

# 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 — <u>both available on the Council's web page</u>.

1. Pre-Lodgement Meeting	
Have you met with a council Resource Consent rep to lodgement? <b>Yes No</b>	presentative to discuss this application prior
2. Type of Consent being applied for	
(more than one circle can be ticked):	
Land Use	Discharge
Fast Track Land Use*	Change of Consent Notice (s.221(3))
Subdivision	Extension of time (s.125)
Consent under National Environmental Stand (e.g. Assessing and Managing Contaminants in S	
Other (please specify)	
* The fast track is for simple land use consents and is r	estricted 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 lwi/Hapū? 🔵 Yes 🔵 No		
If yes, which groups have you consulted with?		
Who else have you consulted with?		

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

# **5. Applicant Details**

Name/s:

**Email:** 

**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:

Email:

of the act)

Phone number:

**Postal address:** (or alternative method of service under section 352 Northland Planning & Development 2020 Ltd

\* 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: Property Address/ Location:

	R Willis	Trustee	Limited	ł
ĺ				

Rewa Willis

# 8. Application Site Details

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

Name/s: Site Address/ Location:	
	Postcode
Legal Description:	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 rearrange 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.

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** 

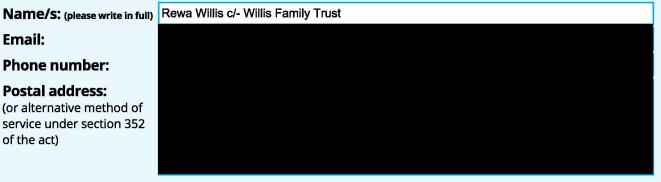
# 13. Draft Conditions:

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.



#### **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.



# **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 i	n full)
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Name: (please write in full)	Rewa Willis
Signature:	

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

Date 30-Jan-2025

# **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.



# Variation of Consent Conditions for RC 2230384-RMALUC

# **Rewa Willis**

# 415E Pungaere Road, Kerikeri

Date 12 February 2025

Attention: Nick Williamson

Please find attached:

- An application for a Variation to approved Landuse Consent RC2230384 to change the design and location of the minor residential unit previously approved in the *Rural Production Zone*.
- An assessment of Environmental Effects in support of the change to conditions.

The proposed variation application has been assessed as a **Discretionary Activity** under section 127 of the Resource Management Act.

If you require further information, please do not hesitate to contact me.

Regards,

Alex Billot



Resource Planner

Reviewed by:

Rochelle Jacobs Director/Senior Planner

NORTHLAND PLANNING & DEVELOPMENT 2020 LIMITED



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# **Attachments**

- 1. FNDC Application Signed
- 2. Certificate of Title- LINZ
- 3. Consent Notices LINZ
- 4. Land Covenants LINZ
- 5. Updated Plans PFA
- 6. Updated Wastewater Report O'Brien Design Consulting
- 7. Updated Stormwater Management Design O'Brien Design Consulting
- **8.** Approved RC 2230384 *FNDC*
- 9. Correspondence FENZ

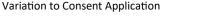




# **Assessment of Environment Effects Report**

# **1.0** Description of the Proposed Activity

- 1.1 The proposal is seeking to vary the design and location of the Minor Residential Unit (MRU) approved under RC2230384.
- 1.2 Consent was originally obtained by Pungaere Properties Limited on behalf of Rewa Willis to construct a MRU on the site at the same time as constructing the principal dwelling. Consent was obtained prior to the site finalising subdivision, as such the previous proposal referenced the larger site, but also the future allotment and LT plan. The property has now finalised the subdivision and ownership is now with Rewa Willis. Since obtaining consent some time ago a few design changes have been made these are as follows:
  - Slight change to the internal layout of the principal dwelling and deck layout.
  - Change to the location and design of the pool area.
  - Change to the vehicle parking and manoeuvring areas.
  - Change of the design and location of the MRU.
- 1.3 While the first three items do not trigger or change any of the approved land-use departures, the fourth item varying the approved MRU does change the original considerations made by the Councils Planner as well as changes to referencing to plans within the approved RC2230384 conditions. Subsequently, updated stormwater and wastewater reports have been prepared to accompany the changes to the design and location.
- 1.4 The proposal does not create any additional infringements under the Operative District Plan, with the principal dwelling not triggering requirement for resource consent, however landuse consent remains a requirements for the MRU.
- RC2230384 was originally assessed as a Controlled Activity under the ODP. As per Section 127 of the RMA, any amendments to the consent conditions are to be assessed as a Discretionary Activity.







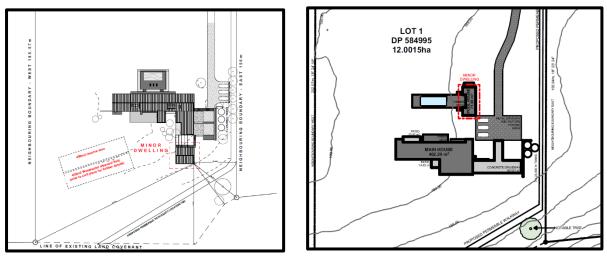


Figure 1: Previously approved location (left) and proposed varied location (right).

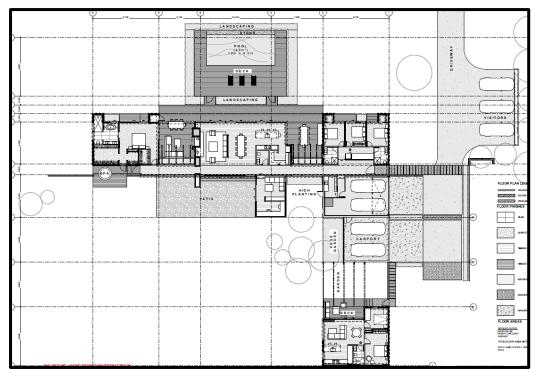


Figure 2: Previously approved layout under RC2230384.



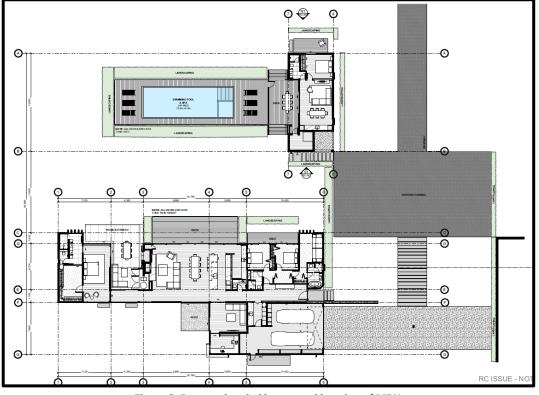


Figure 3: Proposed varied layout and location of MRU.

# 2.0 Site Description

- 2.1 At the time of lodgement of the application under RC2230384, the site had only been recently approved for subdivision, with the majority of the works completed. It was determined prior to lodgement of the application under RC2230384, that so long as s223 for the subdivision was sought, RC2230384 could be processed. Assessment of the proposal against the parent title and the new title to be created was provided as part of RC2230384. Since then, the subdivision has been completed, with titles issued in April 2023. As such, no assessment against the parent title which the subject site was created from is now necessary.
- 2.2 Lot 1 DP 584995 is approx. 12ha in size. The site comprises of a large paddock area which is mostly flat. This area is the location of the proposed development. The site then falls away into bush which is subject to existing covenants.
- 2.3 Lot 1 DP 584995 is accessed via a sealed right of way driveway (approximately 820m long with a 5m carriageway). It is planted on both sides, predominantly with mixed species which provides amenity and privacy to other dwellings accessed via this driveway.
- 2.4 When we last visited the site, the right of way was shared by five other dwellings. When exiting the ROW onto Pungaere Road and entering the ROW there remains ample room to pause and/or manoeuvre. Recent works were completed as part of the subdivision to improve this crossing point.



2.5 Water supply will be via rainwater harvesting, stormwater will be managed on-site and wastewater will be treated via an on-site system proposed as part of this application.

#### Title

- 2.6 As mentioned, the title for Lot 1 DP 584995 was created on 17<sup>th</sup> April 2023 under Identifier 1102011. The site has a legal area of 12.012 hectares.
- 2.7 The site is subject to multiple land covenants, easements and consent notices. Of interest to this application are the land covenants and consent notices registered on the title. These are as follows:
  - Land Covenant 6662870.5,
  - Land Covenant 6703415.5,
  - Land Covenant 6907313.6,
  - Land Covenant 6907313.7,
  - Land Covenant 7656842.1,
  - Land Covenant 7828421.6,
  - Land Covenant 7979129.4, and
  - Land Covenant 8133726.3
- 2.8 As per the assessment made within the application for RC2230384, these land covenant documents are not applicable to the subject site and/or were not impacted by the proposed development. As the proposed development as part of this application is located in the same general area as the previously approved development, it is considered that the proposal is not impacted by the land covenant documents registered on the title.

#### Consent Notice 7979129.2

2.9 There is one consent notice condition registered within this document which states the following:

The living significant indigenous vegetation (identified within the Department of Conservations Protected Natural Area Programme) on the site shall be preserved and shall not be cut down, damaged or destroyed (except for walking track maintenance, and tracks for pest control operations) without the prior written consent of the Council. Such consent may be given in the form of a Resource Consent. The owner shall be deemed to be not in breach of this prohibition if any such vegetation dies from natural causes which are not attributable to any act or default by or on behalf of the owner of for which the owner is responsible.

2.10 The area of bush partly located within the subject site will not be affected by the proposal with no vegetation removal or damage sought.

#### Consent Notice 12697945.2

2.11 The following conditions are listed on this consent notice document:



- (i) The location and foundations of any buildings shall be designed and certified by a suitably experienced Chartered Professional Engineer, prior to issue of any building consent.
- 2.11.1 This information will form part of the building consent application and is now generally standard practice with any building consent application.
  - (ii) In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system the applicant shall submit for Council approval a detailed TP58 Report prepared by a Chartered Professional Engineer or an approved TP58 Report Writer and include a geotechnical site suitability assessment of the proposed site. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area.
- 2.11.2 A TP58 report has been provided as part of this assessment by O'Brien Design Consulting who are an approved TP58 Report writer. This report is an update to the previous report approved as part of the previous application. As part of the building consent process the geotechnical site suitability assessment will be completed which will meet the second part of this notice.
  - (iii) In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.
- 2.11.3 FENZ has been contacted as part of this application to provide confirmation of compliance. This confirmation has been included as an Appendix to this application.
  - (iv) the construction buildings In coniunction with of any and other impermeable surfaces, the lot owner shall provide, at the time of lodging building consent application, а specific design for stormwater а management, prepared by a suitably qualified Chartered Professional Engineer or Suitably Qualified Engineering Practitioner, which addresses stormwater management measures being proposed in the application. The system shall be designed such that the total stormwater discharged from the site, after development, is no greater than the predevelopment flow from the site for rainfall events up to a 1% AEP plus allowance for climate change.
- 2.11.4 A TP10 has been provided by O'Brien Design consulting who are considered a Suitably Qualified Engineering Practitioner by Council to show compliance with this notice. The TP10 provided is an update to the original report approved by Council.
  - (v) Reticulated power and telecommunication services are not a requirement of this subdivision consent. The responsibility for providing power and telecommunication services will remain the responsibility of the property owner.





- 2.11.5 The consent holder is aware that power and telecommunications services will need to be provided at time of building consent.
  - (vi) No cats, dogs or mustelids shall be kept, or permitted to be kept on the property except for the following:

• The keeping of up to two dogs is permitted provided that they are trained in 'kiwiaversion' and kept under control at all times and kept in a dog proof enclosure or inside at night-time.

The owner of the site shall ensure that any visitor to the site is made aware of and complies with the above requirements.

2.11.6 Compliance with this notice will be achieved.

# 3.0 Consent Requirements

#### Weighting of Plans

- 3.1 Under the Proposed District Plan, the site is zoned as Rural Production and is not subject to any overlays.
- 3.2 The Council notified its' PDP on 27 July 2022. The period for public submissions closed on the 21 October 2022. A summary of submissions was notified on the 4 August 2023. The further submission period closed on the 5 September 2023. It is apparent from the summary of submissions relating to the applicable zone that a large number relate to the application of these provisions. Based on the volume and comprehensive nature of these submissions, the Council has confirmed that no other rules will have legal effect until such time as a decision is made on those provisions.
- 3.3 District Plan hearings on submissions are currently underway and are scheduled to conclude in October 2025. No decision on the PDP has been issued. For this reason, little weight is given to the PDP provisions, with the exception of those which have immediate legal effect.

#### **Operative District Plan**

- 3.4 The subject site is located within the Rural Production Zone.
- 3.5 An updated assessment of the relevant rules of the Operative District Plan is set out in the tables below as a comparison to what was originally approved.





#### **Rural Living Zone Assessment**

		Assessment of the permitted RURAL LIVING ZO	DNE RULES:
PERFORMANCE STANDARDS			
Plan Reference	Rule	RC 2230384 Performance of Proposal	Updated Performance of Proposal
8.6.5.1.1	RESIDENTIAL INTENSITY	<b>Consent Required</b> As per the original assessment, to construct the minor residential unit, more than one dwelling will be located on the property. As the site is less than 24 ha in size, consent is triggered. The unit will have at least 3000m2 for its exclusive use, although the two households will operate in conjunction with each other.	Consent Required No change
8.6.5.1.2	SUNLIGHT	<b>Permitted</b> The proposed buildings were located a sufficient distance from boundaries to comply with the sunlight provisions.	Permitted The updated plans determine that the proposed principa dwelling and MRU can comply with the sunlight provisions. As shown on the elevation plans from PFA, the three water tanks will be no higher than 2.7m and therefore are not classified as a building such that they do not trigger assessment under this rule.
8.6.5.1.3	STORMWATER MANAGEMENT	Permitted Proposed coverage was 1298.8m2 which was well below the permitted standard.	Permitted The permitted impermeable surface coverage for the site is 18018m2, which is 15% of the total site area. The proposed plans have included the existing driveway from Pungaere Road, which was not included within the original application. PFA have calculated this to be an area of 10,017.25m2, however, this includes the entirety of the legal width of the ROW, rather than just the impermeable surface coverage of the ROW.





			<ul> <li>All other impermeable surface coverage on the site (minus the ROW) has been calculated to be 1354.42m2 which is only slightly larger than the previous plans (less than 56m2) and is still well within the permitted allowance.</li> <li>Even accounting for the total area of the ROW (which is not the actual impermeable surface coverage on the ground), the total amounts to 11371.67m2, which is less than the permitted 18018m2.</li> <li>Given that the impermeable surfaces on the site are less than this, the proposal is considered permitted in terms of the ODP.</li> <li>O'Brien Consulting have completed a TP10 for the site, which excludes the ROW area, as stormwater management of this would have been undertaken as part of the subdivision proposal.</li> </ul>
8.6.5.1.4	SETBACK FROM BOUNDARIES	<b>Permitted.</b> The proposed buildings were located a minimum of 11.2m from the closest site boundary which complies with the 10m permitted setback distance.	<b>Permitted.</b> As per the plans provided by PFA, the buildings are located a sufficient distance from the closest boundary, to comply with the permitted thresholds. As shown on the elevation plans from PFA, the three water tanks will be no higher than 2.7m and therefore, are not classified as a building such that they do not trigger assessment under this rule.
8.6.5.1.5	TRANSPORTATION	<b>Permitted.</b> Traffic - Permitted standard allows for up to 60 traffic movements per site as access is not via a State Highway. Traffic movements associated with the dwelling are not	Permitted. No change





		<ul> <li>counted. A minor residential unit is anticipated to generate 7 traffic movements, similar to a townhouse. Therefore, a total of 7 TIF will be generated, complying with the standard.</li> <li>Parking – Ample area for four car parking spaces which can comply with the standards.</li> <li>Access – Permitted.</li> </ul>	
8.6.5.1.6	KEEPING OF ANIMALS	Not applicable	Not applicable
8.6.5.1.7	NOISE	Not applicable.	Not applicable.
8.6.5.1.8	BUILDING HEIGHT	Permitted	Permitted
		The building height was within 12m	The proposed building height is within 12m.
8.6.5.1.9	HELICOPTER LANDING AREA	Not applicable.	Not applicable.
8.6.5.1.10	BUILDING COVERAGE	Permitted. The total building coverage was 618m2 which was well below the permitted standard.	<b>Permitted.</b> As per the plans from PFA, the building coverage within the site equates to 693.8m2 and therefore complies with the permitted threshold.
8.6.5.1.11	SCALE OF	Permitted.	Permitted.
	ACTIVITIES	Buildings were to be used for residential purposes.	No change.
8.6.5.1.12	TEMPORARY EVENTS	Not applicable.	Not applicable.
8.6.5.2.3	MINOR RESIDNETIAL UNIT	<b>Controlled Activity</b> The proposed minor dwelling complied with the conditions and as such was defined as a minor residential unit.	<ul> <li>Controlled Activity <ul> <li>(a) There will be only one minor residential unit on the property.</li> <li>(b) The site has more than 5000m2 in area.</li> <li>(c) vehicle access to the property will be shared with the principal unit.</li> </ul> </li> </ul>



(d) The separation distance from the principal
dwelling is 11m (i.e. less than 30m).
The proposal meets the definition of a MRU as:
(i) The MRU has a GFA of less than 65m2
(64.9m2 in total).
(ii) It will be subsidiary to the principal dwelling
(iii) Will be located and retained with the same
CT as the principal dwelling.

#### **District Wide Matters**

Assessment of the applicable District Wide Chapters			
Plan Reference	Rule	RC 2230384 Performance of Proposal	Updated Performance of Proposal
Chapter 12.1	Landscapes and	Complies	Permitted
	Natural Features	Not applicable as no features are mapped on site.	No change
Chapter 12.2	Indigenous Flora &	Complies	Permitted
	Fauna	No vegetation clearance will be undertaken as part of this development.	No change
Chapter 12.3	Soils and Minerals	<b>Permitted</b> Less than 5000m3 of earth was to be disturbed.	<b>Permitted</b> Less than 5000m3 of earth will be disturbed as part of this activity and no cut or fill faces will exceed an average of 1.5m in height.
Chapter 12.4	Natural Hazards	<b>Complies</b> The site and development area were not subject to natural hazards, nor are there any large stands of vegetation which could trigger fire risk.	Permitted No change.
Chapter 12.5	Heritage	Not applicable. There are no heritage resources mapped on site.	Permitted No change
Chapter 12.6	Air	Deleted.	





Chapter 12.7	Lakes, Rivers, Wetland and the Coastline	Not applicable. The site does not adjoin waterways.	Not applicable. No change.
Chapter 12.8	Hazardous Substances	Complies Not applicable	Permitted No change
Chapter 12.9	Renewable Energy	Complies Not applicable	Permitted No change





### **Operative District Plan Breaches**

3.6 The assessment above has identified that there are no new rule infringements as a result of the changes and that the overall activity status remains as a Controlled Activity.

### **Proposed District Plan**

3.7 The proposal is also subject to the Proposed District Plan process. Within the Proposed District Plan, the site is zoned Rural Production and is not subject to any overlays. Assessment of the matters relating to the Proposed District Plan that have immediate legal effect, were undertaken as part of the AEE within RC2230384. At the time of writing this application we are unaware of any other rules which do have immediate legal effect. As such, the proposal is deemed to be Permitted in terms of the PDP.

# 4.0 Statutory Assessment

## Section 127 of the RMA

4.1 The following section of the Resource Management Act (RMA) is relevant to the proposed change to consent conditions.

#### **127** Change or cancellation of consent condition on application by consent holder

(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:

(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and

(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

#### (2) [Repealed]

- (3) Sections 88 to 121 apply, with all necessary modifications, as if-
  - (a) the application were an application for a resource consent for a discretionary activity; and

(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.

(3A) If the resource consent is a coastal permit authorising aquaculture activities to be undertaken in the coastal marine area, no aquaculture decision is required in respect of the application if the application is for a change or cancellation of a condition of the consent and does not relate to a condition that has been specified under section 186H(3) of the Fisheries Act 1996 as a condition that may not be changed or cancelled until the chief executive of the Ministry of Fisheries makes a further aquaculture decision.

(4) For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who—

- (a) made a submission on the original application; and
- (b) may be affected by the change or cancellation.

#### 4.2 Consent is sought to change **the following conditions** of RC2230384-RMALUC.



- Condition 1 change to reference the amended plans, showing the new location and design of the minor residential unit as well as the changes to the principal dwelling, parking and manoeuvring.
- Condition 2 change to reference the new wastewater report completed by O'Brien Design Consulting.
- Condition 3 change to reference the new stormwater design report completed by O'Brien Design Consulting.
- 4.3 The amendment to the consent conditions is therefore a **Discretionary Activity** as per Section 127 of the RMA.

## Section 104B of the Act

4.4 Section 104B governs the determination of applications for Discretionary and Non-Complying Activities. With respect to both Discretionary and Non-Complying Activities, a consent authority may grant or refuse an application, and impose conditions under section 108.

# Section 104(1)(a) of the Act

4.5 Section 104(1) of the Act states that when considering an application for resource consent –

"the consent authority must, subject to Part II, have regard to -

(a) Any actual and potential effects on the environment for allowing the activity; and (ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment that will or may result from allowing the activity; and

- (b) Any relevant provisions of -
  - (i) A national environmental standard
  - (ii) Other regulations
  - (iii) A national policy statement
  - (iv) A New Zealand Coastal Policy Statement
  - (v) A regional policy statement or proposed regional policy statement
  - (vi) A plan or proposed plan; and
- (c) Any other matter the consent authority considers relevant and reasonable necessary to determine the application.'
- 4.6 Actual and potential effects arising from a development as described in 104(1)(a) can be both positive and adverse (as described in section 3 of the act). As assessed in Section 6 below, the proposal will have actual and potential effects that are acceptable.
- 4.7 Section 104(1)(ab) requires that the consent authority consider 'any measure proposed or agreed to by the applicant for the purposes of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity'. It is considered the proposal is not of a scale or nature that would require specific offsetting or environmental compensation measures to ensure positive effects on the environment.





- 4.8 Section 104(1)(b) requires the consent authority to consider the relevant provisions of the above listed documents. An assessment of the relevant statutory documents that corresponds with the scale and significance of the effects that the activity may have on the environment has been provided in Section 7 below.
- 4.9 Section 104(1)(c) states that consideration must be given to 'any other matters that the consent authority considers relevant and reasonable, necessary to determine the application'. There are no other matters relevant to this application.

# 5.0 Variation to consent conditions

- 5.1 The variation to consent conditions are shown below, with the amendments shown in red.
- 5.1.1. Condition 1 states the following:

The activity shall be carried out in general accordance with the approved plans prepared by Ponting Fitzgerald Architects referenced Proposed Residence at 415 Pungaere Road, Waipapa, Northland, dated 10/01/2023, and attached to this consent with the Council's "Approved Stamp" affixed to them. These plans include the following:

- Proposed Site Plan
- Ground Floor Presentation Plan
- Elevations North & East
- Elevations South & West
- 5.1.2. The following change is sought.

The activity shall be carried out in general accordance with the approved plans prepared by Ponting Fitzgerald Architects referenced Proposed Residence at 415 Pungaere Road, Waipapa, Northland, dated 10/01/2023 22/01/2025, and attached to this consent with the Council's "Approved Stamp" affixed to them. These plans include the following:

- Proposed Site Plan
- Ground Floor Presentation Plan
- Elevations North & East
- Elevations South & West
- 5.1.3. Condition 2 states the following:

The consent holder shall ensure that the treatment and disposal system is constructed generally in accordance with the recommendations contained within the Onsite Wastewater Report prepared by O'Brien Design Consulting dated 06 December 2022, referenced Job No:2840 and submitted with application documents of RC2230384.

5.1.4. The following change is sought:



The consent holder shall ensure that the treatment and disposal system is constructed generally in accordance with the recommendations contained within the Onsite Wastewater Report prepared by O'Brien Design Consulting dated <u>O6-December 2022-5<sup>th</sup> February 2025</u>, referenced Job No:2840 and submitted with application documents of <u>RC2230384</u> <u>2230384</u>-<u>RMAVAR/A</u>.

#### 5.1.5. Condition 3 states the following:

In conjunction with the construction of the building's roof, install and maintain on an ongoing basis, the stormwater attenuation and management system, in general accordance with the Stormwater Management Design Report, dated 06 December 2022 referenced Stormwater Management Design for Principal & Minor Dwelling, prepared by O'Brien Design Consulting, and submitted with application documents of RC2230384.

5.1.6. The following changes are sought:

In conjunction with the construction of the building's roof proposed minor residential unit, install and maintain on an ongoing basis, the stormwater attenuation and management system, in general accordance with the Stormwater Management Design Report, dated <del>06</del> December 2022 <u>5<sup>th</sup> February 2025</u> referenced Stormwater Management Design for Principal & Minor Dwelling, prepared by O'Brien Design Consulting, and submitted with application documents of <u>RC2230384 2230384-RMAVAR/A</u>.

# 6.0 Assessment of Environmental Effects

- 6.1 For the purposes of this assessment, consideration of the effects of the proposal has been limited to the proposed changes rather than re-visit the effects of the original application.
- 6.2 The proposal includes changing the location and design of the minor residential unit (MRU) as well as the parking and access layout and some minor changes to the principal dwelling. Of interest to this assessment is the new location and design of the MRU.
- 6.3 The MRU will be located 11m from the principal dwelling, well within the 30m maximum standard. Both buildings have outlooks in different directions, which offer privacy to both dwelling units while being within close proximity to each other. The main living space of the principal dwelling looks to the north and west, with the MRU orientated to the west, towards the pool. Although the principal dwelling will look towards the MRU, the MRU is positioned such that it will be located closest to the eastern portion of the dwelling, such that the main living space of the principal dwelling will not be overlooking the MRU. Landscaping as well as privacy screening of the MRU will also increase privacy views. The intent is that both structures will operate in conjunction with each other and provide privacy when necessary.





- 6.4 The design and appearance of the new MRU will be compatible with the principal house. The pitch of the roof and the materials used have been chosen to be in keeping with the principal dwelling.
- 6.5 Water supply for the principal dwelling and MRU will be sourced from three on-site rainwater harvesting tanks sharing infrastructure.
- 6.6 The proposed wastewater disposal unit and dripper lines have been designed to cater for both the proposed dwelling and minor residential unit.
- 6.7 The site is well landscaped with a large, covenanted bush area. The dwellings are set well back form the ROW providing adequate privacy to the future users. No additional landscaping is required for this application.
- 6.8 Access and parking will be shared, with the principal dwelling also having an attached garage. The location of the parking and access once again joins the two buildings such that they do not seem disjointed from one another.
- 6.9 Changes to the conditions are related to the change in reference to the amended plan set and stormwater and wastewater reports which reflect the new location of the MRU.
- 6.10 Overall, it is considered that the proposal will result in no more than minor environmental effects.

# 7.0 Policy Documents

7.1 Section 104(1)(b) requires that when considering an application for a resource consent, the consent authority must, subject to Part 2, have regard to:

Any relevant provisions of -

- i. A national environmental standard;
- ii. Other regulations;
- iii. A national policy statement;
- iv. A New Zealand coastal policy statement;
- v. A regional policy statement or proposed regional policy statement;
- vi. A plan or proposed plan
- 7.2 As the proposal has only recently been granted and the changes being sought are minor in nature it is considered that the previous policy assessment is still relevant and can continue to be relied upon in this case. The conclusion remains that the development is still generally consistent with the relevant objectives and policies of those statutory documents.





# 8.0 Consideration of potentially affected parties

8.1 Sections 95D and 95E (shown below) detail the requirement of consideration of likely effects on any person or party by the consenting authority to determine if a person is considered to be an "affected" by the proposed activity.

#### 95D Consent authority decides if adverse effects likely to be more than minor

A consent authority that is deciding, for the purpose of section 95A(2)(a), whether an activity will have or is likely to have adverse effects on the environment that are more than minor— (a) must disregard any effects on persons who own or occupy—

- (i) the land in, on, or over which the activity will occur; or
- (ii) any land adjacent to that land; and

(b) may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and

(c) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and

(d) must disregard trade competition and the effects of trade competition; and

(e) must disregard any effect on a person who has given written approval to the relevant application.

8.2 The proposal includes assessment of the effects, that demonstrates that the actual and potential adverse effects of the proposal are no more than minor on the environment.

#### 95E Consent authority decides if person is affected person

(1) A consent authority must decide that a person is an affected person, in relation to an activity, if the activity's adverse effects on the person are minor or more than minor (but are not less than minor).

(2) The consent authority, in making its decision, —

(a) may disregard an adverse effect of the activity on the person if a rule or national environmental standard permits an activity with that effect; and

(b) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity on the person that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and

(c) must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.

(3) Despite anything else in this section, the consent authority must decide that a person is not an affected person if—

(a) the person has given written approval to the activity and has not withdrawn the approval in a written notice received by the authority before the authority has decided whether there are any affected persons; or

(b) it is unreasonable in the circumstances to seek the person's written approval.

The application must be limited notified to the relevant persons if the following are determined, as specified by section 95B(2) and (3):

(2) (a) affected protected customary rights groups; or

(b) affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity).

(3) (a) whether the proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in <u>Schedule 11</u>; and (b) whether the person to whom the statutory acknowledgement is made is an affected person under <u>section 95E</u>.

- 8.3 There are no rules or NES that permit the activity. The variation is not a controlled or restricted discretionary activity. There are no protected customary rights groups or customary marine title groups or statutory acknowledgement areas that are relevant to this application as per the assessment undertaken in RC2230384.
- 8.4 Other affected persons must be notified in the following circumstances specified by section 95B(7) and (8):

(7) Determine whether, in accordance with section 95E, the following persons are affected persons:

(a) in the case of a boundary activity, an owner of an allotment with an infringed boundary; and

(b) in the case of any activity prescribed under section 360H(1)(b), a prescribed person in respect of the proposed activity.

(8) In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.

8.5 The proposal does not involve a boundary activity. There are no other persons deemed to be affected by the proposal.

In deciding who is an affected person under section 95E, a council under section 95E(2): (2) The consent authority, in assessing an activity's adverse effects on a person for the purpose of this section,—

(a) may disregard an adverse effect of the activity on the person if a rule or a national environmental standard permits an activity with that effect; and

(b) must, if the activity is a controlled activity or a restricted discretionary activity, disregard an adverse effect of the activity on the person if the effect does not relate to a matter for which a rule or a national environmental standard reserves control or restricts discretion; and (c) must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.

- 8.6 A council must not consider that a person is affected if they have given their written approval, or it is unreasonable in the circumstances to seek that person's approval.
- 8.7 With respect to section 95B(8) and section 95E, the effects of the proposal was considered as part of the assessment of environmental effects undertaken in Section 6 of this report, which found that the potential adverse effects on the environment will be no more than minor. In regard to effects on persons, the assessment in the sections above are also relied on and the following comments made:
  - The proposed changes are not considered to be contrary to the objectives and policies under the District Plan or the Proposed District Plan.
  - The proposed changes are not contrary to the Northland Regional Policy Statement.
  - The variation can still achieve the intent of the original land-use consent.



- The proposal will result in a more cohesive design and better outdoor living opportunities for the future residents.
- The proposal will not result in any adverse effects on any other adjoining sites.
- 8.8 Taking into account the intent of the original land-use consent and the consent conditions that are in place to mitigate the various effects; it is considered that no persons or parties with the exception of Council are considered to be actually or potentially affected by the proposal. Overall, the adverse effects on any persons are considered to be less than minor.

## 9.0 Part 2 Assessment

9.1 There is no change to this assessment from RC 2230384.

# 10.0 Conclusion

- 10.1 This variation has been sought to locate the MRU in a different location, whilst still meeting the requirements of a MRU under the ODP. The proposed changes will not alter the original intent of RC2230384, with the site still only being developed with one MRU.
- 10.2 No significant adverse effects are anticipated to arise from the amended plans. All effects of the activity will continue to be managed within the property boundaries. Overall, it is considered that the varied proposal will result in no more than minor effects on the environment.
- 10.3 In terms of section 104(1)(a) of the Act, the actual and potential effects of the proposal will continue to be no more than minor. It is also considered that the proposal will have no more than minor adverse effects on the wider environment. No other persons will be adversely affected and there are no special circumstances.
- 10.4 In terms of section 104(1)(b) of the Act, the proposal continues to be generally consistent with the objectives, policies and assessment criteria of the relevant statutory documents.
- 10.5 As a Discretionary Activity, the application has been assessed under the matters specified under Section 104 and 104B of the Resource Management Act 1991. It is considered that the proposal results in no more than minor effects on the environment. It is considered appropriate for consent to be granted on a non-notified basis, subject to fair and reasonable conditions.

# **11.0** Limitations

11.1 This report has been commissioned solely for the benefit of our client, in relation to the project as described above, and to the limits of our engagement, with the exception that the Far North District Council or Northland Regional Council may rely on it to the extent of its appropriateness, conditions and limitations, when issuing their subject consent.



- 11.2 Copyright of Intellectual Property remains with Northland Planning and Development 2020 Limited, 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 information contained within this report.
- 11.3 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.
- 11.4 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.



# RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD



Registrar-General of Land

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

Identifier1102011Land Registration DistrictNorth AucklandDate Issued17 April 2023

**Prior References** 427023

Estate	Fee Simple
Area	12.0120 hectares more or less
Legal Description	Lot 1 Deposited Plan 584995
<b>Registered Owners</b>	
R Willis Trustee Lim	ited

#### Interests

Appurtenant hereto is a right of way created by Transfer B757765.9 - 27.11.1987 at 2.13 pm

The easement created by Transfer B757765.9 is subject to Section 309 (1) (a) Local Government Act 1974

Land Covenant in Easement Instrument 6662870.5 - 24.11.2005 at 9:00 am

Appurtenant hereto are right of way, right to convey water, electric power, telecommunications and computer media created by Easement Instrument 6703415.3 - 22.12.2005 at 9:00 am

The easements created by Easement Instrument 6703415.3 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 6703415.5- 22.12.2005 at 9:00 am

Land Covenant in Easement Instrument 6907313.6 - 15.6.2006 at 9:00 am

Land Covenant in Easement Instrument 6907313.7 - 15.6.2006 at 9:00 am

Land Covenant in Easement Instrument 7656842.1 - 14.12.2007 at 9:00 am

Subject to a right of way, right to convey electric power, telecommunications and computer media and a right to convey water over part marked A on DP 584995 created by Easement Instrument 7828421.4 - 27.5.2008 at 9:00 am

Some of the easements created by Easement Instrument 7828421.4 are subject to Section 243 (a) Resource Management Act 1991 (See DP 393431)

Subject to a right (in gross) to transmit electricity over part marked A on DP 584995 in favour of Top Energy Limited created by Easement Instrument 7828421.5 - 27.5.2008 at 9:00 am

Land Covenant in Easement Instrument 7828421.6 - 27.5.2008 at 9:00 am

7979129.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 5.11.2008 at 2:41 pm

Subject to a right of way, right to transmit electricity, telecommunications and computer media, convey water over part marked A and B DP 584995 created by Easement Instrument 7979129.3 - 5.11.2008 at 2:41 pm

Some of the easements created by Easement Instrument 7979129.3 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 7979129.4 - 5.11.2008 at 2:41 pm

# 1102011

Subject to a right (in gross) to transmit electricity over part marked B DP 584995 in favour of Top Energy Limited created by Easement Instrument 7979129.5 - 5.11.2008 at 2:41 pm

Land Covenant in Easement Instrument 8133726.3 - 25.5.2009 at 9:24 am

Appurtenant hereto is a right of way, a right to transmit electricity and telecommunications, a right to convey water and a right to drain water created by Easement Instrument 8133726.4 - 25.5.2009 at 9:24 am

Some of the easements created by Easement Instrument 8133726.4 are subject to Section 243 (a) Resource Management Act 1991

11551635.1 Open Space Covenant pursuant to Section 22 Queen Elizabeth The Second National Trust Act 1977 - 16.9.2019 at 4:54 pm

Subject to a right (in gross) to a walkway under the Walking Access Act 2008 over part marked C, F, G, H and J on DP 584995 in favour of New Zealand Walking Access Commission created by Easement Instrument 11735428.1 - 28.4.2020 at 9:44 am

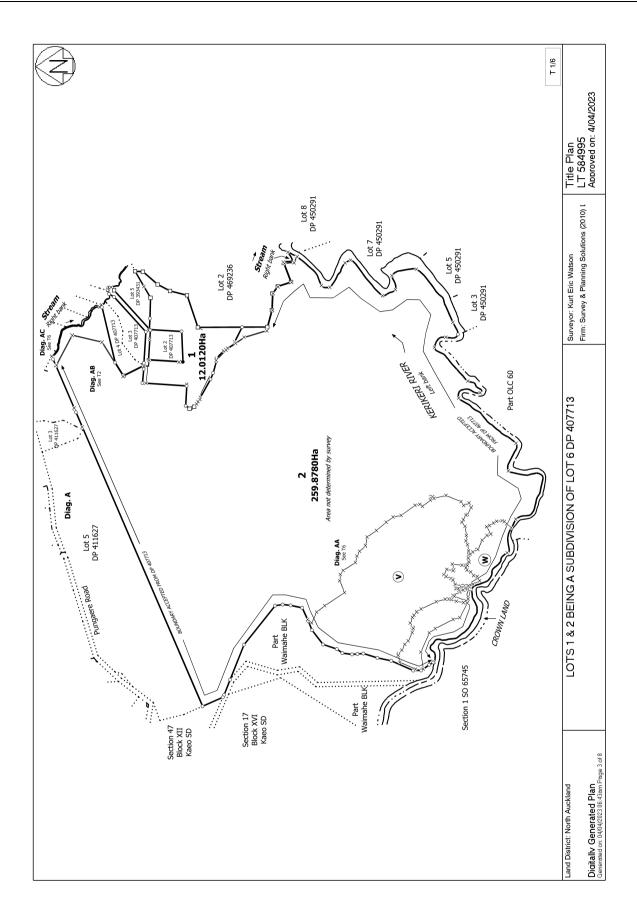
12096473.2 Gazette Notice (2021-In 729) declaring part marked C, F, G, H and J on DP 584995 to be part of a walkway assigned the name Te Ohu Totara Walkway- 22.4.2021 at 7:00 am

12697945.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 17.4.2023 at 3:49 pm

Subject to a right of way, a right to convey electricity, water and telecommunications and a right to drain water over part marked A, B, C and D on DP 584995 created by Easement Instrument 12697945.3 - 17.4.2023 at 3:49 pm

The easements created by Easement Instrument 12697945.3 are subject to Section 243 (a) Resource Management Act 1991





# **View Instrument Details**



Instrument No Status Date & Time Lodged Lodged By Instrument Type

7979129.2 Registered 05 November 2008 14:41 McLean, Suzanne Carol Consent Notice under s221(4)(a) Resource Management Act 1991



Affected Computer Registers Land District 427020 North Auckland 427021 North Auckland 427022 North Auckland 427023 North Auckland

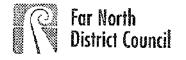
Annexure Schedule: Contains 1 Page,

Signature

Signed by Claire Alice McKendry as Territorial Authority Representative on 05/11/2008 02:19 PM

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

C Copyright: Land Information New Zealand



Ainota Bog 752, Aueno ini Ave Kalikalar OSCO, Now Zeokend Esseptions: 0800 920 C29 Phone: 0391 405 2750 Pros: 0391 401 2137 Einol: ook.us/24ritk.gov/.ne WabbRa. www.finik.gov/.ne

#### THE RESOURCE MANAGEMENT ACT 1991

#### SECTION 221 : CONSENT NOTICE

REGARDING RC 2080186 and 2051260 the Subdivision of Lots 4 -6 DP 112264, Lot 1 DP 112265 North Auckland Registry

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

#### SCHEDULE

Stage 3 Lots 2 & 6 DP 407713

The living significant indigenous vegetation (identified within the Department of Conservation's Protected Natural Area Programme) on the site shall be preserved and shall not be cut down, damaged or destroyed (except for walking track maintenance, and tracks for pest control operations) without the prior written consent of the Council. Such consent may be given in the form of a Resource Consent. The owner shall be deemed to be not in breach of this prohibition if any such vegetation dies from natural causes which are not attributable to any act or default by or on behalf of the owner or for which the owner is responsible.

SIGNED:

Mr Pat Killatea

By the FAR NORTH DISTRICT COUNCIL Under delegated authority: RESOURCE CONSENTS MANAGER

DATED at Kerikeri

this

# **View Instrument Details**



Instrument No Status Date & Time Lodged Lodged By Instrument Type

12697945.2 Registered 17 April 2023 15:49 Stokes, Belinda Susan Consent Notice under s221(4)(a) Resource Management Act 1991



Affected Records of Title	Land District
1102011	North Auckland
1102012	North Auckland

Annexure Schedule Contains 2 Pages.

#### Signature

Signed by Lisa Jane Maxwell as Territorial Authority Representative on 17/04/2023 10:49 AM

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



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> Private Bag 752, Kaikohe 0440, New Zealand ask.us@fndc.govt.nz 0800 920 029 fndc.govt.nz

## THE RESOURCE MANAGEMENT ACT 1991

#### SECTION 221: CONSENT NOTICE

REGARDING RC-2220400 Being the Subdivision of PT LOT 6 DP 407713 North Auckland Registry

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

#### <u>SCHEDULE</u>

#### Lot 1 & 2 DP 584995

- (i). The location and foundations of any buildings shall be designed and certified by a suitably experienced Chartered Professional Engineer, prior to issue of any building consent.
- (ii). In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system the applicant shall submit for Council approval a detailed TP58 Report prepared by a Chartered Professional Engineer or an approved TP58 Report Writer and include a geotechnical site suitability assessment of the proposed site. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area.
- (iii). In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.



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> Private Bag 752, Kaikohe 0440, New Zealand ask.us@fndc.govt.nz 0800 920 029 fndc.govt.nz

- (iv). In conjunction with the construction of any buildings and other impermeable surfaces, the lot owner shall provide, at the time of lodging a building consent application, a specific design for stormwater management, prepared by a suitably qualified Chartered Professional Engineer or Suitably Qualified Engineering Practitioner, which addresses stormwater management measures being proposed in the application. The system shall be designed such that the total stormwater discharged from the site, after development, is no greater than the predevelopment flow from the site for rainfall events up to a 1% AEP plus allowance for climate change.
- (v). Reticulated power and telecommunication services are not a requirement of this subdivision consent. The responsibility for providing power and telecommunication services will remain the responsibility of the property owner.

#### Lot 1 DP 584995

- (vi). No cats, dogs or mustelids shall be kept, or permitted to be kept on the property except for the following:
  - The keeping of up to two dogs is permitted provided that they are trained in 'kiwi-aversion' and kept under control at all times and kept in a dog proof enclosure or inside at night-time.

The owner of the site shall ensure that any visitor to the site is made aware of and complies with the above requirements.

SIGNED:

<u>Mr Patrick John Killalea - Authorised Officer</u> By the FAR NORTH DISTRICT COUNCIL Under delegated authority: PRINCIPAL PLANNER – RESOURCE MANAGEMENT

DATED at **KERIKERI** this 6<sup>th</sup> day of April 2023

Killalea.

Easement instrument to grant profit à prendre or create land Sections 90A and 90F, Land Transfer A	covenant	2003/6180EF Approved Registrar-General of Land
and registration district		📋 🛛 El 6907313.7 Easemei
DTAGO		Cpy – 01/01, Pgs – 006, 21/06/06, 09:54
NORTH AUCKLAND		Duci0 312509964
Grantor		Surname(s) must be <u>underlined</u> or in CAPI
WAIRUA FARMS LIMITED		
Grantee		Surname(s) must be <u>underlined</u> or in CAPI
WAIRUA FARMS LIMITED		
Grant* of easement or profit à prendre or c	reation or covenant	
The Grantor, being the registered proprietor stated, in gross) the easement(s) or <i>profit(s)</i> the rights and powers or provisions set out in	à prendre set out in Schedule	et out in Schedule A, grants to the Grantee (and, if so A, or creates the covenant(s) set out in Schedule A, w
DATED this 9 day of JUNE	2006	
	Signed in my	presence by the Grantor
	Signature of W	itness it in BLOCK letters (unless legibly printed)
JM Bonham	Witness name:	te in BLOCK letters (unless legibly printed)
Director	Occupation:	
J. Darka.	Address:	
Signature [Common Seal] of Grantor		
· · · · · · · · · · · · · · · · · · ·	Signed in my	presence by the Grantee
	D.,	Sulta
	Signature of W	itness
	Witness to comple	e in BLOCK letters (unless legibly printed)
JM Bonham Director	Witness name:	
1B	Occupation:	
$1/\alpha - \alpha$	Address:	
Signature [Common Seal] of Grantee	Au1035.	

.Gr

[Solicitor for] the Grantee

ł

\* If the consent of any person is required for the grant, the specified consent form must be used.

# Annexure Schedule 1

2003/6180EF Approved Registrar-General of Land

Easement instrument

Schedule A

1

Dated

# 9 June 2006 Page 2 of 4 pages

Continue in additional Annexure Schedule if required.

Purpose (nature and extent) of easement, <i>profit</i> , or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT <i>or</i> in gross)
Land Covenant	DP368223	277202	277203 - 277212, 247779
		277203	277202, 277204 - 277212, 247779
Continued on Annexure		277204	277202, 277203, 277205 - 277212, 247779
Schedule			

Easements or *profits à prendre* rights and powers (including terms, covenants, and conditions) Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers provided in specific classes of easement are those prescribed	3
by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.	

The implied rights and powers are [varied] [negatives] [added to] or [substituted] by:

[Memorandum number , registered under section 155A of the Land Transfer Act 1952].

[The provisions set out in Annexure Schedule 2].

#### **Covenant provisions**

Delete phrases in [] and insert memorandum number as required.

Continue in additional Annexure Schedule if required

The provisions applying to the specified covenants are those set out in:

[Memorandum number , registered under section 155A of the Land Transfer Act 1952].

[The provisions set out in Annexure Schedule 2].

All signing parties and either their witnesses or sojicitors must sign or initial in this box.

# Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule

Dated

# Insert type of instrument "Mortgage", "Transfer", "Lease" etc

9 Julie 2006 Page 3 of 4 pages

(Continue in additional Annexure Schedule, if required.)

13-

Purpose (nature and extent) of easement, profit or covenant	Shown (plan reference)	Servient Tenement (Identifier/CT)	Dominant Tenement (Identifier/CT)
Land Covenant	DP 368223	277205	277202-277204, 277206– 277212, 247779
		277206	277202-277205, 277207 277212, 247779
		277207	277202-277206, 277208– 277212, 247779
		277208	277202-277207, 277209-277212, 247779
		277209	277202-277208, 277210-277212, 247779
-		277210	277202-277209, 277211-277212, 247779
		277211	277202-277210, 277212, 247779
		277212	277202-277211, 247779

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

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# Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule

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Insert type of instrument

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"Mortgage"	,	"Transfer",	61	'Lease"	etc
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	Dated 9 Tune 2006 Page 4 of 4 pages
	(Continue in additional Annexure Schedule, if required.)
	Annexure Schedule 2:
1.	The Grantor will not place or build on the land, or cause or allow to be placed or built on the land:
	(a) Any building or part of a building relocated from any other land. For the purposes of this clause a building shall include any dwelling, garage, shed, or other ancillary building other than:-
	<ul> <li>A shed temporarily located on the site for the use by the Grantor or the Grantor's servants, agents or contractors solely for the purpose or use during the course of construction of any other building on the land; or</li> </ul>
	(ii) Prefabricated but otherwise unassembled buildings acquired for construction on the land.
	(b) Any building other than a single dwelling (being a detached residential building of no less than 180m2 designed for and occupied exclusively as one household unit and being the only one on site) together with any building ancillary to the single dwelling and including a garage, carport, farm shed, garden shed, glasshouse and sleep-out (provided however that the sleep-out may not be equipped in such a manner as to constitute a dwelling) provided the same are of a construction and colour scheme in sympathy with the residential dwelling.
2.	The Grantor shall upon commencement of the erection or construction of any building on the land ensure that building is completed within one year from the date of commencement or erection or construction. Completion is deemed to include affixing all exterior cladding and completing all exterior painting. This clause does not prevent a Grantor from constructing a residential dwelling in separate stages over a longer period of time provided that each stage is completed within a one year period.
3.	Neither the Grantor nor his servants, agents or contractors shall reside in any house, bus, caravan, camper van or other form of mobile accommodation, nor park any such vehicle anywhere on the land except other than in a garage provided for the purpose.
4.	The Grantor must not use the land for storing or accumulating any rubbish or materials other than building materials when constructing a new building (and for that purpose the Grantor shall ensure any excess material including excess building materials and/or rubbish is stored in a sightly manner and is removed from the land without delay in any event at least every three weeks).
5.	Nothing herein shall prevent the Grantor from subdividing the land with Far North District Council consent PROVIDED THAT the covenants and restrictions herein contained shall be brought down onto any new Lots thereby created to be binding on all registered proprietors and occupiers and successors in title.
6.	The Grantor shall not object to any farming activity or any farming related activity or activities lawfully carried out or occurring on the Grantor's land.
	Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses citors must sign or initial in this box.

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# **MORTGAGEE CONSENT**

ANZ NATIONAL BANK LIMITED as Mortgagee under Mortgage Number 6685567.1 (over Title NA63A/948) and Mortgage number 6685575.1 (over Title NA63A/947) Mortgage number 6685554.1 (over Title NA63A/946) HEREBY CONSENTS to the Deposit of Plan 368223 and to registration of all easements set out on DP 368223 and to registration of Land Covenants attached BUT WITHOUT PREJUDICE to the Banks rights powers and remedies of whatsoever nature under its said mortgage.

**DATED** this

t.

day of

AUCKLAND

June

2006

EXECUTED by the ANZ NATIONAL BANK LIMITED it's Attorney By in the presence of: Witness Signature: Witness Name JEANNE ANN FAOAGALI BANK OFFICER Occupation

Address

CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, Kapua Katrina Gardiner, Manager Lending Services of Auckland in New Zealand hereby certifies that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147	
Blenheim	as No.	186002	Invercargill	as No,	242542.1	
Christchurch	as No.	A.256503.1	Napier	as No	644654.1	
Dunedin	as No.	911369	Nelson	as No,	359781	
Gisborne	as No.	G.210991	New Plymouth	as No,	433509	
Hamilton	as No.	B.355185	Wellington		433509 3.530013.1	

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

- 2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the property being dealt with pursuant to the Deed has become the property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.
- 3. At the date of this certificate, I am the Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.
- 4. At the date of this certificate, I have not received any notice or information of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

DATED at Auckland this	9 <sup>th</sup>	-	day of	June	2006	
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		KAPUA	KATRINA GA	RDINER		

	90A and 90F, Land Transfer Act 195 El 7656842.1 Easemer Cpy - 01/03,Pgs - 006,13/12/07,11:30
And registration district	Approval 02/6055EF
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VAIRUA FARMS LIMITED	
rantee	Surname(s) must be <u>underlined</u> or in CAPITAL
VAIRUA FARMS LIMITED	
rant* of easement or <i>profit à prendre</i> o	r creation or covenant
Grantee (and, if so stated, in gross) the	etor of the servient tenement(s) set out in Schedule A, grants to the easement(s) or <i>profit(s) à prendre</i> set out in Schedule A, or create with the rights and powers or provisions set out in the Annexure
Dated this 10th day of De	2007
ttestation,	
U Boman	Signed in my presence by the Grantor
	Signature of witness
M Bonham DIRECTOR	Witness to complete in BLOCK letters (unless legibly printed) Witness name
	Occupation
Signature [common seal] of Grantor	Address
Mann	Signed in my presence by the Grantee
IK Bonham DIRECTOR	Signature of witness
M. Bonham	Witness to complete in BLOCK letters (unless legibly printed) Witness name
DIRECTOR	Occupation
Signature [common seal] of Grantee	Address
ertified correct for the purposes of the L	and Transfer Act 1952.

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# Approved by Registrar-General of Land under No. 2002/6055 Annexure Schedule 1



Easement	instrument
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Dated

10 December 2007 Page 1 of 2 page

Schedule A

(Continue in additional Annexure Schedule if required.)

Purpose (nature and extent) of easement, <i>profit,</i> or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT <i>or</i> in gross)
Land Covenant	'A' on DP 393479	Lot 10 DP 368223 - 277208	Lot 6 DP 360957 247779

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

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

The implied rights and powers are [varied] [negatived] [added to] or [oubstituted] by:

[Memorandum number \_\_\_\_\_\_, registered under section 155A of the Land Transfer Act 1952].

[the provisions set out in Annexure Schedule 2].

# Covenant provisions

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

The provisions applying to the specified covenants are those set out in:

-[Memorandum-number---

-registered under section 155A of the Land Transfer Act 1952]

[Annexure Schedule 2].

All signing parties and either their witnesses or solicitors must sign or initial in this box

Ap Insert type of instrument "Mortgage", "Transfer", "I	<b>F</b> .(	oval 32EF
Easement	Dated 10 December 2007 Page 2 of 2 Page	ages
	(Continue in additional Annexure Schedule, if requ	ired.)

#### Continuation of Covenant to be created:

The land covenant set out in Schedule A is created for the benefit of the Dominant Tenement over the Servient Tenement to the intent that the Servient Tenement shall be bound by the provisions, stipulations and restrictions set out in Schedule A and so that the owners and occupiers for the time being of the Dominant Tenement may enjoy the benefits of such covenants and enforce the observance of such provisions, stipulations and restrictions as the covenant provide for their benefit from time to time.

Such covenants are created so as to bind the Servient Tenement for the benefit of the Dominant Tenement in respect of the matter set out in Schedule A so that the covenant in Schedule A run with the Servient Tenement for the benefit of the Dominant Tenement.

# SCHEDULE 'A'

# THE LAND COVENANTS CREATED ARE AS FOLLOWS:

### <u>Purpose</u>

The area marked 'A' on DP 393479 shall be reserved as the site of a future road to be vested in the Far North District Council.

# <u>Covenants</u>

- 1. There shall be no buildings or structures erected on the area marked 'A' on DP 393479.
- 2. The Far North District Council may at any time require that the land within the area marked 'A' on DP 393479 be transferred to the Council and vested as Road at no cost to the Council and the registered proprietor of the servient tenement shall not be entitled to any compensation or payment of any kind whatsoever for the same.
- 3. Any person, body corporate or organisation prepared to meet the roading construction costs may request that Council acquire area marked 'A' on DP 393479 for the purpose of a public road.
- 4. The Owner of Lot 10 will not be required to meet the cost of the formation unless he/she or it is/are carrying out a development which requires such a road formation, as otherwise set out in the Far North District Council Plan or any subsequent Fr North District Council Resource Consent.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule	Approval
nsert type of instrument Mortgage", "Transfer", "Lease" etc	02/5032EF/5
Dated Page 1	of 1 pages
(Continue in additional Annexure Schedu	lle, if required
ANZ NATIONAL BANK LIMITED as Mortgagee under Mortgage No. 6685575.1	
nereby consents to the within Easement Instrument (Land Covenant A on	
DP393479) but without prejudice to the Mortgagee's rights powers and remedies of	
whatsoever nature under its said Mortgage.	
	Ây.
DATED this 10th day of December 2007	
EXECUTED by	1. F.
ANZ NATIONAL BANK LIMITED	
by it's Attorney	
KAPUAKATRINA GARDINER	
Authørised Signatory	
in the presence of:-	
detter and i	
Witness Name:	
Witness Signature: JEANNE ANN FAOAGALI	
Occupation: BANK OFFICER	·,
Address:	·.
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#### CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, **KAPUA KATRINA GARDINER**, Manager Lending Services of Auckland in New Zealand, certify that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147
Blenheim	as No.	186002	Invercargill	as No.	242542.1
Christchurch	as No.	A.256503.1	Napier	as No.	644654.1
Dunedin	as No.	911369	Nelson	as No.	359781
Gisborne	as No.	G.210991	New Plymouth	as No.	433509
Hamilton	as No.	B.355185	Wellington	as No.	B.530013.1

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

- 2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the rights, powers and property covered by the Deed have become the rights, powers and property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.
- 3. On 18 August 2006 Arawata Investments Limited and Philodendron Investments Limited (**Amalgamating Companies**) among other companies, amalgamated with ANZ National Bank Limited to become ANZ National Bank Limited. Accordingly, on that date ANZ National Bank Limited (as the amalgamated company) succeeded to all the property, rights, powers, privileges, liabilities and obligations of each of the Amalgamating Companies under Part XIII of the Companies Act 1993.
- 4. At the date of this certificate, I am a Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.
- 5. At the date of this certificate, I have not received any notice of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

SIGNED by the abovenamed)Attorney at Auckland on this)10thday ofDecember2007

KAPUA KATRINA GARDINER

Version 1:8: 1 September 2007									LINZ Form P005 - PDP	F
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**View Instrument Details** 

Instrument No. Status Date & Time Lodged Lodged By Instrument Type 8133726.3 Registered 25 May 2009 09:24 McLean, Suzanne Carol Easement Instrument



Affected Computer Registers	Land District
427023	North Auckland
443241	North Auckland
443242	North Auckland

Annexure Schedule: Contains 3 Pages.

# **Grantor Certifications**

I certify that I have the authority to act for the Grantor and that the party has the legal capacity to authorise me to lodge this instrument	V
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	V
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	X
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period	V
I certify that the Crown under Irrigation Notice under Public Works Act 1981 B879075.1 has consented to this transaction and I hold that consent, or the Irrigation Notice under Public Works Act 1981 does not prevent registration	V
I certify that the Mortgagee under Mortgage 6703415.6 has consented to this transaction and I hold that consent	V
Signature	
Signed by David Richard Travers Salter as Grantor Representative on 15/06/2009 05:05 PM	

# **Grantee Certifications**

I certify that I have the authority to act for the Grantee and that the party has the legal capacity to authorise me to lodge this instrument	<b>X</b>
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	V
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	×
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period	×

#### Signature

Signed by David Richard Travers Salter as Grantee Representative on 15/06/2009 05:05 PM

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

Approved by	Registrar-General of Land under No. 2007/6	705
casement instrument to gra	nt easement or profit à prendre, or	create land covenant
Section	ons 90A and 90F, Land Transfer Act 1952	
Land registration district	St. General P	
NORTH AUCKLAND	(07/6225) (07/6225)	BARCODE
Grantor		
WAIRUA FARMS LIMITED	Sumanie(S) must be	underlined or in CAPITALS.
"AIRCA FARMS LIMITED		
Grantee		
WAIRUA FARMS LIMITED	Surname(s) must be <u>i</u>	underlined or in CAPITALS.
Grant* of easement or profit à prendre		
The Grantor, being the registered pro	prietor of the servient tenement(s) set out in S	Schedule A grante to the
Schedule(s).	A, with the rights and powers or provisions	set out in the Annexure
Dated this - an day of	* / 7000	
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Attestation Director Director Signature [common seal] of Grantor	Signed in my presence by the Granto Signature of witness Witness to complete in BLOCK letters (L. Witness name Occupation Address Signed in my presence by the Grantee Signature of witness Witness to complete in BLOCK letters (u)	inless legibly printed)

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Grantee

JB 16

\*If the consent of any person is required for the grant, the specified consent form must be used. REF: 7003 – AUCKLAND DISTRICT LAW SOCIETY

# Approved by Registrar-General of Land under No. 2007/6225 Annexure Schedule 1



2 1 of pages Page May 2009 Dated Easement instrument

Schedule A

(Continue in additional Annexure Schedule if required.)

Purpose (nature and extent) of easement, profit, or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT or in gross)
Land Covenant	DP 411627	Loi 3 DP 411627 - 443241	Lot 5 DP 411627 - 443242 Lot 6 DP407713-42702
		Lot 5 DP 41 1627 - 443242	Lot3 DP411627-443241 Lot 6 DP407713-42702
		Lo16 DP 407713 - 427023	Lot3 DP407713-427023 Lot3 DP411627-443241 Lot5 DP411627-443242

Easements or profits à prendre rights and powers (including terms, covenants, and conditions) Delete phrases in [ ] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Fifth Schedule of the Property Law Act 2007.

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

-, registered under section 155A of the Land Transfer Act 1952]. Memorandum number

[the provisions set-out in Annexure-Schedule 2]---

## **Covenant provisions**

Delete phrases in [ ] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

The provisions applying to the specified covenants are those set out in:

- registered under section 455A of the Land Transfer Act 1952]--Memorandum-number-

[Annexure Schedule 2].

All signing parties and either their witnesses or solicitors must sign or initial in this box

REF: 7003 - AUCKLAND DISTRICT LAW SOCIETY

	Approved by Registrar-General of Land under No. 2002/5032
isert type ( Mortgage''	of instrument ', "Transfer", "Lease" etc
asement	Dated 7 May 2009 Page 2 of 2 Pages
	(Continue in additional Annexure Schedule, if required.)
	a of Covenant to be created:
o the intent t nd so that th nd enforce t ime to time.	
luch covena natiers set o Dominant Te	nts are created so as to bind the Servient Tenement for the benefit of the Dominant Tenement in respect of the out in Schedule A so that the covenants in Schedule A run with the Servient Tenement for the benefit of the enement.
CHEDULI	<u>E 'A'</u>
THE LAND	COVENANTS CREATED ARE AS FOLLOWS:-
Purpose	to the standard of the standard of the vested in the Far North District Council.
	rked 'A' DP 411627 may be reserved as the site of a future road to be vested in the Far North District Council.
<u>Covenants</u>	a set of the treat lend by any of the Grantor the area marked
l. Ifa 'A' bas	
.0	In consideration for the vesting of the right of way area "A" as road the Grantee shall sign any consents/surrender of easement as may be required to effect the same,
6	The Grantee shall not be entitled to any compensation or payment of any kind whatsoever for consenting to the relinquishment of the right of way essement "A" to vest as road, and
œ`	All costs associated with the vesting, creation, formation of the road and the relinquishment of the right of way easement "A" shall be borne by the party undertaking the further development (which may be the Grantee).
:	
If this An solicitors	mexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or a must sign or initial in this box.
L	<i>f</i> \ <i>N</i>

profit à préndre or create land Sections 90A and 90F, Land Transfer	: easement or   covenant Act 1952	2003/6180EF Approved Registrar-General of Land
Land registration district		El 6907313.6 Easeme Cpy - 01/01.Pgs - 005.21/06/06.09:5
Grantor WAIRUA FARMS LIMITED	·	Surname(s) must be <u>underlined</u> or in CAP
Grantee WAIRUA FARMS LIMITED		Surname(s) must be <u>underlined</u> or in CAP
The Grantor, being the registered proprieto stated, in gross) the easement(s) or profit(s the rights and powers or provisions set out	a prendre set out in Schedule in the Annexure Schedule(s).	t out in Schedule A, grants to the Grantee (and, if s A, or creates the covenant(s) set out in Schedule A,
DATED this 9 day of <i>Jun</i> Attestation	1 2006	
JM Bonham Director A. J.	Signature of Wi Witness to complet Witness name: Occupation: Address:	Liness a in BLOCK letters (unless legibly printed) D. R. T. SALTER Solicitor Oamaru
		resence by the Grantee
	Signature of Wi	in BLOCK letters (unless legibly printed)

2

[Solicitor for] the Grantee

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\* If the consent of any person is required for the grant, the specified consent form must be used.

# **Annexure Schedule 1**

2003/6180EF Approved Registrar-General of Land

Easement instrument

Schedule A

2 d - 1

Dated

# 9 June 2006 Page 2 of 3 pages

Continue in additional Annexure Schedule if required.

Purpose (nature and extent) of easement, <i>profit</i> , or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT or in gross)
Land Covenant	DP 368223	Lot 9 DP 368223 - CT 277207	Lot 6 DP 360957 CT 247779
Continued on Annexure Schedule			

rights and powers (including terms,	Delete phrases in [] and insert memorandum number as required.
covenants, and conditions)	Continue in additional Annexure Schedule if required.
	· · · · · · · · · · · · · · · · · · ·
Unless otherwise provided below, the by the Land Transfer Regulations 2002	rights and powers provided in specific classes of easement are those prescribed 2 and/or the Ninth Schedule of the Property Law Act 1952.
The implied rights and powers are [var	ied] [negatived] [added to] or [substituted] by:
[Memorandum number , register	red under section 155A of the Land Transfer Act 1952].
[The provisions set out in Annexure So	thedule 2].

### Covenant provisions

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required\_\_\_\_\_

The provisions applying to the specified covenants are those set out in:

[The provisions set out in Annexure Schedule 2].

All signing parties and either their witnesses or/solicitors must sign or initial in this box.

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# Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule

## Insert type of instrument "Mortgage", "Transfer", "Lease" etc

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Dated	9	June 2000	Dago	3 of 3 pages
	!	<u></u>	јгауе	

(Continue in additional Annexure Schedule, if required.)

# Continuation of Covenant to be created:

The land covenant set out in Schedule A is created for the benefit of the Dominant Tenement over the Servient Tenement to the intent that the Servient Tenement shall be bound by the provisions, stipulations and restrictions set out in Schedule A and so that the owners and occupiers for the time being of the Dominant Tenement may enjoy the benefits of such covenants and enforce the observance of such provisions, stipulations and restrictions as the covenants provide for their benefit from time to time.

Such covenants are created so as to bind the Servient Tenement for the benefit of the Dominant Tenement in respect of the matter set out in Schedule A so that the covenants in Schedule A run with the Servient Tenement for the benefit of the Dominant Tenement.

# SCHEDULE 'A'

# THE LAND COVENANTS CREATED ARE AS FOLLOWS:

# **Purpose**

The area marked 'I' & 'H' DP 368223 shall be reserved as the site of a future road to be vested in the Far North District Council.

# <u>Covenants</u>

- 1. There shall be no buildings or structures erected on the area marked 'I' & 'H' DP 368223.
- 2. The Far North District Council may at any time require that the land within the area marked 'I' & 'H' DP 368223 be transferred to the Council and vested as Road at no cost to the Council and the registered proprietor of the servient tenement shall not be entitled to any compensation or payment of any kind whatsoever for the same.
- 3. Any person, body corporate or organisation prepared to meet the roading construction costs may request that Council acquire area marked 'I' & 'H' DP 368223 for the purpose of a public road.
- 4. The Owner of Lot 9 will not be required to meet the cost of road formation unless he/she or it is/are carrying out a development which requires such a road formation, as otherwise set out in the Far North District Council Plan or any subsequent Far North District Council Resource Consent.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

# **MORTGAGEE CONSENT**

ANZ NATIONAL BANK LIMITED as Mortgagee under Mortgage Number 6685567.1 (over Title NA63A/948) and Mortgage number 6685575.1 (over Title NA63A/947) Mortgage number 6685554.1 (over Title NA63A/946) HEREBY CONSENTS to the Deposit of Plan 368223 and to registration of all easements set out on DP 368223 and to registration of Land BUT WITHOUT PREJUDICE to the Banks rights powers and Covenants attached remedies of whatsoever nature under its said mortgage.

**DATED** this

J

day of

AUCKLAND

June

2006

**EXECUTED** by the ANZ NATIONAL BANK LIMITED By it's Attorney in the presence of: Witness Signature: Witness Name JEANNE ANN FAOAGALI BANK OFFICER Occupation

Address

# CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I, Kapua Katrina Gardiner, Manager Lending Services of Auckland in New Zealand hereby certifies that:

1.

2.

By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147	
Blenheim	as No.	186002				
Christchurch	as No.		Invercargill	as No.	242542.1	
		A.256503.1	Napier	as No	644654.1	
Dunedin	as No.	911369	Nelson	as No.	359781	
Gisborne	as No.	G.210991	New Plymouth			
Hamilton	as No.	B.355185		as No.	433509	
i latinicon	as NU.	D.300160	Wellington	as No. 1	B.530013.1	

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the property being dealt with pursuant to the Deed has become the property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.

3. At the date of this certificate, I am the Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.

4. At the date of this certificate, I have not received any notice or information of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

DATED at Auckland this

day of

9<sup>th</sup>

June

2006

KAPUA KATRINA GARDINER

# Approved by Registrar-General of Land under No. 2002/6055

Easement instrument to grant easement or profit à prendre, or create land covenant Sections 90A and 90F. Land Transfer Act 1952

Sections S	OOA and 90F, Land Transfer Act 1952 El 6662870.5 Easemen
Land registration district	Cpy - 01/01,Pgs - 006,24/11/05,09:51
North Auckland	
Grantor	Image: Surname(s)         Image: Surname(s)
Wairua Farms Limited	· · · · · · · · · · · · · · · · · · ·
warrua rarms Limiteo	
Grantee	Surname(s) must be <u>underlined</u> .
Wairua Farms Limited	
Grant* of easement or profit à prendre or	r creation or covenant
Grantee (and, if so stated, in gross) the e	etor of the servient tenement(s) set out in Schedule A, grants to the easement(s) or profit(s) à prendre set out in Schedule A, or creates with the rights and powers or provisions set out in the Annexure
Dated this 2. S day of	October 2005
Attestation	
	Signed in my presence by the Grantor
H & Bonham - Director	· D' Salto
H K Bonham - Director	Signature of witness
A. Banha	Witness to complete in BLOCK letters (unless legibly printed)
J M Bonham - Director	Witness name D. R. T. SALTER
	Occupation Solicitor
Signature [common seal] of Grantor	Address
Maria	Signed in my presence by the Grantee
H K Bonham - Director	7 Salto
	Signature of witness
J. Danha.	Witness to complete in BLOCK letters (unless legibly printed)
🖌 M Bonham - Director	Witness name D. R. T. SALTER Solicitor
	Occupation Oamaru
Signature [common seal] of Grantee	Address
Certified correct for the purposes of the La	and Transfer Act 1952.

[Solicitor for] the Grantee

\*If the consent of any person is required for the grant, the specified consent form must be used.

REF: 7003 - AUCKLAND DISTRICT LAW SOCIETY

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# Approved by Registrar-General of Land under No. 2002/6055 Annexure Schedule 1

	1					 1
Easement instrument	Dated	28 October	2005	Page	of	pages

## Schedule A

(Continue in additional Annexure Schedule if required.)

Purpose (nature and extent) of easement, <i>profit,</i> or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT <i>or</i> in gross)
Land Covenant	DP 357349	233033 233034 233035	233034 233035 233033 NA 67B/481 NA 63A/949

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

Delete phrases in [ ] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

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

[Memorandum number

, registered under section 155A of the Land Transfer Act 1952].

[the provisions set out in-Annexure-Schedule 2].-

#### **Covenant provisions**

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

The provisions applying to the specified covenants are those set out in:

[Memorandum number , registered under section 155A of the Land Transfer Act 1952].

[Annexure Schedule 2].

All signing parties and either their witnesse	es or solicitors must sign or initial in this box
In Alb	15 MB 75.

# Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule

Insert type of instrument

<ol> <li>(Continue in additional Annexure Sch ANNEXURE SCHEDULE 2</li> <li>The Grant will not place or build on the land, or cause or allow to be built on the land :-         <ul> <li>(a) Any building or part of a building relocated from any other land. For purposes of this clause a building shall include any dwelling, garage other ancillary building other than:-</li></ul></li></ol>	of pages
<ol> <li>The Grant of will not place or build on the land, or cause or allow to be built on the land :-         <ul> <li>(a) Any building or part of a building relocated from any other land. For purposes of this clause a building shall include any dwelling, garage other ancillary building other than:-</li></ul></li></ol>	edule, if required.
<ul> <li>built on the land :-</li> <li>(a) Any building or part of a building relocated from any other land. For purposes of this clause a building shall include any dwelling, garage other ancillary building other than:-</li> <li>(i) A shed temporarily located on the site for use by the Grad Grant G</li></ul>	
<ul> <li>purposes of this clause a building shall include any dwelling, garage other ancillary building other than:- <ul> <li>(i) A shed temporarily located on the site for use by the Grat Grant d's servants, agents or contractors solely for the purport use during the course of construction of any other building of or</li> <li>(ii) Prefabricated but otherwise unassembled buildings acquired construction on the land.</li> </ul> </li> <li>(b) Any building other than a single dwelling (being a detached resident building of no less than 180m2 designed for and occupied exclusion household unit and being the only one on site) together with any building agraden shed, glasshouse and sleep-out (provided however that the may not be equipped in such a manner as to constitute a dwelling) p same are of a construction and colour scheme in sympathy with the residential dwelling.</li> </ul> 2. The Grant shall upon commencement of the erection or construction or construction or construction. Completion is deemed to inclual exterior cladding and completing all exterior painting. This clause does	e placed or
<ul> <li>Grant<sup>QA</sup>'s servants, agents or contractors solely for the purpouse during the course of construction of any other building or or</li> <li>(ii) Prefabricated but otherwise unassembled buildings acquired construction on the land.</li> <li>(b) Any building other than a single dwelling (being a detached resident building of no less than 180m2 designed for and occupied exclusion household unit and being the only one on site) together with any buil ancillary to the single dwelling and including a garage, carport, garden shed, glasshouse and sleep-out (provided however that the may not be equipped in such a manner as to constitute a dwelling) p same are of a construction and colour scheme in sympathy with the residential dwelling.</li> <li>2. The Grant<sup>QA</sup> shall upon commencement of the erection or construction and ensure that building is completed within one year from commencement or erection or construction. Completion is deemed to incluate all exterior cladding and completing all exterior painting. This clause does</li> </ul>	
<ul> <li>construction on the land.</li> <li>(b) Any building other than a single dwelling (being a detached resident building of no less than 180m2 designed for and occupied exclusive household unit and being the only one on site) together with any buil ancillary to the single dwelling and including a garage, carport, garden shed, glasshouse and sleep-out (provided however that the may not be equipped in such a manner as to constitute a dwelling) p same are of a construction and colour scheme in sympathy with the residential dwelling.</li> <li>2. The Grantest shall upon commencement of the erection or construction building on the land ensure that building is completed within one year from commencement or erection or construction. Completion is deemed to inclual exterior cladding and completing all exterior painting. This clause does</li> </ul>	ose or
<ul> <li>building of no less than 180m2 designed for and occupied exclusive household unit and being the only one on site) together with any buit ancillary to the single dwelling and including a garage, carport, garden shed, glasshouse and sleep-out (provided however that the may not be equipped in such a manner as to constitute a dwelling) p same are of a construction and colour scheme in sympathy with the residential dwelling.</li> <li>2. The Grant shall upon commencement of the erection or construction building on the land ensure that building is completed within one year from commencement or erection or construction. Completion is deemed to inclual exterior cladding and completing all exterior painting. This clause does</li> </ul>	for
building on the land ensure that building is completed within one year from commencement or erection or construction. Completion is deemed to inclu all exterior cladding and completing all exterior painting. This clause does	vely as one lding farm shed, e sleep-out
period of time provided that each stage is completed within a one year perio	the date of de affixing not prevent er a longer
3. Neither the Grant for his servants, agents or contractors shall reside in bus, caravan, camper van or other form of mobile accommodation, nor par vehicle anywhere on the land except other than in a garage provided for the	k any such

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M	ortgage	", "Transfer", "Lease" etc
		Dated 28 October 2005 Page of page
		(Continue in additional Annexure Schedule, if requir
	4.	The Grant that must not use the land for storing or accumulating any rubbish or materials other than building materials when constructing a new building (and for that purposes the Grant shall ensure any excess material including excess building materials and/or rubbish is stored in a sightly manner and is removed from the land without delay and in any event at least every three weeks).
	5.	Nothing herein shall prevent the Grant from subdividing the land with Far North District Council consent PROVIDED THAT the covenants and restrictions herein contained shall be brought down onto any new Lots thereby created to be binding on all registered proprietors and occupiers and successors in title.
	6.	The Grant $\widehat{\mathbf{A}}$ shall not object to any farming activity or any farming related activity or activities lawfully carried out or occurring on the Grant $\widehat{\mathbf{A}}$ s land.

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# Approved by Registrar-General of Land under No. 2002/5032 Annexure Schedule

Insert type of instrument "Mortgage" "Transfor" " for" " ...

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. . .

Mortgage", "Transfer", "		
	Dated	Page of pages
		(Continue in additional Annexure Schedule, if required.)
ANZ NATIONAL BA	NK LIMITED as Mortgagee	under Mortgage No. 66 Hu679 · I hereby
consents to the withi	n easement instrument but	without prejudice to the Bank's rights powers and
remedies under its sa	aid Mortgage executed by A	NZ National Bank Limited.
	_	
DATED this	day of November	2005
EXECUTED by		The state of
by it's Attome	NK LIMITED Kapua katrina gardiner	Authorised Signatory
in the presence of:-	AS OTTOTALINA CALDINGT	Autorised Signatory
Witness Name:		<i>_</i>
Witness Signature:	////	· · · · · · · · · · · · · · · · · · ·
	KOnj	
Occupation:		
Address:		
	Vitness: Occupat	Pauline Ann Peri
	Address:	ion: Bank Officer Aucklang
	/	
If this Annexure Schedule	is used as an expansion of ar	n instrument, all signing parties and either their witnesses
or solicitors must sign or	initial in this box.	1/-
		ľ

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I.

**CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY** 

**1, Kapua Katrina Gardiner,** Manager Lending Services of Auckland in New Zealand hereby certifies that:

1. By Deed dated 28 June 1996 deposited in the Land Registry Offices situated at:

Auckland	as No.	D.016180	Hokitika	as No.	105147
Blenheim	as No.	186002	Invercargill	as No.	242542.1
Christchurch	as No.	A.256503.1	Napier	as No	644654.1
Dunedin	as No.	911369	Nelson	as No.	359781
Gisborne	as No.	G.210991	New Plymouth	as No.	433509
Hamilton	as No.	B.355185	Wellington	as No.	B.530013.1

The National Bank of New Zealand Limited appointed me its attorney with the powers and authorities specified in that Deed.

- 2. On 26 June 2004 The National Bank of New Zealand Limited was amalgamated with ANZ Banking Group (New Zealand) Limited to become ANZ National Bank Limited and the property being dealt with pursuant to the Deed has become the property of ANZ National Bank Limited (as the amalgamated company) under Part XIII of the Companies Act 1993.
- 3. At the date of this certificate, I am the Manager Lending Services, Auckland Lending Services Centre of The National Bank of New Zealand, part of the ANZ National Bank Limited.
- 4. At the date of this certificate, I have not received any notice or information of the revocation of that appointment by the winding-up or dissolution of the ANZ National Bank Limited or otherwise.

day of

DATED at Auckland this

14<sup>th</sup>

November

2005

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Merda .



**View Instrument Details** Instrument No. Status Date & Time Lodged Lodged By Instrument Type

7979129.4 Registered 05 Nov 2008 14:41 McLean, Suzanne Carol Easement Instrument



Affected Computer Registers	Land District
427020	North Auckland
427021	North Auckland
427022	North Auckland
427023	North Auckland

Annexure Schedule: Contains 3 Pages.

# **Grantor Certifications**

I certify that I have the authority to act for the Grantor and that the party has the legal capacity to authorise me to lodge this instrument	V
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	V
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	V
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the prescribed period	V

#### Signature

Signed by Claire Alice McKendry as Grantor Representative on 05/11/2008 02:19 PM

## **Grantee Certifications**

I certify that I have the authority to act for the Grantee and that the party has the legal capacity to authorise me to lodge this instrument	V
I certify that I have taken reasonable steps to confirm the identity of the person who gave me authority to lodge this instrument	V
I certify that any statutory provisions specified by the Registrar for this class of instrument have been complied with or do not apply	V
I certify that I hold evidence showing the truth of the certifications I have given and will retain that evidence for the	V

I prescribed period

# Signature

Signed by Claire Alice McKendry as Grantee Representative on 05/11/2008 02:19 PM

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

BARCODE

Approved by Registral-General of Lanu under No. 2007/02	-General of Land under No. 2007/	eral of	Registrar-Gene	Approved by
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Easement instrument to grant easement or profit à prendre, or create land covenant Sections 90A and 90F, Land Transfer Act 1952

Land registration district

NORTH AUCKLAND

Grantor

Surname(s) must be underlined or in CAPITALS.

Genera

Approval

07/6225

WAIRUA FARMS LIMITED

Grantee

Surname(s) must be underlined or in CAPITALS.

WAIRUA FARMS LIMITED

#### Grant\* of easement or profit à prendre or creation or covenant

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

Dated this 4th day of November 2008

Attestation

nuosuurvii a a	
Monta	Signed in my presence by the Grantor D. Camo
J. Barhan.	Signature of witness Witness to complete in BLOCK letters (unless legibly printed) Witness name
	Occupation D. R. T. SALTER Solicitor Address Oamaru
Signature [common seal] of Grantor	Address .
Martin	Signed in my presence by the Grantee
Marta 1 Barta	Signature of witness
Montre J.Banta	Signature of witness Witness to complete in BLOCK letters (unless legibly printed) Witness name
Manta J.Barta	Signature of witness Signature of witness Witness to complete in BLOCK letters (unless legibly printed) Witness name D. R. T. SALTER Solicitor
Markan Barka Signature [common seal] of Grantee	Signature of witness Witness to complete in BLOCK letters (unless legibly printed) Witness name D. R. T. SALTER

Certified correct for the purposes of the Land Transfer Act 1952.

also

[Solicitor for] the Grantee

\*If the consent of any person is required for the grant, the specified consent form must be used. REF: 7003 – AUCKLAND DISTRICT LAW SOCIETY

# Approved by Registrar-General of Land under No. 2007/6225 Annexure Schedule 1



Easement instrument Dated		Page	<b>1</b> o	f <u>1</u>	pages
---------------------------	--	------	------------	------------	-------

#### Schedule A

(Continue in additional Annexure Schedule if required.)

Purpose (nature and extent) of easement, <i>profit</i> , or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT or in gross)
Land Covenant	DP 407713	Lot 3 DP407713 - 427021	Lot 2 DP407713 427020 Lot 3 DP407713 427021 Lot 4 DP407713 427022 Lot 6 DP407713 427023

Delete phrases in [ ] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

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

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Fifth Schedule of the Property Law Act 2007.

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

-[Memorandum number , registered under section 155A of the Land Transfer Act 1952].

[the provisions set out in Annexure Schedule 2].-

#### **Covenant provisions**

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

The provisions applying to the specified covenants are those set out in:

-{Memorandum number , registered under section 155A of the Land Transfer Act 1052}-

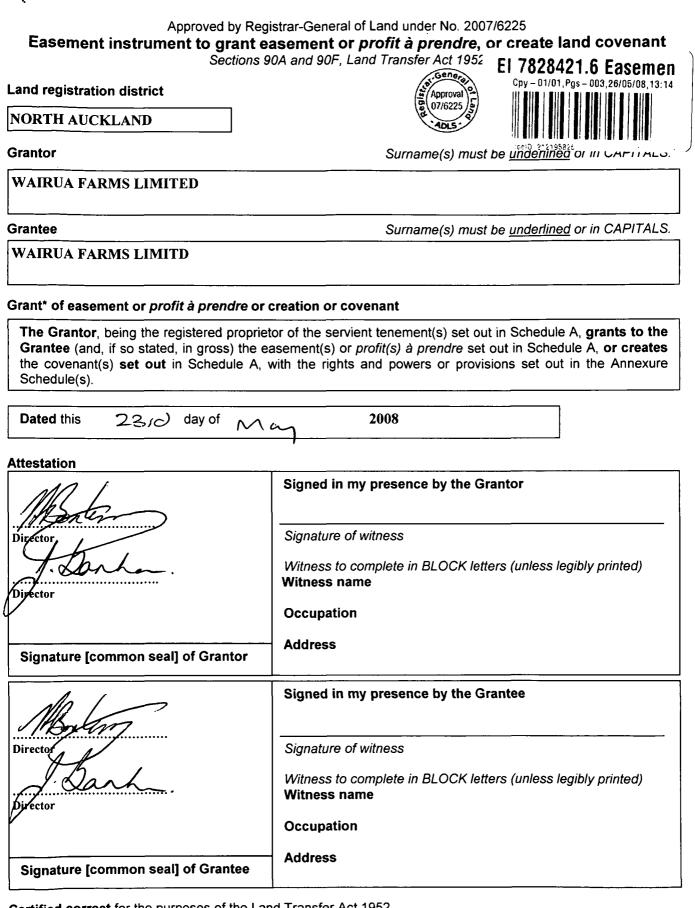
[Annexure Schedule 2].

All signing parties and either their witnesses or solicitors must sign or initial in this box Suo Qarl

REF: 7003 - AUCKLAND DISTRICT LAW SOCIETY

		of instrum "Transfer	ent ", "Lease" etc	Annexure Sched	ule	Approval
			······································	Dated	F	Page 1 of 1 pages
				(Contin	nue in additional Annexur	re Schedule, if required.)
1.	The	Grantor will	not place or build d	Annexure Schedule 2:	allow to be placed or built	nn tha laisití
Ϋ́ 2	(a)	Any build	ing or part of a built	lding relocated from any d	other land. For the purpo other ancillary building oth	ses of this clause a
		(1)	servants, agen	rarily located on the site its or contractors solely t any other building on the	for the use by the Grant for the purpose or use de aland;	tor or the Grantor's uring the course of
		(ii)	Prefabricated b land.	out otherwise unassemble	ed buildings acquired for	construction on the
	<u>(</u> b)	180m2 d site) toge farm she be equip	esigned for and oc other with any build d, garden shed, gla ped in such a m	cupied exclusively as on fing ancillary to the singl sshouse and sleep-out (r	letached residential build e household unit and bei le dwelling and including provided however that the a dwelling) provided th residential dwelling.	ing the only one on a garage, carport, e sleep-out may not
2.	ensu cons paint	re that bui truction. C ing. This (	Iding is completed ompletion is deemo clause does not pro	within one year from t ed to include affixing all event a Grantor from co	or construction of any but the date of commencem exterior cladding and cor instructing a residential d is completed within a on	nent or erection or mpleting all exterior welling in separate
3.	cam	pervan or i	other form of mobil	nts, agents or contractor le accommodation, nor p ded for the purpose.	rs shall reside in any ho park any such vehicle any	use, bus, caravan, where on the land
4.	build exce	ing materia ss material	Is when constructin including excess b	ng a new building (and fo	utating any rubbish or m or that purpose the Granto rubbish is stored in a sig very three weeks).	or shall ensure any
5.	cons	ent PROVI new Lats th	DED THAT the cov	enants and restrictions h	g the land with Far Nor terein contained shall be d proprietors and occupie	brought down onto
6.	The carrie	Grantor sh ad out or oc	all not object to an curring on the Gran	y farming activity or any ntee's land.	farming related activity o	or activities lawfully
If this or so	s Anne: licitors	ture Sched must sign	ule is used as an ex or initial in this box	xpansion of an instrumer x.	nt, all signing parties and	i either their witnesses

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Certified correct for the purposes of the Land Transfer Act 1952.

ato

[Solicitor for] the Grantee

\*If the consent of any person is required for the grant, the specified consent form must be used.

REF: 7003 - AUCKLAND DISTRICT LAW SOCIETY

# Approved by Registrar-General of Land under No. 2007/6225 Annexure Schedule 1



Easement instrument	Dated	23 M	nay 2008	] Pa	ige	1	of	2	pages
Schedule A	Schedule A (Continue in additional Annexure Schedule if required.)							required.)	
Purpose (nature and extent) of easement, <i>profit</i> , or covenant	Shown (p	blan reference)	Servient tenement (Identifier/CT)						ement in gross)
Land Covenant	DP 393431		Lot 5 DP 393431 (3924	433)		6 D 2434		3431	

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

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Fifth Schedule of the Property Law Act 2007.

The implied rights and powers are **{varied} {negatived} {added to}** or **{substituted}** by:

[Memorandum number , registered under section 155A of the Land Transfer Act 1952].

[the provisions set out in Annexure Schedule 2].-

# Covenant provisions

Delete phrases in [] and insert memorandum number as required. Continue in additional Annexure Schedule if required.

The provisions applying to the specified covenants are those set out in:

[Memorandum number , registered under section 155A of the Land Transfer Act 1952]-

[Annexure Schedule 2].

All sign	ing parties and e	ither their witnesses or solicitors must sign or initial in this box
MA	h	
-110	13	

REF: 7003 - AUCKLAND DISTRICT LAW SOCIETY

•		Anne	General of Land under No. 2002/50 <b>exure Schedule</b>	032
	type of insti gage", "Tran	ument sfer", "Lease" etc		
Ease		Dated	72 00 200	Page 2 of 2 Pag
			<b></b>	
			<u>(Continue in additional Anr</u> XURE SCHEDULE 2	exure Schedule, if require
1.	The Granto		e land, or cause or allow to be pla	aced or built on the land:
			relocated from any other land. For not set of the set o	
	(i)	servants, agents or o	ocated on the site for the use by contractors solely for the purpose other building on the land;	
	(ii)	Prefabricated but othe land.	erwise unassembled buildings acc	uired for construction or
	180r site) farm be e	n2 designed for and occupied together with any building a shed, garden shed, glasshou quipped in such a manner	dwelling (being a detached reside ad exclusively as one household up ancillary to the single dwelling and use and sleep-out (provided howev as to constitute a dwelling) p n sympathy with the residential dw	nit and being the only on d including a garage, car ver that the sleep-out may provided the same are
2.	ensure tha constructio painting.	t building is completed with n. Completion is deemed to his clause does not prevent	It of the erection or construction hin one year from the date of co include affixing all exterior claddi a Grantor from constructing a re rided that each stage is completed	ommencement or erection ng and completing all ext esidential dwelling in sepa
3.	camper vai		agents or contractors shall reside commodation, nor park any such for the purpose.	•
4.	building ma excess ma	terials when constructing a r terial including excess buildin	r storing or accumulating any rul new building (and for that purpose ng materials and/or rubbish is stor any event at least every three we	e the Grantor shall ensure red in a sightly manner a
5.	consent PF	OVIDED THAT the covenant	tor from subdividing the land witts and restrictions herein contained ding on all registered proprietors a	d shall be brought down
6.		r shall not object to any farm or occurring on the Grantee's	ning activity or any farming related s land.	activity or activities law

REF: 7025 - AUCKLAND DISTRICT LAW SOCIETY



# PROPOSED RESIDENCE AT 415 PUNGAERE ROAD, WAIPAPA, NORTHLAND

Do not scale off drawings. Before commencement of any work the contractor shall check, verify and be responsible for all dimensions. The contractor must notify this office of any discrepancies in the documents and/or site conditions. All workmanship and materials to be in accordance with relevant current New Zealand Standards. This drawing is the property of Ponting Fitzgerald Architects Ltd and must not be used, copied or reproduced in whole or part without prior written permission. ph 09 360 9515

#### LOCATION MAP



LEGAL DESCRIPTION / SITE INFO

SITE ADDRESS: 415 PUNGAERE ROAD, WAIPAPA, NORTHLAND

584995 1102011

LOT: D.P: CT: LOCAL BODY: FAR NORTH DISTRICT COUNCIL

ZONE: WIND: EXPOSURE: EARTHQUAKE:

RURAL PRODUCTION VERY HIGH ZONE C ZONE 1 CONSENT(S):

RC2230384 - RMALUC (PREVIOUS RC)

12ha

DISTRICT PLAN: FAR NORTH DISTRICT PLAN OPERATIVE SITE AREAS

TOTAL SITE AREA

SURVEY INFORMATION

SURVEYED BY: SURVEY & PLANNING SOLUTIONS LTD "WILLIAMS & KING, KERIKERI"

ALL LEVELS ARE IN TERMS OF NORTHLAND REGIONAL COUNCIL.

CONTOURS ARE SHOWN AT: ONE METRE INTERVALS

AREAS AND DIMENSIONS ARE SUBJECT TO VERIFICATION UPON SURVEY.

#### IMPERMEABLE SURFACES



ROOF COVERAGE: MAIN HOUSE: 402.29m2 POOL HOUSE: 71.93m2 POOL: 48.4m2

TOTAL: 522.62m2 DRIVEWAYS & PATIOS

TOTAL: 203.8m2





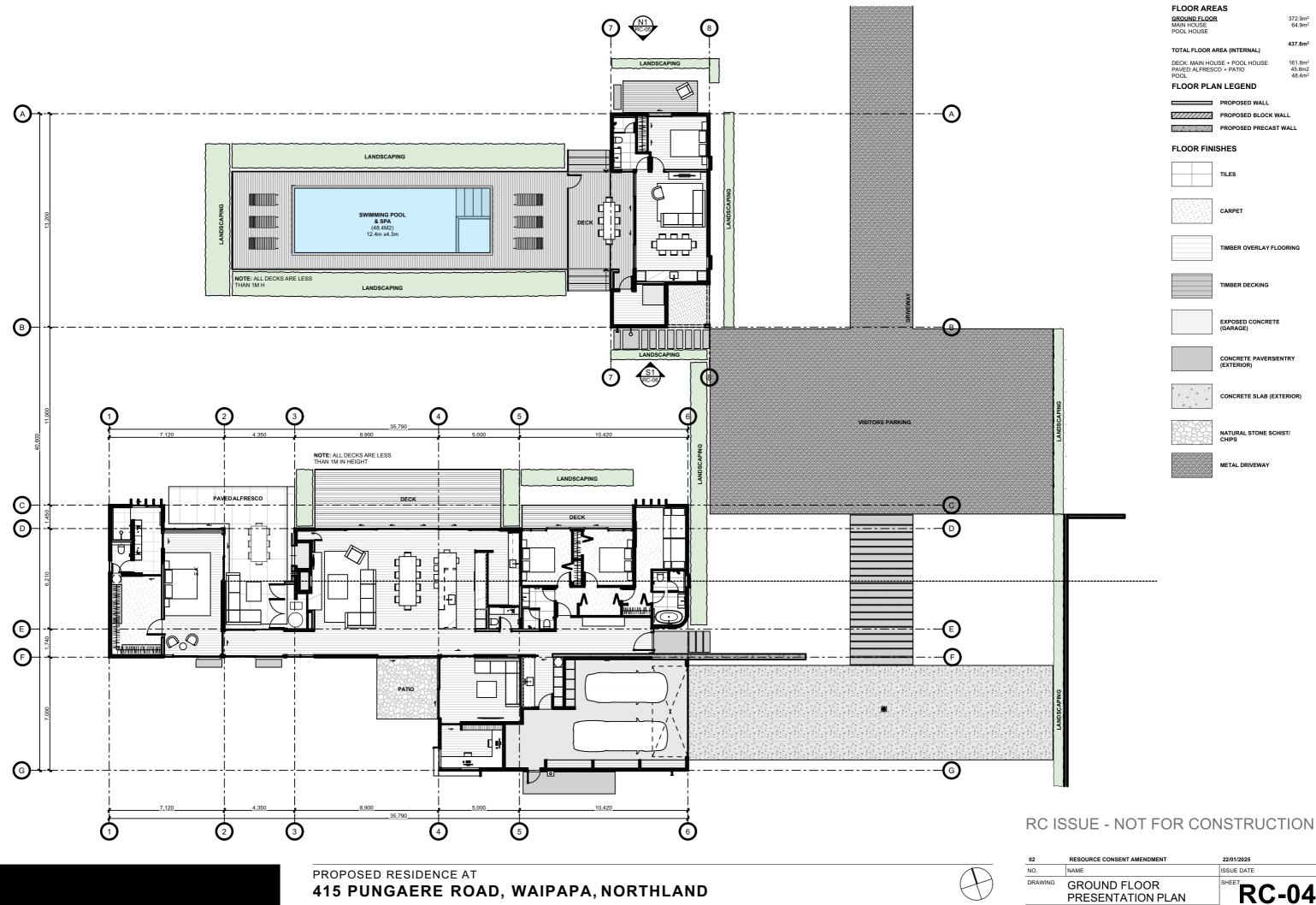
METAL DRIVEWAY TOTAL: 628m2



RIGHT OF WAY (ROW TOTAL: 10,017.25m2

# **RC ISSUE - NOT FOR CONSTRUCTION**

02	RESOURCE CONSE	NT AMENDMENT	22/01/2025
NO.	NAME		ISSUE DATE
DRAWING	PROPOSE	D SITE PLAN	RC-01
DRAWN BY	PFA	SCALE	
PRINT DATE	14/02/2025	1:2500 @ A3	REV <b>UZ</b>



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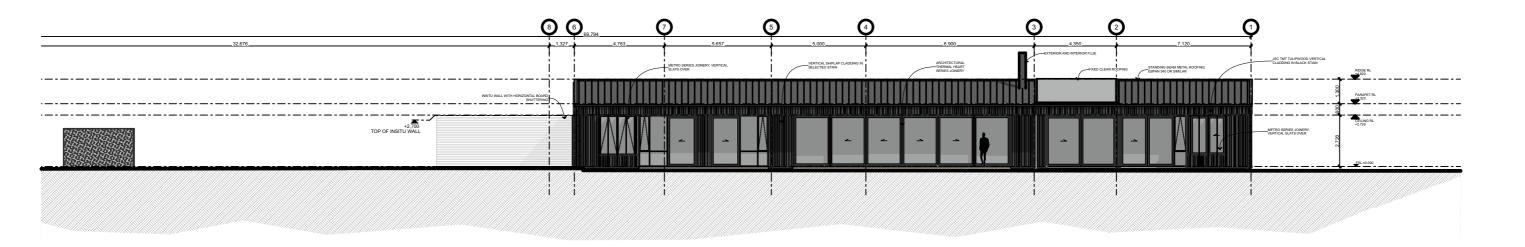
		437.8m
AL FLOOR AREA (II	NTERNAL)	



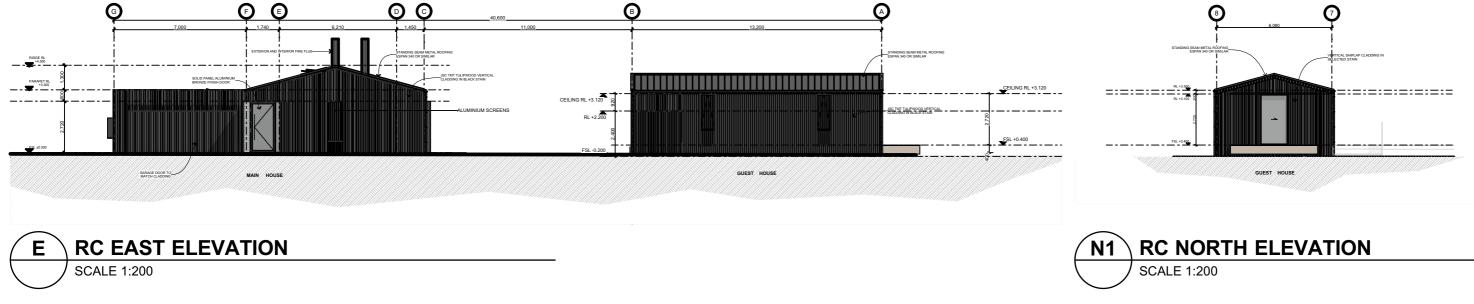




02	RESOURCE CONSE	NT AMENDMENT	22/01/2025
NO.	NAME		ISSUE DATE
DRAWING	GROUND PRESENT	FLOOR ATION PLAN	RC-04
DRAWN BY	PFA	SCALE	1
PRINT DATE	14/02/2025	1:200 @ A3	REV UZ





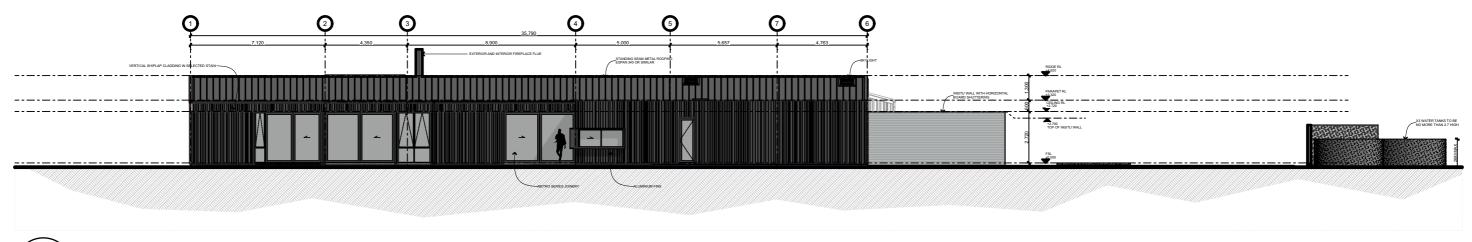


## PROPOSED RESIDENCE AT 415 PUNGAERE ROAD, WAIPAPA, NORTHLAND

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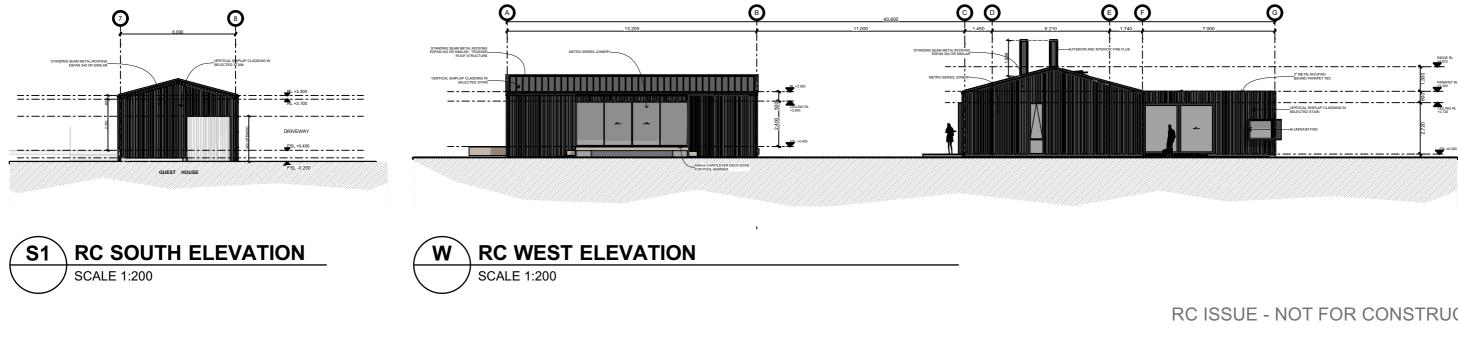
## **RC ISSUE - NOT FOR CONSTRUCTION**

C-05
00
02



**RC SOUTH ELEVATION** S

SCALE 1:200



## PROPOSED RESIDENCE AT 415 PUNGAERE ROAD, WAIPAPA, NORTHLAND

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## **RC ISSUE - NOT FOR CONSTRUCTION**

02	RESOURCE CONSE	INT AMENDMENT	22/01/2025
NO.	NAME		ISSUE DATE
DRAWING	ELEVATIO WEST	NS - SOUTH &	RC-06
DRAWN BY	PFA	SCALE	
PRINT DATE	14/02/2025	1:200 @ A3	REV <b>UZ</b>





# Onsite Wastewater Report (TP58)

Rewa Willis & Marc Spring 415 Pungaere Road Kerikeri Far North District Lot 1 DP 584995

Written by: Martin O'Brien Approved by: Nicola O'Brien

 Rev:
 A

 Date:
 13<sup>th</sup> February 2025

 Job No:
 2840

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## Onsite Wastewater Disposal Design Assessment of the Environmental Effects

## **Executive Summary**

Lot 1 DP 584995 is a grassed, flat to moderately sloping, rural lot located at 415 Pungaere Road, Kerikeri. The owners propose to construct a 5-bedroom primary dwelling (study counted as bedroom) and 1-bedroom minor dwelling (Pool house) to the northwest of the property. Onsite wastewater is required to service the dwelling. A secondary treatment system with buried dripper lines is recommended due to the occupancy of the dwellings and category 5 soils with moderate to slow draining characteristics.

## **Recommendations:**

- The site is suitable for the disposal of onsite wastewater and a secondary treatment system with buried dripper lines is recommended.
- Effluent will be disposed of via a robust secondary treatment system which complies with the New Zealand Building Code. The system is to have a high output quality of: BOD5 equal to or less than 20g/m<sup>3</sup> and TSS equal or less than 30g/m<sup>3</sup>, in line with NZS1546.3:2008 and the New Zealand Building Code.
- The proposed wastewater disposal field shall consist of approximately 450m of subsurface dripper line spaced at 1m. 450m<sup>2</sup> area in total. Dripper lines shall be buried 150–200mm below the surface within the topsoil layer. Anti-root intrusion, robust subsurface dripper line such as Netafim, Techline AS XR, or similar must be used.
- The wastewater disposal field is to be planted with grass and should be mown frequently to promote nutrient uptake and evapotranspiration.
- The wastewater field is to be setback a minimum of 5m from any existing or future intermittent stormwater flow path downslope of the field.
- There is adequate area to support a 100% reserve wastewater disposal field.
- The owner is to obtain a maintenance agreement from the manufacturer on purchase of the system. Aeration treatment systems should have an annual maintenance agreement with the supplier as stated in the Far North District Council bylaw 2805.2. This ensures the system operates efficiently and is serviced regularly.
- Correct use and maintenance of the wastewater system is required for it to work effectively and minimise environmental impacts.

## 1.0 Introduction

## 1.1 Scope

An on-site effluent disposal investigation, to obtain building consent, has been undertaken in accordance with TP58 On-site Wastewater Systems: Design and Management Manuel Third Edition (2004), Regional Plan for Northland (2019) and the Far North District Plan (2009). A wastewater treatment system and land application method are recommended based on site characteristics including groundwater and surface water setbacks and soil type. A wastewater design is provided based on aforementioned documents and site characteristics.

## 1.2 Proposal

A secondary treatment system with buried dripper lines will service a proposed 5-bedroom primary dwelling and 1-bedroom minor dwelling (Pool house).

## **1.3** Site Description

Lot 1 DP 584995 is located off 415 Pungaere Road, Kerikeri and is zoned Rural Production in the Far North District Plan. Access to the property is gained via a right of way off Pungaere Road which runs along the northern boundary. Refer to the Subdivision Scheme Plan, Section 1.4, showing Lot 1 DP 584995 and the surrounding area.

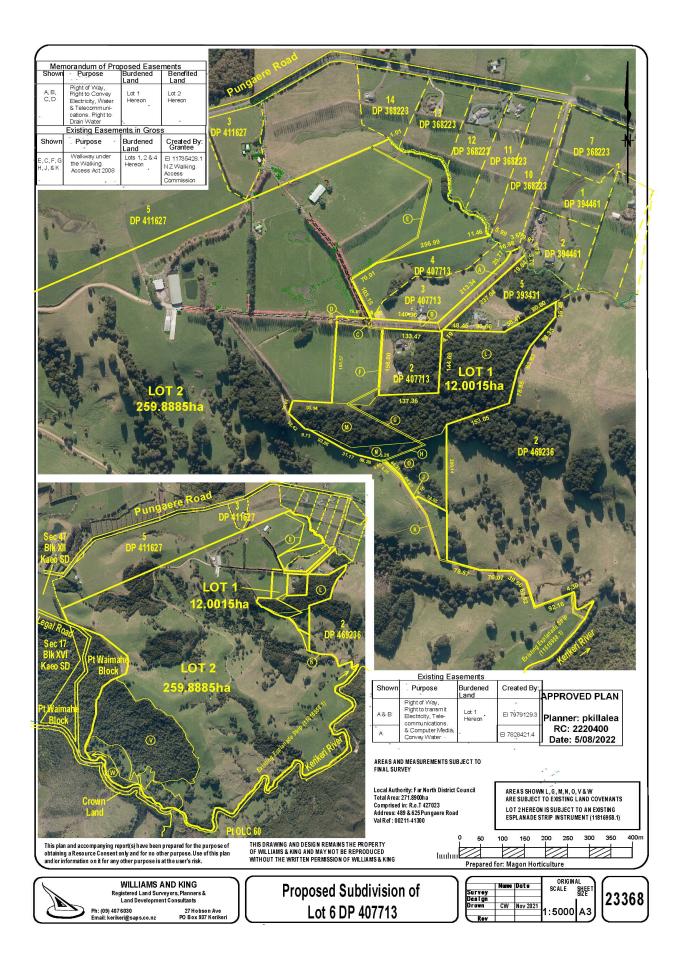
The area proposed for the dwelling is relatively flat, the topography then slopes moderately towards the bush to the south of the construction site. The topography progressively steepens through the bush.

The wastewater disposal field is to be situated a minimum of 5m from any existing or future intermittent stormwater flow path downslope of the field as per the Regional Plan for Northland (2019), Section C.6.1.3, Table 9.



Photograph 1: Showing the approximate location for buried dripper line on a slight to moderately sloping, grassed area.

## 1.4 Subdivision Scheme Plan



## 2.0 Methodology

## 2.1 Site Visit

The site investigation was undertaken on 25<sup>th</sup> November 2022 and comprised of a visual assessment of the proposed wastewater disposal field and the surrounding area. A 50mm borehole to a depth of 1200mm was taken to acquire soil samples for examination and to establish groundwater depth. USDA feel method was used to determine soil texture, soil structure and soil category. The test location is indicated on the attached Site Plan, Section 8.

## 2.2 Desk Study

A desk study of available information and site characteristics was undertaken. The following sources were reviewed, TP58 (2004), Regional Plan for Northland (2019), Section C.6.1.3, Far North District Plan, Section 12.7.6.1.2, 12.7.6.1.4(b), Far North and Northland Regional Council Maps, Whangaroa - Kaikohe Soil Map and Google Earth images.

A Geotechnical Report by NGS Northland Geotechnical Specialists dated 23 June 2022 has been made available and reviewed, this report is in line with the recommendations outlined in the report.

The following Consent Notice has been reviewed.

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

## 3.0 Site Evaluation

## 3.1 Soil Profile

Geological Map Reference Number: NZMS 290 Sheet P 04/05 describes the soils as Okaihau gravelly friable clay (OK) with well to moderately well drained soils of the rolling and hill land.

The borehole showed soils, in the area of the wastewater disposal field, to be category 5, silty clay with moderate to slow draining characteristics. Refer to Photograph 2 and the Borehole Log, Section 9 showing soil layers.



Photograph 2: Borehole showing 250mm of category 4, slightly moist, brown topsoil followed by category 4, slightly moist, brown silty clay loam to a depth of 800mm. From 800-1200mm soils were category 5 gravely, friable, clay loam.

#### 3.2 Groundwater

The Regional Plan for Northland (2019), Section C.6.1.3, Table 9 requires a 600mm separation distance of secondary treated wastewater from groundwater. TP58 (2004), Table 5.2 recommends a more conservative separation distance of 900mm in category 5 soils.

Groundwater was not intercepted during the 1200mm borehole taken during Spring, 25<sup>th</sup> November 2022.

A freshwater bore is located to the north of the proposed dwelling, well away from the proposed disposal field meeting the 20m setback from a freshwater bore required by the Regional Plan for Northland (2019), Section C.6.1.3, Table 9.

#### 3.3 Surface water

No surface water bodies were noted in the near vicinity of the proposed wastewater disposal field (30m radius) meeting the 15m separation distance required by the Regional Plan for Northland (2019), Section C.6.1.3, Table 9 and the more conservative 30m separation distance outlined in the Far North District Plan, Section 12.7.6.1.4(b).

The wastewater disposal field is to be setback a minimum of 5m from any existing or future intermittent stormwater flow path such as an overland flow path, drain or stormwater spreader as per the Regional Plan for Northland (2019), Section C.6.1.3. No intermittent stormwater flow paths were noted within 5m of the proposed fields.

According to Northland Regional Council maps the property is not identified as being in a flood area.

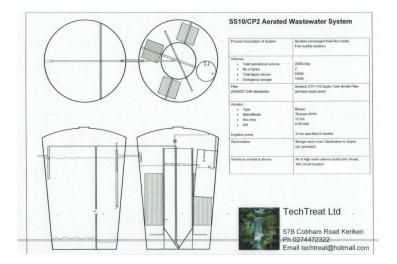
## 4.0 On-site Effluent Disposal

#### 4.1 System Requirements

Effluent will be disposed of via a robust secondary treatment system which complies with the New Zealand Building Code. The system is to have a high output quality of: BOD5 equal to or less than 20g/m<sup>3</sup> and TSS equal to or less than 30g/m<sup>3</sup>, in line with NZS1546.3:2008 and the New Zealand Building Code. The system is to have emergency storage and be fitted with an alarm to protect against system failure.

The owner is to obtain a maintenance agreement from the manufacturer on purchase of the system. Aeration treatment systems should have an annual maintenance agreement with the supplier as stated in Far North District Council bylaw 2805.2. This ensures the system operates efficiently and is serviced regularly.

The system is to be installed by a registered installer to manufacturer's instructions. It is imperative that a maintenance contract be obtained at the point of installation to avoid problems with the system. Installation and maintenance notes can be found at the back of this report, Section 9 and 10.



#### Proposed system: Tech Treat SS10/ CP2

### 4.2 Proposed Wastewater Disposal Field

Wastewater calculations as follows:

Potential occupancy of the dwellings x litres per person per day / loading rate = area of wastewater disposal field

10 x 180 litres / 4 = 450m<sup>2</sup>

The proposed effluent field shall consist of approximately 450m length of subsurface dripper line spaced at 1m in a 450m<sup>2</sup> area. Dripper lines shall be buried 150–200mm below the surface within the topsoil layer. Anti-root intrusion, robust subsurface dripper line such as Netafim, Techline AS XR, or similar must be used. The area shall be planted with grass and regularly mown to encourage nutrient uptake and evapotranspiration. Refer to the attached Site Plan, Section 7, for the required area and specific details of the field.

The wastewater disposal field should not be used to graze animals, be driven on or built over. These activities can result in damage to and failure of the effluent field. The field should remain grass as tree and shrub roots can damage dripper line.

180 litres of wastewater produced per person per day with tank water is allocated, in line with TP58 (2004), Table 6.2, p.52. A loading rate of 4 is assigned due to category 5 soils with slow draining characteristics as per TP58 (2004), Table 9.2, p.150.

Installation and maintenance notes can be found at the back of this report, Section 10 and 11, as a guide to the upkeep of the system and disposal field.

### 4.3 Reserve Area

A 100% reserve wastewater disposal area is specified, greater than the minimum 30% required by the Regional Plan for Northland, 2019, C.6.1.3, 9b. The purpose of the reserve is to provide additional area for wastewater disposal, for example in the event of failure of the original field or future expansion of the proposed development. The reserve area must be protected from any development that would prevent its use in the future.

#### 4.4 Stormwater Management

The property does not benefit from a connection to the town main water supply. Stormwater from the roof of the dwelling will be collected in water tanks. The overflow from the tanks is to be downslope and well away from the proposed wastewater field.

A cut off drain is not required due to flat topography to the north, upslope of the disposal field.

## 5.0 Council Requirements for new Building Consents

## 5.1 Smoke Alarms

Smoke alarms shall be installed in accordance with the New Zealand Building Code Clause F7 Section 3.0. Smoke alarms shall be installed on or near the ceiling in every sleeping space or within 3m of every sleeping space door. Refer to Section 12 for Section 3 of the Building Code detailing smoke alarm regulations. This is a requirement by the Far North District Council for all new Building Consents.

## 5.2 Earthworks

The proposed works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control – Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control. Pdf (aucklanddesignmanula.co.nz).

## 5.3 Hazardous Activities and Industries List (HAIL)

A Preliminary Site Investigation report is not available for Lot 1 DP 13478.

## 6.0 Summary

A secondary treatment system with 450m<sup>2</sup> of buried dripper lines and 100% reserve is recommended to service a 5bedroom dwelling and 1-bedroom minor dwelling with category 5 soils.

Setback distances from stormwater flow paths, surface water and groundwater has been achieved.

## 7.0 TP58 3rd Edition, Appendix E

## PART A: Owners Details

## 1. Applicant Details:

Applicant Name: Rewa Willis & Marc Spring	
Company Name:	
Property Owner Name:	Rewa Willis & Marc Spring
Nature of Applicant	Owners

#### 2. Consultant / Site Evaluator Details:

Consultant/Agent Name	O'Brien Design Consulting Ltd			
Site Evaluator Name	Martin and Nicola O'Brien	Martin and Nicola O'Brien		
Postal Address	O'Brien Design Consulting Ltd	O'Brien Design Consulting Ltd		
	153B Kerikeri Inlet Road, Kerikeri			
	0293			
Contact Details	Phone	09 407 5208		
	Mobile	027 4075208		
Name of Contact Person	Martin O'Brien			
E-mail Address	martin@obrienconsulting.co.nz			
Website	www.obriendesignconsulting.co.nz			

## 3. Are there any previous existing discharge consents relating to this proposal or other waste discharge on this site?

No	

## 4. List any other consent in relation to this proposal site and indicate whether or not they have been applied for or granted?

None	

## PART B: Property Details

## 1. Property for which this application relates:

Physical Address of Property	415 Pungaere Ro	ad			
	Kerikeri	Kerikeri			
Territorial Local Authority	Far North District	Far North District Council			
Regional Council	Northland Regior	Northland Regional Council			
Legal Status of Activity	Permitted: √	Permitted: V Controlled: Discretionary:			
Relevant Regional Rule(s) (Note 1)					
Total Property Area (m <sup>2</sup> )	12.012ha				

### 2. Legal description of land (as shown on Certificate of Title)

Lot No.	1	DP No.	584995	CT No.	
Other:					

Please ensure copy of Certificate of Title is attached

## PART C: Site Assessment - Surface Evaluation

#### Has a relevant property history study been conducted?

Please Tick	No	$\checkmark$	Yes	

If yes, please specify the findings of the history study, and if not please specify why this was not considered necessary.

HAIL: A Preliminary Site Investigation report is not available.			

## 1. Has a <u>Slope Stability</u> Assessment been carried out on the property?

Please tick	No		Yes	٧
If No, state why?				
		•	alists dated 23 <sup>rd</sup> June 2022 h s outlined in the report.	as been made available
If Yes, please give	details of report (and	if possible, please att	ach report): fill out if you sai	d yes
Author:		David Buxto	วท	
Company/Agency	:	NGS Northl	and Geotechnical Specialists	
Date of Report:		23 June 202	72	

## 2. <u>Site Characteristics:</u>

Provide descriptive details below:	
Performance of Adjacent Systems:	
Unconfirmed.	
Estimated Rainfall and Seasonal Variation:	
Information available from N.I.W.A MET RESEARCH	
Northland = 112.6mm average per month during 1981-2010	
Vegetation / Tree Cover:	
Grass.	
Slope Shape: (Please provide diagrams)	
In the area of the proposed field the slope is waxing divergent.	
Slope Angle:	
<10°	
Surface Water Drainage Characteristics:	
Refer to Section 4.4.	
Flooding Potential: YES/NO	
No	
Surface Water Separation:	
Refer to Section 3.3	

## 3. Site <u>Geology</u>

Okaihau gravelly friable clay (OK) with well to moderately well drained soils of the rolling and hill land.

Geological Map Reference Number	NZMS 290 Sheet P 04/05
---------------------------------	------------------------

#### 4. What <u>Aspect(s)</u> does the proposed disposal system face?

North	West	
Northwest	Southwest	
Northeast	Southeast	
East	South	V

### 5. <u>Site clearances</u>

Separation Distance from	Treatment Plant Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries	1.5m minimum	1.5m minimum
Surface water	15m minimum	15m minimum
Groundwater	-	0.9m minimum
Stormwater flow paths e.g. drain	5m minimum	5m minimum
Stands of trees/shrubs	Outside tree canopy	Outside tree canopy
Wells & potable water bores	20m minimum	20m minimum
Lakes, rivers, wetland & the coastline	30m minimum	30m minimum
Buildings	3m minimum	1.5m minimum
Flood area	Ensure sealed unit no setback	Outside the 100yr ARI flood event

## PART D: Site Assessment - Subsoil Investigation

### 1. Please identify the soil profile determination method:

Borehole	Hand Augured	1200mm deep	No of Boreholes	1
Other:	USDA feel metho	d to determine soil texture and so	oil structure	
Soil Report attached?				
Please Tick	Yes	V	No	

### 2. Was fill material intercepted during the subsoil investigation?

Please Tick	Yes		No	V		
If yes, please specify the effect of the fill on wastewater disposal						

## 3. Percolation Testing (mandatory and site specific for trenches in soil type 4 to 7)

Not required			
Test Report Attached?	Yes	No	V

#### 4. Are surface water interception/diversion drains required?

Please tick	Yes		No	٧
A cut off drain is not requ	ired due to flat topogr	aphy to the north of the dispo	sal field.	

#### 4a. Are subsurface drains required?

Please tick Yes No V
----------------------

#### 5. Please state the depth of the seasonal water table:

Winter	>1200mm	Measured		Estimated	v
Spring	>1200mm	Measured	٧	Estimated	
Summer	>1200mm	Measured		Estimated	v
Autumn	>1200mm	Measured		Estimated	V

#### 6. Are there any potential storm water <u>short circuit paths</u>?

Please Tick	Yes	No	٧

### 7. Based on results of subsoil investigation above, please indicate the disposal field soil category

Is Topsoil Present? Yes		Yes	If so, Topsoil Depth?	250mm		
Soil Category	Description		Drainage	Tick One		
1	Gravel, coarse sand		Gravel, coarse sand Rapid draining		Rapid draining	
2	Coarse to m	edium sand	Free draining			
3	Medium-fine & loamy sand		Good drainage			
4	Sandy loam,	loam & silt loam	Moderate drainage			
5	Sandy clay-loam, clay loam & silty clay-loam		Moderate to slow drainage	V		
6	Sandy clay, non-swelling clay & silty clay		Slow draining			
7	Swelling clay	, grey clay, hardpan	Poorly or non-draining			

Reasons for placing in stated category

250mm of category 4, slightly moist, brown topsoil followed by category 4, slightly moist, brown, silty clay loam to a depth of 800mm. From 800-1200mm soils were category 5, gravely, friable, clay loam.

## PART E: Discharge Details

#### **1.** Water supply source for the property:

Rainwater (roof collection)	√
Bore/well	
Public supply	

## 2. Calculate the maximum daily volume of wastewater to be discharged, unless accurate water meter readings are available (Refer TP58 Table 6.1 and 6.2)

Number of Bedrooms – Primary Dwelling	5	Occupancy = 8
Number of Bedrooms – Minor Dwelling	1	Occupancy = 2
Design Occupancy	10	Potential number of people
Per capita Wastewater Production	180	Litres per person per day
Other - specify		
Total Daily Wastewater Production	1800	Litres per day

#### 3. Do any special conditions apply regarding water saving devices?

a) Full Water Conservation Devices?	Yes		No	V	(Please tick)
b) Water Recycling - what %?	0%				(Please tick)
If you have answered yes, please state what con	ditions apply ar	id include	e the estimation	ated reduction ir	n water usage:

### 4. Is Daily Wastewater Discharge Volume more than 2000 litres:

Please tick	Yes		No	V		
Note if answer to the above	Note if answer to the above is ves, an N.R.C. wastewater discharge permit may be required					

Note if answer to the above is yes, an N.R.C wastewater discharge permit may be required

### **PART G: Secondary and Tertiary Treatment**

## 1. Please indicate the type of additional treatment, if any, proposed to be installed in the system:

Secondary Treatment		
Home aeration plant	V	Refer to Section 4.2
Tertiary Treatment		
Ultraviolet disinfection		
Other		Specify

## PART H: Land Disposal Method

### 1. Please indicate the proposed loading method:

Gravity	
Dosing Siphon	
Pump	٧

## 2. High water level alarm to be installed in pump chambers

Please tick	Yes	V	No	
If not to be installed, expla	in why:			

#### 3. If a pump is being used, please provide the following information:

Total Design Head	32	(m)
Pump Chamber Volume	150	(Litres)
Emergency Storage Volume	1000	(Litres)

### 4. Please identify the type(s) of land disposal method proposed for this site:

Surface Dripper Irrigation		
Sub-surface Dripper Irrigation	V	
Mound with Dripper Irrigation		As

s Per Attached Plan

## 5. Please identify the loading rate you propose for the option selected in Part H, Section 4 above, stating the reasons for selecting this loading rate:

Loading Rate	4		(Litres/m²/day)
Disposal Area	Design (m <sup>2</sup> ) 450		For driplines spaced at 1m
	Reserve (m <sup>2</sup> )	450	For driplines spaced at 1m

#### **Explanation** (*Refer TP58 Sections 9 and 10*)

Loading rate for category 5 soils taken from TP58 (2004), Table 9.2, p.150.

## 6. What is the available reserve wastewater disposal area

(Refer TP58 Table 5.3)

Reserve Disposal Area (m <sup>2</sup> )	450	For dripper lines spaced at 1m
Percentage of Disposal Area (%)	100%	

## 7. Please provide a detailed description of the design and dimensions of the disposal field and attach a detailed plan of the field relative to the property site:

#### **Description and Dimensions of Disposal Field:**

Refer to Proposed Wastewater Disposal Field, Section 4.3 and the Site Plan, Section 7.					
Plan Attached?	Yes	V	No		(Please tick)

#### PART I: Maintenance & Management

(Refer TP58 Section 12.2)

#### 1. Has a maintenance agreement been made with the treatment and disposal system suppliers?

Please tick Yes No V			
	Yes	No	V

The owner is to obtain a maintenance agreement from the manufacturer on purchase of the system. Aeration treatment systems should have an annual maintenance agreement with the supplier as stated in Far North District Council bylaw 2805.2. This ensures the system operates efficiently and is serviced regularly. Client to enter into agreement with chosen system supplier as per FNDC bylaw

#### PART J: Assessment of Environmental Effects

#### 1. Is an assessment of environmental effects (AEE) included with application?

(Refer to TP58 Section 5. Ensure all issues concerning potential effects addressed)

	Please tick	Yes	V	No	
--	-------------	-----	---	----	--

#### PART K: Is Your Application Complete?

#### 1. In order to provide a complete application have you remembered to:

Fully Complete this Assessment Form	V
Include a Location Plan and Site Plan (with Scale Bars)	V
Attach an Assessment of Environmental Effects (AEE)	V

#### 2. Declaration

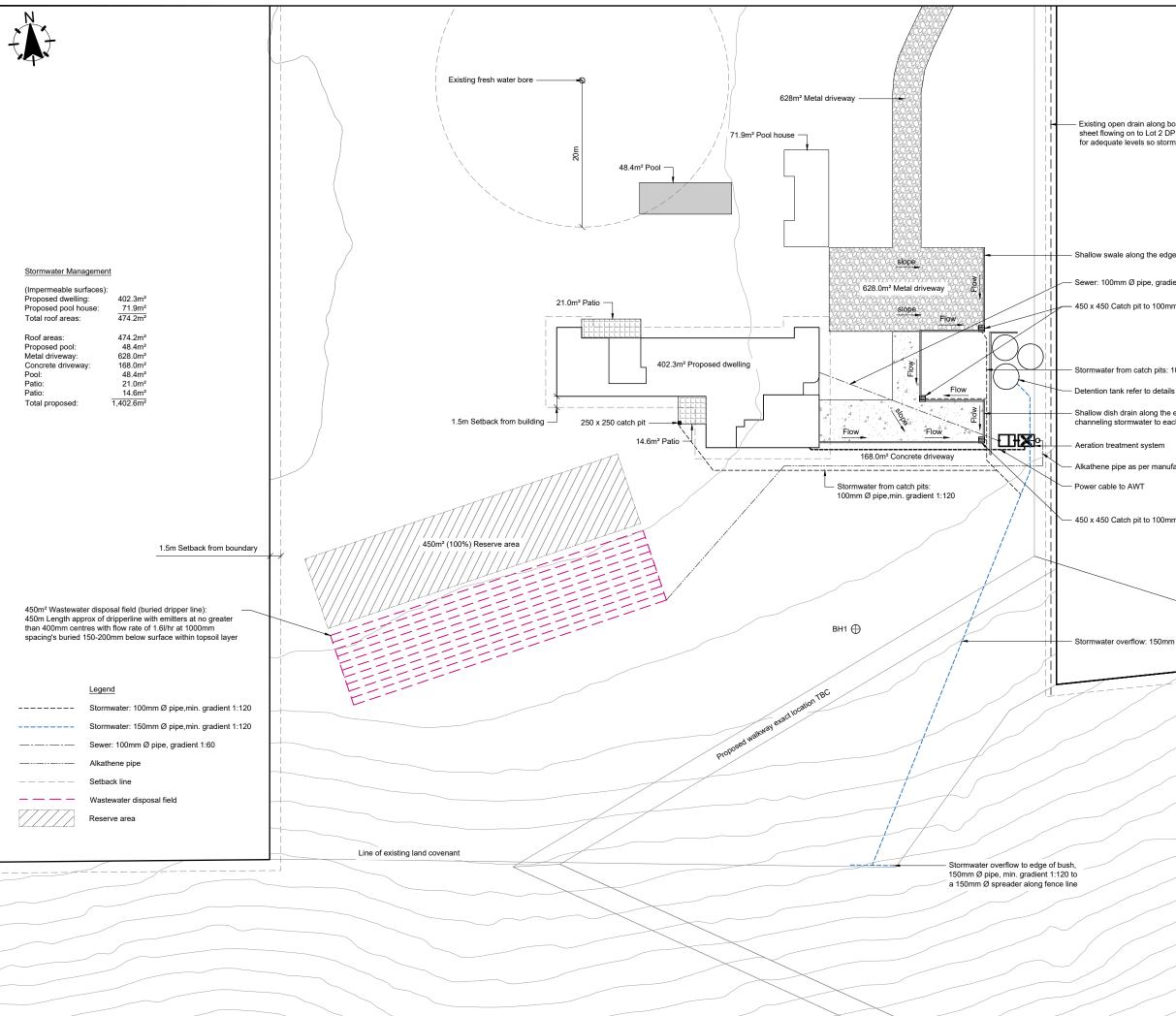
I hereby certify that, to the best of knowledge and belief, the information given in this application is true and complete.

Name: Martin O'Brien	Signature	MOIS
Position: Director	Date	13 <sup>th</sup> February 2025

Note:

Any alteration to the site plan or design after approval will result in noncompliance.

Building consent must be approved before work commences.



#### NOTES

- 1. Contour lines at 1m increments, sourced from NRC
- All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlaver to determine on site drainage layout and provide asbuilt plan when complete.
- 3. Length of dripper lines to be no more than 100m between feed points
- 4. Dripper lines to follow contour lines
- 5. Dripper lines to be setback:
- 1.5m from buildings
- 1.5m from property boundaries
- 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
- 20m from fresh water bore
- Field to be laid on slopes less than 25 degrees
- 6. Smoke alarms are to be installed in accordance with the New Zealand Building Code Clause F7 Section 3.0:
- Smoke alarms shall be installed on • or near the ceiling in every sleeping space or within 3m of every sleeping space door.
- Refer to the report outlining Section 3 of the Building Code, • detailing smoke alarm regulations
- 7. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control.pdf (aucklanddesignmanual.co.nz)

/erify all dimensions on site before commencing work & do no cale from drawings. Refer any discrepancies to O'Brien Des sulting Ltd

Il work to be done in accordance with NZS 3604: 2011 ne NZ Building Code unless specifically designed.

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flow: 150mm Ø pipe,min. gradient 1:120	DE:	RIEN SIGN NSULTING
	T 09 407 5208   martin(	@obrienconsulting.co.nz
	Project Title Rewa Willis & 415 Pungaere Kerikeri Lot 6 DP 4077	Road
	Sheet Title Drainage Si	te Plan
	Drawn	5 February 2025
	Project No	2840
	Rev B	A01
	Scale (A3 Origin	nal) <b>1:500</b> 5 10

Existing open drain along boundary preventing stormwater sheet flowing on to Lot 2 DP 407713, drains to be checked for adequate levels so stormwater flows south

Shallow swale along the edge of the driveway to each catch pitch

- Sewer: 100mm Ø pipe, gradient 1:60

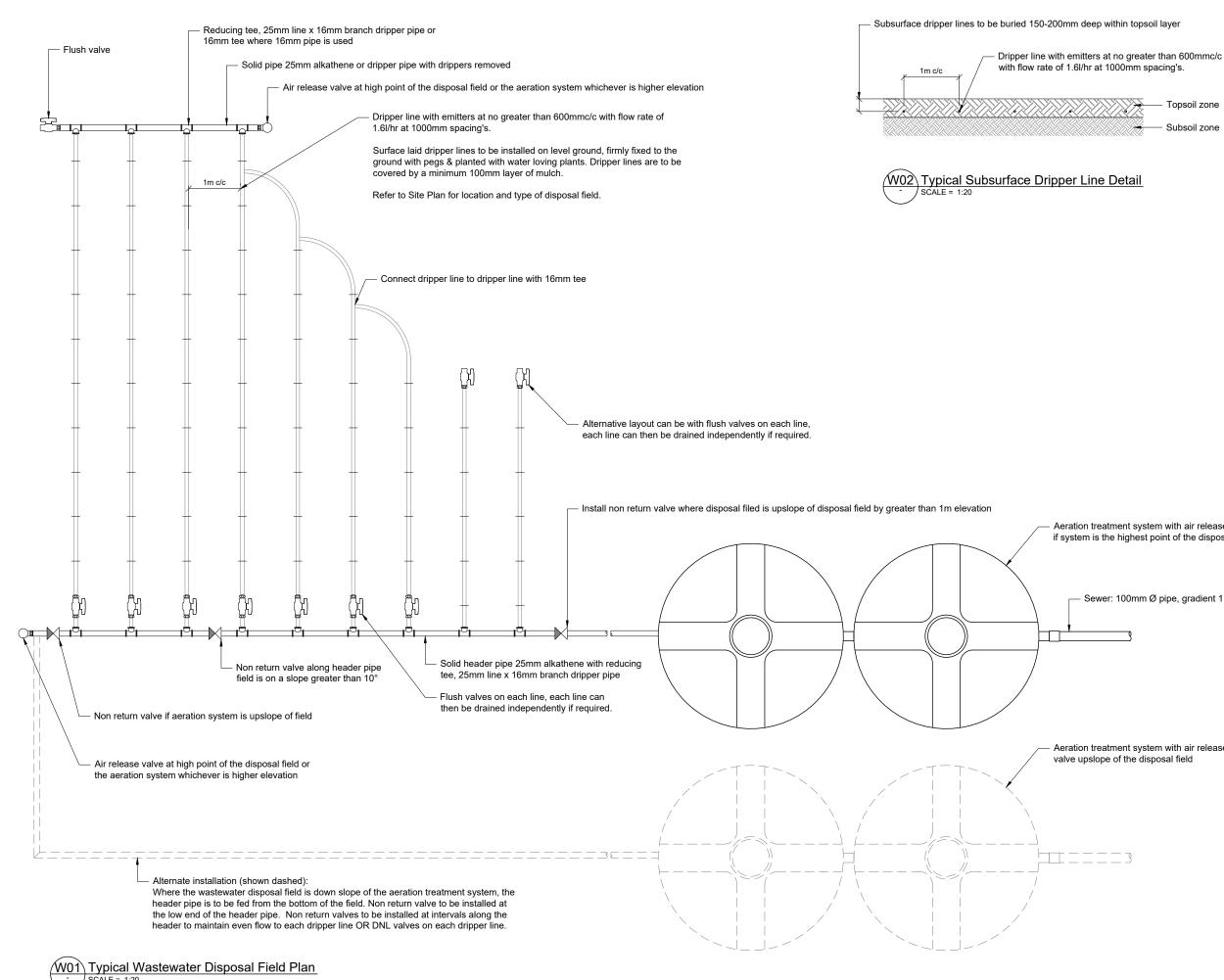
- 450 x 450 Catch pit to 100mm Ø pipe,min. gradient 1:120

Stormwater from catch pits: 100mm Ø pipe,min. gradient 1:120

Shallow dish drain along the edge of the concrete channeling stormwater to each catch pitch

- Alkathene pipe as per manufacturers instructions

- 450 x 450 Catch pit to 100mm Ø pipe,min. gradient 1:120



SCALE = 1:20

 Topsoil zone Subsoil zone

NOTES

- All drainage is diagrammatical, 1. do not scale from drawing.
- 2. Length of dripper lines to be no more than 100m between feed points
- 3. Dripper lines to follow contour lines.
- 4. Dripper lines to laid on even ground, laying dripper lines on gully's or humps in the ground can cause ponding.
- 5. Air release valve to be at the high point in the disposal field or at the system if that is a higher elevation, locations shown on detail are indicative.
- 6. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control -Auckland Council Guideline Document GD005 GD05 Erosion and Sedimen Control.pdf (aucklanddesignmanual.co.nz)

Aeration treatment system with air release valve if system is the highest point of the disposal field

Sewer: 100mm Ø pipe, gradient 1:60

Aeration treatment system with air release valve upslope of the disposal field

DESIGN CONSULTING T 09 407 5208 | martin@obrienconsulting.co.nz Project Title Rewa Willis & Marc Spring 415 Pungaere Road Kerikeri Lot 6 DP 407713 Sheet Title Wastewater Details Drawn 5 February 2025 Project No 2840 A03 В

Il work to be done in accordance with NZS 3604: 2011 e NZ Building Code unless specifically designed. is document and the copyright in this document remain the operty of O'Brien Design Consulting Ltd.

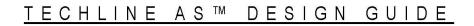
**O'BRIEN** 

Scale (A3 Original) 1: 20 0.2 0.1 0 0.2 0.4

## 9.0 Borehole Log

O'BRIEN DESIGN CONSULTING BOREHOLE LOG 1						
Client			Rewa Willi	s & Marc Spring	Job No.	2840
Project				of onsite wastewater	Date Drilled	25/11/2022
Site Ad	dress		415 Punga	ere Road, Kerikeri	Drilled By	M O'Brien
Legal D	escription	on	Lot 6 DP 4			50mm hand auger
Depth mm	GWL	Soil Map Reference	Graphic Log	Field Description		Soil Category
100 200		6		250mm Slightly m	oist dark brown topsoil	4
300 400 500 600 700 800	Groundwater not intercepted	Okaihau gravelly friable clay (OK)		Slightly moist dark	prown friable silty CLAY	4
900 1000 1100 1200	Grou	Okaihau g		Slightly moist dark brown gravely silty CLAY		5
1300         1400         1500         1600         1700         1800         1900         2000         2100					EOB	
Graphic Log Legend       The subsurface data described above been determined at this specific bor location and will not identify any variation away from this location. The data is the determination of soil type for wastered disposal applications only and is not used for geotechnical purposes			specific borehole ntify any variations The data is for the pe for wastewater ly and is not to be			

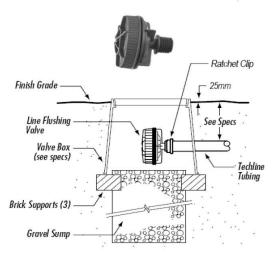
## 10.0 On Site Wastewater Installation Guide for the Installer



#### LINE FLUSHING VALVES:

Line Flushing Valves are used to provide a cleansing action in the dripperline each time the zone is turned on.

- When a zone is turned on, the flush valve begins dumping water into a sump (valve box).
- The dumping of water (additional flow) allows the velocity of water inside the dripperline to increase momentarily helping to clean the inside walls of the tubing and drip inlet filters.
- This action moves sediment out of the zone and into the sump.

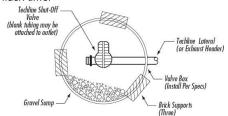


#### AUTOMATIC LINE FLUSHING VALVE:

- Place one Automatic Line Flushing Valve at the furthest point in the drip system.
- For GRID layouts this will typically be in the collecting manifold. On flat sites the Automatic Line Flushing Valve can be installed in the middle of the collecting manifold however in sloping sites the flushing manifolds should be installed at the lowest end.
- For LITE layouts the Automatic Line Flushing Valve will be installed at the midpoint of the tubing layout.
- Use one Automatic Line Flushing Valve for each 45L/M of zone flow.
- All Automatic Line Flushing Valves should be installed in a valve box with a gravel sump adequate to drain approximately 4 litres of water.
- Automatic Line Flushing Valve requires a minimum pressure of 70kPa (7m) to shut off completely.

#### MANUAL FLUSHING VALVE:

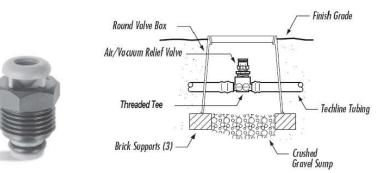
- Allows for manual flushing of lines during system start-up and during season.
- Manual Flushing Valves should be located at each end of the collecting manifold in a GRID system.
- Manual Flushing Valve should be located at the midpoint of a LITE layout.
- Allow 1 second per metre of dripperline & poly pipe in the zone for as a general guide for an adequate flush time.



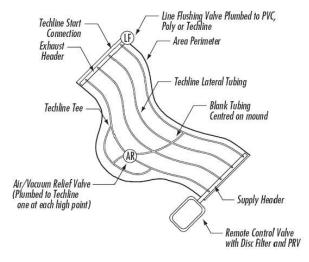
## <u>TECHLINE AS™ DESIGN GUIDE</u>

#### AIR/VACUUM RELIEF VALVES:

Air/Vacuum relief valve freely allows air into a zone after shut down. It also ensures a vacuum within non Anti Siphon dripperline system doesn't suck debris or dirt back in to the dripperline. It also provides a means of releasing air from the dripperline when the zone is turned on, eliminating air pockets and speeding up the dripperline operation.



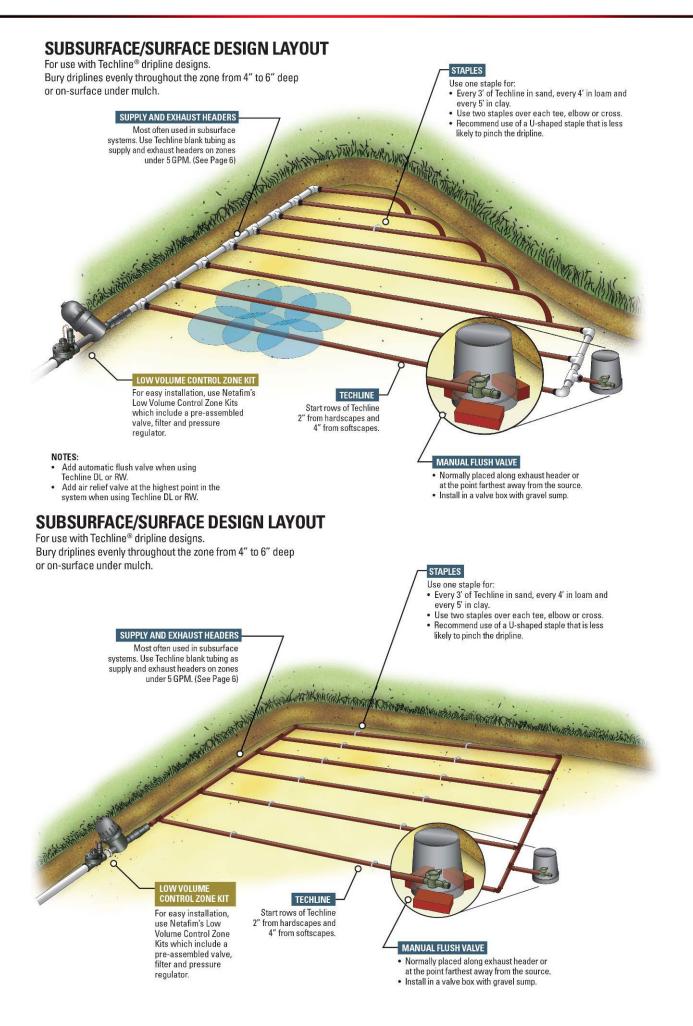
- Install Air/Vacuum Relief Valve at the highest point in the drip system.
- Install one Air/Vacuum Relief Valve for every 40L/M of zone flow.
- Ensure that all of the rows of Dripperline can take advantage of the Air/Vacuum Relief Valve; install it/them along a lateral that runs perpendicular to the dripperline laterals. This may be a collecting manifold, or a special lateral connecting all rows of dripperline, such as going over a mound.



All Air/Vacuum Relief Valves should be installed in a valve box with a gravel sump. This
will ensure that the only clean air will enter the drip system.



Note: Larger Air Release valves are available for large projects.



## 11.0 On Site Wastewater Maintenance for the Owner

### **11.1** Why regular maintenance

Septic tanks and on-site wastewater treatment systems need regular maintenance to work properly. The impact on the environment is minimal if your system is well-maintained.

#### Owners are legally responsible for maintaining their on-site wastewater treatment system.

There are health risks for you, your family and your community from poorly maintained wastewater treatment systems. Poor maintenance of treatment systems can cause sewage effluent to rise to the surface or effluent to enter the groundwater system. People and animals can fall sick by coming into contact with raw sewage or by drinking contaminated groundwater.

The life of your system depends on how much effluent is discharged each day and other factors such as rainfall and general clogging of pores in the ground. The greatest impact is how you maintain your system and what you put down it.

#### Components of your system

- <u>Wastewater treatment unit</u> generally a septic tank or aerated treatment system.
- <u>A land application system</u> generally trenches, or low-pressure surface or subsurface irrigation drip lines.

#### Do:

- Use biodegradable, low phosphate household cleaners and laundry powders or liquid.
- Use body washes and shower gels, instead of soap, (or non-petroleum based products).
- Use the water and suds saver cycles on your dishwasher and washing machine (if fitted) and put a water saver device on your shower.
- Fix any leaking pipes and toilet systems.
- Clean septic tank outlets and filter when required (usually every 6 months).
- Follow the service and maintenance requirements of your system.
- Scrape all dishes to remove food material before washing.
- Keep all possible solids out of the system.
- Inspect tank annually for sludge and scum levels.
- The tank should be pumped out approximately every 3–5 years. Have tank pumped out when:
  - the top of the floating scum is 75mm or less from the bottom of the outlet
    - o sludge has built up to within 250mm of the bottom of the outlet

#### Don't:

•

- Use soap-based washing powders that do not biodegrade.
- Install a waste master disposal in your sink.
- Dispose of eggshells, coffee grounds or tea bags. Compost food scraps or put in rubbish.
- Dispose of strong bleaches, chlorine compounds, antiseptics or disinfectants, medicines or disposable nappies, sanitary napkins/pads or condoms into drains.
- Allow fat to be poured down the sink.
- Put petrol, oil, flammable/explosive substances, trade waste or chemicals down the drain.
- Empty a spa or swimming pool into the system.

#### Signs of trouble

The system is not working correctly if:

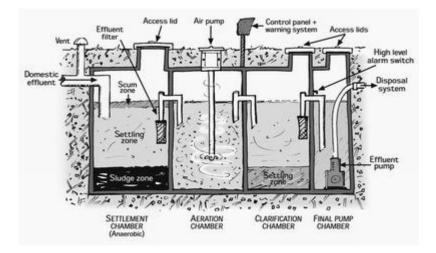
- There is a foul smell around tank or land application area.
- The tank, gully trap or tank mushroom is overflowing.
- The ground around the tank is soggy.
- Sinks/basins/toilets are emptying slowly or making gurgling noises when emptying
- The grass is unusually dark green over the land application area.

## 11.2 Northland Regional Council Public Information

#### **Aerated Wastewater Treatment Systems**

The term 'Aerated Wastewater Treatment Systems (AWTS)' covers a range of types of onsite treatment systems that provide additional treatment to septic tank effluent. Their mechanical pumps require regular maintenance and a continuous power supply.

In general, an AWTS has three parts which may be housed in a single unit or split into more than one unit (see diagram below). This is a generalised diagram of an AWTS. Different brands will differ in design.



The three main processes that take place in an AWTS are:

#### Settlement and anaerobic treatment

This takes place in a chamber or tank, and the process is identical to what happens in a septic tank. Solids within the effluent settle and are broken down by anaerobic bacteria (bacteria that live without oxygen).

#### Aerated treatment

The effluent then enters a second chamber where aerobic bacteria (bacteria that require oxygen to live) break down the solids further and reduce the number of harmful bugs within the effluent. This normally happens by either passing the effluent over, or through, a material that contains aerobic bacteria or by pumping air directly into the effluent. In some AWTS, a combination of both methods may be used.

#### **Final settlement (clarification)**

After the aeration treatment, the effluent is allowed to settle before being pumped to a disposal system. An AWTS removes a greater amount of solids from the effluent than a septic tank does therefore problems within the disposal system caused by clogging are less likely. The additional treatment within the aerobic chamber should result in effluent that has fewer harmful bugs and nutrients, so it is less harmful to the environment. The installation of an AWTS is particularly useful in areas where there is a high groundwater table or surface water that needs protection or where there are poorly draining soils.

#### Effluent disposal

Effluent from an AWTS is commonly disposed of through dripper irrigation lines, which are flexible pipes with small pressure-compensating drippers installed along their length. The drippers should be self-flushing which helps prevent them becoming clogged. There should also be "flushing valves" at the end of each line for maintenance purposes.

Dripper lines shall be buried 150–200mm below the surface within the topsoil layer. Anti-root intrusion, robust subsurface dripper line such as Netafim, Techline AS XR, or similar must be used. The waste disposal field is to be planted with grass and should be mown frequently to promote nutrient uptake

It is recommended that the wastewater disposal area be clearly marked or fenced to minimise the risk to human health and reduce the possibility of damage to the system. The disposal field should not be used to graze animals, be driven on or built over. Buried dripper line should be planted with grass only. Do not plant shrubs and trees over buried dripper lines as the roots can damage the lines.

#### Surface water cut-off drains

If your disposal system is located on a slope a surface water cut-off drain will usually be installed above the effluent disposal system to prevent stormwater runoff from the slope entering the disposal area. All surface water cut-off drains need to be maintained to make sure they work properly. This may include removing excess grass or plant growth from the drains and making sure there are no other obstructions to prevent the free flow of water.

Prior to winter, it is a good idea to give all surface water cut-off drains a quick visual check and to carry out any required maintenance as soon as possible. If a surface water cut-off drain is not working properly, the excess stormwater entering the disposal area will cause failure of the disposal system and result in effluent flowing down the slope.

## 12.0 NZ Building Code, Clause F7, Smoke Alarms, Section 3

#### DOMESTIC SMOKE ALARMS

#### Scope

Smoke alarms shall be installed in every household unit of risk groups SH and SM where a Type 4 or Type 7 alarm system is not required by Acceptable Solutions C/AS1 to C/AS7.

The other paragraphs of this Acceptable Solution do not apply to the installation of domestic smoke alarms. Paragraphs 3.1 to 3.4 stand alone and only detail the requirements for domestic smoke alarms within household units.

#### Type 1 – Domestic Smoke Alarm System

A Type 1 system is based on one or more domestic type smoke alarms with integral alerting devices. Coverage shall be limited to selected parts of a single firecell, subject to Paragraphs 3.3 and 3.4.

Smoke alarms shall be manufactured to at least one of: AS 3786, ISO 12239 or BS EN 14604. 3.2.3 The smoke alarms shall be either hard wired or battery powered and are not required to be interconnected. In addition, they shall provide a hush facility, being a button that silences the alarm for a minimum duration of 60 seconds.

Comment: A hush facility is a button on the smoke alarm which silences the alarm for a limited time after activation. This allows the cause of a nuisance alarm to be cleared without having to remove the battery to silence the smoke alarm.

Smoke alarms shall have an alarm test facility easily reached by the building occupants. This facility may be located on the smoke alarms.

#### **Location of Smoke Alarms**

Smoke alarms shall be located as follows: a) In multi-storey units, there shall be at least one smoke alarm on each level within the household unit. b) On levels containing the sleeping spaces, the smoke alarms shall be located either: i) In every sleeping space, or ii) Within 3.0 m of every sleeping space door. In this case, the smoke alarms must be audible to sleeping occupants on the other side of the closed doors. c) In all cases, so that the sound pressure level complies with that specified in NZS 4514.

Comment: Smoke alarms also need to be located so that an alarm is given before the escape route from any bedroom becomes blocked by smoke. This includes those parts of escape routes on other floors. Although not required by this Acceptable Solution, the interconnection of individual smoke alarms should be considered if audibility is a problem.

Smoke alarms shall be installed on or near the ceiling. The placement shall be in accordance with NZS 4514. Comment: NZS 4514 gives instructions for the physical location of smoke alarms. Smoke alarms need to be situated on (or near) the ceiling for optimum detection of smoke in a fire situation. Following manufacturer's instructions is important to ensure smoke alarms are physically mounted correctly. This information is usually device specific.

#### Maintenance

Smoke alarms shall be maintained in accordance with the maintenance requirements of NZS 4514.

## 13.0 Limitations

- 1. It is imperative that this report be read in full before installation commences. O'Brien Design Consulting Ltd. is to be contacted if there are any variations in subsoil or site conditions from those described in this report. Site conditions may change from the date of the site visit.
- 2. O'Brien Design Consulting Ltd. is to be contacted if for any reason installation of the onsite wastewater system cannot be achieved to the design set out in this document. In this event O'Brien Design Consulting Ltd. reserves the right to revise this document. Should at any time the design be altered, O'Brien Design Consulting Ltd. are to be contacted for written approval before installation commences.
- 3. Our responsibility for this report is limited to the property owner named in Part A of this document. We disclaim all responsibility and will accept no liability to any other person unless that party has obtained the written consent of O'Brien Design Consulting Ltd. O'Brien. Design Consulting Ltd reserves the right to qualify or amend any opinion expressed in this report in dealing with any other party. It is not to be relied upon for any other purpose without reference to O'Brien Design Consulting Ltd.
- 4. Any alteration to the site plan or design will result in noncompliance.
- 5. The wastewater disposal field is designed according to the number of bedrooms, potential occupancy and wastewater volumes produced, as outlined in this report. Any increase in the number of bedrooms, potential occupancy or wastewater volumes produced may result in failure of the field. O'Brien Design consulting take no liability for wastewater volumes produced exceeding that stated in Part E, number 2.
- 6. Recommendations and opinions in this report are based on data obtained from the investigations and site observations. The nature and continuity of subsoil conditions and groundwater at locations other than the investigation bores and test areas are inferred and it should be appreciated that actual conditions could vary over the site.
- 7. This report does not investigate or give recommendations on ground bearing capacity for foundations or slope stability. A geotechnical report may be required. This is the responsibility of the homeowner.
- 8. Following payment to the FNDC your Building Consent documentation will be emailed to you. It is the responsibility of the homeowner/builder to engage a registered drainlayer to install the system and field. The homeowner/builder is responsible for ensuring a printed copy of the issued Building Consent documentation is onsite at every inspection. Plans must be printed in colour and be at least A3 size. The installation is to be inspected by a FNDC inspector or similar suitably qualified person.
- 9. Following completion of the project it is the homeowner's responsibility to apply for Code of Compliance. The system manufacturer and drainlayer should assist you in applying for Code of Compliance. You will need to fill out a Code of Compliance Form as provided in the following link: <u>https://www.fndc.govt.nz/Our-Services/Building-Consents/Building-forms-and-guides/Code-Compliance-Certificate-Form-6</u>. You will also need an As Build diagram from the drainlayer showing installation and a commissioning statement and electrical certificate from the manufacturer.
- 10. The homeowner is responsible for the everyday upkeep of the system and field. Information is provided in the NRC Public Information section of this report. Further information is to be supplied by the manufacturer.
- 11. It is the responsibility of the owner to provide the Far North District Council with a maintenance agreement for the installed system. The maintenance of onsite wastewater systems should be sustained to reduce the risk of system failure.
- 12. Any questions arising from the above or during installation, please call O'Brien Design Consulting Ltd.

## 14.0 Producer Statement



### **DESIGN: ON-SITE EFFLUENT DISPOSAL SYSTEMS (TP58)**

ISSUED BY: Martin O'Brien......(approved qualified design professional)

TO: Rewa Willis & Marc Spring......(owners)

TO BE SUPPLIED TO: Far North District Council

PROPERTY LOCATION: 415 Pungaere Road, Kerikeri, Lot 1 DP 584995

TO PROVIDE: Design an on-site effluent disposal system in accordance with Technical Paper 58 and provide a schedule to the owner for the systems maintenance.

THE DESIGN: Has been in accordance with G13 (Foul Water) G14 (Industrial Liquid Waste) B2 (durability 15 years) of the Building Regulations 1992.

As an independent approved design professional covered by a current policy of Professional Indemnity Insurance (Design) to a minimum value of \$200,000.00, I BELIEVE ON REASONABLE GROUNDS that subject to:

(1) The site verification of the soil types.

(2) All proprietary products met the performance requirements.

The proposed design will meet the relevant provisions of the Building Code and 8.15 of The Far North District Council Engineering Standards.

Licence Building Practitioner - Design 2, MA, BA with Hons (Professional qualifications) BP103567......(Licence Number or professional Registration number)

Address: 153B Kerikeri Inlet Road, Kerikeri Phone Number: 09 407 5208 Mobile Number: 027 407 5208 Date: 13<sup>th</sup> February 2025

Note: This form is to accompany every application for a Building Consent incorporating a T.P.58. Approval as a design professional is at Councils discretion.





## **Stormwater Management Design**

#### Project

Date:	13 <sup>th</sup> February 2025
Clients Name:	Rewa Willis & Marc Spring
Site Address:	415 Pungaere Road, Kerikeri
Legal Description:	Lot 1 DP 584995
Project:	Stormwater Management Design for Principal Dwelling & Minor Dwelling

### Proposal

A 5-bedroom principal dwelling and 1-bedroom minor dwelling are proposed at Lot 1 DP 584995. A stormwater management assessment is required to address the Consent Notice forming part of the proposed subdivision of Lot 1 DP 584995:

'In conjunction with the construction of any buildings and other impermeable surfaces, the lot owner shall provide, at the time of lodging a building consent application, a specific design for stormwater management, prepared by a suitably qualified Chartered Professional Engineer or Suitably Qualified Engineering Practitioner, which addresses stormwater management measures being proposed in the application. The system shall be designed such that the total stormwater discharged from the site, after development, is no greater than the predevelopment flow from the site for rainfall events up to a 1% AEP plus allowance for climate change.'

#### Recommendations

- Install 3 x 25,000ltr stormwater tanks to be used as detention. Connect tanks at the base with a 40mm diameter pipe as per Appendix I so tanks can self-level.
- Catch pits should be installed as per the Site Plan, Appendix I.
- A 6m long 150mm diameter spreader is to be installed as per Site Plan and Detail in Appendix I.
- Shallow dish drains should be formed along the edge of concrete driveways to channel stormwater to catch pits.
- The drain along the eastern boundary should be checked for adequate fall along its length. All stormwater should drain to the south to prevent ponding.

153B Kerikeri Inlet Road, Kerikeri | Ph: (09) 407 5208 | Mob: 027 407 5208 E-mail: martin@obrienconsulting.co.nz | www.obriendesignconsulting.co.nz

#### Site Visit

The site investigation was undertaken on 25<sup>th</sup> November 2022 and comprised of a walk over and visual assessment of the property. Lot 1 DP 584995 is located off 415 Pungaere Road, Kerikeri and is zoned Rural Production in the Far North District Plan. Access to the property is gained via a right of way off Pungaere Road which runs along the northern boundary.

A 5-bedroom principal dwelling and 1-bedroom minor dwelling are proposed to the south of a flat to slightly sloping area which forms an area to the north of Lot 1. The remainder of the property to the south is native bush and grassed farmland. In the area of the proposed dwelling the topography is relatively flat to slightly sloping to the south, the slope steepens through the bush to the south of the dwelling.

#### **Stormwater Assessment**

The owner proposes to install 3 stormwater tanks which will be used for detention.

Surface water run-off for the catchment shall be calculated using the Rational Method. The formula to be used is:

Qc = CIAc/360 where Qc = catchment run-off (m<sup>3</sup>/s). C = run-off coefficient I = rainfall intensity (mm/hr).

It is to be noted that the impermeable surfaces on the property comply with the Stormwater Management rule of the District Plan.

Impermeable Surfaces:

Proposed dwelling:	402.3m <sup>2</sup>
Proposed pool house:	<u>71.9m²</u>
Total roof areas:	474.2m <sup>2</sup>
Roof areas:	474.2m <sup>2</sup>
Metal driveway:	628.0m²
Concrete driveway:	168.0m²
Pool:	48.4m²
Patio:	21.0m <sup>2</sup>
Patio:	<u>14.6m<sup>2</sup></u>
Total proposed:	1,354.2m²

Detention tanks are designed by calculating the run-off from the predeveloped surfaces. This is then compared to the runoff from the roof areas. The difference between the two will equal the minimum flow rate reduction required. Refer to the Detention Tank Calculations, Appendix II.

The owner proposes to install 3 stormwater tanks which will be used for detention to reduce the flow rate from the roof area of the proposed principal and minor dwelling to that of predevelopment. As the proposed metal and concrete driveways, patio and paths cannot easily be detained, stormwater runoff from impermeable surfaces on the ground will not be detained.

In the area of the proposed metal driveway land is flat to slightly sloping to the southeast. Stormwater from the driveway will sheet flow to the southeast to the existing open drain along the eastern boundary. The drain should be checked for adequate fall so all stormwater in the drain flows to the south to prevent ponding. As the soils in this area are described as Okaihau gravelly friable clay with well to moderately well drainage characteristics, stormwater on the flatter areas of the site will tend to naturally soak into soils.

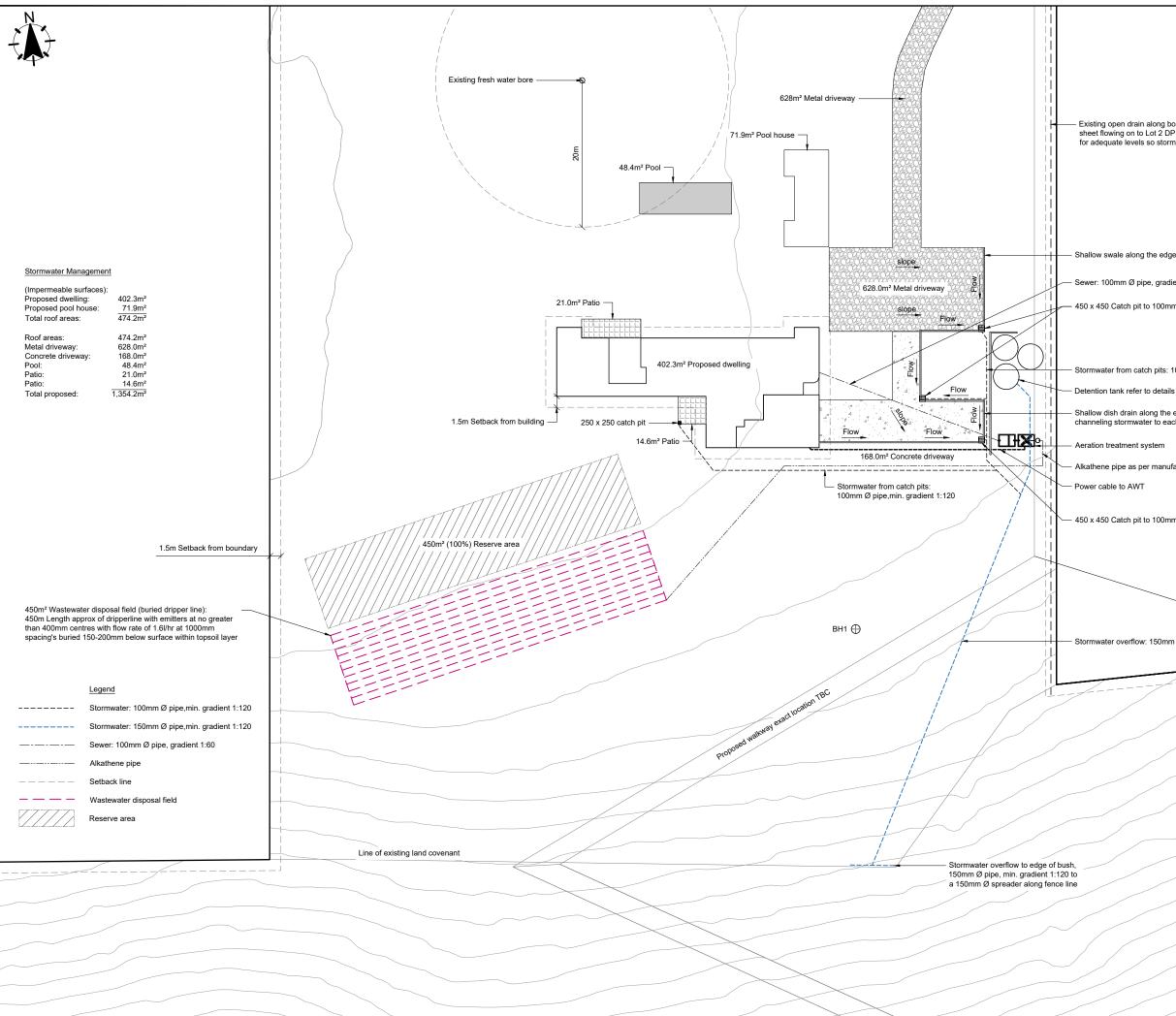
Catch pits are proposed at various locations at the edge of the concrete driveway and patio, refer to the Site Plan. The concrete should be laid with adequate fall away from the buildings. A shallow dish drain should be formed at the edge of the concrete to channel stormwater to the catch pits. The catch pits will be piped to the spreader at the edge of the bush to the south.

3 Detention tanks are proposed, all 3 will share the detention by being linked with a 40mm pipe at the base of each tank so they self-level. To achieve a reduction in flow rate 2 orifices are to be connected to the 100mm overflow pipe on 1 of the proposed 25,000 litre detention tanks. The bottom orifice will control the 10 ARI (y) flood event, the top will control the 100 ARI (y) flood event. Refer to Detention Tank Detail for the height of the orifice for each tank, Appendix I.

The overflow from each tank will be to a 150mm diameter overflow pipe directed to a 6m long spreader, refer to the Site Plan for pipe dimensions. The spreader is to be directed away from the wastewater disposal field to existing natural bush. Refer to Site Plan, Appendix I.

The installation of the stormwater detention tank will neutralise runoff from all roof areas.

Martin O'Brien O'Brien Design Consulting Martin@obrienconsulting.co.nz 09 407 5208



#### NOTES

- 1. Contour lines at 1m increments, sourced from NRC
- All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlaver to determine on site drainage layout and provide asbuilt plan when complete.
- 3. Length of dripper lines to be no more than 100m between feed points
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- 5. Dripper lines to be setback:
- 1.5m from buildings
- 1.5m from property boundaries
- 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
- 20m from fresh water bore
- Field to be laid on slopes less than 25 degrees
- 6. Smoke alarms are to be installed in accordance with the New Zealand Building Code Clause F7 Section 3.0:
- Smoke alarms shall be installed on • or near the ceiling in every sleeping space or within 3m of every sleeping space door.
- Refer to the report outlining Section 3 of the Building Code, • detailing smoke alarm regulations
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Il work to be done in accordance with NZS 3604: 2011 ne NZ Building Code unless specifically designed.

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erflow: 150mm Ø pipe,min. gradient 1:120	DE:	RIEN SIGN NSULTING
	T 09 407 5208   martin(	Dobrienconsulting.co.nz
	Project Title Rewa Willis & 415 Pungaere Kerikeri Lot 6 DP 4077	Road
	<sup>sheet Title</sup> Drainage Si	te Plan
	Drawn	5 February 2025
	Project No	2840
	Rev B	A01
	Scale (A3 Origir	nal) <b>1: 500</b> 5 10

Existing open drain along boundary preventing stormwater sheet flowing on to Lot 2 DP 407713, drains to be checked for adequate levels so stormwater flows south

Shallow swale along the edge of the driveway to each catch pitch

- Sewer: 100mm Ø pipe, gradient 1:60

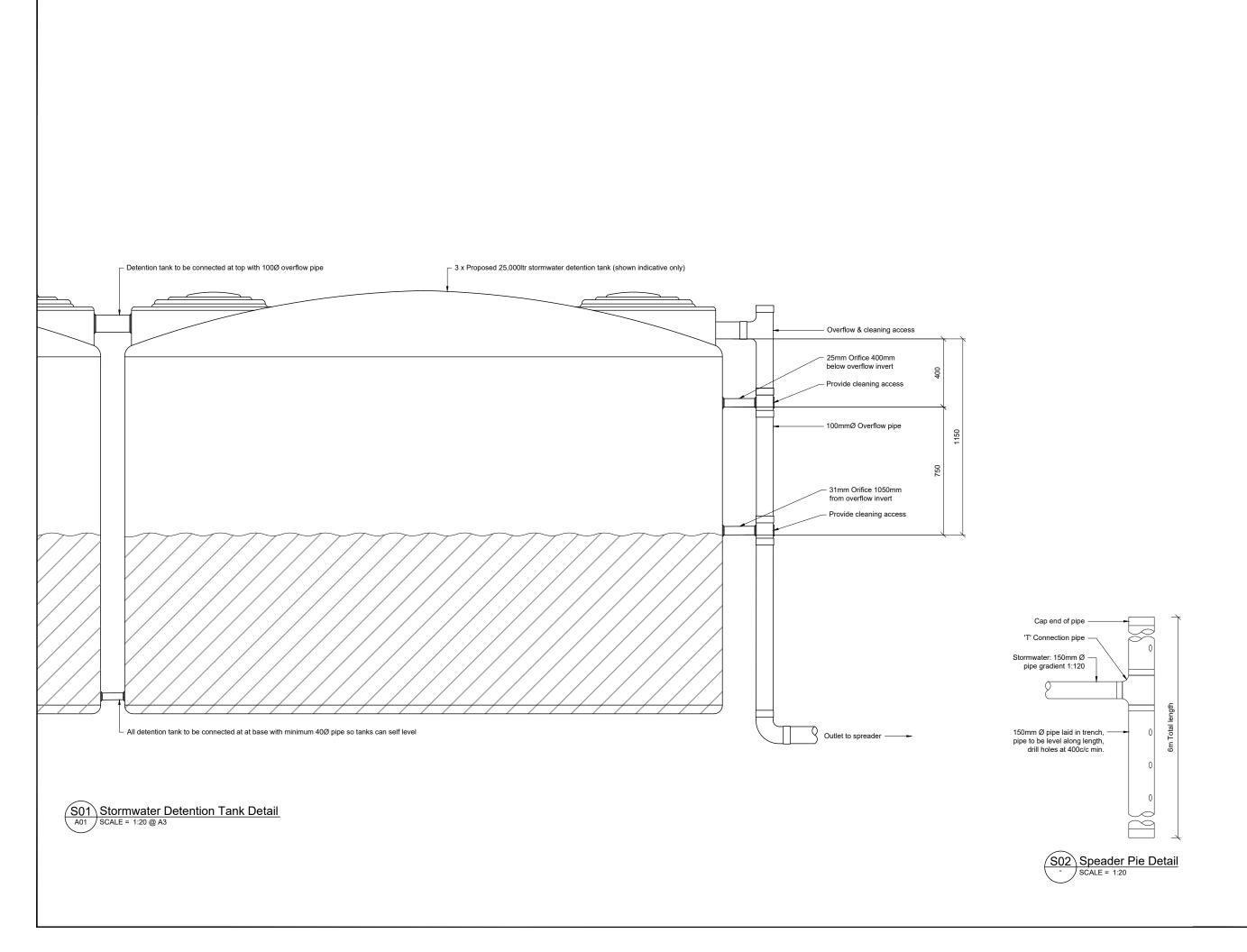
- 450 x 450 Catch pit to 100mm Ø pipe,min. gradient 1:120

Stormwater from catch pits: 100mm Ø pipe,min. gradient 1:120

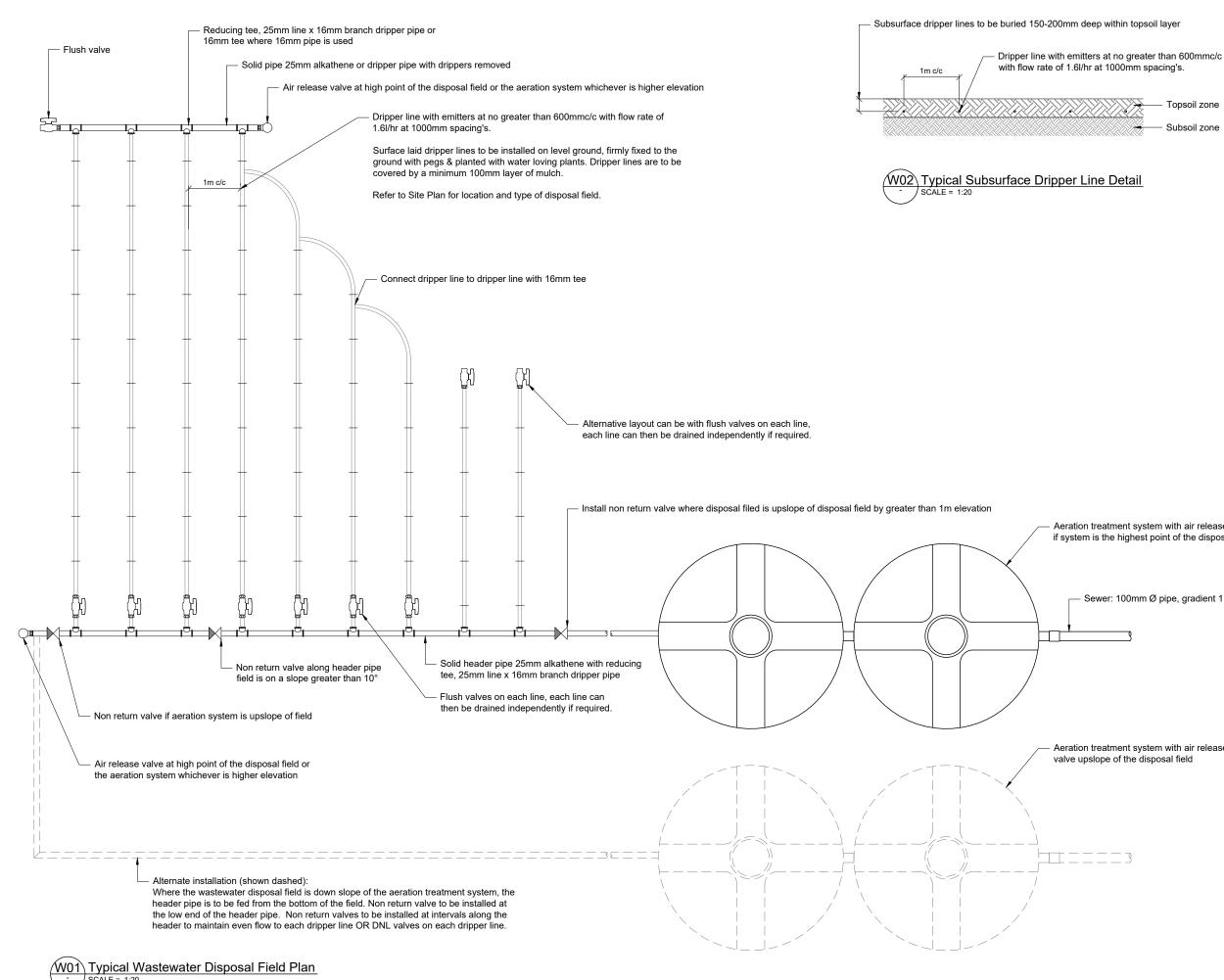
Shallow dish drain along the edge of the concrete channeling stormwater to each catch pitch

- Alkathene pipe as per manufacturers instructions

- 450 x 450 Catch pit to 100mm Ø pipe,min. gradient 1:120







SCALE = 1:20

 Topsoil zone Subsoil zone

NOTES

- All drainage is diagrammatical, 1. do not scale from drawing.
- 2. Length of dripper lines to be no more than 100m between feed points
- 3. Dripper lines to follow contour lines.
- 4. Dripper lines to laid on even ground, laying dripper lines on gully's or humps in the ground can cause ponding.
- 5. Air release valve to be at the high point in the disposal field or at the system if that is a higher elevation, locations shown on detail are indicative.
- 6. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control -Auckland Council Guideline Document GD005 GD05 Erosion and Sedimen Control.pdf (aucklanddesignmanual.co.nz)

Aeration treatment system with air release valve if system is the highest point of the disposal field

Sewer: 100mm Ø pipe, gradient 1:60

Aeration treatment system with air release valve upslope of the disposal field

DESIGN CONSULTING T 09 407 5208 | martin@obrienconsulting.co.nz Project Title Rewa Willis & Marc Spring 415 Pungaere Road Kerikeri Lot 6 DP 407713 Sheet Title Wastewater Details Drawn 5 February 2025 Project No 2840 A03 В

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**O'BRIEN** 

Scale (A3 Original) 1: 20 0.2 0.1 0 0.2 0.4

1 Pre – Development water flow	Rational me		48hr				1	Pre-development Slope		Rational metho		24hr
(Original water flow) Total area. Area (m^2)	Existing roofs	Concrete & Pavers 2 (m*2)	Existing metal driveway 3 (m <sup>2</sup> )	Other Impervious	Vegetation 5 (m*2)	Bush 6 (m*2)		% 10		Roof & decks 1 (m*2)	Concrete & smooth seal 2 (m*2)	Metaled area Or rough seal 3 (m*2)
474.20	0	0	0	0	474.2	0		Ci correcttion		0.00	0.00	0.00
Runoff coefficent Use "C" values from FNDC TR55 chart	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) 0.53	Ci (coefficient) FALSE				Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient
Generally do not use slope adjustment Ci factor if using TR55	0.96	0.96	0.8	0.65	0.53	0.59						
Rainfall Intensity Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100 Use an appropiate event for the situation	4.13	1 (mm/hr) 4.13	1 (mm/hr) 4.13	I (mm/br) 4.13	1 (mm/hr) 4.13	l (mm/br) 4.13		Post-development Slope		l (mm/hr) 6.78	l (mm/hr) 6.78	l (mm/hr) 6.78
Flow rate of surface water	Qc (m*3/sec)	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec)	Qc (m*3/sec) 0.000	Qc (m^3/sec) 0.000		74 10		Qc (m <sup>4</sup> 3/sec) 0.000	Qc (m^3/sec)	Qc (m*3/sec)
Pre – development flow	Op (m*3/sec)	Op (L/sec)						Ci correctiion		Op (m <sup>4</sup> 3/sec)	Qp (L/sec)	
of developed area	0.0003	0.29								0.000	0.5	
Post – Development water flow	Any area when in the imperm	e there is a char ablity values	ge		Pre-development a a change in impern	neable surfaces but	Any area where the to the impermiablit	ere is no change y values		Any area where the in the impermiab	nere is a change lity values	
	Proposed roofs	Concrete &	Proposed	Vegetation	not collected in ate Water tanks & small sheds	nuation system Metaled area	Existing roof			Roof & decka	Concrete &	Metaled area
Total area. Area (m^2) 474.20	1 (m*2) 474.2	Pavers 2 (m*2) 0	metal driveway 3 (m*2)	4 (m*2)	5 (m*2)	or vegetation 6 (m*2) 0	7 (m*2)	Vegetation 8 (m*2)		& decks 1 (m*2) 474.20	smooth seal 2 (m*2) 0.00	Or rough seal 3 (m*2) 0.00
Ox Use "C" values from FNDC TR55 chart	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient) FALSE	Ci (coefficient)	Ci (coefficient)	Ci (coefficient) FALSE	Ci (coefficient)		Ci (coefficient)	Ci (coefficient)	Ci (coefficient
Generally do not use slope adjustment Ci factor if using TR55	0.96	0.96	0.9	0.59	Maximum value 0.2 (at	between Pre & Post the moment)	0.96	0.59				
Rainfall Intensity rate Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	1 (mm/hr) 4.60	l (mm/hr) 4.60	l (mm/br) 4.60	l (mm/hr) 4.60	l (mm/hr) 4.13	l (mm/br) 4.13	1 (mm/hr) 4.13	l (mm/br) 4.13		l (mm/hr) 7.68	l (mm/hr) 7.68	l (mm/hr) 7.68
Use an appropriate event for the situation Flow rate of surface water	Qc (m/3/sec) 0.001	Qc (m*3/aec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/xec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000		Qc (m*3/sec) 0.001	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000
	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)		Qc (L/sec)	Qc (L/sec)	Qc (L/sec)
	0.50	0.00	0.00	0.00	Total impermeable	excluded from	Total no change, ex attenuation system	cluded from		Total in attenuation s Qa (m <sup>4</sup> 3/aec)	ystem calc's Qa (L/sec)	0.00
Total included in attenuation system calc's post – development flow	Qa (m*3/sec) 0.000	Qa (L/sec) 0.29			Attenuation system Oby (m*3/sec)	Qby (L/sec)	Qby (m <sup>4</sup> 3/sec)	Qby (L/sec)		Qa (m*3/sec) 0.000	Qa (L/sec) 0.50	
Post – Pre development flow					0.000	0.00	0.000	0.00		Post – Pre develop		
Post = Pre development now	Qtpp (m*3/sec) 0.0003	Qtpp (L/sec) 0.29								Qtpp (m*3/sec) 0.0005	Otpp (L/sec) 0.50	
Total post development flow Developed flow + undeveloped flow	(Qatt (m*3/sec)	Qatt (L/sec)								Total post develop Qatt (m*3/sec)	Qatt (L/sec)	
0 to 10min	0.0005	0.58								0.0010 10 to 20min	0.97	
16	Rational me	thod	48hr							Rational metho	od	24hr
Total catchment pre-development flow	Proposed roofs	Concrete &	Proposed	Other				Pre-development Slope		Roof	Concrete &	Metaled area
Total area. Area (m^2)	1 (m*2)	Pavers 2 (m*2)	metal driveway 3 (m <sup>2</sup> )	Impervious 4 (m <sup>2</sup> )	Vegetation 5 (m*2)	Bush 6 (m*2)		% 10		& decks 1 (m*2)	smooth seal 2 (m*2)	Or rough seal 3 (m <sup>2</sup> )
474.20	474.2	0	0	0	0	0		Ci correcttion		474.20	0.00	0.00
Runoff coefficent Use "C" values from FNDC TR55 chart	Ci (coefficient) 0.96	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE		0.00		Ci (coefficient) 0.96	Ci (coefficient) FALSE	Ci (coefficient FALSE
Generally do not use slope adjustment Ci factor if using TR55	0.96	0.98	0.8	0.8	0.53	0.59					1600.001	1.000
Rainfall Intensity Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	1 (mm/hr) 4.13	1 (mm/hr) 4.13	l (mm/hr) 4.13	I (mm/hr) 4.13	l (mm/hr) 4.13	l (mm/hr) 4.13		Post-development Slope		l (mm/hr) 6.78	l (mm/hr) 6.78	l (mm/br) 6.76
Use an appropriate event for the situation Flow rate of surface water	Qc (m*3/sec)	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000	Qc (m*3/sec) 0.000		5iope % 10		Qc (m*3/sec) 0.001	Qc (m*3/sec) 0.000	Qc (m*3/sec)
Catchment area pre – development flow	Qcap (m*3/sec)	Qcap (L/sec)					1	Ci correcdtion		Op (m*3/sec)	Qp (L/sec)	
	0.0005	0.52					63	0.00		0.0009	0.86	
							312.1019108	17.66640628				
2						Calculation (initial)	Calculation (final)	Num. Of tanks	Slope out contro			
Select 1 for type of tank/area, 0 for other	Round	Square		Calculation (initial) Total tank area	Calculation (initial) Total tank volume	usable height hmax (m)	Additional area m^2	2 r (m)	1930min (row4235) 0.01405	2130min (row4435) 0.01269	2160min (line4465) 0.0124813	Vin
Estimate storage volume		0	Tank radius	m^2 30.54	m^3 22.90	0.75 OX	Nil Total area	1.81 m^2 for fixed H68 height	0.02398 0.99316	0.01928	0.0186556 0.617438	Vout
Adjust to match max Vstored Round area	Num. Of tanks 3 Num. Of tanks	Width	r (m) 1.8	30.54	Initial calculation hstor max.	0.740 22.60	Same as initial Final volume	20.58 Not used Trench width	80	If using slope control	0.042200 Diff. = 0.0015+-0.0005	
Square/rectangular area	Num. Or tanks	s s	Length 20	m^2 100.00	Vstored max. Vstored min. 0.05 to3.5% left @ 48hr	0.269	Same as initial	Trench length	80 minute crosse 1500	1520	minute steps 1620 0.00111	Original flow Opre (m/sec)
Short tube, 0.76 Thin sharp, 0.62	Orifice type "u"	8 9.8067		60	och. 24hr Vatored 2520m	0x 0.781	Same as initial	20.6	0.00177 -0.00022	0.00175	0.00163	Qod (m/sec) Orifice flow out
				Max.10% left	@ 24hr from initial calc. or add extra volume	3.46	3.46	m^2 for fixed H68 height 103.00 Not used		Minimise L76		
Pre – development flow	48hr C20	24hr L20	12hr U20	6hr AD20	2hr AM20	60 AV20	30 BE20	20 BN20	10 BW20		e changes at point Opre (L/sec)	Qa (L/sec)
3 of developed area	0.00029	0.00047	0.00074	0.00111	0.00199	0.00282	0.00398 Slope factor	0.00489	0.00598	1445 1450	7.0 4.9	8.4 5.8
Pre-development flow matches 2hr 40min. Intensity Uses (80min.crossover O126) as a source value	Qp (m^3/sec) 0.0018	Op (L/sec) 1.7771		Qin max. 0.00845		48hr program Min.crossover	adjustment at Min.crossover			1455 1470	4.0	4.8
Do not change For calculation purposes this section changes	OK Dia check	Dia	Area	Qout 1520 (L/sec)	Qout (m^3/sec)	Chart point (min.)	Chart point (min.)	1080min (K2305) Qod (L/xec)	2520min (K5185) Qod (L/sec)	1500 1620	2.0	2.4 1.3
the dia only and thereby the area The information is not used for anything else		0.02786 27.86	0.0006	0 fice size and calc. he	0.00175	1520 1520	peak flow Chart point (max.) 0.15	0.22786	0.32793 Diff. >0 normally	1800 2160	0.7	0.8
4 Calculate maximum storage volume						For period 2081-2100	Kerikeri					
Chart intensity hr values	accumulated	THR	Storm duration- Event data, TMINS	Direct to Atten.	plus orifice flow out	CC (RCP6) Intensity. Post-devel I, (mm/hr)	Current(0 deg) Pre-devi I, (mm/hr)	Chart step factor	Check Adjust step factor if	Catchment pre-devel Chart step factor	Catchment pre-devel. Adjust step factor if	Accumulated minute steps
Chart intensity	accumulated i minute steps 720	THR (hr) 12.00	Event data, TMINS mina 720 360	Attenuation calc. tot Direct to Atten. Qs (L/sec) 0.29 0.5	Catchment pre-devel. plus orifice flow out Qtin (L/sec) 0.70 1.3	CC (RCP6) Intensity. Post-devel I, (mm/hr) 10 yr 4.6 7.68	Current(0 deg) Pre-devi I, (mm/hr) 10 yr 4.13 6.78	Chart step factor	Check Adjust step factor if required	Catchment pre-devel Chart step factor	Catchment pre-devel. Adjust step factor if required	
Chart intensity hr values steps used	accumulated minute steps 720 1080 1260 1380	THR (hr) 12.00 6.00 3.00 2.00	Event data, TMINS mina 720	Direct to Atten. Qs (L/sec) 0.29 0.5 0.8 1.3	plus orifice flow out Otin (L/sec) 0.70 1.3 1.9 2.7	Post-devel I, (mm/hr) 10 yr 4.6 7.68 12.2 18.7	Pre-devi I, (mm/hr) 10 yr 4.13 6.78 10.6 15.9	1.4 1 0.55 0.56	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56	Catchment pre-devel. Adjust step factor if required OK OK	minute steps 0 120 720 1080 1260
Chart intensity hr values steps used	accumul atec minute steps 720 1080 1260 1380 1410 1425	THR (hr) 12.00 6.00 3.00 2.00 0.50 0.25	Event data, TMINS mina 720 360 180	Direct to Atten. Qa (L/sec) 0.29 0.5 0.8 1.3 2.4 3.4	plus orifice flow out Qtin (Usec) 0.70 1.3 1.9 2.7 4.6 6.2	Post-devel I, (mm/hr) 10 yr 4,6 7,68 12.2 18.7 34.4 49	Pre-devil I, (mm/hr) 10 yr 4.13 6.78 10.6 15.9 28.5 40.4	1.4 1 0.55 0.56 0.9	Adjust step factor if	1.4 1 0.55 0.56 0.9	Catchment pre-devel. Adjust step factor if required OK OK OK OK	minute steps 0 120 720 1080 1260 1380 1410
Chart intensity hr values steps used	accumulated minute steps 720 1080 1260 1380 1410 1425 1430 1435	THR (hr) 5.00 3.00 2.00 0.50 0.25 0.08 0.08	Event data, TMNS mina 720 360 180 120 30	Direct to Atten. Qa (Uxec) 0.29 0.5 0.8 1.3 2.4 3.4 4.8 5.8	plus orifice flow out Qtin (L/sec) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2	Post-de vel 1, (mm/hr) 10 yr 4.6 7.68 12.2 18.7 36.4 40 60.2 84.9	Pre-devi I, (mm/hr) 10 yr 4.13 6.78 10.6 15.9 28.5 40.4 57 70	1.4 1 0.55 0.56 0.9 0.8 0.04 1.0	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.8 0.04 1.0	Catchment pre-devel. Adjust step factor if required OK OK OK OK OK OK	minute steps 0 120 720 1080 1260 1260 1380 1410 1425 1430
Chart intensity hr values steps used	accumulated minute steps 720 1080 1180 1180 1410 1425 1430 1433 1445	THR (trr) 12.00 6.00 3.00 0.50 0.25 0.08 0.08 0.08 0.08	Event data, TMNS mina 720 360 180 120 30	Direct to Atten. Qa (L/aec) 0.29 0.5 0.8 1.3 2.4 3.4 4.8 5.8 8.4 8.4	plus orifice flow out Cefn (L/sec) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2 14.0 14.0	Post-devel I, (mm/hr) 10 yr 4.6 7.68 12.2 18.7 34.4 49 60.2 84.9 122 122	Pre-devil, (mmhr)           10 γr           4.13           6.78           10.6           28.5           40.4           57           20           100	1.4 1 0.55 0.56 0.9 0.8 0.04 1.0 1.5	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.8 0.04 1.0 1.5	Catchment pre-devel. Adjust step factor if required OK OK OK OK OK OK OK OK OK	minute steps 0 120 720 1280 1280 1380 1410 1425 1430 1435 1440
Chart intensity hr values steps used	accumulatec     minute steps     720     1080     1260     1380     1410     1425     1430     1435     1440     1445     1455	THR (hr) 12.00 6.00 2.00 0.25 0.08 0.08 0.08 0.08 0.08 0.08 0.08	Event data, TMINS mina 720 360 180 120 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. On (Linec) 0.29 0.5 0.8 1.3 2.4 3.4 4.8 5.8 8.4 8.4 5.8 8.4 5.8 8.4 5.8 4.8	plus orifice flow out           Ottin (/ksc)           0.70           1.3           1.9           2.7           4.6           6.2           8.5           10.2           14.0           14.6           8.9	Post-devel I, (mm/br) 4.6 7.68 12.2 34.4 49 60.2 84.9 122 122 60.2	Pre-devil ( mm/hr) 10/7 4.13 6.78 10.6 15.9 28.5 40.4 37 70 100 100 70 57	1.4 1 0.55 0.9 0.9 0.04 1.0 1.5 1.0 0.9	Adjust step factor if	Chart step factor 1.4 1 0.56 0.9 0.9 0.04 1.0 1.5 1.0 0.9	Catchment pre-devel. Adjust step factor if required OK OK OK OK OK OK OK OK OK OK OK	minute steps 0 120 120 1080 1260 1480 1410 1425 1430 1445 1450
Chart intensity hr values steps used	accumulate           minute steps           720           1080           1200           1200           1380           1410           1425           1430           1440           1445           1445           1445           1450           1450           1455           1470           1500	THR           (Pr)           12.00           6.00           3.00           2.00           0.50           0.05           0.06           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08	Event data, TMMNS mina 720 360 180 180 15 5 5 5 5 5 5 15 30 120	Direct to Atten. On (Uwer) 0.29 0.5 0.8 1.3 2.4 4.8 5.8 5.8 5.8 4.8 4.8 5.8 5.8 5.8 4.8 4.8 3.4 5.8 3.4 1.3	plus orifice flow out Cein (Usec) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2 14.0 14.0 10.5 8.9 6.8 5.4 3.6	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.66           12.7           34.4           40           93           922           122           84.9           69.3           49           34.4           10.7	Pre-devil ( mm/hr) 10 mm/hr) 4.13 6.78 10.6 15.9 28.5 40.4 57 200 100 100 70 70 70 57 40.4 28.5 15.9	1.4 1 0.55 0.9 0.9 0.8 0.04 1.0 1.5 1.0	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.8 0.04 1.0 1.0 1.0	Catchment pre-devel. Adjust step factor II required OK OK OK OK OK OK OK OK OK OK	minute steps 0 120 120 1080 1280 1280 1380 1410 1425 1430 1445 1440 1445 1450 1455 1470
Chart intensity hr values steps used	a accumulates minute atops 1 720 1 740 1 700 1 7	THR           (Pr)           12.00           6.00           3.00           0.50           0.50           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.25           0.20           0.08           0.08           0.25           0.50           0.08           0.25           0.50           2.00           3.00           6.00	Event data, TMMSE mixa 720 380 180 120 30 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. On (Unec) 0.29 0.5 0.8 0.5 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	plus office flow out <u>Qtn (Usec)</u> 0.70 1.3 1.9 2.7 4.6 8.2 10.2 14.0 15.2 14.0 14.0 15.2 15.2 16.2	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.63           18.7           60.2           60.2           122           84.3           60.2           122           84.3           40           121           84.3           122           84.3           123           7.66	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	1.4 1.4 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Catchment pre-devel. Adjust step factor if negetied OK OK OK OK OK OK OK OK OK OK OK	minute stepsi 0 120 120 1280 1280 1280 1380 1410 1425 1435 1440 1445 1455 1470 1550
Chart intensity hr values steps used	accumulates           minute steps           720           1080           1260           1380           1425           1420           1430           1435           1445           1445           1445           1445           1445           1450           1450           1450           1450           1450           1450           1450           1450           1450           1460	THR           (Pr)           12.00           6.00           3.00           0.50           0.25           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.09           0.50           2.50           3.00	Event data, TMMSE mina 720 3800 180 30 30 30 5 5 5 5 5 5 5 5 5 5 30 30 130 180	Direct to Atten. On (Usec) 0.20 0.5 0.6 1.3 2.4 3.4 4.8 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8	plus officer flow out of Clin (Live) 0.70 1.3 1.9 2.7 4.6 6.2 1.2 1.0 1.3 6.2 1.0 1.0 6.2 1.0 1.0 6.2 1.0 1.0 6.2 1.0 1.0 1.0 2.7 4.6 6.5 1.0 1.0 2.7 4.6 6.5 1.0 1.0 2.7 4.6 6.5 1.0 1.0 1.0 2.7 4.6 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.63           12.7           18.7           9           60.2           102           60.2           102           60.2           102           60.2           102           60.2           10.3           49           42           43           44           45	Pre-devi 1 (mm/hr) 10,78 10,6 10,6 10,6 10,9 10,9 10,9 10,0 10,	1.4 1.4 0.5 0.5 0.9 0.0 1.0 1.0 1.0 0.0 1.0 1.0 1.0	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.5 1.0 0.9 0.8 1.1 1 1 1	Catchment pre-devel. Adjust teep factor if required DK OK OK OK OK OK OK OK OK OK OK OK OK OK	minute steps 0 120 120 1280 1280 1280 1410 1425 1430 1445 1445 1445 1455 1450 1450
Chart Interests Interests Construction Construction Catchment from Chart (call MAY (PDB 9) Catchment from Chart (call MAY (PDB 9))	accumulate:     accumulate:     minute steps     720     1080     1080     1130     1425     1430     1445     1445     1445     1445     1455     1455     1455     1455     1620     1800     2160     2880	THR           (Pr)           12.00           6.00           3.00           0.50           0.50           0.08           0.08           0.08           0.08           0.08           0.08           0.08           0.25           0.20           0.08           0.08           0.25           0.50           0.08           0.25           0.50           2.00           3.00           6.00	Event data, TMMSE mixa 720 380 180 120 30 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. On (Unec) 0.29 0.5 0.8 0.5 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	plus office flow out <u>Qtn (Usec)</u> 0.70 1.3 1.9 2.7 4.6 8.2 10.2 14.0 15.2 14.0 14.0 15.2 15.2 16.2	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.63           18.7           60.2           60.2           122           84.3           60.2           122           84.3           40           121           84.3           122           84.3           123           7.66	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	1.4 1.4 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Catchment pre-devel. Adjust teep factor if required DK DK DK OK OK OK OK OK OK OK OK OK OK OK OK OK	minute steps 0 120 120 1280 1280 1280 1380 1410 1425 1435 1440 1445 1445 1455 1470 1550
Catchment flow Quat (call MAX(P199) F10) Catchment flow Quat (call MAX(P199) F10)	accumulate     minute steps     720     1000     1080     1080     1080     1180     1425     1430     1430     1430     1435     1445     1445     1455     1450     1455     1450     1455     1450     1455     1450     1455     1450     1500     1500     2160     2880     2880     2880     2880     2880     2 28	THR           (Pr)           12.00           6.00           3.00           0.50           0.25           0.08           0.08           0.08           0.08           0.25           0.08           0.08           0.08           0.25           0.09           12.00           12.00           0.0022	Event data, TMMSE mira 720 360 180 180 120 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. On (Usec) 0.20 0.5 0.6 1.3 2.4 3.4 4.8 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8.4 8	plus officer flow out Citre (Lives) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2 14.0 14.0 10.5 8.9 6.8 5.4 5.4 5.4 5.4 0.5 6.8 5.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.9           7.9           34.7           49           40           40           40           40           40           40           40           40           41           42           43           40.3           40.3           40.3           40.3           40.3           40.3           40.3           40.3           40.3           40.4           40.5           40.6           40.7           40.8           40.9           40.6           40.6           40.7           40.6           4.6           4.6           4.6	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	1.4 1.4 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Catchment pre-devel. Adjust teep Factor II response OX OX OX OX OX OX OX OX OX OX OX OX OX	minute steps 0 120 120 1280 1280 1280 1380 1410 1425 1435 1440 1445 1445 1455 1470 1550
Catchment flow Qast (cell MAX(P108-P130) 22 22 22 22 22 22 22 22 22 22 22 22 22	accumulate     minute steps     720     1000     1080     1080     1080     1180     1425     1430     1430     1430     1435     1445     1445     1455     1450     1455     1450     1455     1450     1455     1450     1455     1450     1500     1500     2160     2880     2880     2880     2880     2880     2 28	THE           0%           12.00           6.00           3.00           0.00022           0.0118           0.0118           0.0118	Event data, TMMSE mere 720 3800 120 120 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. Car (Liker) 0.29 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	plus officer flow out Citre (Lives) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2 14.0 14.0 10.5 8.9 6.8 5.4 5.4 5.4 5.4 0.5 6.8 5.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.9           7.2           3.2           3.2           3.4           40           40           40           40           42           43.4           43.5           43.7           43.7           43.7           43.7           43.7           43.7           44.6           45.7           46.7           46.7           47.7           48.7           48.7           49.7           40.7	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	1.4 1.4 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Catchment pre-devel. Adjust teep Factor II required 05 05 05 05 05 05 05 05 05 05 05 05 05	minute stepsi 0 120 120 1280 1280 1280 1380 1410 1425 1435 1440 1445 1455 1470 1550
Catchment flow Qpat (call MAX(P09P) F10) Catchment flow Qpat (call MAX(P19P) F10) Catchment flow Qpat (call MAX(P10P) F	accumulate     minute steps     720     1000     1080     1080     1080     1180     1425     1430     1430     1430     1435     1445     1445     1455     1450     1455     1450     1455     1450     1455     1450     1455     1450     1500     1500     2160     2880     2880     2880     2880     2880     2 28	THR           (Pr)           12.00           6.00           3.00           0.50           0.25           0.08           0.08           0.08           0.08           0.25           0.08           0.08           0.08           0.25           0.09           12.00           12.00           0.0022	Event data, TMMSE mere 720 3800 120 120 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Direct to Atten. Car (Liker) 0.29 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	plus officer flow out Citre (Lives) 0.70 1.3 1.9 2.7 4.6 6.2 8.5 10.2 14.0 14.0 10.5 8.9 6.8 5.4 5.4 5.4 5.4 0.5 6.8 5.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	Post-devel 1 (mm/hr)           10 yr           10 yr           4.6           7.9           7.2           3.2           3.2           3.4           40           40           40           40           42           43.4           43.5           43.7           43.7           43.7           43.7           43.7           43.7           44.6           45.7           46.7           46.7           47.7           48.7           48.7           49.7           40.7	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	1.4 1.4 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor if	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Catchment pre-devel. Adjust loss factor if meganimi OX OX OX OX OX OX OX OX OX OX OX OX OX	minute stepsi 0 120 120 1280 1280 1280 1380 1410 1425 1435 1440 1445 1455 1470 1550
Catchment flow Qpat (call MAX(P09P) F10) Catchment flow Qpat (call MAX(P19P) F10) Catchment flow Qpat (call MAX(P10P) F	accumulation and a second a secon	Trift           (P)           (20)	Event data, TRINSPA mitina 2020 2020 2020 2020 2020 2020 2020 20	Direct to Atten. Car (Liker) 0.29 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	Data efficie flow out Cite (Lives) Cite (	Participation         The second	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0.62 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	Adjust step factor d received 05 05 05 05 05 05 05 05 05 05 05 05 05	Chart step factor 1.4 1 0.55 0.56 0.9 0.04 1.0 1.0 1.0 0.9 0.8 1.1 1.1 0.8	Adjust step factor it meginite 08 08 08 08 08 08 08 08 08 08 08 08 08	minute steps 0 0 1200 1200 1200 1380 1380 1445 1445 1445 1445 1445 1445 1445 144
Catchment flow Quat (call MAX(P199) F10) Catchment flow Quat (call MAX(P199) F10)	accumulation and a second a secon	Trift           (P)           (20)	Event data, TRINSPA mitina 2020 2020 2020 2020 2020 2020 2020 20	Direct to Atten. Can Graec) Can Graec)	Data efficie flow out Cite (Lives) Cite (	Perced even ( month) 1 18 µ 7.68 7.68 7.68 7.69 7	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0.62 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	Adjust step factor d received 05 05 05 05 05 05 05 05 05 05 05 05 05	Charl skep factor 1 1 0 56 0 0 0 0 0 0 0 0 0 0 0 0 0	Adjust step factor it meginite 08 08 08 08 08 08 08 08 08 08 08 08 08	minute steps 0 0 1200 1200 1200 1380 1380 1445 1445 1445 1445 1445 1445 1445 144
Catchment flow Quat (call MAX(P199) F10) Catchment flow Quat (call MAX(P199) F10)	secural after minute segment 200 1300 1310 1410 1435 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1440 1455 1455	THE           12.00           22.00           3.00           2.00           3.00           0.00	Event data, TimPiera mean 200 300 300 300 300 300 300 300	Direct to Alter. C 4 0 (26) 20 20 20 20 20 20 20 20 20 20	Data efficie flow out Cite (Lives) Cite (	Participation         The second	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Charl skep factor 1 1 0 56 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust sing product IT regional occurs occur	minute step: 0 1000 1000 1000 1000 1000 1000 1000
Catchment flow Quat (call MAX(P199) F10) Catchment flow Quat (call MAX(P199) F10)	secured attest     minutes design	Trill         Trill           (95)         4.60           3.00         3.00           3.00         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.00           0.08         3.00           0.09         3.00           0.00         3.00           0.01         3.00           0.02         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.08           0.08         3.18           0.09         3.18           0.09         3.18           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09<	Event data, TahNie Termine mean 200 300	Direct to Alter. Call Order 200 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Data efficie flow out Cite (Lives) Cite (	Pertective (control) 10 20 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Chartapa factor 14 14 15 0.05 0.03 0.03 0.04 0.03 0.04 10 10 10 10 10 10 0.05 0.03 0.04 0.05 0	Addust sing product IT regional occurs occur	minute steps 0 1 1000 100
Catchment flow Qpat (call MAX(P09P) F10) Catchment flow Qpat (call MAX(P19P) F10) Catchment flow Qpat (call MAX(P10P) F	secured attest     minutes design	THE           12.00           22.00           3.00           2.00           3.00           0.00	Event data, TahNie Termine mean 200 300	Direct to Alter. C 44 0 and 0	Data efficie flow out Cite (Lives) Cite (	Pertective (control) 10 20 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Chartapa factor 14 14 15 0.05 0.03 0.03 0.04 0.03 0.04 10 10 10 10 10 10 0.05 0.03 0.04 0.05 0	Addust sing product IT regional occurs occur	minute steps 0 1 1000 100
Catchment flow Qpat (call MAX(P09P) F10) Catchment flow Qpat (call MAX(P19P) F10) Catchment flow Qpat (call MAX(P10P) F	secured attest     minutes design	Trill         Trill           (95)         4.60           3.00         3.00           3.00         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.00           0.08         3.00           0.09         3.00           0.00         3.00           0.01         3.00           0.02         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.08           0.08         3.18           0.09         3.18           0.09         3.18           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09<	Event data, TahNie Termine mean 200 300	Circuit o Alter.     Card Calo     Card	plus efficien flow out Citre (Lives) Citre (Live	Pertective (control) 10 20 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Chartapa factor 14 14 15 0.05 0.03 0.03 0.04 0.03 0.04 0.03 0.04 0.05 0.03 0.04 0.05 0.03 0.04 0.05 0	Addust sing product IT regional occurs occur	minute steps 0 1 1000 100
Catchment flow Qpat (call MAX(P09P) F10) Catchment flow Qpat (call MAX(P19P) F10) Catchment flow Qpat (call MAX(P10P) F	secured attest     minutes design	Trill         Trill           (95)         4.60           3.00         3.00           3.00         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.00           0.08         3.00           0.09         3.00           0.00         3.00           0.01         3.00           0.02         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.08           0.08         3.18           0.09         3.18           0.09         3.18           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09<	Event data, Tahnya Tah man 200 300 300 300 300 300 300 300	Circuit o Alter.     Card Calo     Card	plus efficien flow out Citre (Lives) Citre (Live	Participation of the second	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Chartapa factor 14 14 15 0.05 0.03 0.03 0.04 0.03 0.04 0.03 0.04 0.05 0.03 0.04 0.05 0.03 0.04 0.05 0	Addust sing product IT regional occurs occur	minute step: 0 1000 1000 1000 1000 1000 1000 1000
Catchment flow Opat (cell MAX(P109:P13) Catchment flow Opat (cell MAX(P109:P13) Catchment flow Opat (cell MAX(P109:P13) Catchment flow Gpat (cell MAX(P109:P13) Catchment flow catch cell man (cell max) Catchment flow catchment flow catchment flow (cell max) Catchment flow	secured attest     minutes design	Trill         Trill           (95)         4.60           3.00         3.00           3.00         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.00           0.08         3.00           0.09         3.00           0.00         3.00           0.01         3.00           0.02         3.00           0.03         3.00           0.04         3.00           0.05         3.00           0.06         3.00           0.07         3.08           0.08         3.18           0.09         3.18           0.09         3.18           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09         0.01           0.09<	Event data, Tahnya Tah man 200 300 300 300 300 300 300 300	Circuit o Alter.     Card Calo     Card	system	Participation of the second	Pre-devi L (mm/hr)           10 yr           4.13           6.78           10.6           15.9           40.4           37           700           100           100           100           100           100           100           100           100           100           100           100           100           100           105           10.6           6.78	14 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Addust step (back of 4) regarded 000 000 000 000 000 000 000 000 000	Chartapa factor 14 14 15 0.05 0.03 0.03 0.04 0.03 0.04 0.03 0.04 0.05 0.03 0.04 0.05 0.03 0.04 0.05 0	Addust sing product IT regional occurs occur	minute steps 0 1 1000 100
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Coherintensity Ites isses is	second after minimum second after minimum second after minimum second after minimum second after minimum second after minimum second after aft	Trill         Trill           Trill         Trill           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         13.00           0.00         6.00           13.00         13.00           0.01         13.00           0.02         13.00           0.03         6.00           13.00         13.00           0.01         0.01           0.01         0.01           0.01         0.01           0.02         10.00           0.03         0.00           0.01         0.01           0.02         12.00           0.02         12.00           0.02         12.00	Cont data, Table 7750 7750 7750 7750 7750 7750 7750 7750	Direct to Alter. 0 200 0 200	yate mini frage at	Participation (control)           10 a           11 a           12 a           13 a           14 a           15 a           16 a           17 a           18 a           19 a           10 a           10 a           10 a	Predevil (unnh) 107 - 07 - 0	14 1 0	Addant step factor # maginaria addant	Charless factor 1 4 1 4 1 5 1 6 1 6 1 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0	Addast is top include if magnetic accession accessio	minute steps 700 700 700 1000 1
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Coherintenents items to a item items to items to ite	second after minimum second after minimum second after minimum second after minimum second after minimum second after minimum second after aft	Trill         Trill           Trill         Trill           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         13.00           0.00         6.00           13.00         13.00           0.01         13.00           0.02         13.00           0.03         6.00           13.00         13.00           0.01         0.01           0.01         0.01           0.01         0.01           0.02         10.00           0.03         0.00           0.01         0.01           0.02         12.00           0.02         12.00           0.02         12.00	Cont data, Table 7750 7750 7750 7750 7750 7750 7750 7750	Direct to Alter. 0 200 0 200	yate mini frage at	Participation (control)           10 a           11 a           12 a           13 a           14 a           15 a           16 a           17 a           18 a           19 a           10 a           10 a           10 a	Predevil (unnh) 107 - 07 - 0	14 1 0	Addant step factor # maginaria addant	Charless factor 1 4 1 4 1 5 1 6 1 6 1 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0	Addast is top include if magnetic accession accessio	minute steps 700 700 700 1000 1
Contentions in terms in the second se	second after minimum second after minimum second after minimum second after minimum second after minimum second after minimum second after aft	Trill         Trill           Trill         Trill           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         13.00           0.00         6.00           13.00         13.00           0.01         13.00           0.02         13.00           0.03         6.00           13.00         13.00           0.01         0.01           0.01         0.01           0.01         0.01           0.02         10.00           0.03         0.00           0.01         0.01           0.02         12.00           0.02         12.00           0.02         12.00	Cont data, Table 7750 7750 7750 7750 7750 7750 7750 7750	Direct to Alter. 0 200 0 200	yate mini frage at	Participation (control)           10 a           11 a           12 a           13 a           14 a           15 a           16 a           17 a           18 a           19 a           10 a           10 a           10 a	Predevil (unnh) 107 - 07 - 0	14 1 0	Addant step factor # maginaria addant	Charless factor 1 4 1 4 1 5 1 6 1 6 1 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0	Addast is top include if magnetic accession accessio	minute steps 700 700 700 1000 1
Contentients like see 3 4 4 4 4 4 4 4 4 4 4 4 4 4	second after minimum second after minimum second after minimum second after minimum second after minimum second after minimum second after aft	Trill         Trill           Trill         Trill           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         13.00           0.00         6.00           13.00         13.00           0.01         13.00           0.02         13.00           0.03         6.00           13.00         13.00           0.01         0.01           0.01         0.01           0.01         0.01           0.02         10.00           0.03         0.00           0.01         0.01           0.02         12.00           0.02         12.00           0.02         12.00	Cont data, Table 7750 7750 7750 7750 7750 7750 7750 7750	Direct to Alter. 0 200 0 200	yate mini frage at	Participation (control)           10 a           11 a           12 a           13 a           14 a           15 a           16 a           17 a           18 a           19 a           10 a           10 a           10 a	Predevil (unnh) 107 - 07 - 0	14 1 0	Addant step factor # maginaria addant	Charless factor 1 4 1 4 1 5 1 6 1 6 1 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0	Addast is top include if magnetic accession accessio	minute steps 70 70 70 70 100 100 100 100 10
Contentients The store is a	second after minimum second after minimum second after minimum second after minimum second after minimum second after minimum second after aft	Trill         Trill           Trill         Trill           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         3.00           0.00         13.00           0.00         6.00           13.00         13.00           0.01         13.00           0.02         13.00           0.03         6.00           13.00         13.00           0.01         0.01           0.01         0.01           0.01         0.01           0.02         10.00           0.03         0.00           0.01         0.01           0.02         12.00           0.02         12.00           0.02         12.00	Cont data, Table 7750 7750 7750 7750 7750 7750 7750 7750	Direct to Alter. 0 200 0 200	2000 2000 2000 2000 2000 2000 2000 200	Participation (control)           10 a           11 a           12 a           13 a           14 a           15 a           16 a           17 a           18 a           19 a           10 a           10 a           10 a	Predevil (unnh) 107 - 07 - 0	14 1 0	Addant step factor # maginaria addant	Charless factor 1 4 1 4 1 5 1 6 1 6 1 6 0 6 0 6 0 6 0 6 0 6 0 6 0 6 0	Addast is top include if magnetic accession accessio	minut step 0 0 700 1040 1040 1040 1040 1040 1040 1040 1040 1040 1040 1050 1

Pre – Development water flow	Rational met	thod	48hr					Pre-development Slope		Rational metho	bd	24hr
Original water flow)	Existing roofs	Concrete & smooth seal	Existing metal driveway	Other	Vegetation	Bush		Slope % 10		Roof & decks	Concrete & smooth seal	Metaled area Or rough seal
Total area. Area (m^2) 474.20	1 (m*2) 0	2 (m*2) 0	3 (m*2) 0	4 (m*2) 0	5 (m*2) 474.2	6 (m*2) 0		Ci correcttion		1 (m*2) 0.00	2 (m*2) 0.00	3 (m*2) 0.00
Runoff coefficent	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)		0.00		Ci (coefficient)	Ci (coefficient)	Ci (coefficie
Use "C" values from FNDC TR55 chart Generally do not use slope adjustment Ci factor if using TR55	FALSE 0.96	FALSE 0.96	FALSE 0.8	FALSE 0.65	0.53	FALSE 0.59				FALSE	FALSE	FALSE
Rainfall intensity tainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	1 (mm/tr) 6 32	I (mm/hr) 6.92	1 (mm/hr) 6.32	l (mm/hr) 6.32	I (mm/hr) 6.32	l (mm/hr) 6.32		Post-development Slope		l (mm/hr) 10.30	I (mm/hr) 10.30	1 (mm/hr)
se an appropriate event for the situation Flow rate of surface water	Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec)		% 10		Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec
	0.000	0.000	0.000	0.000	0.000	0.000		Ci correcttion		0.000	0.000	0.000
Pre – development flow of developed area	Op (m*3/sec) 0.0004	Op (L/sec) 0.44						0.00		Qp (m*3/sec) 0.001	Op (L/sec) 0.7	
	Any area wher	e there is a char	ge		Pre-development a	ea where there is	Any area where the	re is no change		Any area where the	nere is a change	
ost – Development water flow	in the impermi	Concrete &	Proposed	Vegetation	a change in imperm not collected in ate	eable surfaces but nuation system Metaled area	to the impermiability Existing roof	values		in the impermiab	Concrete &	Metaled are
Total area. Area (m^2)	Proposed roots 1 (m <sup>2</sup> )	Pavers 2 (m*2)	Proposed metal driveway 3 (m*2)	4 (m <sup>2</sup> )	5 (m*2)	6 (m*2)	7 (m*2)	Vegetation 8 (m <sup>2</sup> )		& decks 1 (m*2)	smooth seal 2 (m*2)	Or rough sea 3 (m*2)
ОК	474.2	0	0	0	0	0	0	0		474.20	0.00	0.00
Use "C" values from FNDC TR55 chart Generally do not use slope adjustment Ci factor if using TR55	Ci (coefficient) 0.96 0.96	Ci (coefficient) FALSE 0.96	Ci (coefficient) FALSE 0.9	Ci (coefficient) FALSE 0.59	Ci (coefficient) 0.2 "C" value difference b	Ci (coefficient) 0.3 etween Pre & Post	Ci (coefficient) FALSE 0.96	Ci (coefficient) FALSE 0.59		Ci (coefficient) 0.96	Ci (coefficient) FALSE	Ci (coeffici FALSE
Rainfall Intensity rate Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	I (mm/tr)	I (mm/hr)	l (mm/hr)	l (mm/hr)	Maximum value 0.2 (at t I (mm/hr)	he moment) I (mm/hr)	l (mm/hr)	l (mm/hr)		l (mm/hr)	l (mm/hr)	l (mm/br)
tainfall Data from NIWA. Hirds 4, RCP6, 2081-2100 Jse an appropriate event for the situation Flow rate of surface water	7.09 Qc (m*3/sec)	7.09 Qc (m*3/sec)	7.09 Qc (m*3/sec)	7.09 Qc (m*3/sec)	6.32 Qc (m*3/sec)	6.32 Qc (m*3/sec)	6.32 Qc (m*3/sec)	6.32 Qc (m*3/sec)		11.80 Qc (m*3/sec)	11.80 Qc (m*3/sec)	11.80 Qc (m*3/sec
	0.001 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)		0.001 Qc (L/sec)	0.000 Qc (L/sec)	0.000 Qc (L/sec)
	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00		1.49	0.00	0.00
Total included in attenuation system calc's	Qa (m*3/sec)	Qa (L/sec) 0.46			Total impermeable attenuation system	collection Qby (L/sec)	Total no change, ex attenuation system Oby (m*3/sec)	alc's Qby (L/sec)		Total in attenuation s Qa (m <sup>43</sup> /sec)	Qa (L/sec)	
post – development flow	0.000	0.40			Qby (m*3/sec) 0.000	0.00	0.000	0.00		Post – Pre develop	ment flow	
Post - Pre development flow	Qtpp (m*3/sec) 0.0005	Qtpp (L/sec) 0.46								Qtpp (m*3/sec) 0.0008	Otpp (L/sec) 0.77	
Total post development flow										Total post develop	ment flow	
Developed flow + undeveloped flow	Qatt (m*3/sec) 0.0009	Qatt (L/sec) 0.90								Qatt (m*3/sec) 0.0015	Qatt (L/sec) 1.49	
0 to 10min										10 to 20min		
b otal catchment pre-development flow	Rational met		48hr					Pre-development		Rational metho		24hr
	Proposed roofs	Concrete & smooth seal	Proposed metal driveway	Other	Vegetation	Bush		Slope %		Roof & decks	Concrete & smooth seal	Metaled are Or rough sea
Total area. Area (m^2) 474.20	1 (m*2) 474.2	2 (m*2) 0	3 (m*2) 0	4 (m*2) 0	5 (m*2) 0	6 (m*2) 0		10		1 (m*2) 474.20	2 (m*2) 0.00	3 (m*2) 0.00
Runoff coefficent Use "C" values from FNDC TR55 chart	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)		Ci correction 0.00		Ci (coefficient)	Ci (coefficient)	Ci (coeffic
Use "C" values from FNDC TR55 chart Generally do not use slope adjustment Ci factor if using TR55	0.96	FALSE 0.96	FALSE 0.8	FALSE 0.8	FALSE 0.53	FALSE 0.59				0.96	FALSE	FALSE
Rainfall intensity Rainfall Data from NIWA. Hirds 4. RCP6. 2081-2100	I (mm/hr) 6.32	I (mm/hr) 6.32	1 (mm/hr) 6.32	l (mm/hr) 6.32	I (mm/hr) 6.32	l (mm/hr) 6.32		Post-development		I (mm/hr) 10.30	I (mm/hr) 10.30	I (mm/hr) 10.30
Jse an appropriate event for the situation Flow rate of surface water	Qc (m*3/sec)	Qc (m*3/sec)	0.32 Qc (m*3/sec)	0.32 Qc (m/3/sec)	Qc (m*3/sec)	0.32 Qc (m*3/sec)	1	Slope %		Qc (m*3/sec)	Qc (m*3/sec)	Qc (m*3/sec
	0.001	0.000	0.000	0.000	0.000	0.000		10		0.001	0.000	0.000
Catchment area pre – development flow	Qcap (m*3/sec) 0.0008	Qcap (L/sec) 0.80						Ci correcttion 0.00		Op (m/3/sec) 0.0013	Qp (L/sec) 1.30	
2												
				Calculation (initial)	Calculation (initial)	Calculation (initial) usable height	Calculation (final) Additional area	Num. Of tanks 2	Slope out contro 1930min (row4235)		2160min (line4465)	
Select 1 for type of tank/area, 0 for other Estimate storage volume	Nound 1	Square 0	Tank radius	Total tank area m^2 30.54	Total tank volume m^3 35.12	hmax (m) 1.15	m^2 Nil Total area	r (m) 1.81 m^2 for fixed H68 height	0.02182	0.03055	0.0295889 1.020946	Vin Vout
Adjust to match max Vstored Round area	Num. Of tanks	1	r (m)	30.54	Initial calculation hstor max.	OK OK 1.135	Same as initial Final volume	20.58	1.38/21	If using slope control	0.064635 Diff. = 0.0015+-0.0005	
Square/rectangular area	Num. Of tanks	Width	Length	m^2 100.00	Vstored max. Vstored min.	34.66	Same as initial	Trench width	80 minute crosso 1500	1520	minute steps 1620	Original flow
Short tube, 0.76	Orifice type "u"	8			0.05 to 3.5% left @ 48hr	1.28 OK	Same as initial	Trench length 20.6	0.00299	0.00268	0.00168 0.00248	Opre (m/sec) Opd (m/sec)
Thin sharp, 0.62	0.76	9.8067		Gi Max.10% lef	aph, 24hr Vstored 2520m t @ 24hr from initial calc.	1.305 3.77	Not used 3.77	m*2 for fixed H68 height 103.00	-0.00034	-0.00004 Minimise L76	0.00080	Orifice flow out
	48hr	24hr	12hr	6hr	or add extra volume 2hr	60	30	Not used 20	10	Line to compare pre-c line with crossover lin	e changes at point	
Pre – development flow 3 of developed area	C20 0.00044	L20 0.00072	U20 0.00112	AD20 0.00168	AM20 0.00299	AV20 0.00422	BE20 0.00594	BN20 0.00726	BW20 0.01040	minute steps 1445	Opre (L/sec) 10.4	Qa (L/sec) 12.6
Pre-development flow matches 2hr 40min. Intensity	Qp (m^3/sec)	Qp (L/sec)		Qin max.			Slope factor adjustment at			1450 1455	7.3	8.8 7.2
Uses (80min.crossover O126) as a source value Do not change For calculation purposes this section changes	0.0027 OK Dia check	2.6761 Dia	Area	Qout 1520 (L/sec)	Qout (m^3/sec)	48hr program Min.crossover Chart point (min.)	Min.crossover Chart point (min.) 0.91	1080min (K2305) Qod (L/sec)	2520min (K5185) Qod (L/sec)	1470 1500 1620	4.2 3.0 1.7	5.1 3.6 1.9
the dia only and thereby the area The information is not used for anything else	0.0308	0.03072 30.72	0.0007	2.639	0.00264	1520	peak flow Chart point (max.)	0.85941 0.34405	0.51535 Diff. >0 normally	1800	1.1	1.3
	If additional storag	ze is required use t	ne original/inital or	fice size and calc. he	ight		0.15					
i Calculate maximum storage volume						East passing 2081 2100	Kerikeri					
Chart intensity hr values	Chart intensity accumulated	Storm duration-	Storm duration- Event data, TMINS	Attenuation calc. to Direct to Atten.	Catchment pre-devel. plus orifice flow out	CC (RCP6) Intensity. C Post-devel I, (mm/hr)	Current(0 deg) Pre-devil I, (mm/hr)	Chart step factor	Check Adjust step factor if	Catchment pre-deve Chart step factor	Catchment pre-deve Adjust step factor if	Accumulate minute step
steps used 48	minute steps 720	(hr) 12.00	mins 720	Qa (L/sec) 0.46	Qtin (L/sec) 1.08	100 yr 7.09	100 yr 6.32	1.4	required	1.4	required	0 120
24		6.00	360	0.8 1.3	1.9 2.9	11.8 18.8	10.3 16.1	1 0.55	ОК ОК	1 0.55	OK OK	720 1080
12	1080 1260	3.00	180					0.56	OK			1260 1380
12 6	1260 1380 1410	3.00 2.00 0.50	120 30	1.9 3.6	4.2 6.9	28.6	24 42.9	0.9	OK	0.56	OK	
6 2 1 30	1260 1380 1410 1425 1430	3.00 2.00 0.50 0.25 0.08		3.6 5.1 7.2	4.2 6.9 9.4 12.7	52 73.9 104	42.9 60.5 85.1	0.8	OK OK	0.9 0.8 0.04		1410 1425
6 2 1	1260 1380 1410 1425	3.00 2.00 0.50 0.25	30	3.6	4.2 6.9 9.4	52 73.9	42.9 60.5	0.8		0.9	0K 0K 0K 0K 0K	1410 1425 1430 1435 1440
6 2 1 30	1260 1380 1410 1425 1430 1435 1440 1445 1450	3.00 2.00 0.50 0.25 0.08 0.08 0.08 0.08 0.08	30	3.6 5.1 7.2 8.8 12.6 12.6	4.2 6.9 9.4 12.7 15.1 20.9 20.9 15.6 13.3	52 73.9 104 127 182 182 182 127	42.9 60.5 85.1 104 149 149 104	0.8 0.04 1.0 1.5 1.0		0.9 0.8 0.04 1.0 1.0 1.5 1.0	ОК ОК ОК ОК ОК ОК	1410 1425 1430 1435 1440 1445 1450
6 2 1 30 20 10 10	1260 1380 1410 1425 1430 1435 1440 1445	3.00 2.00 0.50 0.25 0.08 0.08 0.08 0.08	30	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6	4.2 6.9 9.4 12.7 15.1 20.9 15.6 13.3 10.2 8.1	52 73.9 104 127 182 182 127 104 73.9 52	42.9 60.5 85.1 104 149 149	0.8 0.04 1.0 1.0 1.5	ОК ОК ОК ОК ОК ОК ОК	0.9 0.8 0.04 1.0 1.0 1.5	ОК ОК ОК ОК ОК ОК ОК ОК	1410 1425 1430 1435 1440 1445 1450 1455 1455
6 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1260 1380 1410 1425 1430 1435 1440 1445 1450 1455 1470 1500 1500 1620 1800	3.00 0.50 0.25 0.08 0.08 0.08 0.08 0.08 0.08 0.25 0.50 2.00 3.00	30 15 5 5 5 5 5 15 30 120 180	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6 1.9 1.3	4.2 6.9 9.4 12.7 20.9 20.9 16.6 13.3 10.2 8.1 5.5 4.0	52 73.9 104 127 182 127 104 73.9 52 28.6 18.8	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 16.1	0.8 0.04 1.0 1.5 1.5 1.0 0.9 0.8 1.1 1 1	ОК ОК ОК ОК ОК ОК ОК ОК	0.9 0.8 0.04 1.0 1.5 1.5 1.0 0.9 0.8 1.1 1 1	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	1410 1425 1430 1435 1440 1445 1455 1455 1470 1500 1520
6 2 1 30 20 10 10	1260 1380 1410 1425 1430 1435 1440 1445 1450 1455 1470 1500 1620	3.00 0.50 0.25 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.25 0.50 2.00	30 15 5 5 5 5 5 5 15 30 120	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6 1.9	4.2 6.9 9.4 12.7 15.1 20.9 20.9 15.6 13.3 10.2 8.1 5.5	52 73.9 104 127 182 182 127 104 73.9 52 28.6	42.9 60.5 85.1 104 149 104 85.1 60.5 60.5 42.9 24	0.8 0.04 1.0 1.0 1.5 1.0 0.9 0.8	ОК ОК ОК ОК ОК ОК ОК ОК ОК ОК	0.9 0.8 0.04 1.0 1.0 1.5 1.0 0.9 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	1410 1425 1430 1435 1440 1445 1445 1455 1455 1470 1500 1520 1620 1800
6 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1260 1380 1410 1425 1435 1435 1445 1445 1445 1455 1460 1500 1620 1620 1620 2160 2160	3.00 2.00 0.50 0.25 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.0	30 15 5 5 5 5 15 30 120 180 360 720	3.6 5.1 7.2 8.8 12.6 12.6 12.6 7.2 5.1 3.6 1.9 1.3 0.8 0.5 Qout max.	4.2 6.9 9.4 12.7 20.9 15.6 13.3 10.2 8.1 5.5 4.0 2.3 1.2 Qout max.	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.04 1.0 1.5 1.5 0.9 0.8 1.1 1 1 0.8	ОК ОК ОК ОК ОК ОК ОК ОК ОК	0.9 0.8 0.04 1.0 1.5 1.0 0.9 0.8 1.1 1 1 1 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	1410 1425 1430 1435 1440 1445 1455 1455 1455 1450 1500 1520 1620 1800 2160 2760
6 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1.260 1.380 1.445	3.00 2.00 0.50 0.25 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.0	30 15 5 5 5 5 15 30 120 180 360	3.6 5.1 7.2 8.8 12.6 8.8 7.2 5.1 5.1 3.6 1.9 1.3 0.8 0.5	4.2 6.9 9.4 12.7 16.1 20.9 15.6 13.3 10.2 8.1 5.5 4.0 2.3 1.2	52 739 104 127 182 182 184 184 789 52 286 188 118 118 7.09	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.04 1.0 1.5 1.5 0.9 0.8 1.1 1 1 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	0.9 0.8 0.04 1.0 1.5 1.0 0.9 0.8 1.1 1 1 1 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	1410 1425 1430 1435 1440 1445 1450 1455 1450 1500 1500 1520 1620 1800 2160
6 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1 360 1 380 1 410 1 425 1 435 1 435 1 445 1 445 1 445 1 445 1 455 1 470 1 1500 1 1500 1 1500 1 1600 2	3.00 2.00 0.50 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.25 0.08 0.08 0.25 0.08 0.09	30 15 5 5 5 5 15 30 120 180 360 720	3.6 5.1 7.2 8.8 12.6 12.6 12.6 7.2 5.1 3.6 1.9 1.3 0.8 0.5 Qout max.	4.2 6.9 9.4 12.7 20.9 15.6 13.3 10.2 8.1 5.5 4.0 2.3 1.2 Qout max.	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.04 1.0 1.5 1.5 0.9 0.8 1.1 1 1 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K	0.9 0.8 0.04 1.0 1.5 1.0 0.9 0.8 1.1 1 1 1 0.8	0X 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X	1410 1425 1430 1435 1440 1445 1455 1455 1455 1450 1500 1520 1620 1800 2160 2760
Gatchmont flow Opst (cell MAX(P199-P130) Catchmont flow Opst (cell MAX(P199-P130) Catchmont flow a ontfoc flow out + catchmont for calculate papers this action charges	1260 1380 1410 1425 1435 1445 1445 1445 1445 1445 1455 1470 1500 1500 1500 2880 2880 2880 Dia check	3.00 2.00 0.50 0.25 0.08 0.09	30 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.5 0.5 0 00552	4.2 6.9 9.4 12.7 20.9 15.6 13.3 10.2 8.1 5.5 4.0 2.3 1.2 Qout max.	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.04 1.0 1.5 1.5 0.9 0.8 1.1 1 1 0.8	0K 0K 0K 0K 0K 0K 0K 0K 0K 0K	0.9 0.8 0.04 1.0 1.5 1.0 0.9 0.8 1.1 1 1 1 0.8	0X 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X	1410 1425 1430 1435 1440 1445 1455 1455 1455 1450 1500 1520 1620 1800 2160 2760
6 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1260 1380 1410 1425 1435 1445 1445 1445 1445 1455 1470 1500 1500 1500 2880 2880 Qcap max. 3.990 Dia check	3.00 2.00 0.50 0.25 0.08 0.09	30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.5 Cout max. (m <sup>3</sup> /s(cc) 0.00552	42 6.0 9.0 12.7 20.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.64 1.0 1.0 0.9 0.9 0.8 1.1 1 1 0.8 0.8 0.8 0.8 0.8 0.8	OK OK OK OK OK OK OK OK OK OK OK	0.9 0.8 0.04 1.0 1.0 1.0 0.9 0.9 0.9 1.1 1 1 1 1 0.8 0.8 0.8	CXX OK OK OX OX OX OX OX OX OX OX OX OX	1410 1425 1430 1435 1440 1445 1440 1445 1455 1470 1500 1520 1620 1620 1800 2160 2760
Catabanen flow dant (cell MAC(P109-P130 20 20 20 20 20 20 20 20 20 20 20 20 20	1 260 1 380 1 410 1 425 1 435 1 445 1	3.00 2.00 0.50 0.25 0.08 0.09	30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 12.6 12.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.5 Cout max. (m <sup>3</sup> /s(cc) 0.00552	42 63 87 827 127 209 209 103 103 102 81 81 81 81 80 203 102 80 80 80 80 80 80 80 80 80 80 80 80 80	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.64 1.0 1.0 0.9 0.9 0.8 1.1 1 1 0.8 0.8 0.8 0.8 0.8 0.8	OK OX OX OX OK OK OK OK OK OK OX OX	0.9 0.8 0.04 1.0 1.0 1.0 0.9 0.9 0.9 1.1 1 1 1 1 0.8 0.8 0.8	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	1410 1425 1430 1435 1440 1445 1455 1455 1455 1450 1500 1520 1620 1800 2160 2760
Catabanen flow dant (cell MAC(P109-P130 20 20 20 20 20 20 20 20 20 20 20 20 20	1 260 1 380 1 410 1 425 1 435 1 445 1	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:0	30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 12.6 12.6 12.6 7.2 7.2 12.6 12.6 12.6 7.7 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12.6	4.2 6.0 7 8.7 12.7 12.7 20.9 20.0 13.3 10.2 8.1 2.3 10.2 2.3 10.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 2.3 1.2 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	0.8 0.0 10 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0.9 0.8 0.04 1.0 1.0 1.0 0.9 0.9 0.9 1.1 1 1 1 1 0.8 0.8 0.8	Construction data	1410 1425 1430 1435 1440 1445 1455 1455 1455 1450 1500 1520 1620 1800 2160 2760
Catabanen flow dant (cell MAC(P109-P130 20 20 20 20 20 20 20 20 20 20 20 20 20	1200           1380           1401           1402           1403           1403           1404           1405           1405           1405           1405           1405           1405           1405           1405           1400           1400           1400           1400           1400           1400           1400           1500           Diacheck           00376           24hr comparisit	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:08 0:09	30         30           15         5           5         5           5         5           5         5           10         300           300         300 <td>3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8</td> <td>4.2 6.0 9.7 12.7 20.9 10.5 10.5 10.5 10.5 8.1 6.5 4.0 1.2 1.2 1.2 12 12 12 11</td> <td>52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.</td> <td>42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3</td> <td>08 004 10 10 15 08 08 08 08 08 08 08 08 08</td> <td>uation flow in</td> <td>0.9 0.8 0.0 0.0 10 10 10 10 10 10 10 0.9 0.8 0.8 0.8 0.8 0.8 0.8</td> <td>ssaover point</td> <td>1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760</td>	3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	4.2 6.0 9.7 12.7 20.9 10.5 10.5 10.5 10.5 8.1 6.5 4.0 1.2 1.2 1.2 12 12 12 11	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	08 004 10 10 15 08 08 08 08 08 08 08 08 08	uation flow in	0.9 0.8 0.0 0.0 10 10 10 10 10 10 10 0.9 0.8 0.8 0.8 0.8 0.8 0.8	ssaover point	1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760
Catcheners flow cast (cell MAX(P109-P130 20 20 20 20 20 20 20 20 20 20 20 20 20	13/0           13/0           13/0           13/0           14/0           14/2           14/0           14/2           14/0	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:08 0:09	30 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	4.2 6.0 7 8.7 12.7 12.7 20.9 20.0 13.3 10.2 8.1 2.3 10.2 2.3 10.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 2.3 1.2 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	08 004 10 10 15 08 08 08 08 08 08 08 08 08		0.9 0.04 0.04 1.0 1.0 1.0 1.0 0.0 0.0 0.0 1 1 1 1 0.0 0.8 0.8 0.8 0.8 0.8	ssaover point	1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760
Catabanen flow dant (cell MAC(P109-P130 20 20 20 20 20 20 20 20 20 20 20 20 20	13/0           13/0           13/0           13/0           14/0           14/2           14/0           14/2           14/0	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:08 0:09	30 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	4 2 6 4 6 4 1 27 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	08 004 10 10 15 08 08 08 08 08 08 08 08 08	uation flow in	0.9 0.8 0.0 0.0 10 10 10 10 10 10 10 0.9 0.8 0.8 0.8 0.8 0.8 0.8	ssaover point	1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760
Catchment flow particle for anything etc	13/0           13/0           13/0           13/0           14/0           14/2           14/0           14/2           14/0	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:08 0:09	30 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	4.2 6.0 9.7 12.7 12.7 20.9 20.0 13.3 10.2 8.1 2.3 10.2 2.3 10.2 2.3 10.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 1.2 2.3 2.3 2.2 2.3 2.3 2.2 2.3 2.3 2.2 2.3 2.2 2.3 2.2 2.3 2.2 2.3 2.2 2.3 2.2 2.3 2.2 2.3 2.3	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	08 004 10 10 15 08 08 08 08 08 08 08 08 08	uation flow in	0.9 0.8 0.0 0.0 10 10 10 10 10 10 10 0.9 0.8 0.8 0.8 0.8 0.8 0.8	ssaover point	1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760
Catabatent flow data (cell Mac() (cell P 130) Catabatent flow data (cell Mac() (cell P 130) Catabatent flow data (cell Mac() (cell P 130) Catabatent flow a cell for the catabatent pred avoid person flow and thereby the cell To calculate press, this cell of thereby the cell the data of the angle for the cell for the cell the data of the angle for the cell for the cell of the cell o	13/0           13/0           13/0           13/0           14/0           14/2           14/0           14/2           14/0	3:00 2:00 0:50 0:25 0:00 0:08 0:08 0:08 0:08 0:08 0:08 0:08 0:09	30 30 15 5 5 5 5 5 5 5 5 5 5 5 5 5	3.6 5.1 7.2 8.8 8.8 7.2 5.6 8.8 7.2 5.1 3.6 1.9 1.3 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	4 2 6 4 6 4 1 27 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	42.9 60.5 85.1 104 149 104 85.1 60.5 42.9 24 24 16.1 10.3	08 004 10 10 15 08 08 08 08 08 08 08 08 08	uation flow in	0.9 0.8 0.0 0.0 10 10 10 10 10 10 10 0.9 0.8 0.8 0.8 0.8 0.8 0.8	ssaover point	1410 1425 1430 1435 1440 1445 1455 1455 1450 1550 1520 1620 1800 2160 2760
Catchment flow Cast (cell MAX/P00-P10) Catchment flow Cast (cell MAX/P00-P10) Catchment flow Cast (cell MAX/P00-P10) To calculation is not used for anything etc The information is not used for anything etc	130     130     130     130     140     140     140     140     140     140     140     140     140     140     140     140     100     100     100     100     2	3 00 3 00 0 20 0 20	30         35           15         5           5         5           5         5           30         30           300         300           40         40           Acres         0.0011           size for final do         50           Dorsal office for a         50	36 51 51 72 72 72 72 72 72 72 72 72 72 72 72 72	4 2 6 4 6 4 1 27 1 27 1 27 1 27 1 27 1 27 1 27 1 2 1 30 1 30	2 7,3 10 10 10 10 10 10 10 10 10 10 10 10 10	403 605 100 100 100 100 100 100 100 100 100 1	0.8 0.0 10 10 0.0 0.0 0.0 0.0 0.0 1 1 1 1 0.0 0.0	uation flow in revelopment flow	0.03 0.01 0.01 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0	osaover point ut	14129 1429 1429 1433 1443 1445 1445 1460 1500 1500 1500 1500 2890 2980
Catchment flow Cast (cell MAX/P109 F10) Catchment flow Cast (cell MAX/P109 F10) Catchment flow Cast (cell MAX/P109 F10) Catchment flow a orlife flow out - catchment pr-development flow The information is not used for anything etc The information is not used for anything etc	1300 1300 1300 1400 1403 1400 1405 1405 1405 1405 1405 1405 1405	3 00 3 00 0 20 0 20	30         35           15         5           5         5           5         5           30         30           300         300           40         300           300         300           300         300           300         300           300         300           300         300           300         300           300         300           300         300 </td <td>36 51 51 72 72 72 72 72 72 72 72 72 72 72 72 72</td> <td>4 2 6 4 6 4 1 27 1 27 1 27 1 27 1 27 1 27 1 27 1 2 1 30 1 30</td> <td>52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.</td> <td>403 605 100 100 100 100 100 100 100 100 100 1</td> <td>0.8 0.0 10 10 0.0 0.0 0.0 0.0 0.0 1 1 1 1 0.0 0.0</td> <td>uation flow in revelopment flow</td> <td>0.03 0.01 0.01 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0</td> <td>osaover point ut</td> <td>14129 1429 1429 1433 1443 1445 1445 1460 1500 1500 1500 1500 2890 2980</td>	36 51 51 72 72 72 72 72 72 72 72 72 72 72 72 72	4 2 6 4 6 4 1 27 1 27 1 27 1 27 1 27 1 27 1 27 1 2 1 30 1 30	52 73.9 104 127 182 182 127 104 73.9 52 28.6 18.8 11.8 11.8 7.09 Vtstored max.	403 605 100 100 100 100 100 100 100 100 100 1	0.8 0.0 10 10 0.0 0.0 0.0 0.0 0.0 1 1 1 1 0.0 0.0	uation flow in revelopment flow	0.03 0.01 0.01 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0	osaover point ut	14129 1429 1429 1433 1443 1445 1445 1460 1500 1500 1500 1500 2890 2980
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Catchment flow Cast (cell MAXP(10) F10) Catchment flow Cast (cell MAXP(10) F10) Catchm	1300         1300           1301         1300           1402         1400           1403         1400           1404         1400           1405         1400           1400 <td>3 00 3 00 9 20 9 20</td> <td>30         15           15         5           5         5           5         5           30         30           300         300&lt;</td> <td>3.6 5.7 2.2 7.2 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12</td> <td>4 2 6 4 6 4 1 27 1 15 1 1</td> <td>2 7,3 10 10 10 10 10 10 10 10 10 10 10 10 10</td> <td>403 605 100 100 100 100 100 100 100 100 100 1</td> <td>0.8 0.0 10 10 0.0 0.0 0.0 0.0 0.0 1 1 1 1 0.0 0.0</td> <td>uation flow in revelopment flow</td> <td>0.03 0.01 0.01 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0</td> <td>osaover point ut</td> <td>1410 1425 1425 1435 1445 1445 1445 1465 1465 1465 150 1500 1500 1500 2860 2860 2880</td>	3 00 3 00 9 20 9 20	30         15           15         5           5         5           5         5           30         30           300         300<	3.6 5.7 2.2 7.2 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12	4 2 6 4 6 4 1 27 1 15 1 1	2 7,3 10 10 10 10 10 10 10 10 10 10 10 10 10	403 605 100 100 100 100 100 100 100 100 100 1	0.8 0.0 10 10 0.0 0.0 0.0 0.0 0.0 1 1 1 1 0.0 0.0	uation flow in revelopment flow	0.03 0.01 0.01 1.0 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0	osaover point ut	1410 1425 1425 1435 1445 1445 1445 1465 1465 1465 150 1500 1500 1500 2860 2860 2880
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## **Statements & Limitations**

- 1. Our responsibility for this report is limited to the property owner named on the front page of this document. We disclaim all responsibility and will accept no liability to any other person unless that party has obtained the written consent of O'Brien Design Consulting Ltd. O'Brien Design Consulting Ltd reserves the right to qualify or amend any opinion expressed in this report in dealing with any other party. It is not to be relied upon for any other purpose without reference to O'Brien Design Consulting Ltd.
- 2. Recommendations and opinions in this report are based on data obtained from the investigations and site observations at the time of the site visit. The nature and continuity of subsoil conditions at locations other than the investigation bores and tests are inferred and it should be appreciated that actual conditions could vary over the site. Site conditions may change in the future.
- 3. Opinions and judgements expressed are based on our interpretation and understanding of current regulatory standards and should not be construed as legal opinions. Where opinions or judgments are to be relied on they should be independently verified with appropriate legal advice.



## **DECISION ON LAND USE CONSENT APPLICATION**

## UNDER THE RESOURCE MANAGEMENT ACT 1991 Amended pursuant to s133a

# Decision

Pursuant to section 34(1) and sections 104, 104A and Part 2 of the Resource Management Act 1991 (the Act), the Far North District Council **grants** land use resource consent for a Controlled activity, subject to the conditions listed below to:

Council Reference:	2230384-RMALUC
Applicant:	Pungaere Properties Limited
Property Address:	415 Pungaere Road, Kerikeri 0295
Legal Description:	Lot 1 LT 584995 (Part Lot 6 DP 407713)

### The activities to which this decision relates are listed below:

To construct a minor residential unit in the Rural Production zone breaching the Minor Residential Unit rule.

# Conditions

Pursuant to sections 108 of the Act, this consent is granted subject to the following conditions:

- 1. The activity shall be carried out in general accordance with the approved plans prepared by Ponting Fitzgerald Architects, referenced Proposed Residence at 415 Pungaere Road, Waipapa, Northland, dated 10/01/2023, and attached to this consent with the Council's "Approved Stamp" affixed to them. These plans include the following:
  - Proposed Site Plan
  - Ground Floor Presentation Plan
  - Elevations North & East
  - Elevations South & West
- 2. The consent holder shall ensure that the treatment and disposal system is constructed generally in accordance with the recommendations contained within the Onsite Wastewater Report prepared by O'Brien Design Consulting dated 06 December 2022, referenced Job No: 2840 and submitted with application documents of RC2230384.
- 3. In conjunction with the construction of the building's roof, install and maintain on an ongoing basis, the stormwater attenuation and management system, in general

accordance with the Stormwater Management Design Report, dated 06 December 2022 referenced Stormwater Management Design for Principal Dwelling & Minor Dwelling, prepared by O'Brien Design Consulting, and submitted with application documents of RC2230384.

# **Advice Notes**

#### Lapsing of Consent

- 1. Pursuant to section 125 of the Act, this resource consent will lapse 5 years after the date of commencement of consent unless, before the consent lapses.
  - a) The consent is given effect to; or
  - b) An application is made to the Council to extend the period of consent, and the council decides to grant an extension after taking into account the statutory considerations, set out in section 125(1)(b) of the Act.

#### **Right of Objection**

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

#### **Archaeological Sites**

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

#### **General Advice Notes**

4. The consent holder is advised that the following restriction will be registered against the record of title by way of Consent Notice on Lot 1 LT 584995 at s221 of Subdivision RC2220400.

No cats, dogs or mustelids shall be kept, or permitted to be kept on the property except for the following:

• The keeping of up to two dogs is permitted provided that they are trained in 'kiwi-aversion' and kept under control at all times and kept in a dog proof enclosure or inside at night-time.

The owner of the site shall ensure that any visitor to the site is made aware of and complies with the above requirements.

- 5. During the assessment of your application, it was noted that a private Land Covenant exists on your property. Council does not enforce private land covenants, and this does not affect Council approving your plans. However, you may wish to get independent legal advice, as despite having a resource consent from Council, the private land covenant can be enforced by those parties specified in the covenant.
- 6. Erosion and sediment control measures in accordance with Auckland Council GD05 requirements are to be implemented prior to any earthworks and construction activities commencing to ensure compliance with rule EW-R13 Erosion and Sediment Control of the Draft District Plan. Alternatively, you may obtain resource consent where compliance cannot be achieved.

## **Reasons for the Decision**

- 1. By way of an earlier report that is contained within the electronic file of this consent, it was determined that pursuant to sections 95A and 95B of the Act the proposed activity will not have, and is not likely to have, adverse effects on the environment that are more than minor, there are also no affected persons, and no special circumstances exist. Therefore, under delegated authority, it was determined that the application be processed without notification.
- The application is for a Controlled resource consent as such under section 104A the Council must grant this application and may only impose conditions in relation to those matters over which control is reserved, these matters are found in section 8.6.5.2.3 – Minor Residential Unit of the Operative District Plan.
- 3. In regard to section 104(1)(ab) of the Act there are no offsetting or environmental compensation measures proposed or agreed to by the applicant for the activity.
- 4. In regard to section 104(1)(b) of the Act the following statutory documents are considered to be relevant to the application:
  - a. National Policy Statement for Highly Productive Land 2022
  - b. Northland Regional Policy Statement 2018,
  - c. Proposed Northland Regional Plan 2022,
  - d. Operative Far North District Plan 2009,
  - e. Proposed Far North District Plan 2022

#### Operative Far North District Plan

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

- The objectives and policies of the Rural Environment (Chapter 8 sections 8.3 and 8.4)
- The objectives and policies of the Rural Production zone (Chapter 8 section 8.6.3, and 8.6.4)

The objectives and policies of the Rural Production zone promotes the sustainable management of natural and physical resources while enabling the efficient use and development of the Rural Production zone, in a way that enables people and their communities to provide for their social, economic and cultural wellbeing and for their health and safety, along with promoting the maintenance and enhancement of the amenity values to a level that is consistent with the productive intent of the Rural Productive zone.

The activity is an efficient use of this zone and maintains amenity values and is not incompatible with the intent of the Rural Production zone.

#### Proposed Far North District Plan

• The objectives and policies of the Rural Production zone

The objectives and policies of the Rural Production zone promotes the sustainable management of natural and physical resources while enabling the efficient use and development of the Rural Production zone, in a way that enables people and their communities to provide for their social, economic and cultural wellbeing and for their health and safety, along with promoting the maintenance and enhancement of the amenity values to a level that is consistent with the productive intent of the Rural Productive zone for current and future generations.

#### National Policy Statement for Highly Productive Land 2022

Section 3.10 provides the criteria for the exemption of some highly productive land when there are permanent or long-term constraints. The Council can allow highly productive land to be used or developed for activities not otherwise enabled under clause 3.7, 3.8 or 3.9 if the activity meets certain criteria.

In this case, the proposal is for a Controlled activity and activities on the productive capacity of the land is not provided for within our discretion for activities with a Controlled status.

The new dwelling meets all other permitted thresholds of both the Operative District Plan and Proposed District Plan. The minor residential unit is tucked in behind the new dwelling, located 6m behind the main dwelling on the southern portion of the subject site. The minor residential unit will not create any potential reverse sensitivity adverse effects on the adjacent neighbours or surrounding environment.

For this resource consent application, the relevant provisions of both an operative and any proposed plan must be considered. Weighting is relevant if different outcomes arise from assessments of objectives and policies under both the operative and proposed plans.

As the outcomes sought are the same under the operative and the proposed plan frameworks, no weighting is necessary.

- 5. In regard to section 104(1)(c) of the Act there are no other matters relevant to the application:
- 6. Based on the assessment above the activity will be consistent with Part 2 of the Act.

The activity will avoid, remedy or mitigate any potential adverse effects on the environment while providing for the sustainable management of natural and physical

resources and is therefore in keeping with the Purpose and Principles of the Act. There are no matters under section 6 that are relevant to the application. The proposal is an efficient use and development of the site that will maintain existing amenity values without compromising the quality of the environment. The activity is not considered to raise any issues in regard to Te Tiriti o Waitangi.

7. Overall, for the reasons above it is appropriate for consent to be granted subject to the imposed conditions.

# Approval

This resource consent has been prepared by Jo Graham, Resource Planner. I have reviewed this and the associated information (including the application and electronic file material) and for the reasons and subject to the conditions above, and under delegated authority, grant this resource consent.

Sn

### Date: 16 March 2023

Simeon Mclean Team Leader Resource Consents

This Decision has been amended pursuant to s133A of the Resource Management Act 1991. Details of the changes can be found in the resource consent file.

Simeon Mclean Team Leader Resource Consents Date: 14 April 2023

### **Northland Planning Development**

From:	Goffin, Jason <jason.goffin@fireandemergency.nz></jason.goffin@fireandemergency.nz>
Sent:	Wednesday, 29 January 2025 9:54 am
То:	Northland Planning Development
Subject:	RE: Variation to approved consent - Pungaere Road, Waipapa

Good Morning,

We have no issues with the proposed variation in regard to firefighting water supply cod of practice.

Regards

#### Jason Goffin

Advisor Risk Reduction – Kaitohutohu Matua Whakaheke Moorea Specialist Fire Investigator – Kaititiro Ahi Maatanga Te Tai Tokerau Te Hiku Region 1 <u>9 Homestead Ro</u>ad Kerikeri



Mobile: 027 7066467 Email: jason.goffin@fireandemergency.nz Fire Fact "A House Fire Can Become Fatal within 5 Minutes"

From: Northland Planning Development <info@northplanner.co.nz>
Sent: Tuesday, January 28, 2025 1:36 PM
To: Goffin, Jason <Jason.Goffin@fireandemergency.nz>
Subject: Variation to approved consent - Pungaere Road, Waipapa

Good afternoon Jason,

We are currently drafting up a variation to a previously approved land use resource consent RC2230384. The previous consent provided approval for the construction of a principal and minor dwelling at the site 415 Pungaere Road, Waipapa.

We are now proposing to vary the consent to change the location and design of the minor dwelling on the site. In the original application, approval from FENZ was sought to ensure that FENZ was satisfied that the proposal was in line with the Code of Practice to satisfy the consent notice condition on the title (see attached original approval).

The proposal will still see the main house and minor dwelling share the water supply which will compose of 3 water tanks in a similar location to the previously approved plans (see attached plan set).

To ensure consistency, can you please confirm that FENZ are satisfied with the proposal and that there are no further comments.

Please do not hesitate to contact our office if you need any further information.

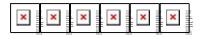
Kind regards,



Alex Billot Resource Planner

Offices in Kaitaia & Kerikeri 09 408 1866 Northland Planning & Development 2020 Limited

My office hours are Monday, Thursday & Friday 9am – 2pm



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