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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

✔ **Yes** ◯ **No**

4. Consultation

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

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

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

5. Applicant Details

Name/s: Anna Madsen

Email: [redacted]

Phone number: Home [redacted]

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

Postco [redacted]

6. Address for Correspondence

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

Name/s: Nicola O'Brien

Email: [redacted]

Phone number: Home

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

Postcode [redacted]

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

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

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

Name/s: Anna Madsen

Property Address/ Location: [redacted]

8. Application Site Details

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

Name/s:	Anna Madsen
Site Address/ Location:	[redacted]
Legal Description:	[redacted]
Certificate of title:	[redacted]

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

Site visit requirements:

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

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

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

9. Description of the Proposal:

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

An 18.9m² tiny home, 4.4m² bathroom and 33.1m² deck are proposed to the south of Lot 3. Breaches to permitted activity status occur primarily due to the steep slope which requires the buildings to be within a Building Restriction Line. 4 breaches occur. Mitigation measures are discussed.

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

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

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

(more than one circle can be ticked):

- [x] **Building Consent** EBC-2026-21/0here (if known)
- [ ] **Regional Council Consent (ref # if known)** Ref # here (if known)
- [ ] **National Environmental Standard consent** Consent here (if known)
- [ ] **Other (please specify)** Specify 'other' here

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full) Anna Madsen

Email: [redacted]

Phone number: [redacted]

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

Fees Information

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

Declaration concerning Payment of Fees

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

Name: (please write in full) Anna Madsen

Signature:
(signature of bill payer [redacted]

15. Important Information:

Note to applicant

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

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

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

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.

A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:

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

15. Important information continued...

Declaration

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

Name: (please write in full) Anna Madsen

Signature: [redacted]

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

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

O'BRIEN DESIGN CONSULTING

LICENSED BUILDING PRACTITIONER www.dbh.govt.nz BUILDING CONFIDENCE

ASSESSMENT OF ENVIRONMENTAL EFFECTS

[redacted]

Written by: [redacted]
Reviewed by:

Rev:
Date: 15th July 2025
Job No: 4225

Ph: (09) 407 5208 | Mob: 027 407 5208

[redacted]

Contents

Form 9

Application for Resource Consent under Sections 127 Resource Management Act 1991

To Far North District Council

Anna Madsen, from 108 Oromahoe Road, Opua, Lot 3 DP 361456, applies for Resource Consent due to the following rule breaches in a Rural Production Zone in an area of Outstanding Landscape:

- *The Regional Plan for Northland (2019), Section C.6.1.3, Other Onsite Domestic Wastewater Discharge – Permitted Activity. "The discharge of domestic type wastewater into or onto land from an onsite system and the associated discharge of odour into air from the onsite system are permitted activities, provided: (4) the slope of the disposal field is not greater than 25 degrees.*

The site comprises of regenerating native bush on a steep (20-45 degree), north-westerly facing slope. There are no areas over the property large enough to accommodate a 193m² wastewater disposal field on a slope less than 25 degrees. Therefore, a disposal option compliant with the rule above is not achievable.

The activity is Discretionary because it does not replace an existing Resource Consent (Controlled), and it is not a prohibited activity. Site constraints requiring the field to be located to the southwest on slopes greater than 25 degrees are outlined. Mitigation measures are discussed.

- *8.6.5.1.4 Setback from Boundaries*

"No building shall be erected within 10m of any site boundary"

Due to site constraints the proposed 1-bedroom, 18.9m², relocated tiny home is 9.7m from the roadside boundary whilst the 4.4m² bathroom (not considered an accessory building) is 8.2m from the boundary.

The activity is Restricted Discretionary because it is not listed as a Controlled activity. The activity is assessed against criteria listed in Section 8.6.5.3.4. The property will be zoned Rural Production only in the Far North Proposed District Plan. A 10m setback from a boundary is required in the new plan.

- *12.1.6.1.5 Buildings within Outstanding Landscapes*

The following are permitted activities in an Outstanding Landscape, as shown on the Resource Maps:

(a) Where that building will be visible from a viewing point on a public road, public reserve, coastal marine area or the foreshore that is within 500m of that building.

The tiny home and bathroom building will be visible from the roadside reserve. Once plantings mature along the ~1.2m bund visibility from Oromahoe Road will be limited to unlikely.

The activity is Restricted Discretionary because it does not comply with 12.1.6.1.5 but does comply with rules listed b-e.
The activity is assessed against criteria listed in Section 12.1.6.2.1. The property will be zoned Rural Production only in the Far North Proposed District Plan and will not be located within a zone of Outstanding Landscape. This rule would not need addressing in the new plan.

- *12.4.6.1.2 Fire Risk to Residential Units*

(a) *Residential units shall be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest.*

The tiny home and bathroom will be within 20m from the drip line of regenerating, native bush. The vegetation should remain for slope stability.

The activity is not Controlled as it does not comply with Rule 12.4.6.1.2. The activity is Discretionary because it *(a) does not comply with one or more of the standards for permitted or controlled activities as set out under Rules 12.4.6.1 and 12.4.6.2* but complies with (b) (c) and (d). Assessment Criteria 12.4.7, j, (i-iv) are discussed.

The applicant opts out of the fast-track consent process as the breaches are Discretionary and Restricted Discretionary.

1. *The activity to which the application relates (the proposed activity) is as follows:*

An 18.9m², 1-bedroom, 2 storey, tiny home with a height of 7.3m is to be relocated onto Lot 3 DP 361456. A 4.4m², bathroom with a shower, toilet and handbasin will be constructed next to the dwelling. A 33.1m², freestanding timber deck is proposed. Lot 3 is a 4,910m² property covered by regenerating native bush. The property slopes steeply (~20-45 degrees). The buildings are to be located within a Building Restriction Line designated a safe build area by Geotechnical Engineers. Existing vegetation assists slope stability. This report addresses relevant criteria in the existing and proposed Far North District Plan, Resource Management Act (1991), and Regional Policy Statement for Northland (May 2016).

2. *The location of the proposed activity:*

Lot 3 DP 361456 is located to the north of Oromahoe Road, Opua, rapid number 108. The property is zoned Rural Production in an area of Outstanding Landscape in the Operative Far North District Plan. The property will be zoned Rural Production only in the proposed District Plan. The tiny home and bathroom are to be located to the south of the property on a ridgeline area identified in the Engineers Report prepared by Haigh Development Consultants dated September 1999 as per Consent Notice 6805670.2 (ii) and within a designated Building Restriction Line required by Northland Geotechnical Specilaists, Geotechnical Report for Tiny Home, dated 18th March 2025. Refer to the Northland Regional Council Map, Section 3.1 showing the location of Lot 3 DP 361456 and the surrounding area. The Site Location Plan, Appendix 2, Sheet A01, shows the location of the buildings and proposed development.

3. The owner listed is the only owner/occupier of the site to which this application relates.
4. There are no other activities that are part of the proposal to which this application relates.
5. No additional resource consents are required for the proposal to which this application relates.
6. Attached is an assessment of the proposed activity's effect on the environment that:

a. Includes the information required by clause 6 of Schedule 4 of the Resource Management Act 1991; and

b. Addresses the matters specified in clause 7 of Schedule 4 of the Resource Management Act 1991; and

c. includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

7. Attached is an assessment of the proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

8. Attached is an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

10-13 Not applicable.

14. Attached is further information required to be included in this application by the District Plan, the Regional Plan, the Resource Management Act 1991, or any regulations made under that Act.

1.0 Executive Summary

O'Brien Design Consulting were engaged by Anna Madsen to prepare an Assessment of Environmental Effects Report to accompany an application for Resource Consent addressing the requirements of Section 88.2 and Schedule 4 of the Resource Management Act 1991. The application is to be submitted to the Far North District Council. The application has been prepared in accordance with Form 9 and Schedule 4, Sections 2, 6 and 7 of the Resource Management Act.

Relevant Operative District Plan and Proposed District Plan rules have been assessed along with objectives and policies, for each plan. District Plan Criterion are discussed for the 3 FNDC breaches.

The following breaches are addressed in this report:

- *The Regional Plan for Northland (2019), Section C.6.1.3, Other Onsite Domestic Wastewater Discharge – Permitted Activity. "The discharge of domestic type wastewater into or onto land from an onsite system and the associated discharge of odour into air from the onsite system are permitted activities, provided: (4) the slope of the disposal field is not greater than 25 degrees.*

The site comprises of regenerating native bush on a steep (20-45 degree), north-westerly facing slope. There are no areas over the property large enough to accommodate a 193m² wastewater disposal field on a slope less than 25 degrees. Therefore, a disposal option compliant with the rule above is not achievable.

The activity is Discretionary because it does not replace an existing Resource Consent (Controlled), and it is not a prohibited activity. Site constraints requiring the field to be located to the southwest on slopes greater than 25 degrees are outlined. Mitigation measures are discussed.

- *8.6.5.1.4 Setback from Boundaries*

"No building shall be erected within 10m of any site boundary"

Due to site constraints including a Building Restriction Line the proposed 1-bedroom, 18.9m², relocated tiny home is 9.7m from the boundary whilst the 4.4m² bathroom (not considered an accessory building) is 8.2m from the boundary.

The activity is Restricted Discretionary because it is not listed as a Controlled activity. The activity is assessed against criteria listed in Section 8.6.5.3.4. The property will be zoned Rural Production only in the Far North Proposed District Plan. A 10m setback from a boundary is required in the new plan.

- *12.1.6.1.5 Buildings within Outstanding Landscapes*

The following are permitted activities in an Outstanding Landscape, as shown on the Resource Maps:

(b) Where that building will be visible from a viewing point on a public road, public reserve, coastal marine area or the foreshore that is within 500m of that building.

The tiny home and bathroom building will be visible from the roadside reserve. Once plantings mature along the ~1.2m bund visibility from Oromahoe Road will be limited to unlikely.

- *12.4.6.1.2 Fire Risk to Residential Units*

(b) *Residential units shall be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest.*

The tiny home and bathroom will be within 20m from the drip line of regenerating, native bush. The vegetation should remain for slope stability.

The activity is not Controlled as it does not comply with Rule 12.4.6.1.2. The activity is Discretionary because it *(a) does not comply with one or more of the standards for permitted or controlled activities as set out under Rules 12.4.6.1 and 12.4.6.2* but complies with (b) (c) and (d). Assessment Criteria 12.4.7, j, (i-iv) are discussed.

The location of the buildings is restricted due to Consent Notice 6805670.2 (ii) and a designated Building Restriction Line (BRL). The BRL is the most suitable location for the buildings due to steep topography and slope stability. The buildings are located as far away from the road as possible whilst remaining within the BRL. The BRL has meant the buildings are within the 10m setback from a boundary. In this case the roadside boundary. The bathroom is the closest building at 8.2m from the boundary, however, there is an additional 9.0m of roadside reserve between the boundary and Oromahoe Road. Therefore, the bathroom is 17.2m total from the road.

The buildings will not affect the outlook and privacy of adjacent properties because they are not visible from any neighbouring property due to existing vegetation on Lot 3 and adjacent sites. The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve due to the windy nature of this section of Oromahoe Road (metalled) and lack of a suitable footpath or walking track. Due to the elevation of the road and a ~1.2m high planted bund, the buildings will be fully screened or at least partially screened from view from any person walking or driving along Oromahoe Road. The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape. The buildings will not restrict visibility for access and egress of vehicles on Oromahoe Road. Potential negative effects due to the buildings being within 10m of the boundary are expected to be nil to less than minor.

Any potential negative effects due to the buildings being visible from the road reserve or partially visible from Oromahoe Road on a property zoned Outstanding Landscape are expected to be nil to less than minor. This breach will not need addressing in the Far North Proposed District Plan as the property will be zoned Rural Production only. The location of the buildings is restricted to a BRL. The tiny home and bathroom will be visible to a person walking along the roadside reserve. However, it is highly unlikely the public will utilise this area. Due to the elevation of the road and a ~1.2m high planted bund the buildings will be screened or at least partially screened from view from any person walking or driving along Oromahoe Road. The development is not visible from any other public viewpoint or neighbouring property. The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape. A small area of vegetation has been cleared for the development. No further clearance of the regenerating bush is proposed. Further planting to the south of the development is not recommended due to potential fire risk.

The topography over the property ranges from approximately 20-45 degrees. There are no areas over the property large enough to accommodate a 193m² wastewater disposal field on a slope less than 25 degrees. Therefore, a disposal option compliant with the *Regional Plan for Northland (2019), Section C.6.1.3, (4)* is not achievable. The Onsite Effluent Disposal Report written by Northland Geotechnical Specialists, 27th May 2025 states the proposed location of the field is the most suitable to reduce the risk of slope instability and run off contaminating surface water. The 1-bedroom, tiny home with 1 water tank including 10,000 litres to be set aside for firefighting is expected to have low water use (145 litres per person per day, 290 litres total, with standard water reduction fixtures). A Tech Treat CP2 aeration treatment system accredited through the Onsite Effluent Nation Testing Program (OSET) in 2012/2013 is proposed. The system and field will require an annual maintenance contract to ensure the system and field are working well. A loading rate of 1.5 (rather than 3) is used as it disperses wastewater over a greater area, reducing the risk of slope instability and run off. A 10m buffer zone, below the field, currently in regenerating bush, will capture run off following heavy rain events. A bund upslope of the field prevents additional stormwater running onto the field. All other wastewater rules in the Regional Plan for Northland (2019), Far North District Plan (2009) and TP58 (2004) for wastewater have been achieved. Negative environmental effects are expected to be less than minor.

Trees within 20m of the buildings are to remain to maintain slope stability. Maintaining the regenerating native bush is also beneficial for environmental and visual amenity reasons. Fire and Emergency NZ have approved the proposed firefighting water supply and access to it. Fire risk reduction including the installation of a smoke alarm and fire extinguisher will be implemented. The following are examples of mitigation measures proposed; Trees and shrubs close to the house will be pruned to a height of 2 metres from the ground, flammable debris such as twigs and dead leaves will be removed from the roof, around and under the house and decks. Gravel or crushed rock instead of bark and wood chip close to the buildings is recommended. Dead plant material within 10-30m of the buildings will be removed. Additional planting is not proposed.

2.0 Proposal

The Certificate of Title and Consent Notice 6805670.2, (i-iii) are attached as Appendix 1. An aeration treatment system with surface laid dripper line is proposed due to steeply sloping topography covered by regenerating native bush. The Onsite Effluent Disposal Report written by Northland Geotechnical Specialists, 27th May 2025 is provided as Appendix 3. The buildings are to be located on ridgelines identified in the Engineers report prepared by Haigh Development Consultants dated September 1999 (p.6 of the report attached as Appendix 4). The Geotechnical Report for Tiny Home written by Northland Geotechnical Specialists, 18th March 2025 provides a thorough and recent investigation of the proposed development and is attached as Appendix 5. Stormwater disposal is to be undertaken in the manner described in the Engineers Report prepared by Haigh Development Consultants dated September 1999. A stormwater spreader is proposed downslope of and well away from the dwelling as shown on the Site Plan, Sheet A01, Appendix 2. A 25,000-litre water tank exists onsite. The outlet pipe is to be set at a height so 10,000 litres remains in the tank for firefighting purposes. The tank is to be fitted with a firefighting coupling. The Firefighting Report by Fire Emergency NZ approved 1st July 2025 is attached as Appendix 6.

It is proposed that an 18.9m², 1-bedroom, 2 storey, tiny home with a height of 7.3m is relocated onto Lot 3 DP 361456. A 4.4m² bathroom with a shower, toilet and handbasin will be constructed next to the dwelling. A 33.1m² freestanding timber deck is proposed. Appendix 2, Sheet A02 and A03 show the floor plan and elevations for the dwelling and bathroom. The buildings will be accessed via a metal driveway. Lot 3 is a 4,910m² property covered by regenerating native bush. The property slopes steeply to the northwest. The buildings are to be located within a Building Restriction Line (BRL) determined by Northland Geotechnical Specialists (p.11 of the Geotechnical Report for Tiny Home written by Northland Geotechnical Specialists, 18th March 2025, Appendix 5 shows the BRL). Existing vegetation is to remain to maintain slope stability. Slope stability therefore influences the location of the buildings in relation to the roadside boundary and proximity to vegetation. The wastewater disposal field must be within an area where part of the field slopes greater than 25 degrees because the property overall slopes steeply (~20-45 degrees).

Lot 3 DP 361456 is currently zoned Rural Production in an area of Outstanding Landscape in the Operative Far North District Plan. The property will be zoned Rural Production only in the Far North Proposed District Plan. Therefore, the visibility from a public road would not need to be addressed under the new plan. Currently the visibility of the buildings will be reduced due to their small size and topography (located downslope of Oromahoe Road with reduced visibility). Existing planting parallel to the roadside will further reduce visibility once mature.

3.0 Site Description

Lot 3 DP 361456 is a 4,910m², property located at 108 Oromahoe Road, Opua. An existing, metalled, layby area formed within the road reserve off Oromahoe Road is located upslope of the site. The strip of road reserve then Oromahoe Road run parallel to the southern boundary of Lot 3. Lot 3 is roughly rectangular in shape, sloping steeply in a general north-westerly direction. The Geotechnical Report for Tiny Home (18th March 2025) and Onsite Effluent Disposal Report (27th May 2025) written by Northland Geotechnical Specialists states the topography over the property ranges from ~20-45 degrees. A small area of vegetation, to the south of the property, has been cleared for the proposed driveway, tiny house, deck and bathroom. The remainder of the property is regenerating native bush including tree species such as Tānekaha, Rimu, Mānuka, Kānuka, Māpou with an understory including Ponga and Hangehange. Land to the east (Lot 4 DP 361456) north and west (Lot 2 DP 361456) are covered by the same regenerating bush. The roadside reserve with metalled layby area then Oromahoe Road are located to the south. Established residential properties are located to the south of Oromahoe Road. Refer to the NRC Map, Section 3.1 showing Lot 3 and the surrounding area.

The property slopes towards a stream located along the northwest boundary. Overland flow paths, to the east of the lot, direct stormwater intermittently towards the stream. The Site Location Plan, Section A01, Appendix 2 shows the approximate location of the flow paths and stream. The stream is approximately 2m wide on average and is therefore defined as surface water which requires a wastewater setback of 15m as per the the Regional Plan for Northland, (2019), Section C.6.1.3 and is not subject to the Far North District Plan, Section 12.7.6.1.4 (b) rule requiring a 30m setback from certain water bodies such as a river (defined as “a continually flowing body of water with a bed of an average width of 3m or more”). According to NRC Hazard Maps the property is not subject to flooding.

Photographs 1-3 show the view to the north, west and east, taken from the building platform of the tiny house. Land to the north, west and east is steeply sloping with regenerating native bush. The proposed buildings will not be visible to neighbours due to the established vegetation.

Photograph 4 shows the view to the south of the building platform towards Oromahoe Road, showing how the tiny home and bathroom are situated on lower lying topography reducing visibility of the buildings from the road. Limited vegetation to the south reduces fire risk.

The existing, metalled, layby area formed within the road reserve off Oromahoe Road, located upslope of the site, is shown in Photograph 5. Plantings including Mānuka, Citrus and Lavender are currently growing along the bund, parallel to the road. These plantings, once mature, are likely to screen the development from view from Oromahoe Road. There may be some visibility from where vehicles enter and exit the road reserve. The newly formed driveway, towards the water tank, will be metalled, providing access to the dwelling. The cut face has been planted primarily with low growing, garden plants. Plants include Citrus, Flax, Rhubarb, Artichokes and flowers. Due to the topography being lower than the road as well as plantings, the visibility of the driveway, dwelling and bathroom is reduced. Refer to Sheet RC1, Appendix 2 showing visibility to the public from the road reserve and Oromahoe Road. The Landscape Plan, Sheet A01b, Appendix 2 shows existing vegetation on Lot 3.

Photograph 6 shows the view to the east along Oromahoe Road. There is no visibility of the development from neighbouring dwellings to the south such as 105 A, B, C and D and 113 Oromahoe Road due to existing vegetation. Due to topography and Mānuka along the bund the buildings are unlikely to be visible from a person walking or driving along Oromahoe Road. The

buildings will be visible to a person walking along the road reserve. However, it is highly unlikely the public will walk along the road reserve. Refer to Sheet RC1, Appendix 2 showing likely visibility from the road reserve and Oromahoe Road.

Photograph 1: View to the north, taken from the approximate location of the tiny home showing regenerating, native bush.

Photograph 2: View to the west of the building platform showing regenerating native forest on steep topography.

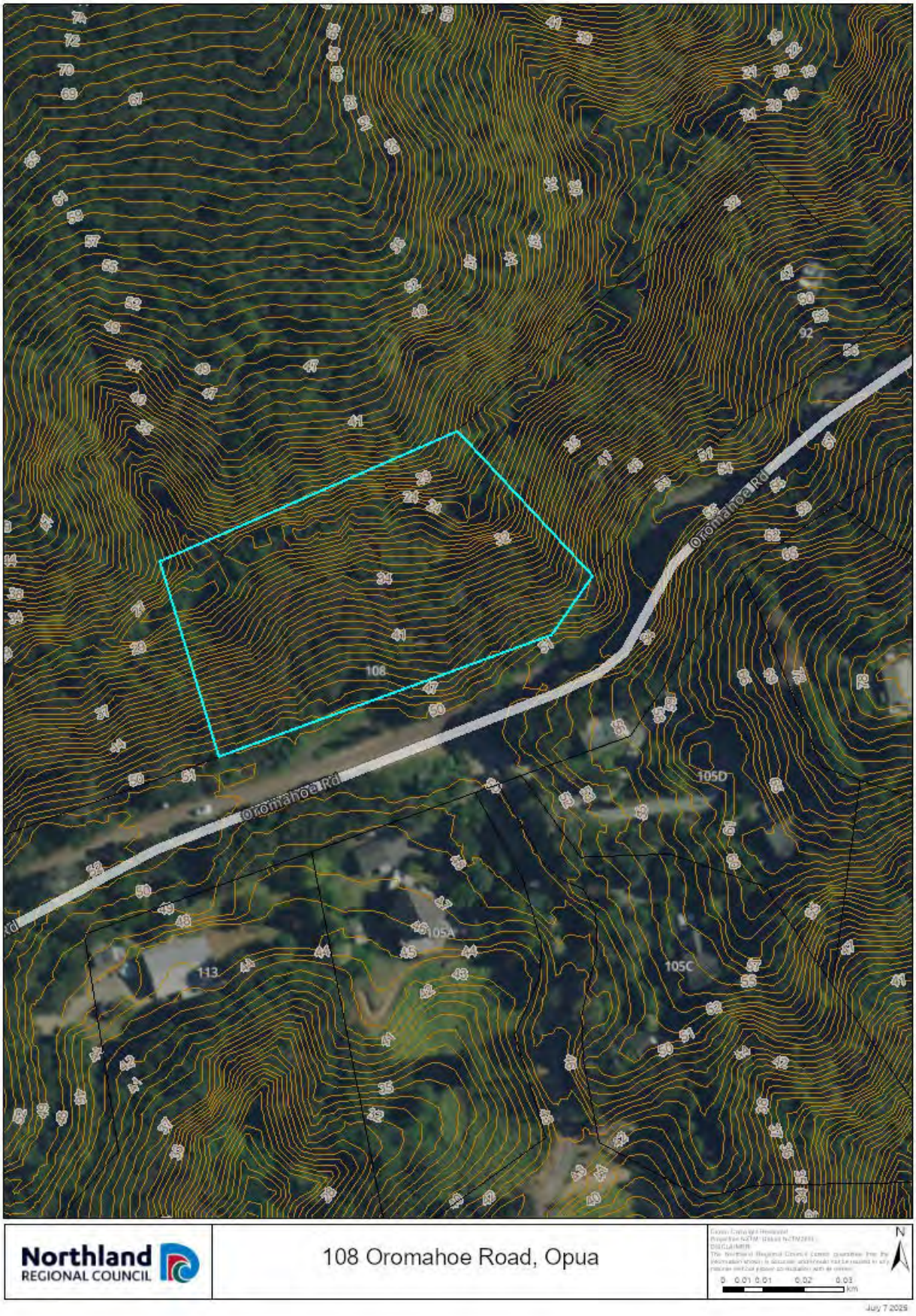
Photograph 3: View to the east from the building platform showing regenerating native bush on steep slopes and the recently installed water tank.

Photograph 4: View to the south of the building platform towards Oromahoe Road showing how the tiny home and bathroom are situated on lower lying topography reducing visibility. Limited vegetation to the south of the dwelling reducing fire risk.

Photograph 5: Showing the existing, metalled, layby area formed within the road reserve off Oromahoe Road located upslope of the site. The newly formed driveway, towards the water tank, will provide access to the dwelling. Planting along the bund parallel to the road and smaller vegetation on the cut face will further reduce visibility of the tiny house, bathroom and driveway from Oromahoe Road.

Photograph 6: View to the west along Oromahoe Road showing how existing vegetation blocks the visibility of the tiny home and bathroom from neighbouring properties. Manuka along the bund reduces visibility from Oromahoe Road.

3.1 NRC Map showing Lot 3 DP 361456



4.0 NRC Onsite Wastewater Breach

The Regional Plan for Northland (2019), Section C.6.1.3, Other Onsite Domestic Wastewater Discharge – Permitted Activity states "The discharge of domestic type wastewater into or onto land from an onsite system and the associated discharge of odour into air from the onsite system are permitted activities, provided: (4) the slope of the disposal field is not greater than 25 degrees".

The site mostly comprises regenerating native bush on a steep (20-45 degree) north-westerly facing slope. The proposed wastewater disposal field is to be located on topography where parts of the slope are greater than 25 degrees.

The activity is Discretionary because it does not replace an existing Resource Consent (Controlled), and it is not a prohibited activity. Site constraints requiring the field to be located to the southwest on slopes greater than 25 degrees are outlined. Mitigation measures are discussed.

The topography over the property ranges from approximately 20-45 degrees. There are no areas over the property large enough to accommodate a 193m² wastewater disposal field on a slope less than 25 degrees. Therefore, a disposal option compliant with the NRC rule above is not achievable. All other wastewater rules in the Regional Plan for Northland (2019), Far North District Plan (2009) and TP58 (2004) for wastewater have been achieved.

The Site Plan, p. 11 of the Onsite Effluent Disposal Report (27th May 2025) written by Northland Geotechnical Specialists (NGS), Appendix 3 shows the proposed location of the wastewater disposal field as well as 2 other potential locations which are less suitable. The proposed location ranges in slope from approximately 20-30 degrees, therefore, avoiding slopes greater than 30 degrees. The location is to the west of the dwelling rather than downslope of it which could compromise slope stability and increase proximity to the stream below. The proposed disposal field is to be located amongst established vegetation with enough area for a 10m buffer zone below it to capture potential run off. The location meets setback requirements from the stream and overland flow paths as well as avoiding areas with slips. An existing bund prevents downslope run off from the road.

The Onsite Effluent Disposal Report recommends reducing the loading rate to 1.5 which increases the size of the field dispersing wastewater over a greater area, reducing the risk of run off and slope instability. Dripper lines are to be firmly fixed to the surface. The 1-bedroom tiny home with 1 water tank including firefighting supply is expected to have a low water use (145 litres per person per day, 290 litres total, with standard water reduction fixtures). A Tech Treat CP2 aeration treatment system accredited through the Onsite Effluent Nation Testing Program (OSET) in 2012/2013 is proposed. The system and field will require an annual maintenance contract to ensure the system and field are working well.

The proposed location and design of the wastewater field reduce the risk of slope instability and run off contaminating surface water. All other setbacks and rules regarding wastewater have been met. Environmental effects are expected to be nil to less than minor.

The information provided above summarises information outlined in the Onsite Effluent Disposal Report written by NGS, 27th May 2025. The full report which includes an Assessment of Environmental Effects is attached as Appendix 3.

5.0 Far North District Plan Review

5.1 Operative Far North District Plan

Anna Madsen, from 108 Oromahoe Road, Opua, Lot 3 DP 361456, applies for Resource Consent due to the following rule breaches in a Rural Production Zone in an area of Outstanding Landscape:

- ***8.6.5.1.4 Setback from Boundaries***

"No building shall be erected within 10m of any site boundary"

Due to site constraints the proposed 1-bedroom, 18.9m², relocated tiny home is 9.7m from the roadside boundary whilst the 4.4m² bathroom (not considered an accessory building) is 8.2m from the boundary.

The activity is Restricted Discretionary because it is not listed as a Controlled activity. The activity is assessed against criteria listed in Section 8.6.5.3.4. The property will be zoned Rural Production only in the Far North Proposed District Plan. A 10m setback from a boundary is required in the new plan.

- ***12.1.6.1.5 Buildings within Outstanding Landscapes***

The following are permitted activities in an Outstanding Landscape, as shown on the Resource Maps:

(c) "Where that building will be visible from a viewing point on a public road, public reserve, coastal marine area or the foreshore that is within 500m of that building"

The tiny home and bathroom building will be visible from the road reserve. Once vegetation along the bund matures, it is unlikely the buildings will be visible from Oromahoe Road.

The activity is Restricted Discretionary because it does not comply with 12.1.6.1.5 but does comply with rules listed b-e.
The activity is assessed against criteria listed in Section 12.1.6.2.1. The property will be zoned Rural Production in the Far North Proposed District Plan and will not be located within a zone of Outstanding Landscape. This breach will not occur under the new District Plan.

- ***12.4.6.1.2 Fire Risk to Residential Units***

(c) Residential units shall be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest.

The tiny home and bathroom will be within 20m from the drip line of regenerating, native bush. The vegetation should remain for slope stability.

The activity is not Controlled as it does not comply with Rule 12.4.6.1.2. The activity is Discretionary because it *(a) does not comply with one or more of the standards for permitted or controlled activities as set out under Rules 12.4.6.1 and 12.4.6.2* but complies with (b) (c) and (d). Assessment Criteria 12.4.7, j, (i-iv) are discussed.

5.2 Operative Far North District Plan Other Rule Assessment:

RURAL PRODUCTION ZONE

The following District Plan rules comply in a Rural Production Zone:

8.6.5.1.1 Residential Intensity: Complies

8.6.5.1.2 Sunlight Rule: Complies

8.6.5.1.3 Stormwater Management: Complies

Impermeable Surfaces

Existing metal driveway:	38.0m²
Proposed relocation:	18.9m²
Proposed bathroom:	4.4m²
Total proposed:	61.3m²

Total permitted = 15% of gross site area = 736.5m²

Total proposed = 61.3m² = 1.2% Complies

8.6.5.1.5 Transportation: Complies

8.6.5.1.6 Keeping of Animals: Complies

8.6.5.1.7 Noise: Complies

8.6.5.1.8 Building Height: Permitted: 12m maximum. Proposed: 7.3m approx. Complies.

8.6.5.1.9 Helicopter Landing Area: Complies

8.6.5.1.10 Building Coverage: Complies

Proposed relocation:	18.9m²
Proposed bathroom:	4.4m²
Total proposed:	61.3m²

Total permitted = 12.5% of gross site area = 613.7m²

Total proposed = 23.3% = 0.4% Complies

8.6.5.1.11 Scale of Activities: Complies

8.6.5.1.12 Temporary Events: Not applicable, Complies

12.3.6.1.2 Excavation and/or filling: Not required, Complies

NES Soil disturbance: Not subject to NES

OUTSTANDING LANDSCAPE ZONE, Section 12 Natural and Physical Resources

The following District Plan rules comply in relation to Outstanding Landscapes.

12.1.6.1.1 Protection of Outstanding Landscape Features, Complies

12.1.6.1.2 Indigenous Vegetation Clearance in Outstanding Landscapes, minimal vegetation clearance has occurred for the small buildings and driveway, Complies

12.1.6.1.3 Tree Planting in Outstanding Landscapes, Complies

12.1.6.2.4 Excavation and/or Filling within an Outstanding Landscape, pile foundations proposed, Complies

12.1.6.1.6 Utility Services in Outstanding Landscape, Complies

5.3 Proposed Far North District Plan Rules with Immediate Legal Effect

The proposal is subject to the Proposed District Plan. Assessment of the matters relating to the Proposed District Plan that have immediate legal effect, has been undertaken below:

Chapter	Rule Reference	Compliance of Proposal
Hazardous Substances	*The following rules have immediate legal effect: Rule HS-R2 has immediate legal effect but only for a new significant hazardous facility. HS -R5 relates to a hazardous facility within a scheduled site and area of significance to Maori. HS-R6 relates to a hazardous facility within an SNA. HS-R9 relates to a hazardous facility within a scheduled heritage resource.*	Not applicable. The site does not contain any hazardous substances to which these rules would apply.
Heritage Area Overlays	*All rules have immediate legal effect (HAR1 to HA-R14)* *All standards have immediate legal effect (HA-S1 to HA-S3)*	Not applicable. The site is not located within a Heritage Area Overlay.
Historic Heritage	*All rules have immediate legal effect (HHR1 to HH-R10)* *Schedule 2 has immediate legal effect*	Not applicable. The site is not located within a Heritage Area Overlay.
Notable Trees	*All rules have immediate legal effect (NTR1 to NT-R9)* *All standards have legal effect (NT-S1 to NT-S2)* *Schedule 1 has immediate legal effect*	Not applicable. The site does not contain any notable trees.
Sites and Areas of Significance to Maori	*All rules have immediate legal effect (SASM-R1 to SASM-R7)* *Schedule 3 has immediate legal effect*	Not applicable.
Ecosystems and Indigenous Biodiversity	*All rules have immediate legal effect (IB-R1 to IB-R5)*	The proposal is not in breach of rules IB-R1 to IBR5. Minimal vegetation clearance has occurred for the small development.
Subdivision	*The following rules have immediate legal effect:* *SUB-R6, SUB-R13, SUB-R14, SUB-R15, SUBR17*	Not applicable. The proposal is not a subdivision
Activities on the Surface of Water	*All rules have immediate legal effect (ASWR1 to ASW-R4)*	Not applicable. The proposal does not involve activities on the surface of water.
Earthworks	*The following rules have immediate legal effect: EW-R12, EW-R13* *The following standards have immediate legal effect: EW-S3, EW-S5*	Pile foundations proposed. Earthworks not required.
Signs	*The following rules have immediate legal effect: SIGN-R9, SIGN-R10* *All standards have immediate legal effect but only for signs on or attached to a scheduled heritage resource or heritage area*	Not applicable. No signs are proposed as part of this application.
Orongo Bay Zone	*Rule OBZ-R14 has partial immediate legal effect because RD-1(5) relates to water*	Not applicable. The site is not located in the Orongo Bay Zone.

The assessment above indicates that the proposal is determined to be a Permitted Activity in regard to the Proposed District Plan. Therefore, no further assessment of these rules will be undertaken.

6.0 Boundary Breach in Rural Production Zone

This section addresses the *8.6.5.1.4 Setback from Boundaries* breach *"No building shall be erected within 10m of any site boundary"* in a Rural Production Zone.

The activity is Restricted Discretionary because it is not listed as a Controlled activity. Objectives and policies in the Operative and Proposed District Plan in a Rural Production Zone are discussed. The activity is assessed against criteria listed in Section 8.6.5.3.4 of the current plan. The property will be zoned Rural Production only in the Far North Proposed District Plan. A 10m setback from a boundary is required in the new plan.

Due to site constraints the proposed 1-bedroom, 18.9m², relocated tiny home is 9.7m from the roadside boundary whilst the 4.4m² bathroom (not considered an accessory building) is 8.2m from the boundary. There is an additional 9.0m of roadside reserve between the property boundary and road. Refer to the Landscape Plan, Sheet A01b, Appendix 2 showing the distance of the buildings from the property boundary and the distance from the boundary to Oromahoe Road.

Consent Notice 6805670.2 (ii) requires that "Any buildings on Lots 3 and 4 are to be located on the ridgelines at the sites identified in the Engineers Report prepared by Haigh Development Consultants dated September 1999. Refer to Appendix 4. p.6. A designated Building Restriction Line (BRL) shown on p. 11 of the Geotechnical Report for Tiny Home, dated 18th March 2025 required by Northland Geotechnical Specilaists, Appendix 5 further restricts the location of the buildings. The Site Plan, Sheet A01, Appendix 2 shows the location of the buildings, deck, water tank and driveway. The proposed location is considered the most suitable for the buildings due to slope stability.

The following has been taken from the Operative Far North District Plan, Rural Production, Section 8.6, p. 6. The objectives and policies are assessed in relation to the buildings being within 10m of the roadside boundary.

6.1 Operative Far North District Plan Objectives & Policies in a Rural Production Zone

8.6.3 OBJECTIVES

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

A small area of vegetation has been cleared to the south of the property. No further vegetation clearance is proposed. The remainder of the 4,910m² property is covered by regenerating native bush. The surrounding area is covered in native bush rather than farmland.

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

The property was subdivided with the intention of residential development. The use and development are compatible with the zone and Consent Notices. The development creates affordable housing. The buildings do not restrict visibility for access and egress of vehicles along Oromahoe Road.

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

The land and surrounding area are regenerating native bush rather than farmland. The development is not visible to neighbouring properties in any direction due to existing vegetation. The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve due to the windy nature of this section of Oromahoe Road (metalled) and lack of a suitable footpath or walking track. Due to the elevation of the road and a ~1.2m high planted bund, the buildings will be fully screened or at least partially screened from view from any person walking or driving along Oromahoe Road. The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape.

8.6.3.4 To promote the protection of significant natural values of the Rural Production Zone.

The development is not expected to negatively affect the significant natural values of the Rural Production zone. A small area of vegetation has been cleared to the south of the property. No further clearance is proposed.

8.6.3.5 To protect and enhance the special amenity values of the frontage to Kerikeri Road between its intersection with SH10 and the urban edge of Kerikeri.

Not applicable as not located at the frontage of Kerikeri Road between its intersection with SH10 and the urban edge of Kerikeri.

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

Potential conflicts between new land use activities and existing lawfully established activities within the Rural Production Zone are not anticipated.

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

The development is compatible and not expected to have adverse effects on natural and physical resources.

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

The proposed development is not expected to affect the establishment and operation of activities and services that have a functional need to be located in rural environments. The surrounding area is native bush rather than farmland.

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

The activity is not expected to affect rural production activities in the surrounding Rural Production zone. Surrounding land zoned Rural Production is bush rather than farmland.

OBJECTIVES SUMMARY

The proposed residential use and scale of development are appropriate in this zone. Surrounding land zoned Rural Production is bush rather than farmland. Being within 10m of the road boundary will not restrict visibility for access and egress of vehicles on Oromahoe Road. The proposed development is not visible to neighbours due to existing vegetation. Potential visual amenity effects from the road and road reserve are expected to be nil to less than minor.

8.6.4 POLICIES

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

Land zoned Rural Production in the surrounding area is covered by native bush and is not used for farming and rural production activities. There are not expected to be adverse effects on the environment, including any reverse sensitivity effects. Onsite wastewater and stormwater will be managed onsite.

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

Not applicable.

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

Wastewater and stormwater will be managed onsite and are not anticipated to have adverse effects on the surrounding environment. Further vegetation clearance, apart from weed species, will not occur.

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

The type, scale and intensity of development is in keeping with the amenity values of the Rural Production Zone and productive intent of the zone.

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

Further vegetation removal is not proposed. The remainder of the property will remain regenerating, native bush.

8.6.4.6 That the built form of development allowed on sites with frontage to Kerikeri Road between its intersection with SH10 and Cannon Drive be maintained as small in scale, set back from the road, relatively inconspicuous and in harmony with landscape plantings and shelter belts.

Not applicable as not along Kerikeri Road or the intersection with SH10 and Cannon Drive.

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

The residential use proposed is not considered conflicting land use.

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

Adverse effects expected to be nil to less than minor.

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

Will not affect or compromise established existing activities in the Rural Production zone or neighbouring zones.

POLICIES SUMMARY

Initial subdivision created a section with the purpose of residential development. Due to constraints of the site the buildings are located within 10m of the roadside boundary. The proposed residential use and scale of development are appropriate in this zone. Surrounding land zoned Rural Production is bush rather than farmland. There is no visibility of the development from neighbouring properties. The small buildings being within the 10m setback from the boundary will have minimal visual effect to public along Oromahoe Road due to topography and planting. There is an additional 9.0m of roadside reserve between the property boundary and road. This area further buffers any potential effects. The buildings do not restrict visibility for access and egress of vehicles along Oromahoe Road.

6.2 Proposed Far North District Plan Objectives & Policies

Under the proposed Far North District Plan Lot 3 DP 361456 will be zoned Rural Production only. A 10m setback from a boundary will be required under the new plan as per standard RPROZ-S3.

OBJECTIVES

Objectives RPR0Z-01 - RPR0Z-04 for the proposed Rural Production zone were reviewed.

RPROZ-01 The Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations.

The development is to occur to the south of the property in a small area. The remainder of the 4,910m² will remain regenerating native bush.

RPROZ-02 The Rural Production zone is used for primary production activities, ancillary activities that support primary production and other compatible activities that have a functional need to be in a rural environment.

The property was subdivided with the intention of residential use. Residential use has a functional need to occur in a Rural Production Zone.

RPROZ-02

Land use and subdivision in the Rural Production zone:

- ***a. protects highly productive land from sterilisation and enables it to be used for more productive forms of primary production;***
- ***b. protects primary production activities from reverse sensitivity effects that may constrain their effective and efficient operation;***
- ***c. does not compromise the use of land for farming activities, particularly on highly productive land;***
- ***d. does not exacerbate any natural hazards; and***
- ***e. is able to be serviced by on-site infrastructure.***

Lot 3 is covered by regenerating bush and is not considered highly productive land. There is not expected to be any effects on primary production activities or land for farming. The BRL is considered to "not be subject to or likely subject to slippage and the building work is not likely to accelerate, worsen or result in slippage on the site or any other property". Geotechnical Report for Tiny Home, written by NGS, 18th March 2025, p.7. Onsite wastewater and stormwater will be managed onsite.

RPR0Z-04 The rural character and amenity associated with a rural working environment is maintained.

Lot 3 is located within an area covered by native bush. A small area has been cleared of vegetation for the development. The remainder of the property will remain vegetated.

POLICIES

Policies RPROZ-P1 - RPROZ-P7 were reviewed. Policies relevant or somewhat relevant to the proposal only are listed.

RPROZ-P4 Land use and subdivision activities are undertaken in a manner that maintains or enhances the rural character and amenity of the Rural Production zone, which includes; (d) a diverse range of rural environments, rural character and amenity values throughout the district.

The buildings are not visible from any neighbouring property due to existing vegetation on Lot 3 and adjacent sites. The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve due to the windy nature of this section of Oromahoe Road (metalled) and lack of a suitable footpath or walking track.

Due to the elevation of the road and a ~1.2m high planted bund, the buildings will be fully screened or at least partially screened from view from any person walking or driving along Oromahoe Road. Refer to Sheet RC1, Appendix 2 showing likely visibility from the road reserve and road. The Landscape Plan, Sheet A01b, Appendix 2 shows existing vegetation.

The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape. The buildings will not restrict visibility for access and egress of vehicles on Oromahoe Road. Potential negative effects due to the buildings being within 10m of the roadside boundary are expected to be nil to less than minor.

RPROZ-P5 Avoid land use that d. would exacerbate natural hazards and e. cannot provide appropriate onsite infrastructure.

Assessment of the property by a Geotechnical Engineer resulted in a BRL for the most suitable location of the buildings to avoid exacerbating slope instability. Vegetation surrounding the dwelling assists in maintaining slope stability. Onsite wastewater and stormwater are managed onsite. A water tank will provide potable water and 10,000 litres for firefighting purposes.

RPROZ-P7 Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application: d. location, scale and design of building or structures. e. for subdivision or non-primary production activities: potential reverse sensitivity effects on primary production activities and existing infrastructure.

The proposed buildings are within 10m of the southern boundary, at least 17m from Oromahoe Road. The buildings do not restrict visibility for access and egress of vehicles along Oromahoe Road. Visibility of the buildings will be obscured or at least partially obscured from the road due to topography and existing plantings. There is no visibility of the buildings from neighbouring properties.

SUMMARY

The proposed activity is appropriate. Potential effects of the buildings being within 10m of the boundary are expected to be nil to less than minor.

6.3 Far North District Plan Section Assessment Criteria

Setback from Boundaries within a Rural Production Zone Section 8.6.5.3.4

In assessing an application resulting from a breach of Rule 8.6.5.1.4 Setback from Boundaries the matters to which the Council will restrict its discretion are:

(a) the extent to which the building(s) reduces outlook and privacy of adjacent properties;

There is no visibility of the proposed buildings from adjacent properties, therefore, no effect on their outlook and privacy. Refer to Photographs 1-3 which show regenerating bush on Lot 3 to the north, west and east which blocks visibility of the buildings from view. Existing vegetation along the roadside reserve and on neighbouring properties to the south block's visibility of the buildings from 105A, B, C, D and 113 Oromahoe Road as shown in Photograph 6 and the NRC Map, Section 3.1. The NRC Map shows existing vegetation surrounding Lot 3 on neighbouring properties.

(b) the extent to which the buildings restrict visibility for access and egress of vehicles;

The buildings do not restrict visibility for access and egress of vehicles along Oromahoe Road. The buildings are located on lower lying topography. The bathroom is 8.2m from the boundary. There is an additional 9.0m of roadside reserve between the property boundary and Oromahoe Road.

(c) the ability to mitigate any adverse effects on the surrounding environment, for example by way of planting;

The buildings are located as far away from the road as possible whilst remaining within the BRL. Planting along the bund, within the roadside reserve, includes Mānuka, which once mature, will reduce the visibility of the buildings from view along Oromahoe Road (Refer to Photograph 6). The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape. Sheet RC1, Appendix 2 shows the visibility of the buildings from Oromahoe Road will be restricted due to topography and vegetation along the bund. There will be some visibility where vehicles enter and exit. The bathroom is 8.2m from the boundary. There is an additional 9.0m of roadside reserve between the property boundary and Oromahoe Road. Therefore, the bathroom is 17.2m from the road. The distance further reduces visibility from the road.

The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve due to the windy nature of this section of Oromahoe Road (metalled) and lack of a suitable footpath or walking track. Existing regenerating bush surrounding the dwelling and the natural exterior of the buildings will blend them with the landscape. Existing plantings including Citrus along the cut face, shown on the Landscape Plan, Sheet A01b, Appendix 2 is likely to reduce the visibility of the buildings from the road reserve.

(d) for sites having a frontage with Kerikeri Road (between its intersection with SH10 and Cannon Drive:

(i) the scale of the buildings;

(ii)the extent of set back from Kerikeri Road;

(iii) the visual appearance of the site from the Kerikeri Road frontage;

(iv) the extent to which the building(s) are in harmony with landscape plantings and shelter belts;

Not applicable.

(e) for residential buildings located within 100m of Minerals Zone:

(i) the position of the building platform(s) in relation to the mine or quarry;

(ii) the likelihood of the mine or quarry causing environmental effects, especially noise and loss of amenity values, that will impact adversely on the occupiers of the proposed residential building;

(iii) the effectiveness of any mitigation measures proposed;

Where an application is required under this rule, the owner and/or operator of any mine or quarry within the adjacent Minerals Zone shall be considered an affected party. Where the written approval of the owner and the mine or quarry operator has been obtained, the application will be non-notified.

Not applicable.

(f) the extent to which the buildings and their use will impact on the public use and enjoyment of adjoining esplanade reserves and strips and adjacent coastal marine areas.

Not applicable.

6.4 Conclusion

The location of the buildings is restricted due to Consent Notice 6805670.2 (ii) and a designated Building Restriction Line (BRL). The BRL is the most suitable location for the buildings due to steep topography and slope stability. The buildings are located as far away from the road as possible whilst remaining within the BRL. The bathroom is the closest building at 8.2m from the boundary, however, there is an additional 9.0m of roadside reserve between the boundary and Oromahoe Road. Therefore, the bathroom is 17.2m total from the road.

The buildings are not visible from any neighbouring property due to existing vegetation on Lot 3 and adjacent sites. The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve due to the windy nature of this section of Oromahoe Road (metalled) and lack of a suitable footpath or walking track.

Due to the elevation of the road and a ~1.2m high planted bund, the buildings will be fully screened or at least partially screened from view from any person walking or driving along Oromahoe Road. There will be some visibility where vehicles enter and exit.

The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape.

The buildings will not restrict visibility for access and egress of vehicles on Oromahoe Road.

Potential negative effects due to the buildings being within 10m of the roadside boundary are expected to be nil to less than minor.

7.0 Visibility from Road in Outstanding Landscape

This section addresses 12.1.6.1.5 Buildings within Outstanding Landscapes

> ***The following are permitted activities in an Outstanding Landscape, as shown on the Resource Maps:***
>
> ***(d) Where that building will be visible from a viewing point on a public road, public reserve, coastal marine area or the foreshore that is within 500m of that building, the exterior is colour palette range with a reflectance value of 30% or less or is constructed of natural materials which fall within this range.***

The tiny home and bathroom will be visible to a person walking along the roadside reserve, parallel to the southern boundary. However, it is highly unlikely the public will walk along the road reserve. Due to the elevation of the road and a ~1.2m high planted bund, the buildings will be fully screened or at least partially screened from view from any person walking or driving along Oromahoe Road.

The activity is Restricted Discretionary because it does not comply with 12.1.6.1.5 but does comply with rules listed b-e.
The activity is assessed against criteria listed in Section 12.1.6.2.1. The property will be zoned Rural Production in the Far North Proposed District Plan and will not be located within a zone of Outstanding Landscape. This breach will not occur under the new District Plan.

7.1 Operative Far North District Plan Objectives & Policies

12.1.3 OBJECTIVES

12.1.3.1 To protect outstanding landscapes and natural features from inappropriate, subdivision use and development.

The property was subdivided with the intention of residential development. The use and development are appropriate.

12.1.3.2 To protect the scientific and amenity values of outstanding natural features.

Lot 3 DP 361456 and surrounding land zoned Outstanding Landscape is covered by native bush. A small area of bush has been cleared for the 2 small buildings and 38m² driveway. The remainder of the bush will remain to maintain slope stability.

12.1.3.3 To recognize and provide for the distinctiveness, natural diversity and complexity of landscapes as far as practicable including the complexity found locally within landscapes and the diversity of landscapes across the District.

The remainder of the property will remain vegetated.

12.1.3.4 To avoid adverse effects and to encourage positive effects resulting from land use, subdivision or development in outstanding landscapes and natural features and Maori cultural values associated with landscapes.

Adverse effects are avoided as much as practical. A small area has been cleared for development. The remainder of the land will remain bush.

OBJECTIVES SUMMARY

Lot 3 is currently zoned Outstanding Landscape due to native bush over the property and surrounding land. No further vegetation clearance is proposed. The property will be zoned Rural Production only in the new plan.

POLICIES

12.1.4.1 That both positive and adverse effects of development on outstanding natural features and landscapes be taken into account when assessing applications for resource consent.

The property was subdivided with the intention of residential development. Existing residential properties are located to the south of Oromahoe Road. There is a need for affordable housing. Limited vegetation removal has occurred.

12.1.4.2 That activities avoid, remedy, or mitigate significant adverse effects on both the natural and the cultural values and elements which make up the distinctive character of outstanding natural features and landscapes.

Limited vegetation removal has occurred. No further clearing is proposed as the vegetation assists in maintaining slope stability. The buildings and area proposed for development are small and located downslope of Oromahoe Road.

12.1.4.3 That the cumulative effect of changes to the character of Outstanding Landscapes be taken into account in assessing applications for resource consent.

Cumulative effects are not anticipated.

12.1.4.4 That the visibility of Outstanding Landscape Features, when viewed from public places, be taken into account in assessing applications for resource consent.

The buildings are visible from the road reserve; however, it is highly unlikely that the public will walk along this section of road as it is metaled and windy with no footpath or walking track. Due to the topography and the planted ~1.2m high bund along the roadside, it is highly unlikely that the buildings will be visible from Oromahoe Road. There are no other public places where the development is visible from.

12.1.4.5 That the adverse visual effect of built development on outstanding landscapes and ridgelines be avoided, remedied or mitigated.

Adverse visual effects are avoided, remedied or mitigated as far as practical with restrictions including a BRL.

12.1.4.6 That activities avoid or mitigate adverse effects on the scientific and amenity values associated with outstanding natural features.

Adverse amenity effects are avoided or mitigated.

12.1.4.7 That the diversity of outstanding landscapes at a District-wide and local level be maintained and enhanced where practicable.

Vegetation clearance is minimal. No further clearance is proposed.

12.1.4.8 That the trend is towards the enhancement rather than the deterioration of landscape values, including the encouragement of the restoration of degraded landscapes.

Subdivided with the purpose of residential development. Vegetation clearance minimal.

12.1.4.9 That the high value of indigenous vegetation to Outstanding Landscapes be taken into account when assessing applications for resource consents.

The vegetation is regenerating, native bush. Trees with a trunk width of approximately 200mm. Refer to Photographs 1-3. No further vegetation clearance is proposed. Aerial Photographs show the property and surrounding land to be grassed farmland in 1953.

12.1.4.10 That landscape values be protected by encouraging development that takes in account:

(a) the rarity or value of the landscape and/or landscape features;

No further vegetation clearance proposed.

(b) the visibility of the development;

The development is visible from the road reserve which is not used or highly unlikely to be used by the public. Visibility from Oromahoe Road will be blocked to partially blocked due to plantings along a ~1.2m bund and topography. Lot 3 is not visible from any other public viewpoint or from neighboring properties.

(c) important views as seen from public vantage points on a public road, public reserve, the foreshore and the coastal marine area;

The development is visible from the road reserve, highly unlikely to be used by the public. Visibility from Oromahoe Road is unlikely once plantings along the roadside bund mature. Some visibility will occur where vehicles enter and exit. There is no visibility of the development from the foreshore or coastal marine area.

(d) the desirability of avoiding adverse effects on the elements that contribute to the distinctive character of the coastal landscapes, especially outstanding landscapes and natural features, ridges and headlands or those features that have significant amenity value;

The property is not within or visible to the coastal landscape. Adverse effects are avoided, remedied or mitigated.

(e) the contribution of natural patterns, composition and extensive cover of indigenous vegetation to landscape values;

Lot 3 is one of many properties which make up a large area of Outstanding Landscape comprising of native bush. A small area of vegetation has been cleared for development. No further clearance is proposed.

(f) Māori cultural values associated with landscapes;

New Zealand native bush has a significant cultural value to Māori. No further vegetation clearance is proposed.

(g) the importance of the activity in enabling people and communities to provide for their social, economic, and cultural well-being.

The property and development are affordable in a difficult financial climate. The residential development of the property is in keeping with the surrounding land, for example, properties to the south of Oromahoe Road.

POLICIES SUMMARY

Lot 3 is one of many properties which make up a large area of Outstanding Landscape comprising of native bush. This land will become Rural Production only in the Far North Proposed District Plan. A small area of vegetation has been cleared for development. No further clearance is proposed. The only location the development will be visible from is a small area of roadside reserve, inside of the ~1.2m bund and along the road at entry and exit points from the road reserve.

7.2 Proposed Far North District Plan Objectives & Policies

Under the proposed Far North District Plan Lot 3 DP 361456 will be zoned Rural Production only. An assessment due to visibility from the road and road reserve would not be required under the new plan.

7.3 Far North District Plan Section Assessment Criteria

12.1.6.2.1 BUILDINGS WITHIN OUTSTANDING LANDSCAPES

The Council will restrict the exercise of its discretion to:

(i) the location of the building; and

The tiny home and bathroom are to be located to the south of the property on a ridgeline area identified in the Engineers Report prepared by Haigh Development Consultants dated September 1999 (Appendix 4) as per Consent Notice 6805670.2 (ii) (Appendix 1) and within a designated Building Restriction Line (BRL) required by Northland Geotechnical Specilaists, Geotechnical Report for Tiny Home, dated 18th March 2025 (Appendix 5). Pile foundations are proposed. The buildings are to be located at a lower elevation than the road and road reserve. The bathroom is 8.2m from the boundary. There is an additional 9.0m of roadside reserve between the property boundary and Oromahoe Road, therefore, the bathroom is 17.2m total from the road. Refer to the Site Location Plan, Appendix 2, Sheet A01 and RC1 showing the location of both small buildings. Regenerating native bush is located to the north, west and east of the building platform.

(ii) the size, bulk and height of the building in relation to ridgelines, areas of indigenous vegetation and habitats of indigenous fauna, existing trees and other natural features; and

It is proposed that an 18.9m², 1-bedroom, 2 storey, tiny home with a height of 7.3m is relocated onto Lot 3 DP 361456. A 4.4m² bathroom with a shower, toilet and handbasin will be constructed next to the dwelling. The height of the bathroom building is approximately 2.8m. A 33.1m², freestanding timber deck is proposed. Sheet A02 and A03, Appendix 2 show the floor plan and elevations for the dwelling and bathroom. The buildings are considered small and are to be located within indigenous vegetation at a lower elevation than the road and road reserve. Sheet RC1, Appendix 2 shows the location of the buildings in relation to the road reserve and Oromahoe Road. Photographs 1-3 show regenerating bush surrounding the dwelling.

(iii) the degree to which the landscape will retain the qualities that make it outstanding, including naturalness, and visual and amenity values; and

Lot 3 DP 361456 is one of many properties currently zoned Outstanding Landscape consisting of properties covered by regenerating, native bush. Minimal vegetation clearance has occurred to the south of the property. The remainder of the lot will remain native bush. Therefore, the landscape will retain the qualities that currently make it outstanding, including naturalness, and visual and amenity values. The property will be zoned Rural Production only in the Proposed Far North District Plan.

(iv) the design of the building;

The 18.9m², 1-bedroom, 2 storey, tiny home, 7.3m height is rectangular shaped and clad with horizontal, timber weather board, (Japanese Cedar). The colour is similar to Brown Bramble (BR38-044-054) or Resene Hot Curry Y52-083-071 with a reflectance value (LRC) of 10 and 20 respectively. These colours are within the BS252 standard colour palette range with a reflectance value of 30% or less. Refer to Photograph 7 showing the exterior of the tiny home.

The 4.4m², 2.8m high proposed bathroom will be clad with the same or similar weatherboard and will be stained the same colour as the dwelling.

The small buildings will be surrounded by regenerating native bush. The natural exterior and vegetation will blend the buildings with the environment.

Photograph 7: Showing a photograph of the exterior of the tiny home prior to relocation.

(v) the location and design of associated vehicle access, manoeuvring and parking areas; and

The proposed 38.0m² driveway will be located next to the tiny house as shown on the Site Plan, Sheet A01, Appendix 2. Due to the low elevation and bund with planting, the driveway will be obscured from view from Oromahoe Road. An existing metalled layby area within the roadside reserve also provides access.

(vi) the extent to which planting can mitigate visual effects; and

The approximate visibility of the buildings from the road reserve and Oromahoe Road is shown on Sheet RC1, Appendix 2. Visibility from the road and road reserve is reduced due to topography. The buildings are located downslope of the road surrounded by regenerating bush. Extensive, existing native vegetation to the north, west and east of the buildings will blend the buildings with the natural landscape (Photographs 1-3). The buildings are small and clad with natural weatherboard which will blend them with the regenerating bush. The cut face below the reserve has been planted with plants including Citrus, Flax,

Rhubarb, Artichoke and flowers. These plantings will reduce the visibility of a person walking along the road reserve. It is highly unlikely the public will walk along this section of road as there are no footpaths or walking tracks. The road is metalled and windy. Mānuka planted along the ~1.2m high bund, once mature, will block or at least partially block the visibility of the buildings from any person walking or driving along the Oromahoe Road (Photograph 6). Overall, any potential negative visual effect along the Oromahoe Road and road reserve is expected to be nil to less than minor.

Further planting to the south of the development is not recommended due to fire risk as these plantings will be within the 20m setback of the buildings.

(vii) the means by which permanent screening of the building from public viewing points on a public road, public reserve, or the foreshore may be achieved, and

The Mānuka along the ~1.2m high bund will fully screen or at least partially screen the buildings from view along Oromahoe Road. It is unlikely a person will walk along the road reserve. Potential visual effects are expected to be less than minor. This breach will not need addressing in the new plan because the area will know longer be zoned Outstanding Landscape.

(viii) the cumulative visual effects of all buildings on the site.

The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard, surrounded by regenerating bush will blend with the surrounding landscape. Cumulative visual effects are expected to be nil to less than minor.

7.4 Conclusion

Any potential negative effects due to the buildings being visible from the road reserve or partially visible from Oromahoe Road on a property zoned Outstanding Landscape are expected to be nil to less than minor. This breach will not need addressing in the Far North Proposed District Plan as the property will be zoned Rural Production only. The location of the buildings is restricted to a BRL. The tiny home and bathroom will be visible to a person walking along the roadside reserve. However, it is highly unlikely the public will utilise this area. Due to the elevation of the road and ~1.2m high planted bund the buildings will be screened or at least partially screened from view from any person walking or driving along Oromahoe Road. There may be some visibility from where vehicles enter and exit the road reserve. The development is not visible from any other public viewpoint or neighbouring property. The 2 small buildings, at a lower elevation to the road, clad in natural timber weatherboard (within the BS5252 colour range with a reflectance value of less than 30%), surrounded by regenerating bush will blend with the surrounding landscape. A small area of vegetation has been cleared for the development. No further clearance of the regenerating bush is proposed. Further planting to the south of the development is not recommended due to potential fire risk.

8.0 Fire Risk to Residential Units

This section addresses 12.4.6.1.2 Fire Risk to Residential Units

(a) Residential units shall be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest.

The tiny home and bathroom will be within 20m from the drip line of regenerating, native bush. The vegetation needs to remain for slope stability. The Landscape Plan, Sheet A01b, Appendix 2 shows the approximate proximity of regenerating trees to the buildings and deck.

The activity is not Controlled as it does not comply with Rule 12.4.6.1.2. The activity is Discretionary because it *(a) does not comply with one or more of the standards for permitted or controlled activities as set out under Rules 12.4.6.1 and 12.4.6.2* but complies with (b) (c) and (d). Assessment Criteria 12.4.7, j, (i-iv) are discussed.

8.1 Operative Far North District Plan Objectives & Policies

Natural Hazards, Section 12.4, Operative Far North District Plan

ISSUE

12.4.1.4 The risk of fire causing loss of life, severe damage to property and loss of indigenous vegetation and habitats of indigenous fauna is increasing due to the practice of building homes within or close to flammable vegetation and/or in isolated areas remote from firefighting services.

12.4.3 OBJECTIVES

Objectives 12.4.3.1 to 12.4.3.7 from Section 12.4.3 from the current Natural Hazards section of the Far North District Plan were reviewed. The relevant objectives to this consent are listed below.

- ***To reduce the threat of natural hazards to life, property, and the environment, thereby to promote the wellbeing of the community.***
- ***12.4.3.2 To ensure that development does not induce natural hazards or exacerbate the effects of natural hazards.***
- ***12.4.3.3 To ensure that natural hazard protection works do not have adverse effects on the environment.***
- ***12.4.3.4 To ensure that the role in hazard mitigation played by natural features is recognised and protected.***

12.4.4 POLICIES

Policies 12.4.4.1 to 12.4.3.9 from the current Far North District Plan were reviewed. The relevant policies to this consent are listed below.

- ***12.4.4.7 That the risk to adjoining vegetation and properties arising from fires be avoided.***

Mitigation outlined in Section 8.3 and the Fire Emergency NZ report, Appendix 6 aim to reduce the fire risk to adjoining vegetation and neighbouring properties.

8.2 Natural Hazards Section NH-P9, Proposed Far North District Plan

OBJECTIVES

Objectives NH-01 to NH-04 from the Natural Hazards section of the proposed Far North District Plan were reviewed. The relevant objectives to this consent are listed below.

NH-O1 The risks from natural hazards to people, infrastructure and property are managed, including taking into account the likely long-term effects of climate change, to ensure the health, safety, and resilience of communities.

It is the intent of the owners to reduce the risk of fire and fire spread.

NH-O2 Land use and subdivision does not increase the risk from natural hazards or risks are mitigated, and existing risks are reduced where there are practicable opportunities to do so.

Risks are mitigated and reduced where practical.

NH-O3 New infrastructure is located outside of identified natural hazard areas unless:

- ***a. it has a functional or operational need to be located in that area;***
- ***b. it is designed to maintain its integrity and function, as far as practicable during a natural hazard event; and***
- ***c. adverse effects resulting from that location on other people, property and the environment are mitigated.***

An area of vegetation needed to be cleared for residential development. The location is restricted due to a BRL. Trees are to remain for slope stability. Mitigation measures are proposed.

NH-O4 Natural defences, such as natural systems and features, and existing structural mitigation assets are protected to maintain their functionality and integrity and used in preference to new structural mitigation assets to manage natural hazard risk.

Oromahoe Road is an existing structure which provides a barrier which reduces the risk or speed of fire spread.

POLICIES

Policies NH-P1 to NH-P14 from the Natural Hazards section of the proposed Far North District Plan were reviewed. The relevant objectives to this consent are listed below.

NH-P9 Manage land use and subdivision that may be susceptible to wildfire risk by requiring:

a. setbacks from any contiguous scrub or shrubland, woodlot or forestry;

b. access for emergency vehicles; and

c. sufficient accessible water supply for firefighting purposes.

The Fire Emergency Report, Appendix 6 accepts the water supply and access proposed. Mitigation to reduce the risk of fire and fire spread to the dwelling, bush ecosystem, and neighbouring properties are discussed.

8.3 Far North District Plan Section 12.4.7 Assessment Criteria

(j) In respect of fire risk to residential units:

(i) The degree of fire risk to dwellings arising from the proximity of the woodlot or forest and vice versa:

The tiny house and bathroom are located within a BRL line amongst regenerating native bush. The bush is located to the north, west and south and is between ~3.2-4.9m from the proposed deck or buildings. The vegetation is to remain to assist in maintaining slope stability around the dwelling. There is limited vegetation to the south of the dwelling in gardens on the cut face. Plants include Citrus, Rhubarb, Artichoke and flowers. A vegetated bund is located between the road and roadside reserve. Oromahoe Road creates a buffer between Lot 3 and neighbouring properties to the south reducing the risk of fire spreading south.

(ii) Any mitigation measures proposed to reduce the fire risk:

A 25,000 above ground, plastic water tank is located onsite. The outlet pipe on the water tank is to be installed at a height so that 10,000 litres remain for firefighting purposes. The tank is clearly visible to firefighters from the proposed appliance parking. Access for the firefighting appliance meets criteria required by Fire Emergency NZ outlined in the report, p.5 1(a), Appendix 6. The Site Plan, Sheet A01, Appendix 2 shows the location of the tank, fire appliance parking and access to buildings.

A smoke detector is shown on sheet A02, Appendix II. A fire extinguisher will be located within the proposed dwelling at all times.

Recommendations from Fire Emergency NZ

The following recommendations taken from the Firefighting NZ document provided in Appendix 6 will reduce the risk of fire from the dwelling to the bush and vice versa.

In order to mitigate the risk of fire spread from surrounding vegetation to the proposed building and vice-versa, Fire Emergency New Zealand recommends the following;

I. Fire safe construction

Spouting and gutters – Clear regularly and consider screening with metal mesh. Embers can easily ignite dry material that collects in gutters.

Roof – Use fire resistant material such as steel or tile. Avoid butanol and rubber compounds.

Cladding – Stucco, metal sidings, brick, concrete, and fibre cement cladding are more fire resistant than wood or vinyl cladding.

The spouting and gutters will be regularly cleared and screened with metal mesh. Zinc allure roofing is proposed. Zinc allure is a steel-based product coated with an alloy of aluminium, zinc and silicon. Zinc roofing has a high level of fire resistance.

II. Establish Safety Zones around your home.

Safety Zone 1 is your most import line of defence and requires the most consideration. Safety Zone 1 extends to 10 metres from your home, you should;

a) Mow lawn and plant low-growing fire-resistant plants; and
b) Thin and prune trees and shrubs; and
c) Avoid tall trees close to the house; and
d) Use gravel or decorative crushed rock instead of bark or wood chip mulch; and
e) Remove flammable debris like twigs, pine needles and dead leaves from the roof and around and under the house and decks; and
f) Remove dead plant material along the fence lines and keep the grass short; and
g) Remove over hanging branches near powerlines in both Zone 1 and 2.

The property owner will ensure a-g occur (except for c as trees are to remain). Mulch along the bund may remain but is not to be replaced in the future. Decorative shell or rock is recommended.

III. Safety Zone 2 extends from 10 – 30 metres of your home.

a) Remove scrub and dead or dying plants and trees; and
b) Thin excess trees; and
c) Evenly space remaining trees so the crowns are separated by 3-6 metres; and
d) Avoid planting clusters of highly flammable trees and shrubs
e) Prune tree branches to a height of 2 metres from the ground.

Dead or dying plants and trees will be removed, further planting near dwelling not to occur, tree branches to be pruned to a height of 2 metres from the ground. Scrub and trees are not to be removed as they assist in maintaining slope stability.

IV. Choose Fire Resistant Plants

Fire resistant plants aren't fireproof, but they do not readily ignite. Most deciduous trees and shrubs are fire resistant. Some of these include: poplar, maple, ash, birch and willow. Install domestic sprinklers on the exterior of the sides of the building that are less 20 metres from the vegetation. Examples of highly flammable plants are: pine, cypress, cedar, fir, larch, redwood, spruce, kanuka, manuka.

The vegetation is existing. No future planting of trees is proposed.

(iii) The adequacy of the water supply:

The above ground, plastic water tank with coupling to provide 10,000 litres of water has been assessed by Fire Emergency NZ as a sufficient alternative water supply for firefighting purposes.

(iv) The accessibility of the water supply to fire service vehicles:

Site Plan, A01, Appendix 2 shows the location of the water tank and access for fire appliance parking. The Fire Emergency Report, Appendix 6, p. 5 shows there is at least 4 metres clearance overhead free from obstructions, the driveway access is at least 4m wide, the gradient is less than 16% and the surface is designed to support a 20-tonne truck. The water supply is within 6m from the building.

8.4 Conclusion

Trees within 20m of the buildings are to remain to maintain slope stability. Maintaining the regenerating native bush is also beneficial for environmental and visual amenity purposes. Fire and Emergency NZ have approved the proposed firefighting water supply and access to it. Fire risk reduction including the installation of a smoke alarm and fire extinguisher will be implemented. The following are examples of mitigation measures proposed; trees and shrubs close to the house will be pruned to a height of 2 metres from the ground, flammable debris such as twigs and dead leaves will be removed from the roof, around and under the house and decks. Dead plant material within 10-30m of the buildings will be removed. Gravel or crushed rock instead of bark and wood chip close to the buildings is recommended. Additional planting not proposed.

9.0 Regional Policy Statement for Northland (May 2016) Objectives and Policies

The Regional Policy Statement for Northland (May 2016) was assessed in relation to the proposed activity.

Objectives and Policies were reviewed. The objectives and policies below are relevant or somewhat relevant to the activity.

Objective 3.2(d) Improve the overall quality of Northlands fresh and coastal water with a particular focus on: (d) improving microbiological water quality at popular contact recreation sites, recreational and cultural shellfish gathering site, and commercial shellfish growing areas to minimise risk to human health.

Policy 4.2.1 (b) Improve the overall quality of Northlands water resources by: Reducing loads of sediment, nutrient, and faecal matter to water from the use and development of land and from poorly treated and untreated discharges of wastewater.

Installing a wastewater disposal field on a slope greater than 25 degrees poses a risk of slope instability and increased effluent run off which could potentially enter surface water. To mitigate this the design utilizes a loading rate of 1.5 which increases the size of the field over a greater area. A 10m buffer zone of existing vegetation assists in capturing run off. The buffer zone meets setback requirements from overland flow paths and surface water.

3.14 Natural character, outstanding natural features, outstanding natural landscapes and historic heritage

Identify and protect from inappropriate subdivision, use and development:

(b) The qualities and characteristics that make up the outstanding natural features and outstanding natural landscapes.

The property is currently zoned Rural Production in an area of Outstanding Landscape and will be zoned Rural Production only in the proposed plan. The subdivision created a 4,910m² section to be used for residential purposes. The activity is considered appropriate use and development. A small area of regenerating bush has been removed for the development. No further clearance is proposed.

4.6.1 Managing effects on the characteristics and qualities natural character, natural features and landscapes
(2) Outside the coastal environment avoid significant adverse effects and avoid, remedy or mitigate other adverse effects (including cumulative adverse effects) of subdivision, use and development on the characteristics and qualities of outstanding natural features and outstanding natural landscapes and the natural character of freshwater bodies. Methods which may achieve this include: a) In outstanding natural landscapes, requiring that the location and intensity of subdivision, use and built development is appropriate having regard to, natural elements, landforms and processes, including vegetation patterns, ridgelines and freshwater bodies and their margins.

The location, intensity and scale of the activity is appropriate use and development in keeping with surrounding properties and the intended purpose of the land. A BRL is imposed restricting the location of the buildings and deck. A small area of vegetation has been removed for the development. No further vegetation clearance is proposed. The property is to be zoned Rural Production only in the Proposed Far North District Plan.

10.0 Notification Assessment, Section 95, RMA 1991

10.1 Section 95A-G, RMA 1991

Section 95A-G, Public Notification and Limited Notification of Applications, of the Resource Management Act (1991) were reviewed against the breach discussed.

95A Public Notification of Consent Applications

(1) *A consent authority must follow the steps set out in this section, in the order given, to determine whether to publicly notify an application for a resource consent.*

Step 1: Mandatory public notification in certain circumstances

(2) Determine whether the application meets any of the criteria set out in subsection (3) and,—
(a) if the answer is yes, publicly notify the application; and
(b) if the answer is no, go to step 2.

(3) The criteria for step 1 are as follows:
(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 nor is it required under section 95C. The application is not made jointly with an application to exchange recreation reserve land. Step 1 does not apply.

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

(4) Determine whether the application meets either of the criteria set out in subsection (5) and,—
(a) if the answer is yes, go to step 4 (step 3 does not apply); and
(b) if the answer is no, go to step 3.

(5) 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) [Repealed]
(iii) a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity.
(iv) [Repealed]

(6) [Repealed]

Step 2 does not apply to the activity.

Step 3: If not precluded by Step 2, public notification required in certain circumstances

(7) Determine whether the application meets either of the criteria set out in subsection (8) and,-
(a) if the answer is yes, publicly notify the application; and
(b) if the answer is no, go to step 4.
(8) 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 application does not require public notification.

Step 4; Public notification in special circumstances

(9) Determine whether special circumstances exist in relation to the application that warrant the application being publicly notified and,-
(a) if the answer is yes, publicly notify the application; and
(b) if the answer is no, do not publicly notify the application, but determine whether to give limited notification of the application under section 95B.

No special circumstances exist in this application which justify public notification.
From the assessment above it is considered that the application does not require public notification.

95B Limited notification of consent applications

(1) A consent authority must follow the steps set out in this section, in the order given, to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified under section 95A.

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 groups or affected customary marine title groups.

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

Not applicable to this application.

(4) Notify the application to each affected group identified under subsection (2) and each affected person identified under subsection (3).

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

(5) Determine whether the application meets either of the criteria set out in subsection (6) and,—
(a) if the answer is yes, go to step 4 (step 3 does not apply); and
(b) if the answer is no, go to step 3.
No, go to step 3.
(6) 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 controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land).

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

(7) In the case of a boundary activity, determine in accordance with section 95E whether an owner of an allotment with an infringed boundary is an affected person.

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

(9) Notify each affected person identified under subsections (7) and (8) of the application.

The activity is not a boundary activity.

Step 4: further notification in special circumstances

(10) Determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification under this section (excluding persons assessed under section 95E as not being affected persons), and,-
(a) if the answer is yes, notify those persons; and
(b) if the answer is no, do not notify anyone else.

No special circumstances exist in relation to the application that warrant notification of other persons.

95C-E – Are not applicable as the activity has been assessed as being less than minor effect to neighbouring properties.

95F and G are not applicable as there are no affected customary rights groups involved or is it a customary marine title group.

It is considered that the application does not require public notification.

10.2 Neighboring Properties

The reduced loading rate of the wastewater field increases the size of the field dispersing effluent over a greater area. This along with the 10m planted buffer zone and setback distances from intermittent flow paths and surface water ensures effluent remains on Lot 3 reducing the risk of run off into the stream along the northern boundary.

There is no visibility of the development from neighbouring properties. Photographs 1-3 show the view from the dwelling to the north, west and east. The regenerating forest is to remain for slope stability. Existing vegetation along the road reserve to the south of Oromhoe Road and on neighbouring properties block visibility from neighbouring properties to the south. The planted ~1.2m high bund and the siting of the buildings on lower lying topography than the road further reduces visibility from properties to the south. Photograph 6 shows vegetation along the bund and roadside reserve to the south of Lot 3.

Trees within 20m of the buildings are to remain to maintain slope stability. Maintaining the regenerating native bush is also beneficial for environmental and visual reasons. Fire and Emergency NZ have approved the proposed firefighting water supply and access to it. Fire risk reduction including the installation of a smoke alarm and fire extinguisher will be implemented. The following are examples of mitigation measures proposed; Trees and shrubs close to the house will be pruned to a height of 2 metres from the ground, flammable debris such as twigs and dead leaves will be removed from the roof, around and under the house and decks. Dead plant material within 10-30m of the buildings will be removed. Additional planting is not proposed. Gravel or crushed rock instead of bark and wood chip close to the buildings is recommended. These measures reduce fire risk to neighbouring properties.

11.0 Resource Management Act Section 104 Assessment

11.1 Section 104 Assessment

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 and section 77M, have regard to:

(a) any actual and potential effects on the environment of allowing the activity; and

Section 104(1)(a) requires assessment of any actual and potential effects on the environment as a result of the proposed activity. Sections 4, 5.3, 5.4, 6.3, 6.4 and 7.3 discuss actual and potential effects. The conclusion reached is that the adverse effects of granting consent to the proposal are less than minor, and therefore acceptable in the receiving environment.

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;

Section 104(1)(ab) requires that the consent authority consider 'any measure proposed or agreed to by the applicant for the purposes of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity'. It is considered the proposal is not of a scale or nature that would require specific offsetting or environmental compensation measures to ensure positive effects on the environment. Mitigation measures are proposed and have been discussed.

(b) any relevant provisions of:
(i) a national environmental standard:
(ii) other regulations:
(iii) a national policy statement:
(iv) a New Zealand coastal policy statement:
(v) a regional policy statement or proposed regional policy statement:
(vi) a plan or proposed plan; and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

The Regional Plan has been reviewed; there are no documents relevant to the proposal.

8.2 Part 2 of the Resource Management Act

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

The application will have less than minor effect on the items in Part 2 of the Resource Management Act.

12.0 Schedule 4

Information required in assessment of environmental effects.

(*1) An assessment of the activity's effects on the environment must include the following information:*
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

Refer to Sections 4, 6.3, 6.4, 7.3, 7.4, 8.3 and 8.4 which discuss the breaches, potential effects, and mitigation methods.

(b) an assessment of the actual or potential effect on the environment of the activity:

Section 4, 6.3, 6.4, 7.3, 7.4, 8.3 and 8.4 discuss potential effects.

(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:

There are no hazardous installations proposed.

(d) if the activity includes the discharge of any contaminant, a description of—
(i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
(ii) any possible alternative methods of discharge, including discharge into any other receiving environment:

No contaminants are proposed.

(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:

Mitigation measures are discussed in this report. Refer to Sections 4, 6.3, 6.4, 7.3, 7.4 and 8.4 for mitigation measures and recommendations.

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

Refer to Section 10.0, Notification Assessment, Section 95, RMA 1991 and Section 10.2 Neighbouring Properties. Consultation and response not applicable.

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

No monitoring is required for this activity.

(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).

Protected customary rights not anticipated.

(2) A requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

Refer to Section 5, 5.1,5.2, 5.3, 6.1, 6.2, 7.1, 7.2, 8.1 for the assessment against the operative and proposed Far North District Plan and the Assessment Criteria Sections 4, 6.3, 6.4, 7.3, 7.4, 8.3, 8.4, Regional Policy Statement for Northland (2016), Section 9.

(3) To avoid doubt, subclause (1)(f) obliges an applicant to report as to the persons identified as being affected by the proposal, but does not—
(a) oblige the applicant to consult any person; or
(b) create any ground for expecting that the applicant will consult any person.

Refer to Section 10 Notification Assessment, Section 95, RMA 1991.

Matters that must be addressed by assessment of environmental effects.

(1) An assessment of the activity's effects on the environment must address the following matters:
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:
(b) any physical effect on the locality, including any landscape and visual effects:
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.
(2) The requirement to address a matter in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

The matters above have been addressed in the report.

Appendix 1 Certificate of Title & Consent Notices

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**250127**
Land Registration District	**North Auckland**
Date Issued	29 March 2006

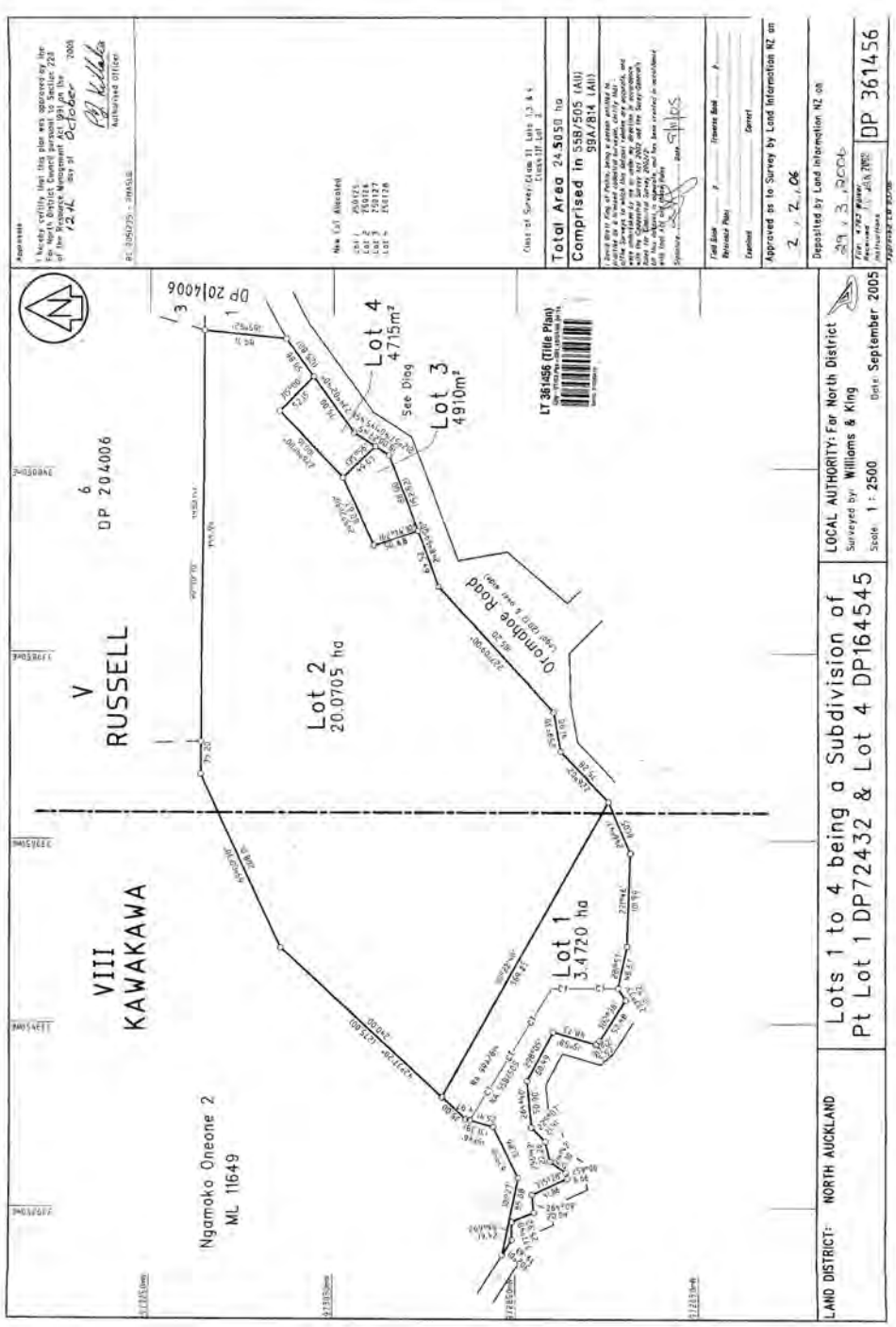
Prior References
NA99A/814

Estate	Fee Simple
Area	4910 square metres more or less
Legal Description	Lot 3 Deposited Plan 361456
Registered Owners	
Anna Mae Madsen	

Interests

6805670.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 29.3.2006 at 9:00 am

13222246.3 Mortgage to ASB Bank Limited - 14.2.2025 at 3:05 pm


Lots 1 to 4 being a Subdivision of
Pt Lot 1 DP72432 & Lot 4 DP164545
DP 361456
LAND DISTRICT: NORTH AUCKLAND
LOCAL AUTHORITY: Far North District
Surveyed by: Williams & King
Scale 1 : 2500
Date: September 2005
Deposited by Land Information NZ on
29 / 3 / 2006
Approved as to Survey by Land Information NZ on
2 / 2 / 06
Total Area 24.5050 ha
Comprised in 558/505 (All)
59A/814 (All)
LT 361456 (Title Plan)
Lot 1
3.4720 ha
Lot 2
20.0705 ha
Lot 3
4910m²
Lot 4
4715m²
See Diag
Otumbhoe Road
V
RUSSELL
6
DP 204006
VIII
KAWAKAWA
Ngamoko Oneone 2
ML 11649
DP 204006

Far North District Council

Private Bag 752, Memorial Ave
Kaikohe 0400, New Zealand
Freephone: 0800 920 029
Phone: (09) 405 2750
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221 : CONSENT NOTICE

REGARDING RC 2051235
the Subdivision of Pt Lot 1 DP 72432 & Lot 4 DP 164545
North Auckland Registry

PURSUANT to Section 221 for the purpose of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and is to be registered on the title of Lots 3 & 4 DP 361456.

SCHEDULE

i. Aerated treatment plants will be required on Lots 3 & 4 to provide a satisfactory level of wastewater treatment prior to on-site disposal. Details of the system including the required maintenance agreement shall be provided to Council in conjunction with a Building Consent application.

ii. Any buildings on Lots 3 & 4 are to be located on the ridgelines at the sites identified in the engineer's report prepared by Haigh Development Consultants dated September 1999.

iii. Stormwater disposal from Lots 3 & 4 is to be undertaken in the manner described in the engineer's report prepared by Haigh Development Consultants dated September 1999.

SIGNED: _____ Mr Pat Killalea
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
RESOURCE CONSENTS MANAGER

DATED at **KAIKOHE** this 27th day of January 2006

Proposed Relocation & Shower Room

Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Designer Sheet Index		
Sheet No.	Sheet Title	Rev
A01a	Site Location Plan	B
A01b	Site Plan	B
A02	Floor Plan	B
A03	Elevations	B
A04	Drainage Plan	B
A05	Foundation Plan	B
A06	Joist Layout Plan	B
A07	Foundation Details	B
A08	Foundation Details	B
A09	Subfloor Details	B
A10	Balustrade Details	B
A11	Deck Step Details	B
A12	Drainage Details	B
Revisions		
-	-	-

Construction Drawings
Date: 27 June 2025
Job Number: 4225
Drawn by:

O'BRIEN DESIGN CONSULTING
T 09 407 5208 | martin@obrienconsulting.co.nz

Engineer Sheet Index		
Sheet No.	Sheet Title	Rev
S01	Deck Foundation Plan & Details	1
Revisions		
-	-	-

NOTES

1. Contour lines at 1m increments, sourced from NRC .
2. All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlayer to determine on site drainage layout and provide asbuilt plan when complete.
3. Length of dripper lines to be no more than 100m between feed points.
4. Dripper lines to follow contour lines
5. Dripper lines to be setback:

- 1.5m from buildings
- 1.5m from property boundaries
- 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
- 15m from standing water

6. Overflow from water tanks to be directed well away from the proposed wastewater disposal field.
7. Smoke alarms to be installed to NZS 4514:2021, refer to TP58 report for details.
8. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control.pdf (aucklanddesignmanual.co.nz)

Lot 3 DP 361456
Lot area: 4,910m²
Corrosion zone: C
Wind zone: Very high
Rural Production Zone

District plan compliance:

Residential intensity: Complies

Sunlight rule: Complies

Stormwater Management

(Impermeable surfaces):

Existing metal driveway:	38.0m²
Proposed relocation:	18.9m²
Proposed shower room:	4.4m²
Total proposed:	61.3m²

Total permitted = 15% of gross site area = 736.5m²
Total proposed = 61.3m² = 1.2% Complies

Setbacks to boundaries: 10m min. Complies

Building height:
Permitted: 12m max
Proposed: 7.3m approx. Complies

Building Coverage:

Proposed relocation:	18.9m²
Proposed shower room:	4.4m²
Total proposed:	61.3m²

Total permitted = 12.5% of gross site area = 613.7m²
Total Proposed = 23.3 = 0.4% Complies

Earthworks

Earthworks not requried

Stream
6m Long stormwater spreader: 100mm Ø pipe
Stormwater overflow: 100mm Ø pipe, min. gradient 1:120
Alkathene pipe as per manufacturers instructions
Aeration treatment system, refer to TP58 for manufacturer
Sewer: 100mm Ø pipe, gradient 1:60 & approx location of proposed power cable to AWT
Deck foundations within safe building area, deck joists to cantilever over extent of safe build area
BH1
Overland flow path
Overland flow path
40.0m
41.0m
42.0m
43.0m
44.0m
45.0m
46.0m
47.0m
48.0m
49.0m
49.85
50.0m
Proposed deck
Proposed 1-bedroom relocation
DP
DP
2.5m
Reserve area
Proposed shower room
10m Planted buffer zone existing scrub
Extent of safe build area
25,000ltr Stormwater tank to have fire fighting coupling to be secured with cable ties.
Outlet pipe to be set at a height so 10,000ltr remains in the tank at all times.
Water pump with power cable from cabin & water supply pipe. Double jumbo water filter to be installed on pump.
Existing metal driveway - 38.0m²
Route of fire fighter 13.6m from tank to front door of dwelling 37m from fire appliance parking to tank
Fire appliance parking
Refer to TP58 for disposal field details
1.5m
1.5m
1.5m Setback from boundary
1.5m Setback from boundary

Legend

- Overland flow path
- Setbacks
- Stormwater overflow: 100mm Ø pipe, min. gradient 1:120
- Power cable
- Sewer: 100mm Ø pipe, gradient 1:60
- Alkathene pipe
- Wastewater disposal field
- Reserve area

O'BRIEN DESIGN CONSULTING
T 09 407 5208 | martin@obrienconsulting.co.nz

Project Title
Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title
Site Plan

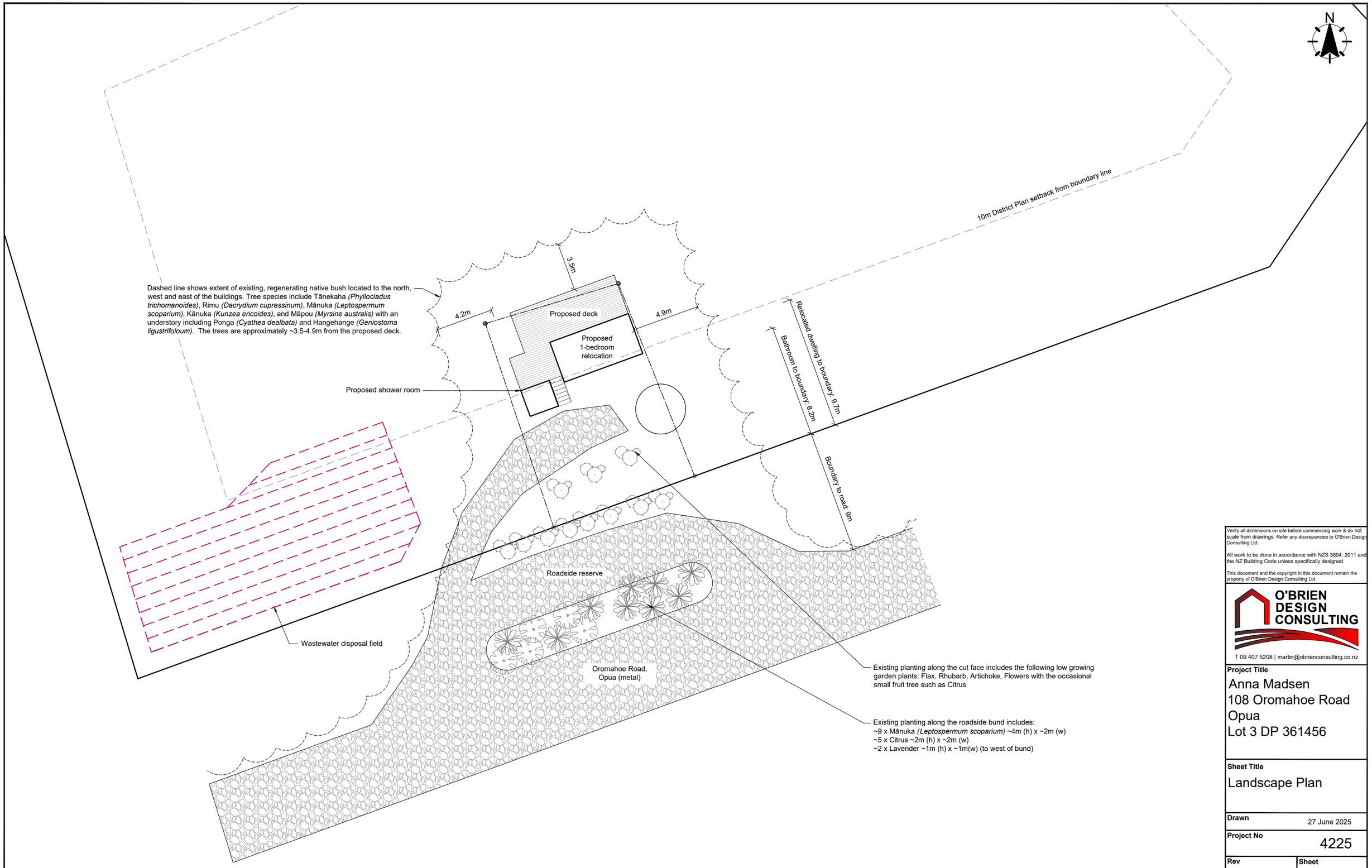
Drawn 27 June 2025

Project No 4225

Rev B

Sheet A01

Scale (A3 Original) 1: 250
2.5 1.25 0 2.5 5 m



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Project Title
Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title
Landscape Plan

Drawn 27 June 2025

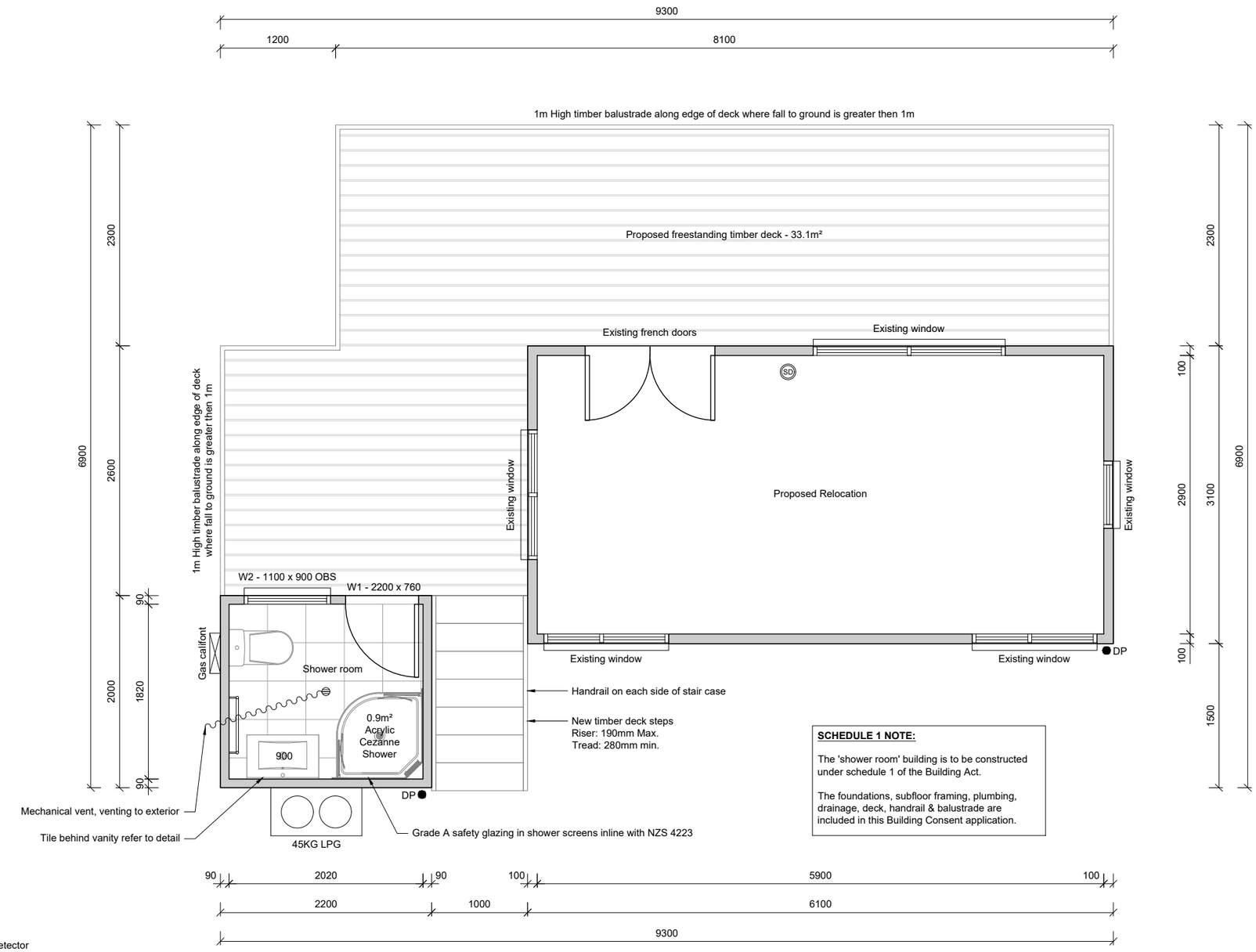
Project No 4225

Rev B

Sheet A01b

Scale (A3 Original) 1: 250

2.5 1.25 0 2.5 5 m



SCHEDULE 1 NOTE:

The 'shower room' building is to be constructed under schedule 1 of the Building Act.

The foundations, subfloor framing, plumbing, drainage, deck, handrail & balustrade are included in this Building Consent application.

LEGEND

- SD — Smoke Detector
- 90 x 45 SG8 H1.2 Timber framing walls
- Selected tiles on selected tile underlay to all wet areas installed to manufacturers specifications & Branz tiling good practice guide
- Rinnai Infinity VT26 water heater installed to manufacturers instructions
- 45KG LPG Bottles, top of bottle to be 500mm min. from ignition source refer to LPG Association Code of Practice for clearances and seismic restraints.

NOTE:

1. All dimensions taken from the outside of pre-cut, please check all dimensions before construction commences.
2. Grade A safety glazing in shower screens inline with NZS 4223
3. Artificial lighting to be provided inline with NZS 6703:1984 & G8/AS1.
4. Interconnected Smoke alarms to be installed to NZS4514:2021 located in all bedrooms, living spaces, hallways, and landings within the building spaces. Where a kitchen is separated from the living spaces with a door a suitable kitchen smoke alarm shall be installed. This may be a heat alarm to avoid nuisance activations.

BUILDING AREA:

Relocation Building
Floor Area: 18.9m²
Roof Area: 18.9m²

Shower Room Building
Floor Area: 4.4m²
Roof Area: 4.4m²

FIXINGS:

Exposure Zone: C
Durability of fixings to comply with NZS 3604:2011 Section 4 & NZBC B2/AS1

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Project Title
Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title
Floor Plan

Drawn 27 June 2025

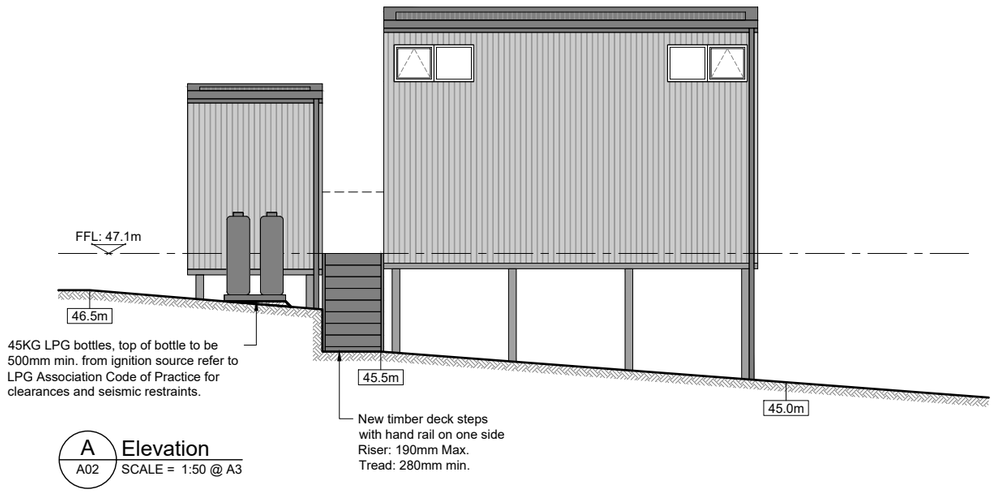
Project No 4225

Rev B

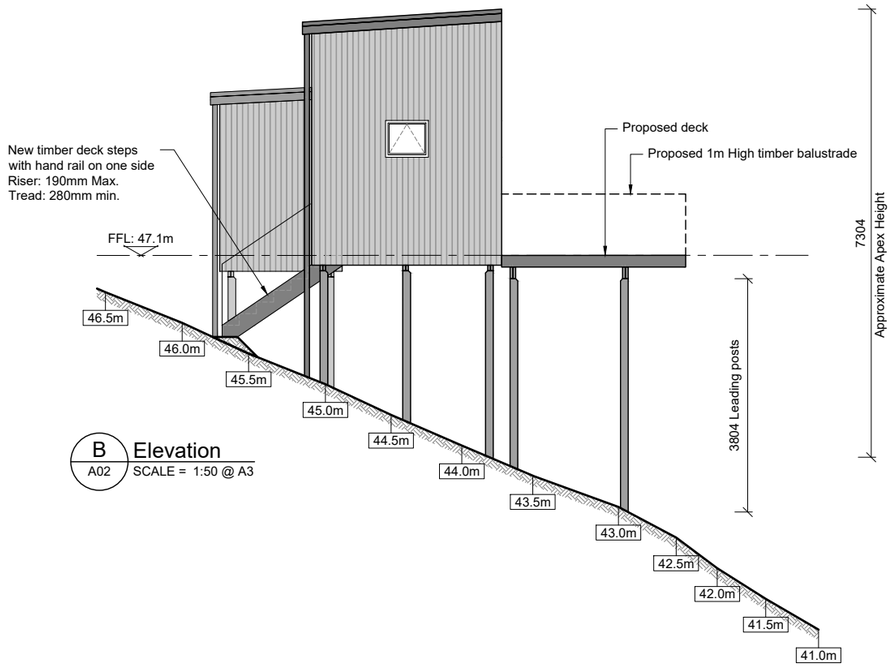
Sheet A02

Scale (A3 Original) 1: 50

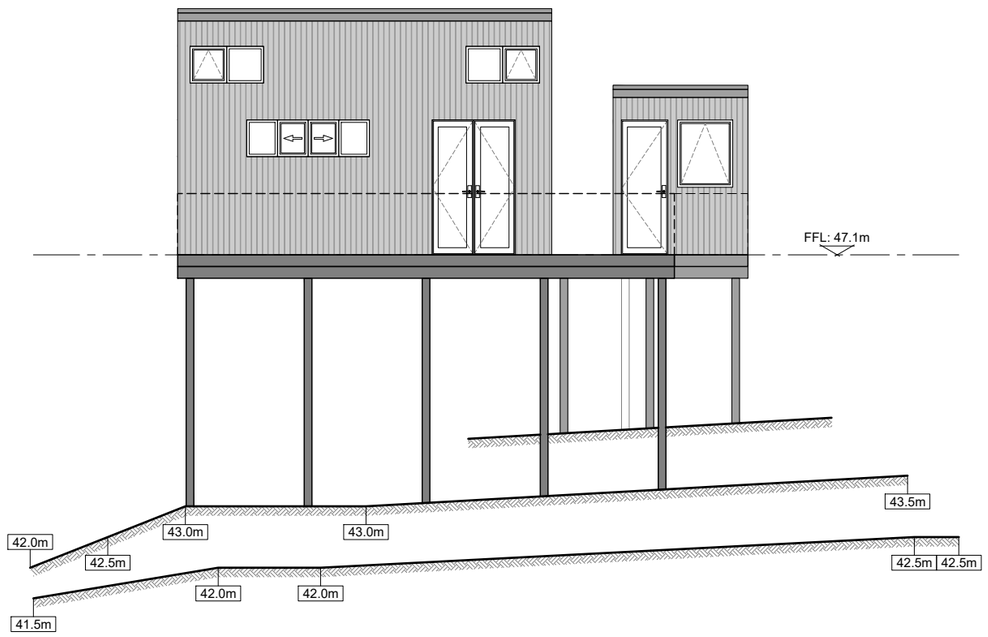
0.5 0.25 0 0.5 1 m



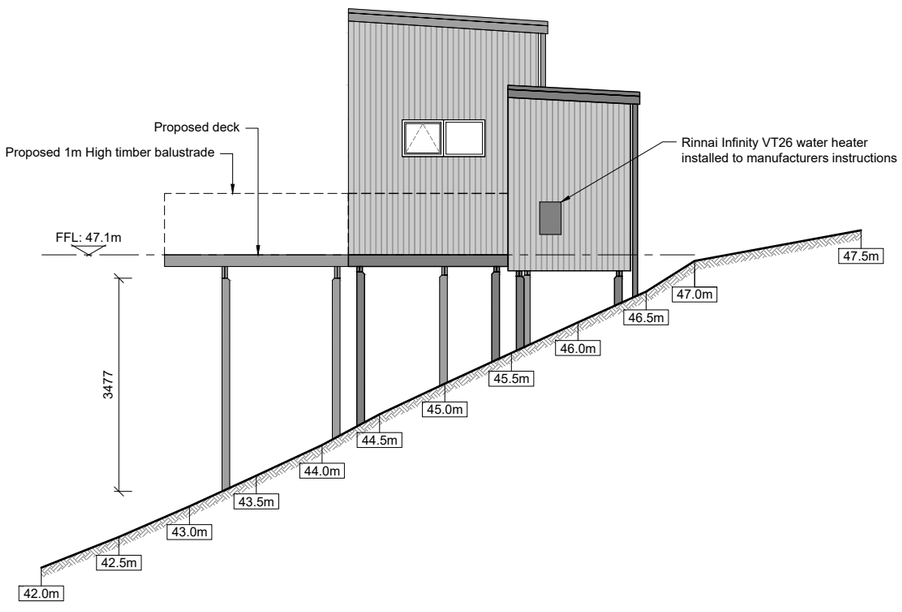
A Elevation
A02 SCALE = 1:50 @ A3



B Elevation
A02 SCALE = 1:50 @ A3



C Elevation
A02 SCALE = 1:50 @ A3



D Elevation
A02 SCALE = 1:50 @ A3

NOTE:

1. All heights shown are existing ground heights.

FIXINGS:

Exposure Zone: C
Durability of fixings to comply with NZS 3604:2011 Section 4 & NZBC B2/AS1

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Project Title
Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title
Elevations

Drawn 27 June 2025

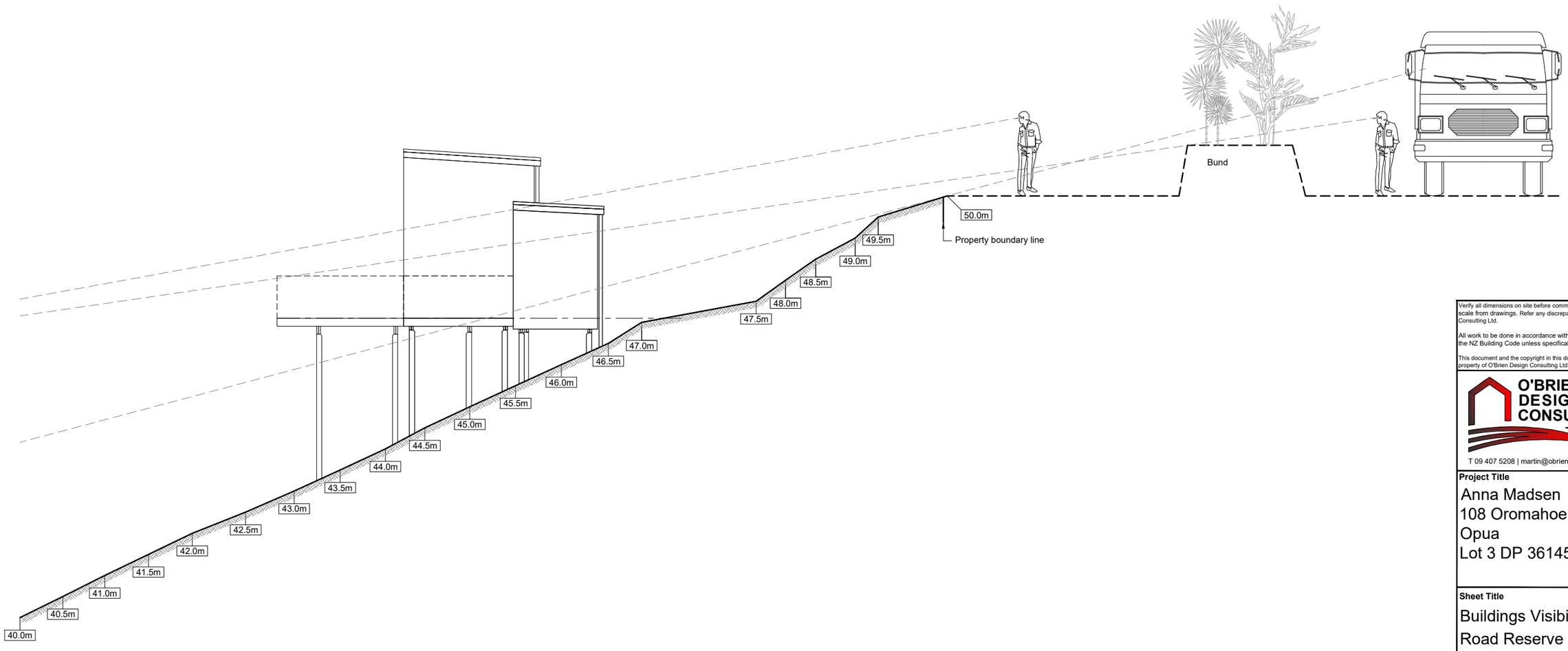
Project No 4225

Rev B

Sheet A03

Scale (A3 Original) 1: 100

1 0.5 0 1 2 m



O'BRIEN DESIGN CONSULTING

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Project Title

Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title

Buildings Visibility from Road Reserve & Road

Drawn 8 July 2025

Project No 4225

Rev B

Sheet RC1

Scale (A3 Original) 1: 100

1 0.5 0 1 2 m

Northland Geotechnical Specialists

DESIGN REPORT: ONSITE EFFLUENT DISPOSAL

Location	108 Oromahoe Road, Opua
Client	Ana Madsen
NGS Ref	0407
Date	27 May 2025

Report prepared by	David Buxton
Authorised for NGS by	David Buxton

Table of Contents

1. Introduction

Northland Geotechnical Specialists Ltd (NGS) was engaged by Anna Madsen to undertake assessment and design for onsite effluent disposal for the proposed cabin/tiny home at 108 Oromahoe Road, Opua. The site is constrained for onsite effluent disposal due to the sloping topography, stormwater flow paths and a stream. A disposal option compliant with Northland Regional Council (NRC) permitted activity rules cannot be achieved. This report is suitable to support Building Consent application to Far North District Council (FNDC) and a Discharge Consent (Resource Consent) to NRC.

NGS has previously prepared a geotechnical assessment for the site[1].

2. Proposed Development

We understand that a new approximately 6m x 3m one-bedroom tiny home/cabin is proposed for the site.

3. Site Description

The site is legally described as Lot 3 DP 361456 and covers an area of approximately 4,910 m^2. The site mostly comprises regenerating native forest on a steep (25° to 45°) NW facing slope. The site includes a small stream at the base of the slope and a small portion of the far bank. The site is located northwest of Oromahoe Road. There is an existing layby area formed within the road reserve off Oromahoe Road directly upslope of the site. A small existing access track has been formed by a small amount of cut and fill. There are two culverts that outlet into the northeast of the site.

The NRC GIS hazard maps[2] do not indicate any relevant flood hazards. The NRC Water Resources GIS map[3] indicates the closest water bore to be 330m NE of the site.

The site is shown on Figure 101 – Site Plan – Onsite Effluent Disposal, attached. The site location is shown on Figure 1 below:

[1] NGS Geotechnical Report for Tiny Home, 108 Oromahoe Road,Opua, ref 0407, 18 March 2025
[2] https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=81b958563a2c40ec89f2f60efc99b13b, accessed 18/03/25
[3] https://localmaps.nrc.govt.nz/localmapsviewer/?map=b1bce4c2e2f940288c1f7f679b2ac7b7, accessed 26/05/25

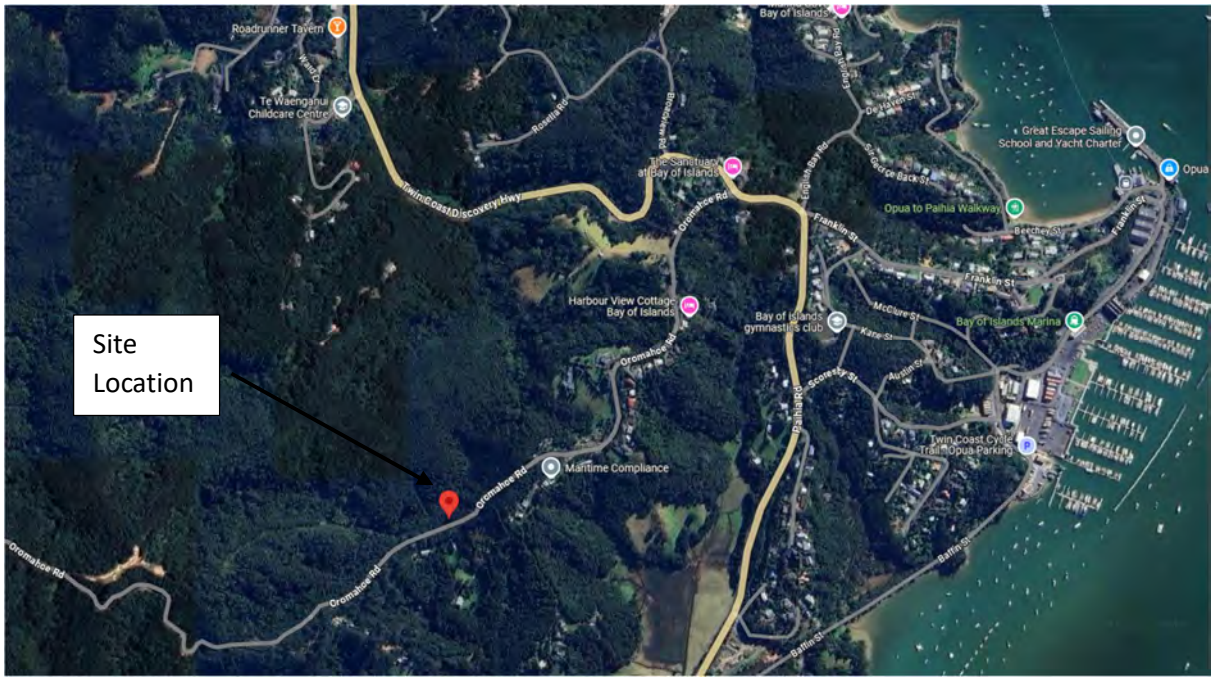
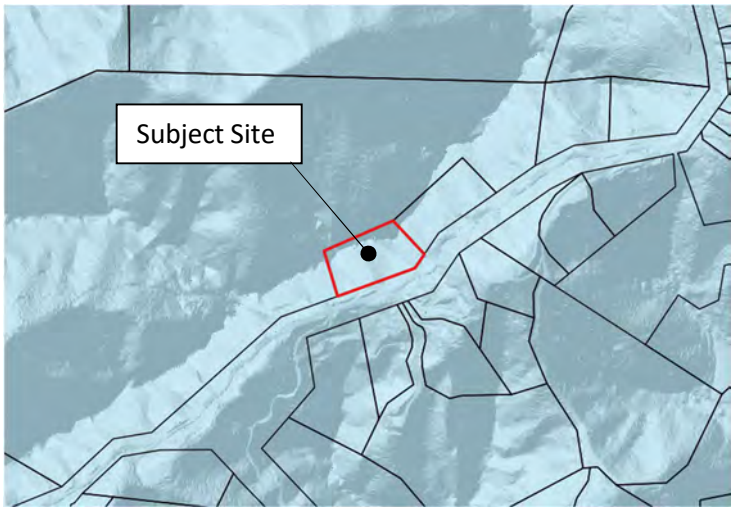


Figure 1 – Site Location (sourced from Google Maps)

4. Site Conditions

4.1. Published Geology



Legend

Blue	Waipapa Group (Greywacke)

Figure 5-1: 1:250,000 Scale Geological Map with 2024 NRC LiDAR DEM and LINZ property boundary overlays

The published geology[4] indicates that site underlain by Waipapa Group sandstone and siltstone (greywacke) described as massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous mudstone.

[4] Edbrooke, S.W.; Brook, F.J. (compilers) 2009: Geology of the Whangarei area. Institute of Geological and Nuclear Sciences 1:250,000 geological map 2. 1 sheet + 68 p. Lower Hutt, New Zealand. GNS Science.

4.2. Site Investigations & Subsoil Conditions

Site investigations were undertaken by a geotechnical engineer from NGS on 12 March 2025 and 26 May 2025.

Investigations in March comprised two hand augered boreholes (HA1 & HA2) to depths of 1.7m and 0.9m respectively. In-situ strength testing using a handheld shear vane was undertaken at typically 0.3m intervals in cohesive soils. Scala penetrometer testing was extended to refusal (>20 blows per 100mm penetration) at 3.2m and 1.2m depth respectively.

Investigations in May comprised one hand augered borehole (HA3) to 0.9m depth in the proposed onsite effluent disposal location.

The subsoil investigations indicate the site has approximately 150mm of topsoil overlying an orange very stiff high plasticity clay (residual soils). At 0.7m to 1.0m depth the soils transition to a hard clayey silt of lower plasticity (highly to completely weathered greywacke rock).

Groundwater was not encountered in the investigations. Regional groundwater is expected to be at depth (i.e. closer to stream level) within the underlying rock, approximately 15m below the disposal field elevation.

Investigation locations are shown on Figure 101 – Site Plan – Onsite Effluent Disposal and the logs are attached with this report.

4.3. Site Walkover

A site walkover was completed on 26 May 2025 to review areas suitable for onsite effluent disposal and identify site features that require set back or comprise other limitations. We have mapped features on the attached site plan. These features include:

1) Stormwater/surface water flow paths including culvert discharge locations from Oromahoe Road.
2) The location of a relic slip feature.
3) Confirmation of the change from moderately steep (generally up to 30° slopes) to very steep (>30°) slopes.

The LiDAR contours for the site are generally reasonable although are somewhat affected by the bush coverage.

5. Onsite Effluent Disposal

The land in the vicinity of the proposed building platform has been assessed for effluent suitability with respect to the Proposed Regional Plan for Northland (PRP, February 2024) and AS/NZS 1547:2012. The proposed effluent disposal does not comply with all permitted activity requirements of C.6.1.1: Other on-site treated domestic wastewater discharge – permitted activity and accordingly a discharge consent from NRC is required.

In accordance with Table E1, AS/NZS 1547:2012, we have identified the soils across the site as category 5 “light clays”. The site has a good >80% canopy cover of regenerating native trees with a thin layer of humus over approx. 100mm layer of clayey topsoil.

Secondary treatment of onsite effluent disposing to a pressure compensating dripper irrigation (PCDI) system positioned to the southwest of the site is proposed. The proposed location has moderate slopes compared to the overall site (typically 20° to 30°), maximises the offset from the creek through the north of the site, avoids stormwater/overland flow paths through the property and effectively has a full canopy cover of regenerating native bush. Parts of the proposed disposal location and most of the downslope area exceed the permitted activity slope limit (25°). An assessment for onsite effluent disposal via pressure compensated dripper irrigation (PCDI) at a reduced rate for slope angle is presented below.

We consider selected area of the site to have adequate stability for PCDI effluent disposal provided a low disposal rate is utilised and the disposal area has been set back from a relic slip feature located downslope.

Based on an assumed design occupancy of two people for an assumed one-bedroom 18m^2 tiny home/cabin, onsite roof water tank supply and water usage of 145L/day per person with (standard water reduction fixtures) the design daily flow is 290L/day. A Design Irrigation Rate (DIR) of 3.0mm/day is considered appropriate in accordance with Table M1 of ASNZS 1547:2012 however, to account for the slope of the site the DIR is reduced by 50% in accordance with Table M2 of ASNZS 1547:2012. A DIR of 1.5mm/day is adopted.

A discharge area of 193m^2 and a reserve area of 58m^2 (30%) is required for a disposal field. There is adequate area on the site for discharge and reserve areas with appropriate separation distances from boundaries and surface water. The disposal field shall be located in the area shown as suitable on Figure 101 – Site Plan – Onsite Effluent Disposal. An indicative proposed field is also shown. An Onsite Effluent Maintenance and Operation Plan is attached to this report.

It is proposed to use a TechTreat CP2 Aerated Wastewater Treatment System (secondary treatment package plant). This treatment plant has been accredited through the On-site Effluent National Testing Programme (OSET) in 2012/2013 and achieved treatment levels of <10g/m^3 of BOD_5 and <20g/m^3 TSS.

There is adequate area within suitable zones of the site for discharge and reserve areas onsite however PRP slope limits are exceeded. Compliance against the permitted activity rules within the PRP is discussed in Table 5-1 below.

Table 5-1 Summary of PRP Permitted Activity Compliance for Secondary Treated Effluent

PRP Requirement C.6.1.3 (Primary & Secondary)	Proposed development Compliance
1) design and construction in accordance with AS/NZS 1547:2012 - On-site Domestic Wastewater Management.	Disposal field design prepared in accordance with NZS 1547:2012 Plant sizing and treatment levels to meet these requirements, including a DIR reduced by 50% for sloping ground in accordance with Table M2 NZS 1547:2012.
2) volume of wastewater discharged does not exceed 2m^3/day.	Effluent volume <2m^3/day estimated.
3) discharge is not via a spray irrigation system or deep soakage system.	Discharge by PCDI.
4) slope of the disposal area is not greater than 25 degrees.	Does not comply. Disposal field location typically 20° to 30°. The disposal field location has been chosen to minimise the slope within and avoid steeper (typically >30°) areas.

5) discharge of secondary treated or tertiary treated wastewater is via: a) a trench or bed system in soil categories 3 to 5 that is designed in accordance with Appendix L of ASNZS1547, or b) an irrigation line system that is dose loaded and covered at all times by 50mm of topsoil, mulch, or bark.	Design requirements specified to meet these requirements. 50mm cover of irrigation lines with topsoil, mulch or bark is required.
6) additional requirements for discharge of wastewater onto slopes greater than 10 degrees.	a) the design is for secondary treatment b) the irrigation lines are to be firmly attached to the disposal area. c) upslope diversion of stormwater will be provided (where it does not already exist). d) a 10m downslope buffer area is provided however this zone includes steep (>30°) areas (i.e. does not comply with 25° slope limit) e & f) the area is within established vegetation with at least 80% canopy cover so increased cover of irrigation lines is not required.
7) disposal area and reserve area setbacks in Table 9: Exclusion areas and setback distances for on-site domestic wastewater systems.	The site is not flood susceptible. Clearance to winter groundwater >0.6m as indicated by subsurface site investigations & site geology. 330m from closest mapped groundwater bores. A 5m setback from identified stormwater flow paths not upslope of the disposal area is achieved. 15m offset from adjacent water channel achieved. A 1.5m setback from site boundaries is achieved. Setbacks shown on site plan.
8) for septic tank treatment systems, a filter that retains solids greater than 3.5mm in size is fitted on the outlet.	N/A – assessment completed for secondary treated effluent.
9) reserve disposal areas requirements.	Sufficient area for a 30% reserve area exists and is shown on the Site Plan (Figure 101).
10) the on-site system is maintained so that it operates effectively at all times is undertaken in accordance with the manufacturer's specifications for maintenance.	The secondary treatment plant manufacturers maintenance requirements shall be complied with. This may require a maintenance contract.
11) the discharge does not contaminate any water supply or surface water.	Minimum treatment levels and water offsets to be complied with to prevent discharge contaminating any water supply or surface water. The disposal area has been located to maximise the offset from surface water.
12) there is no surface runoff or ponding of wastewater.	The disposal area is sloping so can not pond water. The low DIR rate adopted is considered appropriate to prevent surface runoff of wastewater
13) there is no offensive or objectionable odour beyond the property boundary.	Treatment specified in accordance with good practice requirements to prevent offensive odour.

On-site effluent disposal design summary

1. The tiny home/cabin shall have standard water reduction fixtures which comprise dual flush toilets, shower flow restrictors, aerator faucets and water conserving automatic washing machines.
2. For the proposed development a discharge area of 193m^2 and a reserve area of 58m^2 is required.

3. Install a secondary treatment plant capable of treating 290L/day to the requirements of the Northland Regional Council (NRC) Proposed Regional Plan and in accordance with the manufacturer's requirements. A TechTreat CP2 secondary treatment plant is proposed and it has a treatment capacity that exceeds 290L/day.
4. Maintenance requirements shall be undertaken in accordance with the TechTreat plant supplier's recommendations. As a minimum maintenance contract shall be entered with at least annual maintenance as recommended by TechTreat.
5. Install Bioline pressure compensating dripper irrigation (PCDI) over 193m^2 within the area shown as suitable on Figure 101 – Site Plan – Onsite Effluent Disposal. The Bioline dripper irrigation lines shall have drippers at 0.5m intervals, and the lines shall be spaced at 1m centres down the slope. Each line shall not exceed 60m in length. The dripper lines shall be pinned to the ground and surface mulched to have a minimum of 50mm of mulch or bark cover.
6. The dripper lines shall have appropriate air release, anti-syphon and flushing ports/valves to ensure adequate performance and allow ongoing maintenance.
7. The existing vegetation and canopy cover shall be maintained.
8. Maintain surface water controls to ensure no stormwater can enter the disposal area. We note that there is an existing bund upslope of the disposal field area that prevents surface water flow off Oromahoe Road. A bund or swale shall be formed to prevent any surface water flow off the access way down to the property entering the disposal field area.
9. A reserve area of 58m^2 shall be set aside for future use as a disposal area.
10. Operate the system in accordance with the attached Onsite Effluent Maintenance and Operation plan.

6. Assessment of Environmental Effects

The environmental effects of the proposed disposal system are considered in Table 6-1 below. We note that during design of the effluent disposal system several alternatives were considered including:

A. A composting toilet and separate greywater disposal
B. Tank collection and offsite disposal
C. Alternative disposal field locations

The chosen option was considered to be most appropriate for the site based on environmental, long-term suitability and economic considerations.

Table 6-1 Assessment of Environmental Effects

Potential Effect	Discussion
Pollution of groundwater	The combination of secondary treatment prior to disposal and further in-ground treatment and nutrient uptake within the topsoil and humus layer onsite is mitigate against groundwater pollution. Groundwater vertical offset permitted activity requirements are also met.
Pollution of water bores	N/A - There are no known water bores near (i.e. <100m) the site.
Pollution of surface water	The disposal field location has been selected to maximise the offset from the downslope creek and locate the disposal field away from surface water flow paths. The offset to the creek is >25m (i.e. 15m offset + 10m buffer zone). The disposal area does not have an upslope catchment and surface water is to be prevented from running through the disposal area.

Potential runoff of contaminates	The disposal lines are to be pinned to the slope and covered within a minimum 50mm of surface mulch, bark or topsoil. A low DIR (1.5mm/day) has been adopted. The site has effectively full canopy cover and an existing layer of humus that can capture and further treat the effluent. The treatment plant is a package system with appropriate overflow alarms. These measures are expected to prevent run-off of contaminates.
Noise	The system is expected to have noise no greater than a system complying with permitted activity requirements.
Odour	The system is expected to have odour no greater than a system complying with permitted activity requirements.
Impact on soils	Site investigations have been undertaken to confirm soil conditions and ensure the DIR is appropriate to the soil type. The disposal field has existing established vegetation. The disposal area loading rate is generally consistent with permitted activity loading rates. The system is expected to have impacts on soils no greater than a system complying with permitted activity requirements.
Impact on amenity values	The system is expected to have no greater impact on amenity values than a system complying with permitted activity requirements.

We consider that the proposed treatment and disposal system and controls sufficiently mitigate the adverse effects of the disposal on slopes exceeding 25° and accordingly the environmental effects will be less than minor. The NRC AEE7 form is attached to this report. plan.

7. Consent Notice 6805670.2

The property title has a consent notice (6805670.2) on the title that is relevant to Lot 3. This requires:

i) Aerated treatment plants will be required on Lots 3 & 4 to provide a satisfactory level of wastewater treatment prior to on-site disposal. Details of the system including the required maintenance agreement shall be provided to Council in conjunction with a Building Consent Application.

ii) Any Buildings on Lots 3 & 4 are to be located on the ridgeline sat the sites identified in the engineer's report prepared by Haigh Development Consultants dated September 1999.

iii) Stormwater disposal from Lots 3 & 4 is to be undertaken in the manner described in the engineer's report prepared by Haigh Development Consultants dated September 1999.

We have reviewed the Haigh Development Consultants report Ref 99104, Report on Suitability of Site for Subdivision, stamped as received 20 September 1999, that is referenced in the above conditions. We confirm that:

1) This onsite effluent design provides an aerated treatment plant as required by i).
2) The Haigh report notes that "the area suitable for development on Lots 3 and 4 are quite small with less stable areas adjacent on both sides of the identified house sites. The less stable areas are able to be avoided by careful planning of the site development and position of future houses." The NGS Geotechnical report presents an assessment to confirm that the proposed dwelling is suitable located to comply with ii).
3) The manner of required stormwater disposal described is "to collect and dispose of stormwater down the slopes in a controlled manner to prevent erosion and scour". This may

be achieved by piping the stormwater overflow to the existing stormwater flow paths to the northeast of the dwelling and providing a level spreader bar for dispersal at the outlet.

Based upon the above the proposed development will comply with the referenced consent notices.

8. Applicability

This report has been prepared solely for the benefit of our client, Anna Madsen and the Northland Regional Council / Whangarei District Council with respect to the Resource and Building Consent applications for which it has been prepared and on the terms and conditions agreed with our client. It may not be used or relied on (in whole or part) by anyone else, or for any other purpose or in any other contexts, without prior written agreement.

The nature and continuity of the subsoil conditions onsite have been inferred from visual observations and three hand augered boreholes. It must be appreciated that actual subsoil conditions could differ from those inferred. If the subsoil conditions differ in any way from those described in this report it is essential that Northland Geotechnical Specialists Ltd be contacted.

Authorised for Northland Geotechnical Specialists Limited by:

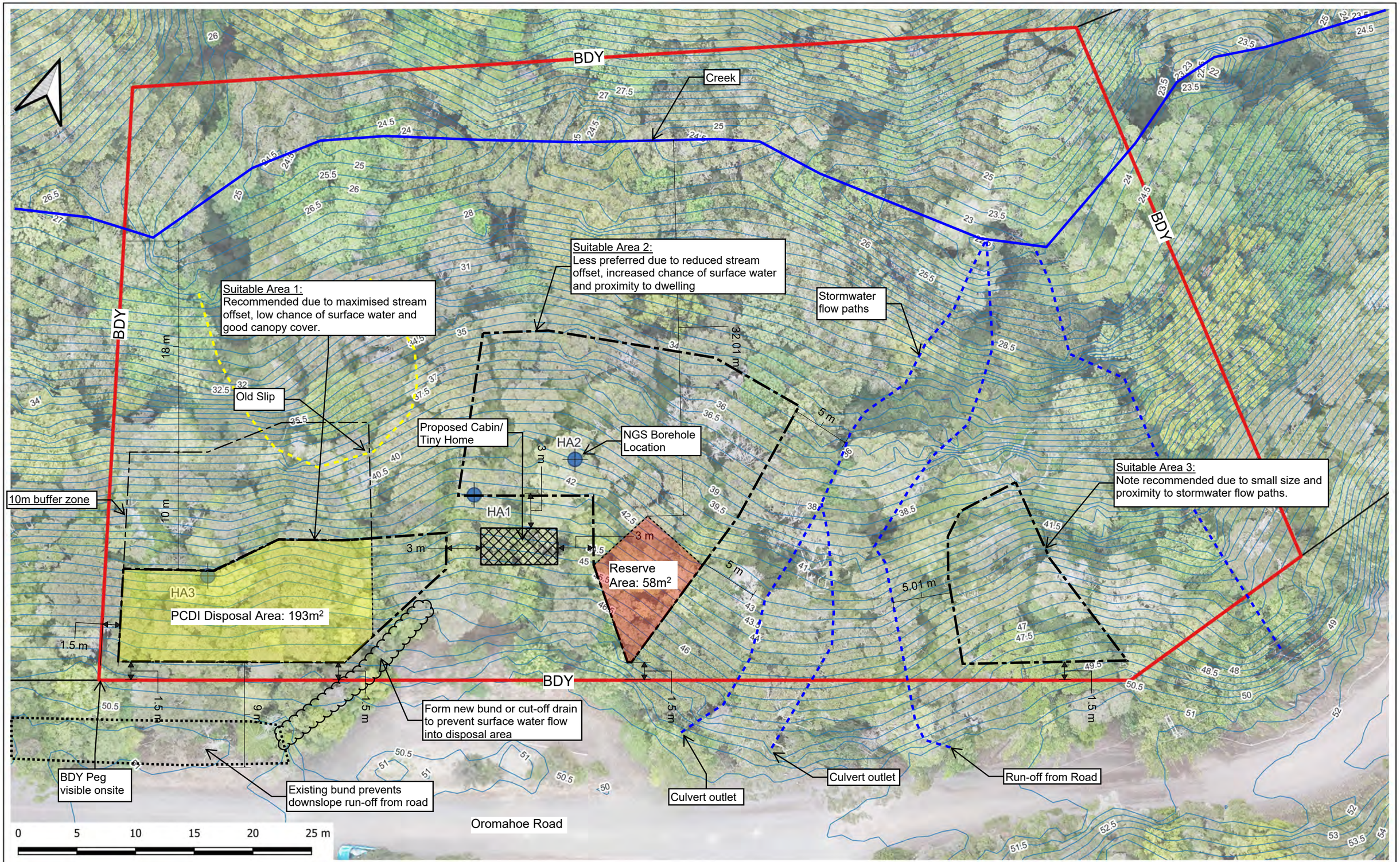
_____

David Buxton

Geotechnical Engineer, BE Civil (Hons), CPEng, CMEngNZ

Attached:	Figure 101 – Site Plan - Onsite Effluent Disposal	1 x A3 page
	Site Investigation logs HA01 – HA03	3 x A4 pages
	Effluent Operations and Maintenance Schedule	3 x A4 pages
	NRC AEE7 form	7 x A4 pages
	TechTreat CP2 Homeowners Manual	13 x A4 pages
	Netafim Bioline info	2 x A4 page
	FNDC TP58 Form & PS1	11 x A4 pages

ngs_108 oromahoe_onsite effluent_260524



NGS
Northland Geotechnical Specialists
www.northlandgeotech.co.nz

NOTES:
Aerial Image - NGS Drone image 23/01/25. Taken by DJI Air 3, processed with WebODM and approximately georeferenced to existing aerial photos from LINZ. Image approximate only.
Property boundary from LINZ
Contours - NRC 2018/2019 LiDAR NZVD, 0.5m interval
Rotated 20 degrees from North

This figure is not for construction unless signed as approved
Approved: Date:

CLIENT **Anna Madsen**
PROJECT **Geotechnical Assessment**
LOCATION **108 Oromahoe Road, Opua (Lot 3 DP 361456)**
TITLE **Site Plan - Onsite Effluent Disposal**

Scale 1:300 @ A3

Project No.	0407
Date	26/05/25
By	DSB
Figure No.	101
Revision	0

HAND AUGER LOG

NGS Northland Geotechnical Specialists

HOLE NO.: HA01

CLIENT: Anna Madsen

JOB NO.: 0407

PROJECT: Geotechnical assessment for new dwelling

SITE LOCATION: 108 Oromahoe Road, Opua

START DATE: 12/03/2025

CO-ORDINATES: 1700384mE, 6091044mN (NZTM)

ELEVATION: 43m (NZVD)

END DATE: 12/03/2025

LOGGED BY: DB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: NGS Vane 2 - 19mm	WATER
	SILT, with some clay, with trace organics; brown. Very stiff, moist to dry; low to high plasticity. Topsoil.		0.0	TS			
	Silty CLAY; orange. Very stiff to hard, moist to dry, high plasticity; Residual soil.		0.2 – 0.6			222+	
	SILT, with some clay; reddish orange and light grey. Hard, moist; CW-HW Greywacke.		1.0 – 1.6			UTP	Groundwater Not Encountered
	Very hard t auger. Dry on completion, EOH: 1.70m		1.8 – 3.2		9, 13, 13, 10, 11, 14, 15, 12, 15, 15, 14, 12, 14, 16, 20		

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

Generated with CORE-GS by Geroc - Hand Auger - NGS - 26/05/2025 2:35:20 pm

HAND AUGER LOG

NGS Northland Geotechnical Specialists

HOLE NO.: HA02

CLIENT: Anna Madsen

JOB NO.: 0407

PROJECT: Geotechnical assessment for new dwelling

SITE LOCATION: 108 Oromahoe Road, Opua

START DATE: 12/03/2025

CO-ORDINATES: 1700391mE, 6091049mN (NZTM)

ELEVATION: 41m (NZVD)

END DATE: 12/03/2025

LOGGED BY: DB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: NGS Vane 2 - 19mm	WATER
	SILT, with some clay, with trace organics; brown. Very stiff, moist to dry; low to high plasticity. Topsoil.		0	TS			
	Silty CLAY; orange. Very stiff to hard, moist to dry, high plasticity; Residual soil.		0.2			222+	
			0.4			UTP	
			0.6			UTP	
	SILT, with some clay; reddish orange. Hard, moist, low plasticity; CW-HW Greywacke.		0.8				
	Very hard to auger. Dry on completion. EOH: 0.90m		1.0		11 / 17 / 22 >>		Groundwater Not Encountered
			1.2				
			1.4				
			1.6				
			1.8				

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18

Vane Shear Strength scale: 50 100 150 200 Values

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

HAND AUGER LOG

NGS Northland Geotechnical Specialists

HOLE NO.: HA03

CLIENT: Anna Madsen

JOB NO.: 0407

PROJECT: Geotechnical assessment for new dwelling

SITE LOCATION: 108 Oromahoe Road, Opua

START DATE: 26/05/2025

CO-ORDINATES: 1700365mE, 6091029mN (NZTM)

ELEVATION: 45m (NZVD)

END DATE: 26/05/2025

LOGGED BY: DB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa)	WATER
	Forest Humus						
	Silty CLAY, with minor organics; brown. Stiff, moist, high plasticity.						
	Silty CLAY; orange. Very stiff, moist, high plasticity.		0.2 0.4 0.6				Groundwater Not Encountered
	Silty CLAY; light grey mottled orange. Very stiff to hard, moist; low to high plasticity.		0.8				
	Target depth. Dry on completion. EOH: 0.90m		1.0 1.2 1.4 1.6 1.8				

Scala Penetrometer (Blows / 0mm): 2 4 6 8 10 12 14 16 18

Vane Shear Strength (kPa) — Vane: 50 100 150 200 — Values

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

Project Ref: 0407
27 May 2025

Onsite Effluent Operation and Maintenance Plan
108 Oromahoe Road, Opua

Purpose

Homeowners are legally required to keep their onsite treatment and disposal system in good working order. The purpose of this operation and maintenance plan is to outline the main requirements you, as the homeowner, are required to undertake to ensure the onsite effluent treatment and disposal system installed onsite operates effectively. The system supplier may also have supplied additional operation and maintenance guidance.

Treatment Plant Size

The size of your system is limited by both the plant (either a septic tank or proprietary secondary treatment plant) to treat the effluent and the capacity of the soakage system to dispose of the effluent.

Overloading the treatment plant, either by excess water volumes or with products requiring treatment (i.e. food waste, fats, soap etc.) will result in poorly treated effluent. Overloading the disposal field can result in surface breakout of effluent (i.e. seepage emerging from the ground surface) and a reduction of the long-term soakage ability of the soil. Both situations result in health risks by potentially allowing exposure to under/untreated effluent, and environmental risks due to possible undesired effluent flow paths.

Your plant has been sized for a long-term occupancy of two people based on a one-bedroom house having roof water supply. The system has been designed for standard water reduction fixtures (dual flush toilets, shower flow restrictors, aerator faucets and water conserving automatic washing machines) resulting in 290 litres of effluent per day.

Appropriate Use of Products

Products used for household purposes such as cleaning and all forms of washing that are disposed to the effluent system must be appropriate/compatible with your system. The treatment system utilises bacteria which can be killed by inappropriate products, resulting in treatment system breakdown and leading to disposal field failure and offensive odours from the treatment system.

Only products labelled as suitable for onsite effluent treatment systems must be used in the household. This includes:

1. Use biodegradable soaps
2. Use low-phosphorus detergent
3. Use low-sodium detergent in dispersive soil areas
4. Use the minimum amount of detergent required
5. Don’t use powerful bleaches, whiteners, nappy soakers, spot removers and disinfectants
6. Don’t put chemicals, antibiotics or paint down the drain

Water Reduction Requirements

To minimise disposal field size and/or on sites with limited space, specific water usage reduction measures may be required. Standard specific water reduction measures have been specified on your site. Further minimisation of water use will however make your system last longer and improve its performance. Water minimisation measures include:

1. Installation of water conservation fittings
2. Taking showers instead of baths
3. Washing clothes only when there is a full load
4. Running the dishwasher only when full
5. Avoiding days of peak high usage, for example not doing all the washing on one day or running the washing machine and dishwasher at the same time.
6. Never allow stormwater to enter gully traps. Gully traps must be raised above ground level to prevent this.

Minimisation of Sludge Build up

With time, sludge will build up in the septic tank that forms part of your system and this will require periodic removal. Sludge build up can be minimised by:

1. Keeping all solids out of the system (e.g. avoid washing dirt down a sink)
2. Removing all food waste (particularly oils and grease) from dishes and disposing to waste prior to washing
3. Don't use a garbage grinder unless the system has been specifically designed for it
4. Don't put sanitary napkins, other hygiene products or disposable nappies into the system

Septic Tank Maintenance

Septic tanks accumulate sludge over time and the sludge requires removal (pumping out). The frequency depends on site conditions, tank size and usage. De-sludging shall be undertaken every 3 to 5 years or sooner if sludge occupies more than two thirds of the tank volume depending on site conditions, tank size and usage. The septic tank shall be inspected, and the sludge level checked at periods of not more than 3 years, or sooner if required by the manufacture's recommendations.

The following is also required:

1. The tank shall be protected from vehicles
2. Any grease traps shall be cleaned out regularly
3. The vents and covers shall remain exposed
4. The outlet filter shall be inspected and cleaned regularly

Secondary Treatment Plant Maintenance

Secondary treatment plants are proprietary and typically include mechanical plant (i.e. pumps and air blowers) and electrical controls. The nature of the mechanical and electrical items and their maintenance requirements vary between manufacturers and plant type. A detailed operation and maintenance plan specific to your plant will have been provided by the supplier and shall be implemented. This will likely include regular checks to ensure the plant is operating correctly, cleaning and/or flushing of filters and disposal lines and a contingency plan/trouble shooting guide to diagnose problems, potential causes and advice on determining response actions.

It is a permitted activity rule under the Northland Regional Council Proposed Regional Plan that you must maintain the system so that it operates effectively at all times and maintenance is undertaken in accordance with the manufacturer's specifications. This may require a maintenance contract to be entered into.

Disposal Field

The disposal field is the area where the treated effluent soaks away into the ground. The disposal field shall be maintained as follows:

1. Fencing (if required) shall be maintained. Stock shall be excluded from the disposal field at all times as they may pug the ground and damage the pipes and soil drainage characteristics.
2. No vehicles shall be driven over the disposal area (this requires specific design not included with this installation).
3. Surface drainage shall be maintained to avoid surface water entering the soakage area. Surface drainage typically comprises shallow surface drainage channels to divert stormwater around the disposal area.
4. Vegetation in the disposal area shall be appropriate. Deep rooting trees or shrubs should not be planted over trenches or pipes. Grass should be kept tidily mown to improve evapotranspiration of the area.

Further Information

Further information, including a list of suitable plants for your disposal field and a guide to looking after your system can be found on the Northland Regional Council Website – search for “NRC Septic tanks and sewage systems” or follow this link:

www.nrc.govt.nz/resource-library-summary/publications/waste/septic-tanks-and-sewerage-systems/

File:

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Part B: Assessment of Environmental Effects

Discharge Treated Sewage Effluent to Land

This application is made under Section 88/Section 127 of the Resource Management Act 1991

To: Consents Department
Northland Regional Council
Private Bag 9021
Te Mai
Whangārei 0143

Whangārei office: 09 470 1200
0800 002 004
Email: info@nrc.govt.nz
Website: www.nrc.govt.nz

PART B – ASSESSMENT OF ENVIRONMENTAL EFFECTS

Your application must include an Assessment of Effects on the Environment. This form is a guide to help you prepare one.

An assessment of effects is required so that you and others can understand what happens to the environment when you discharge domestic wastewater ("treated sewage effluent") to land. This will help you to propose ways to minimise those effects to the council's satisfaction.

The degree of detail required is in proportion to the scale of the environmental effects of your proposal. If you are required to apply for a consent to discharge sewage effluent into or onto land, then you will most probably need a qualified engineer (or similar) to design your on-site system. The information requested below is the minimum detail that your engineer must supply.

Please note that the word "environment" includes the surrounding waterways and groundwater, surrounding coastal water, adjoining land, any surrounding resource users, and local iwi.

It is advised that you make an appointment with an appropriate council officer to discuss your application prior to lodging it. This will help you to supply all the required information at the onset and ensure the efficient processing of your application.

A. Description of the Proposed Activity

A.1 What is the intended water supply?

- ☑ Rainwater collection
- ☐ Community or bore water supply
- ☐ Other (please specify) : _____

A.2 What is the source of the wastewater? (please tick the appropriate box and answer those questions)

☑ Domestic House

How many bedrooms are there in the house? 1 (tiny home/cabin)

Will the house be permanently occupied? ☑ Yes ☐ No

☐ Small Motel/Campground/Hostel/Marae/Sports Club

What is the maximum number of occupants that your facility can accommodate? _____

How frequently does this maximum occupancy occur and for what length of time? _____

What is the typical number of occupants during the other periods of the year? _____

☐ Shared On-site Systems/Subdivisions

How many individual lots are/will the treatment and disposal system be servicing? _____

What will be the average number of bedrooms per house? _____

What is the area of the lot on which the discharge will occur? _____

☐ Other

Provide details of the source of effluent, the number of persons contributing to the wastewater and the source of water supply for the facility.

_____

_____

_____

A.3 What is the likely maximum daily volume of wastewater to be discharged? 290 _____ litres

The Wastewater Treatment System

A.4 What is your Proposed Wastewater Treatment System?
(please tick appropriate box and answer the associated questions)

☐ Septic Tank

What is the capacity of the tank? _____ litres

Will an effluent filter be fitted on the outlet? ☐ Yes ☐ No

☑ Aerated Wastewater Treatment System (AWTS)

What brand is the AWTS? TechTreat CP2 _____

Will a programmed maintenance contract be entered into with the treatment systems manufacturer or agent? ☑ Yes ☐ No

☐ Other, what level of treatment do you consider the wastewater receives through your "other" treatment system?

☐ Primary

☑ Secondary

Describe the proposed "other" treatment system

_____

_____

The Wastewater Disposal System

A.5 What is your proposed disposal system?
(please tick the appropriate box and answer the associated questions)

☐ Soakage Trench/Bed System

What are the dimensions of the proposed soakage trenches/beds?

Width _____ m
Depth _____ m

What is the total length of all the soakage trenches/beds? _____ m

How will the soakage trench/bed system be loaded?

☐ Trickle
☐ Pump
☐ Dose loaded via a syphon

Has a 100% reserve area of undeveloped land been allowed for in the disposal system design?

☐ Yes
☐ No, what percentage has been allowed for and why?

_____
_____
_____

What is the proposed loading rate to the trenches/beds? _____ mm/day

☑ Irrigation Lines

What area will the irrigation lines cover? 193 m²

What is the distance between adjacent irrigation lines? 1.0 m

What is the distance between adjacent drip emitters along the irrigation line? 0.5 m

What brand is the irrigation line? Bioline

What is the proposed aerial loading rate to the disposal area? 1.5 mm/day

Has a 30% reserve area of undeveloped land been allowed for in the disposal system design?

☑ Yes
☐ No, what percentage has been allowed for and why?

_____
_____
_____

☐ Other (please describe)

_____
_____
_____

A.6 What is the intended ground cover within the disposal area after the disposal system is operational? (i.e. what plant species do you intend to plant, if any)

The site is within existing well established regenerating native bush with effectively full canopy cover. This vegetation is to be maintained.

B. Site Details

B.1 You must attach a map that shows the following:

- The location of your lot in relation to the nearest town.
- The legal property boundaries of your lot and the distance of your disposal system (including reserve area) from those boundaries.
- The layout of your disposal system (including reserve area) within your lot boundaries.
- The location of any groundwater bores within 20 metres of your disposal system (including reserve area).
- The location of any surface water (i.e. streams, roadside drains, lakes and rivers) within 20 metres of your disposal system (including reserve area).

B.2 What is the map reference of the proposed disposal system? (if known)

NZMS 260 Series map number:

Easting 1700370 (NZGD) (seven digit number)

Northing 6091035 (NZGD) (seven digit number)

B.3 Which District Council is the property administered under?

☐ Kaipara ☑ Far North ☐ Whangārei

B.4 What is the slope of the proposed disposal area?

☐ Flat

☐ Slightly sloping (5°–15°)

☑ Steep (>15°)

B.5 Are any drainage controls required?

☑ Yes, describe

Most of the area has an existing upslope bund that already provides a surface water cut-off. An additonal cut-off drain or swale is to be provided beyond the extent of the existing bund.

☐ No, state why not

B.6 Was a soakage test (percolation test) performed at the location of the proposed disposal system? (please tick the appropriate box and answer those questions)

☐ Yes

What was the date of the test? _____

What were the weather conditions prior to the soakage test? _____

What is the average soakage rate of the disposal area? _____ mm/hr
(please ensure the individual soakage test results are included with this application)

Are the locations of the soakage tests marked on the map that shows the layout of the disposal system?

☐ Yes

☐ No, state why not

_____

_____

☑ No, what are the reasons for not performing a soakage test?

PCDI dripper irrigation DIR rate assessed by visual identification of soil type from hand augered boreholes.

_____

B.7 Was any groundwater encountered during the site investigation?

☑ No ☐ Yes, at what depth? _____ metres

B.8 What is the estimated winter groundwater level for the disposal area? >5m _____ metres

How was this winter groundwater level determined?

Waipapa Group (Greywacke) typicaly has a deep ground water level. In this instance regional groundwater is likely closer to stream level >15m below the disposal site.

_____

B.9 Has a detailed soil profile been included with this application form?

☑ Yes

☐ No, state why not _____

B.10 What is the estimated soil category of the disposal area?

☐ 1: Gravel and sands, Rapidly draining

☐ 2: Sandy loams, Well drained

☐ 3: Loams, Moderately well drained

☐ 4: Clay loams, Imperfectly drained

☑ 5: Light clays, Poorly drained

☐ 6: Medium to heavy clays, Very poorly drained

Please state the criteria used for selecting the above soil category.
Hand augered boreholes completed onsite assessed against ASNZS 1547:2012

C. Assessment of Effects on the Environment

An assessment of effects should be proportional to the scale and significance of the proposed activity. Where your discharge could have an adverse effect on the environment, a detailed environmental assessment is required.

C.1 Affected Parties

Note: If you are proposing to dispose of your wastewater using a deep soakage system the determination of affected parties can be more complex, especially with relation to groundwater users. It is recommended that you contact the council to help determine who the affected parties from your proposal may be.

Are there any groundwater bores within 20 metres of any part of the disposal system (including reserve area) that are not owned by the applicant?

☐ Yes ☑ No

If you have answered Yes, then you will need to gain the written approvals of all the owners of neighbouring groundwater bores identified by the above question.

If written approvals cannot be obtained from all affected parties, describe what effect your discharge may have on the neighbouring groundwater bore and the steps you propose to take to minimise (i.e. mitigate) these effects (attach a separate sheet if necessary)

C.2 Given the estimated winter groundwater level (see Question B8) and your proposed treatment and disposal system, what is the risk of groundwater contamination occurring and why?

Very low and consistent with a system meeting permitted activity requirements. This is because a sutiable loading rate has been chosen and a suitable area for PCDI dripper irrigation identified. There is also a larger (<5m) vertical offset to groundwater levels. The system also only serves a tiny home so has a comparitively modest daily flow.

C.3 What is the smallest horizontal separation distance between the disposal system (including reserve area) and any nearby watercourse, including roadside water table drains?

9m (road drain) 28m stream metres

C.4 Given the smallest horizontal separation distance to the nearest surface watercourse and your proposed treatment and disposal system (including reserve area), what is the risk of surface water contamination occurring and why?

Very low and consistent with a permitted activity. Surface water does not currently flow through the proposed disposal location. The upslope road is seperated by an exsiting bund. A new bund/swale is to be provided below the site access to prevent run-off from this area. The low disposal rate, PCDI irrigation, canopy cover and downslope offset (>28m) from the disposal area to the stream reduce the risk of surface water contamination to very low.

C.5 Consultation

Have you consulted with any of the following potentially affected parties?

	Yes	No
Neighbours	☐	☑
Department of Conservation (if relevant)	☐	☑
Fish and Game Council (if relevant)	☐	☑
District Council (if relevant)	☐	☑
Local iwi (specify):	☐	☑
Other (specify):	☐	☑

Please ensure all of the relevant questions on this form have been answered fully.

If you have any queries relating to information requirements or wish to meet with a council consents officer, please contact a Duty Planner at the Northland Regional Council.

Northland Regional Council offices:			
Whangārei Office 36 Water Street Whangārei 0110 P 0800 002 004 E info@nrc.govt.nz www.nrc.govt.nz	Dargaville Office Ground Floor 32 Hokianga Road Dargaville 0310 P 09 439 3300	Kaitāia Office 192 Commerce Street Kaitāia 0410 P 09 408 6600	Waipapa Office Shop 9 12 Klinac Lane Waipapa 0295 P 0800 002 004

TechTreat Limited

CP2 System
Homeowner's Manual
Aerated Wastewater Treatment System

TechTreat Ltd
Dave Snowden
Technician
09 4071967
0274472322
techtreat@hotmail.com

On-site Effluent Treatment National Testing Programme (OSET NTP)

PERFORMANCE CERTIFICATE
TechTreat SS10 On-site Domestic Wastewater Treatment System,
OSET NTP Trial 8, 2012/2013

System Tested

The **TechTreat SS10** on-site wastewater treatment system is a submerged aerated filter treatment unit. Rated design capacity is 2,000 litres/day. Total liquid volume is 6,420 litres (primary treatment 3,200 litres; secondary treatment aeration chamber 2,700 litres; recirculation chamber 160 litres; clarification: 200 litres; pump chamber 160 litres) with aeration blower airflow 80 litres/minute 18 hours/day). Emergency storage is 1,000 litres. No tertiary treatment (such as UV disinfection) is incorporated. It is a two tank system with primary treatment in the first tank and secondary treatment in the second tank, incorporating a submerged aerated filter media (90 sheets) with clarifier and recirculation.

Test Flow Rate

The **TechTreat SS10** system was tested at 1,000 litres/day (equivalent to servicing a 3-bedroom 5 to 6 person household) over an 8 month (35 week) period November 2012 to June 2013 followed by a 1 month (4 week) high load effects test in July 2013 involving 5 days at 2,000 litres per day then 1,000 litres/day over the following 3 weeks.

Testing and Evaluation Procedures

A total of 37 treated effluent samples of organic matter (BOD_5) and suspended solids (TSS) at generally six day intervals during weeks 9 to 35 were tested and evaluated against the secondary effluent quality requirements of the joint Australia/NZ standard AS/NZS 1547:2012. During this period an internal airline came loose and impacted performance until repaired, compromising three sets of results in weeks 14-16. With SWANS-MAG approval these three sets of results were excluded and the evaluation undertaken using 34 results.

A total of 16 treated effluent samples of organic matter (BOD_5), total suspended solids (TSS), total nitrogen (TN), ammonia nitrogen (NH_4-N), total phosphorus (TP) and faecal coliforms (FC) at generally six day intervals during weeks 23 through 35 were benchmarked and rated on their median values. In addition, the energy used by the treatment system was assessed on the mean of consumption levels over the 16 sample days.

AS/NZS 1547:2012 Secondary Effluent Quality Requirements

These requirements are that 90% of all test samples must achieve a BOD_5 of $\leq$ 20 g/m^3 and TSS of $\leq$ 30 g/m^3 with no one result for BOD_5 being >30 g/m^3 and no one result for TSS being >45 g/m^3. The **TechTreat SS10 system** achieved a performance level of **100%** for BOD_5 and **91%** for TSS based on the full set of 37 test results in weeks 9 to 35, with no results exceeding the maximums. The **TechTreat SS10 system** thus **meets** the secondary effluent quality requirements of AS/NZS 1547:2012.

Benchmark Ratings

The TechTreat SS10 system achieved the following effluent quality ratings for the sixteen benchmarking results in weeks 23 to 35.

Indicator Parameters	Median	Std Dev	Rating	Rating System				
				A+	A	B	C	D
BOD_5 (mg/L)	*5.5*	*3.5*	**A**	*<5*	*<10*	*<20*	*<30*	*≥30*
TSS (mg/L)	*12.5*	*11*	**B**	*<5*	*<10*	*<20*	*<30*	*≥30*
Total nitrogen (mg/L)	*23.5*	*5.8*	**B**	*<5*	*<15*	*<25*	*<30*	*≥30*
NH_4- Nitrogen (mg/L)	*11.2*	*5.9*	**C**	*<1*	*<5*	*<10*	*<20*	*≥20*
Total phosphorus (mg/L)	*3.6*	*0.6*	**B**	*<1*	*<2*	*<5*	*<7*	*≥7*
Faecal Coliforms (cfu/100mL)	*63,000*	*67,000*	**C**	*<10*	*<200*	*<10,000*	*<100,000*	*≥100,000*
Energy (kWh/d) (mean)**	*2.0*	*0.1*	**C**	*0*	*<1*	*<2*	*<5*	*≥5*

** **Note:** Overall energy rating reflects conditions at the test facility – power consumption for effluent pumping under field conditions will be specific to the distribution system as installed.

This Performance Certificate is specific to the **TechTreat SS10 system** model as specified above when operated at a flow rate of 1,000 litres/day, and is valid for 5 years from the date below. For the full OSET NTP report on the performance of the **TechTreat SS10 system** contact TechTreat Ltd, KeriKeri, Northland. Phone: (09) 407 1967 Mob: 027 447 2322

Authorised By:
Ray Hedgland, Technical Manager, OSET NTP
23 March 2014

On-site Effluent Treatment National Testing Programme, c/- Technical Manager, 10/20 Selwyn Rd, Howick
AUCKLAND 2014 Ph: (09) 534 9247 Mob: 021 626 772 E-mail: ray@hedgland.co.nz

Thank you for installing a TechTreat Aerated Wastewater Treatment System. This booklet gives you all the information and instructions required to understand and manage your new system

Your TechTreat system requires servicing annually and this will need to be carried out by our trained technicians. We will contact you to arrange a suitable time to attend to your servicing needs

Servicing will include a general inspection of the tank area, irrigation and drainage. The septic tank will need to be pumped out (sludge removed) between 4-9 years as with any septic tank. We will notify you when this is required as our service technicians will monitor this on servicing.

How Does Your New System Work?

The TechTreat Wastewater Treatment System is made up of 2 tanks. The first is a standard septic tank and the second is an aeration tank which contains the treatment components

Household waste receives primary treatment in the septic tank and then passes into the aeration tank for secondary treatment

The treated effluent is discharged into the dripline irrigation field

The treated water produced has no smell and is completely safe for normal garden use

What To Do If Your Alarm Sounds

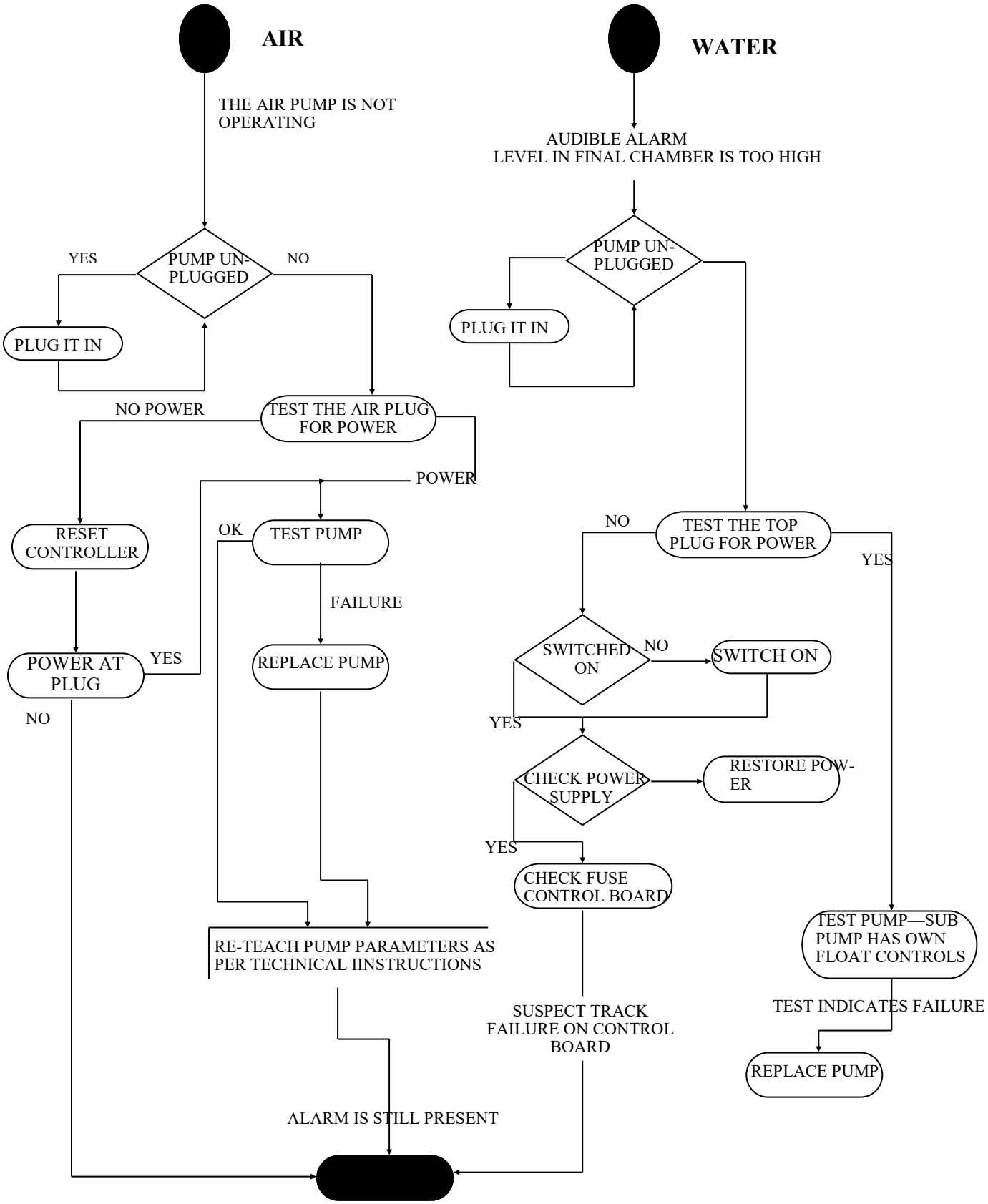
Your Wastewater Treatment System is fitted with an alarm that, if activated, will sound and the red light will come on (light located near control panel)

You can silence the audible alarm by flicking the alarm switch provided, however, do not ignore the red light – you must contact your service provider

In all cases - If your alarm is activated – call your service provider
A qualified technician will assist you in diagnosing your system condition.

Please see Alarm Test Procedure on following page

ALARM TEST PROCEDURE ALL ANALOGUE VERSIONS



A Practical Guide for TechTreat CP2 Treatment System

Your new home now has a modern septic tank/ treatment system. This system treats your household waste water and it needs Bacteria “Bugs” to operate correctly

General Do’s and Don’ts

Please don’t flush dangerous and damaging substances into your wastewater treatment System, this includes:

- **No Bleaches or Chlorine**
  These products are designed to kill bugs and will kill off the “bugs” in the tank causing smells and blocked filters
- **No Fats or Oils down drains**
  Fats and olis may block the tank filters and kill “bugs” in the tank
- **No Tea Leaves or Coffee Grounds down drains**
  May block the filters
- **No Washing Paint Brushed or Disposing of Paints down drains**
  Kill “bugs” in the tank and also residue is difficult and costly to remove
- **No Disposable Nappies, Nappy Wipes, Sanitary Pads, Tampons or Condoms**
  Kill ‘bugs” and Difficult to break down and can block filters
- **Do not Turn The Power Off to the Septic System as There are Electrical Parts that Need Power to Operate the System**

Please Do :

- Use only use gentle biodegradable cleaning products
- Try to avoid using washing machines, dishwashers, showers at the same time
- Call your service agent if there are septic odours from the system
- Call your service agent if the audio visual alarm is activated

Please don’t switch your system off even when you are going away

Please don’t cover the tank lids with soil as we will need access to the manhole lids for maintenance. You can however use post peel or bark if you would like to cover the lids

Servicing Chart

The system should be serviced at least every 12 months by a TechTreat approved technician

Function	3 monthly	9monthly	Annually
Anaerobic Chamber/			Qualified Person
Bio Filter/clean filter			Qualified Person
Air Blower/clean filter/			Qualified Person
Air Flow Path/Check			Qualified Person
Chlorinator if installed			Qualified Person
Pump Chamber/pressure test			Qualified Person
Outlet Filter/clean If Relevant	Owner	Owner	Qualified Person
Alarm System/check			Qualified Person
Irrigation field/			Qualified Person

Note: The desludging of the anaerobic chamber is the responsibility of the owner and should be carried out at least every 5 years or sooner if required

(monitor yearly)

Service Contract / Renewal Advice

This agreement is made between (Owner/Occupier):

of (Address) :

and the Authorised Distributor or their duly appointed agent

Business Name: TechTreat Limited

Business Address: 1 Sammaree Place Kerikeri

Business Phone Number & email: ph 0274472322 email techtreat@hotmail.com

The duration of the agreement is from: .....to .....

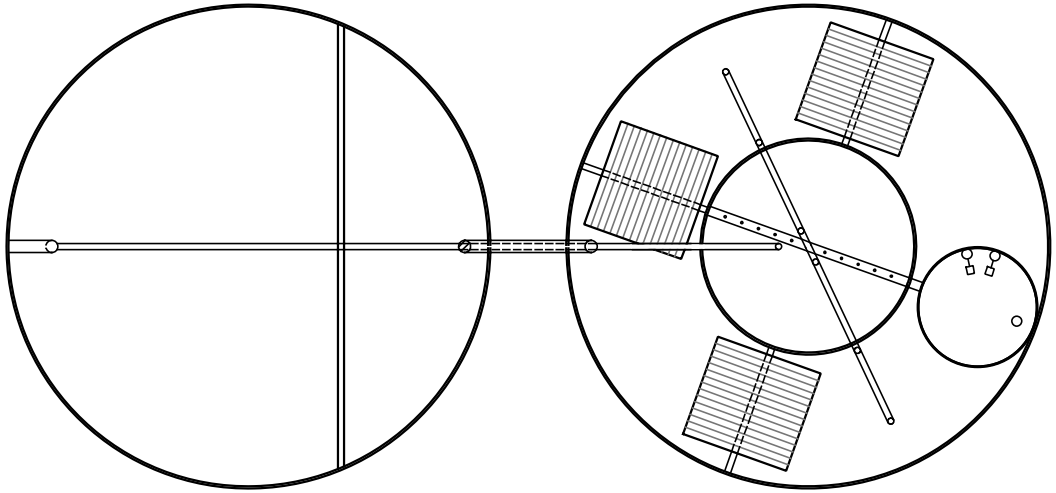
The Authorised Distributor/Agent agrees for the period to the following:

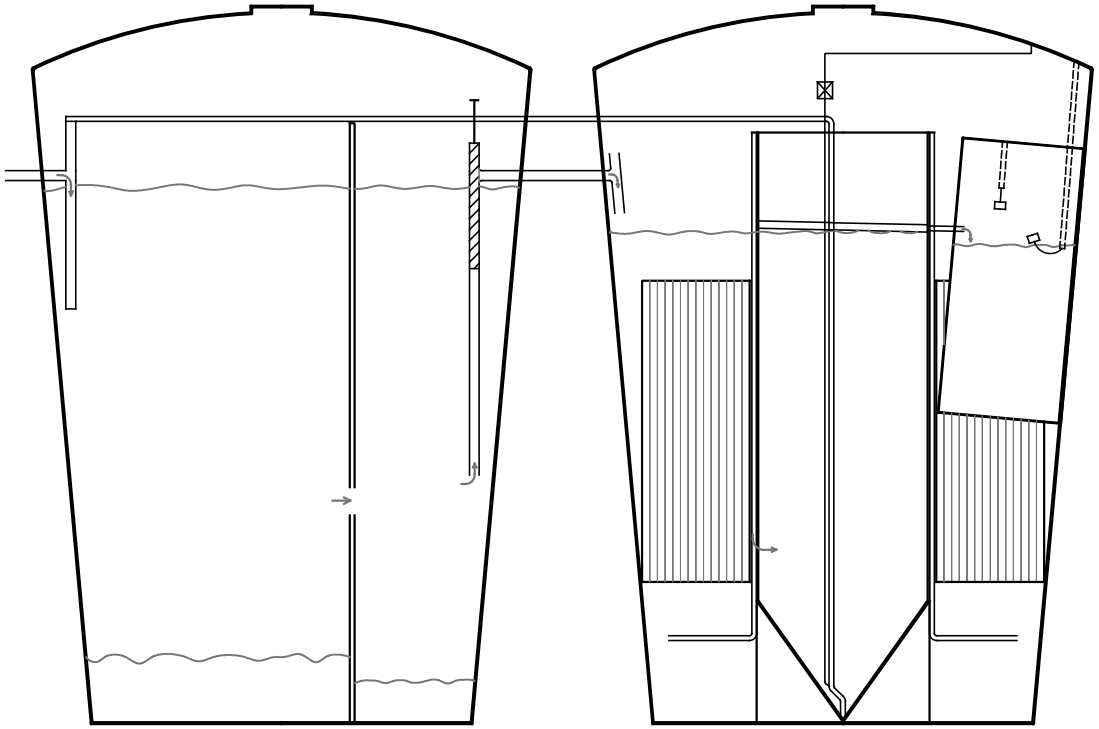
- A factory- trained technician will make annual field service inspections during the service period
  Inspections to include
  1. Any adjustment, cleaning and field service of the unit necessary for proper operation
  2. Inspection of the control panel and alarm plate, aeration blower, bio-mass sludge return, clarifier, filter, effluent quality, irrigation pump, and float alarm
- Both labour and materials will be charged for emergency service calls outside the call specified above
- In the event of any repairs being necessary on the purifier or electrical equipment during the first year because of damage which has occurred outside the warranty, then these repairs will be charged to include both labour and materials
- Complete a written report at the time of each annual inspection/service, providing a service report copy to the Customer and a copy to the Local Council
- This agreement does not bind TechTreat Limited or appointed agents to be responsible for the quality of effluent, However, it will at all times whenever possible, recommend how the effluent quality can be maintained at its maximum and alter/adjust the system during service calls in order to obtain the best possible effluent standard

In completing this agreement, the customer acknowledges that this Agreement is binding while they are the owner/occupier of the premises. There is an obligation by the Distributor/Agent and the homeowner to transfer this Contract to any new Owner/Occupier to comply with the relevant By-Law requirements.

Owner/Occupier Signature.....

Signature Authorised Distributor/Appointed Agent.....





SS10/CP2 Aerated Wastewater System

Process Description of System	Aerated submerged fixed film media Fine bubble aeration	
Volumes • Total operational volume • No of tanks • Total liquid volume • Emergency storage	2000L/day 2 6420L 1000L	
Filter (AS/NZS 1546 standards)	Simtech STF-110 Septic Tank Bristle Filter (primary septic tank)	
Aeration • Type • Make/Model • Run time • kW Irrigation pump	Option 1 Blower Thomas AP80 12 hrs 0.051kW To be specified if needed	Option 2 Blower Nitto LB80 18 hrs 0.086kW
Recirculation	Sludge return from Clarification to Septic (air operated)	
Electrical controls & alarms	Air & high water alarms (audio and visual) 10A circuit breaker	

TechTreat Ltd

57B Cobham Road Kerikeri
Ph 0274472322
Email techtreat@hotmail.com

On-Site Wastewater Systems

List of Water Tolerant Plants Suitable for on-site Wastewater Disposal Systems
(from Auckland Council)

General Matters to Consider When Planting a Land Disposal Area:

Plants that are suitable for planting in moist conditions, such as those associated with wastewater land disposal fields need to be selected on the basis of both their tolerance for such moist conditions and for their potential for high level of growth/high transpiration of moisture in such conditions.

Standard lawn grass is a proven effective high transpiration plant species in such conditions, as are a large number of other plant species seen in typical domestic gardens.

Consideration need to be given to effects of roots from plants and from trees in particular on wastewater distribution pipe networks/emitter lines in land application systems. Potential for root intrusion/disruption to the pipe system must be considered prior to selection and planting of a plant or tree species.

Advise on such matters can be obtained from garden centre specialists and landscaping consultants.

Native Plants Suitable for Moist Conditions in the Auckland/Northland Region:

The following list covers native plant species which are considered to be suitable for planting in moist conditions, such as those associated with wastewater disposal fields in Auckland/Northland situations. They are all tolerant or fond of moist conditions and are all native to the region.

Grasses, ground covers, and other plants

Astelia grandis (swamp astelia)
Large clump forming plant with bright green, flax-like foliage. Female plants produce upright panicles of orange berries in the centre of the plant. This endemic species will not tolerate eutrophic conditions and prefers peat soils.

Blechnum novaezealandiae (kiokio)
Large, robust fern growing to 1 or even 2m, hardy species that tolerates most conditions, but does best in well drained, shady areas.

Carex
There are many members of this genus which grow naturally in damp to wet areas. They all have quite fine drooping foliage and are vigorous in moist conditions. Most prefer very light shade. The following species have been identified for their suitability:

Carex Dissita
Endemic species with dull green to reddish tufts often 0.5m tall (although this can vary). Tolerates a range of swampy habitats, but is also noted to grow on drier soils under forest cover.

Carex flagellifera
Endemic species with dense spreading reddish-brown tufts to 0.5m tall. Prefers damp soil and full sun, but is noted to thrive in a variety of habitats including boggy pasture.

Carex geminate
Robust and vigorous endemic species that grows to 1.5m tall. Thrives in a range of wet habitats. Suitable for a larger area.

Carex Lessoniana

Robust and vigorous endemic species that grows to 1.5m tall. Similar to C.geminata in that the species is spreading and suitable for a large wet area.

Carex secta (purei, makura)

Endemic species that exhibits tall spreading tussocks. Has been noted to grow to 3m tall, widespread in swampy areas. Useful in the creation of bird habitat.

Carex virgata

Endemic species that forms dense, light green tussocks up to 1m tall. Thrives in a variety of habitats including swamps, drain margins, seepages and wet pastures. Useful in the creation of bird habitat.

Cortaderia fulvida (toetoe)

Branching from the base and forming a clump to 4m high. Long strap-shaped leaves with red-orange coloured veins, flower heads cream yellow. New shoots exhibit pale waxy cover on lower parts (unlike pampas grass). Prefers good drainage and semi-shade. Will struggle to compete if dried out in summer.

Cyperus ustulatus (toetoe upoko-tangata, giant umbrella sedge)

Vigorous leafy sedge growing to 1m in open damp places. Tolerates immersion in standing water within a range of habitats from seepages to wetlands.

Dicksonia squarrosa (wheka, tree fern)

Tree fern up to 7m tall that exhibits tolerance of wet open ground and floods. Found to shelter and accumulate with other native plants. The base of the fern attracts biodiversity. Useful application to streambank and seepage habitats.

Elastostema rugosum (parataniwha)

Herbaceous plant up to 0.5m tall that spreads by rhizomes. Bronze coloured foliage with serrated edge. Grows on moist sites in light to heavy shade. Intolerant of dry habitats.

Hypolepis dicksonioldes

Large fern that prefers fertile moist, but well-drained ground, grows vigorously and spores into planted areas with abundance. Does however, die back during winter.

Phormium tenax (harakeke, flax)

Fast growing clump-forming flax with large stiff leaves to 3m. Full exposure and sun. Moist to wet conditions. Does not have deep or wide roots. Easily propagated from split fans or grown from seed. Attracts birds, especially Tui.

Trees and Shrubs

Consideration needs to be given to the effects of roots on wastewater distribution pipe networks.This problem can be more significant for large tree species.

Carpodetus serratus (putaputaweta, marbleleaf)

Lowland forest tree up to 7m tall. Large bunches of cream coloured flowers appear in spring followed by black berries.

Coprosma areolata

Species that grows to 4m tall. Low tolerance to drought, with medium to high fertility.

Coprosman robusta (karamu, shining karamu)

Shrubs or small trees growing to 3m+, with glossy green leaves. Masses of orange-red fruit in autumn are attractive to birds. Hardy plant.

Coprosma tenuicaulis (swamp coprosma)

Endemic species that grows to 3m tall. Leaves pale green with slender branches. Will tolerate a range of swampy to boggy habitats including standing water.

Cordyline australis (ti kouka, cabbage tree)

Palm-like in appearance with large heads of linear leaves and panicles of scented flowers. Sun to semi-shade. Prefers damp to moist soil. Grows eventually to 12m+ height.

Dacrycarpus dacrydioides (kahikatea, white pine)

Tree that grows to 40m. Moderately growing species, which prefers wetland and boggy environments. Application of this species must consider the possible impact of its root systems on the wastewater disposal field.

Geniostoma rupestre (hangehange)

Common forest shrub with pale green glossy foliage, growing to 2-3m. Tiny flowers give off strong scent in spring. Looks best in sunny position where it retains a bushy habit, and prefers well-drained soil.

Hebe stricta (koromiko)

Shrub or small tree growing to 2-5m in height. Natural forms have white to bluish flowers. Plant in full sun. Tolerates exposure. (NB Many cultivars and hybrids are available commercially, but these are all unsuitable for use near existing natural vegetation).

Laurelia novae-zealandiae (pukatea)

Large upright tree (to 30m) with attractive bright green foliage and distinctive whitish bark. Fast growing and able to handle a wide variety of soils. It will tolerate periodic flooding, breathing roots develop in water logged soils. Can be grown from seed. Tolerant of some sun and frost. Not tolerant of wind.

Leptospermum scoparium (manuka)

Shrub or small tree growing to 4m+ in height. Ubiquitous shrub varying in form throughout New Zealand. Ideal to provide shelter for other plants as it is quick growing and hardy. Requires fill sun. Hardy and tolerant of difficult conditions, including water logging and drought.

Melicytus (mahoe)

A fast growing yet long lived tree to 7m height. Prefers well drained fertile soils. Tolerates some frost, wind and sun. Birds are attracted to the blue berries.

Pennantia corymbosa (kaikomako)

Slow growing species that will reach 12m in moist, fertile sites. Useful species application in bank stabilisation or wetland habitats.

Plagianthus betulinus (ribbonwood)

Fast growing species to 15m. Similar application to that of Pennantia corymbosa.

Rhopalostylis sapida (nikau)

New Zealand's only native palm, with red berries attractive to birds. Requires light shade, plenty of moisture and protection from wind when young. Grows well in areas of permanent dampness.

Syzygium maire (maire tawake)

Attractive and moderately growing wetland tree to 15m with bronze foliage, large bunches of reddish fruit and distinctive whitish bark. Requires a sheltered sunny position. Tolerates some frost.

Vitex lucens (puriri)

Fast growing to 20m in fertile, open but sheltered conditions. Will struggle with poor drainage during adolescence.

Warranty

Your 'TechTreat CP2' Sewage Treatment System is guaranteed to be free of any defects in materials or workmanship at the time of installation.

During the twelve months following installation, a cost free maintenance program is provided which includes your first annual service.

Should any mechanical or manufactured part/s fail as a result of defect within twelve months of installation, the part/s will be replaced free of charge.

Pumps supplied with your system come with a two year warranty.

The RELN septic tanks supplied with your system come with a manufacturers fifteen year warranty.

This warranty is governed in total by the "Conditions of Sale"

Warranty Excludes Defects Due To:

- Failure to use the system in accordance with the Owner's Manual
- Changes to surrounding landscaping after installation
- Actions of a third party
- A force majeure event
- Modifications or repairs undertaken without the consent of TechTreat Ltd
- Failure where applicable to fence and plant irrigation field

UNIBIOLINE CNL 16010

HEAVY WALL, PRESSURE COMPENSATING, ANTI SIPHON & NON LEAKAGE 16mm LILAC DRIPPERLINE

APPLICATIONS

- Domestic & commercial onsite water re-use applications

FEATURES AND BENEFITS

- Patented TurboNet™ Dripper Technology - wide flow passage
- Pressure Compensated (PC) - self regulates to ensure uniform drip discharge
- Anti-Siphon (AS) dripper - prevents suck back
- Non Leakage Device (CNL) - prevents pooling and ponding around dripper after system shuts down
- Centrally mounted dripper with large inlet filter
- Mechanical root barrier
- Approved by the Smart WaterMark ™

SPECIFICATIONS

- Pressure compensated (PC), Anti-Siphon (AS) & Non Leakage dripperline
- Non Leakage device shuts down below 14 kPa
- Operating Pressure: 100 kPa - 350 kPa
- Recommended filtration: 120 mesh (130 micron)
- Tubing colour: co-extruded lilac tube (indicates non-potable water)
- UV resistant Low Density Polyethylene (LDPE)
- Additional flow rates, spacings and pipe sizes are available on request. Minimum quantities apply.

DRIPPER TECHNICAL DATA

INSIDE DIAMETER (MM)	OUTSIDE DIAMETER (MM)	DRIPPER FLOW RATE (L/H)	DRIPPER SPACING (M)	PRESSURE RANGE (kPa)	COIL LENGTH (M)
14.2	16.2	1.6 & 2.3	0.3 & 0.4	100 - 350	200

TECHNICAL DATA

Maximum run length (m) on flat ground (based on 5% flow variation)

NOMINAL FLOW RATE (L/H)	100 kPa	150 kPa	200 kPa	250 kPa	300 kPa
1.6 l/h @ 0.3m	N/A	80m	100m	115m	127m
2.3 l/h @ 0.3m	N/A	62m	80m	91m	100m
1.6 l/h @ 0.4m	N/A	101m	129m	148m	163m
2.3 l/h @ 0.4m	N/A	80m	101m	116m	129m

SUITABLE FITTINGS

SAP	DESCRIPTION	SAP	DESCRIPTION
32500-013750	16mm Start Take-off to suit LDPE	32500-012500	16mm Elbow
00005-011500	16mm Elbow Take-off to suit LDPE	32500-011300	16mm Tee
45000-001650	16mm Elbow Take-off to suit LDPE	32500-010700	16mm Joiner
32500-013700	16mm Straight Take-off with Grommet to suit PVC	76400-011750	16mm Herbie Clip Ratchet Clamp
00025-002400	Hold Down Stake (Asta)	00005-002200	16mm Ratchet Clamp
00005-010600	16mm Purple Shut-off Valve	00060-002240	16mm Cobra Clamp (C16/8 Green)

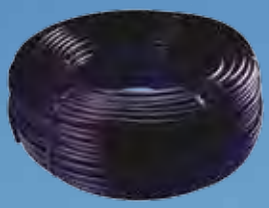
For more information, please contact Netafim at www.netafim.com.au

Smart Approved WaterMark

WWW.NETAFIM.COM.AU
EMAIL: NETINFO@NETAFIM.COM.AU

NETAFIM™
GROW MORE WITH LESS

GROW MORE WITH LESS



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PRODUCER STATEMENT

DESIGN: ON-SITE EFFLUENT DISPOSAL SYSTEMS (T.P.58)

ISSUED BY: David Buxton for Northland Geotechncial Specialists Limited (approved qualified design professional)

TO: Anna Madsen (owner)

TO BE SUPPLIED TO: ……Far North District Council……..

PROPERTY LOCATION: 108 Oromahoe Road, Opua
……

LOT 3 DP 361456 VALUATION NUMBER 3347435

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

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

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

(1) The site verification of the soil types.

(2) All proprietary products met the performance requirements.

The proposed design will met the relevant provisions of the Building Code and 5.3.11 of The Far North District Council Engineering Standards.

DS Buxton ……(Signature of approved design professional)

BE Civil (Hons) ……(Professional qualifications)

CPEng 1010928 ……(Licence Number or professional Registration number)

Address 558 Crane Road, Kauri, Whangarei
……

Phone Number 0226981129
Fax Number ……
Cell Phone ……
Date 27/05/25……

Note: The design has been prepared in accordance with AS/NZS 1547:2012 as per NRC permitted activity requirements. This is considered an equvilent to TP58

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

On-site Wastewater Disposal Site Evaluation Investigation Checklist

FAR NORTH DISTRICT COUNCIL

Appendix E

TP58

On-site Wastewater Disposal Site Evaluation Investigation Checklist

Part A –Owners Details

1. Applicant Details:

Applicant Name	Anna Madsen	
Company Name		
	First Name(s)	Surname
Property Owner Name(s)	Anna	Madsen

Nature of Applicant*	Owner

*(*i.e. Owner, Leasee, Prospective Purchaser, Developer)*

2. Consultant / Site Evaluator Details:

Consultant/Agent Name	Northland Geotechnical Specialists Limited			
Site Evaluator Name	David Buxton			
Postal Address	558 Crane Road, RD1, Te Kamo 0185			
Phone Number	Business	026981129	Private	
	Mobile		Fax	
Name of Contact Person	David Buxton			
E-mail Address	david@northlandgeotech.co.nz			

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

Yes		No	X	(Please tick)

If yes, give Reference Numbers and Description

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

If so, specify Application Details and Consent No.

(eg. LandUse, Water Take, Subdivision, Earthworks Stormwater Consent)

N/A

Part B- Property Details

1. Property for which this application relates:

Physical Address of Property	108 Oromahoe Road, Opua
Territorial Local Authority	FAR NORTH DISTRICT COUNCIL
Regional Council	NORTHLAND REGIONAL COUNCIL
Legal Status of Activity	Permitted: Controlled: Discretionary:
Relevant Regional Rule(s) (Note 1)	NRC PRP C.6.1.3 & C.6.1.5
Total Property Area (m²)	4910m²
Map Grid Reference of Property If Known	

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

Lot No.	3	DP No.	361456	CT No.	CT-250127
Other (specify)					

Please ensure copy of Certificate of Title is attached

PART C: Site Assessment - Surface Evaluation

(Refer TP58 - Sn 5.1 General Purpose of Site Evaluation and Sn 5.2.2(a) Site Surface Evaluation)

Note: Underlined terms defined in Table 1, attached

Has a relevant property history study been conducted?

Yes	X	No		(Please tick one)

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

A suitable area for onsite effluent disposal is presented in NGS Report Ref 0407, Design Report: Onsite Effluent Disposal, 27 May 2025. Assessment of this area has included a property history study. Further details of the site are also given in the NGS Geotechnical report Ref 0407 dated 18 March 2025.

1. Has a Slope Stability Assessment been carried out on the property?

Yes	X	No		Please tick

If No, why not?

If Yes, please give details of report (and if possible, please attach report):

Author	David Buxton
Company/Agency	Northland Geotechnical Specialists
Date of Report	18 March 2025
Brief Description of Report Findings:-	
Site is steep with areas of instability. Suitable areas for development with adequate offsets from unstable areas were identified.	

2. Site Characteristics (See Table 1 attached):

Provide descriptive details below:
Performance of Adjacent Systems:
N/A
Estimated Rainfall and Seasonal Variation:
Information available from **N.I.W.A MET RESEARCH**
1450mm (from NRC)
Vegetation / Tree Cover:
Well established and maturing regenerating native bush - effectively 100% canopy cover.
Slope Shape: (Please provide diagrams)
Linear planar
Slope Angle:
20 to 30^{o} becomes steeper downslope (upto 45^{o})
Surface Water Drainage Characteristics:
Upslope surface water primarily diverted by Oromahoe Road and flows away from site of down through site away from disposal area.
Flooding Potential: YES/NO
No - site well elevated.
If yes, specify relevant flood levels on appended site plan, I.e. one in 5 years and/or 20 year and/or 100 year return period flood level, relative to disposal area.
Surface Water Separation:
>5m to stormwater drains, >15m to streams, >20m waterbores
Site Characteristics: or any other limitation influencing factors
Site is steep - NRC consent required due to slope angles exceeding 25^{o}

3. Site Geology **Check Rock Maps**

Waipapa Group (Greywacke) - GNS QMaps (online)

Geological Map Reference Number	

4. What Aspect(s) does the proposed disposal system face? (please tick)

North		**West**	
North-West	X	**South-West**	
North-East		**South-East**	
East		**South**	

5. Site clearances,(Indicate on site plan where relevant)

Separation Distance from	Treatment Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries	>1.5.	>1.5m
Surface water, rivers Creeks drains etc	>15m streams >5m downslope stormwater flow path	
Groundwater		>0.6m (secondary treatment)
Stands of Trees/Shrubs	N/A	N/A
Wells, water bores	>20m	>20m
Embankments/retaining walls	N/A	N/A
Buildings	>3m	>3m
Other (specify):		

PART D: Site Assessment - Subsoil Investigation

(Refer TP58 - Sn 5.1 General Purpose of Site Evaluation, and Sn 5.2.2(a) Site Surface Evaluation and Sn 5.3 Subsurface Investigations)
Note: Underlined terms defined in Table 2, attached

1. Please identify the soil profile determination method:

Test Pit		(Depth_____m	No of Test Pits	
Bore Hole		(Depth 0.9m or more...	No of Bore Holes	3
Other (specify):				

Soil Report attached?

Yes	X	No		Please tick

2. Was fill material intercepted during the subsoil investigation?

Yes		No	X	Please tick

If yes, please specify the effect of the fill on wastewater disposal

3. percolation testing (mandatory and site specific for trenches in soil type 4 to 7)

Please specify the method N/A - PCDI irrigation

Test Report Attached? N/A	Yes		No		Please tick

4. Are surface water interception/diversion drains required?

Yes	X	No		Please tick

If yes, please show on site plan

4a Are subsurface drains required No

If yes enter details

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

Winter	>5m	m	Measured		Estimated	X
Summer	>5m	m	Measured		Estimated	X

6. Are there any potential storm water short circuit paths?

Yes		No	X	Please tick

If the answer is yes, please explain how these have been addressed

7. Based on results of subsoil investigation above, please indicate the disposal field soil category *(Refer TP58 Table 5.1)*

Is Topsoil Present?	Yes	If so, Topsoil Depth?	0.15	(m)

Soil Category	Description	Drainage	Tick One
1	Gravel, coarse sand	Rapid draining	
2	Coarse to medium sand	Free draining	
3	Medium-fine & loamy sand	Good drainage	
4	Sandy loam, loam & silt loam	Moderate drainage	
5	Sandy clay-loam, clay loam & silty clay-loam	Moderate to slow drainage	
6	Sandy clay, non-swelling clay & silty clay	Slow draining	X
7	Swelling clay, grey clay, hardpan	Poorly or non-draining	

Reasons for placing in stated category

Visual assessment (Note this is category 5 to AS/NZS 1547:2012)

PART E: Discharge Details

1. Water supply source for the property (please tick):

Rainwater (roof collection)	X
Bore/well	
Public supply	

2. Calculate the maximum daily volume of wastewater to be discharged, unless accurate water meter readings are available

(Refer TP58 Table 6.1 and 6.2)

Number of Bedrooms	~~2 - 3 - 4~~ 1 (Tiny home)			
Design Occupancy	2			(Number of People)
Per capita Wastewater Production	140	160	180	(tick) (Litres per person per day)
Other - specify	200	220	145	
Total Daily Wastewater Production	290			(litres per day)

3. Do any special conditions apply regarding water saving devices

a) Full Water Conservation Devices?	~~Yes~~		~~No~~	See below	(Please tick)
b) Water Recycling - what %?	%			N/A	(Please tick)

If you have answered yes, please state what conditions apply and include the estimated reduction in water usage

Standard water reduction fixtures to AS/NZS 1547:2012

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

Yes		(Please tick)
No	X	(Please tick)

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

5. Gross Lot Area to Discharge Ratio:

Gross Lot Area	4910	M
Total Daily Wastewater Production	290	(Litres per day)(from above)
Lot Area to Discharge Ratio	17	

7. Does this proposal comply with the Northland Regional Council Gross Lot Area to Discharge Ratio of greater than 3?

Yes	X	No		Please tick

8. Is a Northland Regional Council Discharge Consent Required?

Yes	X	No		(Please tick)

NRC Discharge consent required due to slope of the site.

PART F: Primary Treatment *(Refer TP58 Section 7.2)*

1. Please indicate below the no. and capacity (litres) of all septic tanks including type (single/dual chamber grease traps) to be installed or currently existing: If not 4500 litre, duel chamber explain why not

Number of Tanks	Type of Tank	Capacity of Tank (Litres)
N/A - Secondary Treatment		
	Total Capacity	

2. Type of Septic Tank Outlet Filter to be installed?

PART G: Secondary and Tertiary Treatment

(Refer TP58 Section 7.3, 7.4, 7.5 and 7.6)

1. Please indicate the type of additional treatment, if any, proposed to be installed in the system: (please tick)

Secondary Treatment			
Home aeration plant	X		
Commercial aeration plant			
Intermediate sand filter			
Recirculating sand filter			
Recirculating textile filter			
Clarification tank			
Tertiary Treatment			
Ultraviolet disinfection			
Chlorination			
Other		Specify	

PART H: Land Disposal Method

(Refer TP58 Section 8)

1. Please indicate the proposed loading method: (please tick)

Gravity	
Dosing Siphon	
Pump	X

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

Yes	no

If not to be installed, explain why

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

Total Design Head	TBC by supplier	(m)
Pump Chamber Volume	6420	(Litres)
Emergency Storage Volume	1000	(Litres)

4. Please identify the type(s) of land disposal method proposed for this site: (please tick)
(Refer TP58 Sections 9 and 10)

Surface Dripper Irrigation	X		
Sub-surface Dripper irrigation			
Standard Trench			
Deep Trench			
Mound			
Evapo-transpiration Beds			
Other		Specify	

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

Loading Rate	1.5		(Litres/m2/day)
Disposal Area	Design	193	(m2)
	reserve	58	(m2)

Explanation *(Refer TP58 Sections 9 and 10)*

DIR from AS/NZS 1547:2012 with 50% reduction for sloping ground.

6. What is the available reserve wastewater disposal area *(Refer TP58 Table 5.3)*

Reserve Disposal Area (m²)	>>58
Percentage of Primary Disposal Area (%)	>>30%

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

Description and Dimensions of Disposal Field:

Refer attached plan (approx 22m x 8.75m but slighlty irregular to suit site).

Plan Attached?	Yes	X	No		(Please tick)

If not, explain why not

PART I: Maintenance & Management

(Refer TP58 Section 12.2)

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

To be confirmed by Client

Yes		No		(Please tick)

Name of Suppliers

TechTreat

PART J: Assessment of Environmental Effects

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

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

Yes	X	No		(Please tick)

If Yes, list and explain possible effects

PART K: Is Your Application Complete?

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

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

1. Declaration

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

Name	David Buxton	Signature	DS Buxton
Position	Geotechnical Engineer	Date	27/05/25

Note

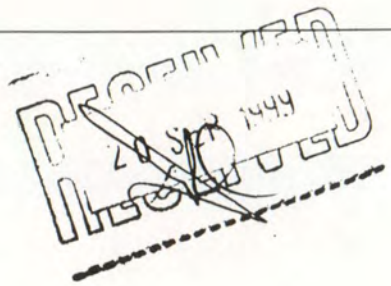
Any alteration to the site plan or design after approval will result in non compliance.

HAIGH DEVELOPMENT CONSULTANTS

Land & Building Development | Strategic Planning
Water & Waste Management | Environmental Management

90 Kerikeri Road
PO Box 89
Kerikeri, NZ
Phone/Fax 09 4078237
Mobile 025 808444
A/hrs 09 4078322

Ref: 99104



GREG WALKER

OROMAHOE ROAD

OPUA

REPORT ON SUITABILITY OF SITE FOR SUBDIVISION

1. Introduction

It is proposed to subdivide Lot 4 of DP164545 in to two large lots of approximately 11.00 hectares each. Proposed Lot 1 is to include the area of part Lot 1 DP72432. Two further lots, Lots 3 and 4 are proposed to be created at the eastern end of the site as shown on the attached plan.

This report investigates the suitability of sites with respect to land stability, access, stormwater disposal and on-site treatment and disposal of effluent.

2. Description of Site

The whole of the subject site is in quite steeply dissected rolling country with a stream running through it from south west to north east, leaving the site at the extreme north eastern corner.

The site has a long frontage to Oromahoe Road along its south eastern side. Lots 3 and 4 lie between Oromahoe Road and the stream. The land near Oromahoe Road including on Lots 3 and 4 slopes steeply down to the north west in a series of spur ridges and relatively steep gullies. It is on these spur ridges that house sites have been identified for lots 1, 3 and 4.

The underlying geology is mapped as inter-bedded sandstone and mudstone known locally as Greywacke, typically weathered to a sandy clay to depths of 30 metres. The soil type is mapped Marua Brown Clay loam, noted as being well to moderately well drained.

The house site for Lot 1 is on a ridge near the western end, with an existing formed access from the extreme western corner up to an area containing established buildings.

On Lot 2 there is a relatively large area of suitable ground across the other side of the stream. The future access to this area will leave Oromahoe Road very close to Lot 3 frontage as shown on the proposed subdivision plan.

3. Investigations

The southern frontage of the site was inspected from Oromahoe Road with a walk-over inspection of Lots 3 and 4 to identify suitable building sites on each of those lots.

4. Land Stability

The site is typical of much of the Bay of Islands area, although steeper in places down to the main stream.

4,1 ***Geology and soil type of the Bay of Islands area (standardised description).***
The geology in the general Bay of Islands area, including in the vicinity of this site, is of very old weathering sandstone known as "greywacke".

The typical soil profile, weathering downward from the surface, comprises:

- *50 mm to 200 mm of topsoil*, [Here – 150 mm]
- *0.5 m to 3.0 m of yellow clay which generally becomes stronger with depth*, [Here exceeding 2.0 m thick in places]
- *0.1 m to 2.0 m of red clay*, [Here – say 0.3 – 0.4 m]
- *phasing into strong weathering rock.*

The weathering process takes place, not only vertically down from the ground surface, but also horizontally outward from old cracks, fissures and fracture zones. Hence a great variation in weathering depth.

Near the surface, the yellow clay is prone to shrinking and cracking as it dries and expanding when wet, contributing to soil creep on steeper slopes and generally requiring deeper foundations. (Rainfall run-off may enter the deep cracks and effect the deeper soil quite quickly.)

The deeper clay is coloured red mostly because it has not oxidised to yellow, being usually moist and not exposed to air or root activity. The relative leaching of manganese and iron may also contribute to the colour difference.

It has been observed that slope failures most often take place near the top of the red layer. This is presumed to be because it is the depth where vertical moisture movement slows and the layer immediately above is consequently more often the wettest and weakest.

The yellow clay is generally much thicker on north faces due to drier and more aerated soil conditions, deeper cracking and the consequent more vigorous vegetative growth and root penetration. The red layer is often much thicker on south faces.

General Comments about the Risk of Slope Failure in weathered greywacke.

The likelihood of any slope failure is dependent on the balance of forces causing and resisting movement.

Factors causing movement include;

- *steepness of slope and*
- *weight, (with weight contributed to by the thickness of the layer likely to move and its degree of saturation)*
- *pore water pressure,*
- *surcharge (extra weight placed on the slope).*

Factors resisting movement include;

- *support at the toe of the slope, and*
- *the friction along the weakest line of slipping, being dependent on natural soil shear strength and its wetness.*

The shear strength when wet may be reduced to less than half of the strength when dry.

When the forces are exactly in balance, i.e. at the point of slipping, the slope is considered to have a factor of safety of 1.0 and where the resisting forces are greater than the causing forces, the factor of safety will be higher than 1.0, hopefully 2.0 or more.

The science of estimating these forces is very approximate and thorough investigations very expensive, so a more practical indication is often gained by observing whether any nearby land has failed and comparing the conditions at that site with those at the subject site.

Stronger and weaker zones.

Understanding the stronger and weaker zones is the key to identifying good house sites in the bay of Islands area.

Spurs and sagging slopes.

As a first indication (which has to be confirmed) ridges and spurs (side ridges) are assumed to be the strong remnants, left after the weaker adjacent ground has weathered and crept or slipped away.

Typically the weaker yellow clay layer is thinner across the ridges – down to 0.5 m.

The depressed or concave slopes between spurs are usually the weaker ground that has either obviously slipped or has sagged or crept down-slope over hundreds of years. Typically the weaker yellow layer is thicker in the sagging slopes, the soil having weathered more deeply in the more fractured parent material and then become a preferred flow path for moisture.

Observations of many road-side cuttings and other excavations support this simple theory.

The heads and flanks of a slip.
On sites where slips have occurred and some of the weaker material disappeared, the remnants of weak material that remain at the head and at the flanks of the slip, can become the new weakest place. On areas of this type, it should be expected that the factor of safety will fall to less than one when they become saturated. In other words they should be expected to fail unless measures are taken to improve the balance of the forces.
(Haigh Development Consultants)

4.2 Observations on this site.
Firm stable ridges are identifiable on Lots 1, 2 and 3 near the Oromahoe Road frontage. The area suitable for development on Lots 3 and 4 are quite small with less stable areas adjacent on both sides of the identified house sites. The less stable areas are able to be avoided by careful planning of the site development and position of future houses.

5. Access

Access is able to be formed on to each site from Oromahoe Road, with reasonable grades and at positions with sufficient safe sight distance in both directions.

6. Stormwater

All sites are able to dispose of stormwater to a natural flowpaths without effecting any other lot. Because of the steepness of the slopes adjacent to the identified house sites on lots 3 and 4 and some softer material there, it will be necessary to collect and dispose of stormwater down the slopes in a controlled manner to prevent erosion by scour. This is achievable on both those lots.

7. On-site Effluent Disposal

Land suitable for disposal of effluent from septic tanks by long shallow soakage trenches is available on all of the four lots.

On Lots 3 and 4 the area of suitable ground is quite small, so development of these sites will need to be planned carefully to set aside sufficient area for this

purpose. A greater flexibility in the development of those two sites would be available if sewerage treatment was by household aeration plants, giving the opportunity for disposal by more widely dispersed trickle irrigation.

8. Conclusions

It is my opinion that all four lots are suitable for establishing as proposed. Suitable house sites were identified on Lots 1, 3 and 4 near the Oromahoe Road frontage.

The sites on Lots 3 and 4 were on strong, stable spur ridges but are limited in area such that careful planning of the development will be necessary.

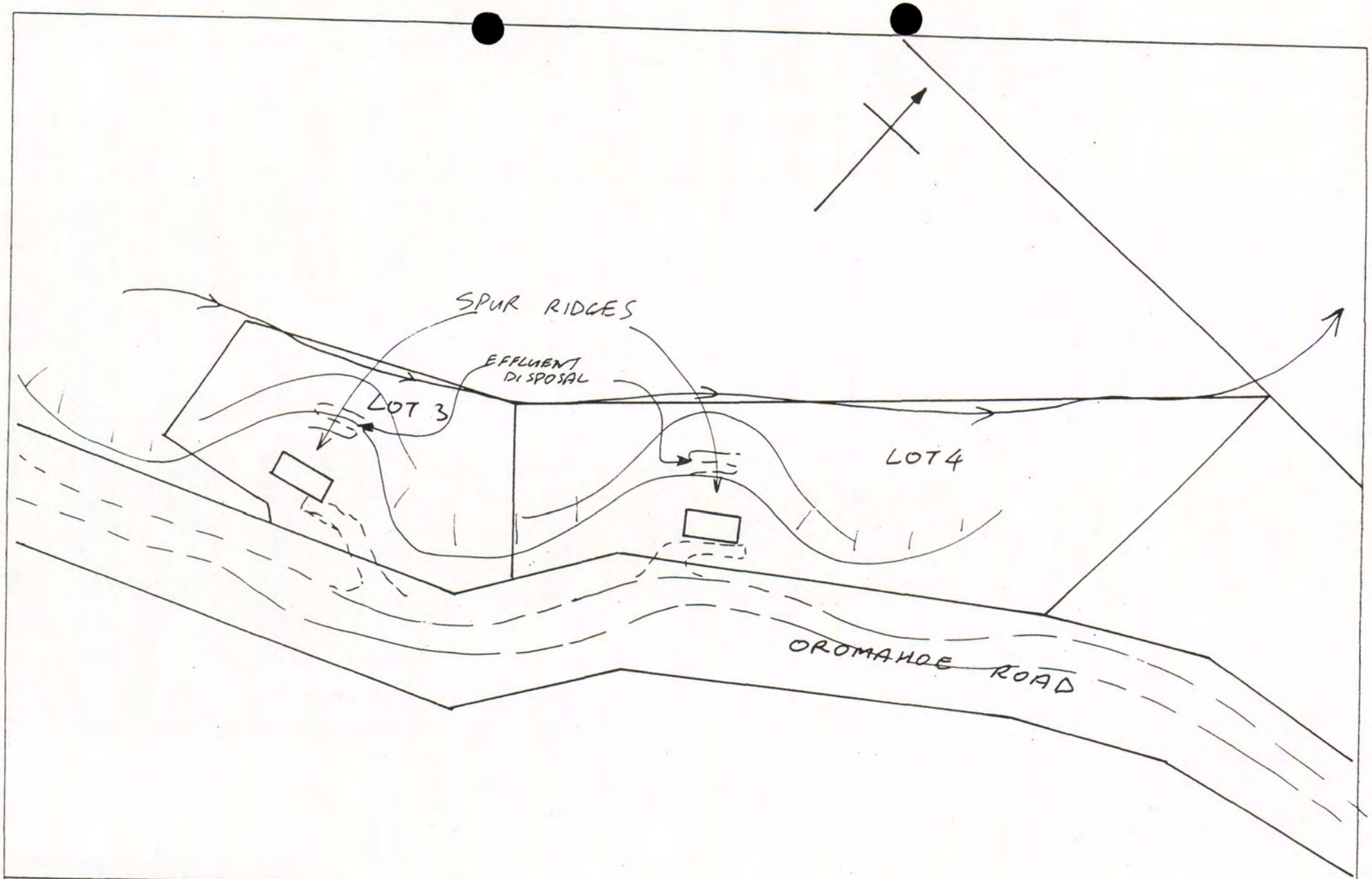
House foundations should be specifically designed.

Access can be formed on to all of the lots as reasonable grades from Oromahoe Road at locations with safe sight distance in both directions.

Stormwater can discharged to natural watercourses without effecting any other lots. Concentrated stormwater should be discharged in a controlled manner to avoid erosion by scouring of weaker slopes.

On-site effluent disposal can be achieved sustainably on all of the proposed lots, but care will be needed in planning the development of Lots 3 and 4 to include sufficient area for effluent disposal. The use of household aeration treatment plants would give greater flexibility in the development of those lots.

W O HAIGH



HAIGH DEVELOPMENT CONSULTANTS
National Bank Building
PO Box 89
KERIKERI
Ph/Fax (09) 4078327

SUITABILITY OF SITES FOR SUBDIVISION
SUBDIVISION OF + 4 DP 164545, Pt Lot 1 DP 72432
GREG WALKER. OROMAHOE RD OPUA

Scale: 1: 1500 | Date: 16/9/99 | Sheet:
LOTS 3+4 | Job: 99104

Northland Geotechnical Specialists

GEOTECHNICAL REPORT FOR TINY HOME

Location	108 Oromahoe Road, Opua
Client	Anna Madsen
NGS Ref	0407
Date	18 March 2025

Report prepared by	David Buxton
Authorised for NGS by	David Buxton

Table of Contents

1. Introduction

Northland Geotechnical Specialists Ltd (NGS) was engaged by Anna Madsen to undertake subsoil investigations and provide a geotechnical report suitable for foundation design for a proposed tiny home at 108 Oromahoe Road, Opua. This report is suitable to support Building Consent application to Far North District Council (FNDC).

2. Proposed Development

We understand that a 6m x 3m (18m^2) tiny home is to be relocated to the site. The tiny home comprises an existing structure. Foundations are to comprise shallow piles.

The indicative building footprint is shown on the attached Figure 1 – Site Plan, however we note that the actual location is to be confirmed by our client.

3. Previous Assessments

There is a prior suitability report for the site prepared by Haigh Development Consultants[1] at the time the lot was subdivided. This report states "the suitable areas for development on Lots 3 and 4 are quite small with less stable areas adjacent on both sides of the identified house sites. The less stable areas are able to be avoided by careful planning of the site development and position of future houses." The report did not include any subsoil investigations.

4. Site Description

The site is legally described as Lot 3 DP 361456 and covers an area of approximately 4,910 m^2. The site mostly comprises regenerating native forest on a steep (25° to 45°) NW facing slope. The site includes a small stream at the base of the slope and a small portion of the far bank. The site is located northwest of Oromahoe Road. There is an existing layby area formed within the road reserve off Oromahoe Road directly upslope of the site. A small existing access track has been formed by a small amount of cut and fill.

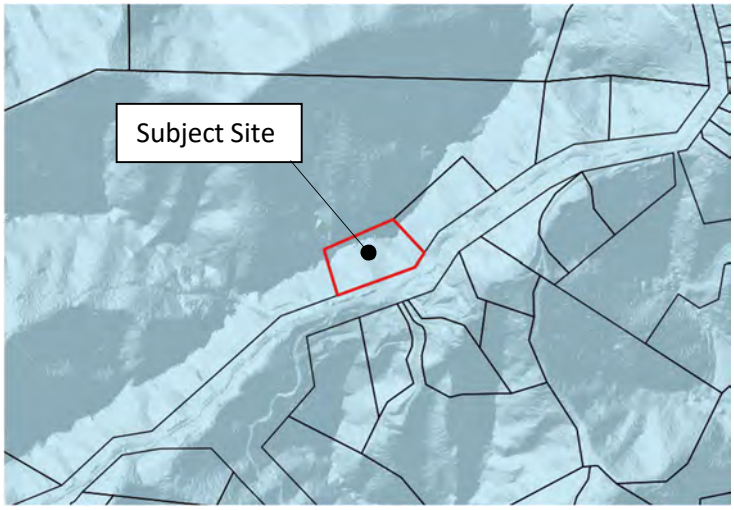
The FNDC liquefaction vulnerability map[2]indicates that liquefaction is considered unlikely on the site. The NRC GIS hazard maps[3] do not indicate any relevant flood hazards.

The site is shown on Figure 1 – Site Plan, attached.

[1] Haigh Development Consultants,Report on Suitability for Site Subdivision, Greg Walker, Oromahoe Road, Opua, Ref 99104, 16 September 1999.
[2] https://fndc.maps.arcgis.com/apps/webappviewer/index.html?id=012b7e556b72428aad5db2edfaed5a4a accessed 18/03/25
[3] https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=81b958563a2c40ec89f2f60efc99b13b, accessed 18/03/25

5. Geological Conditions

5.1. Published Geology



Legend

Blue — Waipapa Group (Greywacke)

Figure 5-1: 1:250,000 Scale Geological Map with 2024 NRC LiDAR DEM and LINZ property boundary overlays

The published geology[4] indicates that site underlain by Waipapa Group sandstone and siltstone (greywacke) described as massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous mudstone.

5.2. Aerial Photograph Review

We have completed a review of aerial photographs dated between 1953 and present day[5].

In 1953 the wider area typically has grass pasture along ridgelines and less steep side slopes, scrub and re-growth on midslope intermediate steepness zones and more mature bush/trees in the steep and gully areas. The majority of the subject site, being in a steep gully area, has more mature bush with some lower re-growth vegetation in the upper area. Oromahoe Rd has been formed in a manner similar to the present. The vegetation obscures many of the terrain features however no areas of clear vegetation indicating slips are visible. The site is fully vegetated in 1972 with growth of the vegetation since 1953 evident. The track down through the bush beyond the southeast boundary is visible. In 1981 the site is similar except that bush has been cleared in the approximate extent of the modern day turning bay area above your site.

We have also reviewed the available Google Earth images. By 2004 the present-day turning area/layby area above the site (within the road reserve) comprises a cleared area and the modern day formation is completed by 2009. In 2011 there is somewhat of a "gap" in the upper vegetation canopy in the location of the slip mapped on the LiDAR image (refer Section 5.3 bellow). This may not have been visible in prior images due to photo quality or could indicate that this slip may have occurred during cyclone Wilma in early 2011. The remaining images don't show any notable changes.

[4] Edbrooke, S.W.; Brook, F.J. (compilers) 2009: Geology of the Whangarei area. Institute of Geological and Nuclear Sciences 1:250,000 geological map 2. 1 sheet + 68 p. Lower Hutt, New Zealand. GNS Science.
[5] Historical Photographs sourced from Retrolens.nz, photographs dated 1953, 1972 and 1981. Google Earth Pro aerial photography dating between 2004 and 2023.

The 1953 image with an approximate boundary overlay is shown in Figure 5-2 below.

Figure 5-2 – 1953 Aerial photo from retrolens.co.nz (209_547_71 CC BY 4.0). Property boundaries from LINZ approximately overlain.

5.3. Digital Elevation Model

We have reviewed the landform of the site using a digital elevation model (DEM) from the NRC 2018/19 LiDAR data set. The model was viewed as a terrain shaded model with contour overlay as shown in Figure 5-3 below. We have also annotated key observations of our site walkover (refer Section 5.4) on the terrain model.

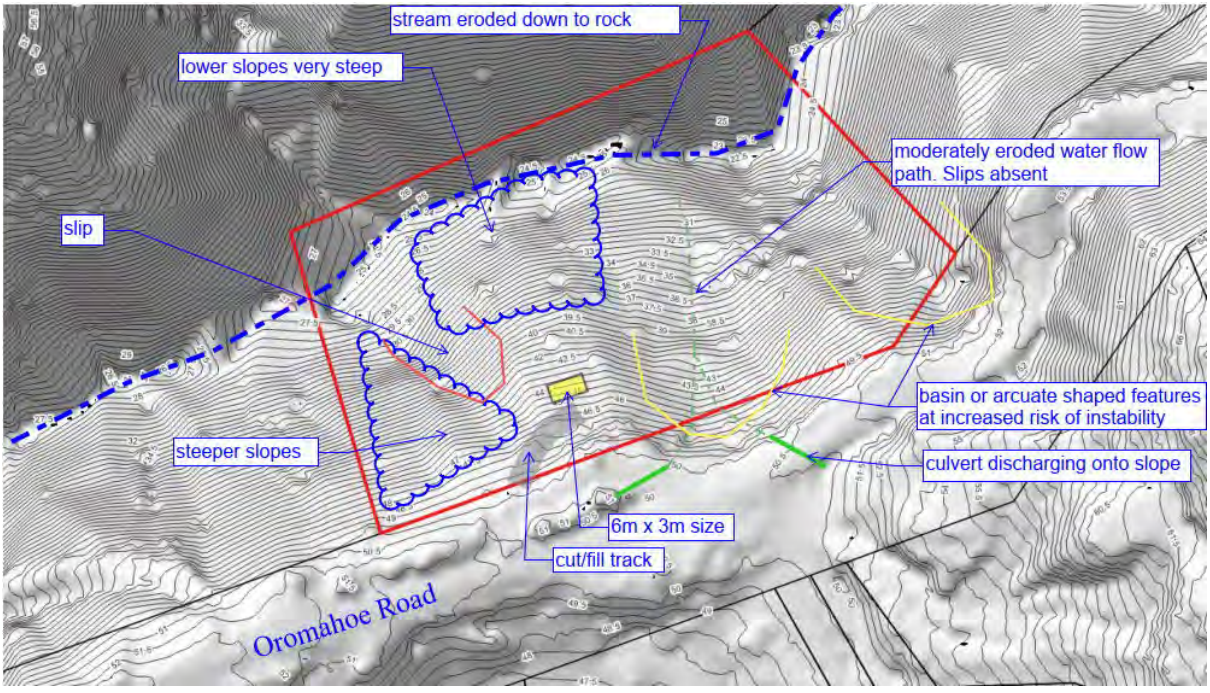


Figure 5-3 – 2018/19 NRC LiDAR displayed with slope shading and 0.5m contour overlay (NZVD). LINZ property boundaries shown. Key features from site walkover annotated. 6 x 3 size shown for scale – location indicative only.

The terrain model shows the proposed tiny home site is on a subdued falling spur that has relatively uniform contours in the LiDAR. Arcuate gully heads and gully features are visible both southwest and northeast from the falling spur. The lower portions of the slope are notably very steep (>35°). We have mapped key features from our site walkover on the terrain model and these include:

1) There is shallow slip feature located west of the falling spur.
2) Slightly weathered greywacke rock is visible in the stream at the slope base.
3) Road culverts discharge into the gully features within the east of the site. Some erosion from the concentrated water flow paths is evident however it does not appear that any slips have been trigged by this overland flow.

The terrain model indicates that the proposed tiny home is located on relatively uniformed falling spur feature that would often indicate moderate stability (despite the steepness) but is located in adjacent to arcuate/gully features that have an elevated instability risk.

5.4. Walkover and Site Investigations

A geotechnical engineering from NGS completed a site walkover on 23 January 2025. During the walkover we traversed the site in several locations, with relevant features mapped on the terrain model in Section 5.3.

Site investigations were undertaken by a geotechnical engineer from NGS on 12 March 2025. Investigations comprised two hand augered boreholes (HA1 & HA2) to depths of 1.7m and 0.9m respectively. In-situ strength testing using a handheld shear vane was undertaken at typically 0.3m intervals in cohesive soils. Scala penetrometer testing was extended to refusal (>20 blows per 100mm penetration) at 3.2m and 1.2m depth respectively.

We also completed site measurements of a typical section (Section A) with a tape, zip level and clinometer. This is presented on Figure 2 – Section A, attached and is used to validate the LiDAR data, which is subject to increased errors on steep bush covered slopes.

Investigation locations are shown on Figure 1 – Site Plan and the logs are attached with this report.

5.5. Subsoil Conditions

The site has an approximately 150mm thick topsoil layer. This is underlain residual soils comprising a high plasticity very stiff to hard clay that was moist to dry at the time of the site investigations (dry summer conditions). There is a notable change to a hard lower plasticity silt with some clay at 1.0m and 0.75m depth in HA1 and HA2 respectively. This material is inferred to comprise highly weathered to completely weathered greywacke rock. Scala penetrometer testing penetrated from 1.7m to 3.1m with blow counts of 9 to 16 blows per 100mm in HA1. Refusal (20 blows per 100mm penetration) occurred at 3.2m in HA1 and 1.2m (i.e. within 300mm of the base of the borehole) in HA2.

Groundwater was not encountered in the boreholes and is expected to at depth within the underlying rock, closer to the stream level.

6. Design Recommendations

6.1. General

The nature and continuity of the subsoil conditions onsite have been inferred from two hand augered boreholes. It must be appreciated that actual subsoil conditions could differ from those inferred. If the subsoil condition differs in any way from those described in this report it is essential that we be contacted.

6.2. Stability

Stability has been assessed by visual observations, the landform geomorphology and site geology.

The geology underlying the site (Waipapa Group – Greywacke) typically forms stable landforms and has adequate strength to form steep slopes. It can be deeply weathered, with a 10m to 25m profile from residual soils to unweathered rock. Deeper instability can occur but is generally rare. Shallower instability (<3m) is relatively common but generally located in gully features and locations of concentrated water flow.

The LiDAR terrain model (Figure 5-3) shows the proposed dwelling site to be located on a falling spur ridgeline that is assessed to comprise a stable terrain feature. The proposed building site is to be located on or at the crest of slopes of approximately 28° with a relatively shallow (i.e. <1.0m) profile of high plasticity residual soils. These are assessed to have adequate stability where located on a falling spur ridgeline.

Lower on the slope there are steeper slopes, and to the east and west there are arcuate/gully features. There is also an existing slip feature within the arcuate/gully feature to the west. These areas have the potential for typically shallow landslips to occur and a building restriction line is shown on Figure 1 – Site Plan to limit development to within the area assessed as stable and set back from the high-risk areas.

With respect to Section 71 of the Building Act, and subject to the recommendations in this report that includes a building restriction line being followed, we consider that:

1. The land on which the building work is to be carried out (Ref Figure 1 – Site Plan) is not subject to, or likely to be subject to slippage; and
2. The building work is not likely to accelerate, worsen of result in slippage on the site or any other property.

6.3. Foundations

The proposed minor dwelling location is underlain by very stiff to hard silts and clays that comprise well placed residual soils and highly weathered greywacke rock.

The natural very stiff to hard silts and clays are consistent with good ground in accordance with NZS 3604[6] for foundation design except we consider the soils to be highly expansive soils in accordance with AS 2870[7] and MBIE Acceptable Solution B1/AS1, amendment 19, November 2019.

[6] Standards New Zealand, 2011. Timber-framed buildings. NZS 3604:2011
[7] Australian Standard, 2011. Residential slabs and footings. AS 2870-2011

The site is steeply sloping (approximately 28°) and therefore it is appropriate to design leading edge foundations with increased embedment and lateral load capacity to ensure a robust and resilient structure. A design for this is presented in Section 6.4 below.

Pile foundations in accordance with NZS 3604 may be adopted except that the following minimum pile embedment shall be adopted to limit soil shrink swell effects:

Ordinary piles	0.8m
Brace piles	0.95m
Anchor piles	1.1m

In addition to the above minimum embedments the leading edge piles (i.e. all piles on the downslope slide of the structure) shall have a minimum embedment of 3.0m and be designed for lateral loads equivalent to K_o earth pressures acting over a 3D width.

Specific engineering design of piles shall adopt a geotechnical ultimate bearing pressure of 450kPa and a strength reduction factor of Ø = 0.5 shall be applied for comparison with ULS loads.

Settlement of foundations is expected to be within tolerable limits (i.e. less than 25mm total and 1 in 240 differential) given the very stiff to hard residual soils.

Foundations on expansive soils require maintenance and protection to limit moisture changes in the underlying soils. Such measures include:

A. The drainage and wetting of the site shall be controlled so that extremes of wetting and drying of soils are prevented.
B. The position and operation of gardens adjacent to the structure are controlled, and the planting of trees near to foundations is suitably restricted.
C. Any leaks which develop in plumbing, stormwater or sanitary sewage systems are repaired promptly.

Expansive soil damage is most common where trees with aggressive root systems are allowed to grow within a distance of 1.5x the tree height of foundations.

6.4. Leading Edge Pile Design

The design of leading-edge piles for lateral loads as required in Section 6.3 above is presented below.

Lateral pile design has been completed using the Geosolve retaining wall analysis programme, Wallap using the single pile analysis mode.

Soil parameters are given in Table 6-1 below.

Table 6-1: Soil parameters lateral pile design

Parameter	Residual soils	CW- HW Greywacke
Drained Friction, Ø' (°)	32	34
Drained Cohesion, c' (kPa)	7	10
K_o	0.69	0.65
Modulus of Elasticity, E'(MPa)	40	50

Notes: The K_o co-efficient allows for ground sloping at 28°. K_A and K_P are calculated in Wallap with pile-soil interface friction values adopted as ⅔ϕ on the active side and ⅓ϕ on the passive side.

In the wallap model the upper 1.0m of soil is ignored. A load is applied to the pile equivalent to Ko earth pressures acting over 3 x bored pile diameter (D). We have assumed D = 0.6m however 0.45m diameter drill holes (i.e. concrete encasement) for the timber piles is acceptable.

No specific seismic design has been completed as timber walls <3.0m height generally have adequate seismic capacity in low seismic zones without specific design. This is because timber has significant increased short-term strength.

The wallap model and timber pole design spreadsheet indicates that a 175 SED H5 timber piles cast in min 450mm diameter max 600mm diameter bored holes to a minimum embedment depth of 3.0m below ground level have adequate lateral load capacity. The calculation outputs are attached.

A PS1 for this design is attached. Design of the pile to dwelling connection and details beyond the timber pole size and depth shall be provided by the building designer.

During construction it should be confirmed that the piles are drilled to the required diameter and depth and that the timber poles are of the correct diameter, length and treatment grade. This check may be performed by a competent person such as a building inspector or an engineer.

6.5. Stormwater Control

Stormwater from the proposed minor dwelling shall be collected and discharged in a controlled manner to avoid downslope erosion, instability and nuisance. We recommend that stormwater be discharged either to the slope base or into the gully features to the northeast, where stormwater from road culverts already flow down through the site.

Given the small structure size (18m^2), rural setting and bush coverage of the site stormwater attenuation is not considered to be warranted.

6.6. Earthworks

There is a small amount of existing earthworks, likely completed >15 years ago, to form an access track to the site. This includes placement of a small amount of fill in a non-engineered manner and formation of cut. We are unaware of any additional proposed earthworks for the development of the site. The site is steep and not generally suitable for the formation of cuts or placement of fills. No cuts or fills of 0.5m height or more shall be completed without prior review by a Geoprofessional (i..e CPEng Geotechnical engineer or similar).

6.7. Seismic Considerations

Seismic accelerations to be resisted by a structure are dependent upon the stiffness of the underlying soil/rock. The site seismic category has been assessed based on the hand augered boreholes and understanding of the geology onsite. In accordance with NZS 1170.5:2004[8], the subsoil category for this site for seismic actions may be taken as Class C – Shallow soil site, for the proposed development.

[8] Standards New Zealand, 2004. Structural Design Actions Part 5: Earthquake Actions. NZS 1170.5:2004

6.8. Liquefaction

The soils underlying the proposed dwelling site are not prone to liquefaction due to their cohesive nature, age, the depth to groundwater and the low seismic hazard in Northland.

6.9. Onsite Effluent Disposal

We understand that onsite effluent disposal is being addressed by others. The site is not suitable for soakage beds or trenches due to low permeability soils and the adverse impact this would have on site stability. An onsite effluent disposal by dripper irrigation should pay due effect to the features shown on Figure 5-3 (i.e. the gully features, slip feature and overland water flow paths).

7. Applicability

This report has been prepared for the sole use of our client Anna Madsen and Far North District Council, for the particular brief and on the terms and conditions agreed with our client. It may not be used or relied on (in whole or in part) by anyone else, for any other purpose or in any other contexts, without prior written agreement.

The nature and continuity of the subsoil conditions onsite have been inferred from visual observations and two hand augered boreholes. It must be appreciated that actual subsoil conditions could differ from those inferred. If the subsoil conditions differ in any way from those described in this report it is essential that Northland Geotechnical Specialists Ltd be contacted.

Authorised for Northland Geotechnical Specialists Limited by:

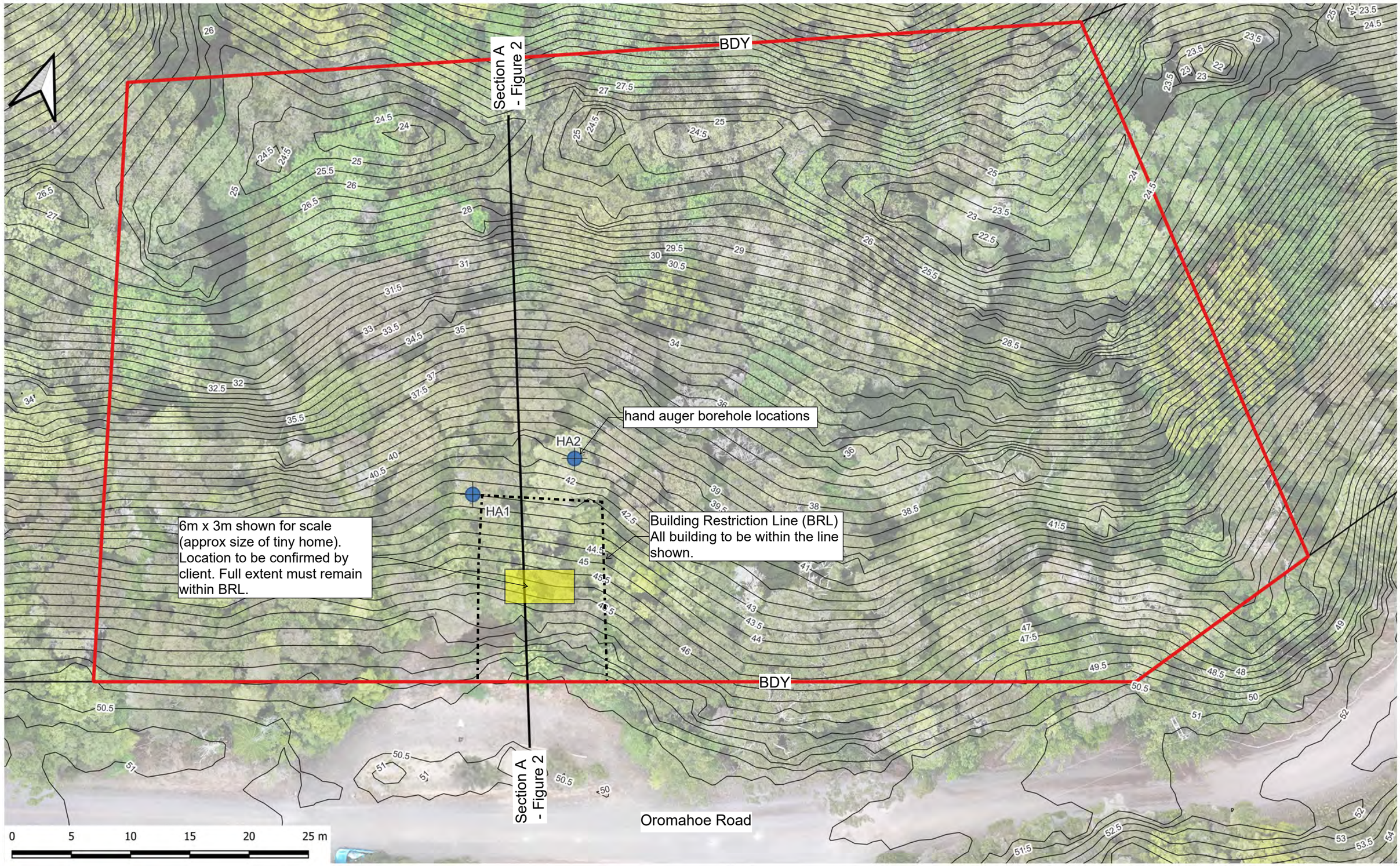
_____

David Buxton

Geotechnical Engineer, BE Civil (Hons), CPEng, CMEngNZ

Attached:	Figure 1 – Site Plan	1 x A3 page
	Figure 2 – Section A	1 x A3 page
	Site investigation Logs, HA1 – HA2	2 x A4 pages
	Wallap output	1 x A4 page
	Timber pole design	1 x A4 page
	PS1 for lateral pile design	3 x A4 page

ngs georpt_108 oromahoe_180325



NGS
Northland Geotechnical Specialists
www.northlandgeotech.co.nz

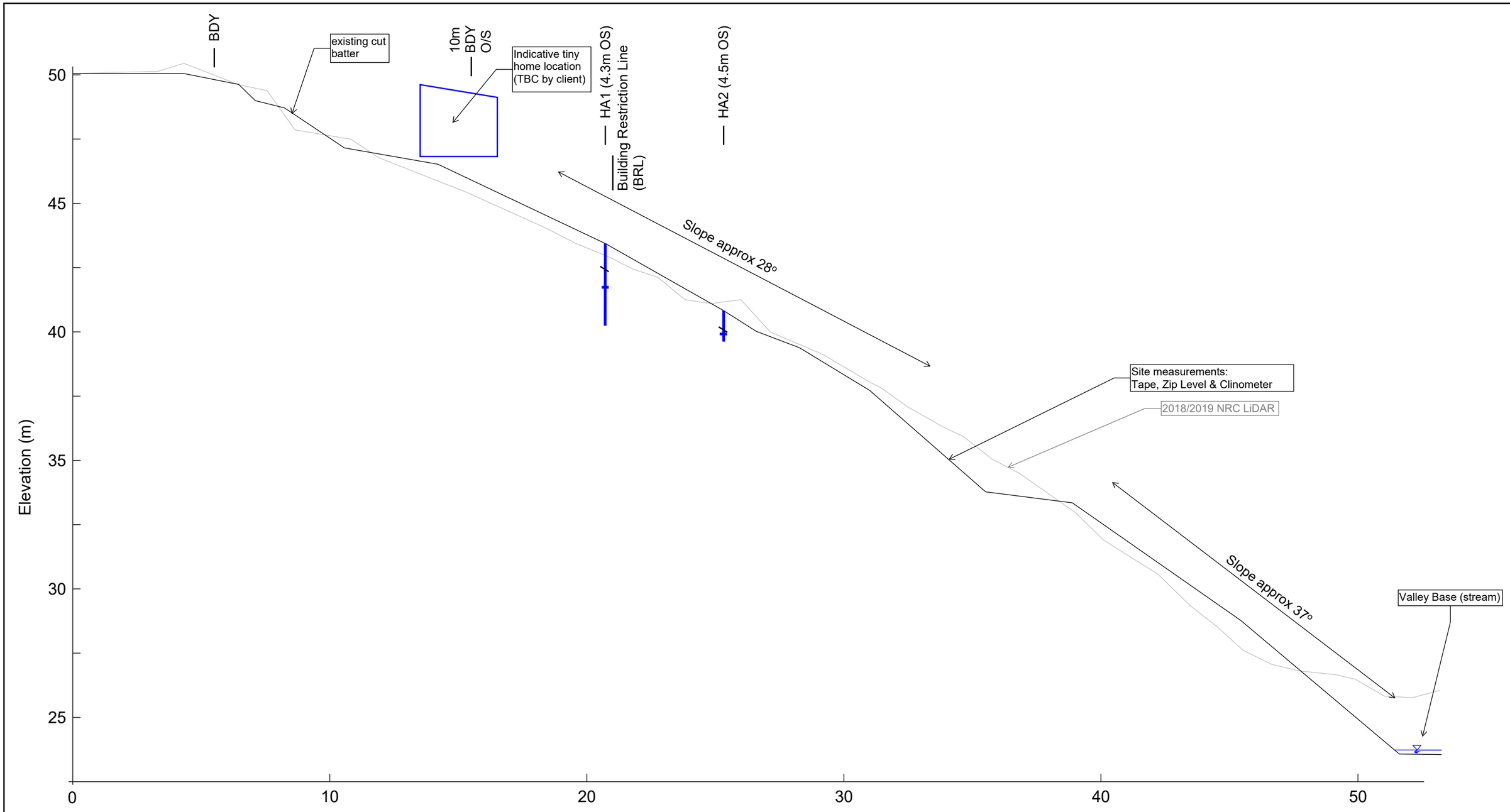
NOTES:
Aerial Image - NGS Drone image 23/01/25. Taken by DJI Air 3, processed with WebODM and approximately georeferenced to existing aerial photos from LINZ. Image approximate only.
Property boundary from LINZ
Contours - NRC 2018/2019 LiDAR NZVD, 0.5m interval
Rotated 20 degrees from North

This figure is not for construction unless signed as approved
Approved: Date:

CLIENT **Anna Madsen**
PROJECT **Geotechnical Assessment**
LOCATION **108 Oromahoe Road, Opua (Lot 3 DP 361456)**
TITLE **Site Plan**

Scale 1:300 @ A3

Project No.	0407
Date	18/03/25
By	DSB
Figure No.	1
Revision	0



Cross-Section A-A
Scale 1:150 @ A3
Refer Figure 1 for Location

Notes:
1 - Section by site tape, zip and clino measurements
2 - Building location and boundary offset TBC by client - building outline shown indicative only for scale.

Project No.	Date			
0407	18/03/25	**Anna Madsen** **Geotechnical Assessment** **108 Oromahoe Road, Opua** **Section A-A**	NOT FOR CONSTRUCTION This drawing is not to be used for construction unless signed as approved	NGS Northland Geotechnical Specialists Ph: +64 226981129 E: info@northlandgeotech.co.nz
Figure No.	Revision		Signed / Date	
2	0			

HAND AUGER LOG

NGS Northland Geotechnical Specialists

HOLE NO.: HA01

CLIENT: Anna Madsen

JOB NO.: 0407

PROJECT: Geotechnical assessment

SITE LOCATION: 108 Oromahoe Road, Opua

START DATE: 12/03/2025

CO-ORDINATES: 1700384mE, 6091044mN (NZTM)

ELEVATION: 43m (NZVD)

END DATE: 12/03/2025

LOGGED BY: DB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: NGS Vane 2 - 19mm	WATER
	SILT, with some clay, with trace organics; brown. Very stiff, moist to dry; low to high plasticity. Topsoil.		0.0	TS			
	Silty CLAY; orange. Very stiff to hard, moist to dry, high plasticity; Residual soil.		0.2			222+	
			0.4			222+	
			0.6			222+	
			0.8				
	SILT, with some clay; reddish orange and light grey. Hard, moist; CW-HW Greywacke.		1.0			UTP	Groundwater Not Encountered
			1.2			UTP	
			1.4			UTP	
	Very hard t auger. Dry on completion, EOH: 1.70m		1.6		9		
			1.8		13		
			2.0		13		
			2.2		10		
			2.4		11		
			2.6		14		
			2.8		15		
			3.0		12		
			3.2		15		
			3.4		15		
			3.6		14		
			3.8		12		
					14		
					16		
					20		

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

HAND AUGER LOG

NGS Northland Geotechnical Specialists

HOLE NO.: HA02

CLIENT: Anna Madsen

JOB NO.: 0407

PROJECT: Geotechnical assessment

SITE LOCATION: 108 Oromahoe Road, Opua

START DATE: 12/03/2025

CO-ORDINATES: 1700391mE, 6091049mN (NZTM)

ELEVATION: 41m (NZVD)

END DATE: 12/03/2025

LOGGED BY: DB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: NGS Vane 2 - 19mm	WATER
	SILT, with some clay, with trace organics; brown. Very stiff, moist to dry; low to high plasticity. Topsoil.		0.0	TS			
	Silty CLAY; orange. Very stiff to hard, moist to dry, high plasticity; Residual soil.		0.2			222+	
			0.4			UTP	
			0.6			-	
	SILT, with some clay; reddish orange. Hard, moist, low plasticity; CW-HW Greywacke.		0.8			UTP	
	Very hard to auger. Dry on completion. EOH: 0.90m		1.0		11	-	Groundwater Not Encountered
			1.2		17		
			1.4		22 >>		
			1.6				
			1.8				

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18

Vane Shear Strength scale: 50 100 150 200 Values

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

Units: kN,m

INPUT DATA

SOIL PROFILE

Stratum no.	Elevation of top of stratum	Soil types Left side	Soil types Right side
1	0.00	1 CW-HW Greywacke	1 CW-HW Greywacke

SOIL PROPERTIES

No.	Soil type -- Description (Datum elev.)	Bulk density kN/m3	Young's Modulus Eh,kN/m2 (dEh/dy)	At rest coeff. Ko (dKo/dy)	Consol state. NC/OC Nu	Active limit Ka (Kac)	Passive limit Kp (Kpc)	Cohesion kN/m2 (dc/dy)
1	CW-HW Greywacke	18.00	50000	0.650 (0.250)	OC	0.000 (0.000)	1.237 (0.869)	10.00d

Additional soil parameters associated with Ka and Kp

No.	Soil type Description	--- parameters for Ka --- Soil friction angle	Wall adhesion coeff.	Back-fill angle	--- parameters for Kp --- Soil friction angle	Wall adhesion coeff.	Back-fill angle
1	CW-HW Greywacke	0.00	0.000	0.00	34.00	0.330	-28.00

GROUND WATER CONDITIONS

Density of water = 10.00 kN/m3

	Left side	Right side
Initial water table elevation	-5.00	-5.00

Automatic water pressure balancing at toe of pile : Yes

PILE PROPERTIES

Type of structure = Single Pile
Pile diameter = 0.60 m
Elevation of toe of pile = -2.00
Maximum finite element length = 0.12 m
Pile diameter = 0.60 m
Youngs modulus of pile E = 1.2100E+07 kN/m2
Moment of inertia of pile I = 5.6000E-05 m4
E.I = 677.60 kN.m2
Yield Moment of pile = Not defined

175 SED timber

HORIZONTAL and MOMENT LOADS/RESTRAINTS

Load no.	Elevation	Horizontal load kN	Moment load kN.m	Moment restraint kN.m/rad	Partial factor (Category)	Load Orientation (degrees)
1	0.33	11.50	0	0	N/A	0

=0.5 x K_o x gamma x H^2 x 3D
=0.5 x 0.69 x 18kN/m3 x $(1.0m)^2$ x 3 x 0.6m
= 11.2kN/pile

CONSTRUCTION STAGES

Construction stage no.	Stage description
1	Apply load no.1 at elevation 0.33

FACTORS OF SAFETY and ANALYSIS OPTIONS

Parameters for undrained strata:
Minimum equivalent fluid density = 5.00 kN/m3
Maximum depth of water filled tension crack = 0.00 m

Bending moment and displacement calculation:
Method - Subgrade reaction model using Influence Coefficients

NORTHLAND GEOTECHNICAL SPECIALISTS | Sheet No.
Program: WALLAP Version 6.06 Revision A52.B71.R55 | Job No. 0407
Licensed from GEOSOLVE | Made by : DB
Data filename/Run ID: Leading__Edge_ Piles |
108 Oromahoe Rd | Date:18-03-2025
Leading Edge Piles - Ko to 1.0m depth over 3D, D=600mm | Checked :

Units: kN,m

Summary of results

BENDING MOMENT and DISPLACEMENT ANALYSIS of Single Pile

Analysis options
Pile diameter = 0.60m
Subgrade reaction model - Boussinesq Influence coefficients
Soil deformations are elastic until the active or passive limit is reached

Rigid boundaries: Left side 10.00 from pile
Right side 10.00 from pile

Bending moment, shear force and displacement envelopes

Node no.	Y coord	Displacement maximum	Displacement minimum	Bending moment maximum	Bending moment minimum	Shear force maximum	Shear force minimum
		m	m	kN.m	kN.m	kN	kN
1	0.33	0.007	0.000	0.0	-0.0	11.5	0.0
2	0.22	0.006	0.000	1.2	0.0	11.5	0.0
3	0.12	0.005	0.000	2.4	0.0	11.5	0.0
4	0.00	0.004	0.000	3.8	0.0	11.5	0.0
5	-0.12	0.003	0.000	5.1	0.0	9.3	0.0
6	-0.24	0.002	0.000	6.0	0.0	6.6	0.0
7	-0.36	0.002	0.000	6.6	0.0	3.3	0.0
8	-0.48	0.001	0.000	6.8	0.0	0.0	-0.6
9	-0.60	0.001	0.000	6.4	0.0	0.0	-5.1
10	-0.72	0.000	0.000	5.6	0.0	0.0	-8.9
11	-0.84	0.000	0.000	4.4	0.0	0.0	-10.6
12	-0.96	0.000	-0.000	3.1	0.0	0.0	-10.0
13	-1.08	0.000	-0.000	2.0	0.0	0.0	-8.3
14	-1.20	0.000	-0.000	1.1	0.0	0.0	-6.2
15	-1.32	0.000	-0.000	0.5	0.0	0.0	-4.2
16	-1.44	0.000	-0.000	0.1	0.0	0.0	-2.4
17	-1.56	0.000	-0.000	0.0	-0.1	0.0	-1.0
18	-1.68	0.000	-0.000	0.0	-0.1	0.0	-0.1
19	-1.80	0.000	-0.000	0.0	-0.1	0.4	0.0
20	-1.90	0.000	-0.000	0.0	-0.1	0.5	0.0
21	-2.00	0.000	0.000	0.0	0.0	0.0	0.0

Maximum and minimum bending moment and shear force at each stage

Stage no.	Bending moment maximum kN.m	elev.	Bending moment minimum kN.m	elev.	Shear force maximum kN	elev.	Shear force minimum kN	elev.
1	6.8	-0.48	-0.1	-1.68	11.5	0.33	-10.6	-0.84

Maximum and minimum displacement at each stage

Stage no.	Displacement maximum m	elev.	Displacement minimum m	elev.	Stage description
1	0.007	0.33	-0.000	-1.20	Apply load no.1 at elev. 0.33

Timber Pole Capacity

Title	**Leading Edge Piles - 108 Oromahoe Rd**	Job no	0407	Design by	DB
		Date	12/03/2024	Checked	

Chosen Size	175	mm
spacing	1	m
$M_{(Wallap)}$ =	6.8	kNm/m
$V_{(Wallap)}$ =	11.5	kN/m
Depth to max moment	1.5	m
Depth to max shear	0.6	m
Increase in dia./metre	6	mm
Load Factor	1.5	Seismic = 1 otherwise = 1.5
deflection		mm

Bending and Shear only (no Axial)

Shear Capacity

f_s =	3.5	MPa
k_1 =	0.57	duration
k_{20} =	1	shaved
k_{21} =	0.9	steamed
ϕ =	0.8	
V* =	**17.3**	kNm/pole
ϕ Vn =	**27.0**	
Check ϕ Vn > V*	**OK**	

Moment Capacity

E =	12.1	GPa = E
f_b =	52	MPa
k_1 =	0.57	duration
k_{20} =	0.9	shaved
k_{21} =	0.85	steamed
ϕ =	0.8	
M* =	**10.2**	kNm/pole
ϕ Mn =	**11.1**	
Check ϕ Mn > M*	**OK**	

SED Size mm	Diameter (at max moment) mm	Diameter (at max shear) mm	As m2	I m^4	I/m m^4/m	Z m^3	ϕ Mn / pole kNm	ϕ Vn / pole kNm
100	109	104	0.006	6.929E-06	6.929E-06	1.271E-04	2.3	9.08
125	134	129	0.010	1.583E-05	1.583E-05	2.362E-04	4.3	13.99
150	159	154	0.014	3.137E-05	3.137E-05	3.946E-04	7.2	19.96
175	184	179	0.019	5.627E-05	5.627E-05	6.116E-04	11.1	26.99
200	209	204	0.024	9.366E-05	9.366E-05	8.963E-04	16.3	35.07
225	234	229	0.031	1.472E-04	1.472E-04	1.258E-03	22.8	44.22
250	259	254	0.038	2.209E-04	2.209E-04	1.706E-03	30.9	54.42
275	284	279	0.046	3.193E-04	3.193E-04	2.249E-03	40.8	65.67
300	309	304	0.054	4.475E-04	4.475E-04	2.897E-03	52.5	77.99
325	334	329	0.064	6.109E-04	6.109E-04	3.658E-03	66.4	91.36
350	359	354	0.074	8.154E-04	8.154E-04	4.542E-03	82.4	105.79
375	384	379	0.084	1.067E-03	1.067E-03	5.559E-03	100.8	121.28
400	409	404	0.096	1.374E-03	1.374E-03	6.717E-03	121.8	137.83

PRODUCER STATEMENT – PS1
DESIGN

BUILDING CODE CLAUSE(S): B1 **JOB NUMBER:** 0407
ISSUED BY: Northland Geotechnical Specialists Ltd
(Engineering Design Firm)
TO: Anna Madsen
(Owner/Developer)
TO BE SUPPLIED TO: Far North District Council
(Building Consent Authority)
IN RESPECT OF: Leading Edge Foundation Timber Pile Lateral Load Design
(Description of Building Work)
AT: 108 Oromahoe Road, Opua
(Address, Town/City)
LEGAL DESCRIPTION: Lot 3 DP 361456 **N/A** ☐

We have been engaged by the owner/developer referred to above to provide *(Extent of Engagement)*:
Lateral design of leading edge foundation timber piles only
in respect of the requirements of the Clause(s) of the Building Code specified above for All , as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☐ Compliance documents issued by the Ministry of Business, Innovation & Employment *(Verification method/acceptable solution)* and/or;
- ☑ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: Ground conditions .
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 3 level of **construction monitoring**.

I, *(Name of Engineering Design Professional)* David Buxton , am:

- ☑ CPEng number 1010928

and hold the following qualifications BE Civil (Hons)

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than $200,000
The Engineering Design Firm is not a member of ACE New Zealand.

SIGNED BY *(Name of Engineering Design Professional)*: David Buxton
(Signature below):

ON BEHALF OF *(Engineering Design Firm)*: Northland Geotechnical Specialists Ltd Date: 18/03/2025

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of $200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

SCHEDULE to PS1

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

Alternative solution for design presented in NGS Report for Anna Madsen, "Geotechnical Report for Tiny Home", NGS Ref 0407, dated 18 March 2025, Section 6.4.

Extent of design comprises lateral load design of leading edge foundation piles only. Pile to dwelling connection, foundation layout and overall design remains the responsibility of the building designer.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website
https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

PS1 DESIGN Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 DESIGN REVIEW Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 CONSTRUCTION Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011[2]

PS4 CONSTRUCTION REVIEW Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

Competence of Engineering Professional
This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

Professional Indemnity Insurance
As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

Professional Services during Construction Phase
There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers[3]). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4
Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Refer Also:

1. Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
2. NZIA Standard Conditions of Contract SCC 2011
3. Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
4. PN01 Guidelines on Producer Statements

www.acenz.org.nz
www.engineeringnz.org

Non-Reticulated Firefighting Water Supplies, Vehicular Access & Vegetation Risk Reduction Application for New and Existing Residential Dwellings and Sub-Divisions

Contents

Section A - Firefighting Water Supplies and Vegetation Risk Reduction Waiver

"Fire and Emergency New Zealand strongly recommends the installation of automatic fire detection system devices such as smoke alarms for early warning of a fire and fire suppression systems such as sprinklers in buildings (irrespective of the water supply) to provide maximum protection to life and property".

Waiver Explanation Intent

Fire and Emergency New Zealand [FENZ] use the New Zealand Fire Service [NZFS] Code of Practice for firefighting water supplies (SNZ PAS 5409:2008) (The Code) as a tool to establish the quantity of water required for firefighting purposes in relation to a specific hazard (Dwelling, Building) based on its fire hazard classification regardless if they are located within urban fire districts with a reticulated water supply or a non-reticulated water supply in rural areas. The code has been adopted by the Territorial Authorities and Water Supply Authorities. The code can be used by developers and property owners to assess the adequacy of the firefighting water supply for new or existing buildings.

The Area Manager under the delegated authority of the Fire Region Manager is responsible for approving applications in relation to firefighting water supplies. The Area Manager may accept a variation or reduction in the amount of water required for firefighting for example; a single level dwelling measuring 200^{m2} requires 45,000L of firefighter water under the code, however the Area Managers in Northland have excepted a reduction to 10,000L.

This application form is used for the assessment of proposed water supplies for firefighting in non-reticulated areas only and is referenced from (Appendix B – Alternative Firefighting Water Sources) of the code. This application also provides fire risk reduction guidance in relation to vegetation and the 20-metre dripline rule under the Territorial Authority's District Plan. Fire and Emergency New Zealand are not a consenting authority and the final determination rests with the Territorial Authority.

For more information in relation to the code of practice for Firefighting Water supplies, Emergency Vehicle Access requirements, Home Fire Safety advice and Vegetation Risk Reduction Strategies visit www.fireandemergency.nz

Section B – Applicant Information

Applicants Information	
Name:	Anna Madsen
Address:	108 Oromahoe Road, Opua
Contact Details:	022 410 9243
Return Email Address:	anna.mae.madsen@gmail.com

Section C – Property Details

Property Details	
Address of Property:	108 Oromahoe Road, Opua
Lot Number/s:	Lot 3 DP 361456
Dwelling Size: (Area = Length & Width)	18.9m²
Number of levels: (Single / Multiple)	2

1. Fire Appliance Access to alternative firefighting water sources - Expected Parking Place & Turning circle

Fire and Emergency have specific requirements for fire appliance access to buildings and the firefighting water supply. This area is termed the hard stand. The roading gradient should not exceed 16%. The roading surface should be sealed, able to take the weight of a 14 to 20-tonne truck and trafficable at all times. The minimum roading width should not be less than 4 m and the property entrance no less 3.5 metres wide. The height clearance along access ways must exceed 4 metres with no obstructions for example; trees, hanging cables, and overhanging eaves.

1 (a) Fire Appliance Access / Right of Way	
Is there at least 4 metres clearance overhead free from obstructions?	☒YES ☐NO
Is the access at least 4 metres wide?	☒YES ☐NO
Is the surface designed to support a 20-tonne truck?	☒YES ☐NO
Are the gradients less than 16%	☒YES ☐NO
Fire Appliance parking distance from the proposed water supply is 37m metres	

If access to the proposed firefighting water supply is not achievable using a fire appliance, firefighters will need to use portable fire pumps. Firefighters will require at least a one-metre wide clear path / walkway to carry equipment to the water supply, and a working area of two metres by two metres for firefighting equipment to be set up and operated.

1 (b) Restricted access to firefighting water supply, portable pumps required
Has suitable access been provided? ☒YES ☐ NO
Comments: There is an existing driveway to the stormwater tank and dwelling. The driveway is 3m so the fire appliance can pull into a pull in at the edge of Oromahoe Road.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

2. Firefighting Water Supplies (FFWS)

What are you proposing to use as your firefighting water supply?

2 (a) Water Supply Single Dwelling	
Tank	☐ Concrete Tank ☒ Plastic Tank ☒ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500 mm above ground) ☐ Fully Buried (access through filler spout) Volume of dedicated firefighting water 10,000litres

2 (b) Water Supply Multi-Title Subdivision Lots / Communal Supply	
Tank Farm	☐ Concrete Tank ☐ Plastic Tank ☐ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500mm above ground) ☐ Fully Buried (access through filler spout) Number of tanks provided Click or tap here to enter text. Number of Tank Farms provided Click or tap here to enter text. Water volume at each Tank Farm Click or tap here to enter text. Litres Volume of dedicated firefighting water Click or tap here to enter text. litres

2 (c) Alternative Water Supply	
Pond:	Volume of water: Click or tap here to enter text.
Pool:	Volume of water: Click or tap here to enter text.
Other:	Specify: Click or tap here to enter text.
	Volume of water: Click or tap here to enter text.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

3. Water Supply Location

The code requires the available water supply to be at least 6 metres from a building for firefighter safety, with a maximum distance of 90 metres from any building. This is the same for a single dwelling or a Multi-Lot residential subdivision. Is the proposed water supply within these requirements?

3 (a) Water Supply Location	
Minimum Distance:	*Is your water supply at least 6 metres from the building?* ☐YES ☒ NO
Maximum Distance	*Is your water supply no more than 90 metres from the building?* ☒YES ☒ NO

3 (b) Visibility
How will the water supply be readily identifiable to responding firefighters? E.g.: tank is visible to arriving firefighters or, there are signs / markers posts visible from the parking place directing them to the tank etc.
Comments: Clearly visible from the driveway.

3 (c) Security
How will the FFWS be reasonably protected from tampering? E.g.: light chain and padlock or, cable tie on the valve etc.
Explain how this will be achieved: Coupling with zip tie

Internal FENZ Risk Reduction comments only: Click or tap here to enter text.

4. Adequacy of Supply

The volume of storage that is reserved for firefighting purposes must not be used for normal operational requirements. Additional storage must be provided to balance diurnal peak demand, seasonal peak demand and normal system failures, for instance power outages. The intent is that there should always be sufficient volumes of water available for firefighting, except during Civil Défense emergencies or by prior arrangement with the Fire Region Manager.

4 (a) Adequacy of Water supply
Note: *The owner must maintain the firefighting water supply all year round. How will the usable capacity proposed be reliably maintained? E.g. automatically keep the tank topped up, drip feed, rain water, ballcock system, or manual refilling after use etc.*
Comments: The tank is to be filled from roof water and manually filled when low.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

5. Alternative Method using Appendix's H & J

If Table 1 + 2 from the Code of Practice is not being used for the calculation of the Firefighting Water Supply, a competent person using appendix H and J from the Code of Practice can propose an alternative method to determine firefighting water supply adequacy.

Appendix H describes a method for determining the maximum fire size in a structure. Appendix J describes a method for assessing the adequacy of the firefighting water supply to the premises.

5 (a) Alternative Method Appendix H & J	
If an alternative method of determining the FFWS has been proposed, who proposed it? Name: Martin OBrien	
Contact Details: 027 407 5208	
Proposed volume of storage?	Litres: 10,000
Comments: Click or tap here to enter text. ** Please provide a copy of the calculations for consideration.*	

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

6. Diagram

Please provide a diagram identifying the location of the dwelling/s, the proposed firefighting water supply and the attendance point of the fire appliance to support your application.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

7. Vegetation Risk Reduction - Fire + Fuel = Why Homes Burn

Properties that are residential, industrial or agricultural, are on the urban–rural interface if they are next to vegetation, whether it is forest, scrubland, or in a rural setting. Properties in these areas are at greater risk of wildfire due to the increased presence of nearby vegetation.

In order to mitigate the risk of fire spread from surrounding vegetation to the proposed building and vice-versa, Fire Emergency New Zealand recommends the following;

I. *Fire safe construction*

Spouting and gutters – Clear regularly and consider screening with metal mesh. Embers can easily ignite dry material that collects in gutters.

Roof – Use fire resistant material such as steel or tile. Avoid butanol and rubber compounds.

Cladding – Stucco, metal sidings, brick, concrete, and fibre cement cladding are more fire resistant than wood or vinyl cladding.

II. *Establish Safety Zones around your home.*

Safety Zone 1 is your most import line of defence and requires the most consideration. Safety Zone 1 extends to 10 metres from your home, you should;

a) *Mow lawn and plant low-growing fire-resistant plants; and*
b) *Thin and prune trees and shrubs; and*
c) *Avoid tall trees close to the house; and*
d) *Use gravel or decorative crushed rock instead of bark or wood chip mulch; and*
e) *Remove flammable debris like twigs, pine needles and dead leaves from the roof and around and under the house and decks; and*
f) *Remove dead plant material along the fence lines and keep the grass short; and*
g) *Remove over hanging branches near powerlines in both Zone 1 and 2.*

III. *Safety Zone 2 extends from 10 – 30 metres of your home.*

a) *Remove scrub and dead or dying plants and trees; and*
b) *Thin excess trees; and*
c) *Evenly space remaining trees so the crowns are separated by 3-6 metres; and*
d) *Avoid planting clusters of highly flammable trees and shrubs*
e) *Prune tree branches to a height of 2 metres from the ground.*

IV. *Choose Fire Resistant Plants*

Fire resistant plants aren't fire proof, but they do not readily ignite. Most deciduous trees and shrubs are fire resistant. Some of these include: poplar, maple, ash, birch and willow. Install domestic sprinklers on the exterior of the sides of the building that are less 20 metres from the vegetation. Examples of highly flammable plants are: pine, cypress, cedar, fir, larch, redwood, spruce, kanuka, manuka.

For more information please go to https://www.fireandemergency.nz/at-home/the-threat-of-rural-fire/

If your building or dwelling is next to vegetation, whether it is forest, scrubland, or in a rural setting, please detail below what Risk Reduction measures you will take to mitigate the risk of fire development and spread involving vegetation?

7 (a) Vegetation Risk Reduction Strategy
The dwelling is close to the native bush. The undergrowth of the bush has been cleared and is free from debris. The area within 20m of the dwelling will be kept clear of leaf litter and debris.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

8. Applicant

Checklist	
☒	Site plan (scale drawing) – including; where to park a fire appliance, water supply, any other relevant information.
☐	Any other supporting documentation (diagrams, consent).

I submit this proposal for assessment.

Name: Martin OBrien Dated: 30/06/2025

Contact No.: 027 407 5208

Email: martin@obrienconsulting.co.nz

Signature: Click or tap here to enter text.

9. Approval

In reviewing the information that you have provided in relation to your application being approximately a Click or tap here to enter text. *square metre,* Choose an item. *dwelling/sub division, and non-sprinkler protected.*

The Area Manager of Fire and Emergency New Zealand under delegated authority from the Fire Region Manager, Te Hiku, has assessed the proposal in relation to firefighting water supplies and the vegetation risk strategy. The Manager Choose an item. *agree with the proposed alternate method of Fire Fighting Water Supplies. Furthermore; the Manager agrees with the Vegetation Risk Reduction strategies proposed by the applicant.*

Name: Click or tap here

Signature: Click or tap te.

P.P on behalf of the Are

Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 11:43 am, Jul 01, 2025

Jason Goffin- Advisor Risk Reduction

NOTES

1. Contour lines at 1m increments, sourced from NRC .
2. All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlayer to determine on site drainage layout and provide asbuilt plan when complete.
3. Length of dripper lines to be no more than 100m between feed points.
4. Dripper lines to follow contour lines
5. Dripper lines to be setback:

- 1.5m from buildings
- 1.5m from property boundaries
- 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
- 15m from standing water

6. Overflow from water tanks to be directed well away from the proposed wastewater disposal field.
7. Smoke alarms to be installed to NZS 4514:2021, refer to TP58 report for details.
8. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control.pdf (aucklanddesignmanual.co.nz)

Lot 3 DP 361456
Lot area: 4,910m²
Corrosion zone: C
Wind zone: Very high
Rural Production Zone

District plan compliance:

Residential intensity: Complies

Sunlight rule: Complies

Stormwater Management

(Impermeable surfaces):

Existing metal driveway:	38.0m²
Proposed relocation:	18.9m²
Proposed shower room:	4.4m²
Total proposed:	61.3m²

Total permitted = 15% of gross site area = 736.5m²
Total proposed = 61.3m² = 1.2% Complies

Setbacks to boundaries: 10m min. Complies

Building height:
Permitted: 12m max
Proposed: 8.2m approx. Complies

Building Coverage:

Proposed relocation:	18.9m²
Proposed shower room:	4.4m²
Total proposed:	61.3m²

Total permitted = 12.5% of gross site area = 613.7m²
Total Proposed = 23.3 = 0.4% Complies

Earthworks

Earthworks not requried

Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 11:36 am, Jul 01, 2025

Jason Goffin- Advisor Risk Reduction

Stream
6m Long stormwater spreader: 100mm Ø pipe
Stormwater overflow: 100mm Ø pipe, min. gradient 1:120
Alkathene pipe as per manufacturers instructions
Aeration treatment system, refer to TP58 for manufacturer
Sewer: 100mm Ø pipe, gradient 1:60 & approx location of proposed power cable to AWT
Deck foundations within safe building area, deck joists to cantilever over extent of safe build area
BH1
40.0m
41.0m
42.0m
43.0m
44.0m
45.0m
46.0m
47.0m
48.0m
49.0m
49.85
50.0m
Proposed deck
Proposed 1-bedroom relocation
DP
2.5m
Reserve area
Proposed shower room
10m Planted buffer zone existing scrub
Extent of safe build area
25,000ltr Stormwater tank to have fire fighting coupling to be secured with cable ties.
Outlet pipe to be set at a height so 20,000ltr remains in the tank at all times.
Water pump with power cable from cabin & water supply pipe. Double jumbo water filter to be installed on pump.
Existing metal driveway - 38.0m²
Refer to TP58 for disposal field details
Fire appliance parking
Route of fire fighter
13.6m from tank to front door of dwelling
37m from fire appliance parking to tank
1.5m
1.5m Setback from boundary
1.5m Setback from boundary

Legend

- Overland flow path
- Setbacks
- Stormwater overflow: 100mm Ø pipe, min. gradient 1:120
- Power cable
- Sewer: 100mm Ø pipe, gradient 1:60
- Alkathene pipe
- Wastewater disposal field
- Reserve area

O'BRIEN DESIGN CONSULTING
T 09 407 5208 | martin@obrienconsulting.co.nz

Project Title
Anna Madsen
108 Oromahoe Road
Opua
Lot 3 DP 361456

Sheet Title
Site Plan

Drawn 27 June 2025

Project No 4225

Rev B

Sheet A01

Scale (A3 Original) 1: 250

2.5 1.25 0 2.5 5 m