15th July 2024

District Services – Resource Consents
Far North District Council
Private Bag 752
Kaikohe 0440

Attention Team Leader Resource Consents

RESOURCE CONSENT APPLICATION BY NJ & PJ SPOONER TRUST FOR A SUBDIVISION AND RELATED LANDUSE CONSENTS BEING LOCATED AT 32 KENDALL ROAD, KERIKERI.

Zenith Planning Consultants have been engaged by NJ & PJ Spooner Trust to prepare a combined subdivision and landuse resource consent application relating to a proposed subdivision of their property at 32 Kendall Road, Kerikeri.

I have attached the following information in support of the application:

- Completed Application Form
- Planning Report and Assessment of Effects
- Scheme Plan
- Technical Reports includes Engineering and PSI/DSI reports
- Photos and plans of the site
- Current Certificate of Title

The applicant has paid the Council estimated fees using the reference Spooner Trust via internet banking.

Should you have any queries in respect to this application please contact me.

Yours faithfully

[redacted]

Wayne Smith
Zenith Planning Consultants Ltd
Principal | Director
BPlan | BSocSci | MNZPI
[redacted]

Far North District Council

Office Use Only
Application Number:

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Website: www.fndc.govt.nz

APPLICATION FOR RESOURCE CONSENT OR FAST-TRACK RESOURCE CONSENT

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

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

1. Pre-Lodgement Meeting

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

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

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

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

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

O Other (please specify) _____

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

3. Would you like to opt out of the Fast Track Process? No

4. Applicant Details:

Name/s: NJ & PJ Spooner Trust

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

Phone Numbers:

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

Post Code: 0230

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

Name/s: Zenith Planning Consultants Limited, Attention Wayne Smith

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

Phone Numbers:

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

Post Code: 0204

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

6. Details of Property Owner/s and Occupier/s: *Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)*

Name/s: NJ & PJ Spooner Trust

Property Address/: Location 30A Blacks Road, Kerikeri

7. Application Site Details:

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

Site Address/ Location: 32 Kendall Road, Kerikeri

Legal Description: Lot 3 Deposited Plan 108689 Val Number:

Certificate of Title: NA 61B/226

Site Visit Requirements:

Is there a locked gate or security system restricting access by Council staff? No

Is there a dog on the property? 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.

Access onto and around the property is unrestricted but please contact Paul on 027 289 1221

8. Description of the Proposal:

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

Subdivision of Lot 3 DP 108689 to create one additional lot.

Landuse consent for breach of the stormwater (impermeable surfaces) and building coverage rules as a direct result of the proposed subdivision and existing and future development.

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification? No

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

O Building Consent (to be applied for)

O Regional Council Consent (see attached)

O National Environmental Standard consent

O Other (please specify)

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

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following (further information in regard to this NES is available on the Council's planning web pages):

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)

X yes O no O don't know

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

X yes O no O don't know

X Subdividing land

X Changing the use of a piece of land

O Disturbing, removing or sampling soil

O Removing or replacing a fuel storage system

12. Assessment of Environmental Effects:

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

Please attach your AEE to this application.

13. Billing Details:

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

Name/s: (please write all names in full) see separate sheet

Email: _____

Postal Address: _____

_____

_____ Post Code: _____

Phone Numbers: Work: _____ Home: _____ Fax: _____

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 print)

Signature: _____ (signature of bill payer – **mandatory**) Date: _____

14. Important Information:

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

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

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

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

Name: Wayne Smith _____(please print)

Signature:  (signature) Date: 15th July 2024

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

Checklist (please tick if information is provided)

- ✓ Payment (cheques payable to Far North District Council) – Estimated charge paid via online banking
- ✓ A current Certificate of Title (Search Copy not more than 6 months old)
- Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ✓ Applicant / Agent / Property Owner / Bill Payer details provided
- ✓ Location of property and description of proposal
- ✓ Assessment of Environmental Effects
- Written Approvals / correspondence from consulted parties
- ✓ 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.

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

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

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

ZENITH
Planning Consultants Ltd

Planning Report and Assessment of Effects

Proposed Subdivision and Landuse Consent

NJ & PJ Spooner Trust

32 Kendall Road, Kerikeri

PLANNING REPORT AND ASSESSMENT OF EFFECTS

APPLICATION AND SITE DESCRIPTION

1.01 Zenith Planning Consultants have been engaged by the NJ & PJ Spooner Trust to prepare and lodge a combined landuse and subdivision resource consent for their property at 32 Kendall Road, Kerikeri. The application site is zoned Rural Living under the Far North Operative District Plan.

1.02 The property is 4392m^2 and has a legal description of Lot 3 DP 108689. The property contains an existing dwelling which is to be located within proposed Lot 1 with proposed Lot 2 currently vacant. The existing onsite wastewater system will be relocated to reflect the proposed new allotment configuration. The property is gently sloping up from Kendall Road and is grassed with several fruit trees and perimeter landscaping / screening on the western and northern boundaries. A driveway to a rear lot passes the site on the eastern boundary. There is also a pedestrian access path east of the neighbours' driveway which is used by primarily school children who walk to Riverview Primary School.

1.03 The general area around Kendall Road contains a number of large residential properties which are also flanked along the coastal boundary (with the upper Kerikeri Inlet), by smaller residential properties many of which are approximately 1000m^2 in size. This pattern of development and allotment arrangement is an overhang from the former BOI District Plan which provided for large lots (Residential 5) and standard residential (Residential 1) properties within this location. This previous zoning results in the somewhat unusual circumstance where arguably the more sensitive properties located adjacent to the Coastal Marine Area are intensively developed, while sites further from the coast are typically larger lots and less intensively developed.

1.04 Over time and with development placed strategically within the larger residential lots, there has been subdivision applications approved which result in lots of comparable size to those proposed within this application. It would appear that although the former lots of around 1000m^2 are intensive for onsite servicing, lots around 2000m^2 have been approved where onsite servicing and effects are effectively managed. The proposed lot sizes over 2000m^2 remain larger than most of the former residentially zoned lots which are now also zoned Rural Living and within walking distance of the application site. The existing pattern and density of development in terms of lot size is a material consideration for this area and for this reason is noted accordingly within later sections of this report.

1.05 It is contended within this application that the proposed density of development is reflective of the lifestyle zoning afforded to the surrounding area and would be an appropriate use for the site. A degree of intensification for lots with some Council services and the means to provide the remaining requirements on site, is considered to

be an effective and efficient use of land and which does not contribute to unnecessary expansion of the residential area. The zoning infers that in the future this area would be serviced and become residential and this application is reflective of this forward looking approach.

1.06 Buildings do not require resource consent within the Rural Living zone providing the development controls are satisfied however there are several rules which can be challenging to meet. The permitted allowance for all impermeable surfaces is restricted to 12.5% of the site area. This means that for the application site of 4392m^2, access, buildings and other impermeable surfaces are limited to only 549m^2 and building coverage of 10% or 439m^2. For the proposed lots these allowances are reduced by around 50% and for this reason impermeable and building coverage breaches are sought as part of this application.

The application site – the site has perimeter landscaping in the form of a hedgerow on the western and northern boundaries. The trees adjacent to the existing house will be removed to accommodate any proposed dwelling on the vacant lot.

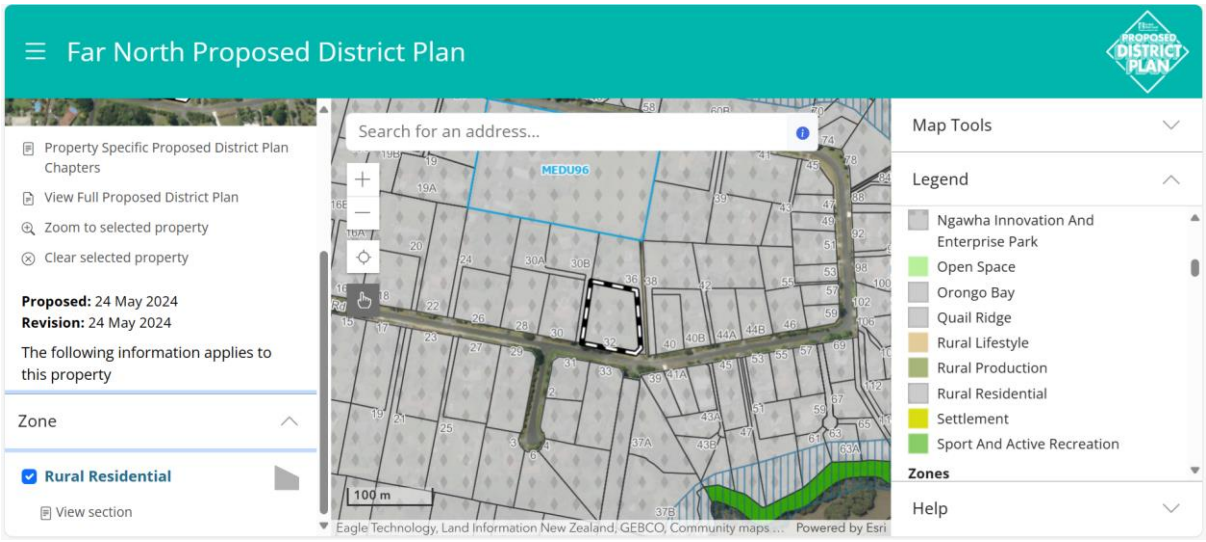
1.07 Within the aerial photo above it can be seen that there are several properties where the amount of built form and other impermeable surfaces would greatly exceed the 12.5% allowance and that the request to exceed this limitation is not out of character or result in adverse effects providing appropriate onsite design is undertaken which addresses stormwater management.

View of the application site from a position opposite the site entrance on Kendall Road.

1.08 The site is zoned Rural Living as illustrated within the operative district plan.

The site is located where the small black dot is positioned.

1.09 Council is in the process of preparing a new district plan to replace the current operative plan. The process is reasonably lengthy but is progressing with the Proposed Far North District Plan first notified on 27th July 2022 when submissions were invited to be lodged. The Council has since produced a summary of submissions, closed the further submissions process, and has commenced hearings of submissions. Under the Proposed District Plan, the site is zoned Rural Residential. There are no additional notations or overlays which affect the site.



Planning Maps for the application site from the Proposed District Plan noting the zoning as Rural Residential.

1.10 The vacant site will provide the opportunity for a dwelling to be provided in the future with a development tailored to meet the additional impermeable and building coverage allowances sought under the landuse component of this application.

1.11 The proposed lots will utilise the same entrance point off Kendall Road with the entrance proposed to be widened to become double width and a reciprocal ROW arrangement provided. The survey plan can be conditioned to reflect the reciprocal ROW arrangements. Formation standards would be reflective of typical urban requirements.

1.12 The indicative dwelling location requires some site clearance of fruit trees and other plantings to accommodate the future dwelling. The future landowner may decide to undertake perimeter landscaping which is common within the area. It is however contended that this may only be required to be completed once the final house is designed and constructed.

1.13 For the purposes of the application, consultation with Chorus and Top Energy was completed with both agencies having no requirements for the proposed subdivision.

APPLICATION PROPOSAL

2.01 The application being considered concerns the subdivision of land and related landuse consents to enable a reasonable amount of impermeable surfaces to be allowed for the future development of the respective lot(s). The landuse component for impermeable surfaces ensures that a reasonable sized dwelling can be constructed without further resource consent being required providing other development standard rules are complied with. This combined landuse and subdivision approach is a common application within the Rural Living Zone where permitted allowances are not sufficient to enable a reasonably sized dwelling and access to be constructed under the permitted

allowances particularly for those lots less than the controlled standard of 4000m^2. This application seeks 25% impermeable surfaces coverage. As a Controlled activity (which Council must approve) this allowance rises to 20% providing adequate onsite stormwater management measures are installed. Conditions of the approval will direct the consent holder to undertake the required works to address stormwater. Applications requiring above 20% seek to ensure that there is additional flexibility available within the sites and this impermeable surface percentage is reasonably common amongst the smaller lots within the immediate area.

2.02 The site is zoned Rural Living and the rules for subdivision are noted within Table 13.7.2.1 of the Far North Operative District Plan. The Proposed Plan is not applicable from a subdivision perspective with respect to lot size.

Rural Living Zone

- Controlled Lot size – 4000m^2
- Discretionary – 3000m^2

The proposed lot sizes within the subdivision are follows:

- Proposed Lot 1 – 2392m^2
- Proposed Lot 2 – 2000m^2

2.03 The proposed lots are both less than the 3000m^2 minimum lot size for a Discretionary Activity and therefore from a lot size perspective the proposal is non-complying.

2.04 Rule 13.7.2.2 within the operative district plan details the required allotment dimensions for proposed lots within the Rural Living zone. The operative plan requires minimum allotment dimensions of 30m x 30m within the Rural Living zone which must not encroach the side yard requirements. The width of proposed Lot 2 cannot meet the minimum 36m width shape factor requirement (30m + 3m on each side yard) and this breach of rule is considered to be Discretionary.

The overall Subdivision component is Non-Complying

2.05 Landuse considerations under this application fall into two matters:

- Building Coverage; and,
- Stormwater

Although the rules focuses on the future development of the vacant proposed Lot 2, this breach request also applies to proposed Lot 1 should redevelopment of this lot occur in the future.

2.06 The future development of proposed Lot 2 is limited by the permitted rules for development and for this reason additional allowances are sought for both Building Coverage and Stormwater. An indicative dwelling has been illustrated on a site plan to detail how a development on proposed Lot 2 might be established. Rules 8.7.5.1.5 and 8.7.5.1.13 are to be exceeded and resource consent is required. The following Controlled Standards are also proposed to be exceeded with up to 25% sought for total

impermeable surfaces. This plan also addresses the shape factor requirement breached under the subdivision provisions where although the required 36m x 36m box cannot be achieved a good size dwelling can be located within the site.

- The Stormwater – Controlled standard of 20% is not satisfied; and,
- The Building Coverage – Restricted Discretionary standard of 15% is not satisfied.

2.07 The exceedance of the above limits for Stormwater and Building Coverage components are Discretionary.

The Landuse component is Discretionary

PROPOSED DISTRICT PLAN

2.08 As noted previously, the majority of rules within the Proposed District Plan do not have legal effect until such time as Council publicly notifies its decisions on submissions. There are however certain rules that have been identified within the proposed plan which have immediate legal effect and that may therefore apply and need to be considered in assessing this application. Such rules may affect the activity status of the application and may be required to be addressed.

2.09 The rules within the following subject matters have rules with immediate legal effect and these include the following: hazardous substances, scheduled sites or areas of significance to Maori, significant natural areas, scheduled heritage resources – none of these apply as none of these aspects are applicable to the site. Additionally, Heritage Area Overlays, historic heritage rules, and Notable Trees and earthworks are also not applicable.

2.10 There are no applicable rules with immediate legal effect that are required to be considered under the Proposed District Plan. The application status being a non-complying subdivision and discretionary landuse consent require consideration of relevant objectives and policies form the proposed district plan.

ASSESSMENT OF EFFECTS

3.01 With the subdivision lot size being Non-Complying there are no restrictions on the matters to be considered in assessing the application. In this respect the general subdivision assessment criteria is used for the application. The assessment will also cover the shape factor breach although the indicative house plan illustrates that a dwelling can be constructed which complies with the setback from boundary rule and can be designed to comply with all other remaining rules.

3.02 The landuse components of this application have their own assessment criteria and this is used for the purposes of this component. These aspects relate inherently to the future potential development potential of the proposed lots.

3.03 It is necessary to consider the potential of Permitted Baseline and Existing Environment comments in considering the relevant matters to be assessed.

PERMITTED BASELINE

3.04 Pursuant to section 104(2) of the Act, when forming an opinion for the purposes of section 104(1)(a) a council may disregard an adverse effect of the activity on the environment if the plan or a NES permits an activity with that effect (i.e. a council may consider the "permitted baseline"). When considering an application for resource consent it is important to reference and place some reliance on Permitted Baseline arguments. This provides the expectation for development proposals within the zone and enables the consideration of the differences between what could be undertaken “as of right” and that which is proposed. When referencing and using “Permitted Baseline” such arguments should not be fanciful but based on realistic proposals and expectations.

3.05 In addition to Permitted Baseline considerations, Existing Use Right considerations could also apply especially where the proposed activity is similar in nature and previously lawfully established.

3.06 In this circumstance, any subdivision proposal requires a resource consent application. On this basis it is considered that the Permitted Baseline consideration is not useful to this application.

3.07 With respect to the extent of built form the plan allows as a permitted activity 12.5% of impermeable surfaces with the controlled activity threshold up to 20%. The controlled activity allowance is comparable to that indicated within the site plan provided noting that a total of 878m^2 could be created and granted approval with appropriate stomwater measures in place. The applicant’s preference is for a 25% impermeable surface allowance which provides greater flexibility. The controlled allowance should be viewed as a starting point and has relevance which considering the extent of the allowance sought.

3.08 It is further noted that the level of impermeable surfaces sought are not dissimilar to lots located close to the application site. This when combined with the proposed lot sizes which is also comparable does not detract from the key objective which is that the proposal maintain the low density development typical of the zone and the surrounding area.

3.09 The existing environment is a key consideration in justifying the proposed subdivision and this application seeks to continue this previous development. The rationale behind the additional impermeable surfaces requested is reflective of the reduced lot size.

ASSESSMENT CRITERIA EVALUATION

SUBDIVISION

3.10 The following assessment criteria is now considered for the subdivision component of the application.

13.10 ASSESSMENT CRITERIA

In considering whether or not to grant consent or impose conditions on this application, such work, needs to be completed prior to the issuance of the s224(c) Certificate.

13.10.1 ALLOTMENT SIZES AND DIMENSIONS

(a) Whether the allotment is of sufficient area and dimensions to provide for the intended purpose or land use, having regard to the relevant zone standards and any District wide rules for land uses.
(b) Whether the proposed allotment sizes and dimensions are sufficient for operational and maintenance requirements.
(c) The relationship of the proposed allotments and their compatibility with the pattern of the adjoining subdivision and land use activities, and access arrangements.
(d) Whether the cumulative and long term implications of proposed subdivisions are sustainable in terms of preservation of the rural and coastal environments.

3.08 The allotment sizes are less than the minimum lot size as noted within the district plan, but it is contended that there are many instances within the immediate and wider area where lots are comparable or smaller than those proposed. Some of these lots are historical lots but there have also been recent approvals which have created comparable sized lots to those proposed within this application. In these instances, the Council has been satisfied that the resultant effects from subdivision and the development thereof, are less than minor. The current use of the land as a large lot residential style is not removed by the proposal and the pattern of development is consistent with that which exists within Kendall Road and the adjoining streets.

3.09 The proposed additional lot is of sufficient size to accommodate the establishment of a dwelling, and this has been illustrated within the indicative site plan. Whether the future owner of the lot decides to develop the proposed lot as noted is for them to decide, but there remains suitable flexibility and potential onsite mitigation measures which could be implemented. It is further contended that the amenity values are not compromised by the proposal and ensures that there remains privacy both within the development and beyond the property boundaries. Boundary treatment is a likely means to achieve this but should not be required until post construction of any dwelling so that appropriate landscaping can be completed. The Engineer's report confirms that onsite servicing can be readily achieved with more than adequate space for wastewater treatment and disposal.

3.10 It is considered that the lot size is appropriate for the amenity and character of the area and delivers adequate space from a servicing perspective.

3.11 Although the lot is zoned Rural Living it is considered that the Kendall Road area is more appropriately considered residential with an emphasis on built form with higher-than-average amenity due to the larger lot sizes. None of these aspects are lost with this proposal.

13.10.2 NATURAL AND OTHER HAZARDS

In assessing any subdivision, and for the purposes of s106 of the Act, the Council will have regard to:

(a) Any information held by the Council or the Northland Regional Council regarding natural hazards, contaminated sites or other hazards.

(b) Information obtained by suitably qualified experts, whose investigations are supplied for subdivision applications.
(c) Potential adverse effects on other land that may be caused by the subdivision or anticipated land use activities.
(g) In relation to contaminated sites, any soil tests establishing suitability, and methods to avoid, mitigate or remedy the effects, including removal to approved disposal points.

3.12 The application site contains no areas subject to natural hazards and this is evident within the onsite observations and Engineers Report. The site is generally flat and not subject to any specific restrictions with respect to the development of the site.

3.13 There will be limited stormwater generated from the proposed subdivision because roof water from the buildings will be attenuated with tanks storage and soakage pits to pre-development levels. The required widening of the entrance to a double width will be designed align to the existing roadside drains. Wastewater treatment and disposal sees the movement of the existing onsite system to be fully contained within the proposed new allotment configurations. A new system will be installed once the house is constructed.

3.14 With the site having previously had fruit trees it was necessary to consider potential for onsite contaminants from these activities. The applicant sourced a Preliminary Site Investigation which concluded that there was no risk to human health from undertaking the development of the respective lots. There are no issues from the change in use of the land.

3.15 There are no identified natural hazards which have cause to impact on the proposed subdivision or which could adversely affect the ability to undertake the subdivision and the development of a potential dwelling on the proposed lots.

3.16 The potential hazard related effects are considered to be less than minor with no conditions required to be imposed.

13.10.3 WATER SUPPLY

(a) Where there is no reticulated water supply available for connection, whether it would be appropriate to allow a private restricted flow rural-type water supply system; such supply being always available and complying with "Drinking Water Standards of New Zealand" (1995).
(b) Whether the provisions of the “Engineering Standards and Guidelines 2004 – Revised March 2009” (to be used in conjunction with NZS 4404:2004) have been met in respect of fire fighting water supply requirements.

3.17 The existing dwelling has a connection to the Council provided municipal water supply. The proposed new lot will also be required to be connected with conditions likely to require a connection to be provided and available for the new dwelling.

3.18 The stormwater mitigation measures which address the additional impermeable surfaces require roof water to be adequately attenuated and this can be achieved with onsite tanks and overflow soakage pits. This water can be used for gardening or other demands of the future household.

3.19 The supply of water for firefighting purposes is provided for within the Council's existing water supply network and therefore is not required to be addressed within this application. There would be sufficient supply provided for this existing residential area within Kendall Road.

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.
(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).
(c) Whether the application complies 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.
(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.
(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.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.

3.20 With the proposed subdivision and landuse proposal intensifying the overall development on site and the total impermeable surfaces exceeding the permitted allowances, it is necessary for suitable mitigation measures to be put in place. The objective of the proposed measures is to limit stormwater leaving the site to pre-development levels and this is achieved via roof harvesting which is then directed to onsite tanks with overflow placed into the onsite soakage pits. With onsite wastewater treatment and disposal required, the location of the soakage pit should be well away from the wastewater drainage locations and the proposed reserve areas.

3.21 In achieving a high level of stormwater management and restricting this to pre-development levels, there will be no downstream impacts on the receiving Council stormwater system. The double width entrance will be constructed to ensure that any roadside stormwater system maintains its functionality and effectiveness.

3.22 The water stored within the tanks onsite can be used for gardening or other uses that the household may choose to use it for. The overall stormwater effects are considered to be less than minor.

13.10.5 SANITARY SEWAGE DISPOSAL

(e) Where a reticulated system is not available, or a connection is impractical, whether a suitable sewage treatment or other disposal systems is provided in accordance with regional rules or a discharge system in accordance with regional rules or a discharge permit issued by the Northland Regional Council.

3.23 The proposed development will require onsite wastewater treatment and disposal which will be designed for the potential loading from the existing and proposed dwelling on each lot. The accompanying engineering memorandum confirms that onsite wastewater treatment and disposal is achievable. Parts of the existing system are required to be relocated to be fully located within proposed Lot 1.

3.24 The final design for the vacant lot will ultimately depend on the number of people and house design but can readily be accommodated onsite. The building consent for the proposed dwelling would detail the wastewater requirements and provide a design accordingly in accordance with TP58. The treatment and disposal area will also need to provide the required reserve area. There are no nearby water sources or issues with soil types which could result in any adverse effects from this onsite wastewater treatment and disposal process.

13.10.6 ENERGY SUPPLY

(f) Whether there will be potential adverse effects of the proposed reticulation system on amenity values.

(g) Whether the subdivision design, location of building platforms and proposed electricity supply has had adequate regard to the future adoption of appropriate renewable energy initiatives and technologies.

3.25 As part of the preliminary consultative process, comments from Top Energy Limited (as the electricity network provider) were sought. Top Energy raised no concerns and advised that connections were available for the proposed subdivision.

3.26 The physical provision of a power supply to the property boundary is available with a pole located immediately beside the combined site entrance. A condition requiring a connection to be made available is expected within the large lot residential area.

13.10.7 TOP ENERGY TRANSMISSION LINES

Where it is proposed to subdivide land to create new allotments within an area measured 20m of either side of the centre point of an electrical transmission line designed to operate at or above 50 kV, particular regard shall be had to the following matters:

3.27 This provision does not apply as there are no 50kV lines near to the application site.

13.10.8 TELECOMMUNICATIONS

(a) Where the subdivision involves construction of new roads or formed rights of way, whether an extended reticulation system has been installed (at the subdivider's cost), having regard to the Council's "Engineering Standards and Guidelines 2004 – Revised March 2009 (to be used in conjunction with NZS 4404:2004) and "The National Environmental Standard for Telecommunication Facilities 2008".

(c) Whether the proposed reticulation system will have potential adverse effects on amenity values.

3.28 As part of the preliminary consultative process comments from Chorus Limited (as the network provider) were sought. Chorus raised no concerns and advised that connections were available to the proposed lots. Supply to the property boundary is available and a connection can be readily provided. This is expected to be a condition of consent for this large lot residential area.

13.10.9 EASEMENTS FOR ANY PURPOSE

Whether there is a need for an easement for any of the following purposes:

(b) Easements in respect of other parties in favour of nominated allotments or adjoining Certificates of Title.

(d) Easements for any of the following purposes:

(i) private ways, whether mutual or not;

(ii) stormwater, sanitary sewer, water supply, electric power, gas reticulation;

(iii) telecommunications;

3.29 Other than a probable reciprocal ROW easement for access purposes there are no other easements required to be provided. The required services for electricity and telecommunications are located within the road reserve which is accessible for both proposed lots.

13.10.10 PROVISION OF ACCESS

(a) Whether provision for access to and within the subdivision, including private roads, has been made in a manner that will avoid, remedy or mitigate adverse effects on the environment, including but not limited to traffic effects, including effects on existing roads, visual effects, effects on vegetation and habitats, and natural character.

3.30 Access to each lot will be via a double width entrance where it is likely that reciprocal ROW Easements will be required. The required double width entrance widens the current access which is suitable for the proposed subdivision and meets visibility requirements. The entrance is located on a straight portion of the road with a slight gradient on Kendall Road not impacting the overall sight lines. The use of a double width access removes the need to construct a further entrance point along the road frontage. The additional traffic generated by the additional lot (from an access perspective) is considered to be less than minor with conditions able to be imposed which ensures compliance with any Council Engineering Standards.

13.10.11 EFFECT OF EARTHWORKS AND UTILITIES

(a) Whether the effects of earthworks and the provision of services to the subdivision will have an adverse effect on the environment and whether these effects can be avoided, remedied or mitigated.

3.31 The proposed earthworks for the proposed subdivision will be minimal and related solely to any upgrading of the entrance. Future development for either lot will be subject to the relevant rules at the time of construction. The effects are considered to be less than minor.

13.10.12 BUILDING LOCATIONS

(a) Whether the subdivision provides physically suitable building sites.

(b) Whether or not development on an allotment should be restricted to parts of the site.

(d) Whether the subdivision design in respect of the orientation and dimensions of new allotments created facilitates the siting and design of buildings able to take advantage of passive solar gain (e.g. through a northerly aspect on an east/west axis).

3.32 The proposed site plan for the purposes of the shape factor rule and the breach of stormwater and building coverage rules identifies the potential house site within proposed Lot 2. The house site is suitable and can meet all other development control rules which apply to this site. It is considered prudent to enable a practical scale of

development to be also consented at the time of subdivision to provide certainty for the future landowners. This should apply to most Rural Living zoned lots especially with the relatively modest permitted thresholds which apply.

3.33 The proposed lots from an engineering perspective contains no onsite constraints where the potential house site is detailed. All services able to be provided subject to the appropriate design for the proposed loading. Stormwater management for the additional impermeable surfaces are considered to be managed appropriately as described within the Engineering report.

3.34 The proposed lot and its subsequent development could have passive solar gains if the lot owner elects to use this energy source. The site is relatively open and could take advantage of the site's orientation if they chose to.

13.10.13 PRESERVATION AND ENHANCEMENT OF HERITAGE RESOURCES, VEGETATION, FAUNA AND LANDSCAPE, AND LAND SET ASIDE FOR CONSERVATION PURPOSES

(a) Whether any vegetation, habitats of indigenous fauna, heritage resources and landscape features are of sufficient value in terms of the objectives and policies in Chapter 12 of the Plan, that they should be protected.
(b) Whether the means (physical and/or legal) by which ongoing preservation of the resource, area or feature will be achieved is adequate.

3.35 The application site is a typical large lot residential property within an urban area and contains little in the way of indigenous vegetation or and areas requiring any form of formal protection. In this respect there is no intention for any existing vegetation to be protected noting that most of the site is grassed with the occasional fruit tree and some perimeter vegetation screening the respective lots from each other.

3.36 The additional built form requires consideration of related effects such as the building scale and the degree of impermeable surfaces. In reviewing the immediate area and those sites below the controlled lot size threshold there are no sites which could be considered as creating an adverse effect. The location involves a mixture of measures which break up the street scene and provide the character for the area. There is further discussion on this aspect later within the report.

13.10.14 SOIL

(a) The extent to which any subdivision will contribute to or affect the ability to safeguard the life supporting capability of soil.
(b) The degree to which the life supporting capacity of the soil may be adversely affected by the subdivision and the degree to which any soils classified as I, II or III in the NZ Land Resource Inventory Worksheets are adversely affected by the subdivision.

3.37 The site is noted as having highly versatile soils but as the property and those surrounding it have been identified as residential in nature the NPS and related documents do not apply. The potential remains for private gardens to be established which would assist in maintaining the soils within the site.

13.10.15 ACCESS TO WATERBODIES

3.38 The application site is not located adjacent to any water body.

13.10.16 LAND USE INCOMPATIBILITY

(a) The degree to which the proposed allotments take into account adverse effects arising from incompatible land use activities (including but not limited to noise, vibration, smell, smoke, dust and spray) resulting from an existing land use adjacent to the proposed subdivision.

3.39 The proposed uses for the respective lots will be residential which is what currently exists within the surrounding area. There are no neighbouring properties which undertake activities which could be considered incompatible with residential use with only the Riverview Primary School being a different activity to this residential area. The existing and proposed use of the site does not result in any incompatibility concerns.

13.10.17 PROXIMITY TO AIRPORTS

3.40 The application site is not close to an airport and therefore this provision does not apply to this application

13.10.18 NATURAL CHARACTER OF THE COASTAL ENVIRONMENT

3.41 The application is not located within the Coastal Environment and therefore does not impact on the natural character of the upper Kerikeri Inlet which is the closest water body to the application site.

13.10.19 ENERGY EFFICIENCY AND RENEWABLE ENERGY DEVELOPMENT /USE

The extent to which the application promotes energy efficiency and renewable energy development and use through the following initiatives:

(a) ability to develop energy efficient buildings and structures (e.g. by providing a north-facing site with the ability to place a building on an east/west axis);

3.42 The district plan encourages the ability of lot owners to utilise renewable energy options and adopt energy efficient design in the development the any lot. This is most commonly used for domestic solar energy systems. This application does not inhibit this potential with both lots able to utilise such measures if they wish too.

13.10.20 NATIONAL GRID CORRIDOR

3.43 The application site contains no National Grid Corridor and therefore this provision does not apply to this application

LANDUSE COMPONENTS

3.44 Within the application introduction it was noted that there is no proposed physical development such as a new dwelling proposed under this resource consent application. What is sought is to pre-empt the likely breaches for the Stormwater Management and Building Coverage rules within the operative district plan. No other breaches are sought and as noted previously this type of consent sought is common within this zone due to the restrictive allowances.

3.45 The following assessment considers the breaches and the attached Engineering reports address the potential effects and offer appropriate mitigation measures. The objective of the proposed design is to achieve a pre-development level of stormwater discharge.

The effects of the breaches are concluded as being less than minor and the following criteria provides assistance in reaching this conclusion.

3.46 The site plan provided highlights a potential building footprint which was used for the assessment

11.3 STORMWATER MANAGEMENT

(a) The extent to which building site coverage and impermeable surfaces result in increased stormwater runoff and contribute to total catchment impermeability and the provisions of any catchment or drainage plan for that catchment.

3.47 The proposal will ultimately increase the extent of impermeable surfaces within the site and will exceed the permitted allowances. However, notwithstanding this, the Engineer's design has been completed to ensure that stormwater leaving the site is at pre-development levels. The impact of this approach will be negligible for the overall Riverview catchment and results in less than minor effects. The combination of stormwater tanks and a soakage pit for additional water will address this issue.

(b) The extent to which Low Impact Design principles have been used to reduce site impermeability.

3.48 The proposed Engineering solution for the additional impermeable surfaces proposed on site follows Low Impact design principles. This approach can be further utilised within the building design when a dwelling is eventually proposed on the vacant proposed lot and should redevelopment of the existing dwelling occur.

(c) Any cumulative effects on total catchment impermeability.

3.49 The mitigation measures proposed which result in discharges at pre-development levels do not result in any cumulative effects for the catchment area.

(d) The extent to which building site coverage and impermeable surfaces will alter the natural contour or drainage patterns of the site or disturb the ground and alter its ability to absorb water.

3.50 The additional impermeable surfaces will impact on the drainage pattern for the site and this can be controlled using appropriate drainage installed during the construction phase. Roof water as noted earlier will be collected and stored in an onsite watertank which can then be directed to an on-site soakage pit. This means to achieve pre-development levels is considered to result in less than minor effects.

(e) The physical qualities of the soil type.

3.51 The physical qualities of the soil will remain unchanged and with the site being classified as urban is afforded no specific protection.

(f) Any adverse effects on the life supporting capacity of soils.

3.52 The proposal does not impact on the life supporting capacity of soils within the site.

(g) The availability of land for the disposal of effluent and stormwater on the site without adverse effects on the water quantity and water quality of water bodies (including groundwater and aquifers) or on adjacent sites.

3.53 The Engineering report and plans detail how onsite wastewater treatment and disposal can be managed for the two lots and how the onsite stormwater management will also be addressed. The application requires the existing system to be moved due to the proposed lot boundaries. The wastewater and stormwater systems can easily be accommodated within the respective lots.

(h) The extent to which paved, impermeable surfaces are necessary for the proposed activity.

3.54 The future plans for the future potential dwellings on the proposed lots are not determined at this point in time. The indicative plans provided illustrate how a dwelling would be located and the type of dwelling which could be constructed on the proposed lot. The lot sizes although below the discretionary threshold maintain their large lot residential appearance which is typical of the area with the proposed lots being close to the median size for the immediate area. The permitted allowances for the zone are restrictive and by allowing the exceedances proposed, will enable a reasonable sized dwelling to be constructed with associated outdoor living space and access/ onsite vehicle manoeuvring. The allowance sought is not considered to be over development of the site and is considered to consistent with lots within the immediate area.

(i) The extent to which landscaping may reduce adverse effects of run-off.

3.55 Landscaping is not proposed as part of this application. There are existing plantings which have recently been established and existing perimeter landscaping are located on the northern and western boundaries. It is considered that additional landscaping is not required at the time of the subdivision but could be a requirement for any future development for the respective lots. The immediate area has a mixture of boundary treatments with some sites open to the neighbourhood while others display the only evidence of a dwelling being a driveway entrance with a mailbox. The supply of water within the stormwater tanks would be available for use within the potential landscaping. A soakage pit will deal with any surplus water which may be generated.

(j) Any recognised standards promulgated by industry groups.

3.56 The proposed designs take on board the usual industry standards for dealing with both wastewater and stormwater.

(k) The means and effectiveness of mitigating stormwater run-off to that expected by the permitted activity threshold.

3.57 The Engineering report details how this will be achieved with a design objective of achieving stormwater runoff at pre-development levels. The tanks provide a means to secure and store most of the expected runoff with any excess directed to the soakage pit. Effects less than minor.

(l) The extent to which the proposal has considered and provided for climate change.

3.58 Engineering reports prepared account for climate change when detailing the range of parameters used for calculations.

(m) The extent to which stormwater detention ponds and other engineering solutions are used to mitigate any adverse effects.

3.59 The proposal includes the use of water takes to store roof water and which can then be directed to soakage pits if the need arises. This will aid in the disposal of stormwater over time and result in less than minor effects.

11.24 BUILDING COVERAGE

(a) the ability to provide adequate landscaping for all activities associated with the site.

3.60 There is sufficient space within the site for mitigation measures to be provided should these measures be required. It is however contended that the amenity of the area is largely unaffected by the proposed subdivision and the future development of a dwelling on the vacant lot. It is considered that the compliance with a boundary relationship rule such as the setback from boundary or sunlight rules are arguably more important for a neighbour. A modest amount of additional built form could be constructed on the application site as it exists today. The additional built form could be fully compliant with the relevant rules. As a permitted activity, landscaping for this additional permitted development would not be required and this is why additional landscaping is considered to be unnecessary. Therefore, without any visual amenity requirements to be addressed and the scale of development being not inconsistence with the surrounding development, the need for landscaping is considered to be unnecessary.

3.57 In the instance where landscaping is required by Council for the future vacant lot, then it is suggested that this delayed until such time as a building design is finalised, dwelling constructed, and the related outdoor spaces and living rooms within the dwelling is confirmed.

(b) the extent to which building(s) are consistent with the character and scale of the existing buildings in the surrounding environment.

3.58 The site and area description detail the relevant elements of the immediate and wider environment and highlights that for the purposes of proposed lot size that the proposed lot size would be close to the median size for the area. This is important because any reasonable sized dwelling as noted within the site plan attached would exceed the permitted allowances because of the overly restricted allowances for the zone. This is partially recognised with some urban servicing is provided, and residential style use of properties is encouraged. The density of development is only the level it is currently because reticulated wastewater is not available. If off site wastewater treatment and disposal was available, then this area would become residential as per the intent of the zone as a future residential area.

(c) the scale and bulk of the building in relation to the site.

3.59 The proposed impermeable surfaces for the proposed lots is 25% which could not be considered as over development with 75% free of any development. Several lots within

the immediate area are well above this proposed 25% level and are not considered to be overdevelopment or considered to be out of character.

(d) the extent to which private open space can be provided for future uses.

3.60 With the application site seeking a 25% impermeable surfaces allowance for the proposed lots, this still ensures that a minimum of 1500m^2 of area contributes to the open space available. Should further intensification of the site be allowed in the future then development will not be compromised by this proposal.

(e) the extent to which the cumulative visual effects of all the buildings impact on landscapes, adjacent sites and the surrounding environment.

3.61 Landscaping usually provides mitigation measures to any development proposal and in this instance it would also contribute. However, it is contended that landscaping is not required for the development of the application site. The cumulative effect of additional built form is considered to be less than minor. If Council is to require landscaping, then this should be required only when the development plans for the dwelling is finalised and implemented following the construction of the building. This will ensure that any landscaping is tailored to the building design and the outdoor space for that dwelling.

(f) the extent to which the siting, setback and design of building(s) avoid visual dominance on landscapes, adjacent sites and the surrounding environment.

3.62 The indicative plans provide detail the potential location of a dwelling on the application site which is compliant with all rules other than stormwater and building coverage. Setback from boundary and sunlight rules are particularly important boundary measures which protect neighbours from inappropriate development. Maximum height also reflects the scale and potential dominance of any building. When viewed from the neighbouring property, it is contended that providing boundary related and height rules are complied with, that neighbours will potentially see a building but one that could appear to be fully compliant.

3.63 Built form is expected within the zone and visual dominance can be avoided providing boundary related rules are complied with. Landscaping assists in screening or breaking up the bulk of the building or activities on site but this is not the objective of the zone otherwise visual amenity rules would also apply where colours and scale and location are more important.

(g) the extent to which landscaping and other visual mitigation measures may reduce adverse effects.

3.64 The discussion and assessment around the merits of landscaping have been detailed throughout this assessment and it is contended that landscaping is unnecessary in this instance. If landscaping was considered by Council to be required, then the timing for the landscaping should be linked to the construction of the dwelling and not required until the dwelling is constructed and any outdoor living space confirmed.

(h) the extent to which non-compliance affects the privacy, outlook and enjoyment of private open spaces on adjacent sites.

3.65 The non-compliance sought does not impact on the neighbours because the required boundary relationship rules are complied with. If a future building was to be constructed which was within the setback from boundary or exceeded the sunlight or height rule limitations, then privacy or outlook could be impacted on. The proposal is not considered to conflict with this consideration.

ASSESSMENT OF EFFECTS CONCLUSION

3.66 The subdivision application is non-complying from a lot size perspective but cannot be considered as being inappropriate based on the zoning with the immediate area offering a range of lot sizes many of which are significantly smaller than that proposed within this application. The landuse components are related solely to the future development of the respective lots and seek to enable a reasonable impermeable surfaces allowance which is not inconsistent with the smaller lots within the surrounding environment.

3.67 The proposal seeks to ensure that the future development of the respective lots not require a further consent unless a rule other that stormwater or building coverage is breached.

3.68 The proposal addresses the additional impermeable surfaces with an effective stormwater management system with a combination of water tanks and a soakage pit for any additional flow. The design has been completed to ensure that stormwater generated remains at pre-development levels.

3.69 It is further contended that there are no other mitigation measures required to be completed with landscaping considered to be unnecessary moving forward. If Council considers that this is required, then the landscaping should be completed only after the future dwelling is constructed and outdoor living space confirmed.

3.70 The Engineering report and PSI provided conclude that the key matters are satisfied and effects are less than minor.

3.71 The application is considered to represent a positive development for the immediate area with no adverse effects created or effects which could be considered as minor or more than minor. The proposal provides an appropriate use of the land and offers an opportunity for a new residence to be constructed and which will assist the new landowner in providing for their families' well being.

4.0 OPERATIVE DISTRICT PLAN – OBJECTIVES AND POLICIES

4.01 The following assessment of objectives and policies focus on the relevant subdivision considerations particularly as the subdivision proposal creates the landuse breaches of the plan. The assessment of effects has covered the specific matters in more detail but as stated. Selected objectives and policies from the Rural Living Zone have also been included.

4.02 With the application having Non-Complying components, the presumption is that the proposal may be contrary to objectives and policies which apply to the site. The following considerations will provide commentary and details as to how the proposal is generally consistent with key objectives and policies for the Subdivision chapter. The following Objectives and Policies are considered to be the most relevant to the application.

SUBDIVISION

13.3 OBJECTIVES

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

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

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

13.3.8 To ensure that all new subdivision provides an electricity supply sufficient to meet the needs of the activities that will establish on the new lots created.

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

13.3.10 To ensure that the design of all new subdivision promotes efficient provision of infrastructure, including access to alternative transport options, communications and local services.

13.4 POLICIES

13.4.1 That the sizes, dimensions and distribution of allotments created through the subdivision process be determined with regard to the potential effects including cumulative effects, of the use of those allotments on:

(d) amenity values;

(g) existing land uses.

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

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

13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to s6 matters. In addition subdivision, use and development shall avoid adverse effects as far as practicable by using techniques including:

(b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area;

(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension,

enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;

(g) achieving hydraulic neutrality and ensuring that natural hazards will not be exacerbated or induced through the siting and design of buildings and development.

13.4.14 That the objectives and policies of the applicable environment and zone and relevant parts of Part 3 of the Plan will be taken into account when considering the intensity, design and layout of any subdivision.

13.4.15 That conditions be imposed upon the design of subdivision of land to require that the layout and orientation of all new lots and building platforms created include, as appropriate, provisions for achieving the following:

(a) development of energy efficient buildings and structures;

(e) domestic or community renewable electricity generation and renewable energy use.

RURAL LIVING ZONE

OBJECTIVES

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

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

POLICIES

8.7.4.1 That a transition between residential and rural zones is achieved where the effects of activities in the different areas are managed to ensure compatibility.

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

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

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

8.7.4.7 That provision be made for ensuring that sites, and the buildings and activities which may locate on those sites, have adequate access to sunlight and daylight.

8.7.4.9 That activities with effects on amenity values greater than a single residential unit could be expected to have, be controlled so as to avoid, remedy or mitigate those adverse effects on adjacent activities.

8.7.4.10 That provision be made to ensure a reasonable level of privacy for inhabitants of buildings on adjoining sites.

COMMENTARY ON OBJECTIVES AND POLICIES

4.03 As previously noted, the proposed allotment configuration does not comply with the minimum lot size requirements and is non-complying. It is however contended that despite this lot size infringement that the relevant objectives and policies are not

conflicted with. The assessment of effects provides the detailed assessment based on the relevant assessment criteria and it is concluded that effects are less than minor.

4.04 Similarly, the landuse components relate to the reduced lot size and seek to ensure that a reasonable dwelling could be constructed without compromising the intent of the zone. The 25% impermeable surfaces allowance sought is half of what could be expected within a standard residential zone and this is considered to be an appropriate level for consideration. It is further noted that as a controlled activity that up to 20% could be proposed which would be granted consent by Council.

4.05 The detailed objectives and policies are not considered to be conflicted with and the conclusions are reinforced by the key outcomes sought and delivered by the application. It is further contended that the overall Riverview area is only zoned Rural Living because the related infrastructure is not available such as reticulated wastewater and the provision for greater stormwater management from more intensive development. The area includes many urban features including a primary school, footpaths, and residential vehicle speed limits.

4.06 As a general observation, the area is considered to be residential and the level of proposed development is not inconsistent with this premise. It is further considered that with the proposed lots being more than 2000m^2 in size and with impermeable surfaces capped at 25% that this is not compromising or conflicting with the intensity expected within the Rural Living zone. Past decisions for similar sized properties endorse this conclusion as well as the existing lots far smaller than those proposed under this application. The effects of the proposal are mitigated and effects concluded as being less than minor.

4.07 The proposed subdivision is considered to be generally consistent with the immediate area and beyond and also satisfies the intent of the plan.

4.08 The proposed subdivision will create an opportunity for an additional dwelling to be established. The creation of the additional lot will contribute to the new lot owners social and economic well-being.

PROPOSED FAR NORTH DISTRICT PLAN

4.09 The proposed district plan has called for submissions and further submissions and Council is now holding hearings with reports and recommendations provided for consideration. The subdivision rules for the Rural Residential do not apply to the application at this point in time. Although the rules do not apply it is necessary to consider the relevant Objectives and Policies due to the applications' non-complying activity status. The weighting afforded to the proposed district plan with this status is minor.

Objectives and Policies

4.10 The objectives and policies for subdivision are noted as follows acknowledging that only those which are considered to be relevant have been included.

SUBDIVISION OBJECTIVES

SUB-01 Subdivision results in the efficient use of land, which:

a. Achieves the objectives of each relevant zone, overlays and district wide provisions;
b. Contributes to the local character and sense of place;
c. Avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;
d. Avoids land use patterns which would prevent land from achieving the objectives and policies of the zone in which it is located;
e. Does not increase the risk from natural hazards or risks are mitigated and existing risks reduced;
f. Manages adverse effects on the environment.

SUBDIVISION POLICIES

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

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

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

4.11 The key aspect for this application is that the level of residential intensity remains at a low intensity level and does not detract from the intent of the zone. The Engineering reports address all the onsite requirements.

4.12 There are no known impacts on cultural values or heritage values having reviewed past applications.

4.13 The proposal is considered to be generally consistent with the relevant objectives and policies of the Proposed Far North District Plan.

5.0 REGIONAL POLICY STATEMENT CONSIDERATIONS

5.01 The subdivision of land can be inconsistent with key objectives and policies of the Northland Regional Policy Statement. In this instance, however, there are no matters of relevance which need to be reviewed or considered.

6.0 PART 2 CONSIDERATIONS

6.01 The application does not conflict with any matter or consideration under Part 2 of the Act. The proposal provides for the social and economic well-being of the district by improving the environment and enabling appropriate development to be established all while resulting and ensuring the potential effects of the proposal are less than minor.

6.02 It is therefore contended that the proposed subdivision is appropriate and consistent with the purpose of the Act.

7.0 NOTIFICATION ASSESSMENT S95A TO 95G OF THE ACT

7.01 Sections 95A to 95G require Council to follow specific steps in determining whether to notify an application. In considering the conclusions findings within this report are relied upon.

7.02 Public Notification section 95A

Step 1
Mandatory public notification in certain circumstances

(a) the applicant has requested that the application be publicly notified:
(b) public notification is required under section 95C:
(c) the application is made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977.

The applicant has not requested public notification and none of the remaining matters as described are applicable.

Step 2 Public Notification precluded in certain circumstances

The criteria for step 2 are as follows:

(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 or discretionary activity, but only if the activity is a subdivision of land or a residential activity:
    (iii) a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity:
    (iv) a prescribed activity (*see* section 360H(1)(a)(i)).

The subdivision itself is non-complying in terms of lot size. The landuse components are discretionary. Neither element is precluded from public notification.

Step 3 – Public Notification required in certain circumstances

The criteria for Step 3 are as follows:

(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 NES Regulation (contaminated land) is relevant with a PSI completed for the site given some historical use of the site for horticultural purposes with an old orchard formally on the site. The PSI concludes that there is no risk to human health from the change in use of the land.

The effects from the proposed subdivision are considered to be less than minor as concluded within earlier sections of this report. The lot size although below the discretionary threshold and assessed as non-complying is not inconsistent with lots sizes within the wider Riverview area. The lot size could be viewed as being around the median for the area. The proposal offers additional housing in a large lot residential location. The potential effects from an additional dwelling on the wider environment are concluded as being less than minor.

7.03 Affected Persons Assessment – Limited Notification Section 95B

If the application is not required to be publicly notified, a Council must follow the steps of section 95B to determine whether to limited notify the application.

Step 1: certain affected groups and affected persons must be notified

(2) Determine whether there are any—

(a) affected protected customary rights groups; or

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

There are no protected customary rights or customary marine titles which apply to the application site.

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

The criteria for step 2 are as follows:

(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 limited notification:

(b) the application is for a resource consent for either or both of the following, but no other, activities:

(i) a controlled activity that requires consent under a district plan (other than a subdivision of land):

(ii) a prescribed activity (*see* section 360H(1)(a)(ii)).

The application is not precluded from Limited Notification as neither of the exemptions as described above apply to the application.

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

(7) Determine whether, in accordance with section 95E, the following persons are affected persons:
  (a) in the case of a boundary activity, an owner of an allotment with an infringed boundary; and
  (b) in the case of any activity prescribed under section 360H(1)(b), a prescribed person in respect of the proposed activity.

The proposal is not considered to result in adverse effects on the immediate neighbours who are screened from the development or will remain unaffected. The potential development of the site does not impinge on boundary related rules which would likely impact on the neighbours in a minor or more than minor way. The proposal is noted as being not dissimilar to other sites within the area.

With respect to mitigation measures it is contended that additional built form could be built on the site as additional buildings for the existing residence. This would have a similar effect to any additional dwelling on existing residencies which surround the site. Furthermore, the private driveway to the east of the site is also parallel to the location for the public walkway which accesses Riverview Primary School. The effects are concluded as being less than minor.

There are no other persons deemed to be potentially affected by the proposed development.

7.04 Notification Assessment Conclusion

Pursuant to sections 95A to 95G it is recommended that the Council determine that the application can be processed non-notified for the following reasons:

- In accordance with section 95A, public notification is not required, and in particular the adverse effects on the wider environment are considered to be less than minor;
- In accordance with section 95B, written approvals have not been sought as based on the matters of particular concern, the effects are less than minor and therefore no persons are considered t be affected persons; and,
- In accordance with section 95A(9) and 95B(10), there are no special circumstances to require public or limited notification.

8. S104D (GATEWAY TEST) ASSESSMENT

8.01 Section 104D identifies particular restrictions for non-complying activities and also details the circumstances in which Council can approve an application notwithstanding its non-complying status. The provision has the following requirements:

(1) Despite any decision made for the purpose of notification in relation to adverse effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either—

(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii)applies) will be minor; or
(b) the application is for an activity that will not be contrary to the objectives and policies of—
    (i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or
    (ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or
    (iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

8.02 It is considered that the proposed subdivision does not create adverse effects on the environment that are minor or more than minor. In considering effects the potential effects have been addressed and while no specific mitigation measures are offered there are several options available such as landscaping, should Council be minded to include them as part of any approval.

8.03 There are positive effects with an additional property available for an area with known housing shortages. The additional residential unit would not detract from the surrounding environment and is less intensive than some sites within close proximity to the application site.

8.04 It is further considered that the proposed subdivision is not contrary to the Objectives and Policies of the Plan or those relevant higher order documents. Particular attention was made to the subdivision provisions and those related to the Outstanding Landscape notation.

8.05 In reaching this conclusion, it is considered that the proposal meets both limbs of the test and therefore the thresholds of s104D of the Act, and that the Council can therefore grant the consent accordingly.

9 SUMMARY

9.01 The application site is zoned Rural Living and located within the Riverview area which is essentially a residential area within the wider Kerikeri urban area. The proposal is a non-complying subdivision seeking consent to create one additional lot. The relatively restrictive stormwater (impermeable surfaces) and building coverage rules result in landuse consents also being required for any development within the proposed lots. An allowance of 25% for the total impermeable surfaces is sought under this application.

9.02 In considering the character and amenity values of the area is is noted that the proposed lot sizes are around the median size for the area with many lots well below the proposed lot sizes and an equal number above.

9.03 Although the site is reticulated with potable water there is no reticulated wastewater and a stormwater system capable of absorbing low density development. For this reason, the Engineer's report and design to address the additional impermeable surfaces has mitigation measures designed to ensure that stormwater leaving the site is at pre-development levels. A combination of water storage tanks and soakage pits are proposed. Onsite wastewater treatment and disposal can be readily achieved with the

existing system on site required to be moved to accommodate the new proposed lot boundaries.

9.04 Additional landscaping is not proposed for the reasons as detailed previously however if this is considered by Council to be required, then it is recommended that any landscaping be completed after the construction of any dwelling and the establishment of outdoor living spaces. Depending on the eventual design and site layout there may well be landscaping completed as part of the design. This conclusion has been reached based on a relatively inconsistent approach to boundary treatments within the area. In some cases the properties are fully landscaped or screened while other use hard boundary treatments such as solid fencing or masonry walls and other lots have none at all. This mixed approach is reflective of the expectation of built form and the modest densities which the rules apply to every site.

9.04 Access is achieved off Kendall Road with an upgrade of the current entrance required. The scheme plan illustrates a ROW Easement, but this may need to be modified when surveying is completed and may involve reciprocal ROW's easements depending on the formation and eventual boundary location. This only need be conditioned.

9.05 The effects of this subdivision application have been assessed and concluded as being less than minor. No persons are considered to be affected by the proposed subdivision. The effects on the wider environment are considered to be less than minor with appropriate mitigation measures proposed.

9.06 The proposal is not contrary to relevant objectives and policies of the Far North District Plan, Far North Proposed District Plan or the Regional Policy Statement.

9.07 It is considered that the application can be approved under s104B and 104D of the Act as the two limbs of the "gateway tests" have been met.

9.08 With respect to conditions of consent the applicant would appreciate sighting a draft set of conditions for review and comment (if necessary).

Should you have any queries in respect to this application please contact me.

Yours faithfully

Wayne Smith
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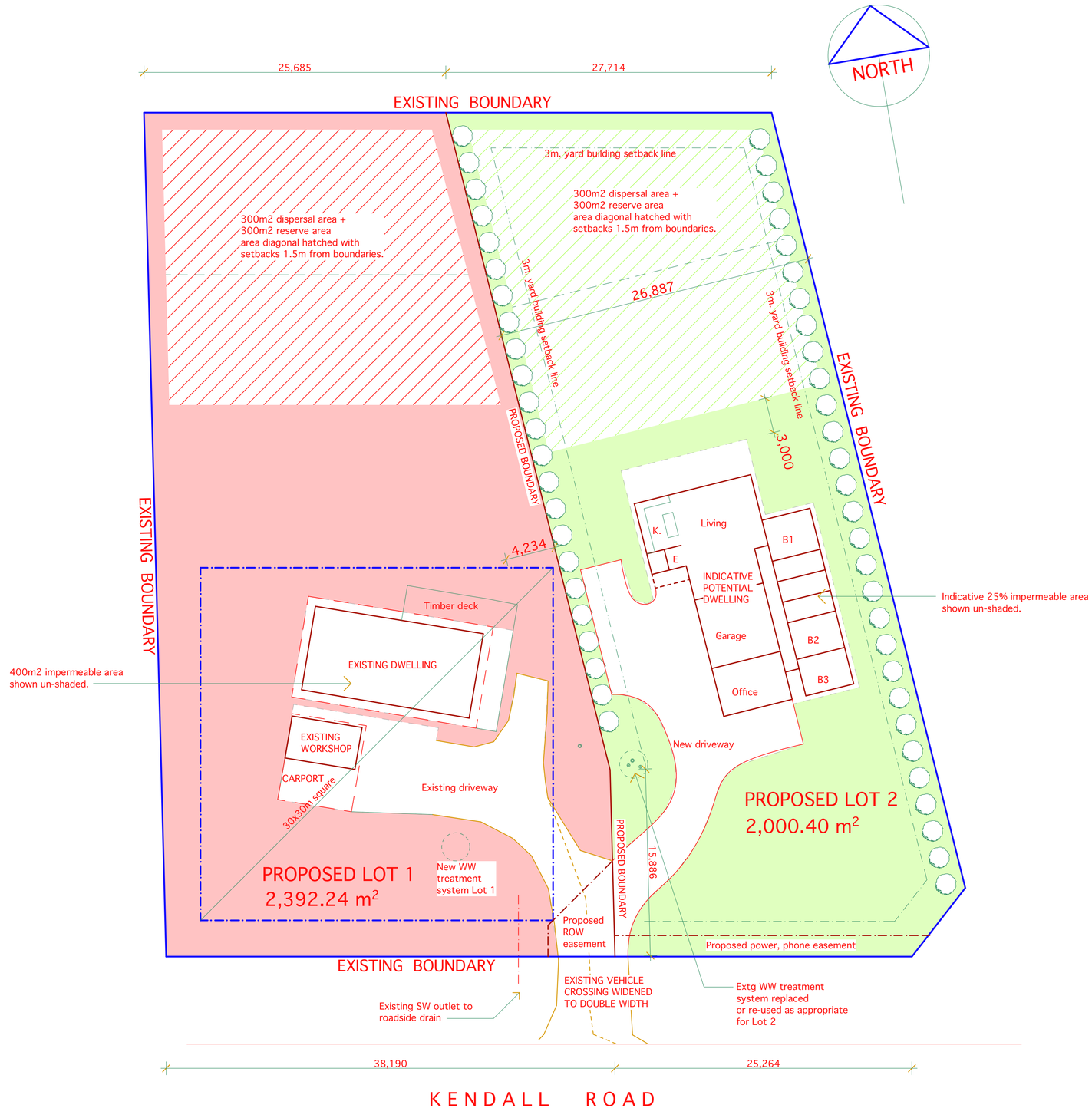

A SCHEME PLAN 22-05-24

REVISIONS

DRAWING

SUBDIVISION
SCHEME PLAN

JOB

PROPOSED SUBDIVISION
OF LOT 1 DP 71920
AT 17 MISSION ROAD
KERIKERI

Spooner
architectural solutions

PO Box 10 KERIKERI 0245

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SCALE 1:200 @ A1

SHEET No. SP01

Engineering Assessment for Proposed Subdivision

32 Kendall Road, Kerikeri

Lot 3 DP 108689

for

NJ and PJ Spooner Trust

Supporting report for RC Applications to Far North District Council

Haigh Workman reference 24 065

14 May 2024

Phone: +64 9 407 8327 • Fax: +64 9 407 8378 • info@haighworkman.co.nz • www.haighworkman.co.nz

PO Box 89 • 6 Fairway Drive • Kerikeri 0245 • New Zealand

Revision History

Revision Nº	Issued By	Description	Date
A	Joshua Cuming	for Resource Consent	17 April 2024

Prepared by

Joshua Cuming

Environmental Geologist
BSc (Geol, Env. Stu.) CEnvP, MEIANZ

Approved by

John Papesch

Senior Civil Engineer
BE (Civil Engineering),
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1 Executive Summary

Haigh Workman Ltd (Haigh Workman) was commissioned by NJ and PJ Spooner Trust (the client) to undertake an Engineering Assessment of land at 32 Kendall Road, Kerikeri (the site) for the purpose of a proposed 2-lot subdivision of Lot 3 DP 108689. It is understood that the client intends to subdivide the property for rural living end-use. The two proposed lots comprise areas of 2,392m2 and 2,000m2. Access to the lots will be via an easement providing a right of way.

This appraisal assesses natural hazards, earthworks, access, stormwater, wastewater, water supply and firefighting, all with specific regard to Council subdivision rules. No geotechnical investigation has been carried out.

A proposed subdivision plan by Spooner Architectural Solutions Limited is included in Appendix A of this report.

The site is zoned 'Rural Living' under the Far North District Council District Plan.

Natural Hazards

The proposed building sites do not contain any natural hazards that would warrant action under Section 71(1) of the Building Act 2004. There is no significant risk from natural hazards that would cause Section 106 of the Resource Management Act to apply.

Vehicle Crossings and Access

The site has an existing crossing off Kendall Road. It is proposed that this crossing will be widened to a double width crossing for the proposed subdivision right of way. A right of way easement is proposed burdening proposed lot 1 and benefiting proposed lot 2 to allow both lots to gain access from the vehicle crossing.

Proposed lot 1 has an existing crossing extending to the road boundary it is proposed that this crossing will be widened to a double crossing. It is considered that the most appropriate detail for this crossing is FNDC/S/6

Earthworks

The volume of earthworks required at subdivision stage will not exceed the District Plan's Rural Living Zone permitted activity threshold of 300 m^3 in any 12-month period per site.

Stormwater

Anticipated impermeable surface coverage is expected to exceed the 20% controlled activity on lot 2 is therefore a discretionary activity. Lot 1 is expected to be 20% and is therefore a controlled activity.

The district plan anticipates 500m^2 of impermeable development in the rural living zone (ie 12.5% of 4000m^2). Consent is sought for this same area requirement (500m^2) which results in higher impermeable coverage due to the smaller lot areas.

Lot 1

The runoff from the roof areas of the proposed development is greater than that of the excess runoff it is possible to attenuate the stormwater via detention model.

Lot 2

Preliminary calculations indicate that the proposed development can be attenuated back to predevelopment levels for the 10% AEP event using a combination of tank attenuation and a soakage pit. It is anticipated that the soakage

pit will be between 10 and 20m^2. There is sufficient area at the front of the lot for a soakage pit in the proposed development.

Water Supply

There is an existing 40mm diameter Council water rider main along the Kendall Road site frontage. Proposed Lot 1 has existing connections to FNDC's potable water network.

Firefighting Supply

New Zealand Standard PAS 4509:2008 is the accepted code of practise regarding firefighting water supply requirements. To comply with the standard there shall be a water supply within 135 m of the site that can provide at least 12.5 L/s. There is a hydrant approximately 42m from Proposed Lot 2 on Kendall Road.

Wastewater Disposal

As an example, development for the proposed lots we have allowed a three-bedroom dwelling having a design occupancy of up to 5 people. The water supply is assumed to be reticulated with water saving fixtures (Type C), to be installed in the new dwelling.

In accordance with TP58 Section 6.2. we have allowed 180 litres/person/day of wastewater generation. For three-bedroom dwelling and a design occupancy of 5 persons the design household wastewater flow is 5 x 180 = 900 litres per day.

The borehole from the site investigation indicated the site to be underlain by silty clay. Our borehole indicates that the soil type in the area of the proposed disposal fields can be described as soil category 5, sandy clay loam, clay loam and silty clay loam – moderate to slow drainage which has moderate to slow drainage in accordance with TP58. This soil type can be expected to sustain an aerial loading rate of 3mm/day for drip irrigation. The topsoil depth was recorded as 200mm. The ground slope was gentle.

On this basis, a wastewater system generating 900 litres/day will require 900/3 = **300m²** of disposal area.

Sufficient area is available on each lot for a disposal area and 100% reserve area.

2 Introduction

2.1 Project Brief and Scope

Haigh Workman Ltd (Haigh Workman) was commissioned by NJ and PJ Spooner Trust (the client) to undertake an Engineering Assessment of land at 32 Kendall Road, Kerikeri (the site) for the purpose of a proposed 2-lot subdivision of Lot 3 DP 108689. It is understood that the client intends to subdivide the property for rural living end-use. The two proposed lots comprise areas of 2,392m^2 and 2,000m^2. Access to the lots will be via an easement providing a right of way.

A proposed subdivision plan by Spooner Architectural Solutions Limited is included in Appendix A of this report.

The scope of this report includes an assessment of:

- Review of pertinent rules and policies
- Natural hazards
- Site access and parking
- Stormwater management
- Earthworks
- Water supply, and
- Wastewater.

Geotechnical assessment of building platforms is outside the scope of this report.

2.2 Limitations

This report has been prepared for our Client, NJ and PJ Spooner Limited with respect to the particular brief outlined to us. This report is to be used by our Client and Consultants and may be relied upon by the Far North District Council (FNDC) when considering the application for the proposed subdivision and development. The information and opinions contained within this report shall not be used in any other context for any other purpose without prior review and agreement by Haigh Workman Ltd.

It has been assumed in the production of this report that the site is to be subdivided and subsequently redeveloped for low-rise rural living end-use. At the time of writing there was no information available for proposed future developments following subdivision. If any of these assumptions are incorrect, then amendments to the recommendations made in this report may be required.

The comments and opinions presented in this report are based on the findings of the desk study and ground conditions encountered during an intrusive site visit performed by Haigh Workman. There may be other conditions prevailing on the site which have not been revealed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of strata or other spatially variable features between or beyond investigation positions is conjectural and given for guidance only.

3 Site Description and Proposed Development

3.1 Site Identification

Site Address: 32 Kendall Road, Kerikeri

Legal Description: Lot 3 DP 108689

Area: 0.4393 ha

Figure 1 below indicates the location of the subdivision site.

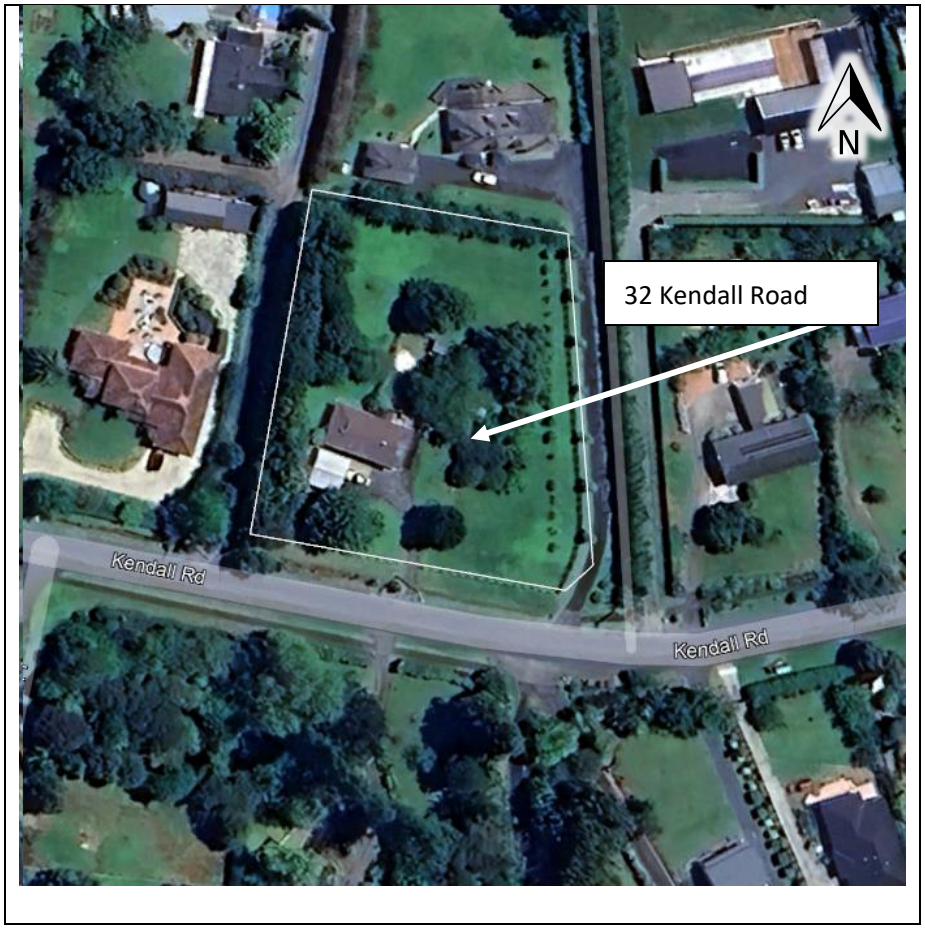


Figure 1 Location Plan (Source: Google Earth)

3.2 Site Description

The site covers 4,392 m^2 and is on Kendall Road, Kerikeri. The site is generally flat. The property is irregular in plan shape elongated north to south, located on the northern side of Kendall Road. The southwest corner of the property has an established dwelling. The remainder of the site comprises a parcel of land that is predominantly grassed with established trees across the site.

3.3 Proposed Subdivision

The proposed subdivision comprises two rural living lots and two easements.

Table 1 Proposed Lots

Proposed Lot	Area (Gross) m^2	End-use
Lot 1	2,392.24	Rural Living
Lot 2	2000.40	Rural Living
Total	**4,392.64**	

3.4 District Plan Zoning

The site is zoned '*Rural Living'* with a permitted impermeable surface coverage of 12.5 %.

It is our understanding that the proposed subdivision is a discretionary activity. We have assessed stormwater activities as Discretionary.

4 Environmental Setting

4.1 Published Geology

Sources of Information:

- Institute of Geological & Nuclear Sciences 1:250,000 Geological Map 2, 2009: "*Geology of the Whangarei area*".
- NZMS 290 Sheet P04/05, 1: 100,000 scale, 1982: *"Rock type map of the Whangaroa - Kaikohe area",*
- NZMS 290 Sheet P04/05, 1: 100,000 scale, 1980: *"Soil map of the Whangaroa - Kaikohe area"*

The site is within the bounds of the GNS Geological Map 2 "Geology of the Whangarei area", 1:250,000 scale*. The published geology shows the site to be underlain by the Kerikeri Volcanic Group. The Kerikeri Volcanic

* Edbrooke, S.W; Brook, F.J. (compilers) 2009. Geology of the Whangarei area.

group is considered to be of Late Miocene to Pliocene age. An exert of the geological map is shown in figure 2 below, with geological units presented in table 2 below.

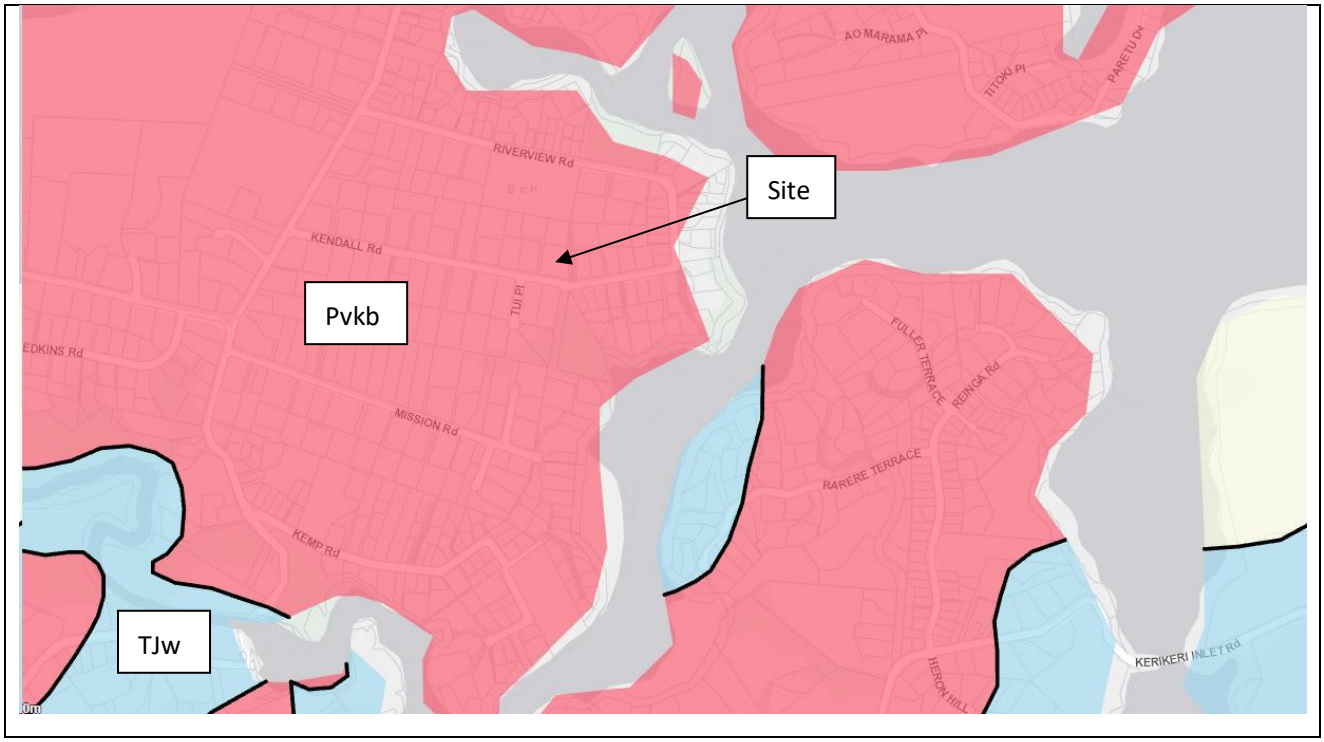


Figure 2 Geological Map (GNS, 1:250,000)

Table 2 Geological Unit Table

Symbol	Unit Name	Description
Pvkb	Kerikeri Volcanic Group	Basalt flows, volcanic plugs and minor tuff. Neogene age.
TJw	Waipapa Group	Massive to thin bedded, lithic volcaniclastic meta sandstone and argillite, with tectonically enclosed basalt, chert and siliceous

Further reference to the published New Zealand land inventory maps (Whangaroa-Kaikohe), indicates the site is underlain by *'soils of the rolling and hill land, well to moderately well drained Kerikeri friable clay (KE).'*

4.2 Surface Water Features and Flooding

Published environmental data relating to the site has been reviewed. An examination of Far North District Council (FNDC) and Northland Regional Council (NRC) online GIS databases is included below.

A summary of available information pertaining to hydrology and hydrogeology is presented in the table below.

Table 3 Surface Water Features & Flooding

	Presence/Location	Comments
Groundwater sources including springs/wells (within 500 m)	The closest well is located 100m southwest of the site.	There are no groundwater bores noted on the site.
Surface Water Features (Ponds, Lakes, etc.)	No	The Kerikeri Inlet is just over 200m to the southeast of site.
Watercourses (within 500 m)	None	The site drains into a overland flow path via a culvert under Kendall Road.
Flood Risk Status	No	The site is outside of mapped flood hazards.
Flood Susceptibility	No	The site is outside of mapped flood hazards.

4.3 Natural Hazards

Under Section 2 of the Resource management Act 1991, **natural hazard** means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.

Natural hazards listed in Section 71(3) of the Building Act 2004 include: erosion, falling debris, subsidence, inundation or slippage. We assess the susceptibility of this site to these potential hazards as;

Table 4 Natural Hazards

Natural Hazard	Risk
Erosion (including coastal erosion, bank erosion, and sheet erosion).	No, provided adequate vegetation cover is maintained.
Falling debris (including soil, rock, snow, and ice).	No.
Subsidence (vertical settlement).	No, subject to geotechnical investigation and appropriate foundation design.
Inundation (including flooding, overland flow, storm surge, tidal effects, and ponding).	No.
Slippage.	No.

The proposed building sites do not contain any natural hazards that would warrant action under Section 71(1) of the Building Act 2004. There is no significant risk from natural hazards that would cause Section 106 of the Resource Management Act to apply.

4.4 Flood Hazard

The site is not at risk of river or coastal flooding. Mapped flood zones are shown in Figure 3.

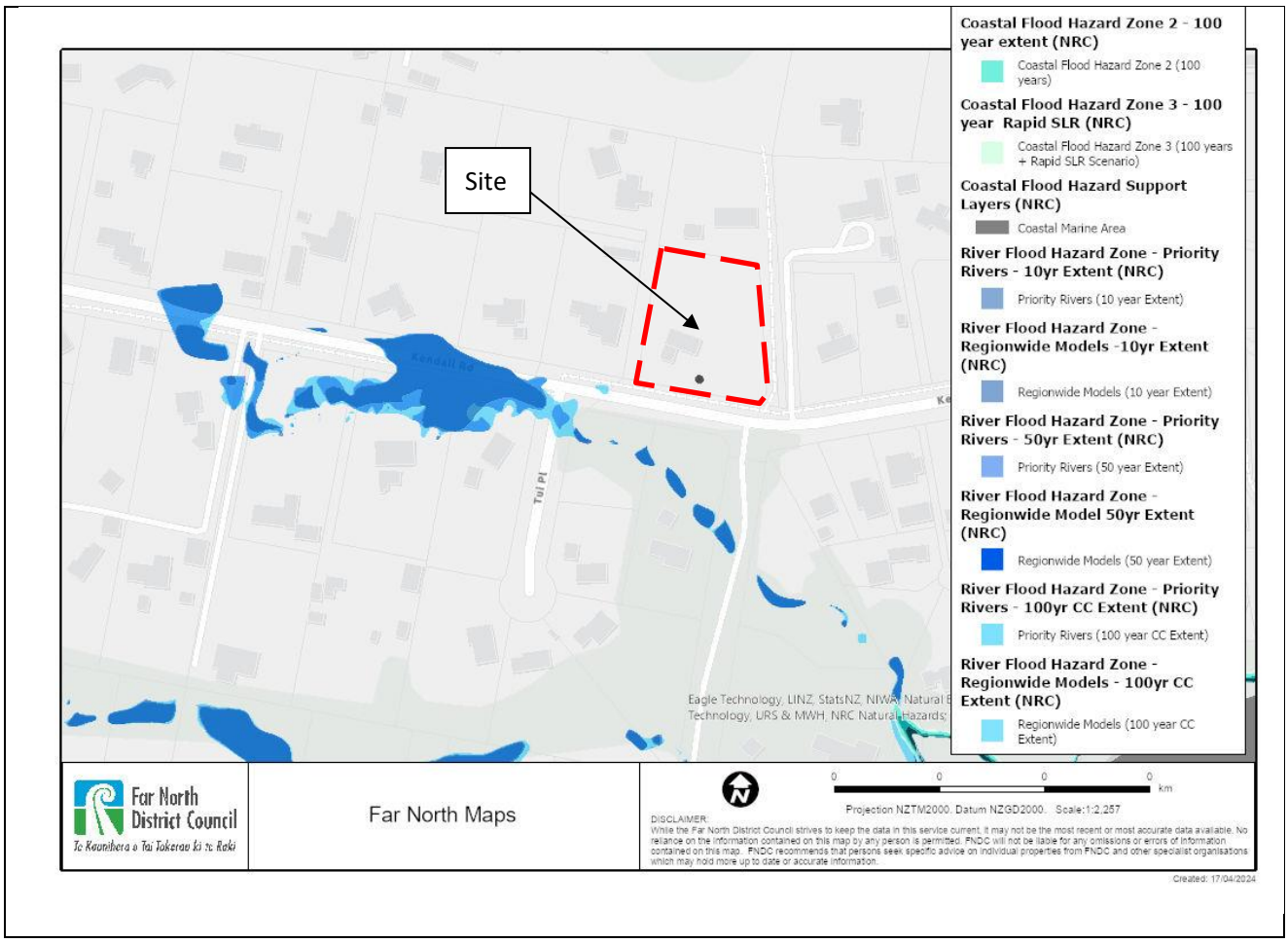


Figure 3 Mapped Flood Zones - NRC

6 Access

6.1 Site Access

The site has an existing crossings off Kendall Road. Proposed lot 1 has an existing concreted crossing extending to the road boundary it is proposed that this crossing will be widened to a double crossing. It is considered that the most appropriate detail for this crossing is FNDC/S/6 and FNDC/S/6B

6.2 Kendall Road, Kerikeri

Kendall Road is classified as an access road according to the One Network Road Classification. Kendall Road is a unkerbed urban cross-section comprising an approximate 7m wide sealed carriageway, water table and culvert drainage and a speed limit of 50 km/hr.

6.3 Proposed ROW

A right of way easement is proposed burdening proposed lot 1 and benefiting proposed lot 2 to allow both lots to gain access from the vehicle crossing.

6.4 Vehicle Crossing

The sight distances were assessed as follows:

Table 5 Lot 7 Vehicle Crossing Sight Distances

Crossing	Approach direction	Posted Speed	FNDC Min Stopping Sight Distance (m)	Visibility Achieved (m)
Lot 1 and 2	East	60	60	94
	West	60	60	150 +

The stopping sight distance (SSD) available comply with those in the FNDC engineering standard.

Figure 4 Existing Crossing

Figure 5 View from vehicle crossing to the west

Figure 6 View from vehicle crossing to the east

6.5 Parking and Manoeuvring

Parking and associated manoeuvring can be accommodated within the proposed lots. Standard Residential Units require 2 car parking spaces per unit, as per the District Plan Appendix 3C.

7 Earthworks

7.1 Proposed Earthworks

The proposed earthworks at the time of subdivision are associated with the formation of the vehicle crossing.

Table 6 Earthworks Areas and Volumes

	Area (m^2)	Cut Vol. (m^3)	Fill Vol. (m^3)
Vehicle Crossing Topsoil Strip (within road reserve)	50	10	0
Vehicle Crossing Basecourse (within road reserve)	50	0	10
Total	100	10	10

7.2 Regulatory Framework

As per District Plan Rule 12.3.6.1.2 excavation and/or filling in the Rural Living Zone is permitted, provided it does not exceed 300 m3 in any 12-month period per site; and does not involve a continuous cut or filled face exceeding an average of 1.5 m in height over the length of the face i.e. the maximum permitted average cut and fill height may be 3m.

Under the District Plan earthworks cut and fill are added together whilst drainage is not included. The proposed earthworks at the time of subdivision are associated with the vehicle crossing in the road reserve.

An estimation of earthworks volumes is shown in Table 9. The calculation demonstrates that the proposed earthworks will not breach permitted levels.

The Operative Regional Water and Soil Plan allows as a permitted activity volume moved or disturbed not exceeding 5,000 m^3 in any 12-month period.

On Lot driveways will be constructed at the building consent stage and do not form part of the subdivision. The earthworks associated with private on-lot driveway formation is not included in the estimated earthworks volume for the subdivision.

The Operative District Plan requires compliance with GD05. Likewise the Operative District Plan requires archaeological Accidental Discovery Protocol during earthworks.

7.2.1 NES-CS

A Preliminary Site Investigation / Detailed Site Investigation was completed by Haigh Workman. It is considered that the proposed subdivision and future development are covered under the NES-CS regulations.

The 'piece of land' for this investigation is the existing lot which is 4,392m2, this allows for 219.6m3 soil disturbance and 44m3 soil removal (per year) as a Permitted Activity under the NES-CS.

The above volumes will be split between the created lots on a proportional basis once subdivision is completed.

8 Stormwater Management

8.1 Regulatory Framework

8.1.1 Far North District Plan Provisions

The Site is zoned as Rural Living. The relevant permitted activity rule for impermeable surfaces is as follows:

> **8.7.5.1.5 STORMWATER MANAGEMENT**
> The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 12.5 % or 3,000 m², whichever is the lesser.
>
> Note: It is recommended that the Low Impact Design principles are used where appropriate to promote the on-site percolation of stormwater to reduce runoff volumes and to protect receiving environments from the adverse effects of stormwater discharges.

The relevant controlled activity rule for impermeable surfaces is as follows:

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

The relevant controlled activity rule for impermeable surfaces is as follows:

It is intended that the proposed stormwater management system comply with the rule for a Controlled Activity subdivision, Rules 13.7.3.4 ***STORMWATER DISPOSAL***. The essential element of Rule 13.7.3.4 is:

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

Regional Soils and Water Plan for Northland Rule 21.1.2

> *(a) For new subdivision and development, the best practicable option for on-site stormwater disposal shall be identified and incorporated into the stormwater management design to avoid or minimise changes to stormwater flows after development for the 1 in 5-year return period storm event.*
> *(d) The stormwater collection system is designed to cater for stormwater flows resulting from not less than a 1 in 5-year return period storm event and a stabilised overland flow path is provided for to allow flows up to and including a 1 in 50-year storm event in excess of the capacity of the primary collection system.*
> *(i) The diversion and/or discharge does not cause flooding of adjacent properties.*

8.1.2 Discussion

Although a Discretionary activity in terms of the District Plan, proposed stormwater management has been designed to comply with the permitted activity rules of the Regional Plan for Northland and in compliance with FNDC Engineering Standards.

It is proposed that stormwater runoff is attenuated back to predevelopment levels for the 10 year event.

Residential development is not generally considered to create a long-term impact on water quality. For this development the nominated building platforms will be surrounded by grass surfaces providing a buffer to runoff, trapping contaminants and sediments. Stormwater runoff from roof tank overflow will be clean rainwater and runoff from driveways will drain via open drains and flow paths.

8.1.3 Regional Plan for Northland

Rule C.6.4.2 provides for the diversion and discharge of stormwater from outside a public stormwater network provided (amongst other conditions); the diversion and discharge does not cause or increase flooding of land on another property in a storm event of up to and including a 10 percent annual exceedance probability, or flooding of buildings on another property in a storm event of up to and including a one percent annual exceedance probability.

Small areas associated with the flow path downstream of site to the Kerikeri Inlet are mapped as being within the 10, 50 and 100-year flood zones. The site is located at the lower part of the catchment.

Rule C.6.4.1 indicates that it is appropriate to ensure flood levels do not increase for rainfall events up to the 10 % Annual Exceedance Probability (AEP).

8.1.4 Existing and Proposed Development

In relation to existing development we interpret the requirements of the District Plan given at the end of Subdivision Rule 13.7.2.1 which states;

'Provided that any existing development on any new lot in the subdivision must comply with all of the relevant zone rules and the rules in Part 3 of the Plan - District Wide Provisions for permitted or controlled activities.'

Accordingly, if existing development within a new lot area breaches any permitted or controlled activity rule, land-use consent will be required for that breach as part of the subdivision consent application.

Similarly, building coverage and driveways/yarding of any existing development on a particular lot for which building consent has been granted may also be considered approved and exempted from the stormwater neutrality calculations.

The existing dwelling and auxiliary buildings on proposed Lot 1 respectively pre-date Google imagery records from May 2003, the impermeable surfaces associated with these structures are therefore assumed to be consented in terms of the stormwater calculation. As they are existing, they have been considered impermeable surfaces for predevelopment stormwater calculations.

8.2 Existing Site Drainage

The site is gently sloping towards the south. The site drains overground to the roadside water table on Kendall Road. The watertable then drains under Kendall Road via a 450mm FNDC owned culvert. Water then drains via a flowpath to the Kerikeri Inlet.

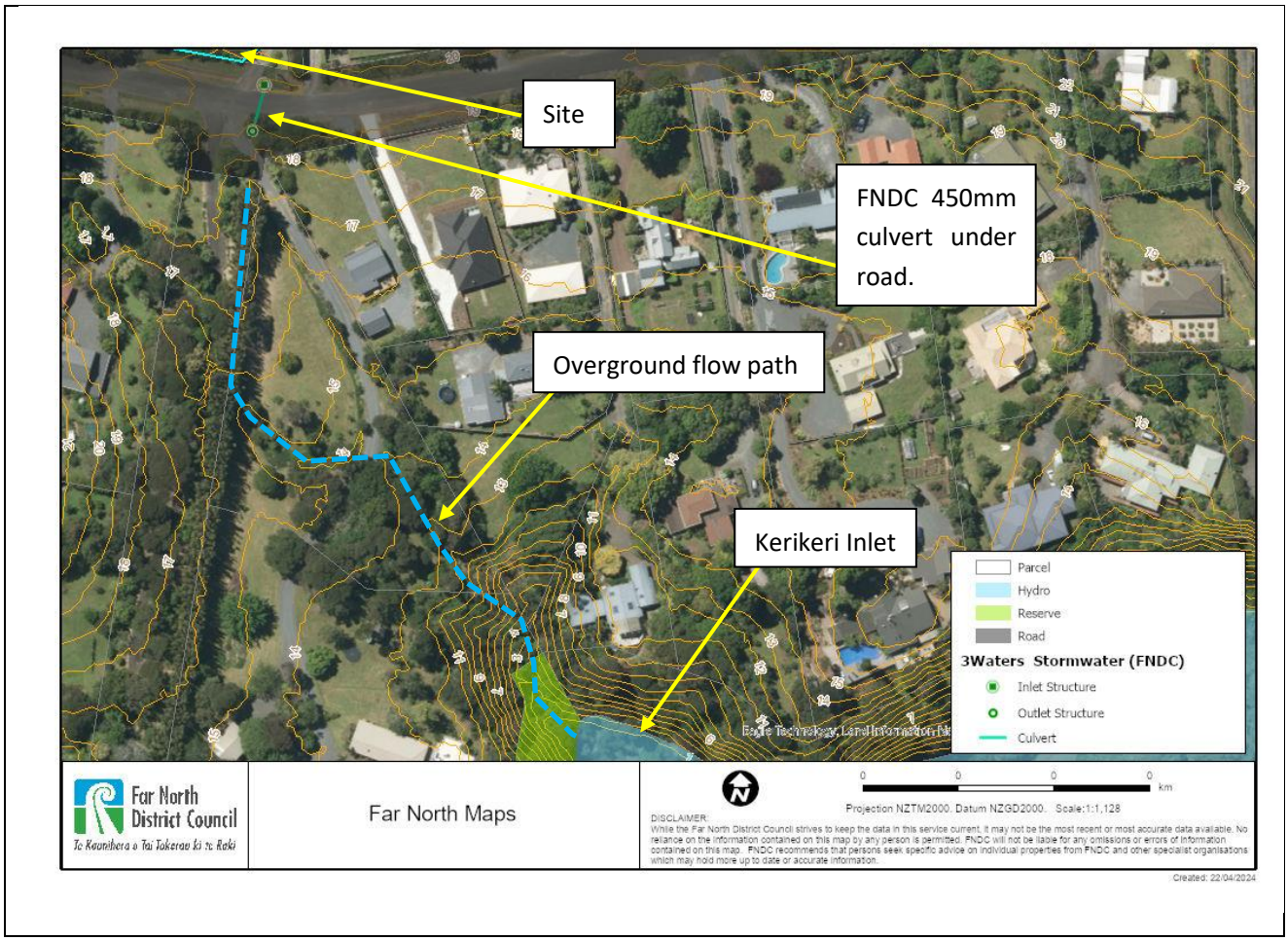


Figure 7 Offsite drainage

8.3 Impermeable Surfaces Coverage

Anticipated impermeable surfaces on the proposed lots once developed are estimated, as follows:

Table 7 Post Development Impermeable Surfaces

Lot	Area (m^2)	Existing Buldings (m^2)	Future Buldings (m^2)	On Lot Driveway and Parking Areas (m^2)	Total Imp (m^2)	Cover (%)	Activity Status
Lot 1	2392	202	78	198	478	20	Controlled
Lot 2	2000	0	285	215	500	25	Discretionary

Anticipated impermeable surface coverage is expected to exceed the 20% controlled activity on lot 2 and is therefore a discretionary activity. Anticipated impermeable surface coverage on lot 1 is expected to be 20% and is therefore a controlled activity.

The district plan anticipates 500m^2 of impermeable development in the rural living zone (ie 12.5% of 4000m^2). Consent is sought for this same area requirement (500m^2) which results in higher impermeable coverage due to the smaller lot areas.

8.4 Stormwater Neutrality

District Plan and Regional Plan policies and rules require the avoidance or mitigation of any adverse effects of stormwater runoff on receiving environments, including downstream properties. Stormwater management proposals for the site are based on Proposed Regional Plan for Northland Rule C.6.4.2;

The diversion and discharge of stormwater does not cause or increase flooding of land on another property for the 10 % AEP, or flooding of buildings up to and including a 1 % AEP.

The site drains overground to the roadside water table on Kendall Road. The watertable then drains under Kendall Road via a 450mm FNDC owned culvert. Water then drains via a flowpath to the Kerikeri Inlet.

NRC mapping indicates small areas associated with the flow path downstream of site to the Kerikeri Inlet are mapped as being within the 10, 50 and 100-year flood zones. However no buildings are present within the mapped areas.

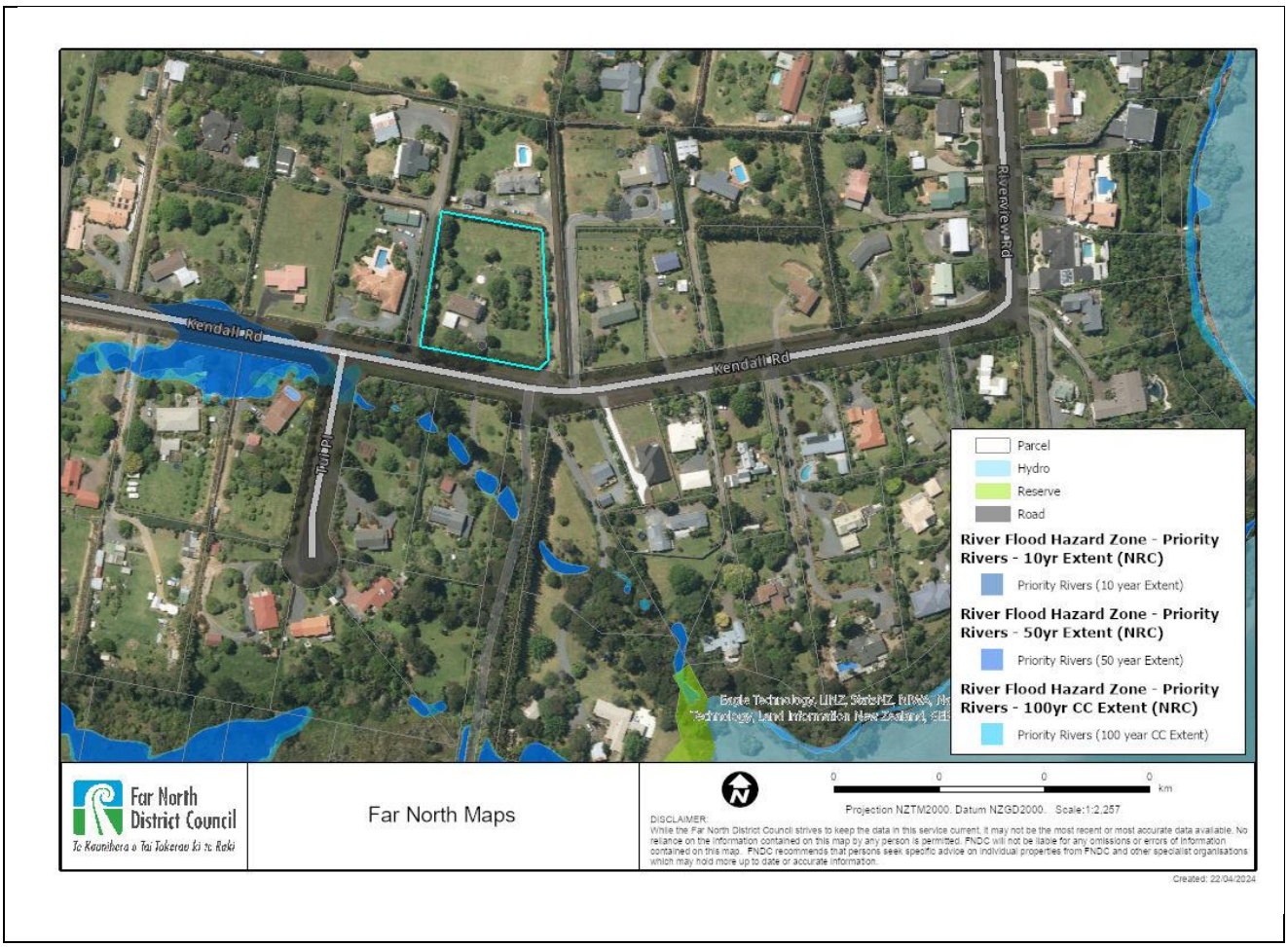


Figure 8 Downstream flood mapping

8.5 Proposed Stormwater Management

While the increase in stormwater runoff from a residential development on an individual lot is minor, the cumulative adverse effect of multiple developments of this nature in this part of the catchment could be significant.

District Plan Rule 13.7.3.4 and the Regional Plan rules require the avoidance or mitigation of any adverse effects of stormwater runoff on receiving environments, including downstream properties. To achieve this objective, it is proposed to attenuate stormwater runoff from the site to pre-development levels. The appropriate design rainfall event is the 10% AEP rainfall event with an allowance for climate change as specified in District Plan Rule 13.7.3.4 and Proposed Regional Plan Rule C.6.4.1.

Residential development is not generally considered to create a long-term impact on water quality. For this development the nominated building platforms will be surrounded by grass surfaces providing a buffer to runoff, trapping contaminants and sediments.

The most appropriate time for designing a stormwater attenuation system for the dwellings is at the time of building consent when impermeable surfaces will be confirmed.

8.6 Site Runoff

The appropriate design period to satisfy both District and Regional plan rules is the 10-year return (10% AEP) storm with an allowance for 2.1˚C climate change (10% AEP + CC).

For design rainfall intensities, including an allowance for climate change, we have adopted HIRDS V4 rainfall estimates adjusted with the RCP 6.0 climate change scenario projected out to the 2081-2100 time period. Design rainfall intensities for 10-minute duration, RCP 6.0 climate change scenario is 122 mm/h for the 10% AEP rainfall event.

8.6.1 Proposed lot 1

Table 8 Lot 1 Post-development runoff

Surface	Area m2	Coefficient	I10 mm/hr	Q L/s
Existing building roof area	202	0.9	122	6.16
Proposed additional building roof area for future extension / development	78	0.9	122	2.40
Paved driveway and turning area	198	0.85	122	5.70
Balance (lawn / garden)	1914	0.25	122	16.22
Total	**2392**			**30.48**

Table 9 Lot 1 pre-development runoff

Surface	Area m^2	Coefficient	I_{10} mm/hr	Q L/s
Existing building roof area	202	0.9	122	6.16
Paved driveway and turning area	198	0.85	122	5.70
Lawn and garden	1992	0.25	122	16.88
Total	**2392**			**28.74**
Excess Runoff				**1.74**

As the runoff from the roof areas of the proposed development is greater than that of the excess runoff it is possible to attenuate the stormwater via detention model.

To outlet from the detention tank will be piped to the roadside water table.

8.6.2 Proposed Lot 2

Table 10 Lot 1 Post-development runoff

Surface	Area m2	Coefficient	I10 mm/hr	Q L/s
Proposed building roof area	285	0.9	122	8.69
Proposed paved driveway and turning area	215	0.85	122	6.19
Balance (lawn / garden)	1500	0.25	122	12.71
Total	**2000**			**27.59**

Table 11 Lot 1 pre-development runoff

Surface	Area m^2	Coefficient	I_{10} mm/hr	Q L/s
Lawn and garden	2000	0.25	122	16.94
Total	**2000**			**16.94**
Excess Runoff				**10.65**

Preliminary calculations indicate that the proposed development can be attenuated back to predevelopment levels for the 10% AEP event using a combination of tank attenuation and a soakage pit. It is anticipated that the soakage pit will be between 10 and 20m^2. There is sufficient area at the front of the lot for a soakage pit in the proposed development.

8.6.3 Assessment Criteria

The proposed stormwater management system has been assessed in accordance with Rule 13.10.4 for discretionary (subdivision) activities as follows:

Table 12 Far North District Plan Section 13.10.4 Assessment Criteria

Stormwater Disposal Assessment Criteria	Comment
(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	The proposed stormwater management complies with both the 'Operative' and 'Proposed (Appeals Version)' of the Regional Water and Soil Plan, permitted activity rules.
(b) Whether the application complies with the provisions of the Council's "Engineering Standards and	The proposed stormwater management complies with Council's *"Engineering Standards and Guidelines"* (2004) - Revised March 2009.

Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	
(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.	The proposed stormwater management complies with Far North District Council Strategic Plan - Drainage rules.
(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Natural watercourses and overland flow paths will be retained.
(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.	On-lot stormwater will be attenuated to pre-development levels at building consent stage.
(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.	Not applicable.
(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.	Natural flow paths will be retained where possible.
(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	The proposed stormwater system is not connected to a Council stormwater system.
(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.	Stormwater runoff will be attenuated to pre-development levels for the 10% AEP storm event. There will be a minor increase in peak flows from the site during a 1% AEP storm event, however the site is in the bottom half of the catchment and will discharge into Kerikeri inlet prior to peak flows.
(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.	A consent notice will ensure attenuation of runoff from future residential development.
(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	No adjoining properties are adversely affected by stormwater discharges from the proposed subdivision.
(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipelines. However, where topography dictates that this is not possible, the adequacy of	No stormwater pumping is proposed.

proposed pumping stations put forward as a satisfactory alternative.	
(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.	Natural overland flow paths will be maintained.
(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.	NA
(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.	NA
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	NA
(q) The need for and extent of any financial contributions to achieve the above matters.	NA
(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.	NA

When considering a discretionary activity application, the Council will have regard to the assessment criteria set out under Chapter 11.

Table 13– FNDC Subdivision Rules 11.3 Assessment Criteria

Criterion	Comment
(a) The extent to which building site coverage and impermeable surfaces result in increased stormwater runoff and contribute to total catchment impermeability and the provisions of any catchment or drainage plan for that catchment.	Additional runoff created through the formation of this subdivision can be fully managed and attenuated back to pre-development levels.
(b) The extent to which Low Impact Design principles have been used to reduce site impermeability.	Stormwater control practices have been designed in accordance with the TP10 publication which include design principles with low impact design such as detention tanks and stormwater basins.

(c) Any cumulative effects on total catchment impermeability.	Run-off will be attenuated back to pre-development levels therefore there will be negligible impact on the total catchment impermeability.
(d) The extent to which building site coverage and impermeable surfaces will alter the natural contour or drainage patterns of the site or disturb the ground and alter its ability to absorb water.	Flow paths will be protected to ensure natural drainage patterns are not altered.
(e) The physical qualities of the soil type.	The soils represent good draining properties. Basalt (Pvkb) is the underlying rock type. with Kerikeri friable clay (KE) overlaying the site, described as well to moderately well drained.
(f) Any adverse effects on the life supporting capacity of soils.	None.
(g) The availability of land for the disposal of effluent and stormwater on the site without adverse effects on the water quantity and water quality of water bodies (including groundwater and aquifers) or on adjacent sites.	There is sufficient space on each lot for on-site wastewater disposal.
(h) The extent to which paved, impermeable surfaces are necessary for the proposed activity.	Proposed impermeable surfaces are in keeping with surrounding land and necessary for the proposed activity.
(i) The extent to which landscaping may reduce adverse effects of run-off.	Lots are likely to be planted up when converted to residential, which will assist with ground soakage.
(j) Any recognised standards promulgated by industry groups.	N/A
(k) The means and effectiveness of mitigating stormwater run-off to that expected by the permitted activity threshold.	Stormwater will be attenuated back to pre-development levels.
(l) The extent to which the proposal has considered and provided for climate change.	Climate change has been factored into the stormwater water management calculations.
(m) The extent to which stormwater detention ponds and other engineering solutions are used to mitigate any adverse effects.	N/A

9 Water Supply

9.1 Potable Water Supply

There is an existing 40mm diameter Council water rider main along the Kendall Road site frontage. Proposed Lot 1 has existing connections to FNDC's potable water network.

9.2 Fire Fighting

New Zealand Standard PAS 4509:2008 is the accepted code of practise regarding firefighting water supply requirements. To comply with the standard there shall be a water supply within 135 m of the site that can provide at least 12.5 L/s. There is a hydrant approximately 42m from Proposed Lot 2 on Kendall Road.

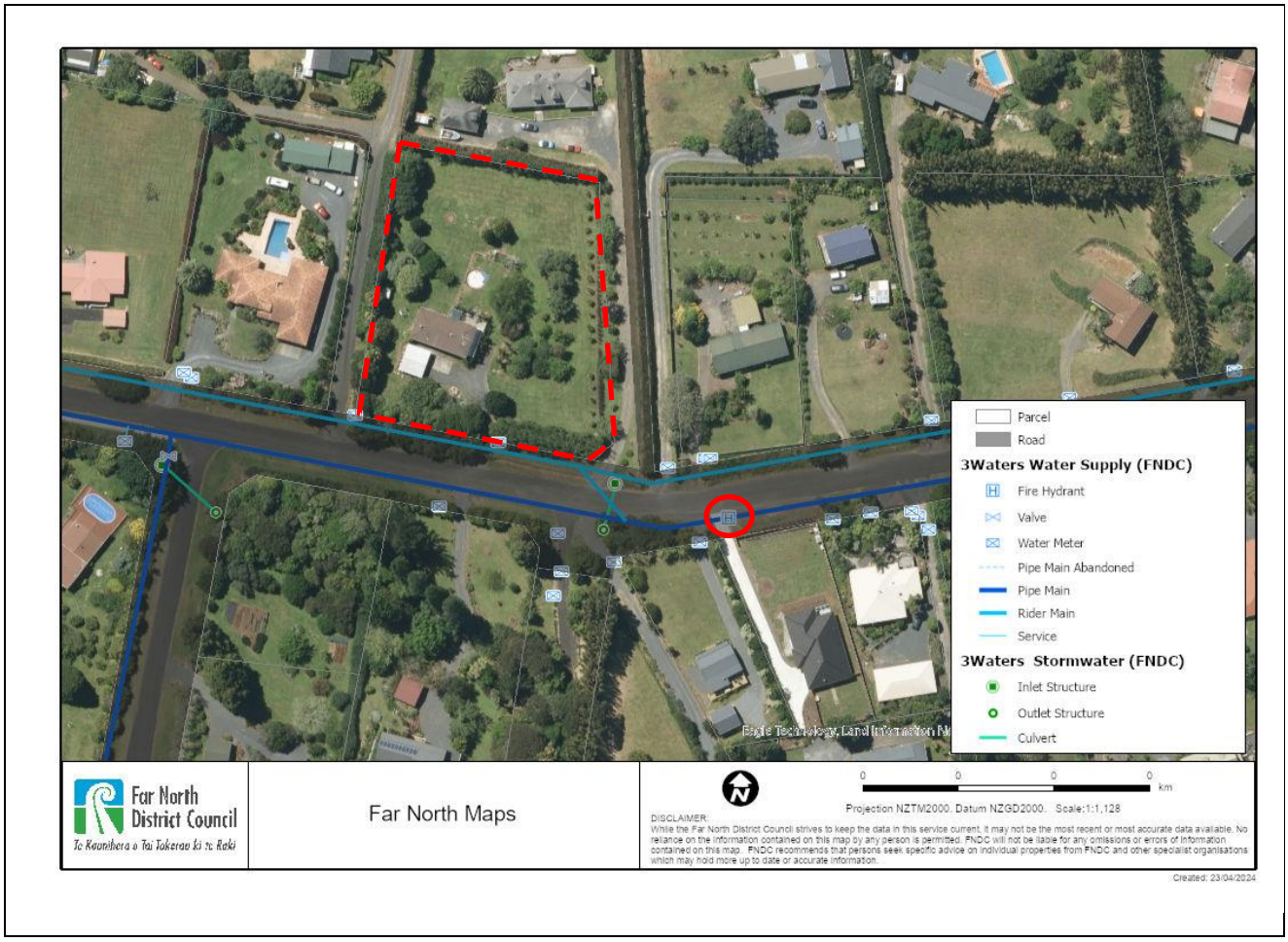


Figure 9 Three Waters Map, FNDC

10 Wastewater

10.1 Summary of Regulatory Framework

10.1.1 District Plan

The Far North District Plan contains an additional rule relating to wastewater discharges to land:

District Plan Rule 12.7.6.1.4 specifies that effluent fields shall be located no closer than 30 m from any river, lake, wetland or the Coastal Marine Area.

10.1.2 Regional Plan

The discharge of sewage effluent on to land is controlled by the permitted activity rules C.6.1.3 of the Regional Plan for Northland. Table 9 of the plan specifies exclusion areas and set-back distances as follows:

Table 9: 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

10.2 Proposed Lots 1 – 2 Wastewater Assessment

It is proposed that the wastewater treatment plant for the existing dwelling (on proposed lot 1) will either be replaced or reused for proposed lot 2. A new wastewater plant is proposed for lot 1.

10.3 Proposed Lots Wastewater Assessment

10.3.1 Design Occupancy Rating

We have allowed for a three-bedroom dwelling having a design occupancy of up to 5 people.

10.3.2 Source of Water Supply

The water supply is reticulated. We have allowed for water saving fixtures (Type C), to be installed.

10.3.3 Design Flows

In accordance with TP58 Section 6.2. we have allowed 180 litres/person/day of wastewater generation for reticulated water supply.

For three-bedroom dwelling and a design occupancy of 5 persons the design household wastewater flow is 5 x 180 = **900 litres per day**.

10.4 Design for Land Application System

10.4.1 Design Loading Rate

The borehole from the site investigation indicated the site to be underlain by clayey silt. Our borehole indicates that the soil type in the area of the proposed disposal fields can be described as soil category 5, sandy clay loam, clay loam and silty clay loam – moderate to slow drainage which has moderate to slow drainage in accordance with TP58.

This soil type can be expected to sustain an aerial loading rate of 3mm/day for drip irrigation. The topsoil depth was recorded as 150 - 200 mm. The ground slope at the effluent field is gentle.

Table 14 Wastewater disposal

Lot number	Un-corrected Loading rate (mm/day)	Wastewater generated (l)	Disposal Area (m^2)
Lot 1	3	900	300
Lot 2	3	900	300

On this basis, a wastewater system generating 900 litres/day will require 900/3 = **300m²** of disposal area.

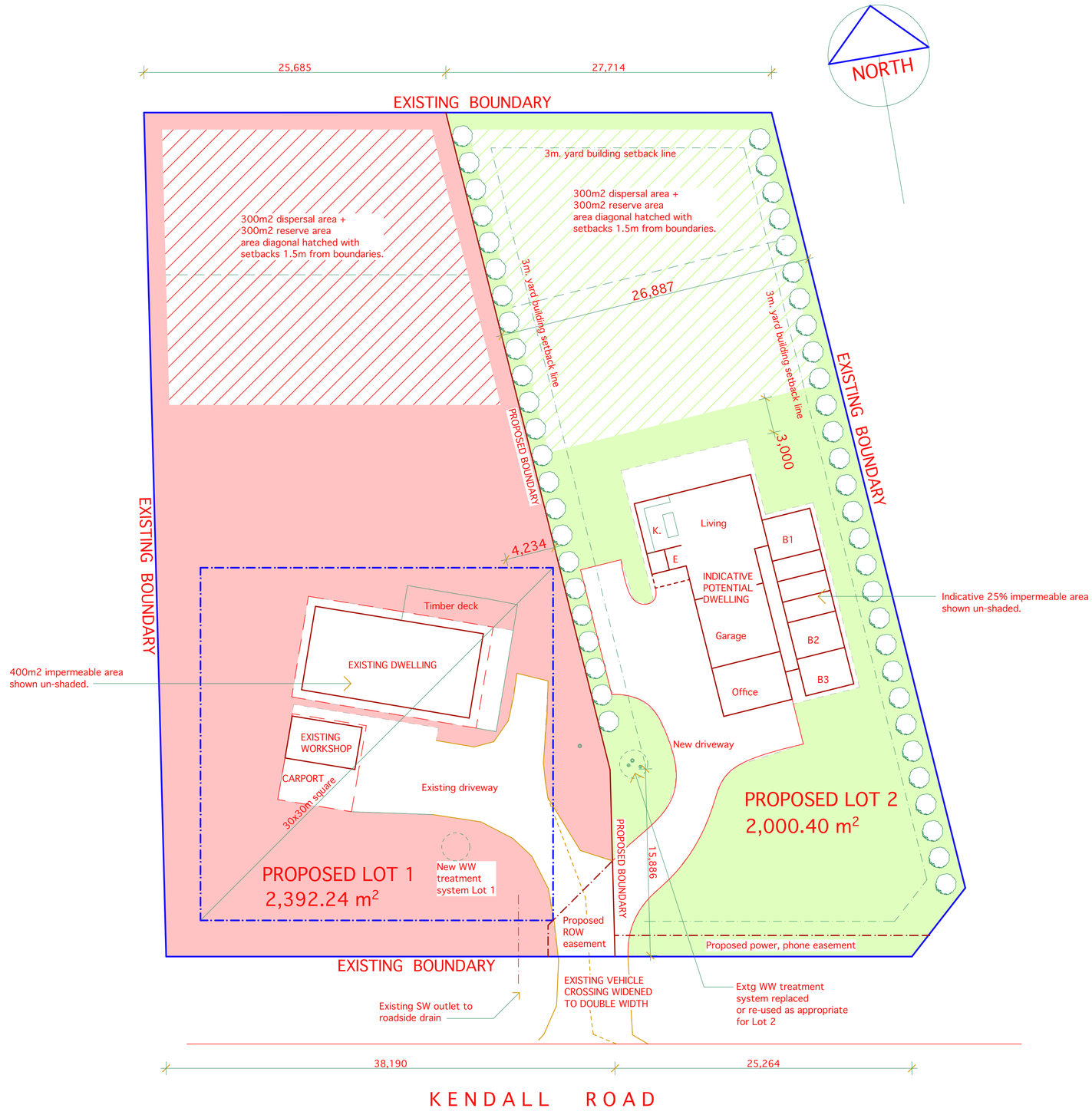
An effluent field and reserve areas can be located on Lots 1 and 2 in compliance with the current rules. Possible effluent disposal field locations are shown on Spooner Architectural Solutions plan SK01 appended. The design of wastewater disposal fields will need to comply with rules for set-back distances and slopes that are operative at the time of building.

10.4.2 **Dripper Irrigation**

The proposed lot is suitable for sub-surface trickle irrigation. We recommend UniBioline or similar tubing with 1.6 l/hr drippers at 0.5 m spacing. Subsurface tubing should be buried 100 mm into the topsoil layer at not greater than 0.5 m centres, in which the length of tubing required will double. District Plan rules require a reserve area of 100 % be identified at time of subdivision.

Appendix A – Drawings

Drawing No.	Title	Scale
SK01	Concept Scheme Plan, Spooner Architectural Solutions Limited.	1:200 @ A1



B	SCHEME PLAN	26-04-24
A	SCHEME PLAN	22-03-24

REVISIONS

DRAWING

CONCEPT SCHEME PLAN

JOB

PROPOSED SUBDIVISION
OF LOT 1 DP 71920
AT 17 MISSION ROAD
KERIKERI

Spooner architectural solutions

PO Box 10 KERIKERI 0245

e: paul@spoonersolutions.co.nz
p: (09) 407 3107 m: 027 289 1221

SCALE	SHEET No.
1:200 @ A1	SK01

Appendix B – Borehole log

PO Box 89, 0245
6 Fairway Drive
Kerikeri, 0230
New Zealand

HAIGH WORKMAN LTD
Civil & Structural Engineers

Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

Borehole Log - BH01

Hole Location: Proposed Lot 2

JOB No. 24 065

CLIENT:	NJ and PJ Spooner Trust	**SITE:**	32 Kendall Road, Kerikeri		
Date Started:	03/04/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	JWC
Date Completed:	03/04/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	JP

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
TOPSOIL; SILT, brown. Moist, trace rootlets.	0.0	T.S.		Groundwater not encountered			0 5 10 15 20
Clayey SILT; brown. Dry, stiff, no plasticity. Moist	0.5	Kerikeri Volcanic Group					
Silty CLAY; reddish brown, moist, stiff, low plasticity.	1.0						
End of hole at 1.2m (Target Depth)	1.5						
	2.0						
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						

LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: 2220
Groundwater measured at 0.4m below ground level on completion of drilling.

Preliminary Site Investigation / Detailed Site Investigation for Proposed Subdivision at

32 Kendall Road, Kerikeri

NJ and PJ Spooner Limited

Haigh Workman reference 24 065

Rev A

14 May 2024

Phone: 0800 HAIGHS (0800 424 447) • info@haighworkman.co.nz • www.haighworkman.co.nz

Unit 3, Marsden Cove Business Centre • 30 Rauiri Drive • Marsden Cove, Whangarei 0118 • New Zealand

Document History and Status

Revision Nº	Date	Description	Issued By
A	14 May 2024	Preliminary and Detailed Site Investigation (PSI / DSI)	Joshua Cuming

Prepared by	Reviewed by	Approved by
Joshua Cuming **Environmental Geologist** BSc (Env. Stu., Geol) MEIANZ, CEnvP	Aaron Thorburn **Senior Environmental Advisor** BAppSc (Env)	John Papesch **Senior Civil Engineer** BE (Civil Engineering), CMEngNZ CPEng

Executive Summary

Haigh Workman Limited completed a desktop assessment and field investigation and prepared a Preliminary Site Investigation / Detailed Site Investigation for the proposed subdivision of 32 Kendall Road.

It is proposed that the site be subdivided into two lots (Lot 1 and Lot 2) for rural residential use.

Historical information available for the site and observations from the 3 April 2024 site walkover indicate that the following Hazardous Activities and Industries List activities have, or potentially have occurred at the site:

- Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glasshouses or spray sheds (Cat. A.10),
    - The site has historically been utilized for horticultural land-use (orchard) (pre. 1968 – post 1983), between 1983 and 2003 a dwelling was constructed onsite,
    - Surrounding historical land-use being horticultural land-use (orchards and market gardens) may possibly apply an additional environmental risk to the proposed site and proposed future development.

Seventeen shallow soil samples were collected and analysed as four composite samples and four samples analysed as individual samples, including two duplicate soil samples for Quality Assurance / Quality Control purposes.

Laboratory analytical results reported:

- All Contaminants of Concern concentrations were below applicable Human Health criteria,
- Metals concentrations were above Background Soil Concentrations in all soil samples, and
- Organochlorine Pesticide concentrations were below laboratory Method Detection Limits in all soil samples.

Based on these findings:

- Soil sampling has confirmed that there are no significant contaminated land related constraint on redevelopment of the land for residential purposes and that it is highly unlikely that there is a risk to human health if the activity is done to the piece of land,
- Soil / fill material with metals concentrations above Background Levels is not considered as ‘Cleanfill’ for disposal purposes:
    - If material exceeding Background Level criteria must be removed from site it is to be disposed of a facility licensed to accept such materials,
    - Material exceeding Background Level criteria could be retained and re-used on-site as a sustainable option and to reduce disposal costs if suitable,
- Any visual / olfactory evidence of contamination discovered during site works must be segregated and analysed by a Suitably Qualified and Experienced Practitioner prior to disposal.

It is considered that the proposed subdivision and future development are covered under the National Environmental Standard for Contaminants in Soils regulations. The National Environmental Standard for

Contaminants in Soils describes a 'piece of land' as the piece of land that has had, or currently has, or most likely has had, activities listed on the Hazardous Activities and Industries List and soil disturbance is proposed.

The proposed subdivision is a Controlled Activity (9) under the National Environmental Standard for Contaminants in Soils as this Preliminary Site Investigation / Detailed Site Investigation states the soil contamination is less than the applicable standard in regulation 7.

The 'piece of land' for this investigation is the existing Lot which is 4,392m2, this allows for 219.6m3 soil disturbance and 44m3 soil removal (per year) as a Permitted Activity under the National Environmental Standard for Contaminants in Soils. The above volumes will be split between the created lots on a proportional basis once subdivision is completed.

Our findings, conclusions and recommendations are detailed in the following report and appendices.

Table of Contents

Appendices

1 Introduction

Haigh Workman Ltd (Haigh Workman) were engaged by NJ and PJ Spooner Limited (the client) to undertake a Preliminary and Detailed Site Investigation (PSI / DSI) in association with the proposed subdivision of 32 Kendall Road, Kerikeri, the 'piece of land' hereafter referred to as the 'site' is determined to be the entire property, is shown in Figure 1 below and provided in Appendix A.

Figure 1- Site Location (Source: Google Earth Pro)

1.1 Legislative Requirements

An assessment has been conducted under the Hazardous Activities and Industries List (HAIL)[1] and the Resource Management (National Environmental Standard for Assessing Contaminants in Soil to Protect Human Health) Regulations (NES-CS)[2].

Assessment of the land-uses and exposure scenarios has been carried out in accordance with Ministry for Environment (MfE) Contaminated Land Management Guidelines[3] (CLMG), *Methodology for Deriving Contaminants for the Protection of Human Health*[4] (*Methodology*) and the NES-CS.

The FNDC Operative District Plan identifies the site as: **Rural Living**.

The proposed development comes under the adopted exposure scenario in the *Methodology* as: **Rural Residential**.

1.2 Purpose and Scope

The purpose of the PSI / DSI investigation, under the NES-CS, is required:

1. To establish whether or not the site is HAIL or has been HAIL (it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it) (Regulation 5(7) or 6(3)), and
2. If the site is HAIL and the activity is a change of use or subdivision, to show the activity is permitted by demonstrating that it is highly unlikely that there will be a risk to human health in the particular circumstances of the site and proposed use or subdivision (Regulation 8(4)).

The investigation comprises a PSI / DSI, which includes the following:

- Site walkover,
- Review of available environmental investigation reports previously prepared for the site (or parts of the site),
- Review of environmental setting including topography, geology and hydrogeology,
- Review of historical aerial photographs, historical titles, Northland Regional Council (NRC) Contamination Enquiry and FNDC Property Files,
- Collection and laboratory analysis of soil samples for identified Contaminants of Concern (CoC),
- Interpretation of laboratory analytical results, and
- PSI / DSI reporting (this report).

This report comprises a PSI / DSI prepared by Haigh Workman in general accordance with MfE guidelines for contaminated site investigations, NES-CS and FNDC requirements. This investigation and reporting have been prepared, reviewed and authorised by Suitably Qualified and Experienced Practitioners (SQEP), in general accordance with MfE CLMG No. 1 Reporting on Contaminated Sites in New Zealand.

[1] Ministry for Environment, *Hazardous Activities and Industries List (HAIL),* March 2023.
[2] Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011
[3] Ministry for Environment, *Contaminated Land Management Guidelines Nos. 1 to 5*, 2011 *(Guidelines Nos. 1 & 5, Revised 2021)*,
[4] Ministry for Environment, *Methodology for Deriving Contaminants for Protection of Human Health,* 2011

1.3 Limitations

This report has been prepared by Haigh Workman for the sole benefit of NJ and PJ Spooner Trust (the client), with respect to the brief outlined to us for the proposed subdivision of 32 Kendall Road. This report is to be used by the client and their consultants and may be relied upon when considering geo-environmental advice. Furthermore, this report may be utilised in the preparation of building and / or resource consent applications with local authorities. The information and opinions contained within this report shall not be used in other context for any other purpose without prior review and agreement by Haigh Workman.

The comments and opinions presented in this report are based on the findings of a desktop study, and subsurface conditions encountered. Responsibility cannot be accepted for any conditions not revealed by this investigation. Should conditions encountered differ to those outlined in this report we should be notified. Allowance for a review of the design should be made should ground conditions vary from these assumed.

2 Site Description

Table 1 - Site identification

Street Address	32 Kendall Road, Kerikeri
Legal Description	Lot 3 DP 108689
Certificate of Title(s)	NA61B/226
FNDC Zoning	Rural Living
Grid Reference NZ Map Reference NZMS 260	P5 9920 6516
Approx. Site Area (m^2)	4,392 m^2
Piece of land under investigation **(m^2)**	4,392 m^2

The site is currently used for rural living and contains one dwelling.

2.1 Proposed Subdivision

It is understood the client intends to subdivide the site into two lots, the proposed subdivision plan is included in Appendix A.

3 Environmental Setting

3.1 Site Layout and Surrounds

A site walkover was undertaken on 3 April 2024. Photographs from the 3 and 5 April 2024 site walkover are provided in Appendix B.

The following was observed on the site:

- The site is located in a rural residential setting within the Kerikeri Township,
- Built development comprises a dwelling with domestic workshop and car port in the southwest corner of the site,

- The existing dwelling, domestic workshop and carport are in good condition, no change to the existing built development configuration is proposed at time of subdivision,
- The site surface is predominantly grass, with a gravel driveway, with mature trees are scattered across the site,
- The ground surface is generally flat with a gentle slope towards the southeast,
- The site was clean and tidy and site conditions were fine during the site walkover, no areas of surface water pooling was observed.

3.2 Geology, Hydrology and Hydrogeology

The site is within the bounds of the GNS Geological Map 2 "Geology of the Whangarei area", 1:250,000 scale. The published geology shows the site to be underlain by the Kerikeri Volcanic Group. The Kerikeri Volcanic Group is considered to be of Late Miocene to Pliocene age. An exert of the geological map is shown in Figure 2 below, with geological units presented in Table 2 below.

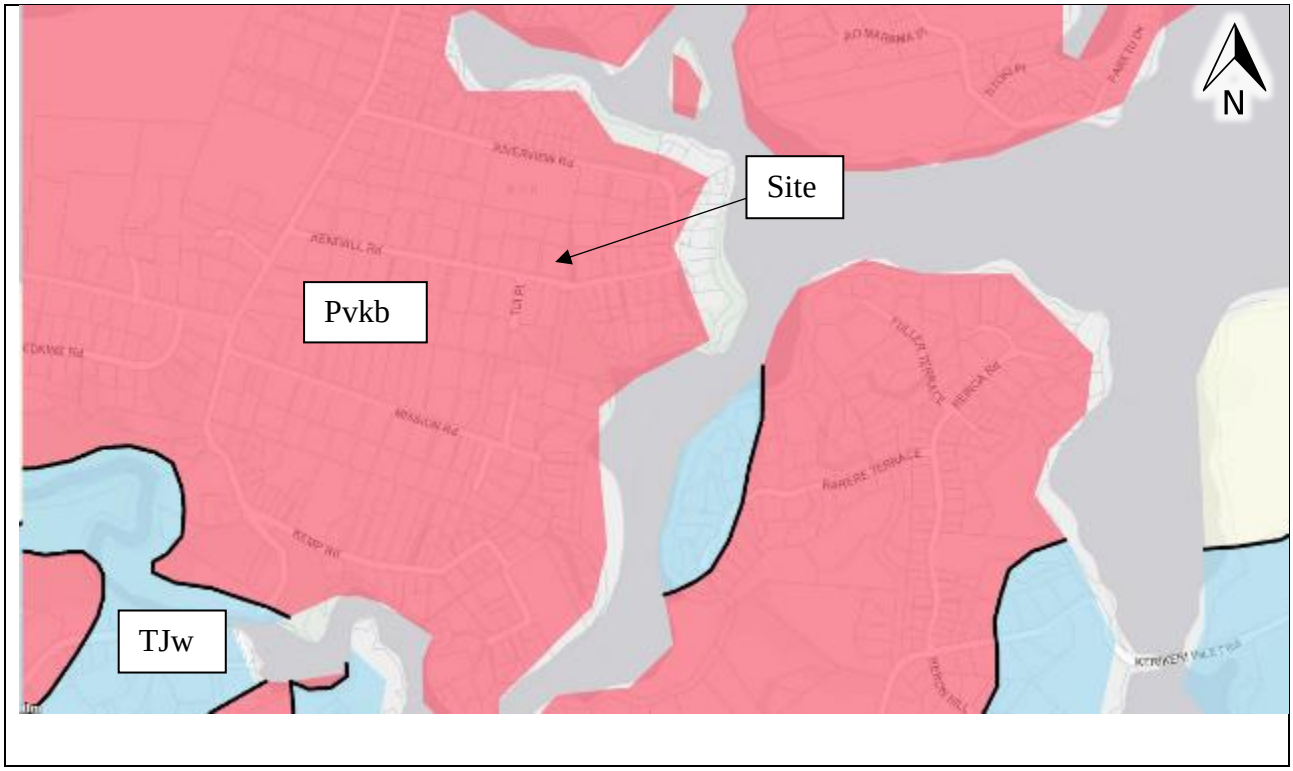


Figure 2 Geological Map (GNS, 1:250,000)

Symbol	Unit Name	Description
Pvkb	Kerikeri Volcanic Group	Basalt flows, volcanic plugs and minor tuff. Neogene age.
TJw	Waipapa Group	Massive to thin bedded, lithic volcaniclastic meta sandstone and argillite, with tectonically enclosed basalt, chert and siliceous

Table 2 - Hydrology and Flooding (Source: Northland Regional Council GIS Website)

	Presence/Location	Comments
Watercourses & Water Features within 500 m (Ponds, lakes etc)	The Kerikeri Inlet is just over 200m to the southeast of site.	Not applicable
Flood Risk	None	The site is outside of mapped flood hazards.
Private Groundwater bores within 200 m	An active groundwater bore is located approximately 170m southwest of site.	Source NRC GIS.
Source Protection Zones within 500 m	The site is recorded as being underlain by the Kerikeri Aquifer.	Source NRC GIS.

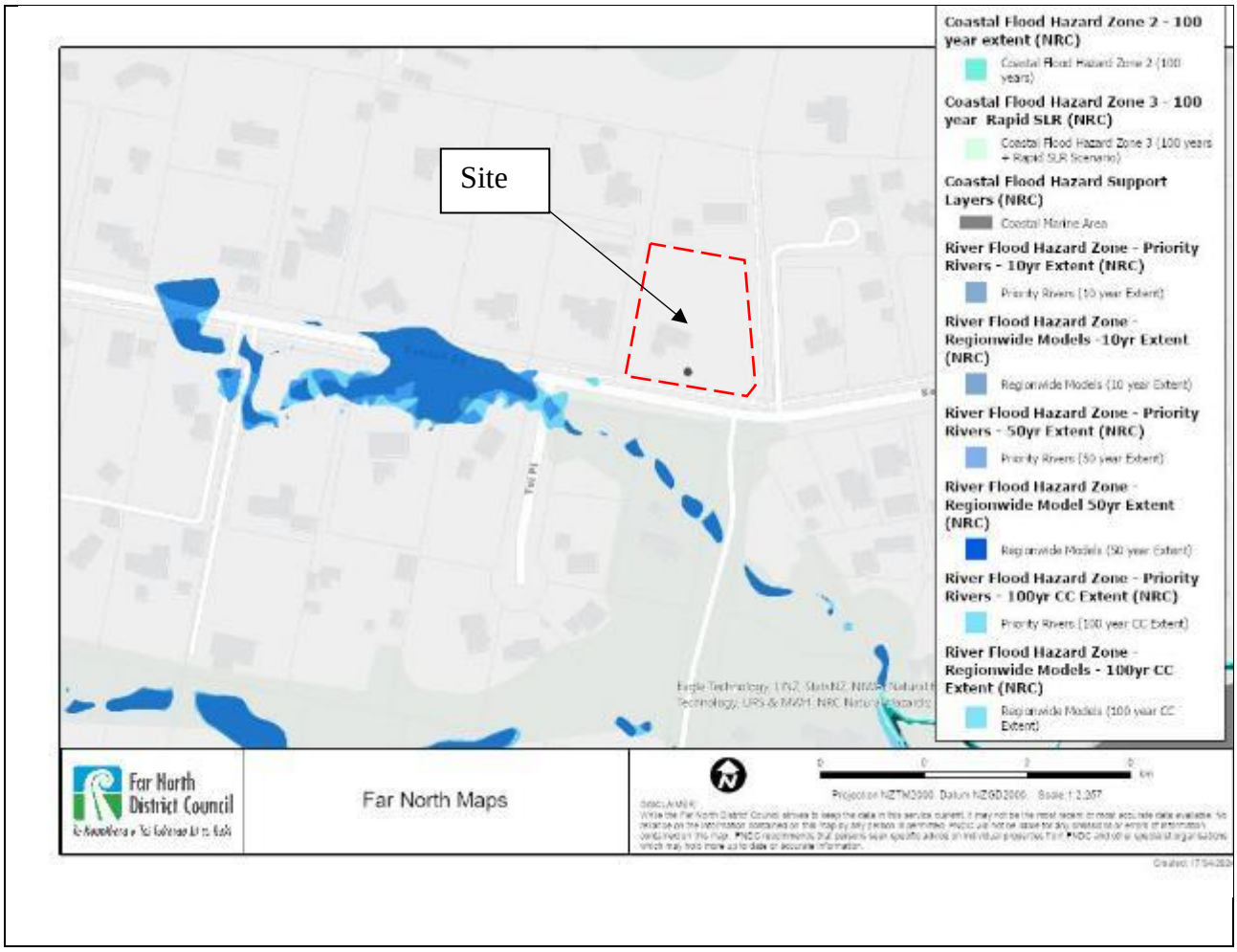


Figure 3: Flood Modelled Areas (Source: Northland Regional Council GIS Website)

4 Historical Information

The history of the site was established through a review of historical aerial photographs, Land Information New Zealand (LINZ) Certificates of Title, NRC Contamination Enquiry and FNDC Property Files.

4.1 Historical Aerial Photography

Historical aerial photographs for the site were obtained from Retrolens (http://retrolens.nz/map/) and Google Earth Pro. Photographs available for the subject area are dated from 1951 to 2023. A review of the historical aerial photography is provided in Table 3 below.

Historical aerial photographs are provided in Appendix C.

Table 3 – Historical Aerial Photography review

Date	Source	Description
1951	Retrolens	• Site appears to be covered in vegetation, • No buildings are present onsite, and • Surrounding land-use is a mixture of horticulture and pastureland.
1953	Retrolens	• Site appears to be in pasture, and • No significant changes visible to the surrounding sites.
1968	Retrolens	• The site is now an orchard, • A dwelling is present to the northwest of the site, and • More surrounding sites are now being used for horticulture.
1972, 1977, 1978, 1979, 1980.	Retrolens	• No significant changes visible onsite or on surrounding sites.
1981	Retrolens	• No significant changes visible onsite, and • A dwelling is now present to the east of site.
1982	Retrolens	• No significant changes visible onsite or on surrounding sites.
2003	Google Earth	• The site now has a dwelling located in the southwest corner, • Dwellings are now located on many of the surrounding properties, and, • Remnant trees from horticulture are present on site and on surrounding sites, however it appears that these no longer form functioning commercial horticulture operations.
2009	Google Earth	• No significant changes visible onsite, and • A new dwelling is now present to the west of the site.
2012, 2013, 2016, 2017, 2018, 2019, 2020, 2022, 2023.	Google Earth	• No significant changes visible onsite or on surrounding sites.

The most recent historical aerial photograph is dated 2023 and is sourced from Google Earth Pro. Site conditions observed in the March 2023 historical aerial photograph are similar to those observed during the 3 April 2024 site walkover.

4.2 Certificates of Title

Copies of the Certificates of Title are provided in Appendix D. The Certificate of Title information does not indicate any further activities listed on the HAIL have occurred on the site.

4.3 Contamination Enquiry

A site contamination enquiry was requested from the NRC Contaminated Land Team.

The Contamination Enquiry did not identify any current of historical HAIL activities for the site. In was noted, however, that historical aerial photography of the site shows the possible presence of horticultural activities and therefore HAIL Category A.10. (Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glasshouses or spray sheds).

The Contamination Enquiry also reports records of pollution incidents, bores, contaminated site and air discharges and industrial trade process consents, closed landfills and air quality permitted activities within approximately 200m of the site.

Based on information in the Contamination Enquiry, no activities considered likely to cause contamination at the site were identified within 200m.

A copy of the Contamination Enquiry is attached in Appendix E.

4.4 Property Files

No relevant information was obtained from FNDC property file.

5 HAIL assessment

Based on previous land-use and development information for the site, Table 4 below summarises the potential for contamination associated with site activities and land uses that may have been undertaken on site classified under the HAIL.

Table 4 – Site Activities / Land Uses and Potential HAIL Categories

Date(s)	HAIL Activity	Primary Source	Potential Contaminants	Investigation Locations
c. 1968 to post 1982	A.10 - Persistent pesticide storage or use including sport turfs, market gardens, orchards, glass houses or spray houses.	Historical Aerial Photography	Metals and OCP	Entire site

6 Soil Contamination Investigation

6.1 Identified Contaminants of Concern

The site was identified for potential soil contamination during the review of historical documents and the 3 April and 5 April 2024 site walkovers. Relevant to the HAIL assessment and site history, the potential CoC for the site investigation area included:

- Metals, and
- Organochlorine Pesticides (OCP).

Contamination from lead-based paints were not considered to be a concern for this site as the dwelling was constructed after 1980.

6.2 Soil Investigation

Soil sampling from the site investigation area was undertaken on 3 April and 5 April 2024 and comprised soil sampling by a SQEP from Haigh Workman. Sampling locations are provided in Appendix A. Photographic documentation from the investigation is provided in Appendix B.

Minor ground disturbance for sampling activities was conducted as a permitted activity under NES-CS regulation 8(2), where soil sampling is defined within regulation 5(3).

Soil sampling consisted of targeted sampling of historical horticultural land-use area across the property with samples collected on a 17m grid (approximately).

Seventeen shallow soil samples were collected and analysed as four composite samples and four samples analysed as individual samples, including two duplicate soil samples for Quality Assurance / Quality Control (QA / QC) purposes.

The exposure scenarios for the priority contaminants listed in Section 6.1 include soil ingestion, dermal exposure, and inhalation, soil samples were retrieved from below the surface between 0 – 0.1m bgl.

- Encountered sub-surface soil comprised natural soils, comprising of silty topsoil material.

Soil sample descriptions are provided in Appendix F.

During the fieldwork access was made available to Haigh Workman across the whole investigation area.

6.3 Soil Sampling Protocol

Soil samples were collected from a spade or hand trowel from pre-determined test pit locations across the site investigation area. Soil sampling equipment was decontaminated between sampling locations and disposable nitrile gloves were used and replaced between sampling locations in order to prevent cross-contamination. All samples were collected in accordance with strict environmental sampling protocols to ensure reliable and representative results.

All sample containers and preservatives, where applicable, were supplied by the subcontract laboratory and were consistent with the specifications provided in Section 6.4 – Sample Handling, of the Contaminated Land Management Guidelines No. 5 – Site Investigation and Analysis of Soils (MfE, Revised 2021). All samples were labelled with unique identifiers indicating the sampling location. Samples were couriered directly to the laboratory (Eurofins) under continuous Chain of Custody (COC) documentation. Each COC form had a unique laboratory number.

6.3.1 **Composite Testing**

Composite sampling involves collecting individual samples from different locations, typically between two and four samples, and mixing an equal mass of each of the samples (subsamples) together to form one composite sample (undertaken at the laboratory). A composite sample can then be analysed and the results will represent the average of the constituent sub-samples.

Composite sampling was appropriate for this investigation because:

- Site history of low-level broad contamination may exist from historical spraying,

- The investigation was focussed on non-volatile contaminants,
- Sub-samples were the same soil type, same exposure to contaminants and similar depth
- The maximum number of sub-samples composited together was three, and
- The composite was assembled in the laboratory and not in the field.

When the average concentration represented by the composite sample exceeds the adopted guideline criteria, analysis of individual samples should be undertaken to clarify the contaminant distribution.

6.3.2 Duplicate samples

A duplicate sample involves collecting two separate samples from a single sample location, storing these in separate containers, and submitting them for analysis to the laboratory as two separate samples. Samples are given separate sample numbers so the laboratory is unaware that the sample is a duplicate.

A duplicate sample measures the contaminant concentration difference between the two samples. The results of duplicate variance analysis are presented in Section 9.1. One duplicate for every 10 results was adopted.

7 Assessment Criteria

7.1 Human Health Assessment

The adopted assessment criteria for this investigation have been selected in accordance with the hierarchy defined by MfE Contaminated Land Management Guidelines No. 2 (MfE, 2011) and are summarized below. Assessment criteria for commercial / industrial land-use have been adopted:

- Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2012: Rural Residential land-use,
- National Environmental Protection (Assessment of Site Contamination) Amendment Measure (NEPM), Guideline on Investigation Levels for Soil and Groundwater, Schedule B1 (NEPM, 2013). Table 1-A Health Investigation Levels for soil contaminants – Residential (A) land-use, and
- Managing Risks Associated with Former Sheep-Dip Sites (MfE, 2006).

7.2 Background Concentrations Assessment

Background levels are particularly relevant when considering whether soils can be considered as ‘Cleanfill’. Results have been assessed against the following criteria:

- Maanaki Whenua Landcare Research, Predicted Background Soil Concentrations.

Guideline assessment criteria is included with the Soil Analytical Results summarized in Table 5 below.

8 Analytical Results

Seventeen shallow soil samples were collected and analysed as four composite samples and four samples analysed as individual samples, including two duplicate soil samples for Quality Assurance / Quality Control (QA / QC) purposes.

Laboratory analytical results reported:

- All CoC concentrations were below applicable MfE NES Human Health Criteria for Rural Residential (25% produce) criteria,
- Metals concentrations were above Background Soil Concentrations in all soil samples analysed, and
- OCP concentrations were below laboratory Method Detection Limits (MDL) in all soil samples analysed.

Laboratory analytical results are summarised in Table 5 below. Soil sampling locations are provided in Haigh Workman Drawing 23 264 / 1 provided in Appendix A. Laboratory analytical results and COC documentation are provided in Appendix G.

Table 5 – Soil Analytical Results

		Test Analysis Levels (mg/kg)									MfE	Background Soil Concentrations [3]
Sample Reference		TP1	TP17 (dup of TP1)	TP15	TP16 (dup of TP15)	Composite # 1 (TP2 & TP3)	Composite # 2 (TP4, TP5 & TP7)	Composite # 3 (TP6 & TP8)	Composite # 4 (TP9, TP10 & T11)	Composite # 5 (TP12, TP13 & T14)	NES [1]	
Sample Date		03/04/2024		05/04/2024		03/04/2024			05/04/2024			
Sample Depth (m)		0-0.1		0-0.1		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1		
Metals	As	3.1	3.6	5.8	6.1	3.8	5.1	4.4	5.2	6.3	17	4.1
	Cd	0.26	0.26	0.20	0.24	0.25	0.26	0.21	0.28	0.40	0.8	0.2
	Cr	200	230	240	260	220	230	160	250	240	290	765
	Cu	73	86	210	230	110	130	98	100	160	10,000	27.9
	Pb	5.9	7.1	12	13	7.3	11	7.2	7.2	11	160	11.4
	Ni	39	45	51	49	41	43	27	43	58	400 [4]	590
	Zn	29	33	47	48	38	41	33	37	57	7,400 [4]	47.5
OCP	∑DDT	< MDL	< MDL	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	< MDL	45	12 [6]
	Aldrin	< MDL	< MDL	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	< MDL	1.1	-
	Dieldrin	< MDL	< MDL	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	< MDL	1.1	-
	Lindane	< MDL	< MDL	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	Not analysed	< MDL	33 [7]	-

Notes: Concentration: Values below accepted Background Levels (Metals) and / or laboratory MDL (OCP)
Concentration: Values above accepted Background Levels and / or laboratory MDL but in compliance with relevant criteria
Concentration: Values above relevant acceptance criteria
dup: duplicate sample

[1] NES – MfE NES Human Health Criteria for Rural Residential (25% produce) Use (MfE, 2012).
[3] Manaaki Whenua Landcare Research – Trace element background concentration explorer (Landcare Research, 2023) (https://experience.arcgis.com/experience/4e6e25842cc6427ca850bdf644010922/page/Explorer/).
[4] NEPM – Guideline on Investigation Levels for Soil and Groundwater (Schedule B1) for Residential (A) sites (NEPM, revised 2013).
[5] NEPM – Guideline on Ecological Risk Assessment (Schedule B5a) for Urban Residential aged soil source sites (NEPM, revised 2013).
[6] In the absence of Environmental criteria for Total DDT, the Auckland Unitary Plan (AUP) Permitted Activity Soil Acceptance Criteria for Environmental Discharge: AUP Operative in part (AUP, 2024) has been applied.
7 MfE Soil Guidelines for Former Sheep-Dip Sites for Commercial / Industrial sites (MfE, 2006).

9 Quality Assurance / Quality Control

Quality assurance (QA) and quality control (QC) are essential elements for site investigation. QA relates to the planned activities implemented so that quality requirements will be met, and QC relates to the observation techniques and activities used to demonstrate the quality requirements have been met.
Soils were inspected for visual and olfactory indicators of contamination and logged and are attached in Appendix F.

Between samples equipment was decontaminated by brushing, spraying with clean potable water and rinsing with high purity de-ionised water. To reduce the potential for cross-contamination, each sample was taken using disposable nitrile gloves that were discarded following the collection of each sample.

Appropriate Personal Protective Equipment (PPE) was used by Haigh Workman staff including disposable nitrile gloves, highly visible vest and steel toe capped boots. All disposable PPE was treated as contaminated and disposed of appropriately.

Soil samples were placed in sample containers supplied by Eurofins Laboratories, which were then capped, labelled with a unique identifier and placed in a chilly bin prior to transport by Courier. Standard chain of custody documentation is enclosed in Appendix G.

Any laboratory analysing samples of contaminated media must be able to show it has in-house quality assurance procedures and quality control checks (QA / QC) to ensure accurate testing and reporting of analyses. IANZ, or equivalent overseas accreditation, provides confidence that the receiving laboratory has appropriate QA / QC procedures in place. Eurofins Environmental Testing NZ Limited[5] is IANZ and NZS/ISO/IEC 17025:2018 accredited, and was the laboratory elected for testing.

Following receipt of the samples by Eurofins Laboratories, the samples were scheduled for analysis of the identified contaminants of concern. Records of laboratory QA / QC and the results of chemical testing including methodologies as received from the laboratory and Chain of Custody documentation, are presented in Appendix G.

9.1 QA / QC Relative Percentage Difference

Two duplicate soil sample sets (TP17, duplicate of TP01 and TP16, duplicate of TP15) were collected for QA / QC purposes. The duplicate soil samples were collected using the same soil sampling procedures and analysed at the laboratory (Eurofins) using the same sample preparation and analysis procedures as the original soil samples. One QA / QC sample was collected for every 10 soil samples collected.

[5] Eurofins Environmental Testing NZ Limited, an IANZ[5] and NZS/ISO/IEC 17025:2018[5] accredited laboratory incorporating the aspects of ISO 9000:2015[5] relevant to testing laboratories. International Accreditation New Zealand which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). New Zealand Standard, General Requirements for the Competence of Testing and Calibration Laboratories, 2018. ISO9000: Quality Management Systems.

Relative Percentage Difference (RPD) calculations for analytes reported above the laboratory MDL ranged from 0.0 to 40%. RPD values for the duplicate pairs met Haigh Workman QA / QC acceptance criteria of less than 50%.

QA / QC results are presented in Table 6 below. Laboratory analytical results are provided in **Appendix G**.

Table 6 – Quality Assurance / Quality Control Results

Contaminants of Concern		Results (mg/kg)		RPD (%)	Results (mg/kg)		RPD (%)
		TP01_0.1m	TP17_0.1m		TP15_0.1m	TP16_0.1m	
Heavy Metals	As	3.1	3.6	15	5.8	6.1	5
	Cd	0.26	0.26	0	0.20	0.24	18
	Cr	200	230	14	240	260	8
	Cu	73	86	16	210	230	9
	Pb	5.9	7.1	18	12	13	8
	Hg	0.10	0.15	40	0.44	0.52	17
	Ni	39	45	14	51	49	4
	Zn	29	33	13	47	48	2
OCP	ΣDDT	< MDL	< MDL	-	Not analysed	Not analysed	-
	Aldrin	< MDL	< MDL	-	Not analysed	Not analysed	-
	Dieldrin	< MDL	< MDL	-	Not analysed	Not analysed	-
	Lindane	< MDL	< MDL	-	Not analysed	Not analysed	-

MDL – Method Detection Limit RPD – Relative Percentage Difference

10 Discussion

10.1 Conceptual Site Model

The assessment provided in Table 7 below expands on the potential sources of contamination identified within the area of the proposed residential development and exposure pathways. It is based on the potential effects of the proposed land-use and soil disturbance activities on human health and the environment associated with the rural residential land-use.

Table 7 - Conceptual Site Model

Potential Source	Potential Receptors	Potential Pathways	Assessment
CoC across the site (below Applicable Criteria and / or laboratory MDL)	Construction, maintenance / excavation workers	Inhalation of dust / ingestion / dermal contact with exposed soils.	Incomplete Pathway: Contaminant concentrations are below applicable Human Health criteria.
	Future site users	Inhalation of dust / ingestion / dermal contact with exposed soils.	Incomplete Pathway: Contaminant concentrations are below applicable Human Health criteria.

11 Regulatory Requirements

11.1 NES-CS

It is considered that the proposed subdivision and future development are covered under the NES-CS regulations.

The NES-CS describes a 'piece of land' as the piece of land that has had, or currently has, or most likely has had, activities listed on the HAIL and soil disturbance is proposed.

11.1.1 Subdividing or changing use

This proposal is a Controlled Activity (9) under the NES-CS as this DSI states the soil contamination exceeds the applicable standard in regulation 7.

Table 8 –Potential Resource Consent Requirements

Potential Source	Potential Applicable Planning Rules
National Environmental Standards (NES)	CONTROLLED ACTIVITY (subject to requirements under Rule 9) • A DSI (this investigation) has been prepared, • Contamination concentrations comply with NES Human Health criteria, • The consent authority must have this report, Conditions of Rule 9 must be complied with.

11.1.2 Disturbing Soil

The NES-CS describes a *'piece of land'* as the area that has had, currently has, or has most likely has had activities listed on the HAIL:

8(3) Disturbing Soil

- *8(3)(c) The volume of the disturbance of soil of the piece of land must be no more than 25m3 per 500m2.*
- *8(3)(d)(ii) Soil must not be taken away in the course of the activity, except that for all other purposes combined, a maximum of 5m3 per 500m2 of soil may be taken away per year.*

The *'piece of land'* for this investigation is the existing Lot which is 4,392m2, this allows for 219.6m3 soil disturbance and 44m3 soil removal (per year) as a Permitted Activity under the NES-CS.

The above volumes will be split between the created lots on a proportional basis once subdivision is completed.

11.2 Northland Regional Council

As per Rule C.6.8.1 of the Proposed Regional Plan for Northland, copies of site investigation reports must be provided to the regional council within three months of completion of the investigation (reports can be sent to: contamination@nrc.govt.nz).

12 Conclusion & Recommendations

This PSI / DSI was carried out for the investigation site in accordance with the scope of work and current applicable regulations. This report has been prepared in accordance with MfE Guidelines for Contaminated Site Investigations and FNDC requirements. This investigation and reporting have been prepared, reviewed and authorised by a SQEP, as required under the NES-CS.

It is proposed that the site be subdivided into two lots (Lot 1 and Lot 2) for rural residential use.

Historical information available for the site and observations from the 3 April and 5 April 2024 site walkover indicate that the following HAIL activities have, or potentially have occurred at the site:

- HAIL Cat. A.10 – Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glasshouses or spray sheds,
    - The site has historically been utilized as historically as an orchard (pre. 1968 – post 1983), since c. 2003 the site has been rural residential covered in grass and a few remaining orchard trees,
    - Surrounding historical land-use being horticultural land-use (orchards and market gardens) may possibly apply an additional environmental risk to the proposed site and proposed future development.

Seventeen shallow soil samples were collected and analysed as four composite samples and four samples analysed as individual samples, including two duplicate soil samples for QA / QC purposes.

Laboratory analytical results reported:

- All CoC concentrations were below applicable MfE NES Human Health Criteria for Rural Residential (25% produce) criteria,
- All CoC concentrations were below applicable Environmental (Eco-SGV) criteria,
- Metals concentrations were above Background Soil Concentrations in all soil samples analysed, and
- OCP concentrations were below laboratory Method Detection Limits (MDL) in all soil samples analysed.

Based on these findings:

- Soil sampling has confirmed that there are no significant contaminated land related constraint on redevelopment of the land for residential purposes and that it is highly unlikely that there is a risk to human health if the activity is done to the piece of land,

- Soil / fill material with Metals concentrations above Background Levels is not considered as 'Cleanfill' for disposal purposes:
    - If material exceeding Background Level criteria must be removed from site it is to be disposed of a facility licensed to accept such materials,
    - Material exceeding Background Level criteria could be retained and re-used on-site as a sustainable option and to reduce disposal costs if suitable,
- Any visual / olfactory evidence of contamination discovered during site works must be segregated and analysed by a SQEP prior to disposal.

13 Unverified Material Discovery

Should visual and / or olfactory evidence of gross contamination be identified during excavation works. It is recommended that works cease in that area and a SQEP familiar with the site attends to inspect the impacted soils. If required, the SQEP will undertake sampling to confirm the level and scope of contamination. The area should also be physically isolated using a high visibility fence if practicable.

Indications that uncontrolled filling with waste and / or unverified material may have occurred on site include:

- Buried Rubbish,
- Buried construction or demolition waste,
- Un-anticipated soil colours or odours,
- Buried tanks or drums, and
- Encountering materials that may contain Asbestos, including fibrous building materials and fibre cement construction products.

Site management should brief operatives onsite of the above signs during site inductions.

End of Report – Appendices to follow.

Appendix A – Site Plans

Drawing No.	Title
Drawing 1	Site Location Plan – Haigh Workman
Drawing 2	Site Investigation Plan – Haigh Workman
SK01	Concept Scheme Plan – Spooner Architectural Solutions

Legend

Site Boundary

0 50 m 100 m

HAIGH WORKMAN Ltd
Civil & Structural Engineers

Produced by **Datanest.earth**

Title: Site Location Plan		
Client: NJ & PJ Spooner Trust		Size: A3
Project: 32 Kendall Road	Drawn: JCum	Drawing No.: 1
Date: 14-05-2024	Checked: AT	
Proj No: 24 065	Scale: 1:5000	Version: REV1

Legend

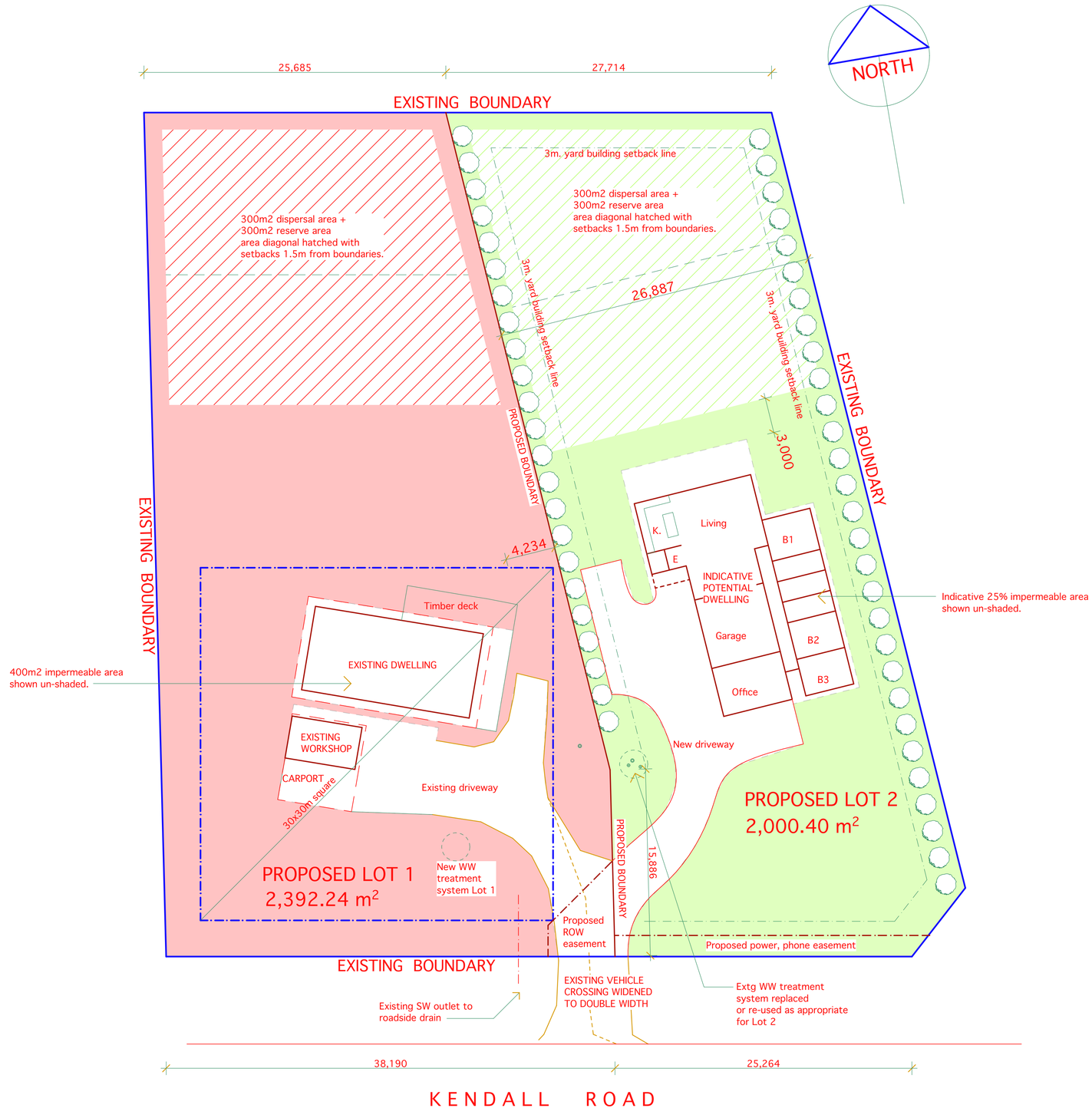
- Site Boundary
- Sample locations

0 5 m 10 m

HAIGH WORKMAN LTD Civil & Structural Engineers

Produced by **Datanest.earth**

Title: Site Investigation Plan		
Client: NJ & PJ Spooner Trust		Size: A3
Project: 32 Kendall Road	Drawn: JCum	Drawing No.: 2
Date: 09-05-2024	Checked: AT	
Proj No: 24 065	Scale: 1:500	Version: REV1



B	SCHEME PLAN	26-04-24
A	SCHEME PLAN	22-03-24

REVISIONS

DRAWING

CONCEPT SCHEME PLAN

JOB

PROPOSED SUBDIVISION
OF LOT 1 DP 71920
AT 17 MISSION ROAD
KERIKERI

Spooner architectural solutions

PO Box 10 KERIKERI 0245

e: paul@spoonersolutions.co.nz
p: (09) 407 3107 m: 027 289 1221

SCALE	SHEET No.
1:200 @ A1	SK01

Appendix B – Photographic Documentation

1. Front of property.

2. Existing Dwelling.

3. South of Property.

4. East of Property

5. North of property..

6. West of property.

Appendix C – Historical Aerial Photography

Site outlines are approximate.

1951, Retrolens.

1953, Retrolens

1968, Retrolens

1972, Retrolens

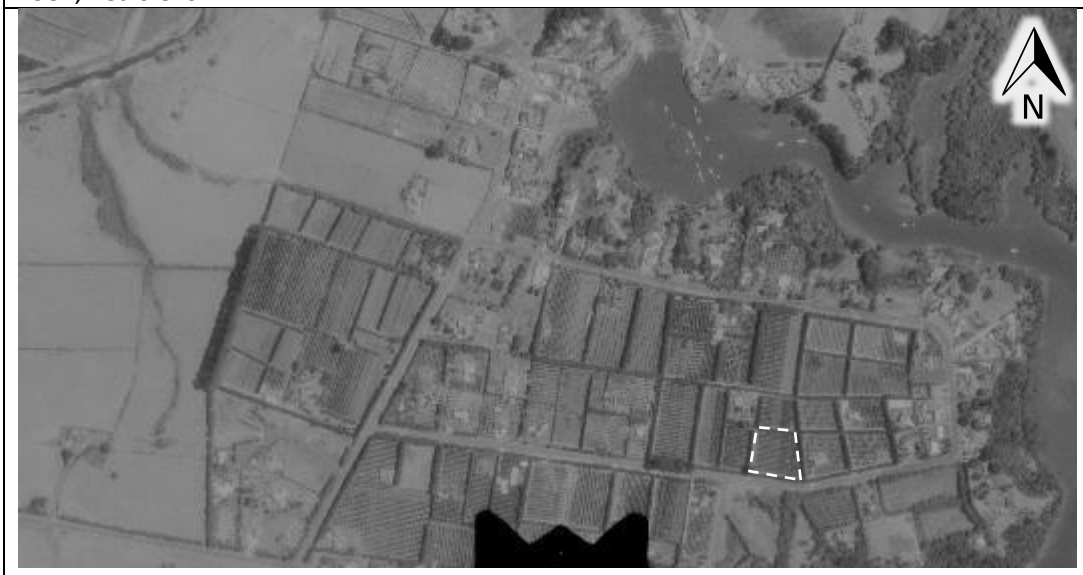
1977, Retrolens

1978, Retrolens

1979, Retrolens

1980, Retrolens

1981, Retrolens



1982, Retrolens

2003, Google Earth

2009, Google Earth

2012, Google Earth

2013, Google Earth

2016, Google Earth

2017, Google Earth

2018, Google Earth

2019, Google Earth

2020, Google Earth

2022, Google Earth

2023, Google Earth

Appendix D – Certificates of Title

References
Prior C/T 680/263 (Bal)

Transfer No.
N/C. Order No. B.242831.3

Land and Deeds 69

REGISTER

No. 55A/516

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 2nd day of December one thousand nine hundred and eighty-three under the seal of the District Land Registrar of the Land Registration District of NORTH AUCKLAND

WITNESSETH that TAYLER CITRUS ORCHARD LIMITED at Kerikeri

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 2.0508 hectares more or less being part Lot 17 Deposited Plan 26590 situated in Block XI Kerikeri Survey District and being part Old Land Claim No. 60.

Plan 108689 100909 3.9.85.

Assistant Land Registrar

DISTRICT LAND REGISTRAR NORTH AUCKLAND

Interests at-date of issue:-

Subject to a water supply easement in gross over part herein in favour of Kendall Road Water Company Limited created by Transfer 973389.10. See Transfer 973389.2

470064.5 Mortgage to Sara Elinor Tayler - 6.4.1978 at 9.05 oc. and varied 26.1.1979 at 9.04 oc. (See 738688.2) and 30.4.1981 at 9.00 oc. (See 973389.6) DISCHARGED 1984 A.L.R. B252164.1

798899.1 Mortgage to The Rural Banking and Finance Corporation of New Zealand - 15.9.1981 at 9.01 oc.

B.177216.3 Memorandum of Priority making Mortgage 798899.1 a first mortgage and Mortgage 470064.5 a second mortgage - 23.5.1983 at 9.01 oc.

A.L.R.

B.450255.1 CAVEAT BY DOUGAL BRUCE MALCOLM AND LAURA LESLEY-ANNE MALCOLM - 21.8.1985 at 1.38 oc.

A.L.R.

Pursuant to Section 306(3) of the Local Government Act 1974 Lot 6 Plan 108689 is vested in the Bay of Islands County Council as Accessway

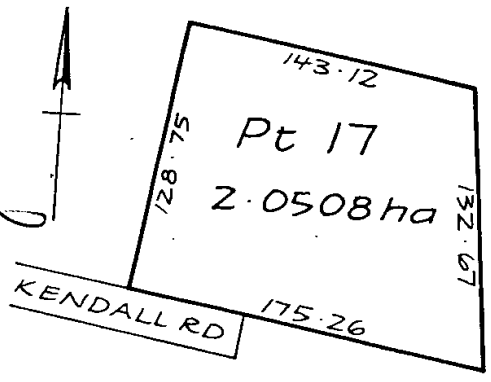
A.L.R

B.492598.1 Certificate of Compliance under Section 306(1)(f)(i) Local Government Act 1974 (affects Plan 108689) -17.12.1985 at 9.27oc

A.L.R

OVER.....

Bay of Islands County



DP 26590
AA Exd BSA

Measurements are Metric

No. 55A/516

AC

CERTIFICATE OF TITLE No. 55A / 516

B.492598.3) Cancelled as to Lots 1-5 Plan
O.N.C.T) 108689 and new titles issued:
17.12.1985) Lot 1 - 61B/224, Lot 2 - 61B/225
Lot 3 - 61B/226, Lot 4 - 61B/227
Lot 5 - 61B/228

A.L.R

CANCELLED
DUPLICATE DESTROYED

88382A–50,000/9/82MK

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **NA61B/226**

Land Registration District **North Auckland**

Date Issued 17 December 1985

Prior References
NA55A/516

Estate Fee Simple

Area 4392 square metres more or less

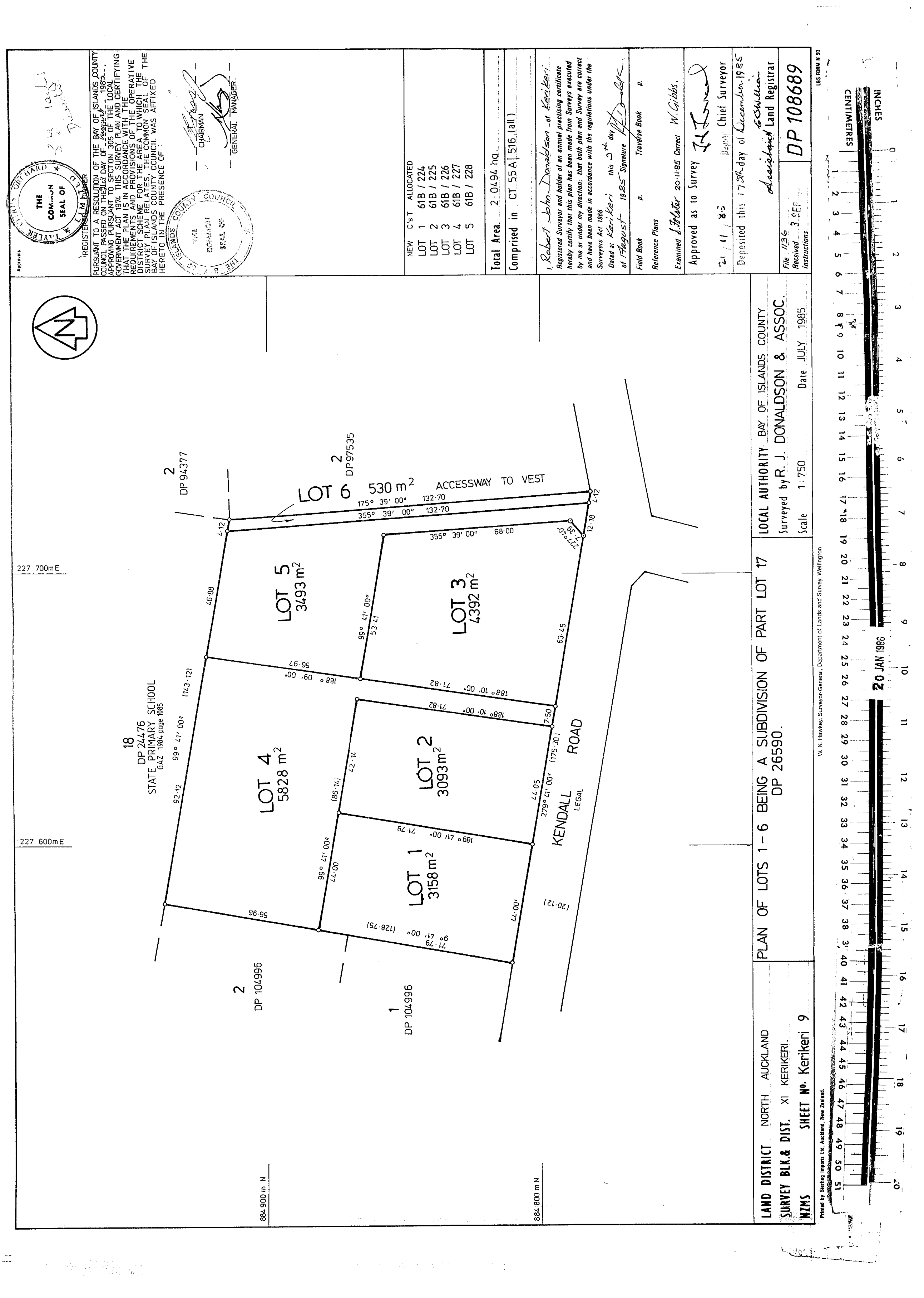
Legal Description Lot 3 Deposited Plan 108689

Registered Owners

Natalie Jane Spooner, Paul John Spooner and Mannivy Limited

Interests

11308152.4 Mortgage to ANZ Bank New Zealand Limited - 7.12.2018 at 12:37 pm


PLAN OF LOTS 1 - 6 BEING A SUBDIVISION OF PART LOT 17 DP 26590.
LOCAL AUTHORITY BAY OF ISLANDS COUNTY
Surveyed by R. J. DONALDSON & ASSOC.
Scale 1:750
Date JULY 1985
LAND DISTRICT NORTH AUCKLAND
SURVEY BLK.& DIST. XI KERIKERI.
NZMS SHEET No. Kerikeri 9
DP 108689
NEW C'sT ALLOCATED
LOT 1 61B / 224
LOT 2 61B / 225
LOT 3 61B / 226
LOT 4 61B / 227
LOT 5 61B / 228
Total Area 2·0494 ha.
Comprised in CT 55A/516 (all)
Approved as to Survey
Chief Surveyor
Land Registrar
LOT 6 530 m2 ACCESSWAY TO VEST
LOT 5 3493 m2
LOT 3 4392 m2
LOT 4 5828 m2
LOT 2 3093 m2
LOT 1 3158 m2
KENDALL ROAD LEGAL
18 DP 24476 STATE PRIMARY SCHOOL
2 DP 94377
2 DP 97535
2 DP 104996
1 DP 104996
227 700mE
227 600mE
884 900 m N
884 800 m N
20 JAN 1986

Appendix E – Contamination Enquiry Request

Josh Cuming

From: Contaminated Land Management Team <contamination@nrc.govt.nz>
Sent: Wednesday, 10 April 2024 11:39 am
To: Josh Cuming
Subject: RE: Environmental incidents Lot 3 DP 108689 (NRC Ref# REQ.619955)
Attachments: REQ.619955 records within 250 metres.xlsx

Hi Josh

Regarding your site query for Lot 3 DP 108689 (32 Kendall Road, Kerikeri):

The property that you have enquired about is not listed on the NRC Selected Land-use Register (SLR) for any current or historical Hazardous Activities and Industries List (HAIL) activities. Please note that the SLR is not a comprehensive list of all sites that have a HAIL land use history. It is a live record and therefore continually being updated. It is noted that aerial images of the site show the possible presence of horticultural activities and therefore HAIL Activity A10. Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds may apply.

There are no environmental incidents, resource consents or bores recorded on the property.

NRC has aerial images of the site for the following years that can be provided upon request – 1978, 2000, 2007, 2009, 2010 , 2014, 2017 and 2023.

I have attached a spreadsheet with information relating to incidents, other SLU sites and active resource consents within 250m of the subject property. If you require any further information on any of these please let me know.

Please note, as per Rule C.6.8.1 of the Proposed Regional Plan for Northland, copies of site investigation reports, where land disturbance has occurred, must be provided to the regional council within three months of completion of the investigation.

Reports can be sent to contamination@nrc.govt.nz.

If I can be of any further assistance, please do not hesitate to contact me.

Regards
Nicola

Nicola Bull
Compliance Specialist - Waste Management
P 09 470 1210 (extension 9123)
M 0274 343 674

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

From: Josh Cuming <joshcuming@haighworkman.co.nz>
Sent: Tuesday, April 2, 2024 3:51 PM
To: Contaminated Land Management Team <contamination@nrc.govt.nz>
Subject: Environmental incidents Lot 3 DP 108689

Hi

Please may we have any information on file regarding HAIL and environmental incidents within 250 m of the below site?

32 Kendall Road, Kerikeri
Lot 3 DP 108689

Kind regards

Josh Cuming
Environmental Geologist
CEnvP, MEIANZ.
Phone 09 407 8327
Mobile 027 316 8362
joshcuming@haighworkman.co.nz

Website . **LinkedIn** . **Careers**

Appendix F – Soil Sample Descriptions

HAIGH WORKMAN LTD
Civil & Structural Engineers

P O Box 89, 0245
6 Fairway Drive,
Kerikeri, New Zealand

Phone 09 407 8327
Fax 09 407 8378
www.haighworks.co.nz
info@haighworkman.co.nz

Sample Hole Log

Job No.:	24 065	**Samples:**	TP01 - 17
Client:	NJ and PJ Spooner Limited	**Date:**	03/04/2024 and 05/04/2024
Location:	32 Kendall Road, Kerikeri	**Time:**	10:00 - 13:00
Method:	Spade and trowel	**Logged:**	JCum
Conditions:	Overcast	**Checked:**	AT

Borehole ID	Soil Description	Depth (m bgl)	Sample Point Location	Comments	Testing
TP01	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Metals and OCPs
TP02	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP2 and TP3 - Metals
TP03	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP2 and TP3 - Metals
TP04	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP4, TP5 and TP7 - Metals and OCPs
TP05	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP4, TP5 and TP7 - Metals
TP06	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP6 and TP8 - Metals
TP07	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP4, TP5 and TP7 - Metals and OCPs
TP08	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite TP6 and TP8 - Metals
TP09	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP9, TP10 and TP11 - Metals
TP10	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP9, TP10 and TP11 - Metals
TP11	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP9, TP10 and TP11 - Metals
TP12	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP12, TP13 and TP14 - Metals and OCPs
TP13	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP12, TP13 and TP14 - Metals and OCPs
TP14	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Composite with TP12, TP13 and TP14 - Metals and OCPs
TP15	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Metals
TP16	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Metals
TP17	Topsoil - Silt	0 - 0.1	Representative sample	No visual or olfactory signs of contamination	Metals and OCPs

Appendix G – Laboratory Analytical Results and Chain of Custody Documentation

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ **Sydney Laboratory**
179 Magowar Road Girraween NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory**
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory**
46-48 Banksia Road Welshpool WA 6106
08 6253 4444 Samples@ARLgroup.com.au

☐ **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Haigh Workman Limited	**Project №**	24 065	**Project Manager**	Joshua Cuming
Address	6 Fairway Drive, Kerikeri, 0230	**Project Name**	32 Kendall Road	**EDD Format** ESdat, EQuIS etc	
Contact Name	Joshua Cuming			**Facility Code**	
Phone №	028 8516 0190				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	Joshua Cuming	
Handed over by		
Email for Invoice	paula@haighworkman.co.nz	
Email for Results	joshcuming@haighworkman.co.nz	

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked.

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day ☐ 1 day
☐ 2 days ☐ 3 days
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	HOLD	Moisture Set	Total Petroleum Hydrocarbons (NZ MfE 1999)	Metals M8 (NZ MfE)	Eurofins Suite M10-NZ: Canterbury Soil Addendum Metals (As,B,Cd,Cr,Cu,Mn,Ni,Pb,Zn,Hg) (NZ MfE)	Asbestos - AS4964	Asbestos in Soils (NZ GAMAS)	Asbestos Absence /Presence	Organochlorine Pesticides (NZ MfE)	Polycyclic Aromatic Hydrocarbons (NZ MfE)	BTEX				500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP1_0.1m	03.04.2024	Soil				AKL					AKL												1		
2	TP2_0.1m	03.04.2024	Soil				AKL																	1		Composite TP2 and TP3
3	TP3_0.1m	03.04.2024	Soil				AKL																	1		Composite TP2 and TP3
4	TP4_0.1m	03.04.2024	Soil				AKL					AKL												1		Composite TP4, TP5 and TP7
5	TP5_0.1m	03.04.2024	Soil				AKL					AKL												1		Composite TP4, TP5 and TP7
6	TP6_0.1m	03.04.2024	Soil				AKL																	1		Composite TP6 and TP8
7	TP7_0.1m	03.04.2024	Soil				AKL					AKL												1		Composite TP4, TP5 and TP7
8	TP8_0.1m	03.04.2024	Soil				AKL																	1		Composite TP6 and TP8
9	TP9_0.1m	05.04.2024	Soil				AKL																	1		Composite with TP9, TP10 and TP11
10	TP10_0.1m	05.04.2024	Soil				AKL																	1		Composite with TP9, TP10 and TP11
21	TP11_0.1m	05.04.2024	Soil				AKL																	1		Composite with TP9, TP10 and TP11
22	TP12_0.1m	05.04.2024	Soil				AKL					AKL												1		Composite with TP12, TP13 and TP14
23	TP13_0.1m	05.04.2024	Soil				AKL					AKL												1		Composite with TP12, TP13 and TP14
24	TP14_0.1m	05.04.2024	Soil				AKL					AKL												1		Composite with TP12, TP13 and TP14

Date/Time: 04/04/24 (5:30PM)
Chilled: Yes / No
Temp: 21.6°C
Correction: -0.6°C
Final Temp: 21°C

QS3009_R9 Modified by: F. Sanjaya Approved by: Dr. R Symons Approved on: 10 December 2018

25	TP15_0.1m	05.04.2024	Soil				AKL																		1				
26	TP16_0.1m	05.04.2024	Soil				AKL																		1				
27	TP17_0.1m	03.04.2025	Soil				AKL					AKL													1				
28																													
29																													
30																													
31																													
10	Total Counts																								17				

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name		Signature		Date		Time	
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Sample Receipt Advice

Company name:	Haigh Workman Limited
Contact name:	Josh Cuming
Project name:	32 KENDALL ROAD
Project ID:	24065
Turnaround time:	5 Day
Date/Time received	Apr 9, 2024 3:30 PM
Eurofins reference	1085833

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Katyana Gausel on phone : or by email: KatyanaGausel@eurofins.com

Results will be delivered electronically via email to Josh Cuming - joshcuming@haighworkman.co.nz.

Note: A copy of these results will also be delivered to the general Haigh Workman Limited email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing NZ Ltd
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IANZ# 1290

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Site# 25403

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NATA# 1261
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NATA# 1261
Site# 25466

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NATA# 1261
Site# 20794

Newcastle
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Mayfield West
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NATA# 1261
Site# 25079 & 25289

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Perth
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NATA# 2377
Site# 2370

Company Name: Haigh Workman Limited
Address: 6 Fairway Drive
Kerikeri
NZ 0230

Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (asbestos) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
Tauranga Laboratory - IANZ# 1402									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	TP1_0.1m	Apr 03, 2024		Soil	K24-Ap0021431		X	X	X
2	TP15_0.1m	Apr 05, 2024		Soil	K24-Ap0021432		X		X
3	TP16_0.1m	Apr 05, 2024		Soil	K24-Ap0021433		X		X
4	TP17_0.1m	Apr 03, 2024		Soil	K24-Ap0021434		X	X	X
5	COMP TP2 & TP3	Not Provided		Soil	K24-Ap0021435		X		X
6	COMP TP4 TP5 & TP7	Not Provided		Soil	K24-Ap0021436		X	X	X
7	COMP TP6 & TP8	Not Provided		Soil	K24-Ap0021437		X		X
8	COMP TP9	Not Provided		Soil	K24-Ap0021438		X		X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Site# 25079 & 25289

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Perth
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+61 8 6253 4444
NATA# 2377
Site# 2370

Company Name: Haigh Workman Limited
Address: 6 Fairway Drive
Kerikeri
NZ 0230

Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (asbestos) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
	TP10 & TP11								
9	COMP TP12 TP13 & TP14	Not Provided		Soil	K24-Ap0021439		X	X	X
10	TP2_0.1m	Apr 03, 2024		Soil	K24-Ap0021440	X			
11	TP3_0.1m	Apr 03, 2024		Soil	K24-Ap0021441	X			
12	TP4_0.1m	Apr 03, 2024		Soil	K24-Ap0021442	X			
13	TP5_0.1m	Apr 03, 2024		Soil	K24-Ap0021443	X			
14	TP6_0.1m	Apr 03, 2024		Soil	K24-Ap0021444	X			
15	TP7_0.1m	Apr 03, 2024		Soil	K24-Ap0021445	X			
16	TP8_0.1m	Apr 03, 2024		Soil	K24-Ap0021446	X			
17	TP9_0.1m	Apr 05, 2024		Soil	K24-Ap0021447	X			
18	TP10_0.1m	Apr 05, 2024		Soil	K24-Ap0021448	X			
19	TP11_0.1m	Apr 05, 2024		Soil	K24-Ap0021449	X			
20	TP12_0.1m	Apr 05, 2024		Soil	K24-Ap0021450	X			

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1308

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IANZ# 1290

Tauranga
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Gate Pa,
Tauranga 3112
+64 9 525 0568
IANZ# 1402

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
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NATA# 1261
Site# 1254

Geelong
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VIC 3216
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NATA# 1261
Site# 25403

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ABN: 91 05 0159 898

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NATA# 2377
Site# 2370

Company Name: Haigh Workman Limited
Address: 6 Fairway Drive
Kerikeri
NZ 0230

Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (asbestos) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
21	TP13_0.1m	Apr 05, 2024		Soil	K24-Ap0021451	X			
22	TP14_0.1m	Apr 05, 2024		Soil	K24-Ap0021452	X			
Test Counts						13	9	4	9

Haigh Workman Limited
6 Fairway Drive
Kerikeri
NZ 0230

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

Attention: **Josh Cuming**

Report **1085833-S**
Project name 32 KENDALL ROAD
Project ID 24065
Received Date Apr 09, 2024

Client Sample ID			**TP1_0.1m**	**TP15_0.1m**	**TP16_0.1m**	**TP17_0.1m**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**K24-Ap0021431**	**K24-Ap0021432**	**K24-Ap0021433**	**K24-Ap0021434**
Date Sampled			**Apr 03, 2024**	**Apr 05, 2024**	**Apr 05, 2024**	**Apr 03, 2024**
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
Comments			G01			G01
2.4'-DDD	0.01	mg/kg	< 0.1	-	-	< 0.1
2.4'-DDE	0.01	mg/kg	< 0.1	-	-	< 0.1
2.4'-DDT	0.01	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.01	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDE	0.01	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDT	0.01	mg/kg	< 0.1	-	-	< 0.1
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.1	-	-	< 0.1
a-HCH	0.01	mg/kg	< 0.1	-	-	< 0.1
Aldrin	0.01	mg/kg	< 0.1	-	-	< 0.1
b-HCH	0.01	mg/kg	< 0.1	-	-	< 0.1
Chlordanes - Total	0.01	mg/kg	< 0.1	-	-	< 0.1
cis-Chlordane	0.01	mg/kg	< 0.1	-	-	< 0.1
d-HCH	0.01	mg/kg	< 0.1	-	-	< 0.1
Dieldrin	0.01	mg/kg	< 0.1	-	-	< 0.1
Endosulfan I	0.01	mg/kg	< 0.1	-	-	< 0.1
Endosulfan II	0.01	mg/kg	< 0.1	-	-	< 0.1
Endosulfan sulphate	0.01	mg/kg	< 0.1	-	-	< 0.1
Endrin	0.01	mg/kg	< 0.1	-	-	< 0.1
Endrin aldehyde	0.01	mg/kg	< 0.1	-	-	< 0.1
Endrin ketone	0.01	mg/kg	< 0.1	-	-	< 0.1
g-HCH (Lindane)	0.01	mg/kg	< 0.1	-	-	< 0.1
Heptachlor	0.01	mg/kg	< 0.1	-	-	< 0.1
Heptachlor epoxide	0.01	mg/kg	< 0.1	-	-	< 0.1
Hexachlorobenzene	0.01	mg/kg	< 0.1	-	-	< 0.1
Methoxychlor	0.01	mg/kg	< 0.1	-	-	< 0.1
Toxaphene	0.5	mg/kg	< 5	-	-	< 5
trans-Chlordane	0.01	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	INT	-	-	71
Tetrachloro-m-xylene (surr.)	1	%	54	-	-	78
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	3.1	5.8	6.1	3.6
Cadmium	0.01	mg/kg	0.26	0.20	0.24	0.26
Chromium	0.1	mg/kg	200	240	260	230
Copper	0.1	mg/kg	73	210	230	86

Client Sample ID			TP1_0.1m	TP15_0.1m	TP16_0.1m	TP17_0.1m
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**K24-Ap0021431**	**K24-Ap0021432**	**K24-Ap0021433**	**K24-Ap0021434**
Date Sampled			**Apr 03, 2024**	**Apr 05, 2024**	**Apr 05, 2024**	**Apr 03, 2024**
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Lead	0.1	mg/kg	5.9	12	13	7.1
Mercury	0.01	mg/kg	0.10	0.44	0.52	0.15
Nickel	0.1	mg/kg	39	51	49	45
Zinc	5	mg/kg	29	47	48	33
Sample Properties						
% Moisture	1	%	19	21	20	19

Client Sample ID			COMP TP2 & TP3	COMP TP4 TP5 & TP7	COMP TP6 & TP8	COMP TP9 TP10 & TP11
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**K24-Ap0021435**	**K24-Ap0021436**	**K24-Ap0021437**	**K24-Ap0021438**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]	**Not Provided**[I12]	**Not Provided**[I12]
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
Comments				G01		
2.4'-DDD	0.01	mg/kg	-	< 0.1	-	-
2.4'-DDE	0.01	mg/kg	-	< 0.1	-	-
2.4'-DDT	0.01	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.01	mg/kg	-	< 0.1	-	-
4.4'-DDE	0.01	mg/kg	-	< 0.1	-	-
4.4'-DDT	0.01	mg/kg	-	< 0.1	-	-
DDT + DDE + DDD (Total)*	0.01	mg/kg	-	< 0.1	-	-
a-HCH	0.01	mg/kg	-	< 0.1	-	-
Aldrin	0.01	mg/kg	-	< 0.1	-	-
b-HCH	0.01	mg/kg	-	< 0.1	-	-
Chlordanes - Total	0.01	mg/kg	-	< 0.1	-	-
cis-Chlordane	0.01	mg/kg	-	< 0.1	-	-
d-HCH	0.01	mg/kg	-	< 0.1	-	-
Dieldrin	0.01	mg/kg	-	< 0.1	-	-
Endosulfan I	0.01	mg/kg	-	< 0.1	-	-
Endosulfan II	0.01	mg/kg	-	< 0.1	-	-
Endosulfan sulphate	0.01	mg/kg	-	< 0.1	-	-
Endrin	0.01	mg/kg	-	< 0.1	-	-
Endrin aldehyde	0.01	mg/kg	-	< 0.1	-	-
Endrin ketone	0.01	mg/kg	-	< 0.1	-	-
g-HCH (Lindane)	0.01	mg/kg	-	< 0.1	-	-
Heptachlor	0.01	mg/kg	-	< 0.1	-	-
Heptachlor epoxide	0.01	mg/kg	-	< 0.1	-	-
Hexachlorobenzene	0.01	mg/kg	-	< 0.1	-	-
Methoxychlor	0.01	mg/kg	-	< 0.1	-	-
Toxaphene	0.5	mg/kg	-	< 5	-	-
trans-Chlordane	0.01	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	INT	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	63	-	-

Client Sample ID			COMP TP2 & TP3	COMP TP4 TP5 & TP7	COMP TP6 & TP8	COMP TP9 TP10 & TP11
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K24-Ap0021435	K24-Ap0021436	K24-Ap0021437	K24-Ap0021438
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	3.8	5.1	4.4	5.2
Cadmium	0.01	mg/kg	0.25	0.26	0.21	0.28
Chromium	0.1	mg/kg	220	230	160	250
Copper	0.1	mg/kg	110	130	98	100
Lead	0.1	mg/kg	7.3	11	7.2	7.2
Mercury	0.01	mg/kg	0.14	0.33	0.24	0.19
Nickel	0.1	mg/kg	41	43	27	43
Zinc	5	mg/kg	38	41	33	37
Sample Properties						
% Moisture	1	%	19	17	20	21

Client Sample ID			COMP TP12 TP13 & TP14
Sample Matrix			Soil
Eurofins Sample No.			K24-Ap0021439
Date Sampled			Not Provided[I12]
Test/Reference	LOR	Unit	
Organochlorine Pesticides (NZ MfE)			
Comments			G01
2.4'-DDD	0.01	mg/kg	< 0.1
2.4'-DDE	0.01	mg/kg	< 0.1
2.4'-DDT	0.01	mg/kg	< 0.1
4.4'-DDD	0.01	mg/kg	< 0.1
4.4'-DDE	0.01	mg/kg	< 0.1
4.4'-DDT	0.01	mg/kg	< 0.1
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.1
a-HCH	0.01	mg/kg	< 0.1
Aldrin	0.01	mg/kg	< 0.1
b-HCH	0.01	mg/kg	< 0.1
Chlordanes - Total	0.01	mg/kg	< 0.1
cis-Chlordane	0.01	mg/kg	< 0.1
d-HCH	0.01	mg/kg	< 0.1
Dieldrin	0.01	mg/kg	< 0.1
Endosulfan I	0.01	mg/kg	< 0.1
Endosulfan II	0.01	mg/kg	< 0.1
Endosulfan sulphate	0.01	mg/kg	< 0.1
Endrin	0.01	mg/kg	< 0.1
Endrin aldehyde	0.01	mg/kg	< 0.1
Endrin ketone	0.01	mg/kg	< 0.1
g-HCH (Lindane)	0.01	mg/kg	< 0.1
Heptachlor	0.01	mg/kg	< 0.1
Heptachlor epoxide	0.01	mg/kg	< 0.1
Hexachlorobenzene	0.01	mg/kg	< 0.1
Methoxychlor	0.01	mg/kg	< 0.1
Toxaphene	0.5	mg/kg	< 5
trans-Chlordane	0.01	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	52
Tetrachloro-m-xylene (surr.)	1	%	71

Client Sample ID			COMP TP12 TP13 & TP14
Sample Matrix			**Soil**
Eurofins Sample No.			**K24-Ap0021439**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
Metals M8 (NZ MfE)			
Arsenic	0.1	mg/kg	6.3
Cadmium	0.01	mg/kg	0.40
Chromium	0.1	mg/kg	240
Copper	0.1	mg/kg	160
Lead	0.1	mg/kg	11
Mercury	0.01	mg/kg	0.31
Nickel	0.1	mg/kg	58
Zinc	5	mg/kg	57
Sample Properties			
% Moisture	1	%	18

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides (NZ MfE)	Auckland	Apr 10, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water by GCMSMS			
Metals M8 (NZ MfE)	Auckland	Apr 10, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Auckland	Apr 10, 2024	14 Days
- Method: LTM-GEN-7080 Moisture Content in Soil by Gravimetry			

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Company Name: Haigh Workman Limited
Address: 6 Fairway Drive
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NZ 0230

Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (Focus) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
Tauranga Laboratory - IANZ# 1402									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	TP1_0.1m	Apr 03, 2024		Soil	K24-Ap0021431		X	X	X
2	TP15_0.1m	Apr 05, 2024		Soil	K24-Ap0021432		X		X
3	TP16_0.1m	Apr 05, 2024		Soil	K24-Ap0021433		X		X
4	TP17_0.1m	Apr 03, 2024		Soil	K24-Ap0021434		X	X	X
5	COMP TP2 & TP3	Not Provided		Soil	K24-Ap0021435		X		X
6	COMP TP4 TP5 & TP7	Not Provided		Soil	K24-Ap0021436		X	X	X
7	COMP TP6 & TP8	Not Provided		Soil	K24-Ap0021437		X		X
8	COMP TP9	Not Provided		Soil	K24-Ap0021438		X		X

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Company Name: Haigh Workman Limited
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Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (Focus) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
	TP10 & TP11								
9	COMP TP12 TP13 & TP14	Not Provided		Soil	K24-Ap0021439		X	X	X
10	TP2_0.1m	Apr 03, 2024		Soil	K24-Ap0021440	X			
11	TP3_0.1m	Apr 03, 2024		Soil	K24-Ap0021441	X			
12	TP4_0.1m	Apr 03, 2024		Soil	K24-Ap0021442	X			
13	TP5_0.1m	Apr 03, 2024		Soil	K24-Ap0021443	X			
14	TP6_0.1m	Apr 03, 2024		Soil	K24-Ap0021444	X			
15	TP7_0.1m	Apr 03, 2024		Soil	K24-Ap0021445	X			
16	TP8_0.1m	Apr 03, 2024		Soil	K24-Ap0021446	X			
17	TP9_0.1m	Apr 05, 2024		Soil	K24-Ap0021447	X			
18	TP10_0.1m	Apr 05, 2024		Soil	K24-Ap0021448	X			
19	TP11_0.1m	Apr 05, 2024		Soil	K24-Ap0021449	X			
20	TP12_0.1m	Apr 05, 2024		Soil	K24-Ap0021450	X			

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Company Name: Haigh Workman Limited
Address: 6 Fairway Drive
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NZ 0230

Project Name: 32 KENDALL ROAD
Project ID: 24065

Order No.:
Report #: 1085833
Phone: 09 4078 327
Fax:

Received: Apr 9, 2024 3:30 PM
Due: Apr 16, 2024
Priority: 5 Day
Contact Name: Josh Cuming

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X
Auckland (Focus) Laboratory - IANZ# 1308									
Christchurch Laboratory - IANZ# 1290									
21	TP13_0.1m	Apr 05, 2024		Soil	K24-Ap0021451	X			
22	TP14_0.1m	Apr 05, 2024		Soil	K24-Ap0021452	X			
Test Counts						13	9	4	9

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides (NZ MfE)							
2.4'-DDD	mg/kg	< 0.01			0.01	Pass	
2.4'-DDE	mg/kg	< 0.01			0.01	Pass	
2.4'-DDT	mg/kg	< 0.01			0.01	Pass	
4.4'-DDD	mg/kg	< 0.01			0.01	Pass	
4.4'-DDE	mg/kg	< 0.01			0.01	Pass	
4.4'-DDT	mg/kg	< 0.01			0.01	Pass	
a-HCH	mg/kg	< 0.01			0.01	Pass	
Aldrin	mg/kg	< 0.01			0.01	Pass	
b-HCH	mg/kg	< 0.01			0.01	Pass	
cis-Chlordane	mg/kg	< 0.01			0.01	Pass	
d-HCH	mg/kg	< 0.01			0.01	Pass	
Dieldrin	mg/kg	< 0.01			0.01	Pass	
Endosulfan I	mg/kg	< 0.01			0.01	Pass	
Endosulfan II	mg/kg	< 0.01			0.01	Pass	
Endosulfan sulphate	mg/kg	< 0.01			0.01	Pass	
Endrin	mg/kg	< 0.01			0.01	Pass	
Endrin aldehyde	mg/kg	0.01			0.01	Pass	
Endrin ketone	mg/kg	0.01			0.01	Pass	
g-HCH (Lindane)	mg/kg	< 0.01			0.01	Pass	
Heptachlor	mg/kg	< 0.01			0.01	Pass	
Heptachlor epoxide	mg/kg	< 0.01			0.01	Pass	
Hexachlorobenzene	mg/kg	< 0.01			0.01	Pass	
Methoxychlor	mg/kg	< 0.01			0.01	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
trans-Chlordane	mg/kg	< 0.01			0.01	Pass	
Method Blank							
Metals M8 (NZ MfE)							
Arsenic	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Metals M8 (NZ MfE)							
Arsenic	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Metals M8 (NZ MfE)							
Arsenic	mg/kg	< 0.1			0.1	Pass	
Cadmium	mg/kg	< 0.01			0.01	Pass	
Copper	mg/kg	< 0.1			0.1	Pass	
Lead	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Metals M8 (NZ MfE)							
Arsenic	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 0.1			0.1	Pass	
Copper	mg/kg	< 0.1			0.1	Pass	
Lead	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Organochlorine Pesticides (NZ MfE)							
2.4'-DDD	%	86			70-130	Pass	
2.4'-DDE	%	80			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4'-DDT	%	83			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	96			70-130	Pass	
4.4'-DDT	%	89			70-130	Pass	
a-HCH	%	97			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-HCH	%	96			70-130	Pass	
cis-Chlordane	%	77			70-130	Pass	
d-HCH	%	97			70-130	Pass	
Dieldrin	%	91			70-130	Pass	
Endosulfan I	%	110			70-130	Pass	
Endosulfan II	%	99			70-130	Pass	
Endosulfan sulphate	%	88			70-130	Pass	
Endrin	%	96			70-130	Pass	
Endrin aldehyde	%	89			70-130	Pass	
Endrin ketone	%	108			70-130	Pass	
g-HCH (Lindane)	%	113			70-130	Pass	
Heptachlor	%	96			70-130	Pass	
Heptachlor epoxide	%	81			70-130	Pass	
Hexachlorobenzene	%	94			70-130	Pass	
Methoxychlor	%	80			70-130	Pass	
trans-Chlordane	%	93			70-130	Pass	
LCS - % Recovery							
Metals M8 (NZ MfE)							
Arsenic	%	110			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	104			80-120	Pass	
Copper	%	103			80-120	Pass	
Lead	%	105			80-120	Pass	
Mercury	%	111			80-120	Pass	
Nickel	%	104			80-120	Pass	
Zinc	%	106			80-120	Pass	
LCS - % Recovery							
Metals M8 (NZ MfE)							
Arsenic	%	113			80-120	Pass	
Cadmium	%	111			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	108			80-120	Pass	
Mercury	%	117			80-120	Pass	
Nickel	%	109			80-120	Pass	
Zinc	%	116			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					
2.4'-DDD	K24-Ap0021539	NCP	%	84			70-130	Pass	
2.4'-DDE	K24-Ap0021539	NCP	%	85			70-130	Pass	
2.4'-DDT	K24-Ap0019489	NCP	%	85			70-130	Pass	
4.4'-DDD	K24-Ap0021539	NCP	%	80			70-130	Pass	
4.4'-DDE	K24-Ap0021539	NCP	%	99			70-130	Pass	
4.4'-DDT	K24-Ap0019489	NCP	%	81			70-130	Pass	
a-HCH	K24-Ap0019489	NCP	%	100			70-130	Pass	
Aldrin	K24-Ap0021539	NCP	%	94			70-130	Pass	
b-HCH	K24-Ap0019489	NCP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
cis-Chlordane	K24-Ap0019489	NCP	%	85			70-130	Pass	
d-HCH	K24-Ap0019489	NCP	%	96			70-130	Pass	
Dieldrin	K24-Ap0019489	NCP	%	103			70-130	Pass	
Endosulfan I	K24-Ap0021539	NCP	%	108			70-130	Pass	
Endosulfan II	K24-Ap0021539	NCP	%	112			70-130	Pass	
Endosulfan sulphate	K24-Ap0019489	NCP	%	91			70-130	Pass	
Endrin	K24-Ap0021539	NCP	%	96			70-130	Pass	
Endrin aldehyde	K24-Ap0019489	NCP	%	75			70-130	Pass	
Endrin ketone	K24-Ap0021539	NCP	%	94			70-130	Pass	
g-HCH (Lindane)	K24-Ap0021539	NCP	%	99			70-130	Pass	
Heptachlor	K24-Ap0021539	NCP	%	86			70-130	Pass	
Heptachlor epoxide	K24-Ap0021539	NCP	%	75			70-130	Pass	
Hexachlorobenzene	K24-Ap0021539	NCP	%	91			70-130	Pass	
Methoxychlor	K24-Ap0019489	NCP	%	77			70-130	Pass	
trans-Chlordane	K24-Ap0021539	NCP	%	121			70-130	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Copper	K24-Ap0022942	NCP	%	108			75-125	Pass	
Mercury	K24-Ap0022942	NCP	%	116			75-125	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K24-Ap0021439	CP	%	100			75-125	Pass	
Cadmium	K24-Ap0021439	CP	%	102			75-125	Pass	
Chromium	K24-Ap0021439	CP	%	112			75-125	Pass	
Lead	K24-Ap0021439	CP	%	104			75-125	Pass	
Nickel	K24-Ap0021439	CP	%	105			75-125	Pass	
Zinc	K24-Ap0021439	CP	%	117			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
2.4'-DDE	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
2.4'-DDT	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDE	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDT	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
a-HCH	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aldrin	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
b-HCH	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
cis-Chlordane	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
d-HCH	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Dieldrin	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endosulfan I	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endosulfan II	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endosulfan sulphate	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endrin	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endrin aldehyde	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Endrin ketone	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
g-HCH (Lindane)	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Heptachlor	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Heptachlor epoxide	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Hexachlorobenzene	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Methoxychlor	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
trans-Chlordane	K24-Ap0021538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K24-Ap0021438	CP	mg/kg	5.2	4.3	19	30%	Pass	
Cadmium	K24-Ap0021438	CP	mg/kg	0.28	0.26	7.1	30%	Pass	
Chromium	K24-Ap0021438	CP	mg/kg	250	220	12	30%	Pass	
Copper	K24-Ap0021438	CP	mg/kg	100	100	<1	30%	Pass	
Lead	K24-Ap0021438	CP	mg/kg	7.2	6.8	5.7	30%	Pass	
Mercury	K24-Ap0021438	CP	mg/kg	0.19	0.17	12	30%	Pass	
Nickel	K24-Ap0021438	CP	mg/kg	43	44	2.5	30%	Pass	
Zinc	K24-Ap0021438	CP	mg/kg	37	37	1.6	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K24-Ap0021438	CP	%	21	21	1.3	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Katyana Gausel	Analytical Services Manager
Raymond Siu	Senior Analyst-Metal
Raymond Siu	Senior Analyst-Organic

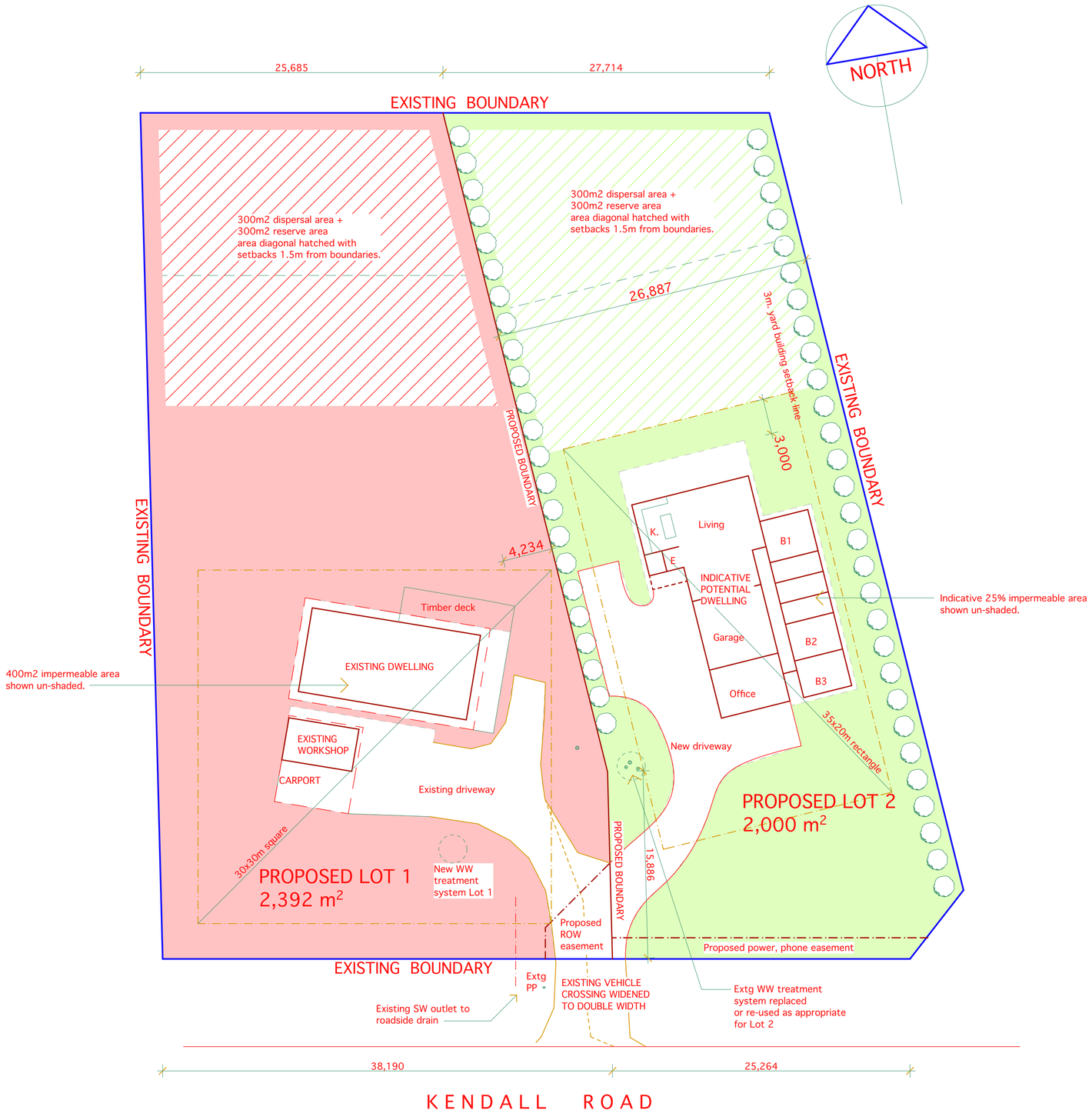
Raymond Siu
Senior Instrument Chemist (Key Technical Personnel)

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates IANZ accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.



A RC APPLICATION 11-06-24

REVISIONS

DRAWING

SUBDIVISION
SCHEME PLAN

JOB

PROPOSED SUBDIVISION
OF LOT 3 DP 108689
AT 32 KENDALL ROAD
KERIKERI

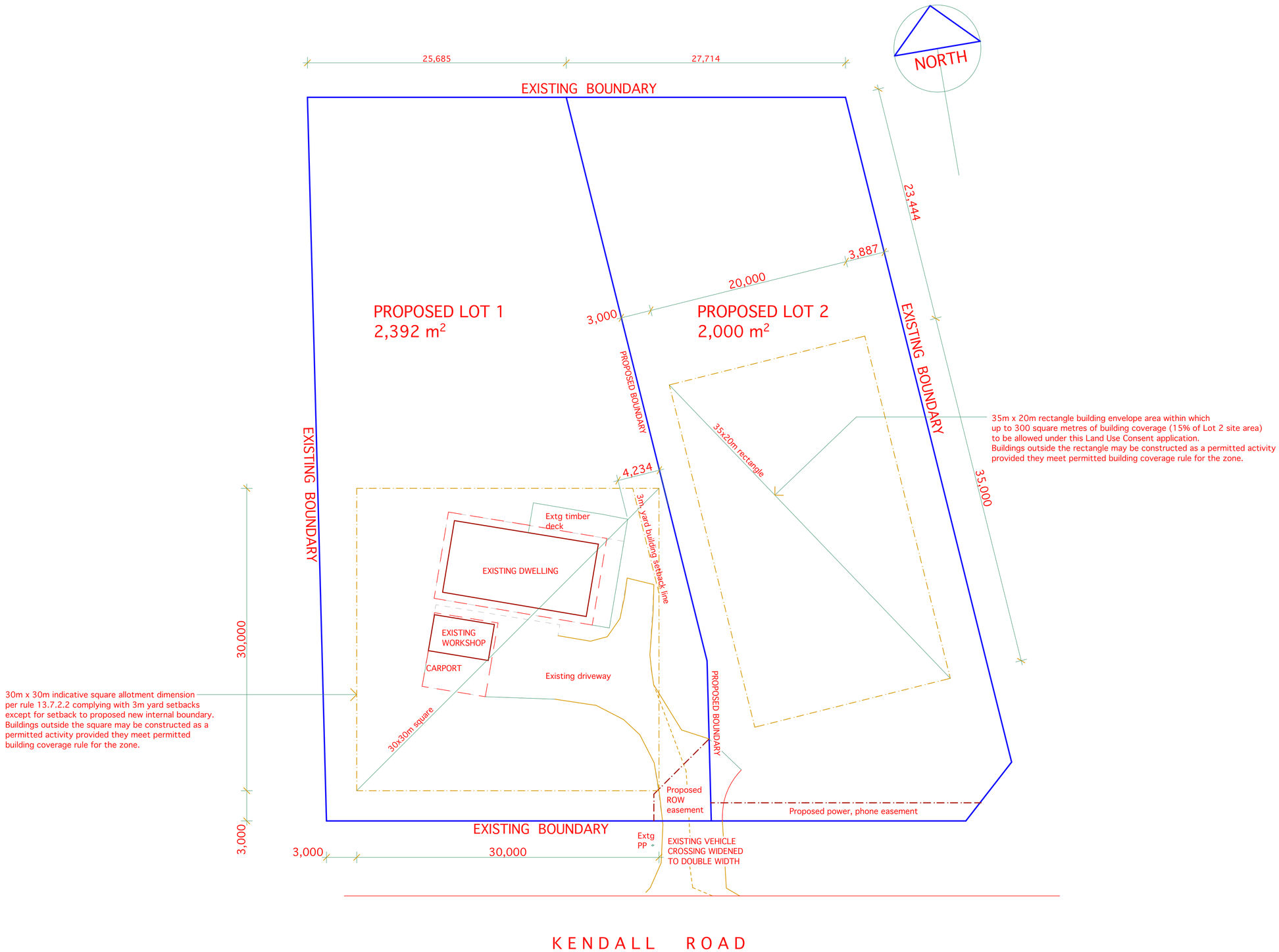
Spooner
architectural solutions

PO Box 10 KERIKERI 0245

e: paul@spoonersolutions.co.nz
p: (09) 407 3107 m: 027 289 1221

SCALE 1:200 @ A1

SHEET No. SP01



A RC APPLICATION 11-06-24

REVISIONS

DRAWING

PROPOSED ALLOTMENT AREA PLAN

JOB

PROPOSED SUBDIVISION
OF LOT 3 DP 108689
AT 32 KENDALL ROAD
KERIKERI

Spooner architectural solutions

PO Box 10 KERIKERI 0245

e: paul@spoonersolutions.co.nz

p: (09) 407 3107 m: 027 289 1221

SCALE 1:200 @ A1

SHEET No. SP02

Chorus New Zealand Limited

21 March 2024

Chorus reference: 10786150

Attention: Paul Spooner

Quote: New Property Development

1 connections at 32 Kendall Road , Kerikeri, Far North District, 0230

Your project reference: Kendall Road subdivision

Thank you for your enquiry about having Chorus network provided for the above development.

Chorus is pleased to advise that, as at the date of this letter, we are able to provide reticulation for this property development based upon the information that has been provided:

Fibre network	$0.00
Network relocation	$761.00

The total contribution we would require from you is **$875.15 (including GST)**. This fee is a contribution towards the overall cost that Chorus incurs to link your development to our network. This quote is valid for 90 days from 21 March 2024. This quote is conditional on you accepting a New Property Development Contract with us for the above development.

If you choose to have Chorus provide reticulation for your property development, please log back into your account and finalise your details. If there are any changes to the information you have supplied, please amend them online and a new quote will be generated. This quote is based on information given by you and any errors or omissions are your responsibility. We reserve the right to withdraw this quote and requote should we become aware of additional information that would impact the scope of this letter.

Once you would like to proceed with this quote and have confirmed all your details, we will provide you with the full New Property Development Contract, and upon confirmation you have accepted the terms and paid the required contribution, we will start on the design and then build.

For more information on what's involved in getting your development connected, visit our website www.chorus.co.nz/develop-with-chorus

Kind Regards

Chorus New Property Development Team

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **NA61B/226**
Land Registration District **North Auckland**
Date Issued 17 December 1985

Prior References
NA55A/516

Estate	Fee Simple
Area	4392 square metres more or less
Legal Description	Lot 3 Deposited Plan 108689

Registered Owners
Natalie Jane Spooner, Paul John Spooner and Mannivy Limited

Interests

11308152.4 Mortgage to ANZ Bank New Zealand Limited - 7.12.2018 at 12:37 pm

Identifier **NA61B/226**