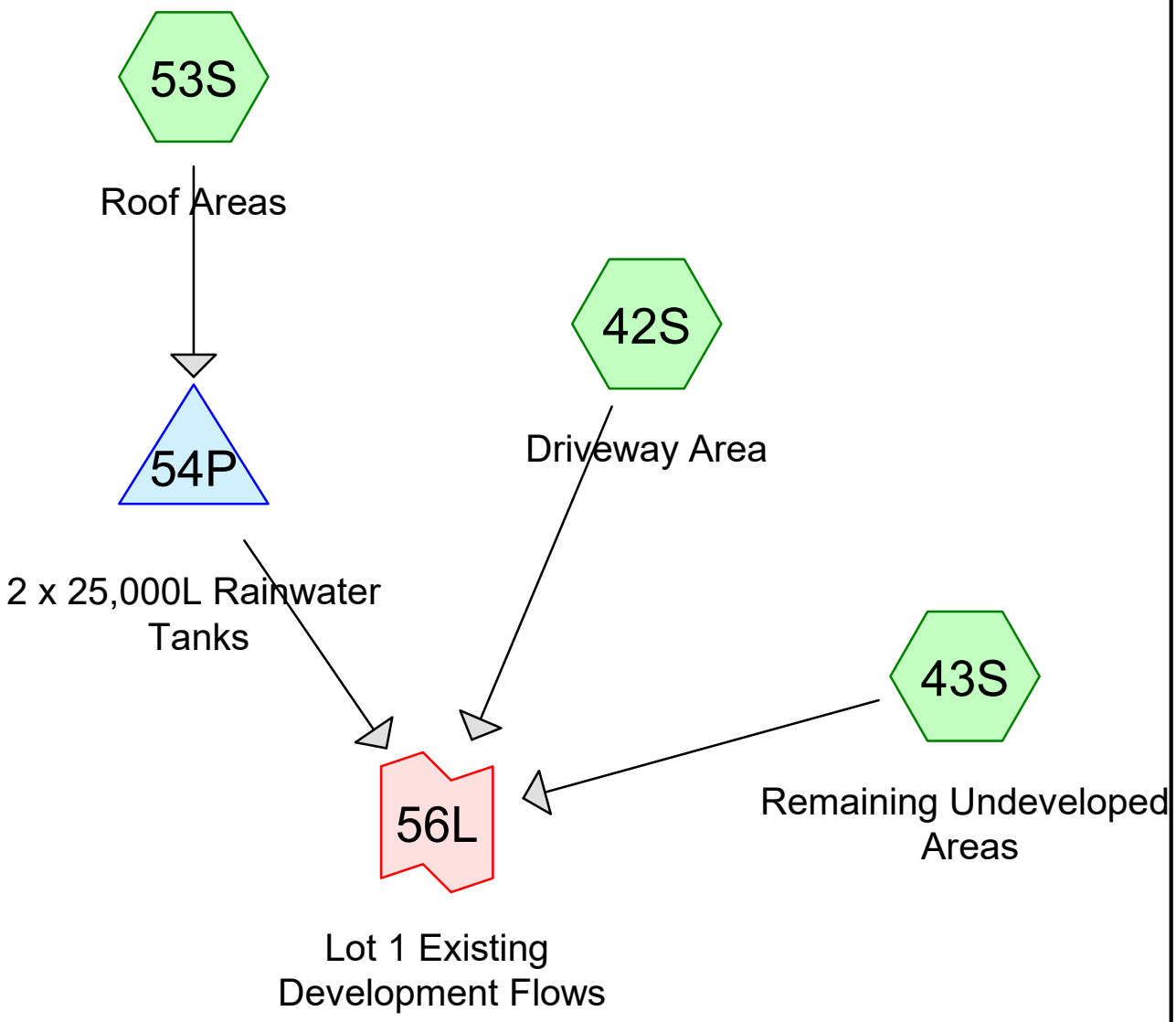
Inflow Area = 3,400.0 m², 15.00% Impervious, Inflow Depth > 120 mm for 20% AEP + 20% CCF even
Inflow = 27.81 L/s @ 7.99 hrs, Volume= 407.6 m³
Primary = 27.81 L/s @ 7.99 hrs, Volume= 407.6 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 42L: Permitted Flows



Lot 1 Existing Development



Subcat Reach Pond Link

Routing Diagram for 141536
Prepared by {enter your company name here}, Printed 23/07/2025
HydroCAD® 10.00-26 s/n 10413 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 42S: Driveway Area

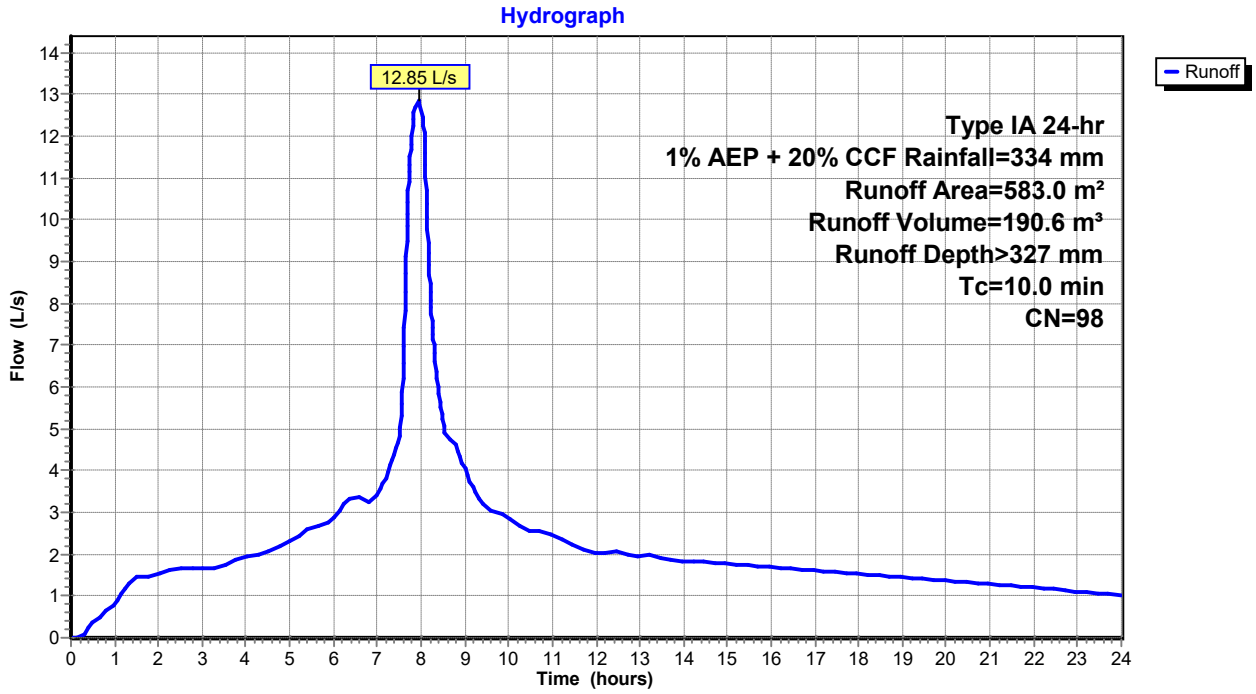
Runoff = 12.85 L/s @ 7.94 hrs, Volume= 190.6 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	583.0	98	Metal Driveway
	583.0	98	100.00% Impervious Area

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

Subcatchment 42S: Driveway Area



Summary for Subcatchment 43S: Remaining Undeveloped Areas

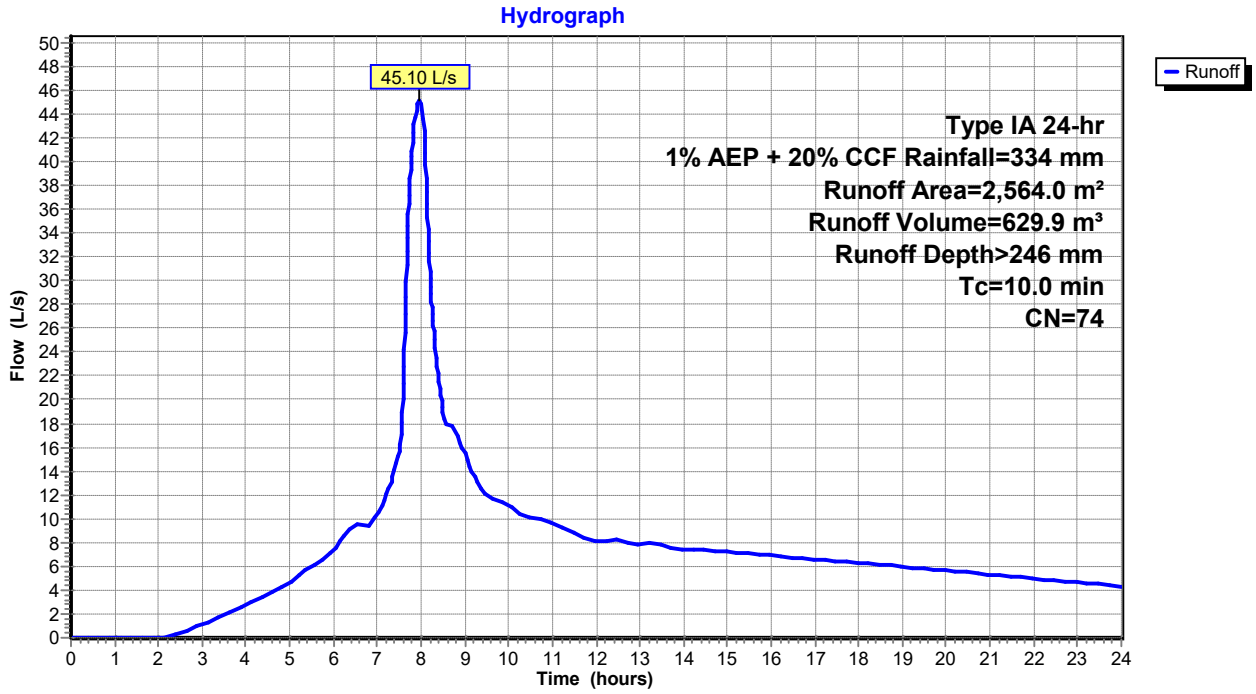
Runoff = 45.10 L/s @ 7.97 hrs, Volume= 629.9 m³, Depth> 246 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	2,564.0	74	Metal Driveway
	2,564.0	74	100.00% Pervious Area

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

Subcatchment 43S: Remaining Undeveloped Areas



Summary for Subcatchment 53S: Roof Areas

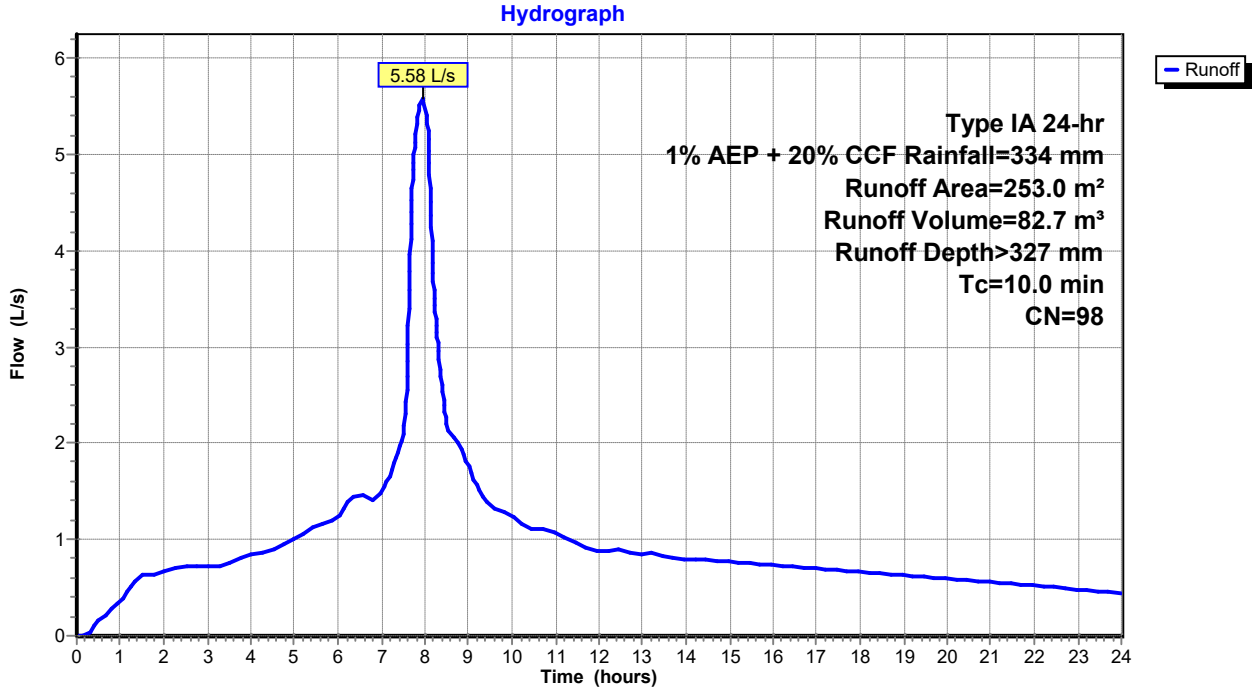
Runoff = 5.58 L/s @ 7.94 hrs, Volume= 82.7 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

Area (m²)	CN	Description
253.0	98	
253.0	98	100.00% Impervious Area

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

Subcatchment 53S: Roof Areas



Summary for Pond 54P: 2 x 25,000L Rainwater Tanks

Inflow Area = 253.0 m²,100.00% Impervious, Inflow Depth > 327 mm for 1% AEP + 20% CCF event
Inflow = 5.58 L/s @ 7.94 hrs, Volume= 82.7 m³
Outflow = 4.44 L/s @ 8.13 hrs, Volume= 81.9 m³, Atten= 20%, Lag= 11.7 min
Primary = 4.44 L/s @ 8.13 hrs, Volume= 81.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 0.403 m @ 8.13 hrs Surf.Area= 19.2 m² Storage= 7.8 m³

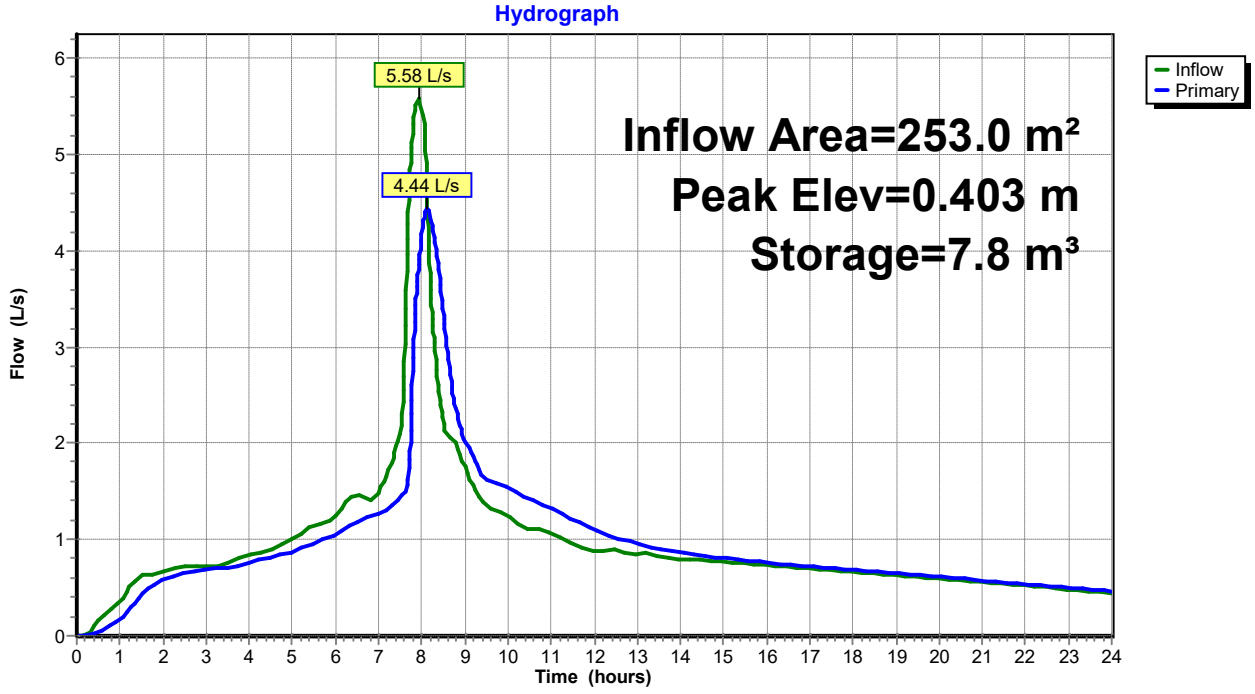
Plug-Flow detention time= 34.9 min calculated for 81.9 m³ (99% of inflow)
Center-of-Mass det. time= 27.3 min (670.1 - 642.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	50.0 m³	**3.50 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**40 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**58 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=4.44 L/s @ 8.13 hrs HW=0.403 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 2.07 L/s @ 1.65 m/s)
└**2=Orifice/Grate** (Orifice Controls 2.37 L/s @ 0.90 m/s)

Pond 54P: 2 x 25,000L Rainwater Tanks

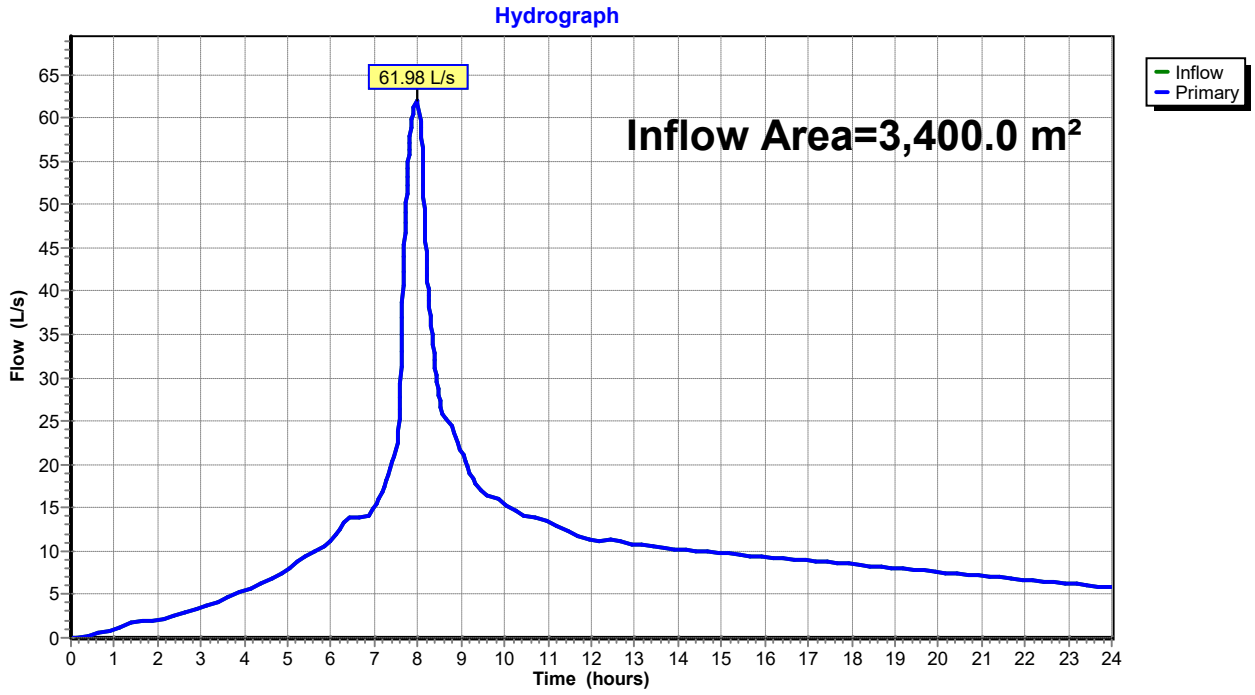


Summary for Link 56L: Lot 1 Existing Development Flows

Inflow Area = 3,400.0 m², 24.59% Impervious, Inflow Depth > 265 mm for 1% AEP + 20% CCF event
Inflow = 61.98 L/s @ 7.99 hrs, Volume= 902.4 m³
Primary = 61.98 L/s @ 7.99 hrs, Volume= 902.4 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 56L: Lot 1 Existing Development Flows



Summary for Subcatchment 42S: Driveway Area

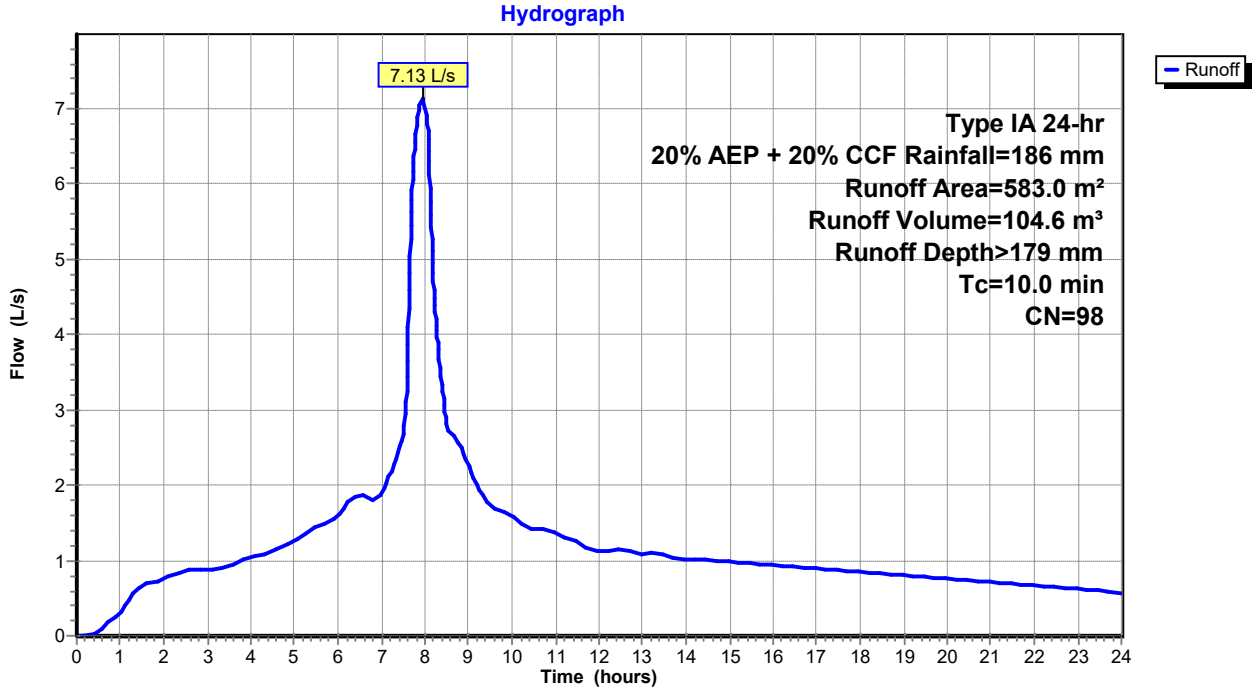
Runoff = 7.13 L/s @ 7.94 hrs, Volume= 104.6 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	583.0	98	Metal Driveway
	583.0	98	100.00% Impervious Area

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

Subcatchment 42S: Driveway Area



Summary for Subcatchment 43S: Remaining Undeveloped Areas

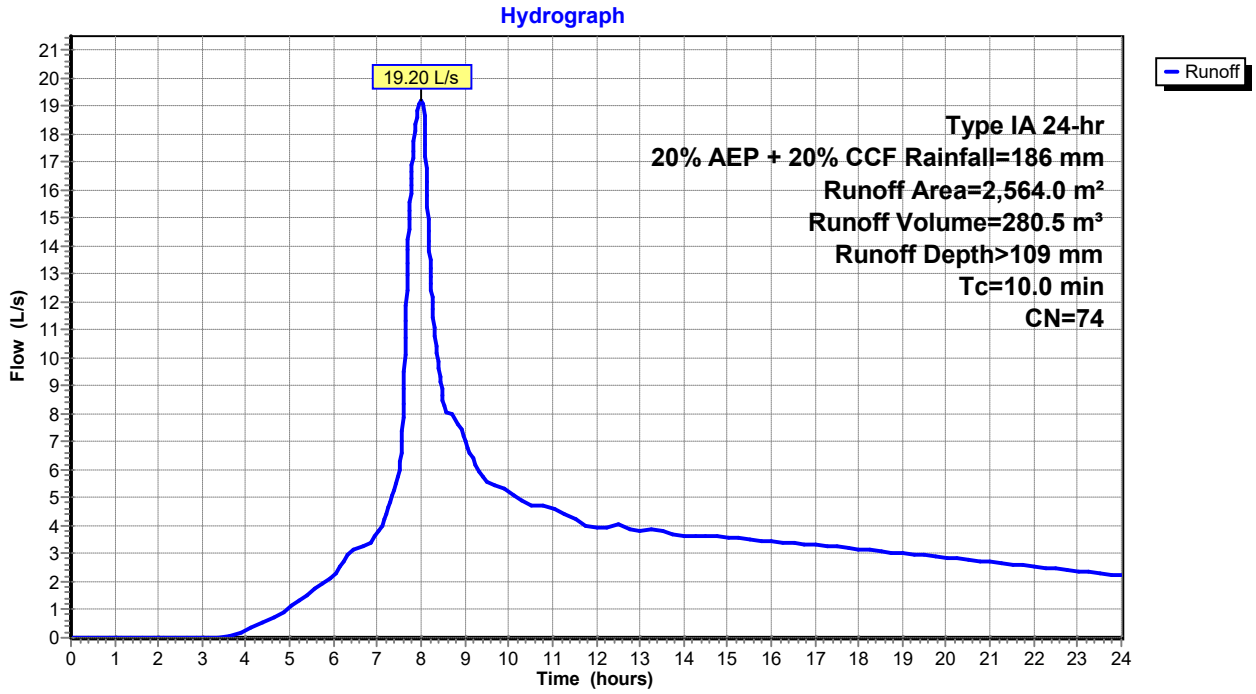
Runoff = 19.20 L/s @ 8.01 hrs, Volume= 280.5 m³, Depth> 109 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	2,564.0	74	Metal Driveway
	2,564.0	74	100.00% Pervious Area

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

Subcatchment 43S: Remaining Undeveloped Areas



Summary for Subcatchment 53S: Roof Areas

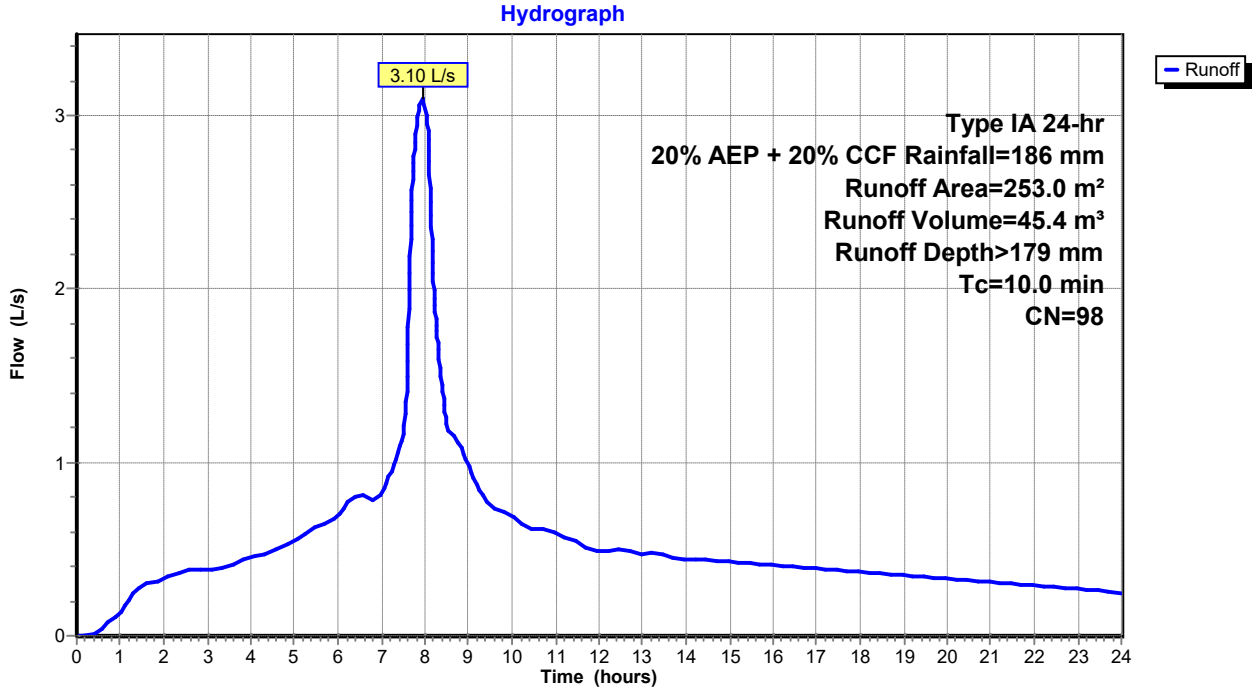
Runoff = 3.10 L/s @ 7.94 hrs, Volume= 45.4 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

Area (m²)	CN	Description
253.0	98	
253.0	98	100.00% Impervious Area

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

Subcatchment 53S: Roof Areas



Summary for Pond 54P: 2 x 25,000L Rainwater Tanks

Inflow Area = 253.0 m²,100.00% Impervious, Inflow Depth > 179 mm for 20% AEP + 20% CCF even
Inflow = 3.10 L/s @ 7.94 hrs, Volume= 45.4 m³
Outflow = 1.62 L/s @ 8.31 hrs, Volume= 44.9 m³, Atten= 48%, Lag= 22.3 min
Primary = 1.62 L/s @ 8.31 hrs, Volume= 44.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 0.257 m @ 8.31 hrs Surf.Area= 19.2 m² Storage= 4.9 m³

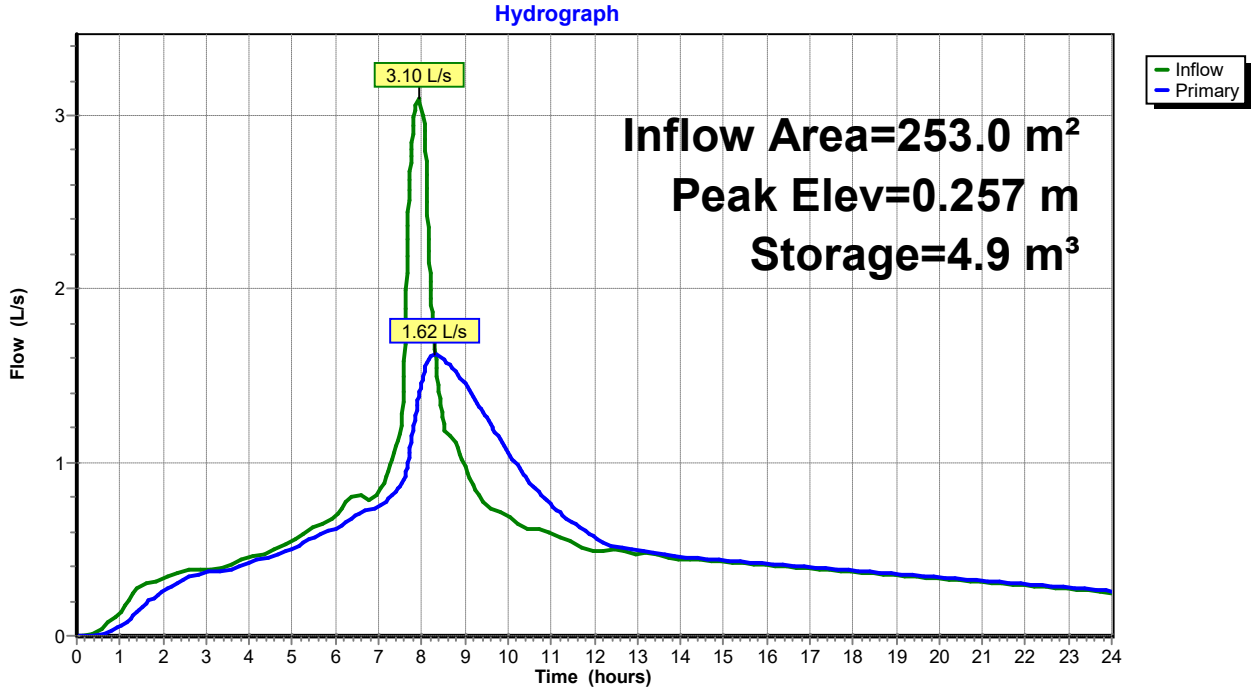
Plug-Flow detention time= 33.8 min calculated for 44.9 m³ (99% of inflow)
Center-of-Mass det. time= 25.3 min (675.0 - 649.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	50.0 m³	**3.50 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**40 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.260 m	**58 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=1.62 L/s @ 8.31 hrs HW=0.257 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.62 L/s @ 1.29 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 54P: 2 x 25,000L Rainwater Tanks

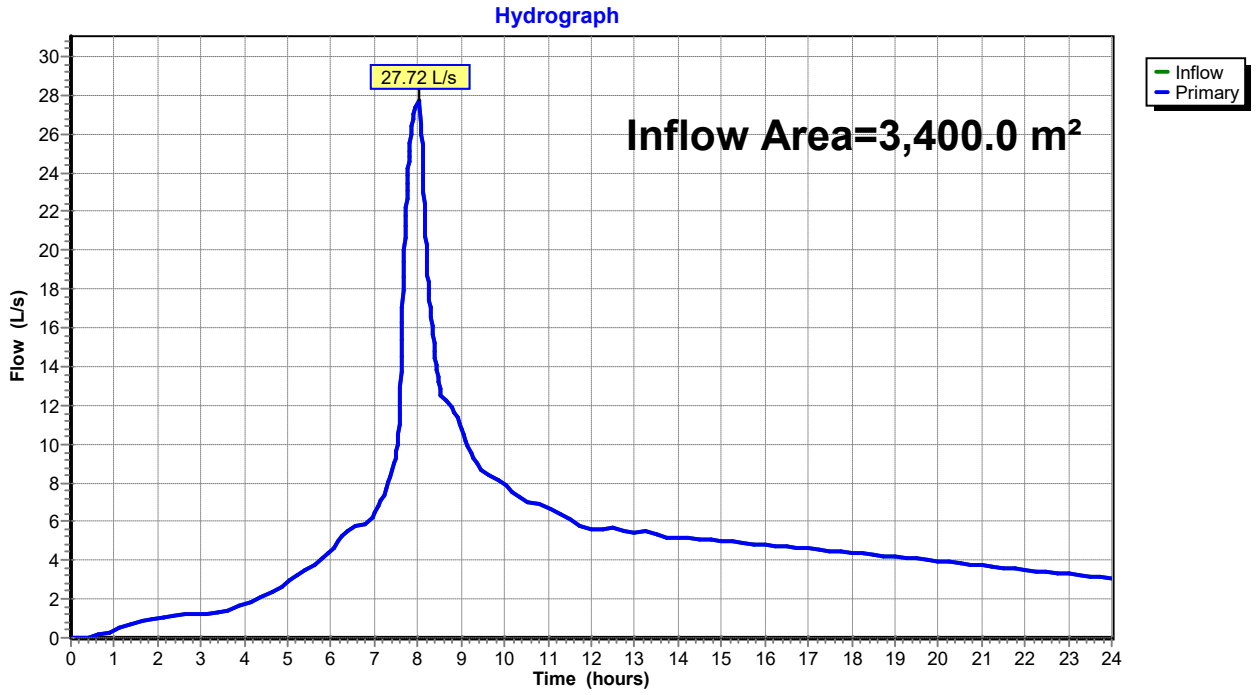


Summary for Link 56L: Lot 1 Existing Development Flows

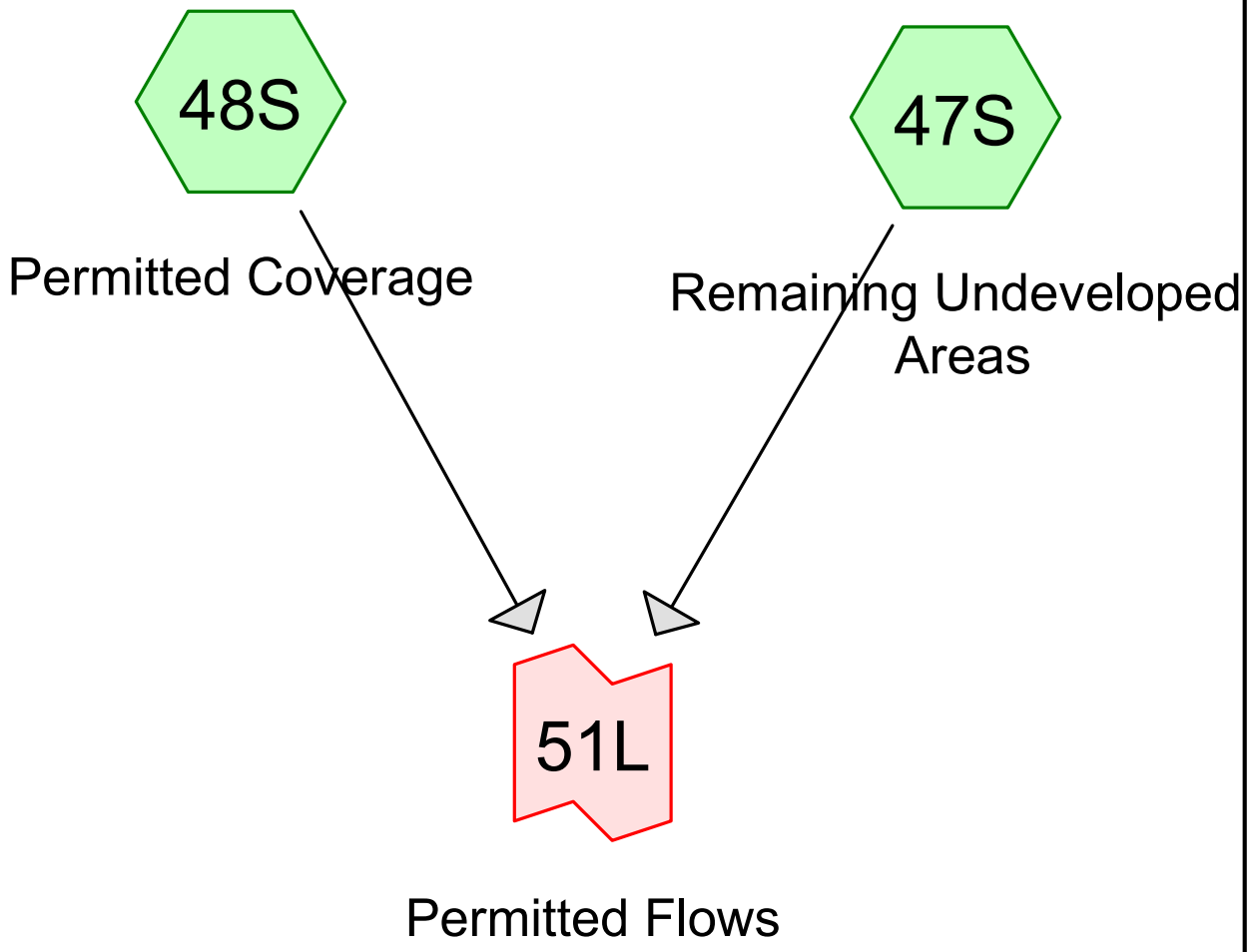
Inflow Area = 3,400.0 m², 24.59% Impervious, Inflow Depth > 126 mm for 20% AEP + 20% CCF even
Inflow = 27.72 L/s @ 8.01 hrs, Volume= 429.9 m³
Primary = 27.72 L/s @ 8.01 hrs, Volume= 429.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 56L: Lot 1 Existing Development Flows



Lot 2 - Permitted Flows



Subcat Reach Pond Link

Routing Diagram for 141536
Prepared by {enter your company name here}, Printed 23/07/2025

Summary for Subcatchment 47S: Remaining Undeveloped Areas

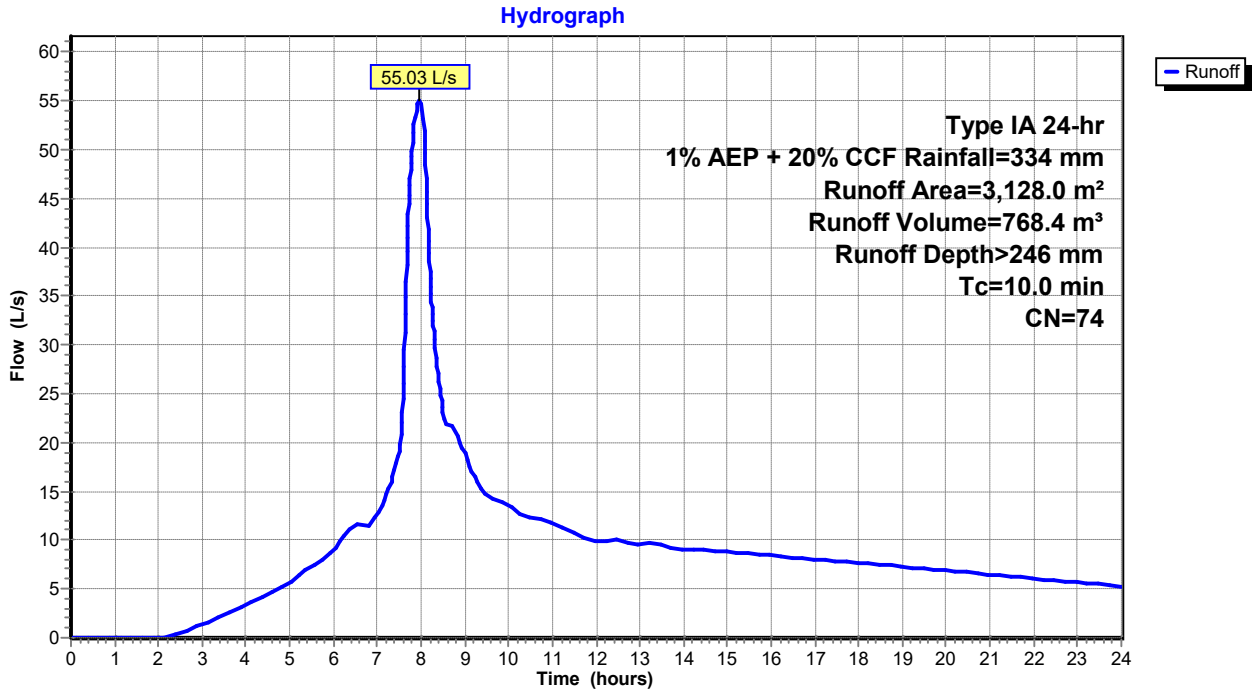
Runoff = 55.03 L/s @ 7.97 hrs, Volume= 768.4 m³, Depth> 246 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	3,128.0	74	
	3,128.0	74	100.00% Pervious Area

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

Subcatchment 47S: Remaining Undeveloped Areas



Summary for Subcatchment 48S: Permitted Coverage

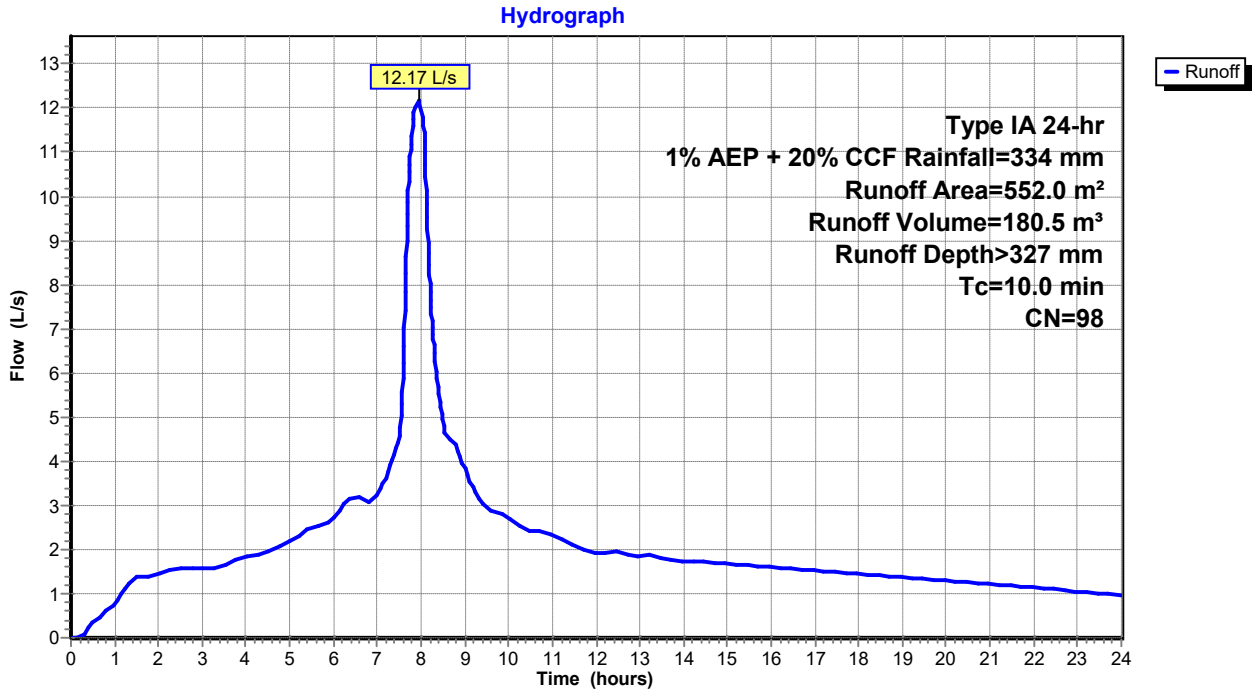
Runoff = 12.17 L/s @ 7.94 hrs, Volume= 180.5 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	552.0	98	
	552.0	98	100.00% Impervious Area

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

Subcatchment 48S: Permitted Coverage

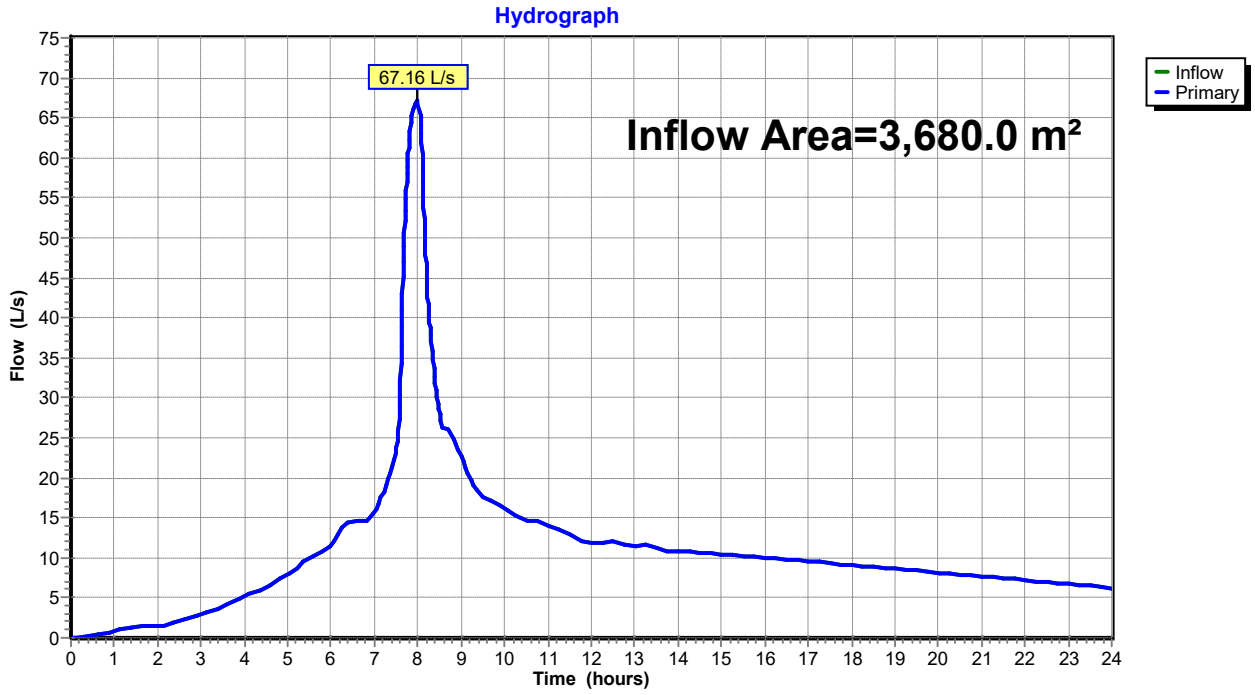


Summary for Link 51L: Permitted Flows

Inflow Area = 3,680.0 m², 15.00% Impervious, Inflow Depth > 258 mm for 1% AEP + 20% CCF event
Inflow = 67.16 L/s @ 7.97 hrs, Volume= 948.9 m³
Primary = 67.16 L/s @ 7.97 hrs, Volume= 948.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 51L: Permitted Flows



Summary for Subcatchment 47S: Remaining Undeveloped Areas

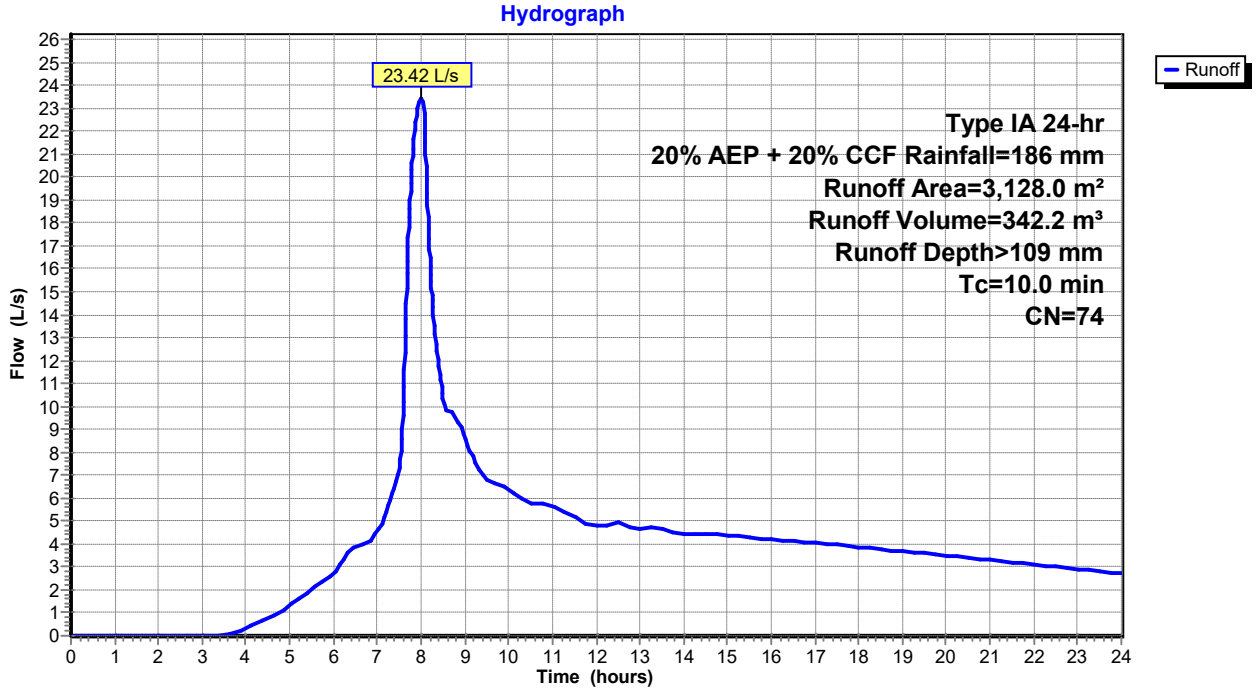
Runoff = 23.42 L/s @ 8.01 hrs, Volume= 342.2 m³, Depth> 109 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	3,128.0	74	
	3,128.0	74	100.00% Pervious Area

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

Subcatchment 47S: Remaining Undeveloped Areas



Summary for Subcatchment 48S: Permitted Coverage

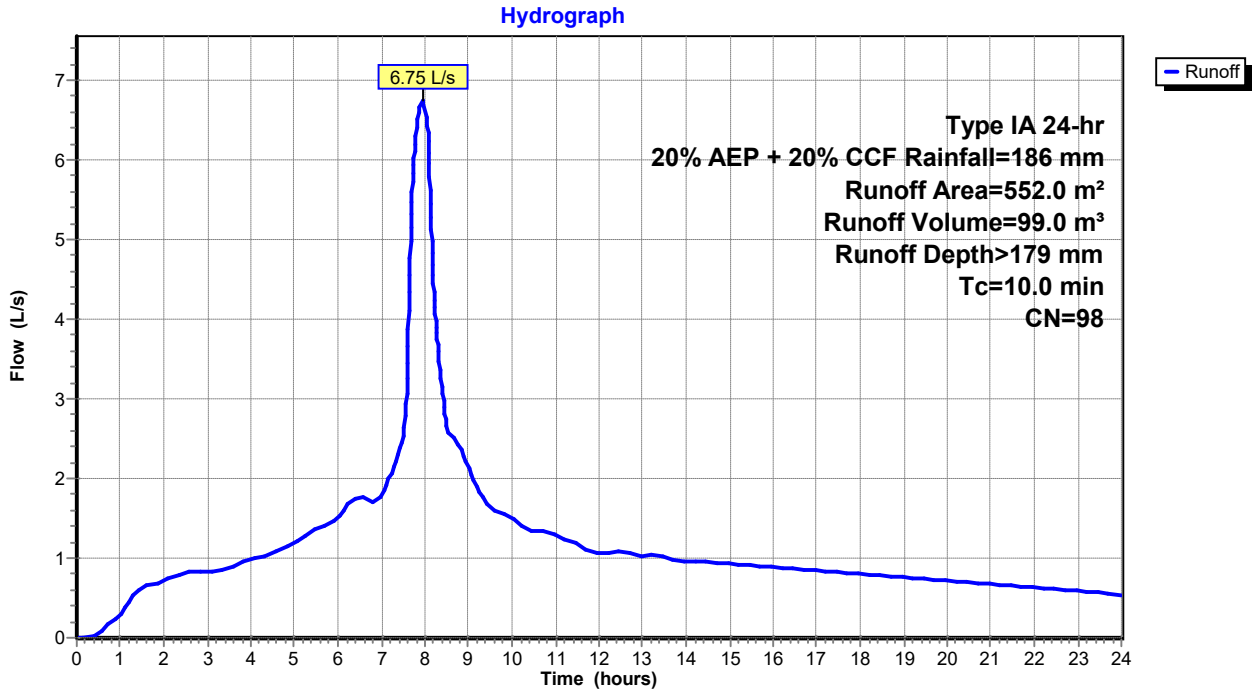
Runoff = 6.75 L/s @ 7.94 hrs, Volume= 99.0 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	552.0	98	
	552.0	98	100.00% Impervious Area

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

Subcatchment 48S: Permitted Coverage

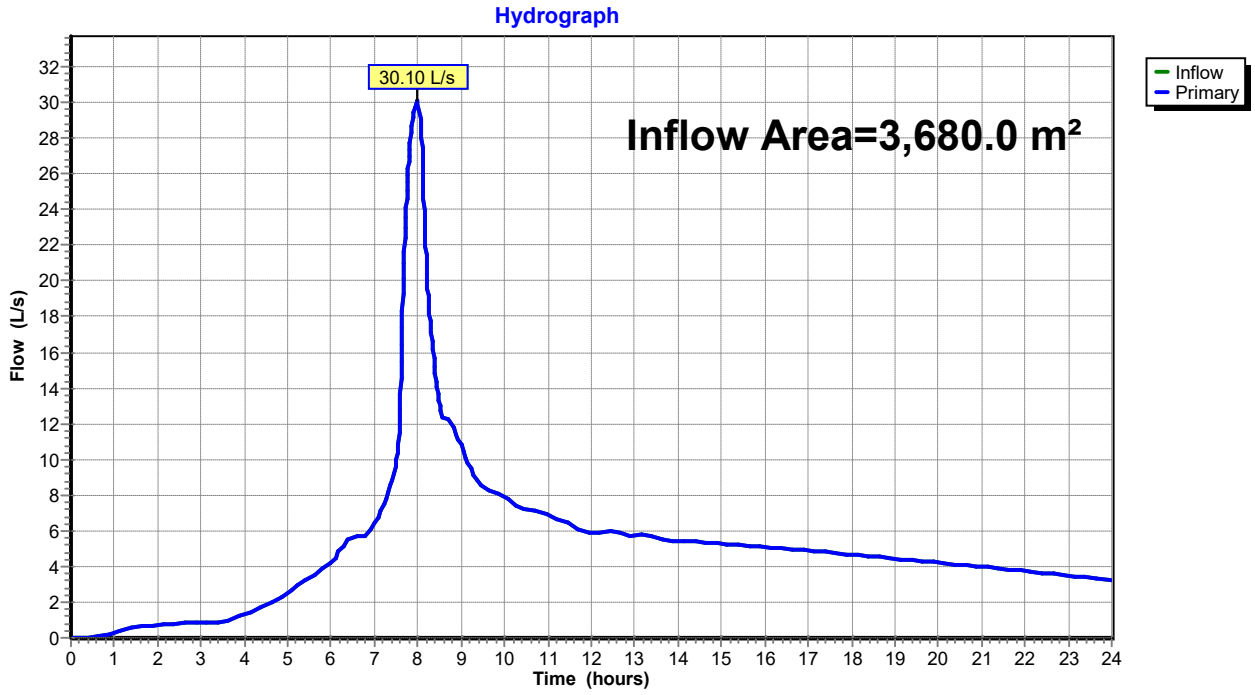


Summary for Link 51L: Permitted Flows

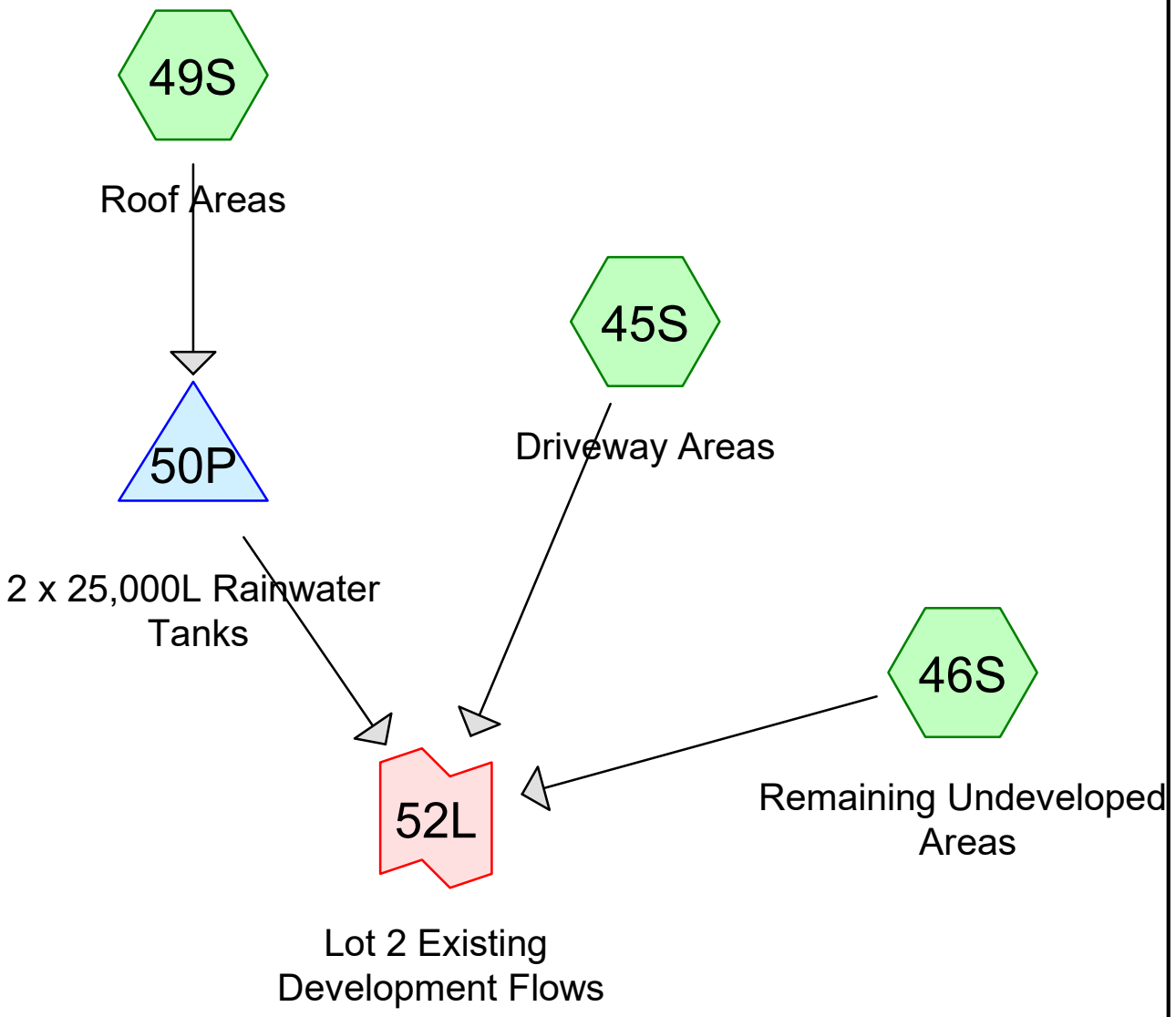
Inflow Area = 3,680.0 m², 15.00% Impervious, Inflow Depth > 120 mm for 20% AEP + 20% CCF even
Inflow = 30.10 L/s @ 7.99 hrs, Volume= 441.2 m³
Primary = 30.10 L/s @ 7.99 hrs, Volume= 441.2 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 51L: Permitted Flows



Lot 2 - Existing Development + Additional 300m² Coverage Flows



Subcat Reach Pond Link

Routing Diagram for 141536
Prepared by {enter your company name here}, Printed 23/07/2025
HydroCAD® 10.00-26 s/n 10413 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 45S: Driveway Areas

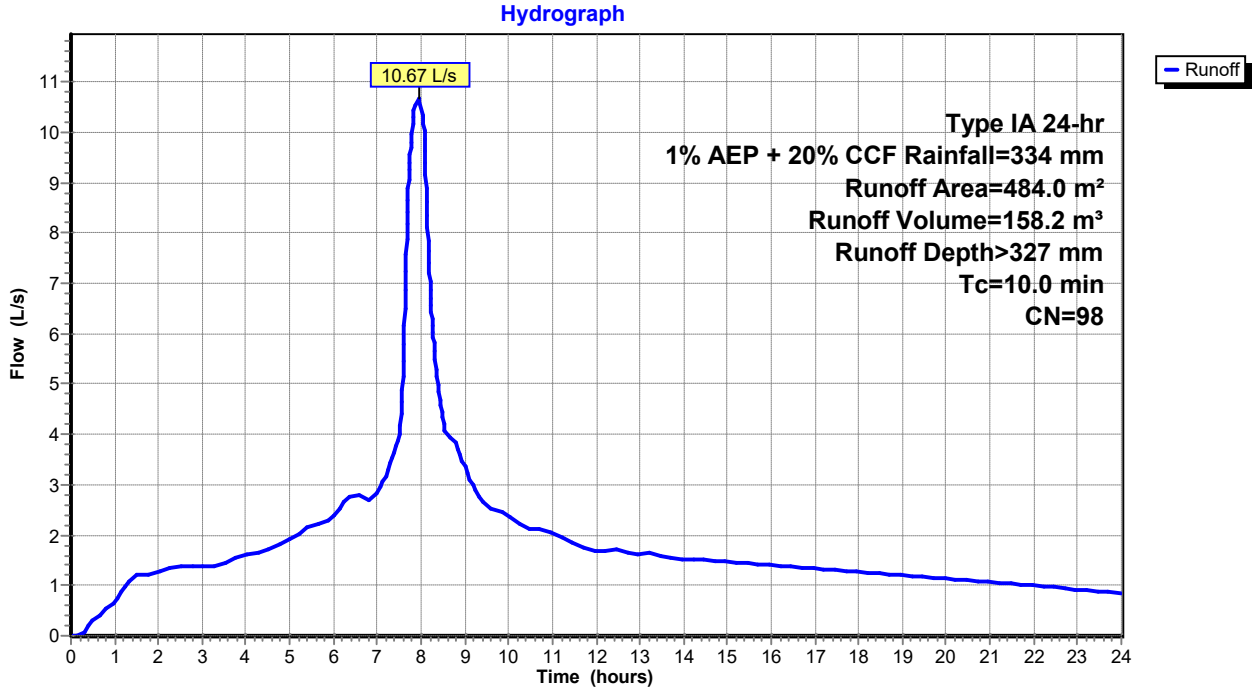
Runoff = 10.67 L/s @ 7.94 hrs, Volume= 158.2 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	484.0	98	Metal Driveway
	484.0	98	100.00% Impervious Area

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

Subcatchment 45S: Driveway Areas



Summary for Subcatchment 46S: Remaining Undeveloped Areas

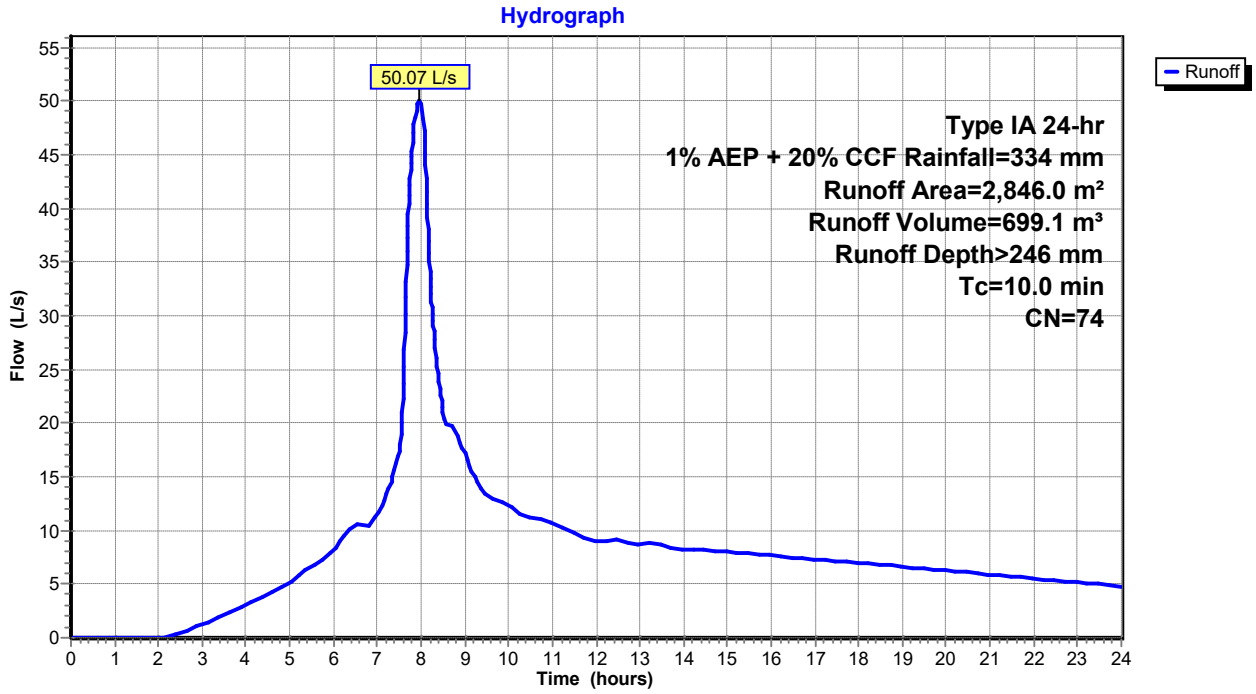
Runoff = 50.07 L/s @ 7.97 hrs, Volume= 699.1 m³, Depth> 246 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

	Area (m²)	CN	Description
*	2,846.0	74	
	2,846.0	74	100.00% Pervious Area

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

Subcatchment 46S: Remaining Undeveloped Areas



Summary for Subcatchment 49S: Roof Areas

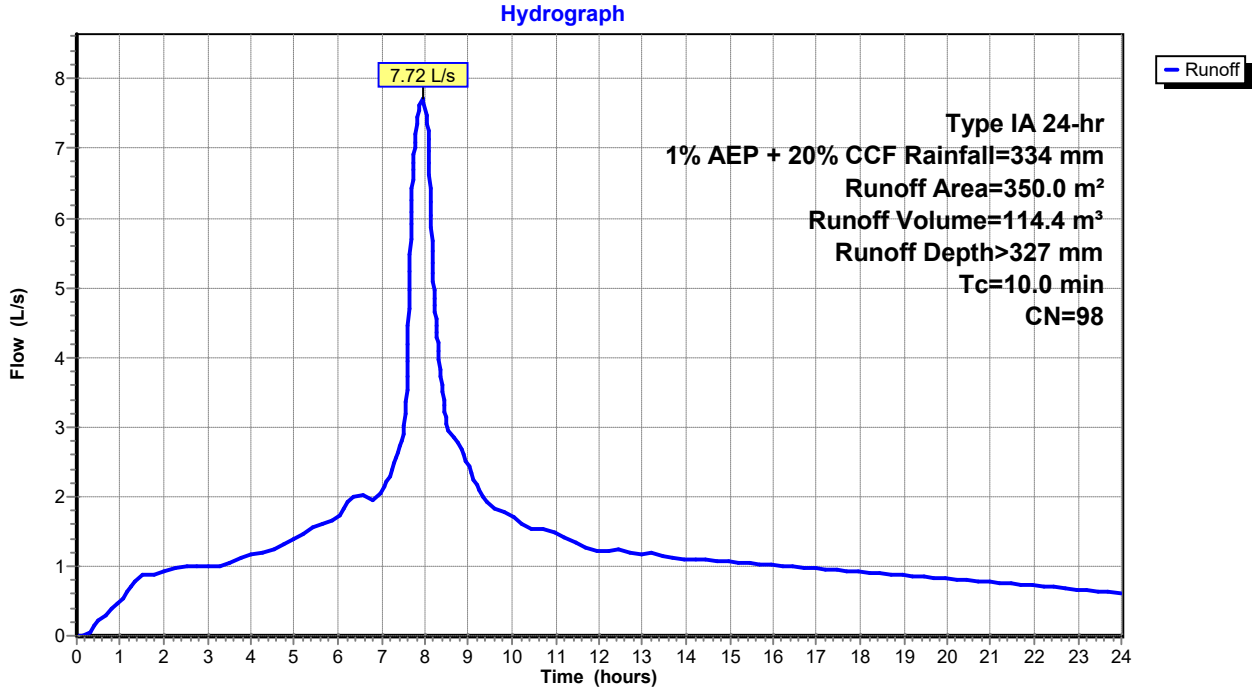
Runoff = 7.72 L/s @ 7.94 hrs, Volume= 114.4 m³, Depth> 327 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=334 mm

Area (m²)	CN	Description
350.0	98	
350.0	98	100.00% Impervious Area

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

Subcatchment 49S: Roof Areas



Summary for Pond 50P: 2 x 25,000L Rainwater Tanks

Inflow Area = 350.0 m²,100.00% Impervious, Inflow Depth > 327 mm for 1% AEP + 20% CCF event
Inflow = 7.72 L/s @ 7.94 hrs, Volume= 114.4 m³
Outflow = 6.78 L/s @ 8.10 hrs, Volume= 113.7 m³, Atten= 12%, Lag= 9.7 min
Primary = 6.78 L/s @ 8.10 hrs, Volume= 113.7 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 0.349 m @ 8.10 hrs Surf.Area= 19.2 m² Storage= 6.7 m³

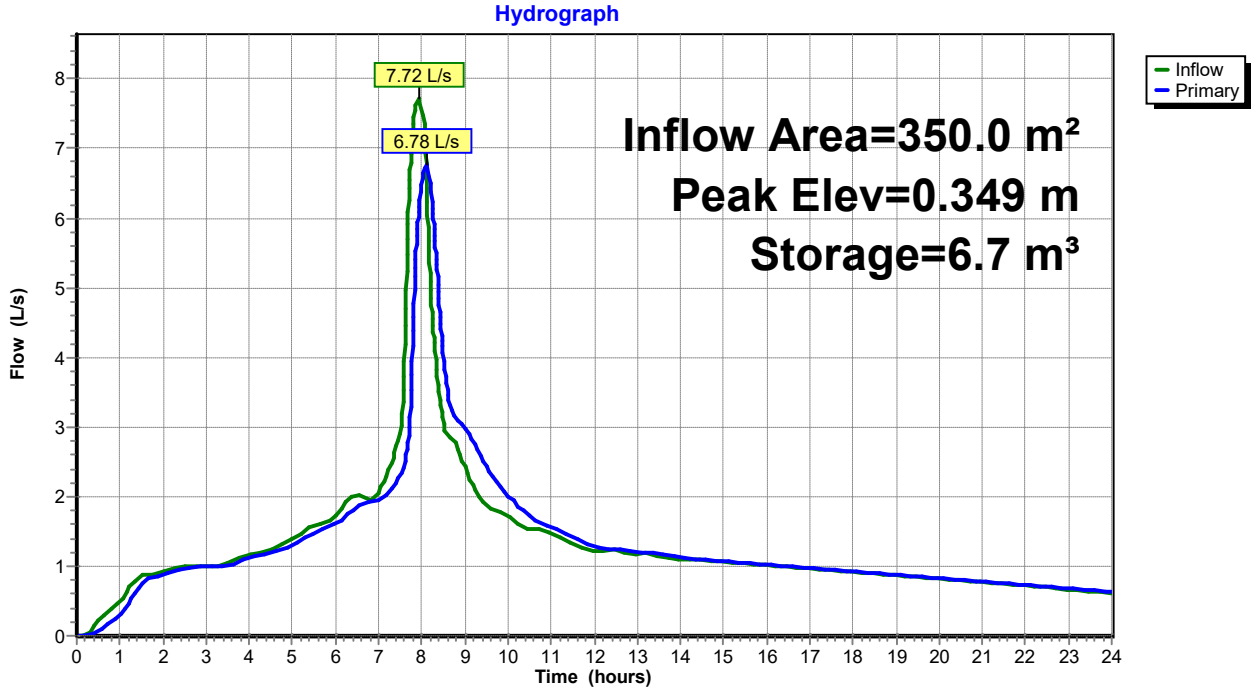
Plug-Flow detention time= 17.2 min calculated for 113.7 m³ (99% of inflow)
Center-of-Mass det. time= 12.4 min (655.3 - 642.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	50.0 m³	**3.50 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**58 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.220 m	**66 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=6.78 L/s @ 8.10 hrs HW=0.349 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 3.97 L/s @ 1.50 m/s)
└**2=Orifice/Grate** (Orifice Controls 2.81 L/s @ 0.82 m/s)

Pond 50P: 2 x 25,000L Rainwater Tanks

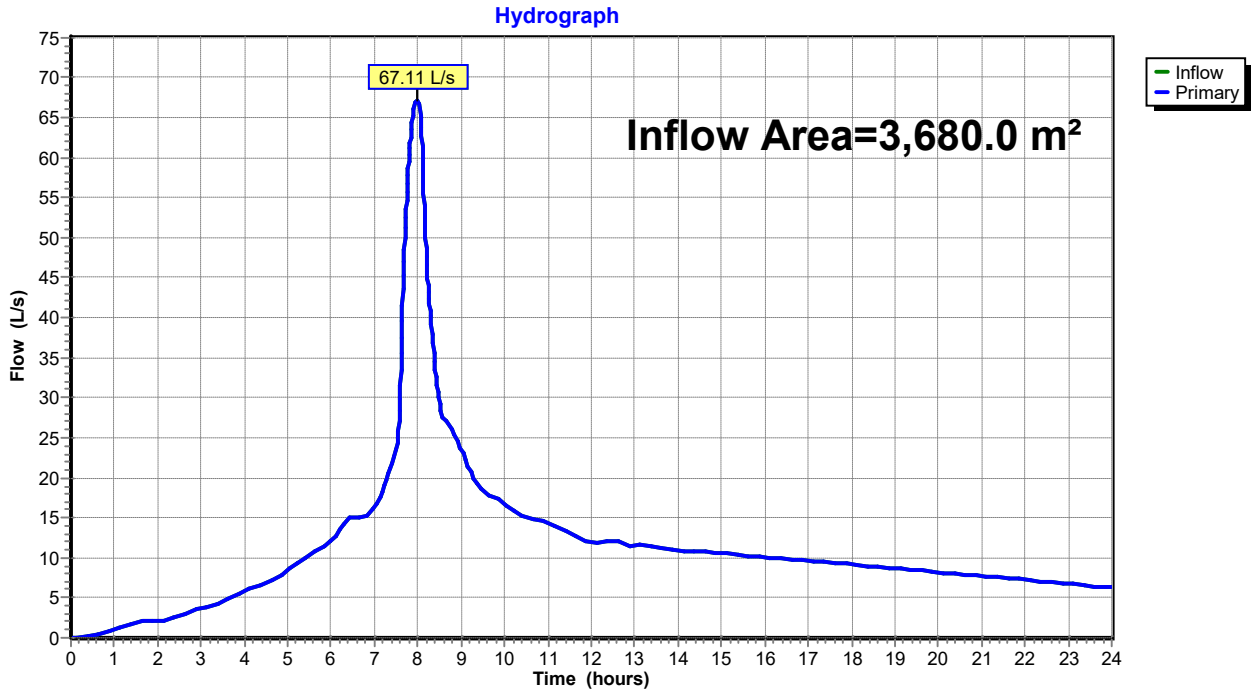


Summary for Link 52L: Lot 2 Existing Development Flows

Inflow Area = 3,680.0 m², 22.66% Impervious, Inflow Depth > 264 mm for 1% AEP + 20% CCF event
Inflow = 67.11 L/s @ 7.99 hrs, Volume= 971.1 m³
Primary = 67.11 L/s @ 7.99 hrs, Volume= 971.1 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 52L: Lot 2 Existing Development Flows



Summary for Subcatchment 45S: Driveway Areas

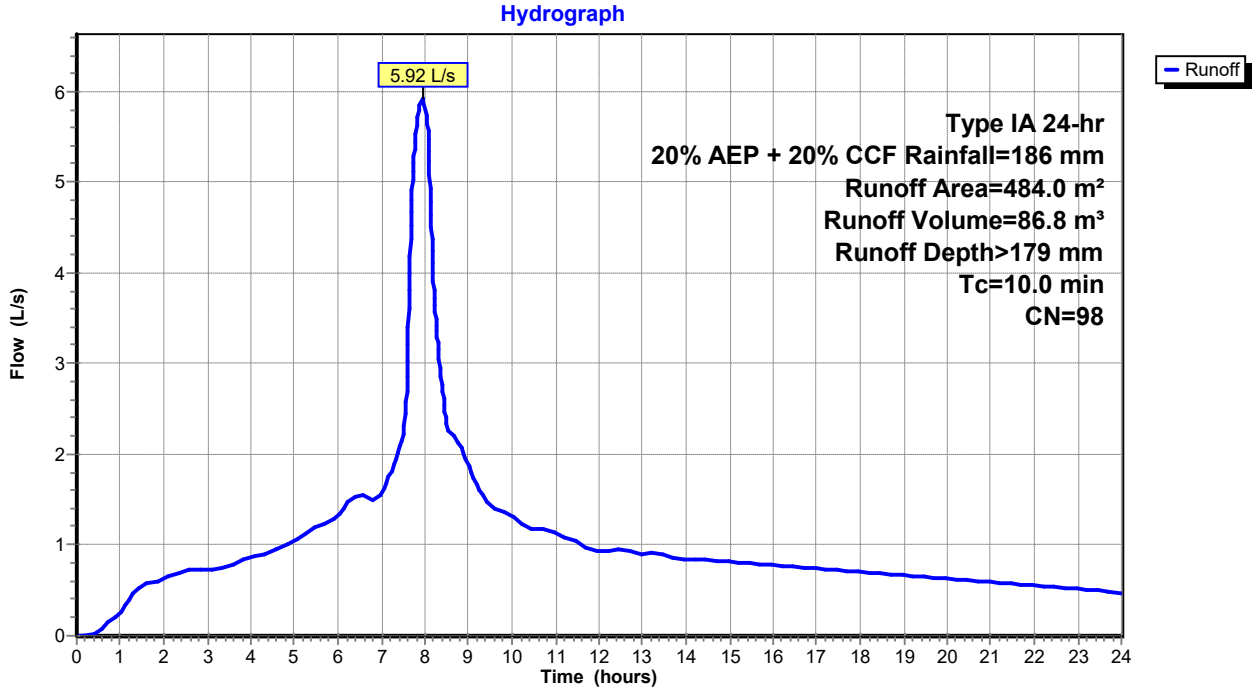
Runoff = 5.92 L/s @ 7.94 hrs, Volume= 86.8 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	484.0	98	Metal Driveway
	484.0	98	100.00% Impervious Area

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

Subcatchment 45S: Driveway Areas



Summary for Subcatchment 46S: Remaining Undeveloped Areas

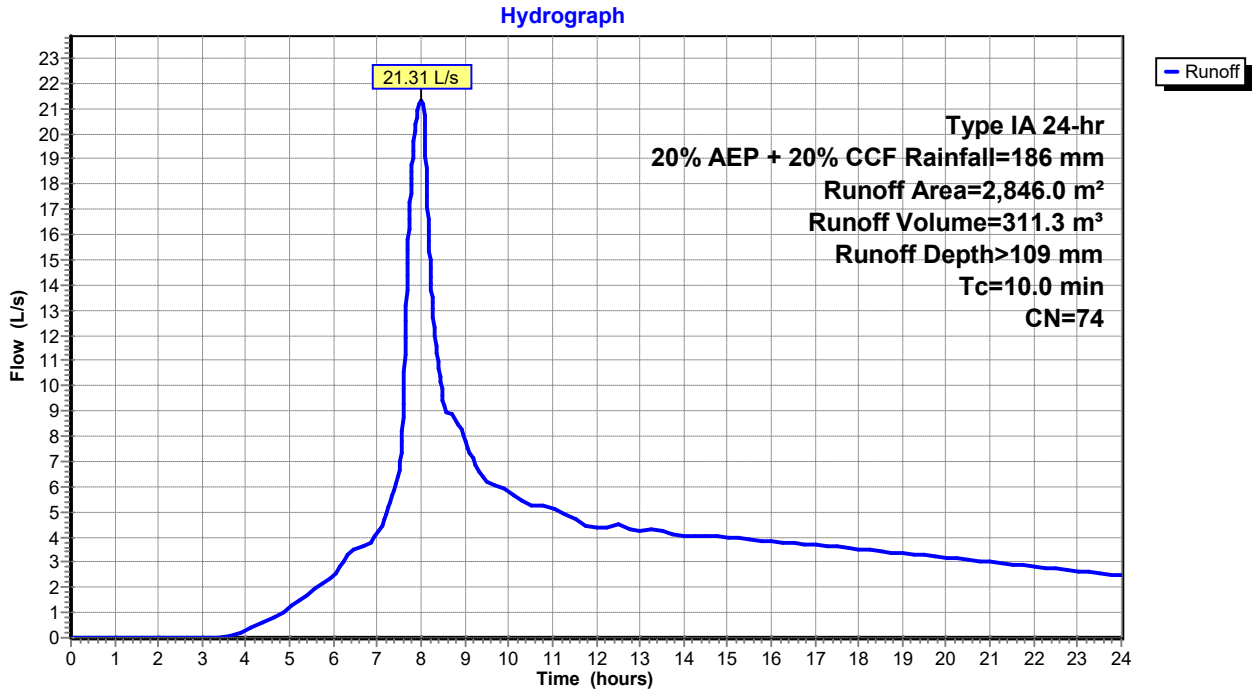
Runoff = 21.31 L/s @ 8.01 hrs, Volume= 311.3 m³, Depth> 109 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

	Area (m²)	CN	Description
*	2,846.0	74	
	2,846.0	74	100.00% Pervious Area

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

Subcatchment 46S: Remaining Undeveloped Areas



Summary for Subcatchment 49S: Roof Areas

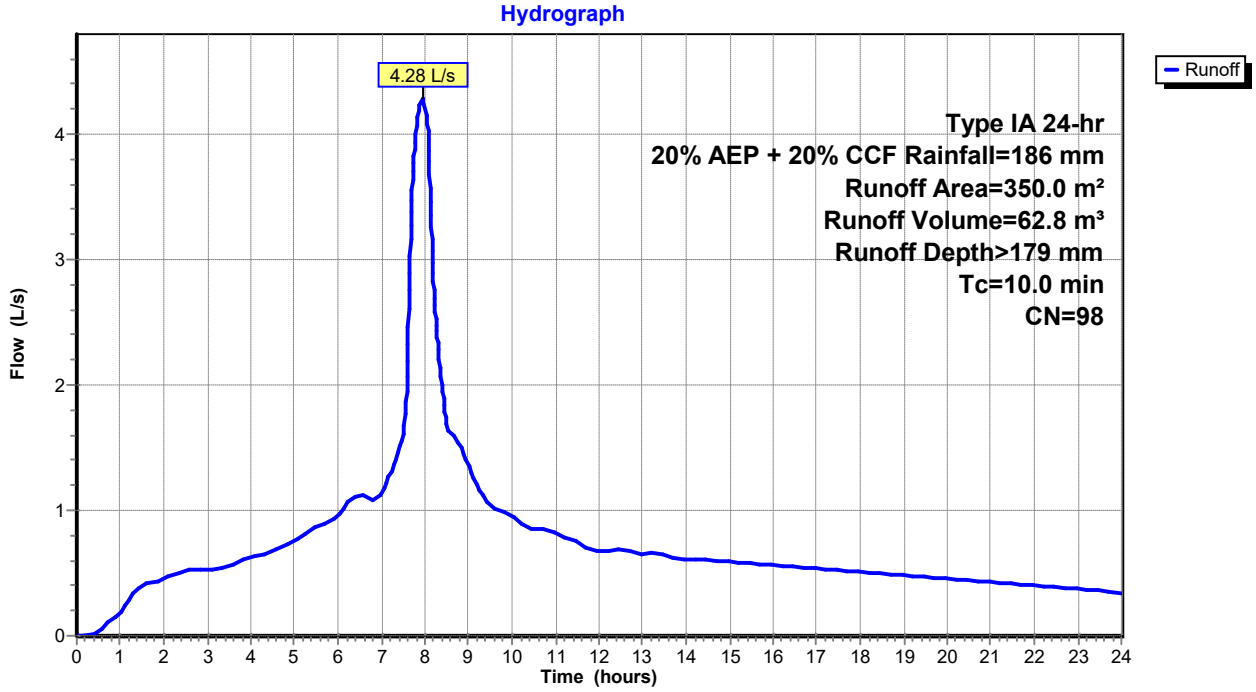
Runoff = 4.28 L/s @ 7.94 hrs, Volume= 62.8 m³, Depth> 179 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 20% AEP + 20% CCF Rainfall=186 mm

Area (m²)	CN	Description
350.0	98	
350.0	98	100.00% Impervious Area

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

Subcatchment 49S: Roof Areas



Summary for Pond 50P: 2 x 25,000L Rainwater Tanks

Inflow Area = 350.0 m²,100.00% Impervious, Inflow Depth > 179 mm for 20% AEP + 20% CCF even
Inflow = 4.28 L/s @ 7.94 hrs, Volume= 62.8 m³
Outflow = 3.06 L/s @ 8.17 hrs, Volume= 62.3 m³, Atten= 29%, Lag= 13.8 min
Primary = 3.06 L/s @ 8.17 hrs, Volume= 62.3 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 0.219 m @ 8.17 hrs Surf.Area= 19.2 m² Storage= 4.2 m³

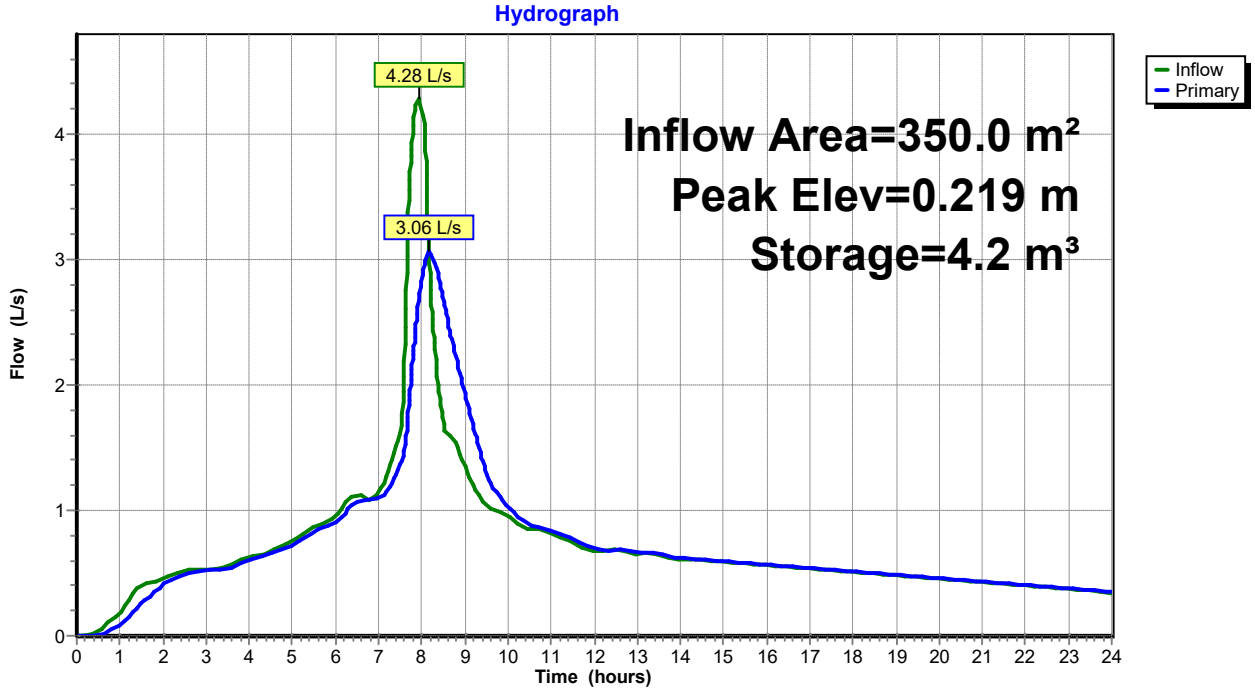
Plug-Flow detention time= 18.7 min calculated for 62.3 m³ (99% of inflow)
Center-of-Mass det. time= 12.5 min (662.2 - 649.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	50.0 m³	**3.50 mD x 2.60 mH Vertical Cone/Cylinder** x 2

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**58 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.220 m	**66 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=3.06 L/s @ 8.17 hrs HW=0.219 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 3.06 L/s @ 1.16 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 50P: 2 x 25,000L Rainwater Tanks

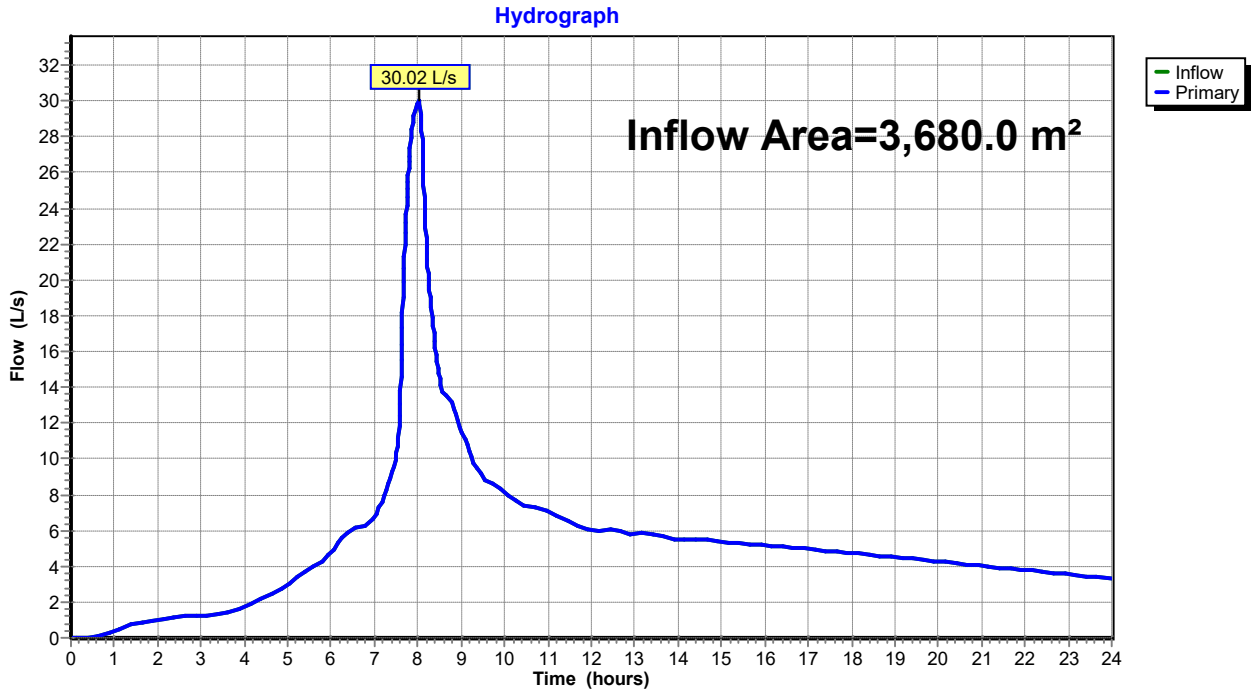


Summary for Link 52L: Lot 2 Existing Development Flows

Inflow Area = 3,680.0 m², 22.66% Impervious, Inflow Depth > 125 mm for 20% AEP + 20% CCF even
Inflow = 30.02 L/s @ 8.01 hrs, Volume= 460.4 m³
Primary = 30.02 L/s @ 8.01 hrs, Volume= 460.4 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 52L: Lot 2 Existing Development Flows



Appendix 5

Written Approvals

Far North District Council

NOTICE OF WRITTEN APPROVAL

Written Approval of Affected Parties in accordance with Section 95E of the Resource Management Act

PART A – To be completed by Applicant

Applicant/s Name:	McClelland Family Trust
Address of proposed activity:	132A & 138 Stanners Road
Legal description:	Lot 3 DP 434818 & Lot 2 DP 327279
Description of the proposal (including why you need resource consent):	Subdivision of land in two titles to create a total of three titles (one additional); as a non complying subdivision activity.
Details of the application are given in the attached documents & plans (list what documents & plans have been provided to the party being asked to provide written approval):	1. Scheme Plan attached 2. 3. 4. 5. 6.

Notes to Applicant:

1. Written approval must be obtained from all registered owners and occupiers.
2. The **original copy** of this signed form and **signed plans and accompanying documents** must be supplied to the Far North District Council.
3. The amount and type of information provided to the party from whom you seek written approval should be sufficient to give them a full understanding of your proposal, its effects and why resource consent is needed.

PART B – To be completed by Parties giving approval

Notes to the party giving written approval:

1. If the owner and the occupier of your property are different people then separate written approvals are required from each.
2. You should only sign in the place provided on this form and accompanying plans and documents if you **fully understand** the proposal and if you **support** or have **no opposition** to the proposal. Council will not accept conditional approvals. If you have conditions on your approval, these should be discussed and resolved with the applicant directly.
3. Please note that when you give your written approval to an application, council cannot take into consideration any actual or potential effects of the proposed activity on you unless you formally withdraw your written approval **before** a decision has been made as to whether the application is to be notified or not. After that time you can no longer withdraw your written approval.
4. Please sign and date all associated plans and documentation as referenced overleaf and return with this form.
5. If you have any concerns about giving your written approval or need help understanding this process, please feel free to contact the duty planner on 0800 920 029 or (09) 401 5200.

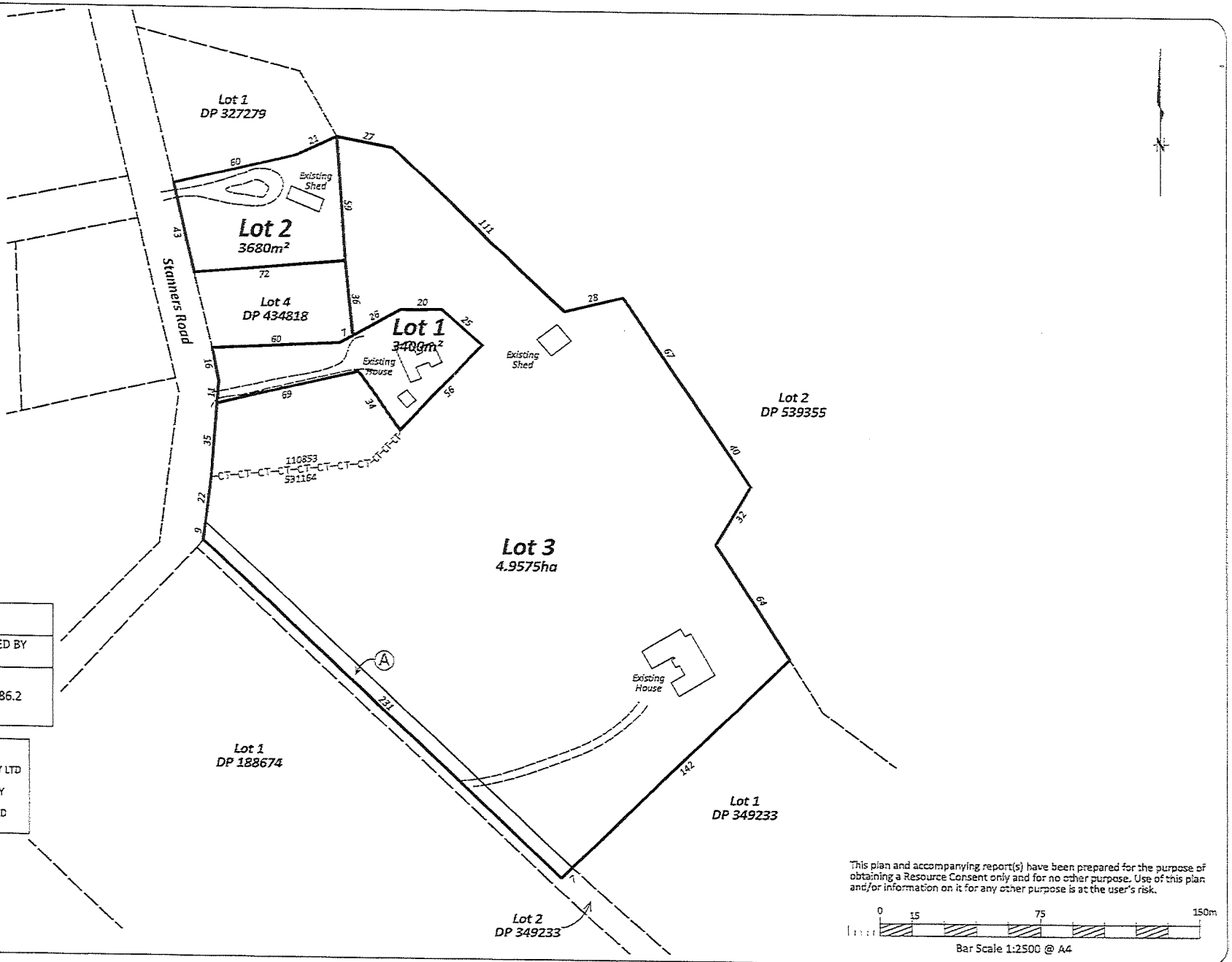
Full name/s of party giving approval:	Geoffrey & Maree Smith
Address of affected property including legal description	150 Stanners Road Lot 1 DP 327279
Contact Phone Number/s and email address	Daytime: email:

I am/we are the OWNER(S) / OCCUPIER(S) of the property (circle which is applicable)

Please note: in most instances the approval of ***all*** *the legal owners and the occupiers of the affected property will be necessary.*

1. I/We have been provided with the details concerning the application submitted to Council and understand the proposal and aspects of non-compliance with the Operative District Plan.
2. I/We have signed each page of the plans and documentation in respect of this proposal (these need to accompany this form).
3. I/We understand and accept that once I/we give my/our approval the Consent Authority (Council) cannot take account of any actual or potential effect of the activity and/or proposal upon me/us when considering the application and the fact that any such effect may occur shall not be relevant grounds upon which the Consent Authority may refuse to grant the application.
4. I/We understand that at any time before the notification decision is made on the application, I/we may give notice in writing to Council that this approval is withdrawn.

Signature		Date	18/8/25
Signature		Date	18/8/25
Signature		Date	
Signature		Date	



EXISTING EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	Ⓐ	LOT 3 HEREON	D528686.2

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 110853 & 531164
Total Area: 5.6687ha
Zoning: Rural Production
Resource features: NIL

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

0 15 75 150m

Bar Scale 1:2500 @ A4

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

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, KERIKERI

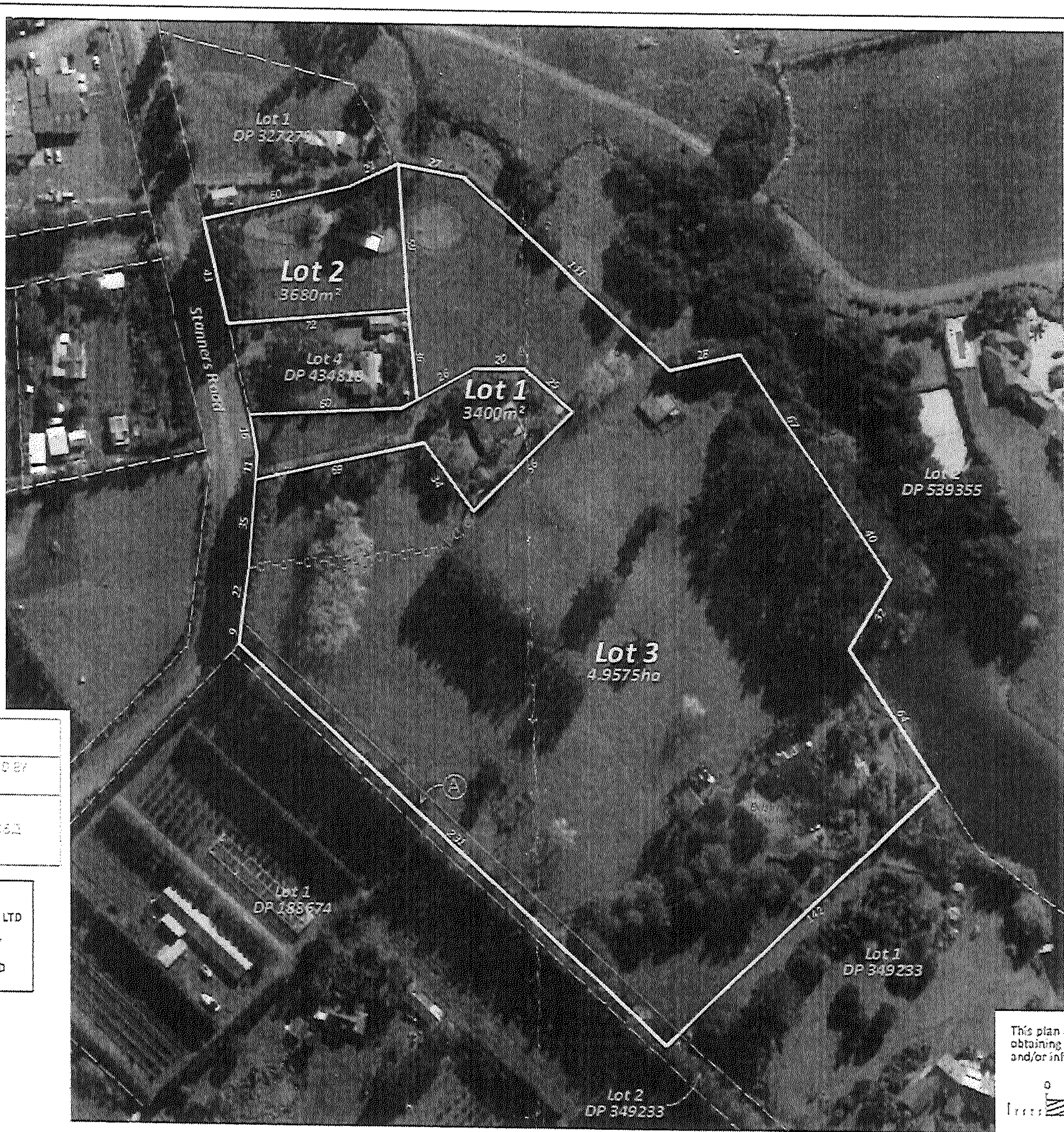
PREPARED FOR: AARAN TRUSTEE LTD

	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	12.08.25

ORIGINAL
SCALE 1:2500
SHEET SIZE A4
10802 Scheme 20250716 A4

Surveyors Ref. No: 10802

Sheet 1 of 1



EXISTING EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	A	LOT 3 HEREON	[illegible]

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

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0 15 75 150m
Bar Scale 1:2500 @ A4

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

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, KERIKERI

PREPARED FOR: AARAN TRUSTEE LTD

	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	12.08.25

10802 Scheme 20250716 A4

ORIGINAL SCALE 1:2500 SHEET SIZE A4

Surveyors Ref. No: 10802

Sheet 1 of 1

Far North District Council

NOTICE OF WRITTEN APPROVAL

Written Approval of Affected Parties in accordance with Section 95E of the Resource Management Act

PART A – To be completed by Applicant

Applicant/s Name:	McClelland Family Trust
Address of proposed activity:	132A & 138 Stanners Road
Legal description:	Lot 3 DP 434818 & Lot 2 DP 327279
Description of the proposal (including why you need resource consent):	Subdivision of land in two titles to create a total of three titles (one additional); as a non complying subdivision activity.
Details of the application are given in the attached documents & plans (list what documents & plans have been provided to the party being asked to provide written approval):	1. Scheme Plan attached. 2. 3. 4. 5. 6.

Notes to Applicant:

1. Written approval must be obtained from all registered owners and occupiers.
2. The **original copy** of this signed form and **signed plans and accompanying documents** must be supplied to the Far North District Council.
3. The amount and type of information provided to the party from whom you seek written approval should be sufficient to give them a full understanding of your proposal, its effects and why resource consent is needed.

PART B – To be completed by Parties giving approval

Notes to the party giving written approval:

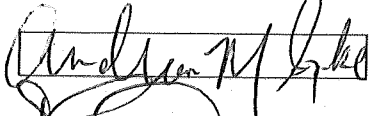
1. If the owner and the occupier of your property are different people then separate written approvals are required from each.
2. You should only sign in the place provided on this form and accompanying plans and documents if you **fully understand** the proposal and if you **support** or have **no opposition** to the proposal. Council will not accept conditional approvals. If you have conditions on your approval, these should be discussed and resolved with the applicant directly.
3. Please note that when you give your written approval to an application, council cannot take into consideration any actual or potential effects of the proposed activity on you unless you formally withdraw your written approval **before** a decision has been made as to whether the application is to be notified or not. After that time you can no longer withdraw your written approval.
4. Please sign and date all associated plans and documentation as referenced overleaf and return with this form.
5. If you have any concerns about giving your written approval or need help understanding this process, please feel free to contact the duty planner on 0800 920 029 or (09) 401 5200.

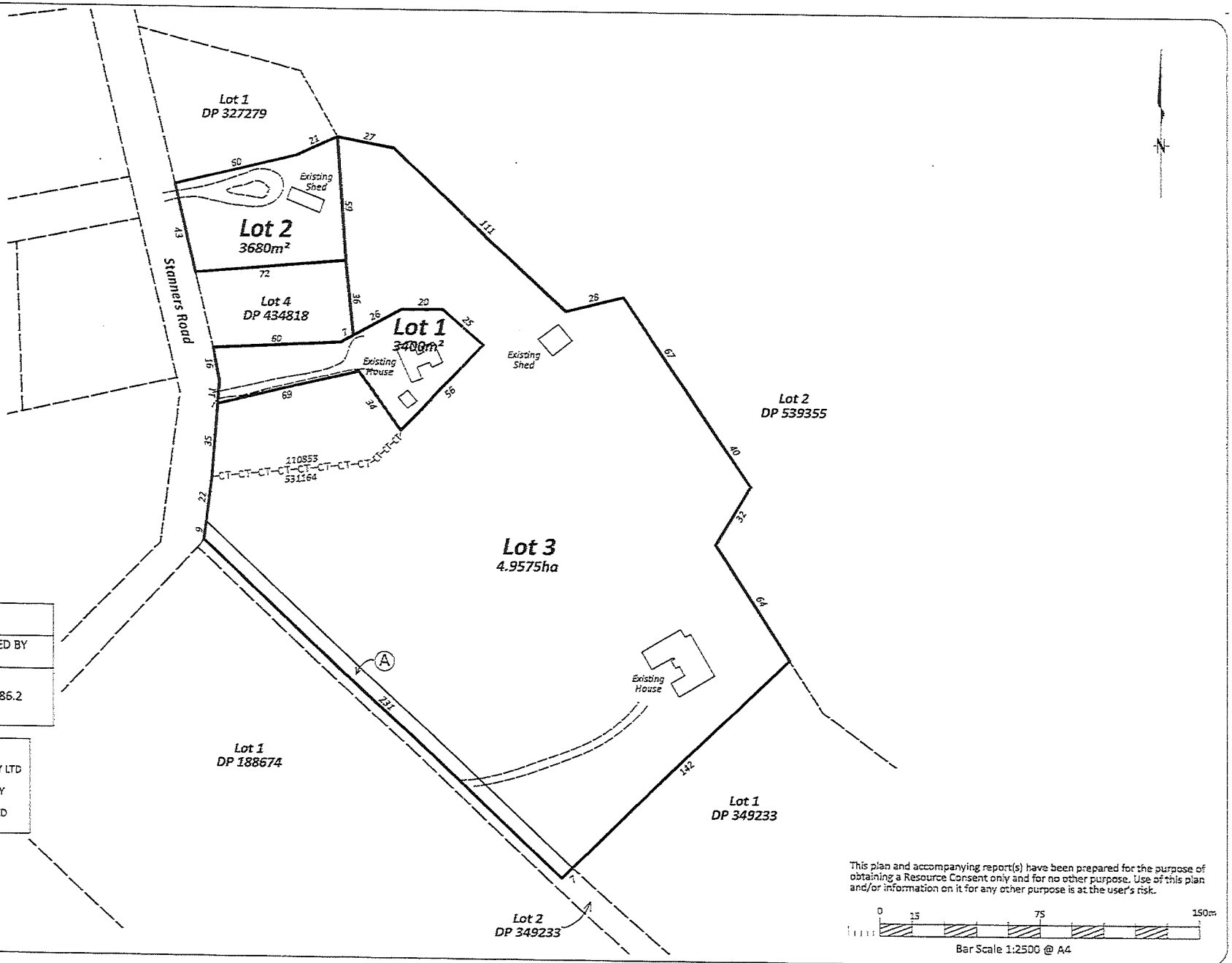
Full name/s of party giving approval:	Daniel and Andrea Spake
Address of affected property including legal description	142 Stanners Road; Lot 4 DP 434818
Contact Phone Number/s and email address	Daytime: 021 565 518 email: daniel@wpine.co.nz

I am/we are the OWNER(S) / OCCUPIER(S) of the property (circle which is applicable)

*Please note: In most instances the approval of **all** the legal owners and the occupiers of the affected property will be necessary.*

1. I/We have been provided with the details concerning the application submitted to Council and understand the proposal and aspects of non-compliance with the Operative District Plan.
2. I/We have signed each page of the plans and documentation in respect of this proposal (these need to accompany this form).
3. I/We understand and accept that once I/we give my/our approval the Consent Authority (Council) cannot take account of any actual or potential effect of the activity and/or proposal upon me/us when considering the application and the fact that any such effect may occur shall not be relevant grounds upon which the Consent Authority may refuse to grant the application.
4. I/We understand that at any time before the notification decision is made on the application, I/we may give notice in writing to Council that this approval is withdrawn.

Signature		Date	15/8/2025
Signature		Date	15/8/2025
Signature		Date	
Signature		Date	



EXISTING EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(A)	LOT 3 HEREON	D528686.2

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 110853 & 531164
Total Area: 5.6687ha
Zoning: Rural Production
Resource features: NIL

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

0 15 75 150m

Bar Scale 1:2500 @ A4

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

PROPOSED SUBDIVISION OF LOT 2 DP 327279 & LOT 3 DP 434818

STANNERS ROAD, KERIKERI

PREPARED FOR: AARAN TRUSTEE LTD

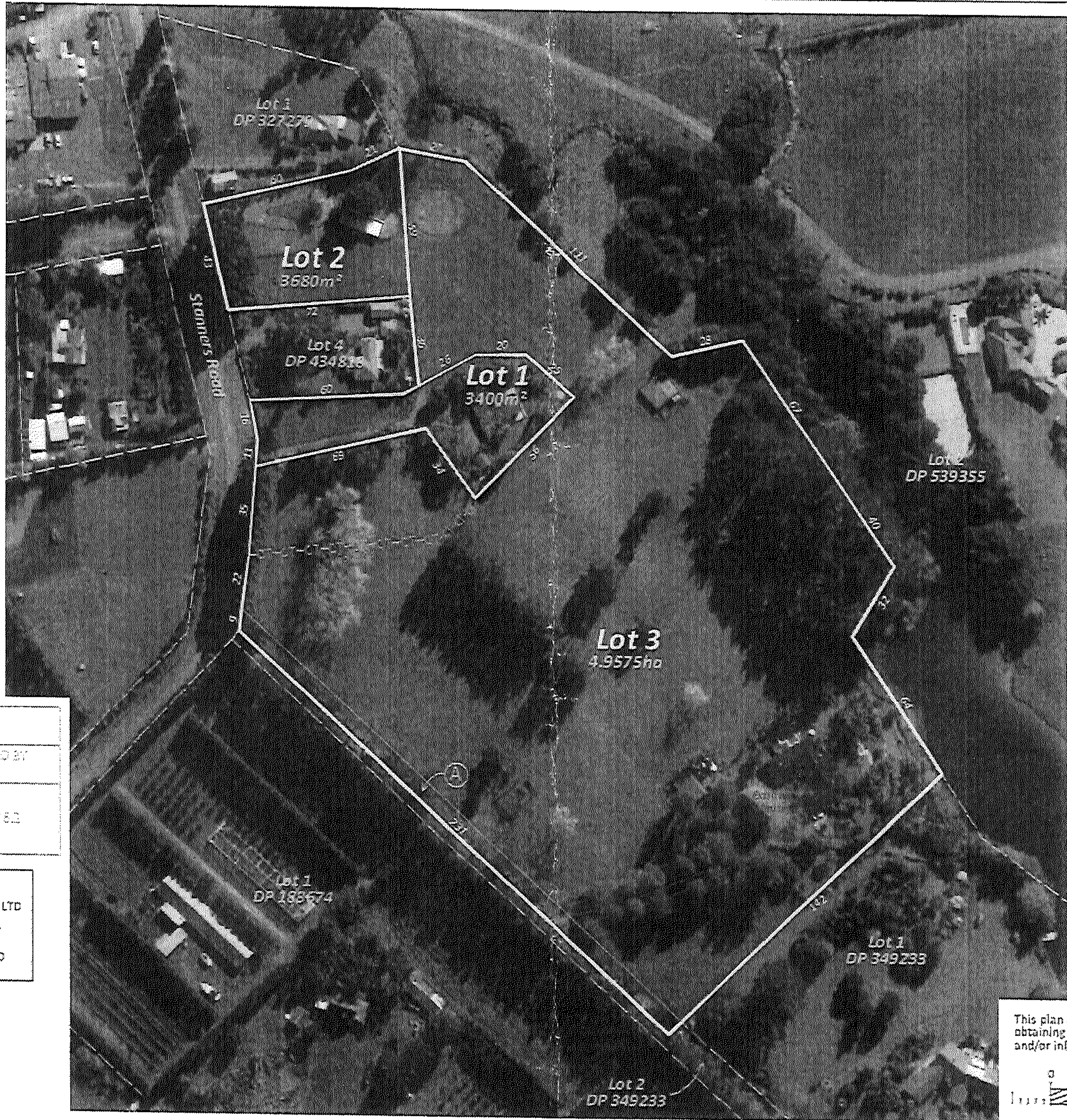
	Name	Date
Survey		
Design		
Drawn	KY	15.07.25
Approved		
Rev	KY	12.08.25

10802 Scheme 20250716 A4

ORIGINAL
SCALE 1:2500
SHEET SIZE A4

Surveyors Ref. No: 10802

Sheet 1 of 1



EXISTING EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	A	LOT 3 HEREON	[illegible]

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