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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

◯ **Yes** ☑ **No**

4. Consultation

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

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

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

5. Applicant Details

Name/s:	West Road Farms Limited C/- David Gray
Email:	[redacted]
Phone number:	
Postal address: (or alternative method of service under section 352 of the act)	

6. Address for Correspondence

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

Name/s:	Tohu Consulting Limited (Attn: Nina Pivac)
Email:	[redacted]
Phone number:	
Postal address: (or alternative method of service under section 352 of the act)	

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

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

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

Name/s:	Gary and Jacqui Steed
Property Address/ Location:	Spains Road, Awanui **Postcode** 0486

8. Application Site Details

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

Name/s: West Road Farms Limited C/- David Gray

Site Address/ Location: Spains Road, Awanui

Postcode

Legal Description: Sec 11S Awanui Settlement **Val Number:**

Certificate of title:

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

Site visit requirements:

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

Is there a dog on the property? ☑ **Yes** ○ **No**

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

Please contact Gary to arrange site visit (0274141725).

9. Description of the Proposal:

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

Proposed subdivision in Rural Production Zone to create one additional allotment

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

10. Would you like to request Public Notification?

○ **Yes** ☑ **No**

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

(more than one circle can be ticked):

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

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full)	As per applicant details
Email:	
Phone number:	**Work** **Home**
Postal address: (or alternative method of service under section 352 of the act)	**Postcode**

Fees Information

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

Declaration concerning Payment of Fees

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

Name: (please write in full)	David Gray
Signature: (signature of bill payer)	[redacted] **Date** 13/11/24

MANDATORY

15. Important Information:

Note to applicant

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

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

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

Fast-track application

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

Privacy Information:

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

15. Important information continued...

Declaration

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

Name: (please write in full) Nina Pivac

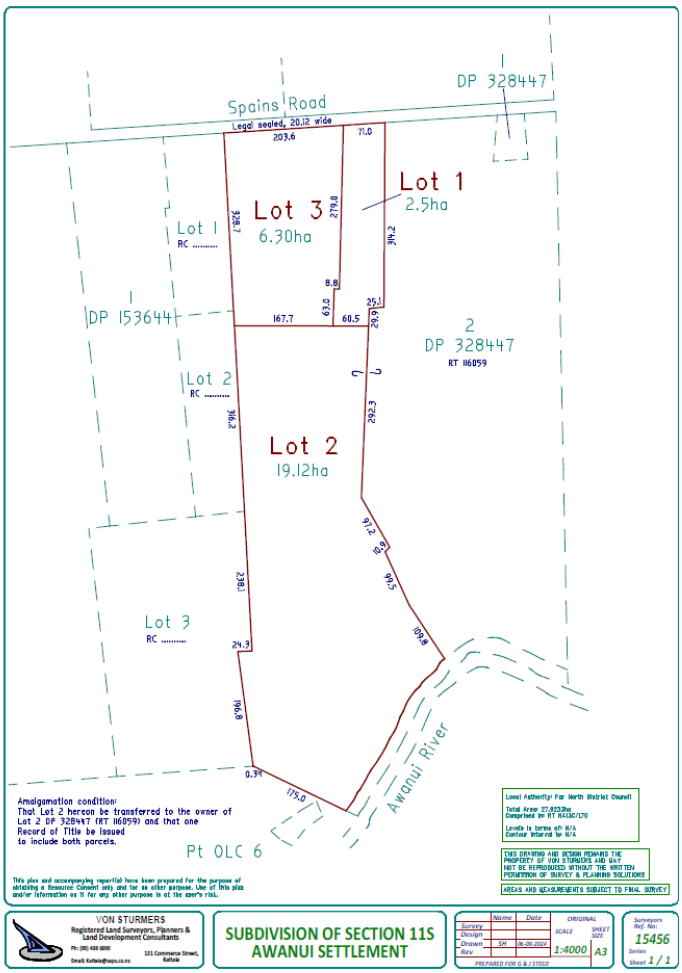
Signature: [redacted] **Date** 13/11/24

e application is made by electronic means

Checklist (please tick if information is provided)

- ◯ Payment (cheques payable to Far North District Council)
- ◯ A current Certificate of Title (Search Copy not more than 6 months old)
- ◯ 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.



SUBDIVISION RESOURCE CONSENT APPLICATION

SPAINS ROAD, AWANUI
SECTION 11S AWANUI SETTLEMENT

ASSESSMENT OF ENVIRONMENTAL EFFECTS

PREPARED FOR:
WEST ROAD FARMS LIMITED
C/- DAVID GRAY

13 November 2024
REV A

TOHU
CONSULTING

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Appendices:

1.0 THE APPLICANT AND PROPERTY DETAILS

To:	Far North District Council
Site address:	Spains Road, Awanui
Applicant's name:	West Road Farms Limited C/- David Gray
Address for service:	Tohu Consulting Limited Attn: Nina Pivac 50-64 Commerce Street Kaitaia 0410
Legal description:	Sec 11S Awanui Settlement
Site area:	27.9233ha
Site owner:	Gary John Steed and Jacqui Anne Steed
Operative District Plan:	Far North District Plan
Operative zoning:	Rural Production Zone
Overlays/resource areas:	NRC flood susceptible
Brief description of proposal:	To undertake a subdivision of Sec 11S Awanui Settlement (NA13C/170) to create two one additional allotment in the Rural Production Zone. The proposed subdivision will result in the following allotment areas: Lot 1 – 2.5ha (contains existing dwelling) Lot 2 – 19.12ha (to be amalgamated with Lot 2 DP 328447) Lot 3 – 6.3ha
Summary of reasons for consent:	Overall, resource consent is required as a **Restricted Discretionary Activity** in accordance with Rules 13.8.1(c) of the Far North District Plan (Rural Production Zone).

We attach an assessment of environmental effects that corresponds with the scale and significance of the effects that the proposed activity may have on the environment.

AUTHOR

Nina Pivac
Director l BAppSC l PGDipPlan l Assoc. NZPI

Date: 13 November 2024

2.0 PROPOSAL

The applicant, West Road Farms Limited C/- David Gray, proposes to undertake a subdivision in the Rural Production Zone, to create one additional allotments. A copy of the scheme plan has been provided in **Appendix A**. The proposal will result in the following allotments:

- Lot 1 – 2.5ha (contains existing dwelling)
- Lot 2 – 19.12ha (to be amalgamated with Lot 2 DP 328477)
- Lot 3 – 6.3ha

Overall, the proposal has been assessed as a **Restricted Discretionary Activity** in accordance with Rules 13.8.1(b) of the operative Far North District Plan (District Plan).

A Site Suitability Report has been prepared by Wilton Joubert in support of the application, as per **Appendix C.**

The following Assessment of Environmental Effects (AEE) has been prepared in accordance with the requirements of Section 88 of and Schedule 4 of the Resource Management Act 1991 (the Act) and is intended to provide the information necessary for a full understanding of the activity for which consent is sought and any actual or potential effects the proposal may have on the environment.

It should be noted that the current owners of the subject site, being Gary and Jacqui Steed, plan to further subdivide proposed Lot 3 using residual development rights provided for by Rule 13.7.2.1 of the Operative District Plan. While the Site Suitability Reports prepared by Wilton Joubert makes reference to the future subdivision of proposed Lot 3, this stage of development will be addressed via a separate application once this subdivision is complete.

3.0 SITE CONTEXT

The subject site is situated at Spains Road, Awanui and is legally described as Section 11S Awanui Settlement (NA13C/170). A copy of the Certificate of Title (CT) is attached as **Appendix B.**

The subject site has a total area of 27.9233ha. Proposed Lot 1 is currently in residential use. Proposed Lots 2 and 3 are in productive use. The use of the subject site will remain unchanged.

Proposed Lot 1 is currently accessed via an existing vehicle crossing off Spains Road which has ben formed to Council's Engineering Standards. Proposed Lot 3 is accessed via a separate farm access off Spains Road. Proposed Lot 2 will be accessed via existing farm crossings which currently provide access to Lot 2 DP 328477. It is anticipated that no upgrades to the existing vehicle crossings will not be required as part of this application.

The site is located within the Rural Production Zone and is subject to flood susceptibility, as per NRC Hazard Maps.

Figure 2: Aerial photograph of the subject site (FNDC Maps)

In terms of vegetation, the site is primarily in pasture with the exception of some planting along the eastern boundary. There are no significant areas of indigenous vegetation or significant habitats of indigenous fauna.

The surrounding environment is largely rural in character, comprising a mosaic of large land holdings used for production purposes, and other smaller rural residential allotments. It is noted that there is a Designation in close proximity to the site (RNZ120 – Radiocommunication, telecommunication and ancillary purposes). However, it is considered that it will not be adversely affected by the proposal owing to the 260m separation distance between.

4.0 DISTRICT PLAN RULES ASSESSMENT

SUBDIVISION:

An assessment of the proposal against the relevant subdivision rules of the Far North District Plan is provided below:

Rural Production Zone	Relevant Standards	Compliance
Rule 13.8.1 Subdivision within the Rural Production Zone	c) a maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of lots is 2ha, and where the	The proposed subdivision is able to meet this criteria.

Rural Production Zone	Relevant Standards	Compliance
	subdivision is created from a lot that existed at or prior to 28 April 2000.	It should be noted that the current application takes up only part of the total allowance. A subsequent application to take up the remainder of the allowance under clasue (c) can be made using residual development rights. **Restricted Discretionary Activity**
Rule 13.7.2.2 Allotment Dimensions	A minimum square building envelope of 30m x 30m is required and should not encroach into the permitted activity boundary setbacks for the relevant zones.	All proposed Lots are vacant and all have sufficient land area to provide for multiple building envelopes which have the ability to comply with setback requirements **Controlled Activity**

PROPOSED DISTRICT PLAN

The Proposed Far North District Plan (PDP) was notified on Wednesday 27 July 2022. Rules in a Proposed Plan have legal effect once the council makes a decision on submissions relating to that rule and publicly notified this decision, unless the rule has immediate legal effect in accordance with section 86(3) of the Resource Management Act 1991 (the Act).

As of Friday 21 October 2022, the submission period on the PDP has closed and hearings are currently in progress. However, Council are yet to make a decision on submissions made and publicly notify this decision. Therefore, only rules in the PDP with immediate legal effect are relevant. These rules are identified with a 'hammer' in the plan. Rules that do not have immediate legal effect do not trigger the need for a resource consent under the PDP.

An assessment of the proposal against the rules with immediate legal effect has been undertaken. In this case there are none that are relevant to the proposal. Therefore, no consideration needs to be given to any of the rules under the PDP.

Overall, the proposal requires resource consent as a **Restricted Discretionary Activity.**

5.0 NATIONAL ENVIRONMENTAL STANDARDS FOR CONTAMINATED SOILS (NES CONTAMINATED SOILS)

All applications that involve subdivision, or an activity that changes the use of a piece of land, or earthworks are subject to the provisions of the NES Contaminated Soils. The regulation sets out the requirements for considering the potential for soil contamination, based on the HAIL (Hazardous Activities and Industries List) and the risk that this may pose to human health as a result of the proposed land use.

Based on a search of Council records, historic aerial images and archives, and the documentation provided in support of this application, there is no evidence to suggest that a HAIL activity is, has

been, or is more than likely to not have been undertaken on any part of the site. Therefore, the NES Contaminated Soils is not applicable in this instance.

6.0 NATIONAL ENVIRONMENTAL STANDARDS FOR FRESHWATER (NES FRESHWATER)

A review of aerial images, including NRC's wetland maps, reveal no evidence to suggest that there are any wet areas that may be subject to the NES Freshwater provisions. Therefore, no further assessment is required under the NES Freshwater.

7.0 PUBLIC NOTIFICATION ASSESSMENT (SECTIONS 95A, 95C TO 95D)

Step 1: Mandatory public notification is required in certain circumstances

Under Section 95A(3) an application must be publicly notified if:

a) *the applicant has requested that the application be publicly notified;*
b) *public notification is required under Section 95C.*

The applicant is not requesting public notification under clause (a). Clause (b) provisions relate to where an applicant does not provide further information formally requested under Section 92, which is not applicable in this case.

Public notification is not required and therefore Step 2 must be considered.

Step 2: If not required by Step 1, public notification precluded in certain circumstances

Under Section 95A (4) an application must not be publicly notified if:

a) the application is for a resource consent for 1 or more activities, and each activity is subject *to a rule or national environmental standard that precludes public notification;*
b) *the application is for a resource consent for 1 or more of the following, but no other, activities:*
   i. *a controlled activity;*
   ii. *a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity:*

None of the above apply, therefore public notification is not precluded.

Step 3 must be considered.

Step 3: Public notification required in certain circumstances

Public notification is precluded if:

a) *the application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification;*
b) *the consent authority decides, in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor.*

The proposal requires consideration under s95D of the Act. An assessment of environmental effects is provided in Section 8.0 below which concludes that any adverse effect will be less than minor.

Step 4: Public notification in special circumstances

Section 95A(9) sets out that the council is required to determine whether special circumstances exist that warrant it being publicly notified.

Special circumstances are those that are:

- exceptional or unusual, but something less than extraordinary; or
- outside of the common run of applications of this nature; or
- circumstances which make notification desirable, notwithstanding the conclusion that the adverse effects will be no more than minor.

If the answer is yes, then those persons are required to be notified.

In this case, the proposal is for a subdivision activity which is provided for as restricted discretionary activity. As such, it is considered that this level of development is anticipated by the Far North District Plan and that there is nothing out of the ordinary that could give rise to special circumstances.

Public Notification Conclusion

Having undertaken the s95A public notification tests, the following conclusions are reached:

- Under step 1, public notification is not mandatory;
- Under step 2, public notification is not precluded;
- Under step 3, public notification is not required as effect will be less than minor; and
- Under step 4, there are no special circumstances.

Therefore, this application can be processed without public notification.

8.0 LIMITED NOTIFICATION ASSESSMENT (SECTIONS 95B, 95E TO 95G)

Step 1: Certain affected protected customary rights groups must be notified

Step 1 requires limited notification where there are any affected protected customary rights groups or customary marine title groups, or affected persons under a statutory acknowledgement affecting the land.

The above does not apply to this land.

Step 2: If not required by step 1, limited notification precluded in certain circumstances

Step 2 describes that limited notification is precluded where all applicable rules and NES preclude limited notification; or the application is for a controlled activity (other than the subdivision of land) or a prescribed activity under section 360H(1)(a)(ii).

The above does not apply to the proposal, and therefore limited notification is not precluded.

Step 3: If not precluded by step 2, certain other affected persons must be notified

Step 3 requires that where limited notification is not precluded under step 2 above, a determination must be made as to whether any of the following persons are affected persons:

- In the case of a boundary activity, an owner of an allotment with an infringed boundary;
- In the case of a prescribed activity under s360H(1(b), a prescribed person; and
- In the case of any other activity, a person affected in accordance with s95E.

The application is not for a boundary or prescribed activity as defined in the Act or a prescribed activity under s360H(1)(b), and therefore an assessment in accordance with S95E is required, of which is set out below.

Overall, it is considered that any adverse effects in relation to adjacent properties will be less than minor, and accordingly that no persons are adversely affected.

Step 4: Further notification in special circumstances

In addition to the findings of the previous steps, the council is also required to determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined as eligible for limited notification.

In this instance, having regard to the assessment above, special circumstances are not considered to apply to this proposal.

SECTION 95E STATUTORY MATTERS

If the application is not publicly notified, a council must decide if there are any affected persons and give limited notification to those persons. A person is affected if the effects of the activity on that person are minor or more than minor (but not less than minor).

Written Approval

No written approvals have been provided as it is considered that the effects on adjacent properties as a result of this proposal will be less than minor, as outlined below.

The sections below set out an assessment in accordance with section 95E, and an assessment of potential adverse effects.

Assessment of Effects on the 'Localised Environment'

The matters to which Council shall restrict its discretion, as outlined in Sections 13.8.1 and 13.7.3 of the Far North District Plan, are addressed below:

AMENITY, CHARACTER AND LANDSCAPE EFFECTS

The site and surrounding environment are primarily characterised by rural landscapes with residential and small-scale commercial development interspersed throughout the wider Awanui area.

Proposed Lot 1 contains an existing dwelling and associated garages. Proposed Lots 2 and 3 will remain in productive use. The character of the subject site will therefore remain unchanged.

Proposed Lots 2 and 3 are of a sufficient size to accommodate future residential development whilst maintaining ample pastoral land for production activities to continue.

In terms of vegetation, the site is primarily in pasture. There are no significant areas of indigenous vegetation or significant habitats of indigenous fauna. No vegetation clearance is required.

The site is also flat and therefore minimal earthworks will be required to create suitable building platforms.

Based on the above, it is considered that the proposal will maintain the existing amenity, character and landscape values associated with the surrounding rural/coastal environment and any adverse effects on those values are assessed as less than minor.

INDIGENOUS FLORA AND FAUNA

According to the aerial images, at present, there are no registered significant sites of indigenous flora or habitats of indigenous fauna.

NATURAL AND OTHER HAZARDS

The Northland Regional Council Natural Hazards Map indicates that the parent lot is partially located within the River Flood Hazard Zone – Priority Rivers 10-year, 50-year and 100-year CC Extents and the Coastal Flood Hazard Zones 2 & 3. The Site Suitability Report prepared by Wilton Joubert provided a comprehensive flood hazard assessment. In summary, the report concludes that the proposed development will not exacerbate any natural hazard, subject to the implementation of their recommendations which include minimum finished floor levels as follows:

Habitable Structures	=	3.08m (NZVD2016)
Non-Habitable Structures	=	2.88m (NZVD2016)

The report also recommends that future accessways match the level of Spains Road at the access point to the site. Wastewater disposal areas are to be situated outside of the 5% AEP Flood Extent.

PROPERTY ACCESS

Proposed Lot 1 is currently accessed via an existing vehicle crossing off Spains Road which has ben formed to Council's Engineering Standards. Proposed Lot 3 is accessed via a separate farm access off Spains Road. Proposed Lot 2 will be accessed via existing farm crossings which currently provide access to Lot 2 DP 328477. It is anticipated that no upgrades to the existing vehicle crossings will not be required as part of this application.

SERVICING EFFECTS

Proposed Lot 1 contains an existing dwelling which is fully serviced in terms of electiricty and telecommunications. Existing stormwater and wastewater disposal arrangements are adequate, no further development within Lot 1 is proposed.

Proposed Lots 2 and 3 have the ability to accommodate adequate services. However, it should be noted that new electricity and telecommunication connections are required in the Rural Production Zone. The applicant accepts that a consent notice condition will be imposed to inform future owners of this.

EASEMENTS FOR ANY PURPOSE

No easements are required in this instance.

PRESERVATION OF HERITAGE RESOURCES

The site is not known to contain any heritage resources.

ACCESS TO RESERVES AND WATERWAYS

The subject site has no reserves or waterways nearby.

LAND USE COMPATIBILITY

It is noted that the subject site contains LUC 3 soils which are classified as highly productive under the National Policy Statement for Highly Productive Land (NPSHPL). As a restricted discretionary activity, Council's discretion in this case is limited to reverse sensitivity effects.

The subject site is located in an area that is largely characterised by a mix of production activities and rural-lifestyle development. Proposed Lot 1 is already in residential use which will remain unchanged. Proposed Lots 2 and 3 will remain in productive use. With lot areas which range from 2.5ha to 19.12ha, there will be ample land area for production activities to continue within each allotment.

The Site Suitability Report prepared by Wilton Joubert provides for 30m x 30m building envelopes and concludes that residential development and adequate services can be accommodated within. Provided that future development is located within these investigated building envelopes, which are located near the new lot boundaries, ample unobstructed pastoral land will remain available for production activities.

On the basis of the above, it is considered that the surrounding environment will be able to absorb the proposed rural-lifestyle blocks so as to maintain its rural amenity i.e. the proposed development is considered to be consistent with surrounding development patterns and will not result in any reverse sensitivity effects.

PROXIMITY TO AIRPORTS

The subject site is located at least 7km from the nearest airport. As such, this matter is not relevant to the proposal.

CONCLUSION

Taking the above into account, it is considered that there will be no adverse effects on the wider and localised environment. As such, no parties are considered to be adversely affected.

LIMITED NOTIFICATION CONCLUSION

Having undertaken the s95B limited notification tests, the following conclusions are reached:

- Under step 1, limited notification is not mandatory;
- Under step 2, limited notification is not precluded;
- Under step 3, limited notification is not required as it is considered that the activity will not result in any adversely affected persons; and
- Under step 4, there are no special circumstances.

Therefore, it is recommended that this application be processed without limited notification.

9.0 CONSIDERATION OF APPLICATIONS (SECTION 104)

Subject to Part 2 of the Act, when considering an application for resource consent and any submissions received, a council must, in accordance with section 104(1) of the Act have regard to:

- any actual and potential effects on the environment of allowing the activity;
- any relevant provisions of a national environmental standard, other regulations, national policy statement, a New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement; a plan or proposed plan; and
- any other matter a council considers relevant and reasonably necessary to determine the application.

As a Restricted Discretionary activity, section 104C of the Act states that:

1) *When considering an application for a resource consent for a restricted discretionary activity, a consent authority must consider only those matters over which-*
    a) *A discretion is restricted in national environmental standards or other regulations:*
    b) *It has restricted the exercise of its discretion in its plan or proposed plan.*
2) *The consent authority may grant or refuse the application.*
3) *However, if it grants the application, the consent authority may impose conditions under section 108 only for those matters over which-*
    a) *A discretion is restricted in national environmental standards or other regulations;*
    b) *It has restricted the exercises of its discretion it its plan or proposed plan.*

10.0 EFFECTS ON THE ENVIRONMENT (SECTION 104(1)(A))

An assessment of effects on adjacent properties has been provided and it was concluded that any adverse effects will be less than minor.

Further, it is considered that the proposal will result in positive effects including the efficient use of rural land while maintaining character and amenity values intrinsic to rural communities.

Overall, it is considered that when taking into account the positive effects, any actual and potential adverse effects on the environment of allowing the activity are appropriate.

11.0 DISTRICT PLAN AND STATUTORY DOCUMENTS (SECTION 104(1)(B))

The following planning documents prepared under the RMA are considered relevant to this application.

Regional Policy Statement for Northland

The Northland Regional Policy Statement (RPS) covers the management of natural and physical resources across the Northland region. The provisions within the RPS give guidance at a higher planning level in terms of significant regional issues, therefore providing guidance to consent applications and the development of District Plans on a regional level. Given the nature and scale of the proposed subdivision, being a restricted discretionary activity, it is considered that this level of development is compatible with the intent of the RPS.

Operative Far North District Plan – Objectives and Policies

The relevant objectives and policies of the District Plan can be found in the Rural Environment, Rural Production Zone, and Subdivision Chapters. As a restricted discretionary activity, the proposal is considered to be generally consistent with the relevant objectives and policies. The site is already in rural production/residential use which will remain unchanged as a result of the proposal. The rural character of the site will therefore not be eroded by the proposed subdivision.

Proposed Far North District Plan

The Proposed Far North District Plan (PDP) was notified on Wednesday 27 July 2022. Rules in a Proposed Plan have legal effect once the council makes a decision on submissions relating to that rule and publicly notified this decision, unless the rule has immediate legal effect in accordance with section 86(3) of the Resource Management Act 1991 (the Act).

As of Friday 21 October 2022, the submission period on the PDP has closed. However, Council are yet to make a decision on submissions made and publicly notify this decision. Therefore, only rules in the PDP with immediate legal effect are relevant. These rules are identified with a 'hammer' in the plan. Rules that do not have immediate legal effect do not trigger the need for a resource consent under the PDP.

An assessment of the proposal against the rules with immediate legal effect has been undertaken. The only rules with some relevance to this proposal are earthworks rules EW-R12 and EW-R13 and the associated standards EW-S3 and EW-S5.

Rule EW-R12 permits earthworks in all zones if standard EW-S3 (Accidental Discovery Protocol) is met.

Rule EW-R13 (Earthworks and erosion and sediment control) permits earthworks in all zones if standard EW-S5 (erosion and sediment control) is met.

Conclusion

For the reasons outlined above, it is considered that the proposal is consistent with the relevant objectives and policies of the RPS and Operative District Plan.

12.0 PART 2 MATTERS

Section 5 of Part 2 identifies the purpose of the RMA as being the sustainable management of natural and physical resources. This means managing the use, development and protection of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being and health and safety while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Section 6 of the Act sets out a number of matters of national importance including (but not limited to) the protection of outstanding natural features and landscapes and historic heritage from inappropriate subdivision, use and development.

Section 7 identifies a number of "other matters" to be given particular regard by Council and includes (but is not limited to) Kaitiakitanga, the efficient use of natural and physical resources, the maintenance and enhancement of amenity values, and maintenance and enhancement of the quality of the environment.

Section 8 requires Council to take into account the principles of the Treaty of Waitangi.

Overall, as the effects of the proposal are considered to be less than minor, and the proposal accords with the relevant objectives and policies of the RPS, and the Operative District Plan provisions. Accordingly, it is considered that the proposal will not offend the general resource management principles set out in Part 2 of the Act.

13.0 OTHER MATTERS (SECTION 104(1)(C)

There are no other matters considered relevant to this proposal.

14.0 CONCLUSION

The proposal involves the subdivision of Sec 11S Awanui Settlement (NA13C/170) to create one additional allotment in the Rural Production Zone.

Based on the assessment of effects above, it is concluded that any potential adverse effects on the existing environment would be no more than minor and can be managed in terms of appropriate conditions of consent.

It is therefore concluded that the proposal satisfies all matters the consent authority is required to assess, and that the application for resource consent can be granted on a non-notified basis.

AUTHOR

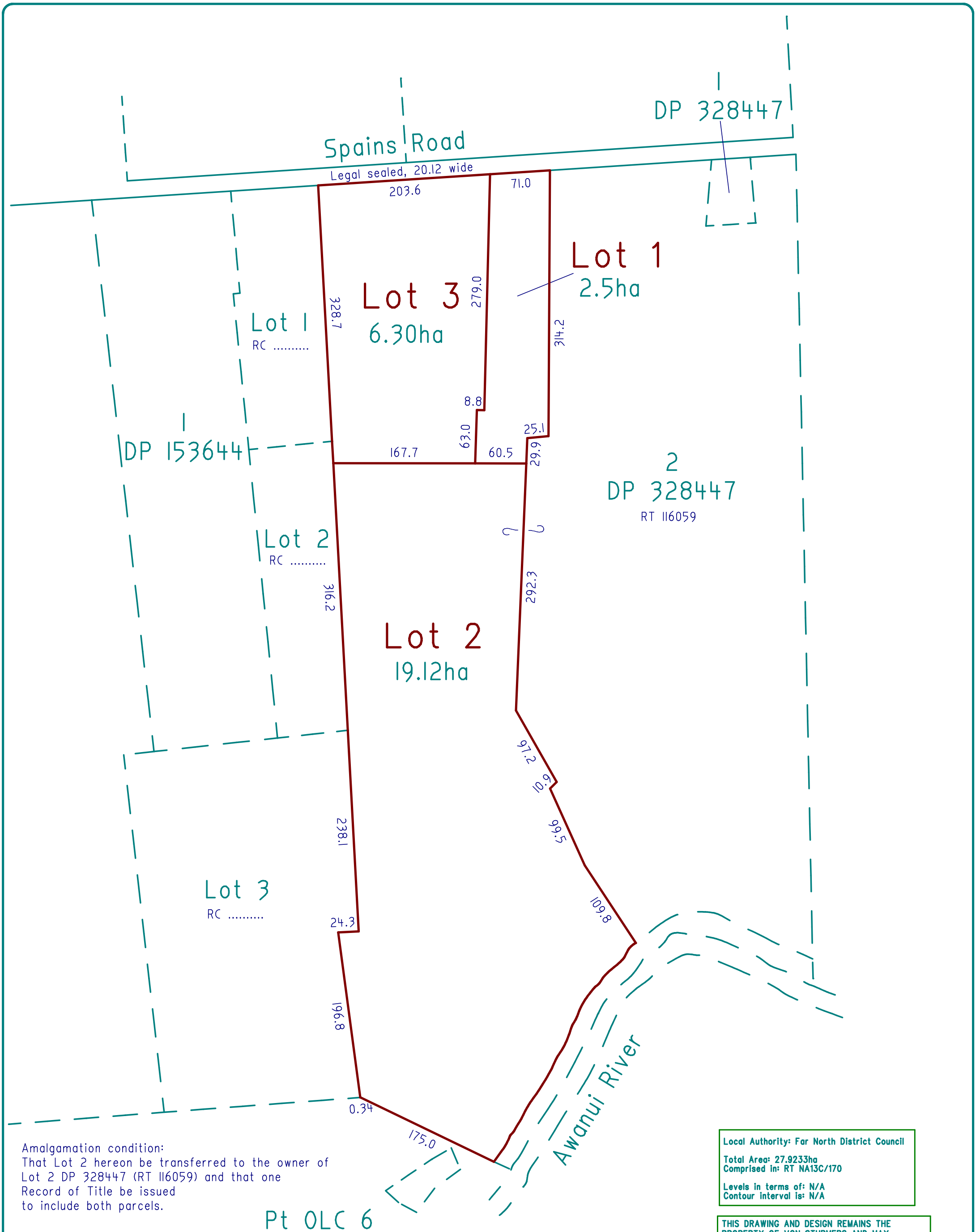
Nina Pivac
Director l BAppSC l PGDipPlan l Assoc. NZPI

Date: 13 November 2024

Appendices:

Appendix A – Scheme Plan
Appendix B – Certificate of Title
Appendix C – Site Suitability Reports

Appendix A – Scheme Plan



Amalgamation condition:
That Lot 2 hereon be transferred to the owner of Lot 2 DP 328447 (RT 116059) and that one Record of Title be issued to include both parcels.

Local Authority: Far North District Council

Total Area: 27.9233ha
Comprised in: RT NA13C/170

Levels in terms of: N/A
Contour interval is: N/A

AREAS AND MEASUREMENTS SUBJECT TO FINAL SURVEY

VON STURMERS
Registered Land Surveyors, Planners & Land Development Consultants
Ph: (09) 408 6000
Email: Kaitaia@saps.co.nz
131 Commerce Street, Kaitaia

SUBDIVISION OF SECTION 11S AWANUI SETTLEMENT

	Name	Date
Survey		
Design		
Drawn	SH	06-08-2024
Rev		

ORIGINAL
SCALE 1:4000
SHEET SIZE A3
PREPARED FOR G & J STEED

Surveyors Ref. No: 15456
Series
Sheet 1 / 1

Appendix B – Certificate of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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

R.W. Muir
Registrar-General
of Land

Identifier **NA13C/170**

Land Registration District **North Auckland**

Date Issued 04 January 1968

Prior References
NAPR9A/917

Estate Fee Simple

Area 27.9233 hectares more or less

Legal Description Section 11S Awanui Settlement

Registered Owners
Gary John Steed and Jacqui Anne Steed

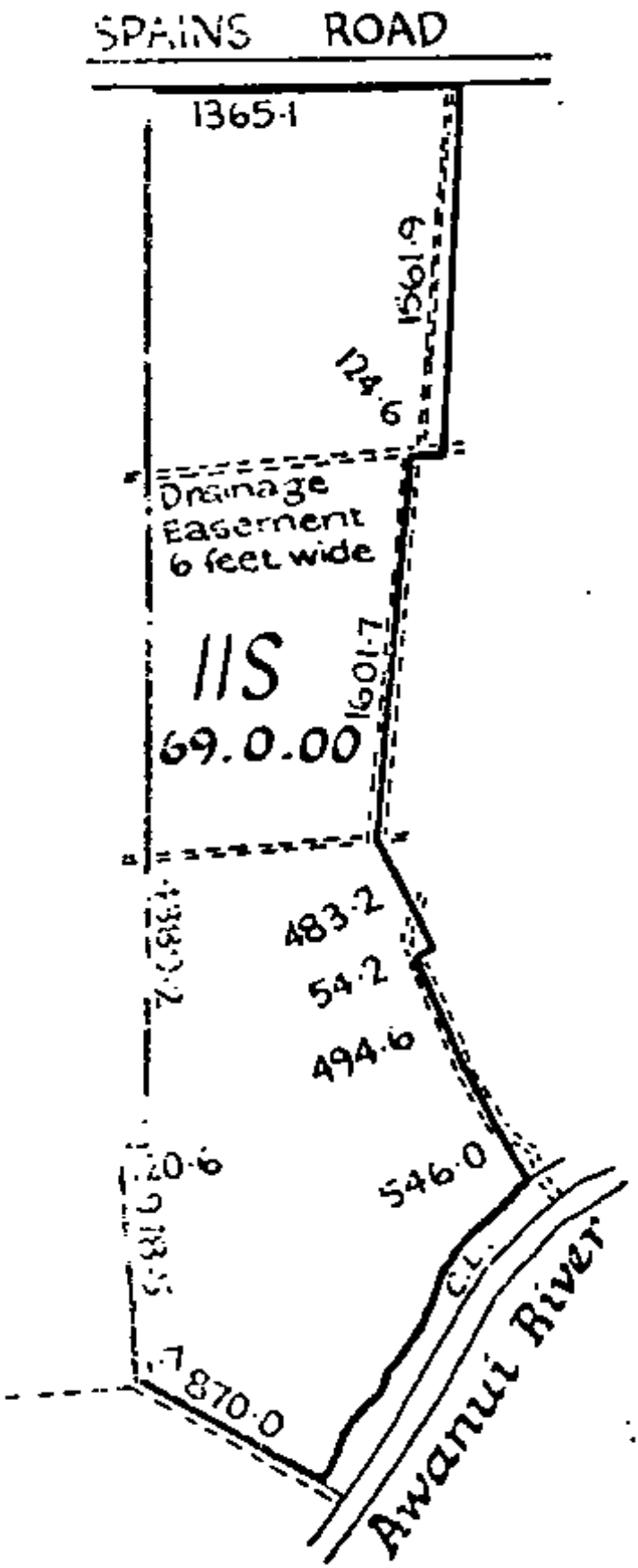
Interests

Subject to Section 59 Land Act 1948

Subject to a drainage right over part created by Transfer A266929 - 4.1.1968

5751513.3 Mortgage to ASB Bank Limited - 3.10.2003 at 9:00 am

9802690.2 Variation of Mortgage 5751513.3 - 8.8.2014 at 4:23 pm


SPAINS ROAD
1365·1
1361·9
124·6
Drainage Easement 6 feet wide
11S
69.0.00
1601·7
483·2
54·2
494·6
546·0
870·0
C.L.
Awanui River

Appendix C – Site Suitability Reports

CPT Client Engagement / Quote Request

Project Details		Date	1/02/2023
Project Name	Proposed Development	Job Identifier	WJL 133 Spains Rd
Project Address	133 Spains Rd Awanui		
Engineering Consultant Company Name	Wilton Jubert Ltd	Engineering Project Manager	Nikora Ngaropo
Email		Mobile	
Client Name		Client Contact Details	

Test Requirements - CPT		Preferred Job Completion Date	
Target No of CPT Tests Required	3	Maximum Test Depth Required	as directed on-site
No of CPT Tests Required Through Pavement or Other Hard Surface		Type and Thickness of Hard Surface	
Other Requirements Outside Standard Greenfield Testing			

Please note: Service clearance is to be provided by the client or their agents and details are to be provided to the CPT operator prior to Underground Investigation Ltd commencing work. Any delays due to service clearance or H&S approvals will be at the clients expense and may reduce the amount of testing being able to be completed in the working day.

Test Requirements - Dissipation Testing		Please List Test No and Approximate Target Depth of Dissipation	
Test No	Depth	Test No	Depth

Please note: In order to provide useful dissipation data, UIL recommends carrying out at least one CPT prior to carrying out dissipation in order to select appropriate depths for testing. It is preferred if the Geotechnical Engineer for the project discusses this with the CPT operator after completion of the initial testing.

Any Other Site Requirements

UNDERGROUND INVESTIGATION

CPT Equipment Information

CPT Rig Type	Geotech AB - Georig 220	Maximum Push Capacity	200kN
Any Deviations From Common Setup		Reaction Restraint	Screw Anchors
Cone Penetrometer	Nova Cone 100MPa With Memory	Cone Penetrometer Type	TE2
Manufacturer	Geotech AB	Load Cell Configuration	Compresion
Tip Area	10cm	Pore Pressure Type	U_2
Full Scale Output of Sensors	q_c : 100 MPa	f_s : 1 MPa	u_2 : 2 MPa
Calibration Test Class	ISO 1	Saturation Method	Pump Saturation With Secondary Vacuum
Temprature Sensor	No	Data Interval	10mm
Temprature Conditioning	Cone Warmer set to 20^o C	Typical Cone Temprature at Start of Test	16-20^o C
Any Deviations From Above			

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT01	Job Identifier	WJL 133 Spains Rd
Test Date	1/02/2023	Operator	Craig Greenfield
Cone Serial Number	5654	Battery Voltage Start	6.17
Cone Area Ratio	0.852	Start Recording	10:56:00 AM
Probe Radius	0.0177	Finish Recording	11:50:00 AM
Date of First Push Current Calibration	11/04/2022	Measured Ground Water Depth	0.9
Metres To Next Calibration	234	Total Penetration Depth (m)	33.832
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.06%	0.16%	1.04%
End of test with tip loosened	0.05%	0.00%	0.36%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT02	Job Identifier	WJL 133 Spains Rd
Test Date	1/02/2023	Operator	Craig Greenfield
Cone Serial Number	5681	Battery Voltage Start	6.07
Cone Area Ratio	0.811	Start Recording	2:25:00 PM
Probe Radius	0.0178	Finish Recording	2:58:00 PM
Date of First Push Current Calibration	22/06/2022	Measured Ground Water Depth	0.3
Metres To Next Calibration	747	Total Penetration Depth (m)	19.847
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.02%	0.07%	0.46%
End of test with tip loosened	0.04%	0.00%	0.02%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT03	Job Identifier	WJL 133 Spains Rd
Test Date	1/02/2023	Operator	Craig Greenfield
Cone Serial Number	5708	Battery Voltage Start	6.01
Cone Area Ratio	0.849	Start Recording	3:35:00 PM
Probe Radius	0.0178	Finish Recording	4:07:00 PM
Date of First Push Current Calibration	22/06/2022	Measured Ground Water Depth	0.9
Metres To Next Calibration	965	Total Penetration Depth (m)	20.022
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☑ Target Depth ☐ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.06%	0.06%	0.60%
End of test with tip loosened	0.05%	0.01%	0.30%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

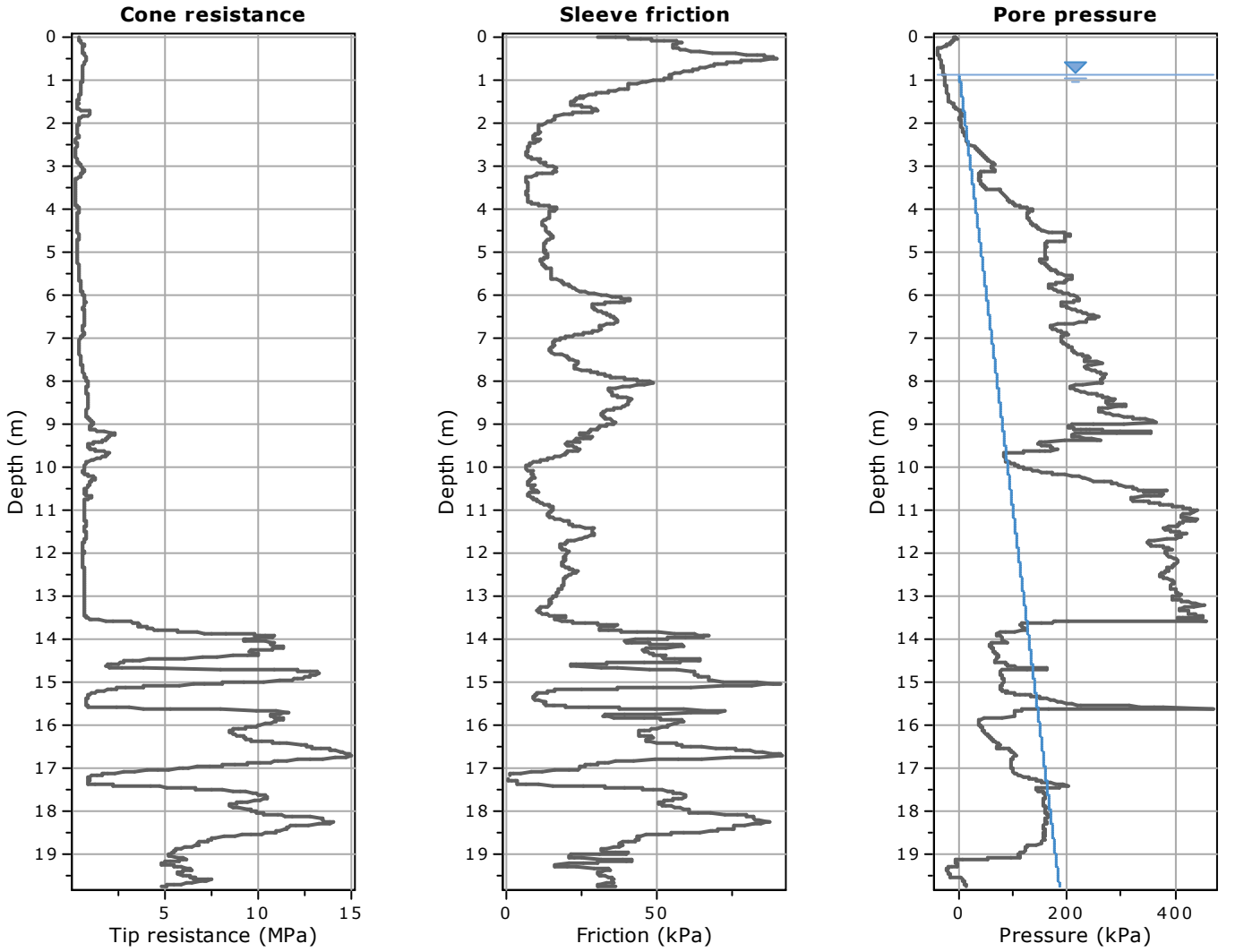
Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

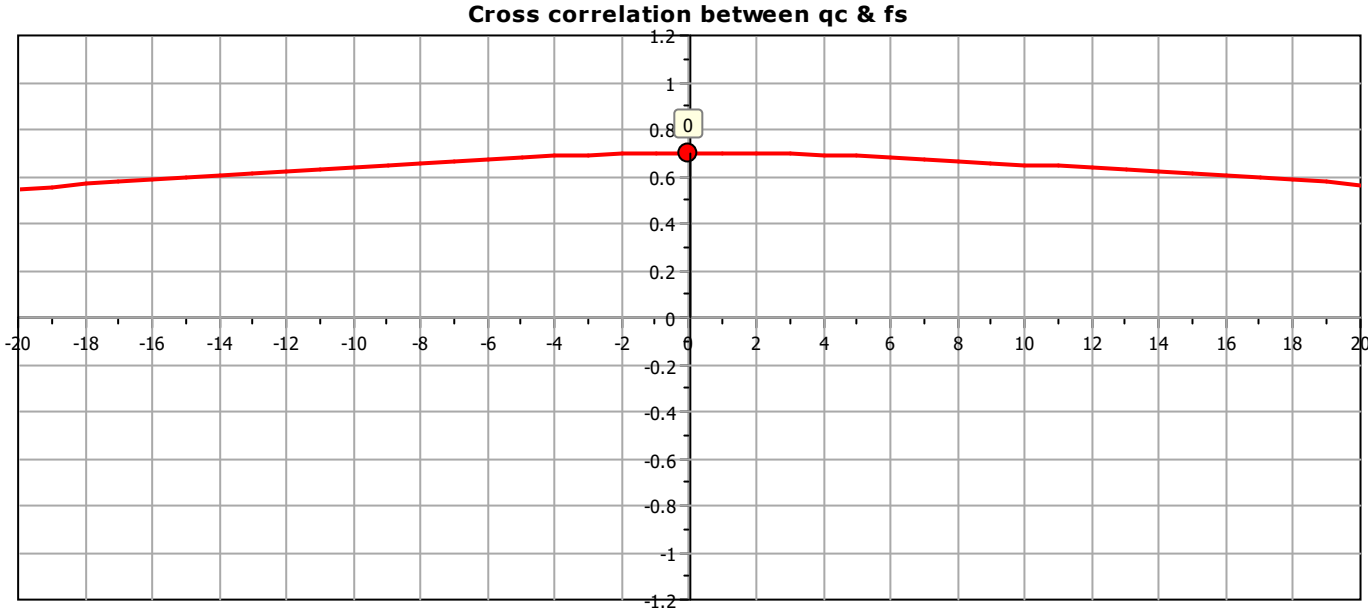
GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

CPT: CPT03 - Lot 1
Total depth: 19.77 m, Date: 1/02/2023
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project:
Location:



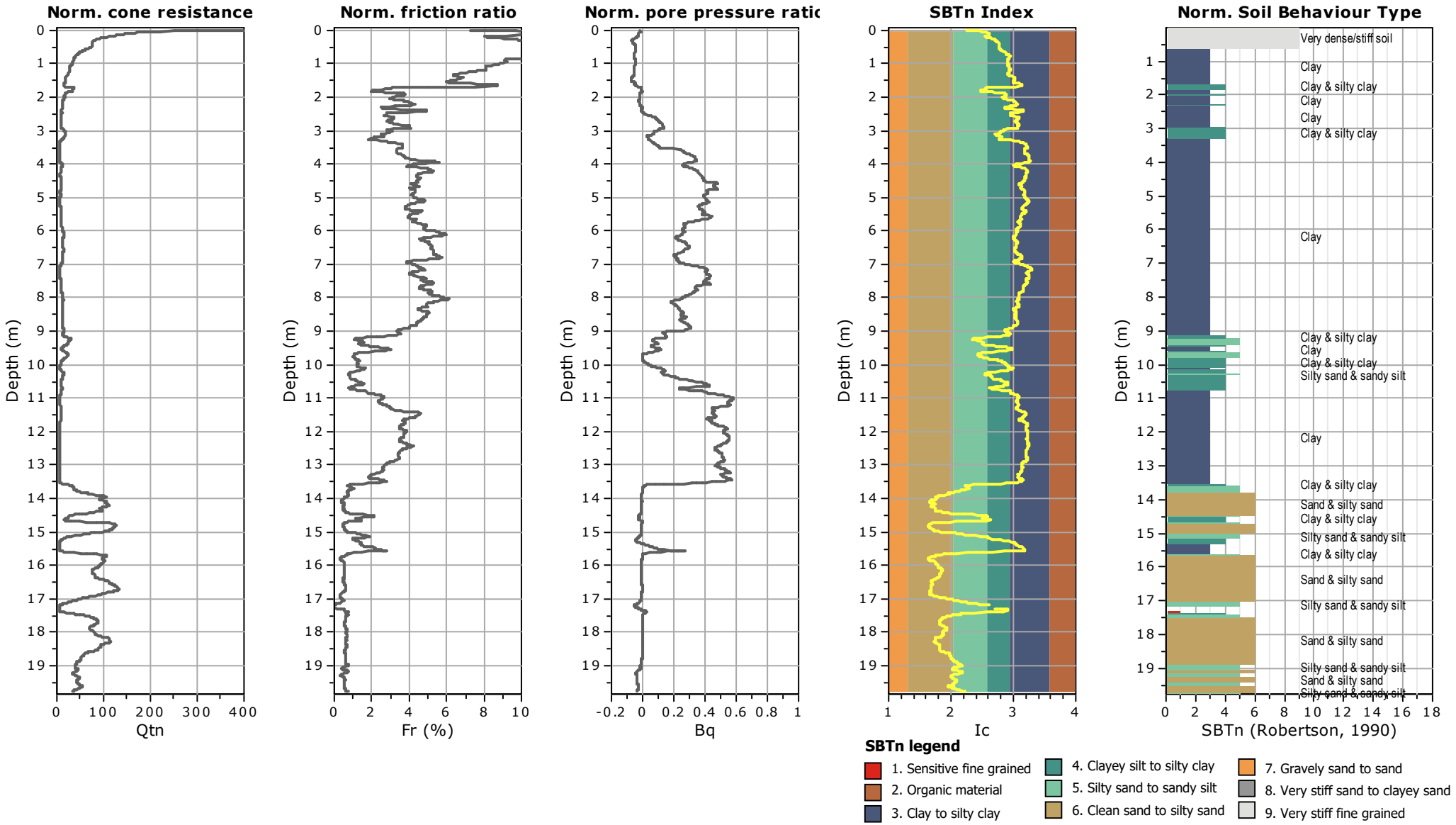
The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

CPT: CPT03 - Lot 1
Total depth: 19.77 m, Date: 1/02/2023
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

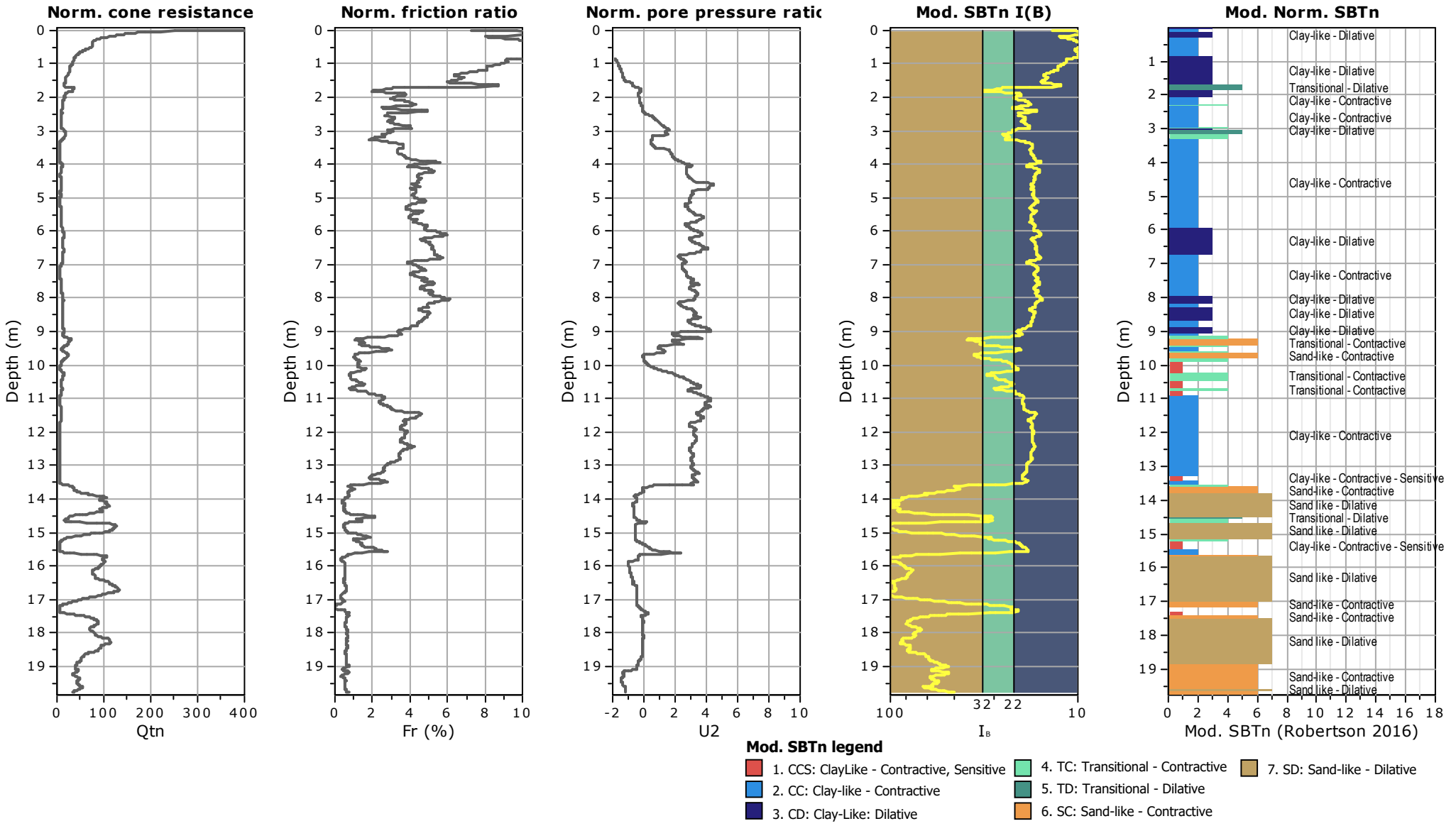
Project:
Location:



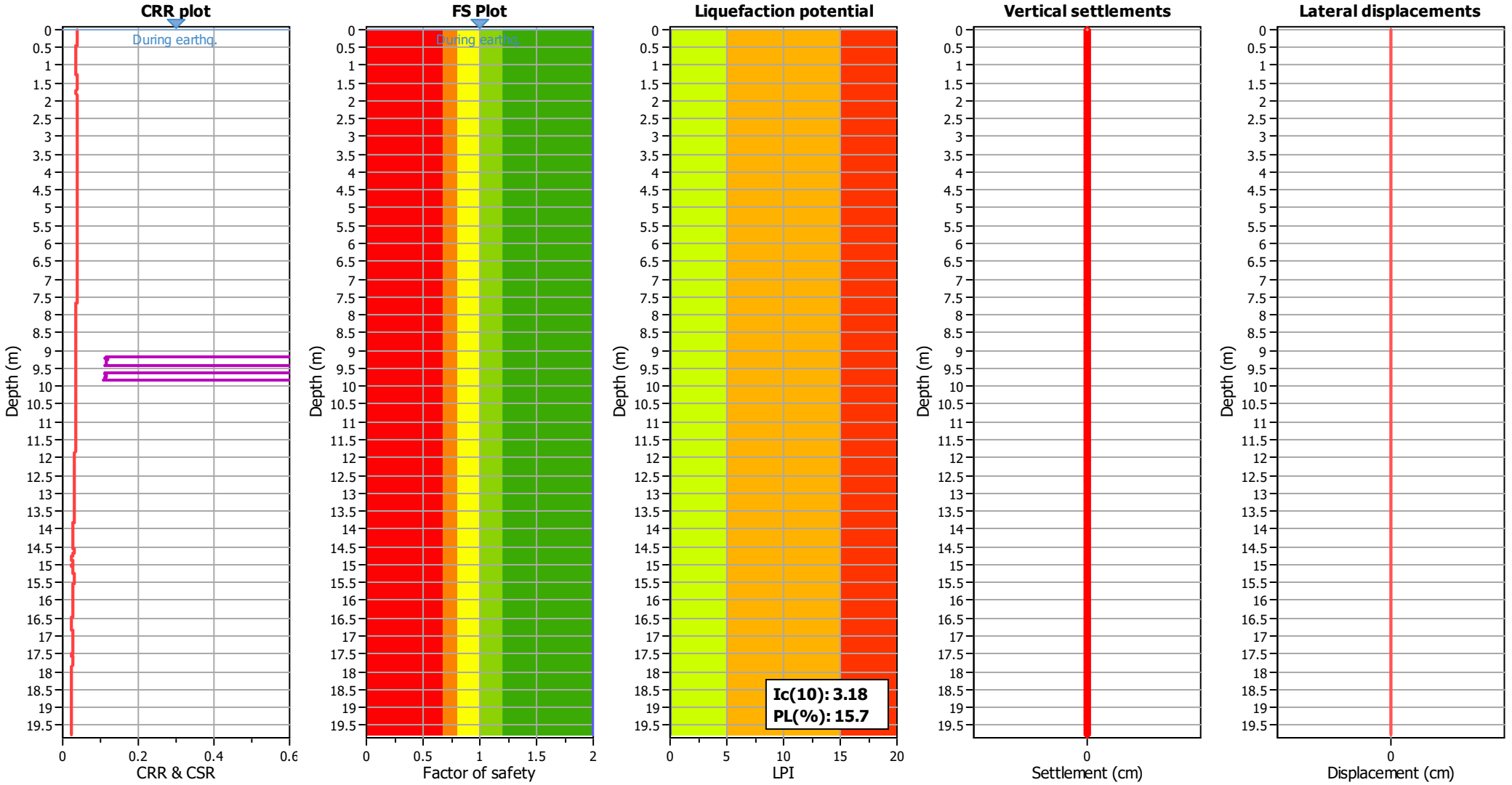
GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

CPT: CPT03 - Lot 1
Total depth: 19.77 m, Date: 1/02/2023
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project:
Location:



Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	0.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	5.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.03	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	0.90 m	Fill height:	N/A	Limit depth:	10.00 m

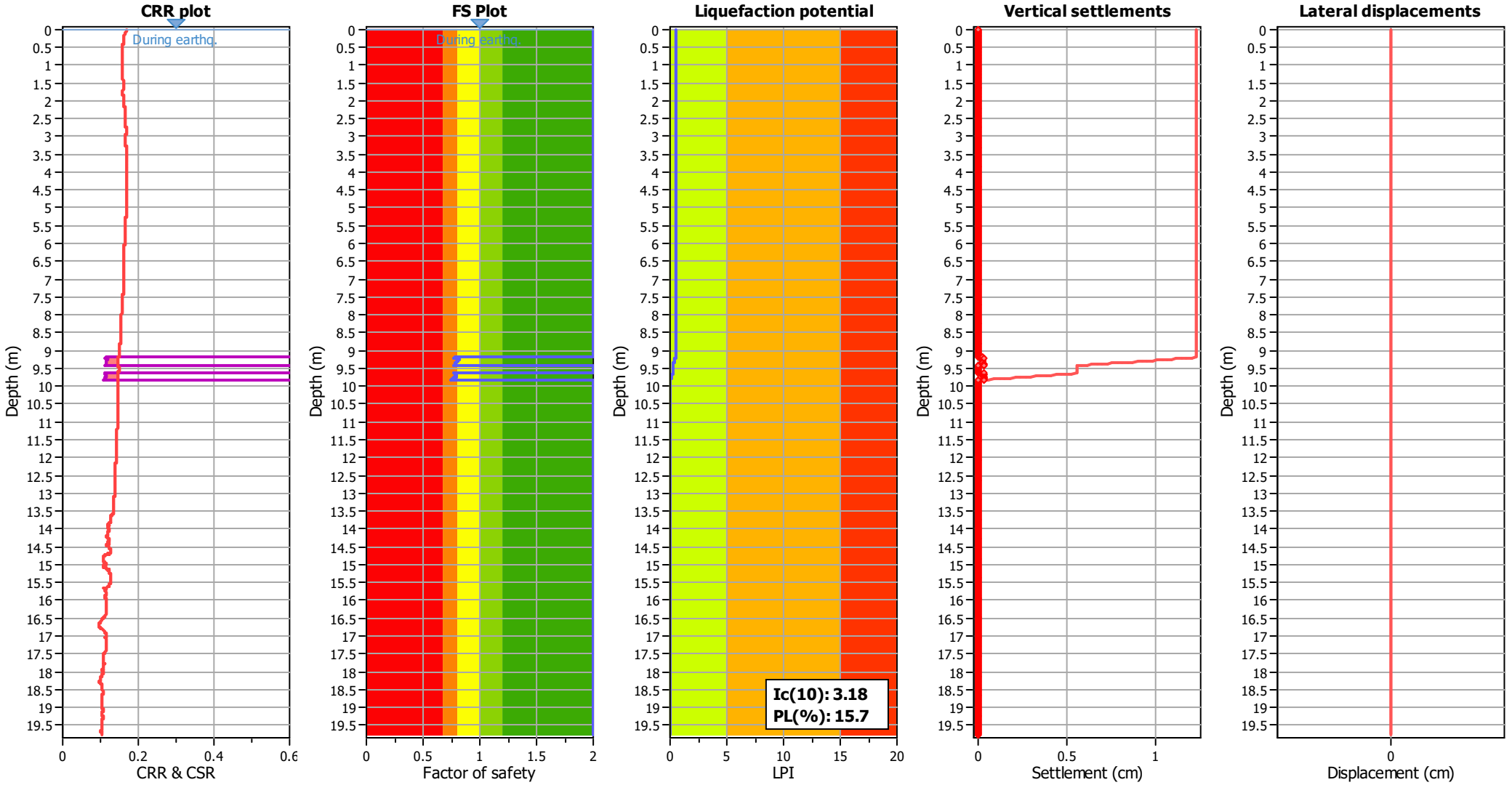
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	0.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	5.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	0.90 m	Fill height:	N/A	Limit depth:	10.00 m

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
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LPI color scheme

- Very high risk
- High risk
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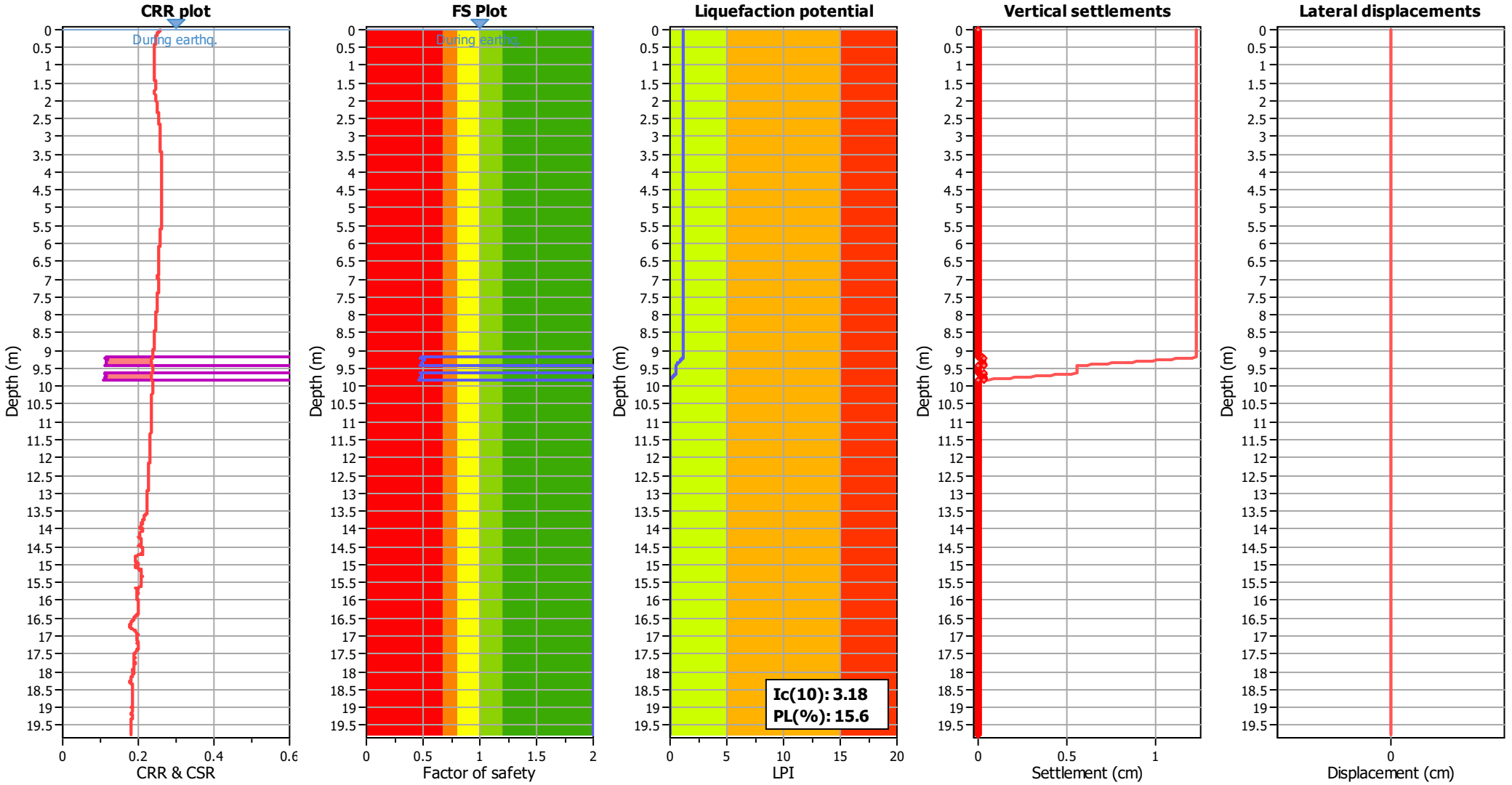
Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	0.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.19	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	0.90 m	Fill height:	N/A	Limit depth:	10.00 m

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Wilton Joubert Limited
09 527 0196
196 Centreway Road,
Orewa, Auckland, 0931

SITE	**83 Spains Road, Awanui**
LEGAL DESCRIPTION	**Sec 11S Awanui SETT**
PROJECT	**3-Lot Subdivision & Future 2-Lot Subdivision**
CLIENT	**West Road Farms Ltd.**
REFERENCE NO.	**137169**
DOCUMENT	**Civil Site Suitability Report**
STATUS/REVISION NO.	**A – Resource Consent**
DATE OF ISSUE	**7 November 2024**

Report Prepared For	Email
West Road Farms Ltd.	gray.h@xtra.co.nz

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

1 EXECUTIVE SUMMARY

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

Legal Description:	Sec 11S Awanui SETT
Lot Sizes:	Proposed Lot 1 – 2.50ha Proposed Lot 2 – 19.12ha Proposed Lot 3 – 6.30ha
Development Type:	3-Lot Subdivision & Future 2-Lot Subdivision of Proposed Lot 3
Scope:	Civil Site Suitability Investigation: - Flood Assessment (Lot 3) - Wastewater Assessment (Lots 1 & 3) - Stormwater Assessment (Lots 1 & 3) - Access Assessment (Lot 3)
Development Proposals Supplied:	Scheme Plan supplied by Von Sturmers, titled; "Subdivision of Section 11S Awanui Settlement" (Ref No: 15456, dated: 06.08.2024)
Associated Documents:	WJL Geotechnical Site Suitability Report Ref. 137168
Minimum Freeboard Requirements:	Non-Habitable Buildings = 300mm Habitable Buildings = 500mm
Recommended Minimum Finished Floor Level:	Non-Habitable Structures = 2.88m (NZVD2016) Habitable Structures = 3.08m (NZVD2016)
District Plan Zone:	Rural Production Zone
Wastewater:	The following is an indicative PCDI wastewater design for a 4-bedroom dwelling – given the subsoils encountered we recommend Secondary Level Treatment or higher: Daily Wastewater Production: 1,080L/day Daily Application Rate: 3mm/day Disposal Area: 360m² Reserve Area: 108m² (30%) Recommendations for wastewater are provided in Section 7.
Stormwater Management – District Plan Rules:	Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%. Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

Stormwater Management:	To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), Lots 1 & 3 must not exceed an impermeable area of 3,750m² and 9,450m². If Lot 3 is further subdivided into two approximately even lots, the maximum permitted impermeable area within each lot is expected to be approximately 4,725m². Given the above, it is expected that Lots 1 & 3, and the future lots resulting from the subdivision of Lot 3 should comply with Permitted Activity Rule (8.6.5.1.3). Additionally, due to the subject site's position in the larger catchment, we believe that at best attenuation measures implemented on-site will have little to no beneficial effects, and at worst may worsen local flood hazards. Therefore, stormwater attenuation is not considered suitable for the proposed lots. Stormwater management recommendations are provided in Section 8.
Access:	- New vehicle crossing / access point required for Lot 3 - Access point should be compliant with FNDC's Sight Distance requirements Further access recommendations provided in Section 9.

2 INTRODUCTION

2.1 SCOPE OF WORK

Wilton Joubert Ltd (WJL) was engaged by the client, West Road Farms Ltd to undertake a civil site suitability assessment to support a 3-Lot subdivision of Sec 11S Awanui SETT and a future 2-Lot subdivision of proposed Lot 3.

At the time of report writing, we have been supplied the following documents:

- Scheme Plan supplied by Von Sturmers, titled; "*Subdivision of Section 11S Awanui Settlement*" (Ref No: 15456, dated: 06.08.2024)

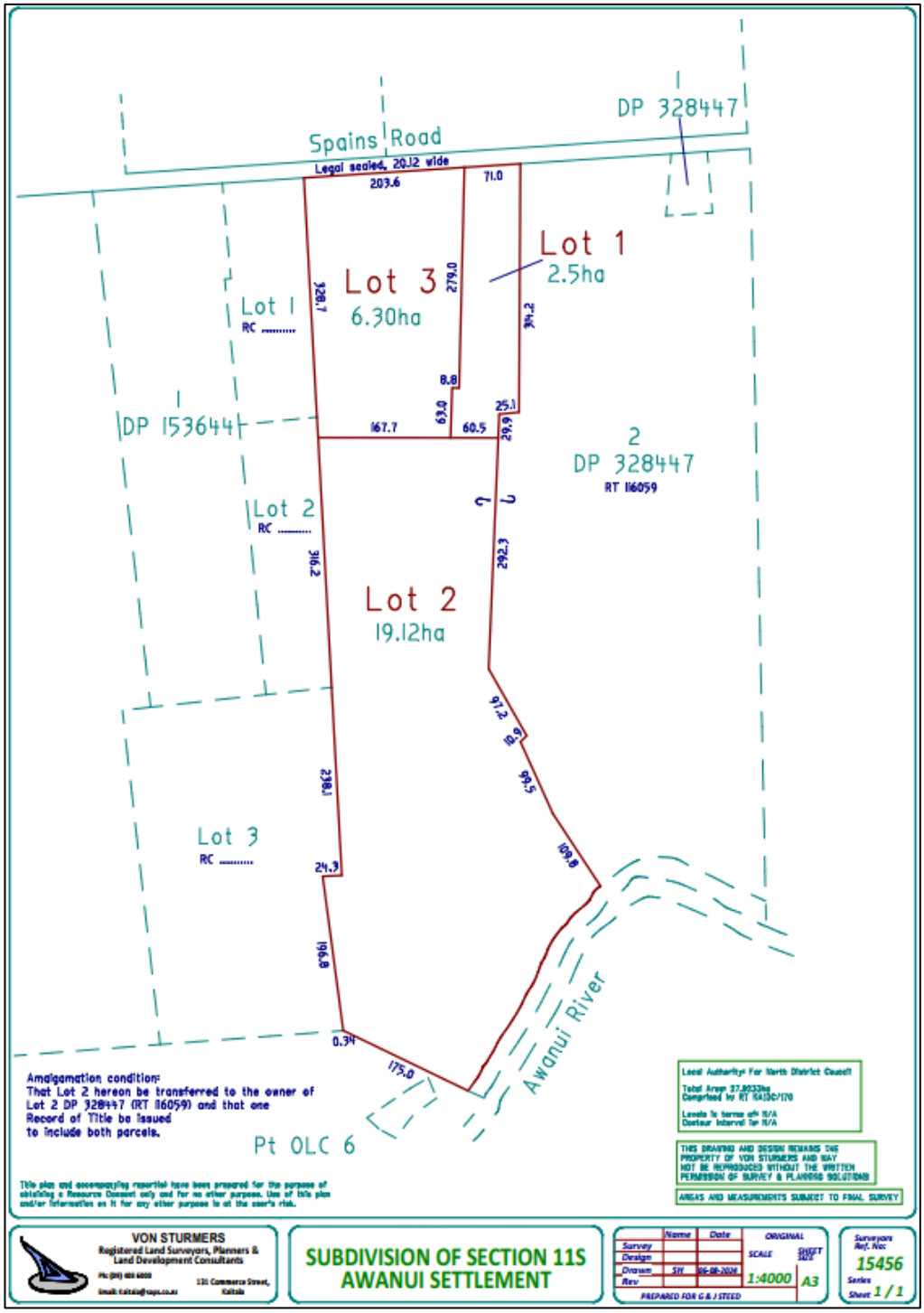


Figure 1: Subdivision Scheme Plan supplied by Von Sturmers.

At the time of report writing, no development plans have been supplied to WJL for the existing development within Lot 1, nor any future development of Lot 3. However, the client has provided a mark-up sketch depicting the future subdivision of Lot 3 (see Figure 2).

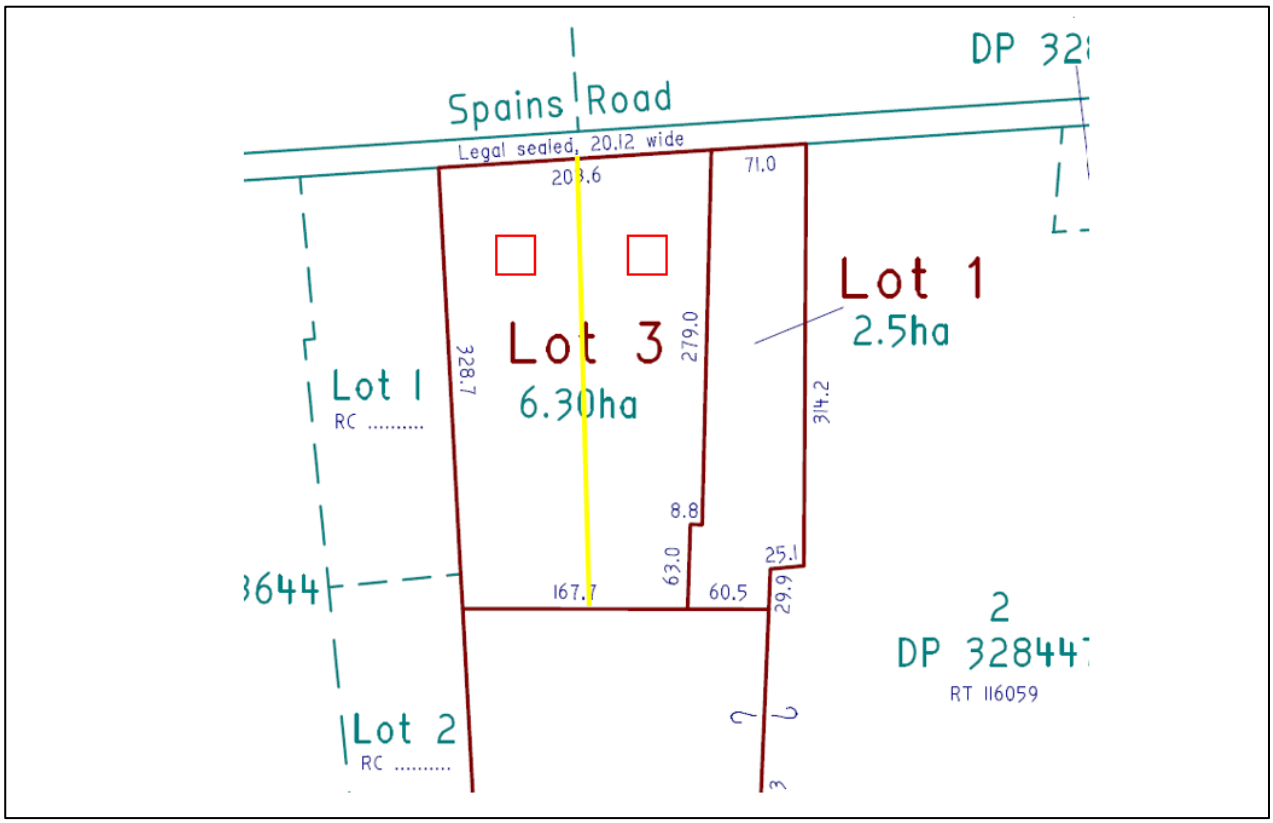


Figure 2: Screenshot of the Supplied Mark-Up Sketch of the Future Subdivision of Lot 3.

It is our understanding that Lot 2 is not proposed to be developed at this stage and is to be amalgamated with Lot 2 DP 328447. As such, Lot 2 has not been considered in the recommendations herein.

The scope of work included in this report is as follows:

- Flood Assessment (Lot 3)
- Wastewater Assessment (Lots 1 & 3)
- Stormwater Assessment (Lots 1 & 3)
- Access Assessment (Lot 3)

A Geotechnical Site Suitability Report (WJL Ref. 137168) has been prepared by WJL for the subject site which should be read in conjunction with this report.

Any revision of the supplied drawings and/or development proposals with flooding, wastewater, stormwater and/or access implications should be referred back to us for review. This report is not intended to support Building Consent applications for the future proposed lots, and any revision of supplied drawings and/or development proposals including those for Building Consent, which might rely on flooding, wastewater, stormwater and/or access assessments herein, should be referred to us for review.

3 SITE DESCRIPTION

The subject 27.9233ha block is located off the southern side of Spains Road, currently accessed 800m west of the State Highway 1 intersection, within the central area of the Awanui district. Existing access to the property is via an aggregate driveway at the north-eastern boundary corner.

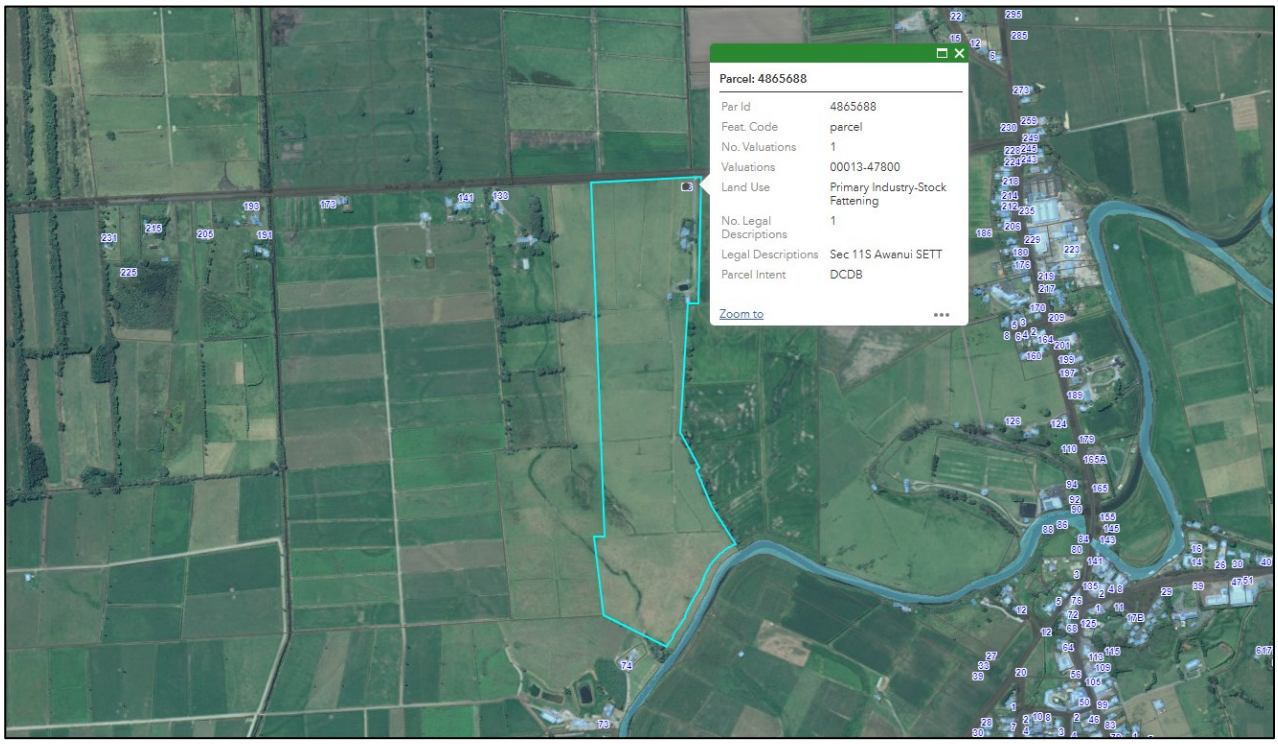


Figure 3: Snip from FNDC GIS Maps Showing Parent Lot's Boundaries (cyan).

Topographically speaking, the property and wider surrounding land lie within a broad, in-filled alluvial floodplain, with widely varying local drainage patterns throughout. The block is flat natured, with a slight northern aspect. Existing ground levels across the site generally range between approximately 2.0m (east) to 3.0m (northwest) New Zealand Vertical Datum (NZVD). The Awanui River borders the southern boundary and ultimately discharges into the Rangaunu Harbour, some 4.6km slightly to the northeast.

Built development on-site is confined to the north-eastern corner of the site and comprises of an existing residential dwelling and associated ancillary structures. The property is covered in grazing pasture, with numerous collector drainage channels present across the site. A large roadside open drain also borders the northern boundary.

At the time of preparing this report, we note that the FNDC on-line GIS Water Services Map indicates that reticulated water, wastewater, and stormwater service connections are not available to the property.

4 PROPOSAL

In reviewing the supplied Subdivision Scheme Plan (see Figure 1 and appendices) it is our understanding that the client intends to subdivide the existing Rural Production zoned property into three individual allotments.

Proposed Lot 1 is to encompass an area of 2.5ha and will contain the existing residential development and surrounding structures present at the north-eastern corner of the site.

Proposed Lot 2 is to encompass an area of 19.12ha and will cover the southern two-thirds of the block. The Lot is to be amalgamated with the neighbouring block to the east, legally titled Lot 2 DP 328447.

Proposed Lot 3 is to encompass an area of 6.3ha and will cover the north-western area of land that is adjacent to Spains Road. The client has provided a mark-up sketch depicting the future subdivision of the lot (see Figure 2).

5 PUBLISHED GEOLOGY

Local geology across the property and surrounding influential land is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits. These deposits are up to approximately 71 thousand years in age and described as; "*Unconsolidated to poorly consolidated sand, peat, mud, and shell deposits (estuarine, lacustrine, swamp, alluvial, and colluvial*" (ref: GNS Science Website).

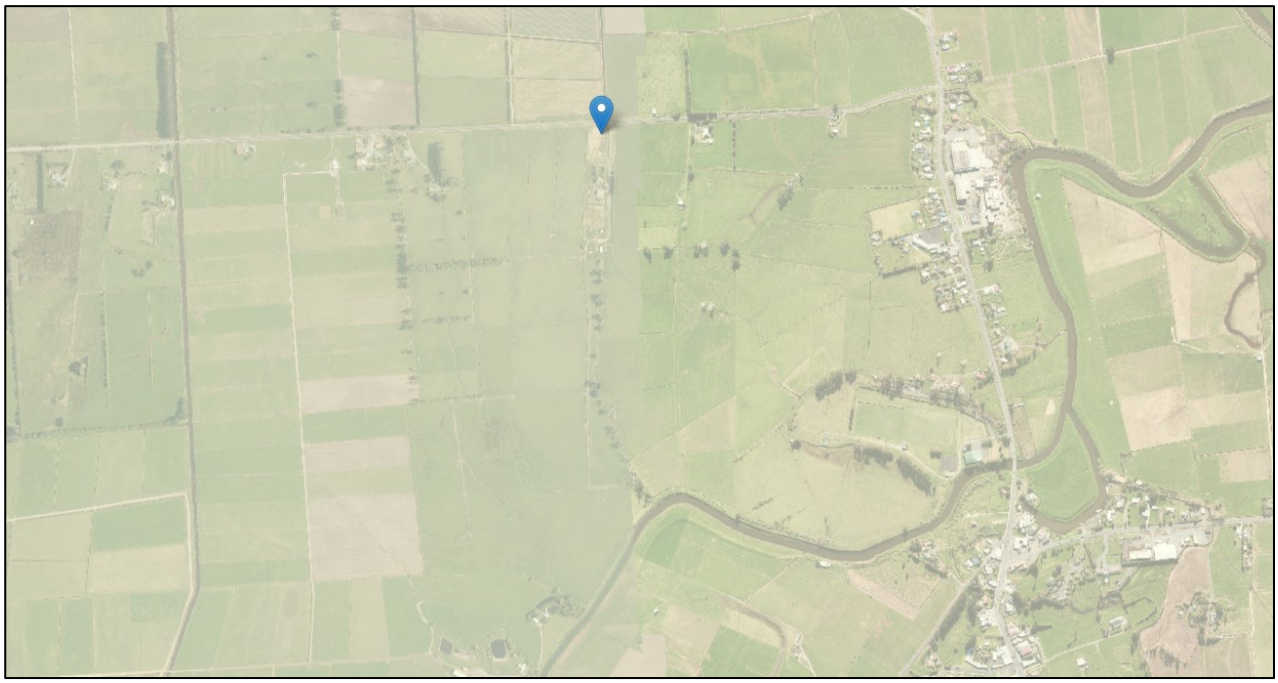


Figure 4: Screenshot from New Zealand Geology Web Map hosted by GNS Science.

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

In general terms, the subsoils encountered consisted predominantly of Silty CLAY. Approximately 50mm-350mm of TOPSOIL was overlying the investigated area. Refer to the appended 'BH Logs'. Given the above, the site's soils have been classified as Category 6 in accordance with the TP58 design manual.

6 FLOODING

The Northland Regional Council Natural Hazards Map indicates that the parent lot is partially located within the River Flood Hazard Zone – Priority Rivers 10-year, 50-year and 100-year CC Extents and the Coastal Flood Hazard Zones 2 & 3. Specific flood levels for three locations across the subject site were supplied by Northland Regional Council's River Project Manager.

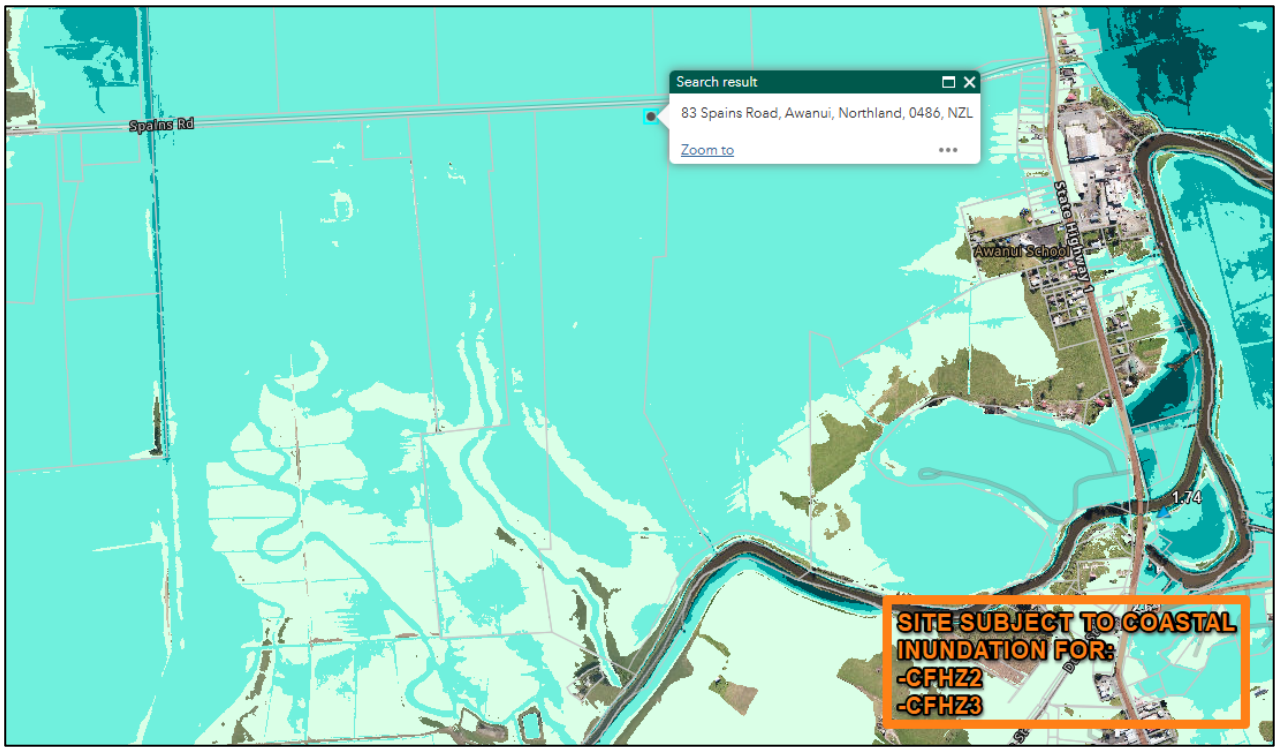


Figure 5: Aerial View of the Subject Site with Coastal Flooding Hazard Zones 1, 2 & 3 Overlays.

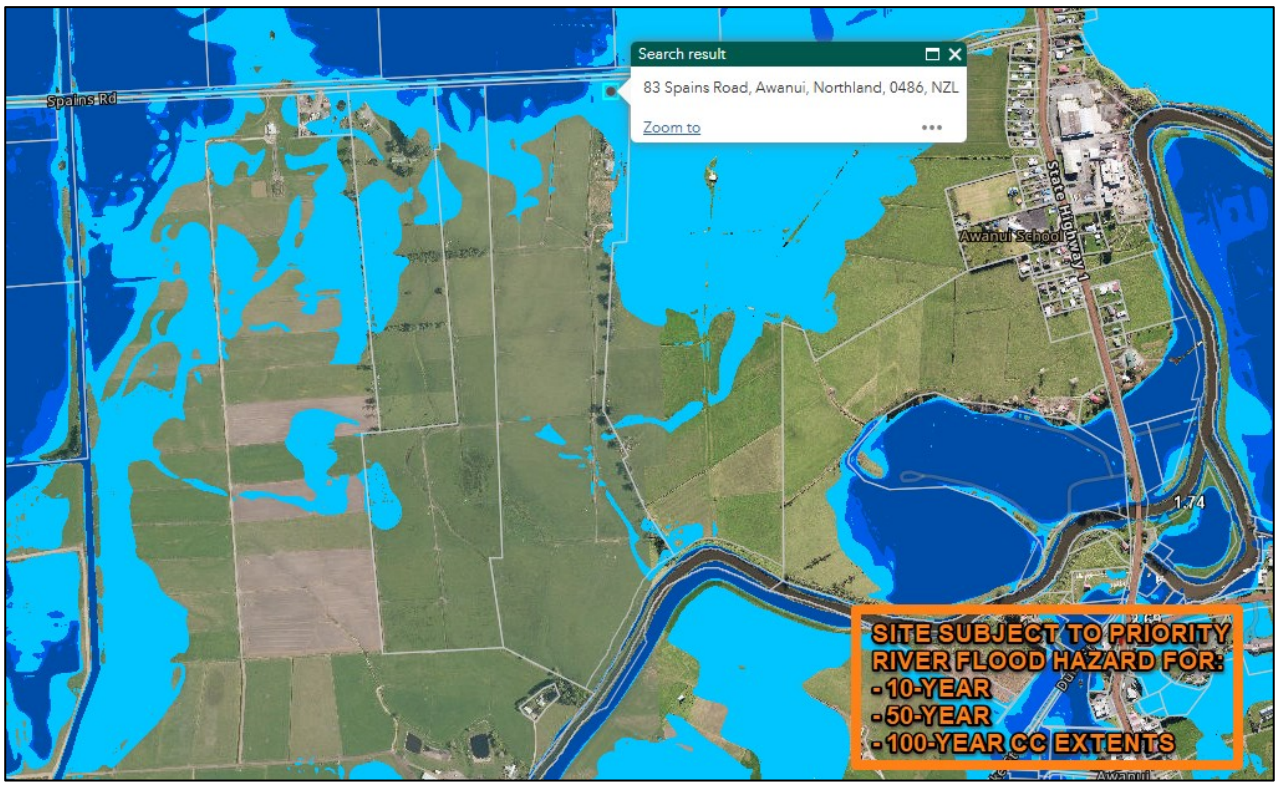


Figure 6: Aerial View of the Subject Site with 10-year, 50-year and 100-year CC Extents Priority River Flood Hazard Overlays.

Figure 7: Snip of Specific Flood Level Locations.

Table 1: Coastal Flood Levels at Locations Given in Figure 7, Supplied by NRC River Project Manager

Location	CFHZ0 (current) (NZVD2016)	CFHZ1 (50-year) (NZVD2016)	CFHZ2 (100-year + CC) (NZVD2016)	CFHZ3 (100-year + rapid CC) (NZVD2016)
1	0m	0m	2.58m	3.09m
2	0m	0m	2.58m	3.09m
3	0m	0m	2.58m	3.09m

Table 2: Priority River Flood Levels at Locations Given in Figure 7, Supplied by NRC River Project Manager

Location	10-year (NZVD2016)	50-year (NZVD2016)	100-year + CC (NZVD2016)
1	0m	0m	2.01m
2	1.39m	1.45m	2.01m
3	0m	0m	2.01m

6.1 FLOOD HAZARD ASSESSMENT CRITERIA

As the site is within a natural hazard zone it is subject to an assessment in terms of Sections 71 and 72 of the New Zealand Building Act:2004. The requirements are as follows:

"*71 Building on land subject to natural hazards*

(1) A building consent authority must refuse to grant a building consent for construction of a building, or major alterations to a building, if—

a. the land on which the building work is to be carried out is subject or is likely to be subject to 1 or more natural hazards; or
b. the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.

(2) Subsection (1) does not apply if the building consent authority is satisfied that adequate provision has been or will be made to—
a. protect the land, building work, or other property referred to in that subsection from the natural hazard or hazards; or
b. restore any damage to that land or other property as a result of the building work.

(3) In this section and sections 72 to 74, natural hazard means any of the following:
a. erosion (including coastal erosion, bank erosion, and sheet erosion):
b. falling debris (including soil, rock, snow, and ice):
c. subsidence:
d. inundation (including flooding, overland flow, storm surge, tidal effects, and ponding):
e. slippage

72 Building consent for building on land subject to natural hazards must be granted in certain cases

Despite section 71, a building consent authority that is a territorial authority must grant a building consent if the building consent authority considers that—

a. the building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property; and
b. the land is subject or is likely to be subject to 1 or more natural hazards; and
c. it is reasonable to grant a waiver or modification of the building code in respect of the natural hazard concerned."

Further to the above, the assessment has been based on The Regional Policy Statement for Northland. This development falls under Section 7.1.2 and 7.1.3 of this document:

"7.1.2 Policy – New subdivision and land use within 10-year and 100- year flood hazard areas

New subdivision, built development (including wastewater treatment and disposal systems), and land use change may be appropriate within 10-year and 100-year flood hazard areas provided all of the following are met:

a. Hazardous substances will not be inundated during a 100-year flood event.
b. Earthworks (other than earthworks associated with flood control works) do not divert flood flow onto neighbouring properties, and within 10-year flood hazard areas do not deplete flood plain storage capacity;
c. A minimum freeboard above a 100-year flood event of at least 500mm is provided for residential buildings.
d. Commercial and industrial buildings are constructed so as to not be subject to material damage in a 100 year flood event.
e. New subdivision plans are able to identify that building platforms will not be subject to inundation and / or material damage (including erosion) in a 100-year flood event;
f. Within 10-year flood hazard areas, land use or built development is of a type that will not be subject to material damage in a 100-year flood event; and
g. Flood hazard risk to vehicular access routes for proposed new lots is assessed.

7.1.3 Policy – New subdivision, use and development within areas potentially affected by coastal hazards (including high risk coastal hazard areas)

Within areas potentially affected by coastal hazards over the next 100 years (including high risk coastal hazard areas), the hazard risk associated with new use and development will be managed so that:

a. *Redevelopment or changes in land use that reduce the risk of adverse effects from coastal hazards are encouraged;*
b. *Subdivision plans are able to identify that building platforms are located outside high risk coastal hazard areas and these building platforms will not be subject to inundation and / or material damage (including erosion) over a 100-year timeframe;*
c. *Coastal hazard risk to vehicular access routes for proposed new lots is assessed;*
d. *Any use or development does not increase the risk of social, environmental or economic harm (from coastal hazards);*
e. *Infrastructure should be located away from areas of coastal hazard risk but if located within these areas, it should be designed to maintain its integrity and function during a hazard event;*
f. *The use of hard protection structures is discouraged and the use of alternatives to them promoted; and*
g. *Mechanisms are in place for the safe storage of hazardous substances*"

The Far North District Council Engineering Standards (May 2023) states the following in 'Section 4.3.10.7 Freeboard Requirements':

"*4.3.10.7 Freeboard Requirements*

Freeboard above the secondary flow level is required to cater for inaccuracies in flow estimation and practicable blockage/failure of the primary system.

The minimum freeboard above the calculated 1% AEP storm shall be:

a. *0.5m for habitable building floors, and,*
b. *0.3m for commercial and industrial buildings,*

Unless specific assessment demonstrates that a different freeboard is appropriate.

Minimum floor levels shall be identified for all lots within the area of the site where flood risks are for 1% AEP or lesser event. This assessment shall consider flooding caused by different sources including:

c. *Rivers,*
d. *Tides,*
e. *Elevated groundwater, and*
f. *Surface water ponding.*

Minimum floor levels in tidal areas shall be set by taking into consideration current information on natural hazards including storm surge, wave run-up tsunami, and sea level rise.

Development proposals shall demonstrate Safety in Design principles and may be required to provide for Escape routes from the flood hazardous areas/ properties within the development. The appropriate information shall be included in the engineering drawings.

The NRC Regional Policy Statement for Northland states that within the coastal environment:

- *Any new habitable dwelling has a minimum floor level of 3.3 m above One Tree Point datum on the east coast and 4.3 m above One Tree Point Datum on the west coast.*
- *New non-habitable buildings will have a minimum floor level of 3.1 m above One Tree Point datum on the east coast and 4.1 m on the west coast.*

However, specific assessment shall be carried out for all sites to determine the floor levels dependant on local conditions. Development proposals should include reference to the NRC Regional Policy Statement for Northland and NRC Coastal Flood Hazard Assessment for Northland Region Report."

6.2 ASSESSMENT

Minimum Finished Floor Level Requirements

We recommend considering the CFHZ2 scenario for coastal inundation as this is considered appropriate for the proposed development and its location. CHFZ2 is based on a sea level rise of 1.2m and roughly corresponds to the RCP8.5M as set out in the Coastal hazards and climate change: *Guidance for local government by the Ministry for the Environment* document.

In accordance with the freeboard requirements, the minimum finished floor levels for future proposed structures are as follows:

Habitable Structures	=	3.08m (NZVD2016)
Non-Habitable Structures	=	2.88m (NZVD2016)

Final floor levels for future proposed dwellings should be confirmed by a registered surveyor to ensure compliance with Section 72 of the New Zealand Building Act.

Accessway Requirements

We recommend that the finished level for future accessways match the level of Spains Road at the access point to the site.

The Northland Regional Council's Natural Hazards Map suggests that Spains Road is also subject to priority river flood hazards and coastal inundation. As such, it is recommended to alert future owners of their responsibility to prepare an evacuation plan and that Council will not be held liable for flood related issues.

Wastewater Disposal Areas

Wastewater disposal areas are to be situated outside the 5% AEP Flood Extent, as is required under Table 9 of the Proposed Regional Plan for Northland.

7 WASTEWATER

Lot 1

The existing residential dwelling on proposed Lot 1 is currently serviced by an existing on-site wastewater management system.

We recommend that a registered drainlayer or maintenance contractor be engaged to provide commentary on the condition and confirm the location of the existing wastewater system, including any disposal fields or trenches.

If the existing wastewater system is functional, fit for the existing dwelling and located within Lot 1 it may continue to operate given that Lot 1 is not redeveloped.

If any part of the wastewater system, including any disposal fields or trenches is not located within Lot 1, the system can either be relocated to Lot 1 and/or upgraded, or it can be decommissioned and replaced with a new on-site wastewater treatment system in accordance with the recommendations herein.

From our site investigation, it is expected that the entirety of the wastewater system will be within Lot 1's boundaries.

Lot 3

No existing wastewater management system is present within proposed Lot 3. As such, a new site-specific design in accordance with the ASNZS: 1547 / TP58 design manual will be required by FNDC for any future development within the proposed lot, including post subdivision of Lot 3. This should be conditioned as part of the Resource Consent process.

7.1 DESIGN PARAMETERS

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

As no development proposals are available at this stage for the eventual residential development within Lot 3, our recommendations have been based on a moderate size dwelling containing 4 bedrooms.

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

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

Development Type:	Residential Dwellings
Effluent Treatment Level:	Secondary (<BOD5 20 mg/L, TSS 30 mg/L)
Fill Encountered in Disposal Areas:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (TP58):	Category 6 –Silty CLAY –Slow Drainage
Estimate House Occupancy:	6 Persons
Loading Rate:	PCDI System – 3mm/day
Estimated Total Daily Wastewater Production per Lot:	1,080L
Typical Wastewater Design Flow Per Person:	180L/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Application Method:	Surface Laid PCDI Lines
Loading Method:	Dosed
Minimum Tank size:	>1,080L
Emergency Storage:	24 hours
Estimated Min. Disposal Area Requirement:	360m²
Required Min. Reserve Area:	30%
Buffer Zone:	Not required
Cut-off Drain:	Not required

7.2 REQUIRED SETBACK DISTANCES

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

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

Figure 8: Table 9 of the PRPN (Proposed Regional Plan for Northland).

7.3 NORTHLAND REGIONAL PLAN ASSESSMENT

Lot 1's existing wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.1 of the Proposed Regional Plan for Northland:

C.6.1.1 Existing on-site domestic type wastewater discharge – permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	the discharge volume does not exceed:
	a) three cubic metres per day, averaged over the month of greatest discharge, and
	b) six cubic metres per day over any 24-hour period, and

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

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

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and
2	The volume of wastewater discharged does not exceed two cubic metres per day, and
3	The discharge is not via a spray irrigation system or deep soakage system, and
4	The slope of the disposal area is not greater than 25 degrees, and
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012); or is via an irrigation line system that is:
	a) dose loaded, and
	b) covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
6	For the discharge of wastewater onto the surface of slopes greater than 10 degrees:
	a) the wastewater, excluding greywater, has received at least secondary treatment, and
	b) the irrigation lines are firmly attached to the disposal area, and

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

We envision that there will be no issue meeting the Permitted Activity Status requirements as outlined above, including for the future subdivision of Lot 3.

8 STORMWATER MANAGEMENT

8.1 ASSESSMENT CRITERIA

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

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

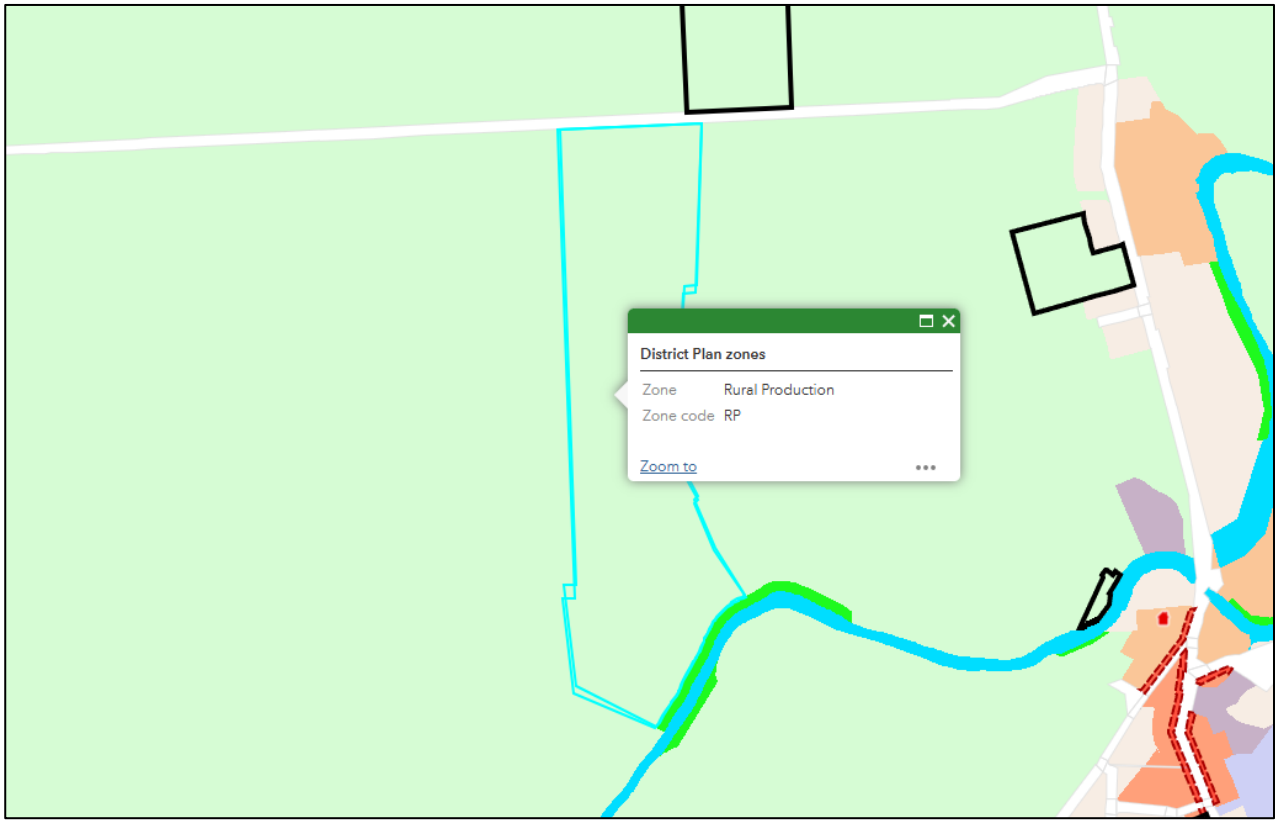


Figure 9: Snip of FNDC Maps Showing Site in Rural Production Zone.

The following Stormwater Management Rules Apply:

Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), Lots 1 & 3 must not exceed an impermeable area of 15%. The maximum permitted impermeable area for Lots 1 & 3 are 3,750m² and 9,450m² respectively. If Lot 3 is further subdivided into two approximately even lots, the maximum permitted impermeable area within each lot is expected to be approximately 4,725m².

Given the above, it is expected that Lots 1 & 3, and the future lots resulting from the subdivision of Lot 3 should comply with Permitted Activity Rule (8.6.5.1.3). As such, it is not expected that a stormwater attenuation report will be required for Lots 1 & 3, nor for the future lots resulting from the subdivision of Lot 3.

In addition to the above, the subject site borders a coastal environment subject to coastal inundation as per NRC Natural Hazards maps. Due to the subject site's position in the larger catchment, we believe that at best attenuation measures implemented on-site will have little to no beneficial effects, and at worst may worsen local flood hazards by modifying the time of peak flow occurrence to coincide with those of other properties located upstream within the larger catchment.

While the provision of attenuation for the impermeable areas exceeding the Permitted Activity threshold would normally apply for a development exceeding the Permitted Activity threshold, we do not believe that the attenuation of runoff resulting from existing or future proposed impermeable areas on-site is appropriate due to the factors above.

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

Stormwater management recommendations for Lots 1 & 3 are provided below.

8.2 PRIMARY STORMWATER

8.2.1 Stormwater Runoff from Roof Areas

Lot 1

It is our understanding that stormwater runoff from the existing structures' roof areas is currently being directed to rainwater tanks for potable reuse.

It is recommended that discharge and overflow from the existing potable water tanks be directed via sealed pipes to an appropriate outlet or dispersal device.

We recommend that a drainlayer be engaged to provide commentary on the condition and confirm the location of the existing discharge point / dispersal device servicing the existing potable water tanks. If the existing discharge point / dispersal device is functioning and located at a suitable location within Lot 1 it may continue to operate given that Lot 1 is not redeveloped.

Alternatively, discharge and overflow from the existing potable water tank(s) are to be redirected to a new dispersal device or outlet.

Lot 3

Stormwater runoff from the roof of the future buildings must be captured by a gutter system and conveyed to potable water tanks.

Discharge and overflow from the potable water tanks should be directed to a dispersal device within proposed Lot 3 unless the discharge is directed to an open channel, where an appropriate riprap outlet is required for erosion control. The dispersal device or discharge point should be positioned on/in stable ground downslope of any buildings and effluent fields, with setback distances as per the relevant standards.

8.2.2 Stormwater Runoff from Hardstand Areas

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

Long driveways or Right of Ways should be shaped to shed runoff to lower-lying grassed areas, well clear of any structures and effluent disposal trenches / fields. This stormwater runoff should sheet flow and must not be concentrated to avoid scour and erosion. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.

Where even sheet flow is not practicable, concentrated flows must be managed with swales directed to a safe outlet location without causing erosion. These should be sized to manage and provide capacity for secondary flows and mitigate flow velocity where appropriate.

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

8.3 SECONDARY STORMWATER

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

8.4 DISTRICT PLAN ASSESSMENT

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

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

13.10.4 – Stormwater Disposal

(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	No discharge permits are required. No resource consent issued documents stipulating specific requirements are known for the subject site or are anticipated to exist.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	The application is deemed compliant with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The application is deemed compliant with the Far North District Council Strategic Plan - Drainage
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Stormwater management should be provided for the subject lot by utilising Low Impact Design Methods. Guidance for design should be taken from 'The Countryside Living Toolbox' design document, and where necessary, *"Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003).* All roof runoff will be collected by rainwater tanks for conveyance to a safe outlet point. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.

(e) The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.	As above. Runoff from new roof areas will be collected, directed to rainwater tanks and discharged in a controlled manner to a discharge outlet, reducing scour and erosion. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.
(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	Runoff from roof areas is free of litter, chemical spillages, or contaminants from roads. Future proposed hardstand areas are best shaped to shed to large pasture areas via sheet flow to ensure that runoff does not concentrate. Large downslope pasture areas act as bio-filter strips to filter out entrained pollutants.
(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	No alteration to waterways is proposed.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	No applicable.
(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	Not applicable.
(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Not applicable.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	Outlet locations are to be determined during detailed design and are to be located such that there are no adverse effects on adjacent properties.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	Not applicable.
(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	Not applicable.

(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Not applicable.
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Not applicable.
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	Not applicable.
(q) The need for and extent of any financial contributions to achieve the above matters.	Not applicable.
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Not applicable.

9 ACCESS AND VEHICLE CROSSING

9.1 GENERAL

A basic access and vehicle crossing assessment for proposed Lot 3 has been completed with recommendations provided in this section.

It is proposed to construct a new vehicle crossing directly off Spains Road to service Lot 3.

Additionally, it is expected that a shared accessway will be constructed within Lot 3 following Lot 3's future subdivision to provide a shared access to the future lots.

New vehicle crossings and accessways are to be designed and constructed in accordance with Council's Engineering Standards and Guidelines.

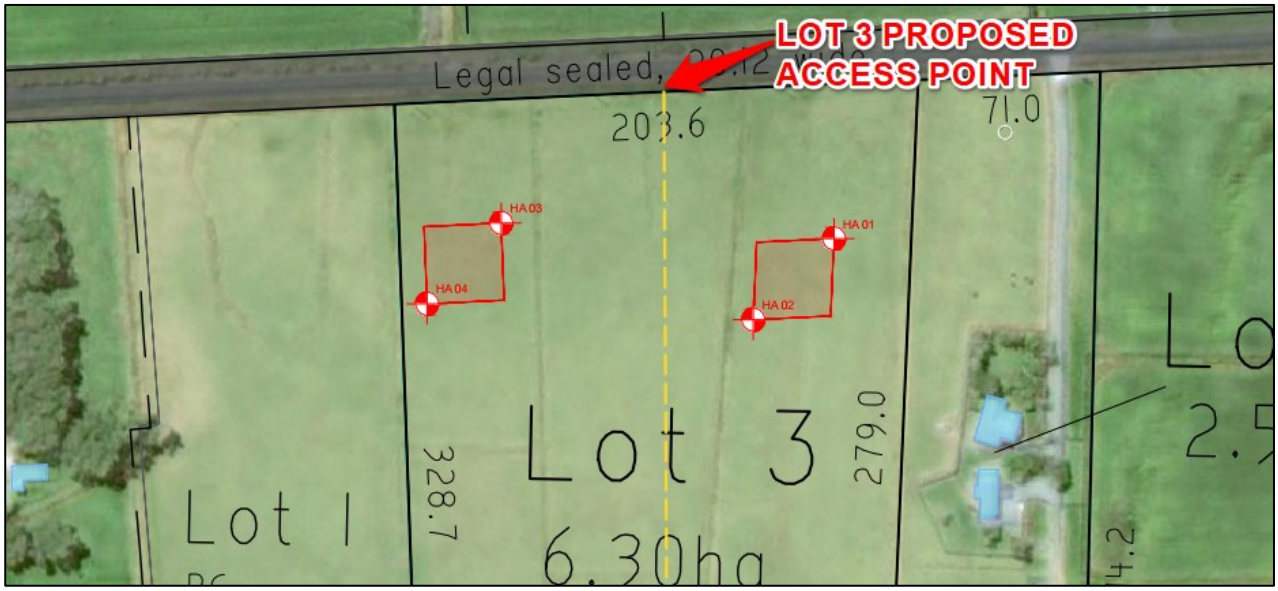


Figure 10: Lot 3 Proposed Access Point.

9.2 VEHICLE CROSSINGS

It is recommended to construct the new vehicle crossing to service Lot 3 to be in compliance with the Far North District Council Engineering Standards (May 2023) Sheet 21 – Type 1A.

The crossing shall not obstruct any drainage facilities within the berm. Where the drain is shallow and only carries low rain flow, the crossing must pass through the drain. Where the drain is an unstable shape or carries significant rain flow the drain shall be piped under the crossing. Pipes and end treatments shall be sized appropriately for the catchment intercepted but shall be a minimum 300mmØ.

9.3 VEHICLE ACCESS

The Far North District Plan Section 15.1.6C.1.5 notes that "*All bends and corners on the private accessway are to be constructed to allow for the passage of a Heavy Rigid Vehicle" and "Runoff from impermeable surfaces shall, wherever practicable, be directed to grass swales and/or shall be managed in such a way as will reduce the volume and rate of stormwater runoff and contaminant loads*.".

Any future accessway within Lot 3 is recommended to be constructed in accordance with the Far North District Council Engineering Standards (May 2023) – Table 3-16.

9.4 SIGHT DISTANCES

Spains Road has a general operating speed of 100km/hr (NZTA National Speed Limits Register). The Far North District Council Engineering Standards (May 2023) – Sheet 4 notes that the minimum required sight distance is 210m.

In compliance with the above sight distance requirements, the proposed access point to service Lot 3 allows for >210m of sight distance to the east and west.

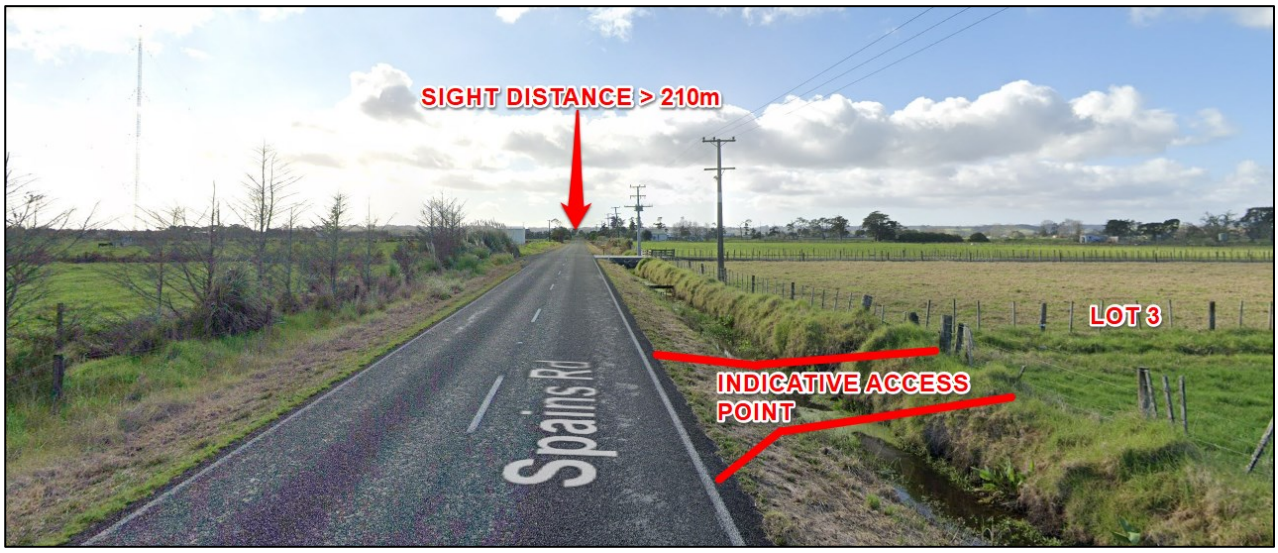


Figure 11: Indicative Access Point on Spains Road Facing East, >210m Sight Distance Available.

Figure 12: Indicative Access Point on Spains Road Facing West, >210m Sight Distance Available.

10 LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our client, **West Road Farms Ltd.**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions, and limitations, when issuing the subject consent.

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with Wilton Joubert 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 other civil aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Site Plan – C001 (1 sheet)
- Hand Auger Borehole Records (4 sheets)
- NRC Flood Level Report (8 sheets)

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.

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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	NOV '24	GMB	CIVIL SITE SUITABILITY REPORT

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

SERVICES NOTE

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

RESOURCE CONSENT

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **CIVIL SITE SUITABILITY REPORT**

PROJECT TITLE: **PROPOSED SUBDIVISION OF SEC 11S AWANUI SETT 83 SPAINS ROAD AWANUI NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:1500	NOT COORDINATED

DRAWING NUMBER: **137169-C001** ISSUE: **A**

HAND AUGER : HA01

JOB NO.: 137168 **SHEET:** 1 OF 1

START DATE: 29/10/2024 **NORTHING:** **GRID:**

CLIENT: West Road Farms Limited **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision **SV DIAL:** 772 **ELEVATION:** Ground

SITE LOCATION: 83 Spains Road, Awanui **FACTOR:** 1.6 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.0						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: Silty CLAY, grey with orange brown mottles and white speckles, very stiff, moist, low to moderate plasticity.		0.4		112	58	1.9		
	0.7m: Becoming orangey brown with grey mottles, stiff, moderate plasticity, frequent orange weakly cemented clast inclusions as silt.		0.8		96	45	2.1		
	1.2m: Becoming very stiff.		1.2		109	51	2.1		
			1.6	29/10/2024	144	61	2.4		
	2.0m: Becoming stiff.		2.0		96	58	1.7		
	2.1m: Becoming greyish brown, moist to wet, moderate to high plasticity, frequent brown weakly cemented clast inclusions as silt.		2.2						
	2.3m: Becoming dark greyish brown, wet, firm, frequent brown weakly cemented clast inclusions as silt.		2.4		48	22	2.2		
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.6					0.5	
			2.8					0.5	
			3.0					1	
			3.2					1	
			3.4					1	
			3.6					2	
			3.8					2	
			4.0					2	
			4.2					2	
			4.4					3	
			4.6					3	
			4.8					3	
			5.0					4	
			5.2					4	
			5.4					6	
			5.6					6	
			5.8					6	
			6.0					7	
			6.2					7	
			6.4					7	
								7	
								8	
								8	
								9	
								10	
								10	
								10	
								10	
								9	
								8	
								10	
								10	
								10	

SOIL DESCRIPTION

TOPSOIL CLAY SAND PEAT

FILL SILT GRAVEL ROCK

REMARKS

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

Groundwater encountered @ 2.30m during drilling. Standing groundwater @ 1.60m.

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

LOGGED BY: SJP

CHECKED BY: ANA

▼ Standing groundwater level

▽ GW while drilling

WILTON JOUBERT Consulting Engineers

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Website: www.wiltonjoubert.co.nz

HAND AUGER : HA02

JOB NO.: 137168 **SHEET:** 1 OF 1

CLIENT: West Road Farms Limited
START DATE: 29/10/2024 **NORTHING:** **GRID:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision
DIAMETER: 50mm **EASTING:**

SITE LOCATION: 83 Spains Road, Awanui
SV DIAL: 1994 **ELEVATION:** Ground

FACTOR: 1.4 **DATUM:**

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

STRATIGRAPHY	DEPTH (m)	SOIL DESCRIPTION	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	0.0	TOPSOIL, dark brown, moist.						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	0.2	NATURAL: Silty CLAY, grey with orange streaks, very stiff, moist, low to moderate plasticity.						
	0.4			157	53	3.0		
	0.6							
	0.8	0.7m: Becoming orangey brown with grey streaks, stiff, moderate plasticity, frequent weakly cemented clast inclusions as silt.		84	42	2.0		
	1.0							
	1.2		29/10/2024	92	28	3.3		
	1.4							
	1.6	1.6m: Becoming very stiff, wet.		120	36	3.3		
	1.8							
	2.0	2.0m: Becoming stiff.		64	14	4.6		
	2.2							
	2.4	2.4m: Becoming very stiff.		101	22	4.6		
	2.6	2.5m: Becoming wet to saturated.						
	2.8	2.8m: Becoming stiff.		67	34	2.0		
	3.0	EOH: 2.90m - No Recovery Due To Groundwater Suction					0	
	3.2						0	
	3.4						0	
	3.6						2	
	3.8						2	
	4.0						2	
	4.2						2	
	4.4						2	
	4.6						2	
	4.8						3	
	5.0						3	
	5.2						3	
	5.4						4	
	5.6						4	
	5.8						4	
	6.0						4	
	6.2						5	
	6.4						6	
							5	
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							9	
							9	
							8	
							8	

REMARKS

End of borehole @ 2.90m (Target Depth: 5.00m)
Groundwater encountered @ 1.60m during drilling. Standing groundwater @ 1.20m.

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

LOGGED BY: JEM
CHECKED BY: ANA

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 137168 **SHEET:** 1 OF 1

CLIENT: West Road Farms Limited
PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision
SITE LOCATION: 83 Spains Road, Awanui

START DATE: 29/10/2024 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: 772 **ELEVATION:** Ground
FACTOR: 1.6 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: Silty CLAY, grey with orangey brown mottles, stiff, moist, moderate plasticity.		0.4		80	35	2.3		
	0.8m: Becoming very stiff, frequent orangey brown weakly cemented clast inclusions as silt.		0.6						
			0.8		125	48	2.6		
			1.0	29/10/2024					
	1.2m: Becoming brown with grey mottles, frequent orangey brown weakly cemented clast inclusions as silt.		1.2		138	42	3.3		
	1.4m: Becoming moist to wet.		1.4						
	1.6m: Becoming grey, frequent orangey brown weakly cemented clast inclusions as silt.		1.6		128	45	2.8		
			1.8						
	2.0m: Becoming stiff, wet.		2.0	▽	70	16	4.4		
			2.2						
			2.4					0.66	
	EOH: 2.40m - No Recovery Due To Groundwater Suction		2.6					0.66	
								0.66	
			2.8					1	
								2	
			3.0					2	
								2	
			3.2					2	
								3	
			3.4					4	
								5	
			3.6					4	
								4	
			3.8					4	
								4	
			4.0					6	
								6	
			4.2					7	
								9	
			4.4					8	
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			4.6					8	
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			4.8					9	
								9	
			5.0					9	
								11	
			5.2					12	
								9	
			5.4					9	
								9	
			5.6					9	
								10	
			5.8					10	
								10	
			6.0						
			6.2						
			6.4						

REMARKS
End of borehole @ 2.40m (Target Depth: 5.00m)
Groundwater encountered @ 2.00m during drilling. Standing groundwater @ 1.10m.

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

LOGGED BY: SJP
CHECKED BY: ANA

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA04

JOB NO.: 137168 **SHEET:** 1 OF 1

START DATE: 29/10/2024 **NORTHING:** **GRID:**

CLIENT: West Road Farms Limited **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 83 Spains Road, Awanui **FACTOR:** 1.4 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
p s	TOPSOIL, dark brown, moist.		0.0						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: SIlty CLAY, grey with orange streaks, stiff, moist, low to moderate plasticity, frequnet weakly cemented clast inclusions as silt.		0.2						
			0.4		84	31	2.7		
			0.6						
			0.8						
	0.9m: Becoming orange and grey, moderate plasticity, frequent weakly cemented clast inclusions as silt.		1.0		104	39	2.7		
			1.2	29/10/2024					
			1.4		104	34	3.1		
	1.6m: Becoming stiff.		1.6		73	20	3.6		
	1.9m: Becoming wet.		1.8						
	2.0m: Becoming firm to stiff.		2.0		50	14	3.6		
			2.2						
	2.4m: Becoming stiff.		2.4		70	34	2.1		
			2.6					0	
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.8					0	
			3.0					0	
			3.2					1	
			3.4					1	
			3.6					1	
			3.8					2	
			4.0					2	
			4.2					3	
			4.4					3	
			4.6					3	
			4.8					3	
			5.0					3	
			5.2					4	
			5.4					7	
			5.6					6	
			5.8					6	
			6.0					6	
			6.2					7	
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								10	

REMARKS

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

Groundwater encountered @ 1.90m during drilling. Standing groundwater @ 1.20m.

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

LOGGED BY: JEM

CHECKED BY: ANA

▼ Standing groundwater level

▽ GW while drilling

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Flood Level Report

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Parcel ID: 4865688

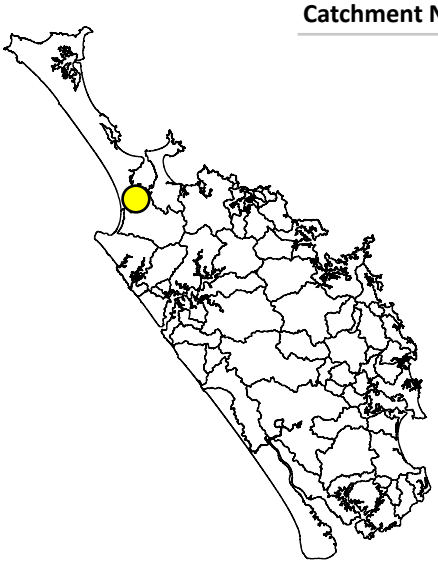
Title: NA13C/170

Appellation: Section 11S Awanui SETT

Survey Area: 279,233 m²

Catchment Name(s)

Awanui



Date Exported: 17/10/2024

Report Reference: 20241016_081955

Useful Flood Information Definitions

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

1% AEP - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
2% AEP - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
5% AEP - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
10% AEP - A flood of this size or larger has a 1 in 10 chance or a 10% probability of occurring in any year.

NZVD2016 - New Zealand Vertical Datum - The reference level used in our flood models to define ground level.
Flood Levels - Flood levels are used from our modelled flood level rasters. The flood levels are calculated above NZVD 2016 Datum.
Climate Change (CC) - NZCPS (2010) requires that the identification of coastal hazards includes consideration of sea level rise over at least a 100-year planning period. Climate change impacts, such as increased rain intensity, have been included in the flood scenarios. You can read more about the Climate Change forecasts included in each flood model in the technical reports on the NRC website.
Mean high water spring (MHWS) - describes the highest level that spring tides reach, on average.

Coastal Flood Hazard Zones (CFHZ)

Coastal flood hazard zones are derived using a range of data including tide gauge analysis, wind and wave data and models, and use empirical calculations to estimate extreme water levels around the coastline. The calculations include projected sea level rise scenarios based on the latest Ministry for the Environment guidance.

CFHZ 0 Coastal Flood Hazard Zone 0 - area currently susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event
CFHZ 1 Coastal Flood Hazard Zone 1 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-50 year storm event, taking into account a projected sea-level rise of 0.6m over the next 50 years
CFHZ 2 Coastal Flood Hazard Zone 2 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event, taking into account a projected sea-level rise of 1.2m over the next 100 years
CFHZ 3 Coastal Flood Hazard Zone 3 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event, taking into account a projected sea-level rise of 1.5m over the next 100 years (rapid sea level rise scenario)

REGIONWIDE and PRIORITY - RIVER FLOOD HAZARD ZONES (RFHZ)

River flood hazard zones are created to raise awareness of where flood hazard areas are identified, inform decision-making and to support the minimisation of the impacts of flooding in our region. The river flood hazard zones have been created using an assessment of best current available information, engaging national and international experts in the field, using national standards and guidelines and has been peer reviewed. This will provide a good indication of the areas at potential risk of flooding from a regional perspective. However, flood mapping is a complex process which involves some approximation of the natural features and processes associated with flooding.

River Flood Hazard Zone 1 – 10% AEP flood extent: an area with a 10% chance of flooding annually
River Flood Hazard Zone 2 – 2% AEP flood extent: an area with a 2% chance of flooding annually
River Flood Hazard Zone 3 – 1% AEP flood extent: an area with a 1% chance of flooding annually with the inclusion of potential Climate Change (CC) impact

River Flooding

10 Year

Maximum	Minimum
1.39 m	1.39 m

Max Min flood levels are for the raster extent shown on the map

10 Year

m NZVD

1.19 - 1.39

Parcel

Flood Level Point

Label	Level
2	1.39 m
3	0 m

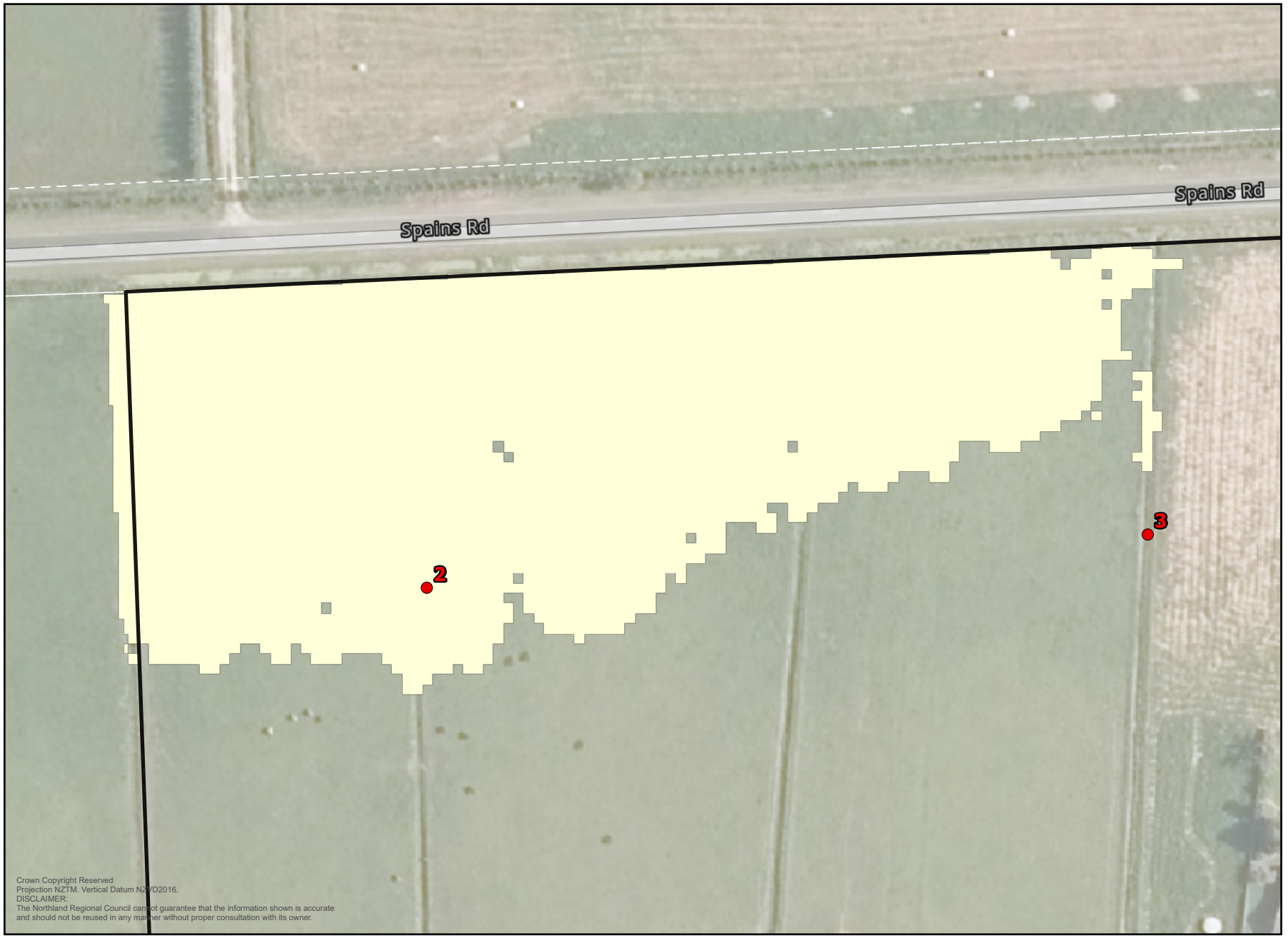
N

0 15 30 60 90 m

Report Reference: 20241017_155118

River Flooding

50 Year



Maximum	Minimum
1.45 m	1.45 m

Max Min flood levels are for raster extent shown on the map

50 Year

m NZVD

1.25 - 1.45

Parcel

Flood Level Point

Label	Level
2	1.45 m
3	0 m

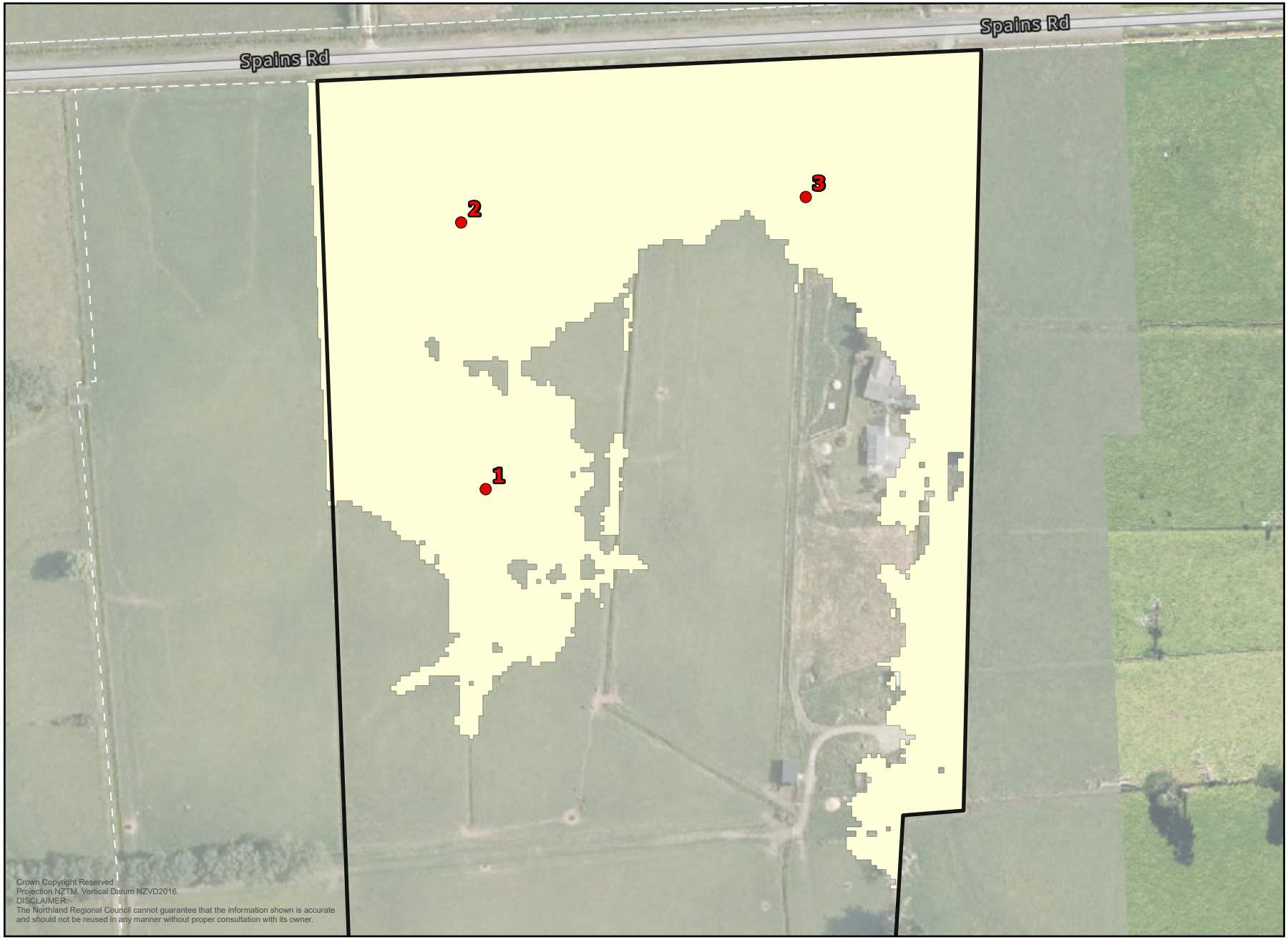
N

0 15 30 60 90 m

Report Reference: 20241017_155118

River Flooding

100 Year + CC



Maximum	Minimum
2.01 m	2.01 m

Max Min flood levels are for raster extent shown on the map

100 Year + CC

m NZVD

1.81 - 2.01

Parcel

Flood Level Point

Label	Level
1	2.01 m
2	2.01 m
3	2.01 m

N

0 40 80 160 240 m

Report Reference: 20241017_155118

Coastal Flooding

CFHZ2

Maximum	Minimum
2.58 m	2.58 m

Max Min flood levels are for raster extent shown on the map

CFHZ2

m NZVD

2.38 - 2.58

Parcel

Flood Level Point

Label	Level
1	2.58 m
2	2.58 m
3	2.58 m

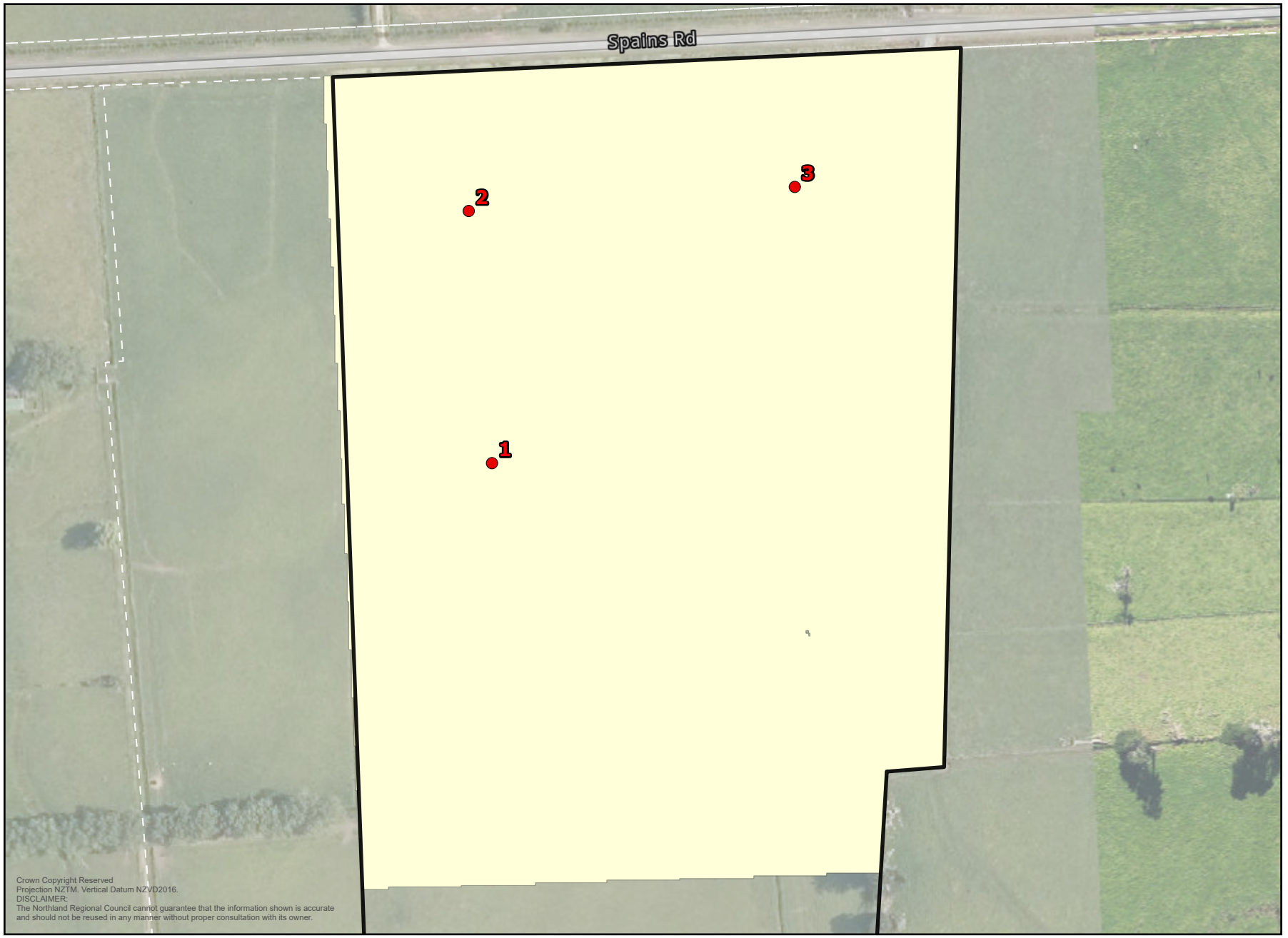
N

0 40 80 160 240 m

Report Reference: 20241017_155118

Coastal Flooding

CFHZ3



Maximum	Minimum
3.09 m	3.09 m

Max Min flood levels are for raster extent shown on the map

CFHZ3

m NZVD

2.89 - 3.09

Parcel

Flood Level Point

Label	Level
1	3.09 m
2	3.09 m
3	3.09 m

N

0 40 80 160 240 m

Report Reference: 20241017_155118

Disclaimers

Our modelling disclaimers are linked below:
https://www.nrc.govt.nz/media/ko2dkgxn/coastal-hazard-maps-disclaimer-june-2017.pdf
https://www.nrc.govt.nz/media/cqnnw12y/flood-map-disclaimer-2021.pdf

Our regionwide modelling reports are linked below:
https://www.nrc.govt.nz/environment/river-flooding-and-coastal-hazards/river-flooding/river-flood-hazard-maps/regionwide-river-catchments-analysis-technical-reports

ARE YOU FLOOD READY?

01

Know your risk

Check what potential flood risks and other hazards that may impact your property.

The Natural Hazards Portal is a great place to start. It's a 'one-stop-shop' of information related to natural hazards within our region: www.nrc.govt.nz/environment/natural-hazards-portal

The Environmental Data Hub provides river level and flow data, as well as warning levels, rainfall data, water quality, and more: www.nrc.govt.nz/environment/environmental-data/environmental-data-hub

02

Have a plan

Make sure you have an evacuation plan, emergency kit and important phone numbers ready. Check out: https://getready.govt.nz/en/prepared/ for tips on how to get ready.

03

Stay up to date

In a civil defence emergency situation, follow the updates on the Northland CDEM Group's Facebook page: www.facebook.com/civildefencenorthland

Or follow updates from the embedded feed on the regional council website: www.nrc.govt.nz/civildefence

04

In an emergency

Remember, if life is threatened dial 111 to contact emergency services.

Wilton Joubert Limited
09 527 0196
196 Centreway Road,
Orewa, Auckland, 0931

SITE	**83 Spains Road, Awanui**
LEGAL DESCRIPTION	**Sec 11S Awanui SETT**
PROJECT	**3-Lot Subdivision & Future 2-Lot Subdivision**
CLIENT	**West Road Farms Ltd.**
REFERENCE NO.	**137169**
DOCUMENT	**Civil Site Suitability Report**
STATUS/REVISION NO.	**B – Resource Consent**
DATE OF ISSUE	**13 November 2024**

Report Prepared For	Email
West Road Farms Ltd.	gray.h@xtra.co.nz

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1 EXECUTIVE SUMMARY

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

Legal Description:	Sec 11S Awanui SETT
Lot Sizes:	Proposed Lot 1 – 2.50ha Proposed Lot 2 – 19.12ha Proposed Lot 3 – 6.30ha
Development Type:	3-Lot Subdivision & Future 2-Lot Subdivision of Proposed Lot 3
Scope:	Civil Site Suitability Investigation: - Flood Assessment (Lot 3) - Wastewater Assessment (Lots 1 & 3) - Stormwater Assessment (Lots 1 & 3) - Access Assessment (Lot 3)
Development Proposals Supplied:	Scheme Plan supplied by Von Sturmers, titled; "Subdivision of Section 11S Awanui Settlement" (Ref No: 15456, dated: 06.08.2024)
Associated Documents:	WJL Geotechnical Site Suitability Report Ref. 137168
Minimum Freeboard Requirements:	Non-Habitable Buildings = 300mm Habitable Buildings = 500mm
Recommended Minimum Finished Floor Level:	Non-Habitable Structures = 2.88m (NZVD2016) Habitable Structures = 3.08m (NZVD2016)
District Plan Zone:	Rural Production Zone
Wastewater:	The following is an indicative PCDI wastewater design for a 4-bedroom dwelling – given the subsoils encountered we recommend Secondary Level Treatment or higher: Daily Wastewater Production: 1,080L/day Daily Application Rate: 3mm/day Disposal Area: 360m² Reserve Area: 108m² (30%) Recommendations for wastewater are provided in Section 7.
Stormwater Management – District Plan Rules:	Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%. Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

Stormwater Management:	To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), Lots 1 & 3 must not exceed an impermeable area of 3,750m² and 9,450m². If Lot 3 is further subdivided into two approximately even lots, the maximum permitted impermeable area within each lot is expected to be approximately 4,725m². Given the above, it is expected that Lots 1 & 3, and the future lots resulting from the subdivision of Lot 3 should comply with Permitted Activity Rule (8.6.5.1.3). Additionally, due to the subject site's position in the larger catchment, we believe that at best attenuation measures implemented on-site will have little to no beneficial effects, and at worst may worsen local flood hazards. Therefore, stormwater attenuation is not considered suitable for the proposed lots. Stormwater management recommendations are provided in Section 8.
Access:	- New vehicle crossing / access point required for Lot 3 - Access point should be compliant with FNDC's Sight Distance requirements Further access recommendations provided in Section 9.

2 INTRODUCTION

2.1 SCOPE OF WORK

Wilton Joubert Ltd (WJL) was engaged by the client, West Road Farms Ltd to undertake a civil site suitability assessment to support a 3-Lot subdivision of Sec 11S Awanui SETT and a future 2-Lot subdivision of proposed Lot 3.

At the time of report writing, we have been supplied the following documents:

- Scheme Plan supplied by Von Sturmers, titled; "*Subdivision of Section 11S Awanui Settlement*" (Ref No: 15456, dated: 06.08.2024)

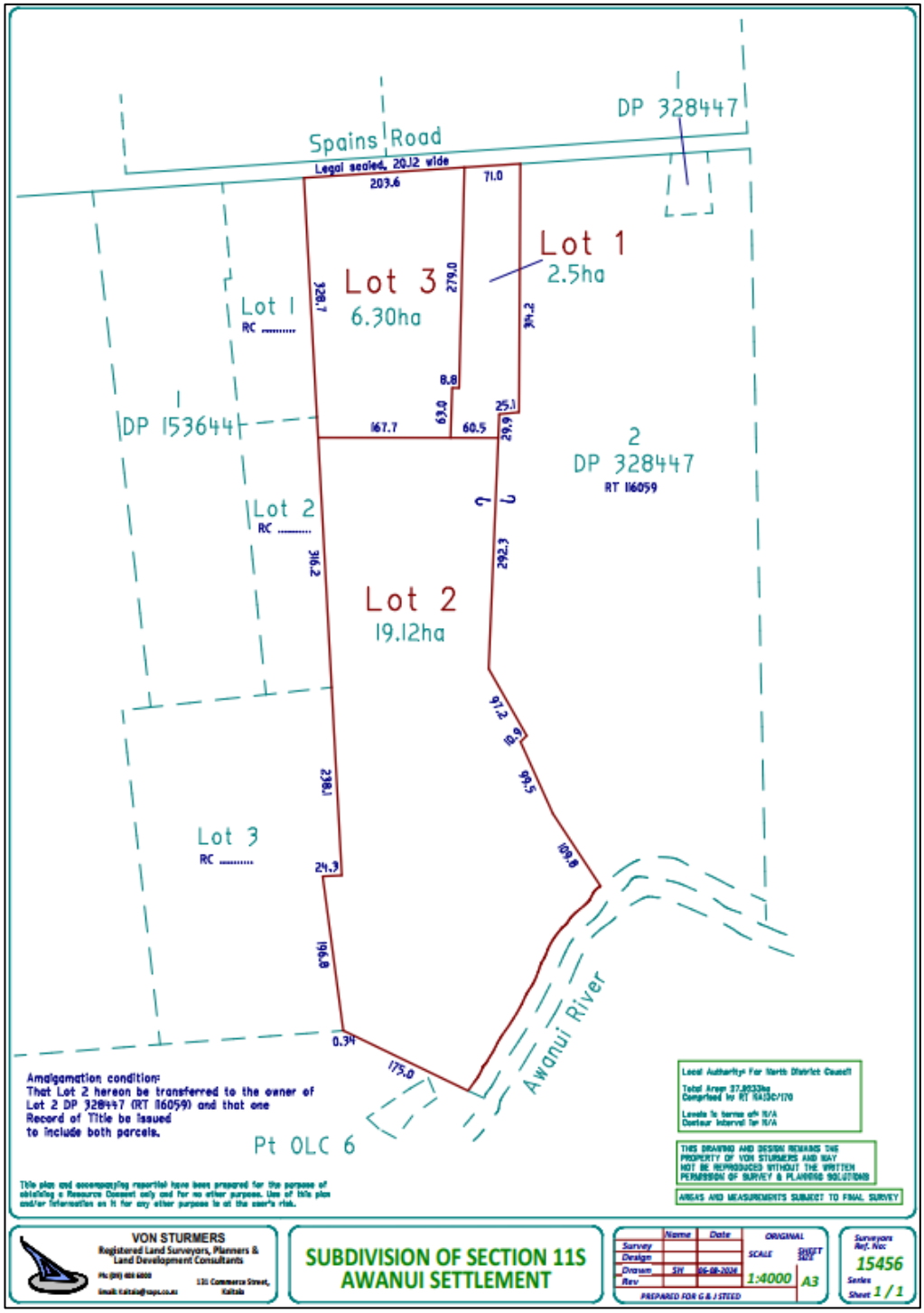

Figure 1: Subdivision Scheme Plan supplied by Von Sturmers.

At the time of report writing, no development plans have been supplied to WJL for the existing development within Lot 1, nor any future development of Lot 3. However, the client has provided a mark-up sketch depicting the future subdivision of Lot 3 (see Figure 2).

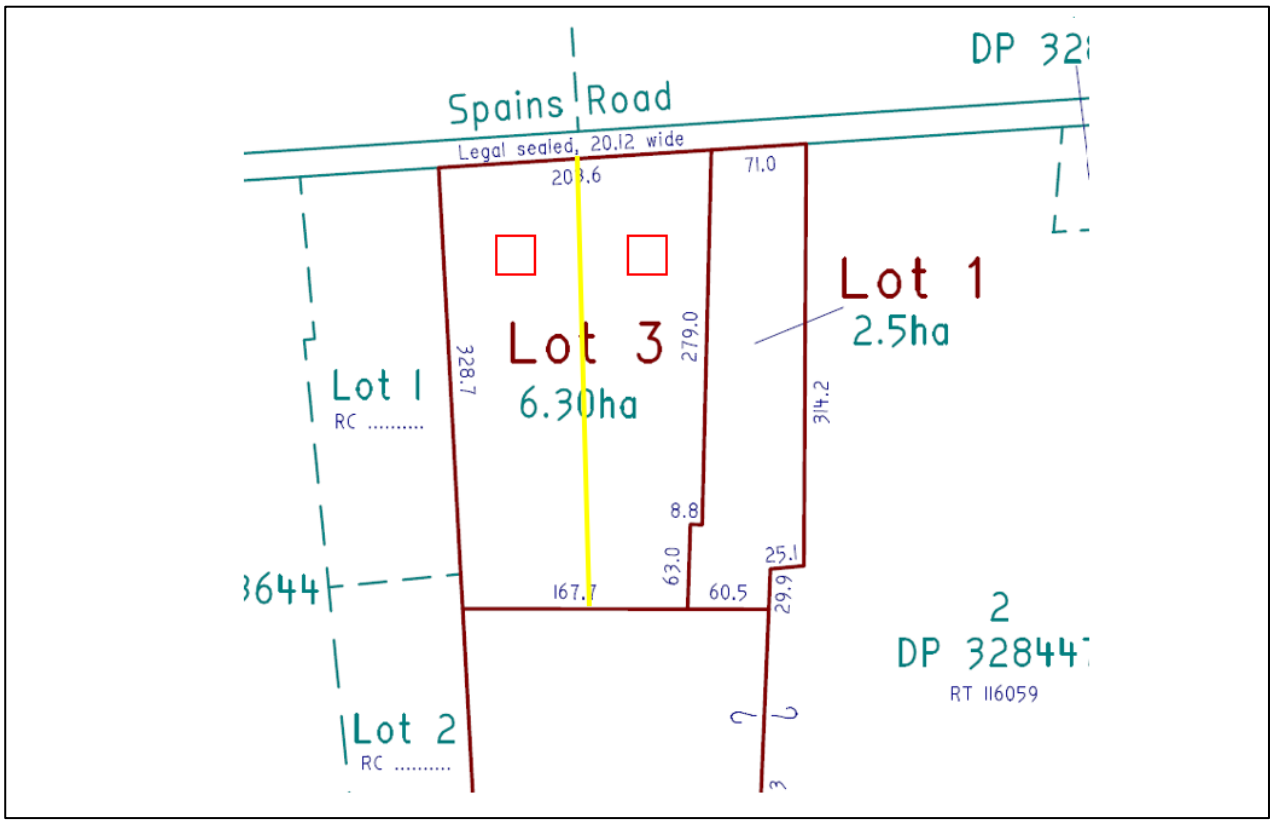

Figure 2: Screenshot of the Supplied Mark-Up Sketch of the Future Subdivision of Lot 3.

It is our understanding that Lot 2 is not proposed to be developed at this stage and is to be amalgamated with Lot 2 DP 328447. As such, Lot 2 has not been considered in the recommendations herein.

The scope of work included in this report is as follows:

- Flood Assessment (Lot 3)
- Wastewater Assessment (Lots 1 & 3)
- Stormwater Assessment (Lots 1 & 3)
- Access Assessment (Lot 3)

A Geotechnical Site Suitability Report (WJL Ref. 137168) has been prepared by WJL for the subject site which should be read in conjunction with this report.

Any revision of the supplied drawings and/or development proposals with flooding, wastewater, stormwater and/or access implications should be referred back to us for review. This report is not intended to support Building Consent applications for the future proposed lots, and any revision of supplied drawings and/or development proposals including those for Building Consent, which might rely on flooding, wastewater, stormwater and/or access assessments herein, should be referred to us for review.

3 SITE DESCRIPTION

The subject 27.9233ha block is located off the southern side of Spains Road, currently accessed 800m west of the State Highway 1 intersection, within the central area of the Awanui district. Existing access to the property is via an aggregate driveway at the north-eastern boundary corner.

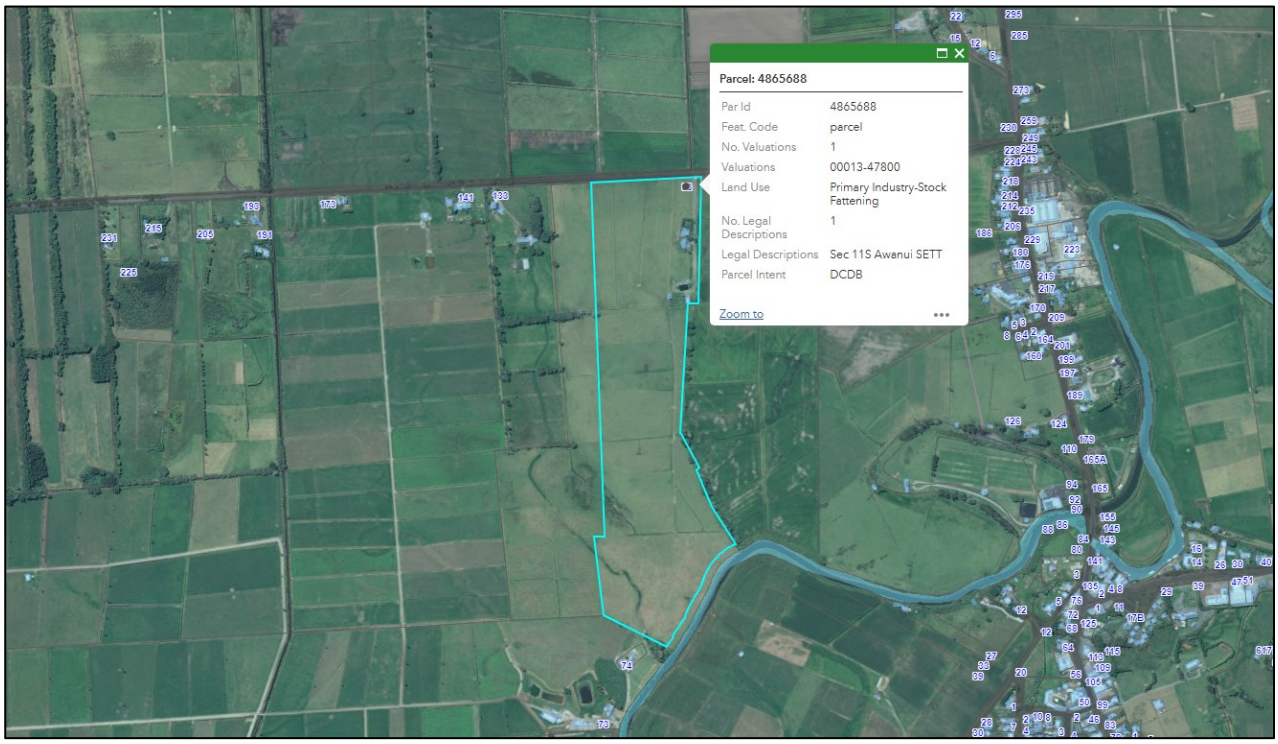

Figure 3: Snip from FNDC GIS Maps Showing Parent Lot's Boundaries (cyan).

Topographically speaking, the property and wider surrounding land lie within a broad, in-filled alluvial floodplain, with widely varying local drainage patterns throughout. The block is flat natured, with a slight northern aspect. Existing ground levels across the site generally range between approximately 2.0m (east) to 3.0m (northwest) New Zealand Vertical Datum (NZVD). The Awanui River borders the southern boundary and ultimately discharges into the Rangaunu Harbour, some 4.6km slightly to the northeast.

Built development on-site is confined to the north-eastern corner of the site and comprises of an existing residential dwelling and associated ancillary structures. The property is covered in grazing pasture, with numerous collector drainage channels present across the site. A large roadside open drain also borders the northern boundary.

At the time of preparing this report, we note that the FNDC on-line GIS Water Services Map indicates that reticulated water, wastewater, and stormwater service connections are not available to the property.

4 PROPOSAL

In reviewing the supplied Subdivision Scheme Plan (see Figure 1 and appendices) it is our understanding that the client intends to subdivide the existing Rural Production zoned property into three individual allotments.

Proposed Lot 1 is to encompass an area of 2.5ha and will contain the existing residential development and surrounding structures present at the north-eastern corner of the site.

Proposed Lot 2 is to encompass an area of 19.12ha and will cover the southern two-thirds of the block. The Lot is to be amalgamated with the neighbouring block to the east, legally titled Lot 2 DP 328447.

Proposed Lot 3 is to encompass an area of 6.3ha and will cover the north-western area of land that is adjacent to Spains Road. The client has provided a mark-up sketch depicting the future subdivision of the lot (see Figure 2).

5 PUBLISHED GEOLOGY

Local geology across the property and surrounding influential land is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits. These deposits are up to approximately 71 thousand years in age and described as; "*Unconsolidated to poorly consolidated sand, peat, mud, and shell deposits (estuarine, lacustrine, swamp, alluvial, and colluvial*" (ref: GNS Science Website).

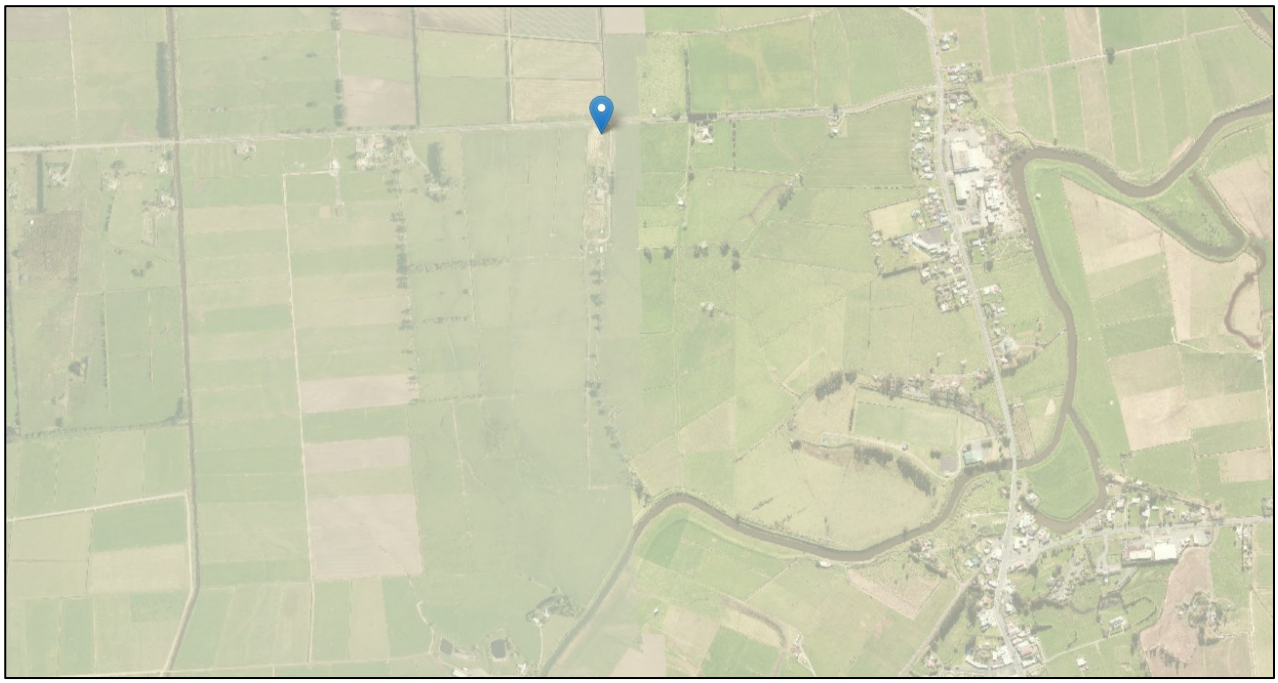

Figure 4: Screenshot from New Zealand Geology Web Map hosted by GNS Science.

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

In general terms, the subsoils encountered consisted predominantly of Silty CLAY. Approximately 50mm-350mm of TOPSOIL was overlying the investigated area. Refer to the appended 'BH Logs'. Given the above, the site's soils have been classified as Category 6 in accordance with the TP58 design manual.

6 FLOODING

The Northland Regional Council Natural Hazards Map indicates that the parent lot is partially located within the River Flood Hazard Zone – Priority Rivers 10-year, 50-year and 100-year CC Extents and the Coastal Flood Hazard Zones 2 & 3. Specific flood levels for three locations across the subject site were supplied by Northland Regional Council's River Project Manager.

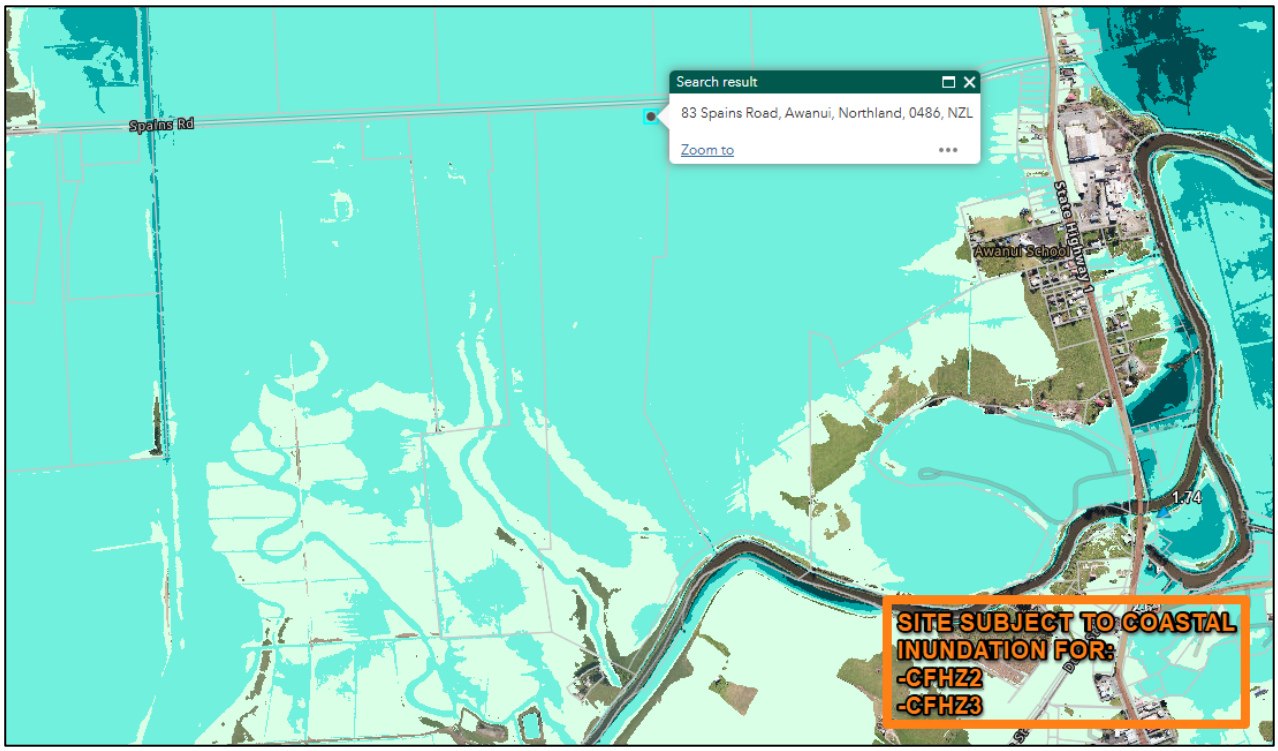

Figure 5: Aerial View of the Subject Site with Coastal Flooding Hazard Zones 1, 2 & 3 Overlays.

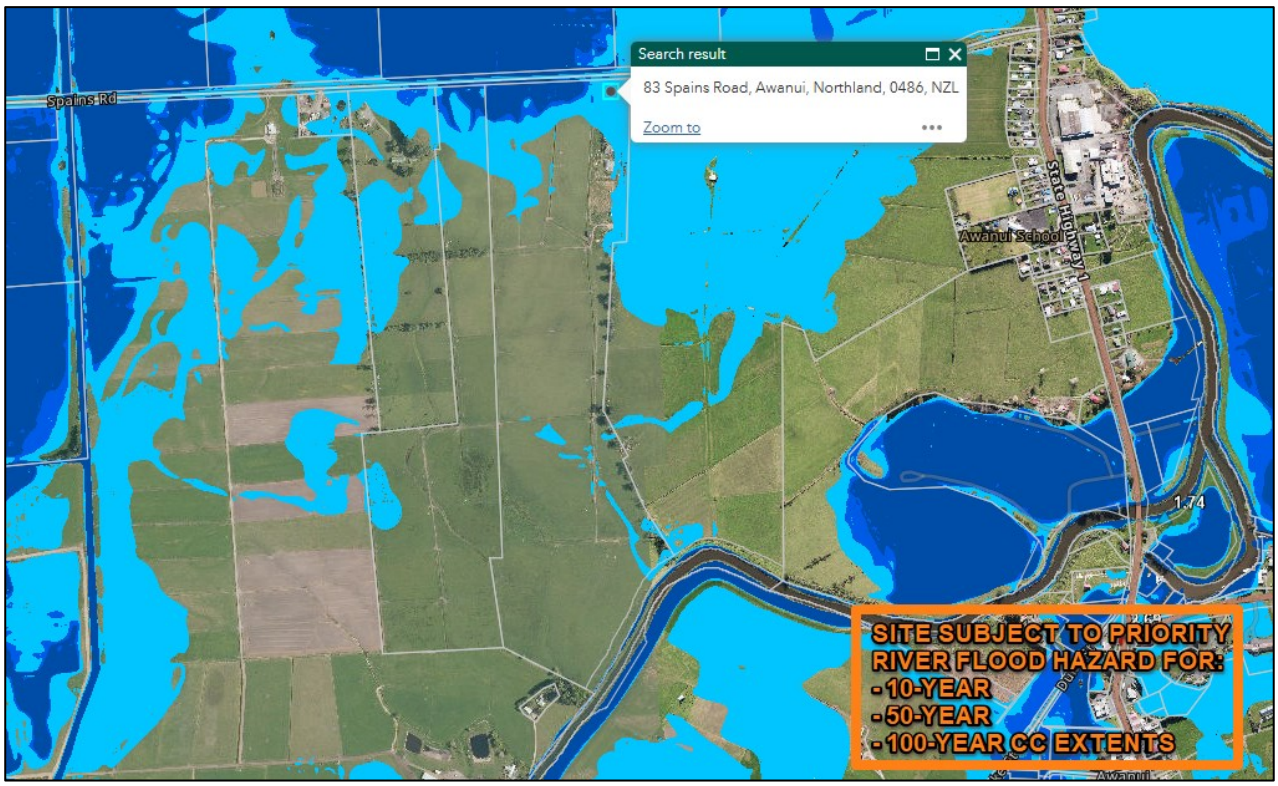

Figure 6: Aerial View of the Subject Site with 10-year, 50-year and 100-year CC Extents Priority River Flood Hazard Overlays.

Figure 7: Snip of Specific Flood Level Locations.

Table 1: Coastal Flood Levels at Locations Given in Figure 7, Supplied by NRC River Project Manager

Location	CFHZ0 (current) (NZVD2016)	CFHZ1 (50-year) (NZVD2016)	CFHZ2 (100-year + CC) (NZVD2016)	CFHZ3 (100-year + rapid CC) (NZVD2016)
1	0m	0m	2.58m	3.09m
2	0m	0m	2.58m	3.09m
3	0m	0m	2.58m	3.09m

Table 2: Priority River Flood Levels at Locations Given in Figure 7, Supplied by NRC River Project Manager

Location	10-year (NZVD2016)	50-year (NZVD2016)	100-year + CC (NZVD2016)
1	0m	0m	2.01m
2	1.39m	1.45m	2.01m
3	0m	0m	2.01m

6.1 FLOOD HAZARD ASSESSMENT CRITERIA

As the site is within a natural hazard zone it is subject to an assessment in terms of Sections 71 and 72 of the New Zealand Building Act:2004. The requirements are as follows:

"*71 Building on land subject to natural hazards*

(1) A building consent authority must refuse to grant a building consent for construction of a building, or major alterations to a building, if—

a. the land on which the building work is to be carried out is subject or is likely to be subject to 1 or more natural hazards; or
b. the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.

(2) Subsection (1) does not apply if the building consent authority is satisfied that adequate provision has been or will be made to—
a. protect the land, building work, or other property referred to in that subsection from the natural hazard or hazards; or
b. restore any damage to that land or other property as a result of the building work.

(3) In this section and sections 72 to 74, natural hazard means any of the following:
a. erosion (including coastal erosion, bank erosion, and sheet erosion):
b. falling debris (including soil, rock, snow, and ice):
c. subsidence:
d. inundation (including flooding, overland flow, storm surge, tidal effects, and ponding):
e. slippage

72 Building consent for building on land subject to natural hazards must be granted in certain cases

Despite section 71, a building consent authority that is a territorial authority must grant a building consent if the building consent authority considers that—

a. the building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property; and
b. the land is subject or is likely to be subject to 1 or more natural hazards; and
c. it is reasonable to grant a waiver or modification of the building code in respect of the natural hazard concerned."

Further to the above, the assessment has been based on The Regional Policy Statement for Northland. This development falls under Section 7.1.2 and 7.1.3 of this document:

"7.1.2 Policy – New subdivision and land use within 10-year and 100- year flood hazard areas

New subdivision, built development (including wastewater treatment and disposal systems), and land use change may be appropriate within 10-year and 100-year flood hazard areas provided all of the following are met:

a. Hazardous substances will not be inundated during a 100-year flood event.
b. Earthworks (other than earthworks associated with flood control works) do not divert flood flow onto neighbouring properties, and within 10-year flood hazard areas do not deplete flood plain storage capacity;
c. A minimum freeboard above a 100-year flood event of at least 500mm is provided for residential buildings.
d. Commercial and industrial buildings are constructed so as to not be subject to material damage in a 100 year flood event.
e. New subdivision plans are able to identify that building platforms will not be subject to inundation and / or material damage (including erosion) in a 100-year flood event;
f. Within 10-year flood hazard areas, land use or built development is of a type that will not be subject to material damage in a 100-year flood event; and
g. Flood hazard risk to vehicular access routes for proposed new lots is assessed.

7.1.3 Policy – New subdivision, use and development within areas potentially affected by coastal hazards (including high risk coastal hazard areas)

Within areas potentially affected by coastal hazards over the next 100 years (including high risk coastal hazard areas), the hazard risk associated with new use and development will be managed so that:

a. *Redevelopment or changes in land use that reduce the risk of adverse effects from coastal hazards are encouraged;*
b. *Subdivision plans are able to identify that building platforms are located outside high risk coastal hazard areas and these building platforms will not be subject to inundation and / or material damage (including erosion) over a 100-year timeframe;*
c. *Coastal hazard risk to vehicular access routes for proposed new lots is assessed;*
d. *Any use or development does not increase the risk of social, environmental or economic harm (from coastal hazards);*
e. *Infrastructure should be located away from areas of coastal hazard risk but if located within these areas, it should be designed to maintain its integrity and function during a hazard event;*
f. *The use of hard protection structures is discouraged and the use of alternatives to them promoted; and*
g. *Mechanisms are in place for the safe storage of hazardous substances*"

The Far North District Council Engineering Standards (May 2023) states the following in 'Section 4.3.10.7 Freeboard Requirements':

"*4.3.10.7 Freeboard Requirements*

Freeboard above the secondary flow level is required to cater for inaccuracies in flow estimation and practicable blockage/failure of the primary system.

The minimum freeboard above the calculated 1% AEP storm shall be:

a. *0.5m for habitable building floors, and,*
b. *0.3m for commercial and industrial buildings,*

Unless specific assessment demonstrates that a different freeboard is appropriate.

Minimum floor levels shall be identified for all lots within the area of the site where flood risks are for 1% AEP or lesser event. This assessment shall consider flooding caused by different sources including:

c. *Rivers,*
d. *Tides,*
e. *Elevated groundwater, and*
f. *Surface water ponding.*

Minimum floor levels in tidal areas shall be set by taking into consideration current information on natural hazards including storm surge, wave run-up tsunami, and sea level rise.

Development proposals shall demonstrate Safety in Design principles and may be required to provide for Escape routes from the flood hazardous areas/ properties within the development. The appropriate information shall be included in the engineering drawings.

The NRC Regional Policy Statement for Northland states that within the coastal environment:

- *Any new habitable dwelling has a minimum floor level of 3.3 m above One Tree Point datum on the east coast and 4.3 m above One Tree Point Datum on the west coast.*
- *New non-habitable buildings will have a minimum floor level of 3.1 m above One Tree Point datum on the east coast and 4.1 m on the west coast.*

However, specific assessment shall be carried out for all sites to determine the floor levels dependant on local conditions. Development proposals should include reference to the NRC Regional Policy Statement for Northland and NRC Coastal Flood Hazard Assessment for Northland Region Report."

6.2 ASSESSMENT

Minimum Finished Floor Level Requirements

We recommend considering the CFHZ2 scenario for coastal inundation as this is considered appropriate for the proposed development and its location. CHFZ2 is based on a sea level rise of 1.2m and roughly corresponds to the RCP8.5M as set out in the Coastal hazards and climate change: *Guidance for local government by the Ministry for the Environment* document.

In accordance with the freeboard requirements, the minimum finished floor levels for future proposed structures are as follows:

Habitable Structures	=	3.08m (NZVD2016)
Non-Habitable Structures	=	2.88m (NZVD2016)

Final floor levels for future proposed dwellings should be confirmed by a registered surveyor to ensure compliance with Section 72 of the New Zealand Building Act.

Accessway Requirements

We recommend that the finished level for future accessways match the level of Spains Road at the access point to the site.

The Northland Regional Council's Natural Hazards Map suggests that Spains Road is also subject to priority river flood hazards and coastal inundation. As such, it is recommended to alert future owners of their responsibility to prepare an evacuation plan and that Council will not be held liable for flood related issues.

Wastewater Disposal Areas

Wastewater disposal areas are to be situated outside the 5% AEP Flood Extent, as is required under Table 9 of the Proposed Regional Plan for Northland.

7 WASTEWATER

Lot 1

The existing residential dwelling on proposed Lot 1 is currently serviced by an existing on-site wastewater management system.

We recommend that a registered drainlayer or maintenance contractor be engaged to provide commentary on the condition and confirm the location of the existing wastewater system, including any disposal fields or trenches.

If the existing wastewater system is functional, fit for the existing dwelling and located within Lot 1 it may continue to operate given that Lot 1 is not redeveloped.

If any part of the wastewater system, including any disposal fields or trenches is not located within Lot 1, the system can either be relocated to Lot 1 and/or upgraded, or it can be decommissioned and replaced with a new on-site wastewater treatment system in accordance with the recommendations herein.

From our site investigation, it is expected that the entirety of the wastewater system will be within Lot 1's boundaries.

Lot 3

No existing wastewater management system is present within proposed Lot 3. As such, a new site-specific design in accordance with the ASNZS: 1547 / TP58 design manual will be required by FNDC for any future development within the proposed lot, including post subdivision of Lot 3. This should be conditioned as part of the Resource Consent process.

7.1 DESIGN PARAMETERS

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

As no development proposals are available at this stage for the eventual residential development within Lot 3, our recommendations have been based on a moderate size dwelling containing 4 bedrooms.

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

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

Development Type:	Residential Dwellings
Effluent Treatment Level:	Secondary (<BOD5 20 mg/L, TSS 30 mg/L)
Fill Encountered in Disposal Areas:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (TP58):	Category 6 –Silty CLAY –Slow Drainage
Estimate House Occupancy:	6 Persons
Loading Rate:	PCDI System – 3mm/day
Estimated Total Daily Wastewater Production per Lot:	1,080L
Typical Wastewater Design Flow Per Person:	180L/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Application Method:	Surface Laid PCDI Lines
Loading Method:	Dosed
Minimum Tank size:	>1,080L
Emergency Storage:	24 hours
Estimated Min. Disposal Area Requirement:	360m²
Required Min. Reserve Area:	30%
Buffer Zone:	Not required
Cut-off Drain:	Not required

7.2 REQUIRED SETBACK DISTANCES

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

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

Figure 8: Table 9 of the PRPN (Proposed Regional Plan for Northland).

7.3 NORTHLAND REGIONAL PLAN ASSESSMENT

Lot 1's existing wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.1 of the Proposed Regional Plan for Northland:

C.6.1.1 Existing on-site domestic type wastewater discharge – permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	the discharge volume does not exceed:
	a) three cubic metres per day, averaged over the month of greatest discharge, and
	b) six cubic metres per day over any 24-hour period, and

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

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

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and
2	The volume of wastewater discharged does not exceed two cubic metres per day, and
3	The discharge is not via a spray irrigation system or deep soakage system, and
4	The slope of the disposal area is not greater than 25 degrees, and
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012); or is via an irrigation line system that is:
	a) dose loaded, and
	b) covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
6	For the discharge of wastewater onto the surface of slopes greater than 10 degrees:
	a) the wastewater, excluding greywater, has received at least secondary treatment, and
	b) the irrigation lines are firmly attached to the disposal area, and

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

We envision that there will be no issue meeting the Permitted Activity Status requirements as outlined above, including for the future subdivision of Lot 3.

8 STORMWATER MANAGEMENT

8.1 ASSESSMENT CRITERIA

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

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

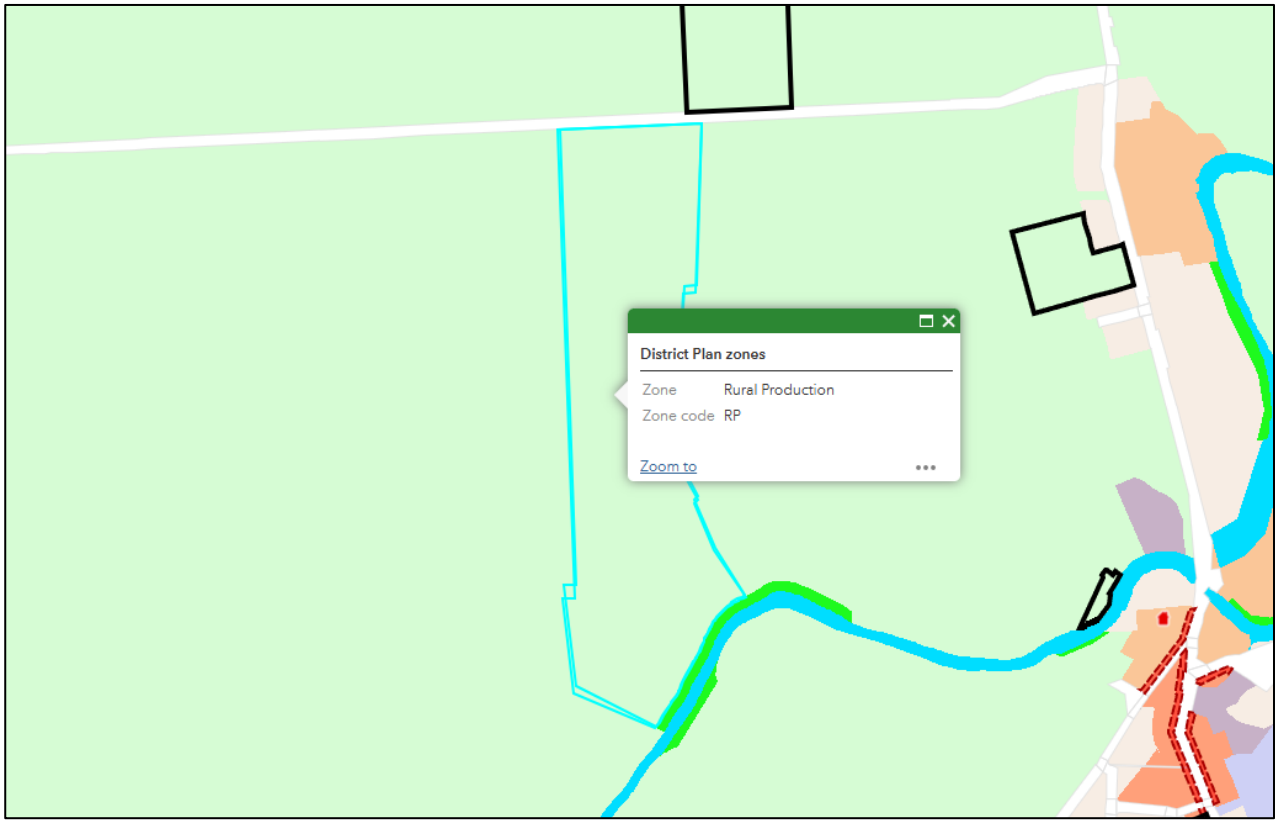

Figure 9: Snip of FNDC Maps Showing Site in Rural Production Zone.

The following Stormwater Management Rules Apply:

Permitted Activity: 8.6.5.1.3 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

Controlled Activity: 8.6.5.2.1 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

To comply with the parameters of the Permitted Activity Rule (8.6.5.1.3), Lots 1 & 3 must not exceed an impermeable area of 15%. The maximum permitted impermeable area for Lots 1 & 3 are 3,750m² and 9,450m² respectively. If Lot 3 is further subdivided into two approximately even lots, the maximum permitted impermeable area within each lot is expected to be approximately 4,725m².

Given the above, it is expected that Lots 1 & 3, and the future lots resulting from the subdivision of Lot 3 should comply with Permitted Activity Rule (8.6.5.1.3). As such, it is not expected that a stormwater attenuation report will be required for Lots 1 & 3, nor for the future lots resulting from the subdivision of Lot 3.

In addition to the above, the subject site borders a coastal environment subject to coastal inundation as per NRC Natural Hazards maps. Due to the subject site's position in the larger catchment, we believe that at best attenuation measures implemented on-site will have little to no beneficial effects, and at worst may worsen local flood hazards by modifying the time of peak flow occurrence to coincide with those of other properties located upstream within the larger catchment.

While the provision of attenuation for the impermeable areas exceeding the Permitted Activity threshold would normally apply for a development exceeding the Permitted Activity threshold, we do not believe that the attenuation of runoff resulting from existing or future proposed impermeable areas on-site is appropriate due to the factors above.

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

Stormwater management recommendations for Lots 1 & 3 are provided below.

8.2 PRIMARY STORMWATER

8.2.1 Stormwater Runoff from Roof Areas

Lot 1

It is our understanding that stormwater runoff from the existing structures' roof areas is currently being directed to rainwater tanks for potable reuse.

It is recommended that discharge and overflow from the existing potable water tanks be directed via sealed pipes to an appropriate outlet or dispersal device.

We recommend that a drainlayer be engaged to provide commentary on the condition and confirm the location of the existing discharge point / dispersal device servicing the existing potable water tanks. If the existing discharge point / dispersal device is functioning and located at a suitable location within Lot 1 it may continue to operate given that Lot 1 is not redeveloped.

Alternatively, discharge and overflow from the existing potable water tank(s) are to be redirected to a new dispersal device or outlet.

Lot 3

Stormwater runoff from the roof of the future buildings must be captured by a gutter system and conveyed to potable water tanks.

Discharge and overflow from the potable water tanks should be directed to a dispersal device within proposed Lot 3 unless the discharge is directed to an open channel, where an appropriate riprap outlet is required for erosion control. The dispersal device or discharge point should be positioned on/in stable ground downslope of any buildings and effluent fields, with setback distances as per the relevant standards.

8.2.2 Stormwater Runoff from Hardstand Areas

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

Long driveways or Right of Ways should be shaped to shed runoff to lower-lying grassed areas, well clear of any structures and effluent disposal trenches / fields. This stormwater runoff should sheet flow and must not be concentrated to avoid scour and erosion. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.

Where even sheet flow is not practicable, concentrated flows must be managed with swales directed to a safe outlet location without causing erosion. These should be sized to manage and provide capacity for secondary flows and mitigate flow velocity where appropriate.

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

8.3 SECONDARY STORMWATER

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

8.4 DISTRICT PLAN ASSESSMENT

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

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

13.10.4 – Stormwater Disposal

(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	No discharge permits are required. No resource consent issued documents stipulating specific requirements are known for the subject site or are anticipated to exist.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	The application is deemed compliant with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The application is deemed compliant with the Far North District Council Strategic Plan - Drainage
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Stormwater management should be provided for the subject lot by utilising Low Impact Design Methods. Guidance for design should be taken from 'The Countryside Living Toolbox' design document, and where necessary, *"Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003).* All roof runoff will be collected by rainwater tanks for conveyance to a safe outlet point. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.

(e) The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.	As above. Runoff from new roof areas will be collected, directed to rainwater tanks and discharged in a controlled manner to a discharge outlet, reducing scour and erosion. Hardstand areas should either be shaped to shed to lower-lying lawn areas as passive mitigation, or to swales for runoff conveyance to a safe outlet location.
(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	Runoff from roof areas is free of litter, chemical spillages, or contaminants from roads. Future proposed hardstand areas are best shaped to shed to large pasture areas via sheet flow to ensure that runoff does not concentrate. Large downslope pasture areas act as bio-filter strips to filter out entrained pollutants.
(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	No alteration to waterways is proposed.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	No applicable.
(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	Not applicable.
(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Not applicable.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	Outlet locations are to be determined during detailed design and are to be located such that there are no adverse effects on adjacent properties.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	Not applicable.
(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	Not applicable.

(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Not applicable.
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Not applicable.
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	Not applicable.
(q) The need for and extent of any financial contributions to achieve the above matters.	Not applicable.
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Not applicable.

9 ACCESS AND VEHICLE CROSSING

9.1 GENERAL

A basic access and vehicle crossing assessment for proposed Lot 3 has been completed with recommendations provided in this section.

It is proposed to construct a new vehicle crossing directly off Spains Road to service Lot 3.

Additionally, it is expected that a shared accessway will be constructed within Lot 3 following Lot 3's future subdivision to provide a shared access to the future lots.

New vehicle crossings and accessways are to be designed and constructed in accordance with Council's Engineering Standards and Guidelines.

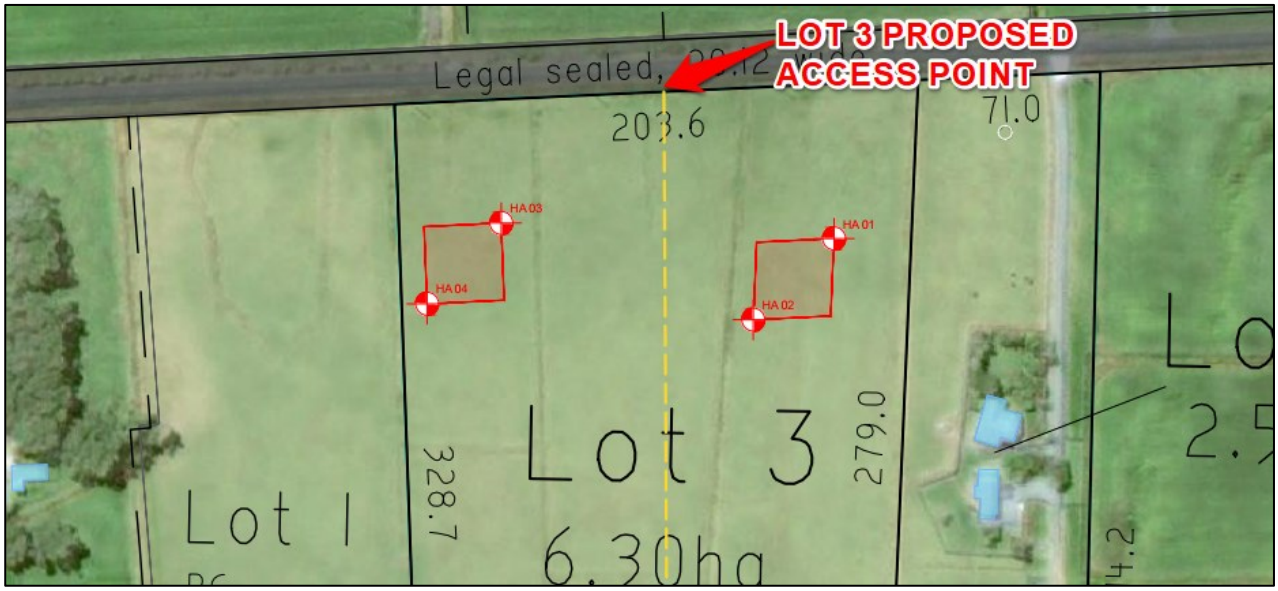

Figure 10: Lot 3 Proposed Access Point.

9.2 VEHICLE CROSSINGS

It is recommended to construct the new vehicle crossing to service Lot 3 to be in compliance with the Far North District Council Engineering Standards (2009) Sheet FNDC / S / 6B.

The crossing shall not obstruct any drainage facilities within the berm. Where the drain is shallow and only carries low rain flow, the crossing must pass through the drain. Where the drain is an unstable shape or carries significant rain flow the drain shall be piped under the crossing. Pipes and end treatments shall be sized appropriately for the catchment intercepted but shall be a minimum 300mmØ.

9.3 VEHICLE ACCESS

The Far North District Plan Section 15.1.6C.1.5 notes that "*All bends and corners on the private accessway are to be constructed to allow for the passage of a Heavy Rigid Vehicle" and "Runoff from impermeable surfaces shall, wherever practicable, be directed to grass swales and/or shall be managed in such a way as will reduce the volume and rate of stormwater runoff and contaminant loads*.".

Any future accessway within Lot 3 is recommended to be constructed in accordance with the Far North District Council Engineering Standards (2009).

9.4 SIGHT DISTANCES

Spains Road has a general operating speed of 100km/hr (NZTA National Speed Limits Register). The Far North District Council Engineering Standards (2009) – Sheet FNDC / S / 6 notes that the minimum required sight distance is 170m.

In compliance with the above sight distance requirements, the proposed access point to service Lot 3 allows for >170m of sight distance to the east and west.

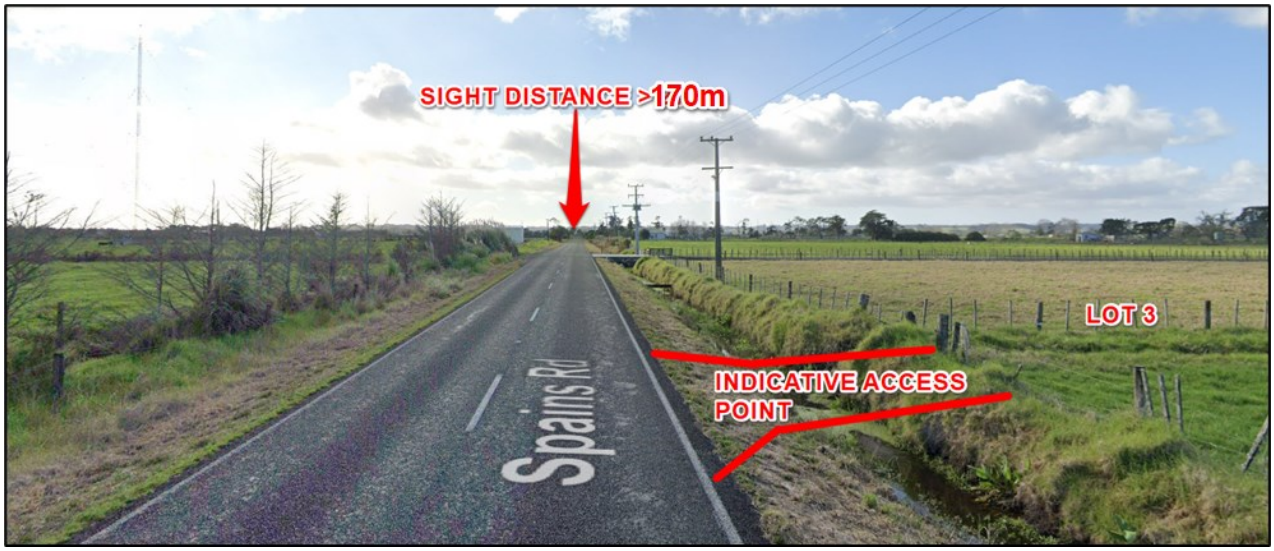

Figure 11: Indicative Access Point on Spains Road Facing East, >170m Sight Distance Available.

Figure 12: Indicative Access Point on Spains Road Facing West, >170m Sight Distance Available.

10 LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our client, **West Road Farms Ltd.**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions, and limitations, when issuing the subject consent.

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with Wilton Joubert 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 other civil aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Site Plan – C001 (1 sheet)
- Hand Auger Borehole Records (4 sheets)
- NRC Flood Level Report (8 sheets)

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.

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

ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	NOV '24	GMB	CIVIL SITE SUITABILITY REPORT
B	NOV '24	GMB	CIVIL SITE SUITABILITY REPORT REV B

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

SERVICES NOTE

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

RESOURCE CONSENT

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **CIVIL SITE SUITABILITY REPORT**

PROJECT TITLE: **PROPOSED SUBDIVISION OF SEC 11S AWANUI SETT 83 SPAINS ROAD AWANUI NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:1500	NOT COORDINATED

DRAWING NUMBER: **137169-C001** ISSUE: **B**

HAND AUGER : HA01

JOB NO.: 137168 **SHEET:** 1 OF 1

START DATE: 29/10/2024 **NORTHING:** **GRID:**

CLIENT: West Road Farms Limited **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision **SV DIAL:** 772 **ELEVATION:** Ground

SITE LOCATION: 83 Spains Road, Awanui **FACTOR:** 1.6 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.0						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: Silty CLAY, grey with orange brown mottles and white speckles, very stiff, moist, low to moderate plasticity.		0.4		112	58	1.9		
	0.7m: Becoming orangey brown with grey mottles, stiff, moderate plasticity, frequent orange weakly cemented clast inclusions as silt.		0.8		96	45	2.1		
	1.2m: Becoming very stiff.		1.2		109	51	2.1		
			1.6	29/10/2024	144	61	2.4		
	2.0m: Becoming stiff.		2.0		96	58	1.7		
	2.1m: Becoming greyish brown, moist to wet, moderate to high plasticity, frequent brown weakly cemented clast inclusions as silt.		2.2						
	2.3m: Becoming dark greyish brown, wet, firm, frequent brown weakly cemented clast inclusions as silt.		2.4		48	22	2.2		
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.6					0.5	
			2.8					0.5	
			3.0					1	
			3.2					1	
			3.4					1	
			3.6					2	
			3.8					2	
			4.0					2	
			4.2					2	
			4.4					3	
			4.6					3	
			4.8					3	
			5.0					4	
			5.2					4	
			5.4					6	
			5.6					6	
			5.8					6	
			6.0					7	
			6.2					7	
			6.4					7	
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SOIL DESCRIPTION

TOPSOIL CLAY SAND PEAT

FILL SILT GRAVEL ROCK

REMARKS

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

Groundwater encountered @ 2.30m during drilling. Standing groundwater @ 1.60m.

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

LOGGED BY: SJP

CHECKED BY: ANA

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA02

JOB NO.: 137168 **SHEET:** 1 OF 1

CLIENT: West Road Farms Limited
START DATE: 29/10/2024 **NORTHING:** **GRID:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision
DIAMETER: 50mm **EASTING:**

SITE LOCATION: 83 Spains Road, Awanui
SV DIAL: 1994 **ELEVATION:** Ground

FACTOR: 1.4 **DATUM:**

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

STRATIGRAPHY	DEPTH (m)	SOIL DESCRIPTION	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	0.0	TOPSOIL, dark brown, moist.						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	0.2	NATURAL: Silty CLAY, grey with orange streaks, very stiff, moist, low to moderate plasticity.						
	0.4			157	53	3.0		
	0.6							
	0.8	0.7m: Becoming orangey brown with grey streaks, stiff, moderate plasticity, frequent weakly cemented clast inclusions as silt.		84	42	2.0		
	1.0							
	1.2		29/10/2024	92	28	3.3		
	1.4							
	1.6	1.6m: Becoming very stiff, wet.		120	36	3.3		
	1.8							
	2.0	2.0m: Becoming stiff.		64	14	4.6		
	2.2							
	2.4	2.4m: Becoming very stiff.		101	22	4.6		
	2.6	2.5m: Becoming wet to saturated.						
	2.8	2.8m: Becoming stiff.		67	34	2.0		
	3.0	EOH: 2.90m - No Recovery Due To Groundwater Suction					0	
	3.2						0	
	3.4						0	
	3.6						2	
	3.8						2	
	4.0						2	
	4.2						2	
	4.4						2	
	4.6						2	
	4.8						3	
	5.0						3	
	5.2						3	
	5.4						4	
	5.6						4	
	5.8						4	
	6.0						4	
	6.2						5	
	6.4						6	
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REMARKS

End of borehole @ 2.90m (Target Depth: 5.00m)
Groundwater encountered @ 1.60m during drilling. Standing groundwater @ 1.20m.

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

LOGGED BY: JEM
CHECKED BY: ANA

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 137168 **SHEET:** 1 OF 1

CLIENT: West Road Farms Limited
PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision
SITE LOCATION: 83 Spains Road, Awanui

START DATE: 29/10/2024 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: 772 **ELEVATION:** Ground
FACTOR: 1.6 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: Silty CLAY, grey with orangey brown mottles, stiff, moist, moderate plasticity.		0.4		80	35	2.3		
	0.8m: Becoming very stiff, frequent orangey brown weakly cemented clast inclusions as silt.		0.6						
			0.8		125	48	2.6		
			1.0	29/10/2024					
	1.2m: Becoming brown with grey mottles, frequent orangey brown weakly cemented clast inclusions as silt.		1.2		138	42	3.3		
	1.4m: Becoming moist to wet.		1.4						
	1.6m: Becoming grey, frequent orangey brown weakly cemented clast inclusions as silt.		1.6		128	45	2.8		
			1.8						
	2.0m: Becoming stiff, wet.		2.0	▽	70	16	4.4		
			2.2						
			2.4					0.66	
	EOH: 2.40m - No Recovery Due To Groundwater Suction		2.6					0.66	
								0.66	
			2.8					1	
								2	
			3.0					2	
								2	
			3.2					2	
								3	
			3.4					4	
								5	
			3.6					4	
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			3.8					4	
								4	
			4.0					6	
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			5.2					12	
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			5.4					9	
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			5.6					9	
								10	
			5.8					10	
								10	
			6.0						
			6.2						
			6.4						

REMARKS
End of borehole @ 2.40m (Target Depth: 5.00m)
Groundwater encountered @ 2.00m during drilling. Standing groundwater @ 1.10m.

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

LOGGED BY: SJP
CHECKED BY: ANA

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA04

JOB NO.: 137168 **SHEET:** 1 OF 1

START DATE: 29/10/2024 **NORTHING:** **GRID:**

CLIENT: West Road Farms Limited **DIAMETER:** 50mm **EASTING:**

PROJECT: 3-Lot Subdivision & Future 2-Lot Subdivision **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 83 Spains Road, Awanui **FACTOR:** 1.4 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
p s	TOPSOIL, dark brown, moist.		0.0						
OIS4-OIS1 (Late Pleistocene to Holocene) Estuary, River, and Swamp Deposits	NATURAL: SIlty CLAY, grey with orange streaks, stiff, moist, low to moderate plasticity, frequnet weakly cemented clast inclusions as silt.		0.2						
			0.4		84	31	2.7		
			0.6						
			0.8						
	0.9m: Becoming orange and grey, moderate plasticity, frequent weakly cemented clast inclusions as silt.		1.0		104	39	2.7		
			1.2	29/10/2024					
			1.4		104	34	3.1		
	1.6m: Becoming stiff.		1.6		73	20	3.6		
	1.9m: Becoming wet.		1.8						
	2.0m: Becoming firm to stiff.		2.0		50	14	3.6		
			2.2						
	2.4m: Becoming stiff.		2.4		70	34	2.1		
			2.6					0	
	EOH: 2.60m - No Recovery Due To Groundwater Suction		2.8					0	
			3.0					0	
			3.2					1	
			3.4					1	
			3.6					1	
			3.8					2	
			4.0					2	
			4.2					3	
			4.4					3	
			4.6					3	
			4.8					3	
			5.0					3	
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			5.4					7	
			5.6					6	
			5.8					6	
			6.0					6	
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REMARKS

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

Groundwater encountered @ 1.90m during drilling. Standing groundwater @ 1.20m.

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

LOGGED BY: JEM

CHECKED BY: ANA

▼ Standing groundwater level

▽ GW while drilling

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Flood Level Report

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Parcel ID: 4865688

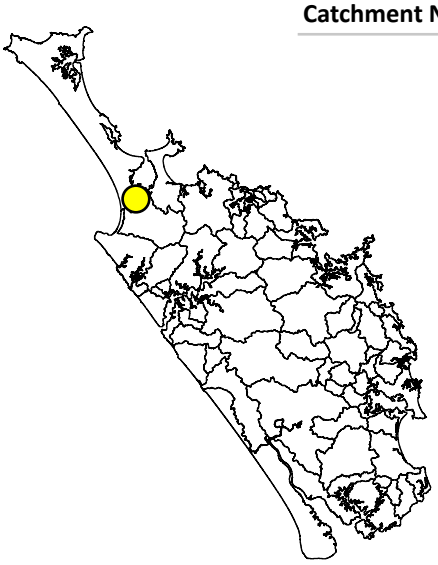
Title: NA13C/170

Appellation: Section 11S Awanui SETT

Survey Area: 279,233 m²

Catchment Name(s)

Awanui



Date Exported: 17/10/2024

Report Reference: 20241016_081955

Useful Flood Information Definitions

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

1% AEP - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
2% AEP - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
5% AEP - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
10% AEP - A flood of this size or larger has a 1 in 10 chance or a 10% probability of occurring in any year.

NZVD2016 - New Zealand Vertical Datum - The reference level used in our flood models to define ground level.
Flood Levels - Flood levels are used from our modelled flood level rasters. The flood levels are calculated above NZVD 2016 Datum.
Climate Change (CC) - NZCPS (2010) requires that the identification of coastal hazards includes consideration of sea level rise over at least a 100-year planning period. Climate change impacts, such as increased rain intensity, have been included in the flood scenarios. You can read more about the Climate Change forecasts included in each flood model in the technical reports on the NRC website.
Mean high water spring (MHWS) - describes the highest level that spring tides reach, on average.

Coastal Flood Hazard Zones (CFHZ)

Coastal flood hazard zones are derived using a range of data including tide gauge analysis, wind and wave data and models, and use empirical calculations to estimate extreme water levels around the coastline. The calculations include projected sea level rise scenarios based on the latest Ministry for the Environment guidance.

CFHZ 0 Coastal Flood Hazard Zone 0 - area currently susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event
CFHZ 1 Coastal Flood Hazard Zone 1 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-50 year storm event, taking into account a projected sea-level rise of 0.6m over the next 50 years
CFHZ 2 Coastal Flood Hazard Zone 2 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event, taking into account a projected sea-level rise of 1.2m over the next 100 years
CFHZ 3 Coastal Flood Hazard Zone 3 - an area susceptible to coastal inundation (flooding by the sea) in a 1-in-100 year storm event, taking into account a projected sea-level rise of 1.5m over the next 100 years (rapid sea level rise scenario)

REGIONWIDE and PRIORITY - RIVER FLOOD HAZARD ZONES (RFHZ)

River flood hazard zones are created to raise awareness of where flood hazard areas are identified, inform decision-making and to support the minimisation of the impacts of flooding in our region. The river flood hazard zones have been created using an assessment of best current available information, engaging national and international experts in the field, using national standards and guidelines and has been peer reviewed. This will provide a good indication of the areas at potential risk of flooding from a regional perspective. However, flood mapping is a complex process which involves some approximation of the natural features and processes associated with flooding.

River Flood Hazard Zone 1 – 10% AEP flood extent: an area with a 10% chance of flooding annually
River Flood Hazard Zone 2 – 2% AEP flood extent: an area with a 2% chance of flooding annually
River Flood Hazard Zone 3 – 1% AEP flood extent: an area with a 1% chance of flooding annually with the inclusion of potential Climate Change (CC) impact

River Flooding

10 Year

Maximum	Minimum
1.39 m	1.39 m

Max Min flood levels are for the raster extent shown on the map

10 Year

m NZVD

1.19 - 1.39

Parcel

Flood Level Point

Label	Level
2	1.39 m
3	0 m

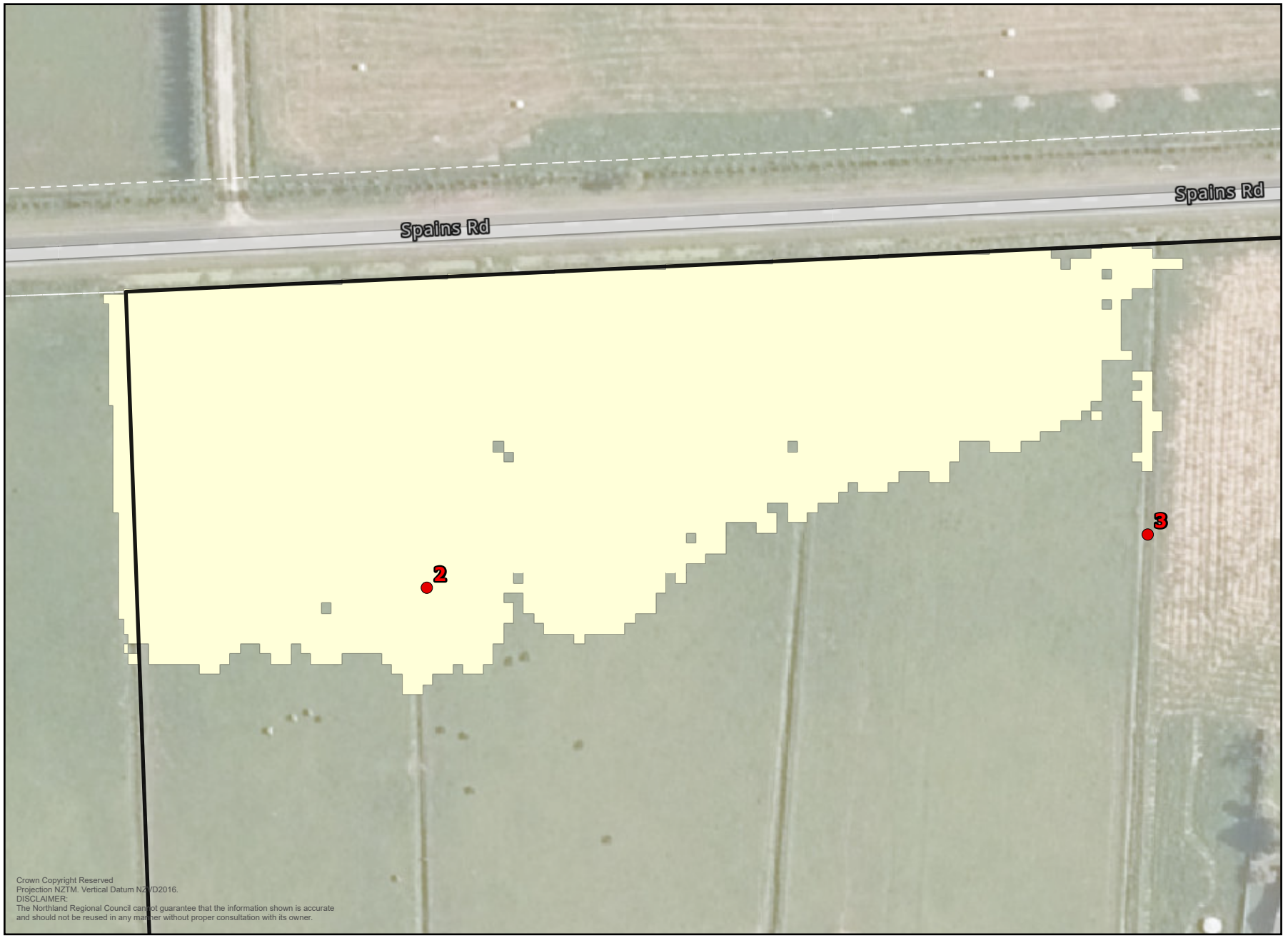
N

0 15 30 60 90 m

Report Reference: 20241017_155118

River Flooding

50 Year



Maximum	Minimum
1.45 m	1.45 m

Max Min flood levels are for raster extent shown on the map

50 Year

m NZVD

1.25 - 1.45

Parcel

Flood Level Point

Label	Level
2	1.45 m
3	0 m

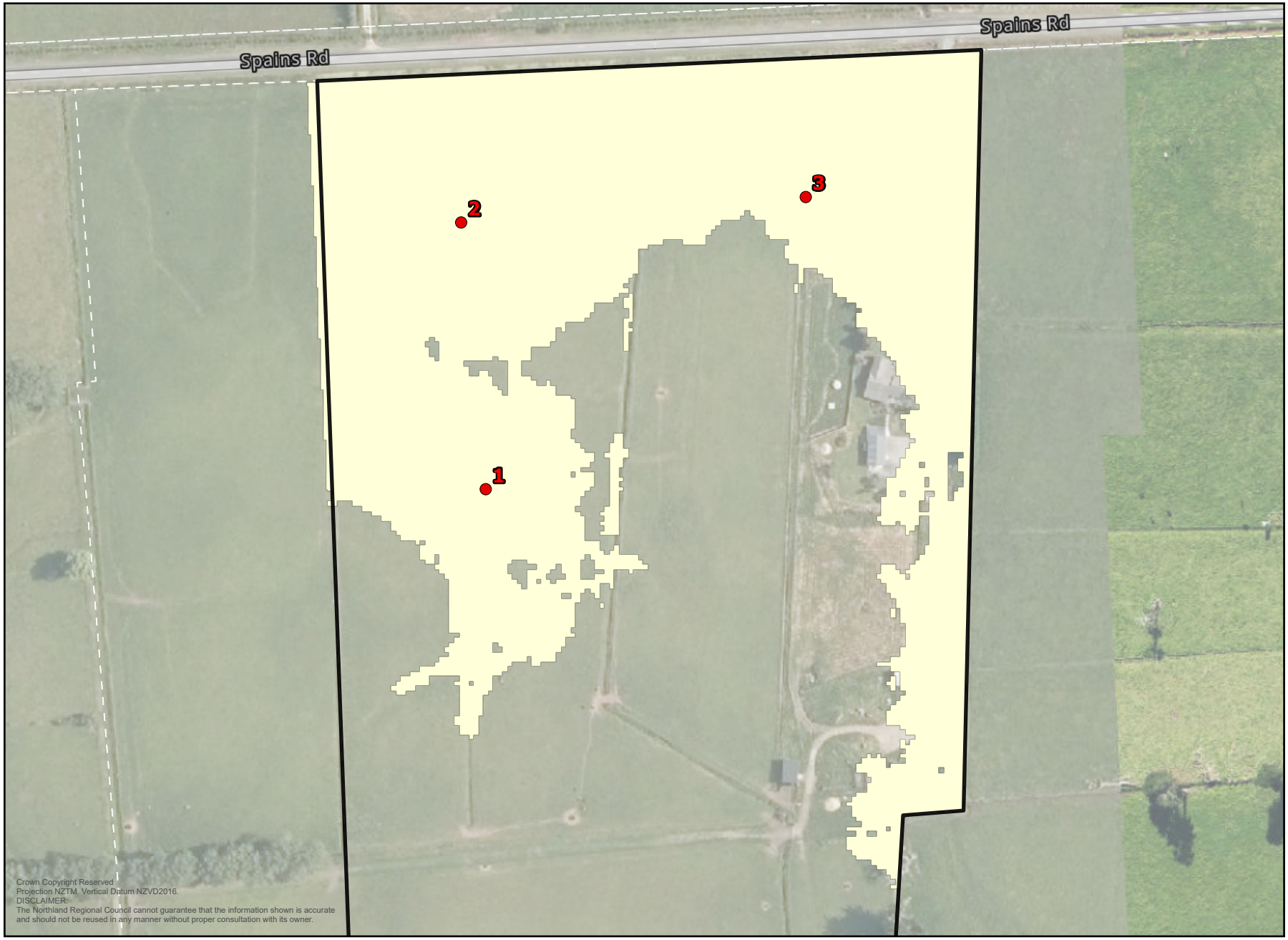
N

0 15 30 60 90 m

Report Reference: 20241017_155118

River Flooding

100 Year + CC



Maximum	Minimum
2.01 m	2.01 m

Max Min flood levels are for raster extent shown on the map

100 Year + CC

m NZVD

1.81 - 2.01

Parcel

Flood Level Point

Label	Level
1	2.01 m
2	2.01 m
3	2.01 m

N

0 40 80 160 240 m

Report Reference: 20241017_155118

Coastal Flooding

CFHZ2

Maximum	Minimum
2.58 m	2.58 m

Max Min flood levels are for raster extent shown on the map

CFHZ2

m NZVD

2.38 - 2.58

Parcel

Flood Level Point

Label	Level
1	2.58 m
2	2.58 m
3	2.58 m

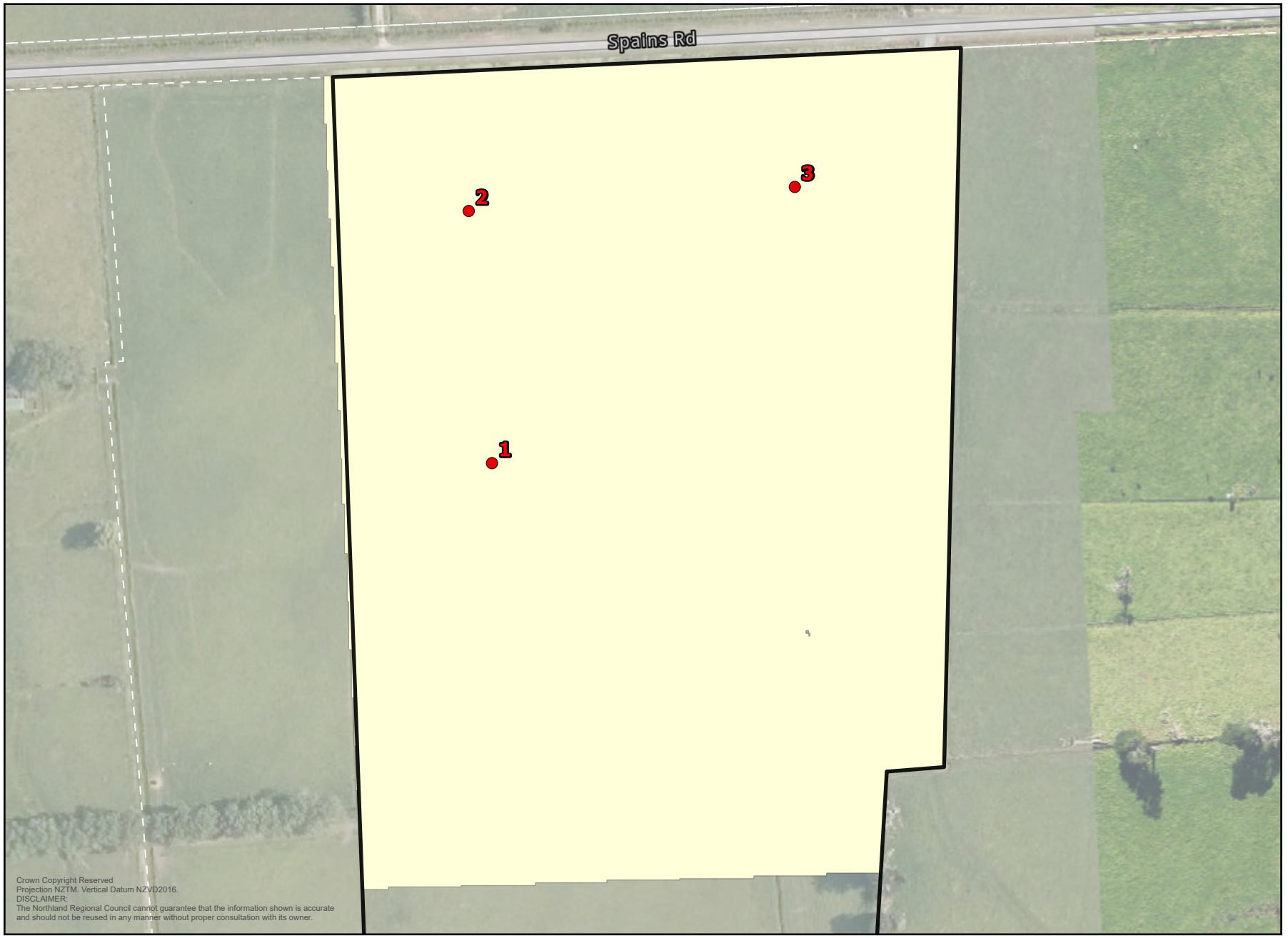
N

0 40 80 160 240 m

Report Reference: 20241017_155118

Coastal Flooding

CFHZ3



Maximum	Minimum
3.09 m	3.09 m

Max Min flood levels are for raster extent shown on the map

CFHZ3

m NZVD

2.89 - 3.09

Parcel

Flood Level Point

Label	Level
1	3.09 m
2	3.09 m
3	3.09 m

N

0 40 80 160 240 m

Report Reference: 20241017_155118

Disclaimers

Our modelling disclaimers are linked below:
https://www.nrc.govt.nz/media/ko2dkgxn/coastal-hazard-maps-disclaimer-june-2017.pdf
https://www.nrc.govt.nz/media/cqnnw12y/flood-map-disclaimer-2021.pdf

Our regionwide modelling reports are linked below:
https://www.nrc.govt.nz/environment/river-flooding-and-coastal-hazards/river-flooding/river-flood-hazard-maps/regionwide-river-catchments-analysis-technical-reports

ARE YOU FLOOD READY?

01

Know your risk

Check what potential flood risks and other hazards that may impact your property.

The Natural Hazards Portal is a great place to start. It's a 'one-stop-shop' of information related to natural hazards within our region: www.nrc.govt.nz/environment/natural-hazards-portal

The Environmental Data Hub provides river level and flow data, as well as warning levels, rainfall data, water quality, and more: www.nrc.govt.nz/environment/environmental-data/environmental-data-hub

02

Have a plan

Make sure you have an evacuation plan, emergency kit and important phone numbers ready. Check out: https://getready.govt.nz/en/prepared/ for tips on how to get ready.

03

Stay up to date

In a civil defence emergency situation, follow the updates on the Northland CDEM Group's Facebook page: www.facebook.com/civildefencenorthland

Or follow updates from the embedded feed on the regional council website: www.nrc.govt.nz/civildefence

04

In an emergency

Remember, if life is threatened dial 111 to contact emergency services.