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** If we qualify it will be great to have this.

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: Angela Vujcich

Email: [redacted]

Phone number: [redacted]

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

6. Address for Correspondence

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

Name/s: CPPC Planning - Claire Phillips

Email: [redacted]

Phone number: [redacted]

Postal address:
(or alternative method of service under section 352 of the act) [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: Tipara Thomas Morunga

Property Address/ Location: 2443 State Highway 12, Waima

Postcode

8. Application Site Details

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

Name/s: Tipara Morunga

Site Address/ Location: 2443 State Highway 12, Waima

Postcode

Legal Description: Waima D17B Block **Val Number:**

Certificate of title:

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

Site visit requirements:

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

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

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

Please let advise when site visit will be planned - stock could be present

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.

To relocate 6 brand new pre built dwellings to site.
Please refer to the AEE for further details.

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

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

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

(more than one circle can be ticked):

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

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

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) Advance Build Ltd

Email: [redacted]

Phone number:

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

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

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

Name: (please write in full) Angela Vujcich

Signature: [redacted]
(signature of bill payer)

Date 03-Oct-2025

MANDATORY

15. Important Information:

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

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

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

15. Important information continued...

Declaration

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

Name: (please write in full) Angela Vujcich

Signature: [redacted]

Date 03-Oct-2025

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.

CPPC PLANNING
PLANNING DEVELOPMENT CONSULTANT

PO Box 550, Warkworth 0941
Mobile: 021 302 340
Email: claire.phillips1@xtra.co.nz
Web: www.cppcplanning.co.nz

RESOURCE CONSENT APPLICATION FOR 2443 STATE HIGHWAY 12, WAIMA

OCTOBER 2025

CONTENTS

APPLICANT DETAILS

Applicant:	Advance Build
Owner:	Tipara Thomas Morunga
Site Address:	2443 State Highway 12, Waima
Legal Description:	Waima D17B Block
Site Area:	3.9406 hectares
Consent:	Land Use
Activity:	Land use consent for the relocation six new prebuilt papakainga dwellings and associated earthworks and servicing.
District Plan Zones:	
Operative District Plan	
	Zone Rural Production
Proposed District plan	
	Zone Rural Production Non-Statutory Overlays Flood Hazard - River Flooding
Address for Service:	Claire Phillips Consultant Planner CPPC Planning PO Box 550, Warkworth, 0941, New Zealand Mobile: 021302340 Email: claire.phillips1@xtra.co.nz

Consent is being sought pursuant to section 88 of the Resource Management Act 1991 for the relocation six new prebuilt papakainga dwellings and associated earthworks and servicing at 2443 State Highway 12, Waima.

The proposal involves the following elements:

- The existing buildings are to be retained, including an existing dwelling.

- The construction of six new prebuilt papakainga dwellings in two housing typologies
    - Typology House 1 is to have a floor area of 105.8m^2 and will contain three bedrooms, bathrooms, laundry, kitchen, living and dining room, with attached carport (43.2m^2) and deck areas. This is houses H1, H2, H5 and H6.

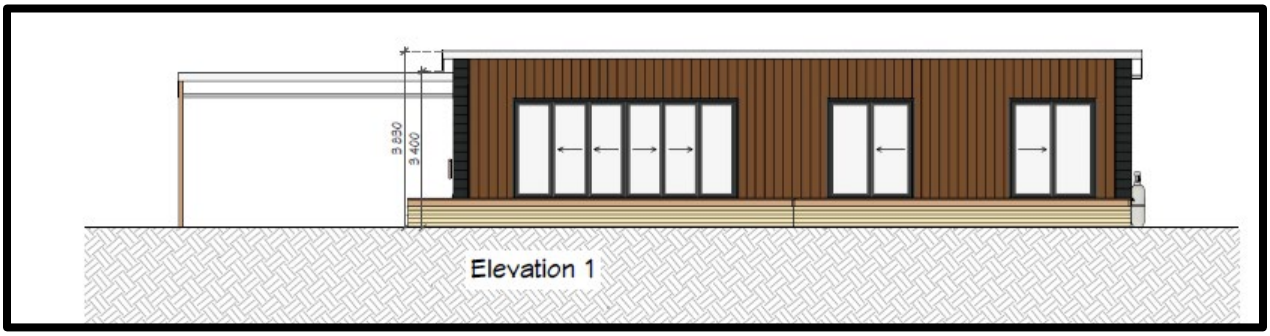


Figure 1: Elevation of Typology House 1

    - Typology House 2 (duplex) is to have a total floor area of 105.8m^2. One house is to contain two bedrooms, bathroom, kitchen, dining and living room and has ana a floor area of 61.8m^2. The other house is to contain one bedroom, bathroom, kitchen and living and has a floor area of 40.8m^2 being House H3 and H4.

- The new dwellings are to be constructed out of a mixture of weather groove and weather tex cladding, double glazed windows with aluminum joinery and armorsteel 5 rib-rib roofing and recessive colours and complimentary with one another.

- Each dwelling will have a minimum of 20,000 litre promax water tank for water supply, with a total of 10 water tanks with the provision for fire fighting. It is noted of the 10 there is one 30,000 litre tank with 10,000 litre attenuated for Fire Fighting. The proposal has been approved by the NZ Fire Service.

- Access to the development will be over a new crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport

Agency (NZTA Waka Kotahi). The NZTA have confirmed agreement to the proposal subject to the following conditions, which form part of this consent:

- The proposed vehicle crossing (NZTM 1653180.91, 6072719.28) shall be constructed in accordance with New Zealand Transport Agency Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the New Zealand Transport Agency Network Manager.

- The existing vehicle crossing (NZTM 1653217.54, 6072691.24) shall be permanently closed, including reinstatement of any fence line, grassed areas, berm, highway drainage or kerb. Reinstatement works shall be consistent with the adjacent road reserve treatment, to the satisfaction of the New Zealand Transport Agency Network Manager.

- Prior to the occupation of the dwellings the consent holder shall provide to Council, correspondence from the New Zealand Transport Agency confirming that works in the State Highway, including the construction of the new and closure of the existing vehicle crossings, have been constructed to New Zealand Transport Agency standards.

- It is proposed that the domestic wastewater from the existing dwelling and the new dwellings will drain (or be pumped) to, two new onsite wastewater management systems detailed in this report. The land where the disposal of secondary treated wastewater is proposed is relatively flat with a slight slope towards the north. Details of on-site wastewater can be found in the report prepared by Water Flow NZ Ltd report dated 11 September 2025. Regional consent is being sought by others for wastewater.

- To provide for the building platforms for the papakainga dwellings and accessway earthworks are to be undertaken over an area of 3000m^2 and with a cut volume of 330m^3, and fill volume of 290m^3, being cut to fill on site. Any earthworks will be undertaken in accordance with Council's Guidance Document GD05 which provides guidance on erosion and sediment control. In particular this proposal will utilize silt fencing and a stabilized crossing with SH12. Further earthworks are proposed to be undertaken during good weather conditions.

- The proposal involves impervious surfaces of 2521.9m^2 (6.4% of the site area) which includes the proposed papakainga dwellings, existing buildings and proposed accessways and driveways. All stormwater collected from roofed and paved surfaces together with discharges and other subsoil drains shall be controlled and piped away from the proposed building footprint. Ensure that no uncontrolled runoff or concentrated discharges are directed onto open ground, into soakage pits or into subsoil drainage systems.

- The proposal involves the provision of underground power supply. In terms of telecommunications, it is proposed to have connect to wireless network. It is acknowledged that there will be no physical connection lines to underground telecommunications at this stage.

RECORD OF TITLE

The subject property is currently legally described as Waima D17B Block, has a site area of 3.9406 hectares and is contained with Identifier NA18B/1018.

The record of title is subject to the following interests:

- A461701 Status Declaration by the Registrar of the Maori Land Court - 27.4.1970.

SITE DESCRIPTION

The property contains an existing dwelling and sheds with an existing crossing and driveway with State Highway 12. The majority of the site is in grass and grazed, with vegetation located along the streams and tributaries which occupy the north-eastern part of the site. The property is located amongst a small node of urban buildings, including the Marae and school.

Figure 2: Aerial Photo of site and locality – Source – FNDC maps

Photo 1: View of existing dwelling and access from SH12 looking NE

Photo 2: Looking NE over site towards existing farm buildings

Photo 3: Looking SE along SH12 towards school and Marae

Photo 4: Looking NW over property

Photo 5:

Photo 6: Looking NE over site towards papakainga location

Photo 7: Drone of site looking over existing dwelling and State Highway looking SW

FAR NORTH DISTRICT COUNCIL – OPERATIVE DISTRICT PLAN

The subject site is zoned Rural Production as shown on the portion of planning map below:

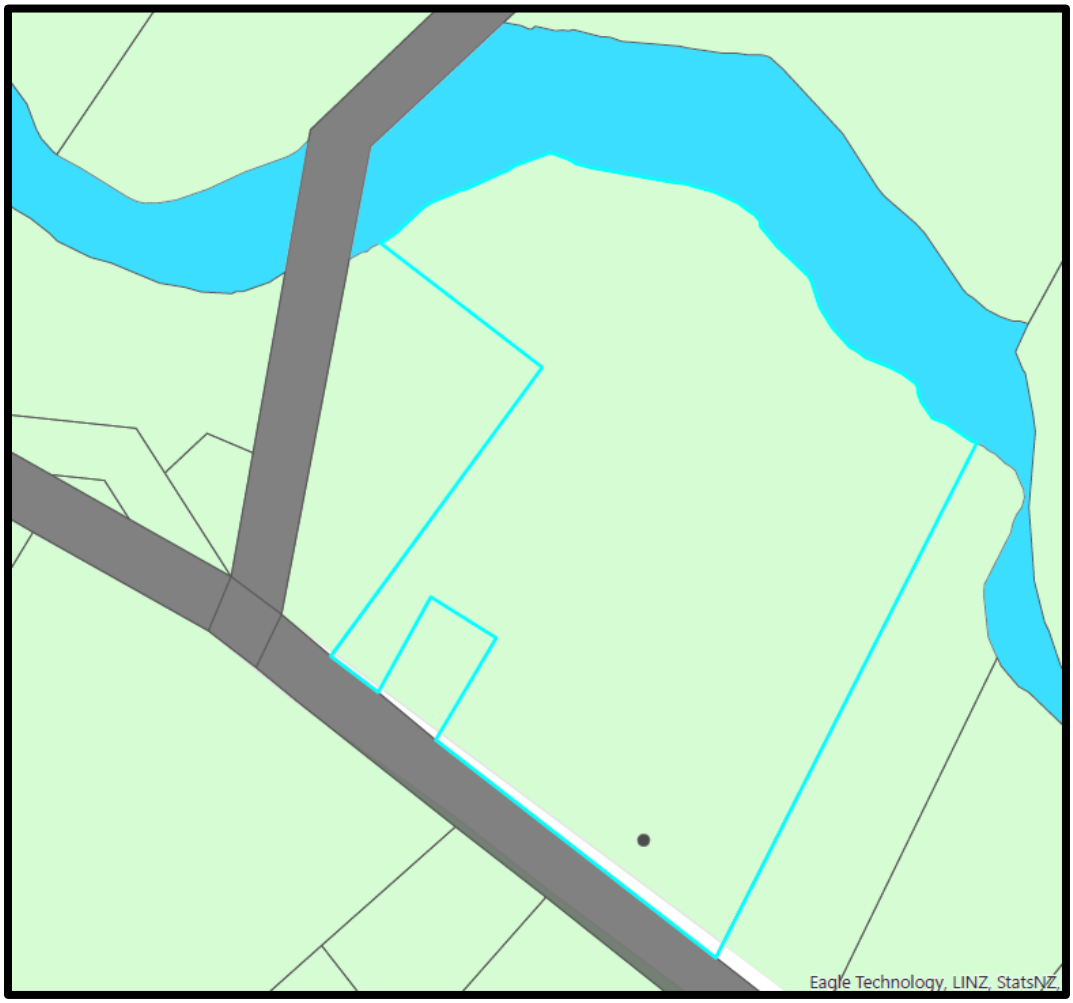


Figure 3: Zone Map – Source – Far North Operative District Plan

Chapter 8 – Rural Environment

Section 6 – Rural Production Zone

- Rule 8.6.5.2.2 states that …*Papakainga housing is a controlled activity in the Rural Production Zone provided that:*
  (a) it complies with all the standards for permitted activities in this zone and in Part 3 – District Wide Provisions, except for the standards for residential intensity; and
  (b) each residential unit has at least 3,000m² surrounding the unit for its exclusive use;"

Comments: The proposed Papakainga Housing fails to meet the district wide provisions, however will meet the 3000m^2 exclusive area.

The papakainga housing that cannot comply with the permitted standards requires consent under Rule 6.6.5.4.2 for Integrated Development applies as a Discretionary Activity. The application is considered to meet the **non-complying activity** (activity not otherwise provided for) given that the land ownership is not held in Maori Freehold Land. We do however provide a Management Plan and consider that a non-complying Integrated Development is appropriate, with the Management Plan to be read in conjunction with this Assessment of Environmental Effects.

Chapter 15 -Transportation

Section 1 – Traffic, Parking and Access

- Based on Appendix 3A Traffic Intensity Factor (TIF), each papakainga house equates to 5 one-way vehicle movements. As there will be 6 papakainga houses and an existing dwelling on-site, there will be a total TIF of 35. Rule 15.1.6A states that a Rural Production Zoned property allows for a total TIF of 60 as a permitted activity. These movements are permitted.

- Access is proposed onto State Highway 12, being a limited access road, which triggers consent as a Discretionary Activity under Rule 15.1.6C.2.

FAR NORTH DISTRICT COUNCIL – PROPOSED DISTRICT PLAN

The Far North Proposed District Plan was notified on July 27, 2022. Only some parts of this plan have legal effects and only those rules where relevant are assessed below.

The subject site is zoned Rural-Production as shown on the portion of planning map below:

Figure 4: Zone Map Source – Far North Proposed District Plan

PART 2 – DISTRICT-WIDE MATTERS - NATURAL ENVIRONMENT VALUES - Natural character

- No parts of this chapter have legal effect.

Part 2 – District Wide – General District Wide Matter Earthworks

- Earthworks that comply with the standards in EW-S5 Erosion and Sediment Control are permitted under rule EW-R13. As demonstrated on the plans and within this application, the proposal involves the installation of a stabilized crossing and silt fencing, that is commensurate of the level of earthworks proposed. Accidental discovery protocol will be employed should discovery occur.

PART 2 – DISTRICT-WIDE MATTERS - GENERAL DISTRICT-WIDE MATTERS - Treaty settlement land overlay

- No parts of this chapter have legal effect.

- Papakainga is a permitted activity under TSL-R4 – PER1 provided that the number of residential units does not exceed 10 or one per 40 ha of site area. This rule does not have legal effect.

PART 3 – AREA-SPECIFIC MATTERS – ZONES - Rural zones - Rural production

- No parts of this chapter have legal effect.

Note: The above only reflects those rules that have immediate legal effect. If the Council considers that more rules require assessment, I am sure you will let us know.

Overall, the proposal is considered to be a Non-Complying Activity.

PUBLIC NOTIFICATION ASSESSMENT

ASSESSMENT OF STEPS 1 TO 4 (SECTION 95A)

Section 95A specifies the steps the council is to follow to determine whether an application is to be publicly notified. These steps are addressed in the statutory order below.

STEP 1: MANDATORY PUBLIC NOTIFICATION IN CERTAIN CIRCUMSTANCES

Step 1 states that no mandatory notification is required as:

- the applicant has not requested that the application is publicly notified (s95A(3)(a));
- there are no outstanding or refused requests for further information (s95C and s95A(3)(b)); and
- The application does not involve any exchange of recreation reserve land under s15AA of the Reserves Act 1977 (s95A(3)(c)).

In this case the applicant does not request notification.

STEP 2: IF NOT REQUIRED BY STEP 1, PUBLIC NOTIFICATION PRECLUDED IN CERTAIN CIRCUMSTANCES

Step 2 states that the application is not precluded from public notification as:

- The activities are not subject to a rule or national environmental standard (NES) which precludes public notification (s95A(5)(a)); and
- The application does not exclusively involve one or more of the activities described in s95A(5)(b).

In this case, the proposal is not precluded from notification.

STEP 3: IF NOT PRECLUDED BY STEP 2, PUBLIC NOTIFICATION REQUIRED IN CERTAIN CIRCUMSTANCES

The application is not required to be publicly notified as the activity are not subject to any rule or a NES that requires public notification (s95A(8)(a)).

The following assessment addresses the adverse effects of the activities on the environment, as public notification is required if the activities will have or are likely to have adverse effects on the environment that are more than minor (s95A(8)(b)).

STEP 4: PUBLIC NOTIFICATION IN SPECIAL CIRCUMSTANCES

If an application has not been publicly notified as a result of any of the previous steps, then the council is required to determine whether special circumstances exist that warrant it being publicly notified (s95A (9)).

Special circumstances are those that are:

- exceptional, abnormal or unusual, but something less than extraordinary or unique.
- outside of the common run of applications of this nature; or
- circumstances which make notification desirable.

In this instance I have turned my mind specifically to the existence of any special circumstances and conclude that there is nothing exceptional or unusual about the application, and that the proposal has nothing out of the ordinary run of things to suggest that public notification should occur.

ASSESSMENT OF ENVIORNMENTAL EFFECTS

EXISTING ENVIRONMENT AND PERMITTED BASELINE

ENVIRONMENT

The 'Environment' includes the 'Existing Environment' which includes all lawfully established activities that exist – and the 'Future Environment' which includes the effects of activities enabled by an unimplemented consent where the consent is 'live' that have not lapsed and there are no reasons why the consent is not likely to be implemented.

These activities and their constituent effects form part of the existing (lawfully established) environment.

In this case the site and locality have been described in the site description above.

PERMITTED BASELINE

RMA states that for the purposes of formulating an opinion as to whether the adverse effects on the environment will be minor or more than minor a consent authority may disregard an adverse effect of an activity on the environment if the plan permits an activity with that effect. In this

case the site is within Rural Production Zone and the following activities are provided for as it relates to this application:

- The traffic intensity value for each dwelling is 5 vehicle movements, the proposal results in 35 vehicle movements, with 60 movements permitted from the site.
- Earthworks up to 5000m^3 and with a cut/fill less than 1.5 metres in height.
- A single residential dwelling and associated accessory buildings.
- Impervious surfaces equating to 15% of the property.

While not permitted, Council have to grant controlled activities, subject to consent conditions. The following activities are controlled:

- Papakainga housing provided that it meets all general standards and has 3000m^2 of exclusive use, provided the papakainga is on maori freehold land.

ASSESSMENT OF EFFECTS

Having regard to the above and after an analysis of the application, including any proposed mitigation measures, the adverse effects of the activity on the environment are identified and discussed below.

RURAL CHARACTER EFFECTS

The character of an area are those special qualities, in particular natural and physical characteristics that make an area pleasant, unique or different.

In this case, the site is within the Rural Production Zone, known for a wide range of rural and rural residential activities. The proposal involves the relocation of 6 new pre built papakainga dwellings into this rural environment. The property itself has been described in the preceding sections and under the Operative Plan does not contain any overlays or significant outstanding landscape features. The following comments are made in respect of character:

- The introduction of this cluster of built development within what is predominantly a rural landscape has the potential to impact upon landscape character and rural amenity values if the design is insensitive and inappropriate to the locality.
- The proposal will not result in any significant adverse effects upon rural character values, as the proposed dwellings are an accepted and anticipated use within this zone and are relatively small scale, recessively coloured and sit well into the contours of the site.
- Although there are no clusters of built form located directly adjacent to the site, there are other similar settlement densities found elsewhere in the region in proximity to Marae.
- The characteristics of the future activities associated with the development will be in keeping with the current use of this zone. The potential adverse rural character effects of the proposal initially will be less minor.

The development will not result in buildings that could be considered dominant or out of character, particularly when viewed in conjunction with other properties and built structures and are considered to be an improvement on the site.

Overall, it is considered that the adverse effects of the proposed papakainga development on rural character will be less than minor.

VISUAL AMENITY EFFECTS

The amenity values means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

Visual changes to a landscape can have an effects on amenity values of peoples appreciation of an area. Visual effects are measured by the response of a particular viewing audience, which is influenced by the degree of visibility, whether the proposal is the focal point or part of a wider view, whether the view is transient or permanent and the degree of contrast with the surrounding environment. The second component is perceptions and expectations that people hold about amenity.

Whilst there maybe some change in the site, the effects in terms of visual amenity will be less than minor.

CULTURAL/HISTORIC HERITAGE

The Far North and west coast have a rich historical legacy. Evidence exists of European occupation as well as Maori occupation.

Indigenous Māori have an intricate, holistic and interconnected relationship with the natural world and its resources, with a rich knowledge base – Mātauranga Māori. The body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices. It is critical to ensure that the values that are and were placed do not devalue with any development that may occur. What is taken from the environment must be put back.

Papakainga Housing to allow whanau to utilize the land in a manner that is customary, whilst taking into consideration the character and amenity values of the site. The design controls seek to ensure that the development of the site is undertaken in such a manner that the integrity of the landscape is enhanced and that buildings, and structures are sympathetic to the landscape and character of the property as a whole. The weed and pest control plans and monitoring programs seek to ensure that the proposed landscape planting is established satisfactorily and can be maintained in a healthy state.

Because the area has a rich historic legacy archaeological features may be discovered either during earthworks for the establishment or simply be uncovered over time naturally. The proposal

involves earthworks to form the new accessways only, with all houses to be constructed with pile foundations.

There are no known heritage sites or archaeological sites within the area or adjacent to the In accordance with standard protocols accidental discovery, work must cease immediately, and Council and Heritage NZ notified should any archaeological or heritage site be uncovered during the earthworks. Given this standard and the relatively unlikely nature of any archaeological site being uncovered, it is considered that the effects of the proposal on cultural matters will be less than minor.

Consultation is expected to be undertaken through the Council's internal processes. The land is maori land title and this papakainga housing project is considered to align with the Treaty of Waitangi and will not affect any items of cultural significance to maori.

The proposal will not have effects on the cultural or heritage values of the area.

EARTHWORKS

To provide for the building platforms for the papakainga dwellings and accessway earthworks are to be undertaken over an area of 3000m^2 and with a cut volume of 330m^3, and fill volume of 290m^3, being cut to fill on site.

Any earthworks will be undertaken in accordance with Council's Guidance Document GD05 which provides guidance on erosion and sediment control. In particular this proposal will utilize silt fencing and a stabilized crossing with State Highway 12. Further earthworks are proposed to be undertaken during good weather conditions.

The main adverse effects on the environment that could potentially arise from earthworks relate to the silt discharge from the earthworks site. The building platforms are vacant of any vegetation apart from pasture. If silt is uncontrolled, it can create adverse effects on water quality of a waterway.

The effect of the proposed earthworks on water quality and quantity will be largely avoided by the location of the proposed earthworks being relatively distant from any waterways.

The applicant is to install measures to control and/or mitigate any silt/stormwater run-off. In particular the applicant proposes to install appropriate silt fencing until the completion of the dwelling construction. Further the earthworks will be undertaken during good weather in order to minimise sediment run-off.

The applicant intends to implement erosion and sediment control measures in accordance with the Auckland Councils GD05, which in this case includes silt fencing as well as a stabilised crossing.

In terms of off-site effects such as noise, dust, vibration, and traffic generation, these effects on the surrounding environment will be no more than minor, given that the majority of earthworks are cut to fill on the site and because of the central location of the works within the site.

Overall, it is considered that the proposed earthworks will not compromise the use of the surrounding land for any other permitted or controlled activities and the potential off-site effects of the earthworks such as noise, dust, vibration, and traffic generation are considered to be no more than minor.

TRAFFIC AND ACCESS EFFECTS

Access to the development will be over a new crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport Agency (NZTA Waka Kotahi). The NZTA have confirmed agreement to the proposal subject to the following conditions, which form part of this consent:

- The proposed vehicle crossing (NZTM 1653180.91, 6072719.28) shall be constructed in accordance with New Zealand Transport Agency Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the New Zealand Transport Agency Network Manager.

- The existing vehicle crossing (NZTM 1653217.54, 6072691.24) shall be permanently closed, including reinstatement of any fence line, grassed areas, berm, highway drainage or kerb. Reinstatement works shall be consistent with the adjacent road reserve treatment, to the satisfaction of the New Zealand Transport Agency Network Manager.

- Prior to the occupation of the dwellings the consent holder shall provide to Council, correspondence from the New Zealand Transport Agency confirming that works in the State Highway, including the construction of the new and closure of the existing vehicle crossings, have been constructed to New Zealand Transport Agency standards.

It is noted that each dwelling will have the provision for two car parking spaces along with appropriate on-site manoeuvring, ensuring vehicles leave the site forward facing.

Construction machinery will be delivered to the site for the earthworks and once the earthworks and associated impervious surfaces are completed the construction machinery will be removed. The traffic movements to and from the site will be minimal and not outside the level anticipated in a Rural Production zone.

It is considered that any adverse traffic or roading effects will be less than minor.

NATURAL HAZARDS AND SERVICING EFFECTS

The application site is subject to natural hazards – river flooding. RS Eng in their report dated 24 September 2025, referenced 19797, Rev 1 have addressed flooding and set finished floor levels for the papakainga. The dwellings are set at 36.8 minimum and maximum 38.10.

It is proposed that the domestic wastewater from the existing dwelling and the new dwellings will drain (or be pumped) to two new onsite wastewater management systems detailed in this report. The land where the disposal of secondary treated wastewater is proposed is relatively flat with a slight slope towards the north. Details of on-site wastewater can be found in the report prepared by Water Flow NZ Ltd report dated 11 September 2025. Regional consent is being sought by others for wastewater.

The proposal involves impervious surfaces of 2521.9m^2 (6.4% of the site area) which includes the proposed papakainga dwellings, existing buildings and proposed accessways and driveways. All stormwater collected from roofed and paved surfaces together with discharges from retaining walls and other subsoil drains shall be controlled and piped away from the proposed building footprint. Ensure that no uncontrolled runoff or concentrated discharges are directed onto open ground, into soakage pits or into subsoil drainage systems.

The proposal involves the provision of underground power supply. In terms of telecommunications, it is proposed to have connect to wireless network. It is acknowledged that there will be no physical connection lines to underground telecommunications at this stage. The proposal involves impervious surfaces of 4357.35m^2 (1.76% of the site area) which includes the proposed papakainga dwellings, existing buildings and proposed accessways and driveways.

It is considered that the effects of the natural hazards and servicing of the site will be less than minor.

SUMMARY

In summary, having assessed the adverse effects of the activity on the environment, it is considered that the proposed new pre-built papakainga housing with associated earthworks and servicing will have no more than minor adverse effects on the environment. In particular the proposal is considered to be consistent with the type of building development envisaged for whanau within this rural environment.

ASSESSMENT OF STEPS 1 TO 4 (SECTION 95B)

If the application is not publicly notified under s95A, the council must follow the steps set out in s95B to determine whether to limited notify the application. These steps are addressed in the statutory order below.

STEP 1: CERTAIN AFFECTED PROTECTED CUSTOMARY RIGHTS GROUPS MUST BE NOTIFIED

Step 1 requires limited notification where there are any affected protected customary rights groups or customary marine title groups or affected persons under a statutory acknowledgement affecting the land (ss95B (2) and 95B (3)).

The application site is not affected by customary rights.

STEP 2: IF NOT REQUIRED BY STEP 1, LIMITED NOTIFICATION PRECLUDED IN CERTAIN CIRCUMSTANCES

Step 2 describes that limited notification is precluded where all applicable rules and NES preclude public notification; or the application is for a controlled activity (other than the subdivision of land) or a prescribed activity (ss95B (5) and 95B (6)).

The proposal is a Discretionary activity and there are no rules precluding notification.

STEP 3: IF NOT PRECLUDED BY STEP 2, CERTAIN OTHER AFFECTED PERSONS MUST BE NOTIFIED

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

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

The application is not for a boundary or prescribed activity, and therefore an assessment in accordance with s95E is required. This assessment is set out below.

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

STEP 4: FURTHER NOTIFICATION IN SPECIAL CIRCUMSTANCES

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

There are not considered to be any special circumstances that would warrant notification.

SECTION 95E STATUTORY MATTERS

As required by step 3 above, certain other affected persons must be notified, and the following assessment addresses whether there are any affected persons in accordance with s95E. A person is affected if the effects of the activity on that person are minor or more than minor (but not less than minor).

In deciding who is an affected person under section 95E:

- Adverse effects permitted by a rule in a plan or NES (the permitted baseline) may be disregarded.

It is considered that there is no useful baseline that can be applied as the land needs to be earth worked to provide building platforms and subdivision of the land would also require resource consent.

- The adverse effects on those persons who have provided their written approval must be disregarded.

Because of the minor scale of the proposal no written approvals have been sought for this proposal.

The sections below set out an assessment in accordance with section 95E, including identification of adjacent properties, and an assessment of adverse effects.

ADJACENT PROPERTIES

The adjacent properties to be considered in the limited notification assessment under section 95B and 95E are set out below:

Consultation is being undertaken with NZTA (Waka Kotahi) and approval provided.

The application has also been reviewed by the NZ Fire Service, with approval obtained.

No persons are considered to be adversely affected by the activity because:

- The design of the proposal has been designed to be sympathetic with the rural environment.

- The long-term potential visual amenity effects generated by the development will be less than minor. This is due to the ability of the landscape to absorb the proposal into the context of the existing settlement pattern. The site is well covered with dispersed vegetation providing natural screening. The proposal includes further screen planting to the wastewater area with large specimen trees added each side of the access and to the North Western boundary.

- The proposal retains sufficient separation distances between the neighbouring dwellings (consistent with other locations within this locality) and will not compromise the existing

levels of amenity or rural character enjoyed by adjacent properties to a minor or more than minor extent.

- The proposal will be consistent in the rural character and scale to other dwellings located within the local vicinity and will comply with all the relevant development standards so will not generate adverse effects in terms of shading, overbearance and overlooking to the adjoining properties.
- There is a suitable water supply for firefighting purposes to ensure that the fire hazard (dwelling) is mitigated. Further the dwelling will contain standard fire safety.
- Any potential adverse noise, dust and sedimentation effects generated during the land disturbance and construction phase will be temporary in nature and can be suitably managed through appropriate erosion and sediment control measures. Earthworks are cut to fill on site, with no excess cut to be removed from the site.
- During the construction, there will be traffic, however these movements are considered consistent with the permitted level of traffic movements associated with a residential building. The proposal is not expected to greatly increase the amount of vehicular traffic to and from the site beyond what can generally be associated with a rural residential activity.
- There is suitable water supply for fire fighting purposes to ensure that the fire hazard (dwelling) is mitigated. Further the dwellings will contain standard fire safety.
- Any construction related effects will be temporary and transient and less than minor.
- Suitable erosion and sediment control methods will be utilized to ensure that the effects on the adjacent sites as a result of the earthworks will be less than minor.

The matters that require consideration in assessing this application are set out in section 104 of the Resource Management Act 1991. These matters include the actual and potential effects of the allowing the activity on the environment and the relevant rules and assessment criteria.

ASSESSMENT CRITERIA

FAR NORTH DISTRICT PLAN

Whilst the proposal is a discretionary activity, the following assessment criteria, matters for control and discretion are considered relevant to the application and provide a reliable basis to determine the effects of the proposal.

8.6.5.2.2	**Papakainga Housing**		
	Requirement	**Comment**	**Compliance**
	(i) the number and location of dwellings;	The proposal involves the relocation of 6 (plus 1 existing) papakainga dwellings to provide for the needs of this iwi. Each dwelling has sufficient open space and outdoor living commensurate and necessary within the rural environment.	**Compliant**
	(ii) the location and standard of access;	Access to the development will be over a new crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport Agency (NZTA Waka Kotahi). This new crossing is to be formed to NZTA conditions.	**Compliant**
	(iii) screening and planting.	The papakainga housing is to be fully integrated into the site.	**Compliant**

8.6.5.4.2	**Integrated Development**		
	Requirement	**Comment**	**Compliance**

	(i) the objectives and policies of the Plan;	See below for comprehensive analysis of objectives and policies	**Compliant**
	(ii) the degree to which the application exceeds the standards for the zone;	The papakainga housing is on maori land title and appropriate use of the property, with sufficient exclusive areas and access from SH12.	**Compliant**
	(iii) the degree to which the potential effects of the application have been avoided, remedied or mitigated;	The proposal has been designed to take into consideration the natural features within the site, including the design of the dwellings and recessive colours to mitigate the effects of the development while providing for mana whenua.	**Compliant**
	(iv) any other matter which it determines to be relevant to the application	All other matters have been addressed.	**Compliant**

15.1.6C.4.1	**Property Access**		
	Requirement	**Comment**	**Compliance**
	(a) Adequacy of sight distances available at the access location.	NZTA have approved the location of the new driveway access onto SH12. Given this portion of SH12 is straight, there is ample site distances.	**Compliant**
	(b) Any current traffic safety or congestion problems in the area.	There a no known congestion problems associated with this part of SH12.	**Compliant**
	(c) Any foreseeable future changes in traffic patterns in the area.	Patterns are consistent with envisaged traffic in this location, with the development not exacerbating this. Confirmation from NZTA of approval.	**Compliant**
	(d) Possible measures or restrictions on vehicle movements in and out of the access.	No restrictions necessary as the crossing is to be formed to NZTA standards.	**Compliant**
	(e) The adequacy of the engineering standards	As above the crossing is to be formed to NZTA standards.	**Compliant**

	proposed and the ease of access to and from, and within, the site.		
	(f) The provision of access for all persons and vehicles likely to need access to the site, including pedestrian, cycle, disabled and vehicular.	Access is appropriate.	**Compliant**
	(g) The provision made to mitigate the effects of stormwater runoff, and any impact of roading and access on waterways, ecosystems, drainage patterns or the amenities of adjoining properties.	All stormwater is to be controlled and managed.	**Compliant**
	(h) For sites with a road frontage with Kerikeri Road between its intersection with SH10 and Cannon Drive: *(i) the visual impact of hard surfaces and vehicles on the natural character;* *(ii) the cumulative effects of additional vehicle access onto Kerikeri Road and the potential vehicle conflicts that could occur;* *(iii) possible use of right of way access and private roads to minimise the number of additional access points onto Kerikeri Road; (iv) the vehicle speed limit on Kerikeri Road at the additional access point and the potential*	Not applicable	**Compliant**

	vehicle conflicts that could occur.		
	(i) The provisions of the roading hierarchy, and any development plans of the roading network.	SH12 is a limited access road administrated by NZTA – Approval obtained.	**Compliant**
	(j) The need to provide alternative access for car parking and vehicle loading in business zones by way of vested service lanes at the rear of properties, having regard to alternative means of access and performance standards for activities within such zones.	Not applicable	**Compliant**
	(k) Any need to require provision to be made in a subdivision for the vesting of reserves for the purpose of facilitating connections to future roading extensions to serve surrounding land; future connection of pedestrian accessways from street to street; future provision of service lanes; or planned road links that may need to pass through the subdivision; and the practicality of creating such easements at the time of subdivision application in order to facilitate later development.	Not applicable	**Compliant**
	(l) Enter into agreements that will enable the Council to require the future owners to form and vest roads when	Not applicable	**Compliant**

	other land becomes available (consent notices shall be registered on such Certificates of Title pursuant to Rule 13.6.7).		
	(m)With respect to access to a State Highway that is a Limited Access Road, the effects on the safety and/or efficiency on any SH and its connection to the local road network and the provision of written approval from the New Zealand Transport Agency.	NZTA approval obtained.	**Compliant**

OBJECTIVES AND POLICIES

FAR NORTH DISTRICT COUNCIL – OPERATIVE DISTRICT PLAN

The following objectives and policies are considered relevant when considering this application:

Chapter 8.6 Rural Environment – Section 6 Rural Production

- *Objectives 8.6.3.1 to 8.6.3.9*
- *Policies 8.6.4.1 to 8.6.4.9*

8.6	**Rural Environment – Section 6 Rural Production**		
	Objectives	**Comment**	**Compliance**
8.6.3.1	*To promote the sustainable management of natural and physical resources in the Rural Production Zone.*	In this case the proposal represents a sustainable management Indigenous Māori have an intricate, holistic and interconnected relationship with the natural world and its resources, with a rich knowledge base – Mātauranga Māori. The body of knowledge originating from Māori ancestors, including the Māori world	**Compliant**

		view and perspectives, Māori creativity and cultural practices. It is critical to ensure that the values that are and were placed do not devalue with any development that may occur. What is taken from the environment must be put back.	
8.6.3.2	*To enable the efficient use and development of the Rural Production Zone in a way that enables people and communities to provide for their social, economic, and cultural well being and for their health and safety.*	The property is being efficient used as the Papakainga Housing allow whanaus to utilize the land in a manner that is customary, whilst taking into consideration the character and amenity values of the site. The design controls seek to ensure that the development of the site is undertaken in such a manner that the integrity of the landscape is enhanced and that buildings, and structures are sympathetic to the landscape and character of the property as a whole.	**Compliant**
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.*	Overall the proposal is considered to maintain and enhance the amenity values of this area through the design of buildings and the implementation of the landscape mitigation package.	**Compliant**
8.6.3.4	*To promote the protection of significant natural values of the Rural Production Zone.*	The natural features within the site are to be maintained.	**Compliant**
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.*	The property does not have frontage to Kerikeri Road, therefore this objective is not applicable.	**Compliant**

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.*	The introduction of the papakainga housing into this location will not conflict with the existing node of rural residential development and can be suitably absorbed by the rural environment.	**Compliant**
8.6.3.7	*To avoid remedy or mitigate the adverse effects of incompatible use or development on natural and physical resources.*	The effects of this development are considered to be suitably mitigated through the design, location, topography, to ensure that the natural and physical resources of the site are maintained.	**Compliant**
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 engineering reports supplied with this application confirm that the papakainga development can be suitably serviced, with the inclusion of appropriate wastewater system sand stormwater controls, which all have a functional need to ensure the viability of the proposal.	**Compliant**
8.6.3.9	*To enable rural production activities to be undertaken in the zone.*	Given the limited size of the property there are limited rural production activities that can be economic.	**Compliant**

	Policies	**Comment**	**Compliance**
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*	Given the limited size of the property there are limited rural production activities that can be economic. The effects of this development are considered to be suitably mitigated through the design, location, topography, to ensure that the natural and physical resources of the site are maintained. As demonstrated in the previous sections of this	**Compliant**

	are not to the detriment of rural productivity.	report, the effects of the development are considered to be less than minor. In terms of reverse sensitivity, the applicants are the owners of the land and have a vision for the locality and providing for whanau in a holistic manner.	
8.6.4.2	*That standards be imposed to ensure that the off site effects of activities in the Rural Production Zone are avoided, remedied or mitigated.*	Other than traffic there will be no off site effects.	**Compliant**
8.6.4.3	*That land management practices that avoid, remedy or mitigate adverse effects on natural and physical resources be encouraged.*	The natural features within the site are to be retained.	**Compliant**
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.*	As is demonstrated in the previous sections of this report, the type, scale and intensity of development will ensure the maintenance of amenity values of this area.	**Compliant**
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.*	The proposal is considered to be an efficient use of land for mana whenua in exercising their customary rights and traditions.	**Compliant**
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*	The property does not have frontage to Kerikeri Road, therefore this objective is not applicable.	**Compliant**

	harmony with landscape plantings and shelter belts.		
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 proposal is considered to avoid any conflicts with existing production activities and avoids, remedies and mitigates any potential effects on the environment. The effects of the development are considered to be less than minor.	**Compliant**
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.*	The effects of this development are considered to be suitably mitigated through the design, location, topography and landscaping proposed, to ensure that the natural and physical resources of the site are maintained. As demonstrated in the previous sections of this report, the effects of the development are considered to be less than minor. In terms of reverse sensitivity, the applicants are the owners of the land having a vision for the locality and providing for whanau in a holistic manner.	**Compliant**
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.*	As above	**Compliant**

The proposed Papakainga housing takes into consideration the existing features of the property and is considered to adequate avoid, remedy and mitigate any potential effects through the design of the buildings, including colours and materials and the landscape mitigation planting. Overall, the proposal is in keeping with these objective and policies.

Chapter 12.4 Natural Hazards

- *Objectives 12.4.3*
- *Policies 12.4.4*

The objectives and policies seek to reduce the risk to life, property and the environment from natural hazards. The proposal involves a development that has taken into consideration the natural hazards within the site, including but not limited to the fire hazard to residential dwellings. The proposal ensures that there is sufficient water supply for fire fighting, with the dwellings as far away from the bush line as possible.

Chapter 15 Transportation – Section 15.1 Traffic, Parking and Access

- *Objectives 15.1.3.1 to 15.1.3.5*
- *Policies 15.1.4.1 to 15.1.4.8*

15.1	**Traffic, Parking and Access**		
	Objectives	**Comment**	**Compliance**
15.1.3.1	*To minimise the adverse effects of traffic on the natural and physical environment.*	Access to the development will be over an existing crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport Agency (NZTA Waka Kotahi). The proposal will not result in adverse effects on the roading network as discussed above.	**Compliant**
15.1.3.2	*To provide sufficient parking spaces to meet seasonal demand in tourist destinations.*	The proposal is not a tourist destination.	**Compliant**
15.1.3.3	*To ensure that appropriate provision is made for on-site car parking for all activities, while considering safe cycling and pedestrian access and use of the site.*	Each dwelling has the ability to provide for a parking space.	**Compliant**
15.1.3.4	*To ensure that appropriate and efficient provision is made for loading and access for activities.*	No loading spaces are proposed or necessary for this papakainga development.	
15.1.3.5	*To promote safe and efficient movement and*	The proposal promotes safe and efficient movements of	

	circulation of vehicular, cycle and pedestrian traffic, including for those with disabilities.	vehicles. Subject to the implementation of the recommendations of NZTA, the proposal will result in positive effects of the roading environment.	

	Policies	**Comment**	**Compliance**
15.1.4.1	*That the traffic effects of activities be evaluated in making decisions on resource consent applications.*	The proposal promotes safe and efficient movements of vehicles. Subject to the implementation of the roading improvements, the proposal will result in positive effects of the roading environment.	**Compliant**
15.1.4.2	*That the need to protect features of the natural and built environment be recognised in the provision of parking spaces.*	Access to the development will be over an existing crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport Agency (NZTA Waka Kotahi). NZTA has provided their approval.	**Compliant**
15.1.4.3	*That parking spaces be provided at a location and scale which enables the efficient use of parking spaces and handling of traffic generation by the adjacent roading network.*	Each dwelling has the ability to provide for a parking space.	**Compliant**
15.1.4.4	*That existing parking spaces are retained or replaced with equal or better capacity where appropriate, so as to ensure the orderly movement and control of traffic.*	There are no existing car parking spaces within the development.	**Compliant**
15.1.4.5	*That appropriate loading spaces be provided for commercial and industrial activities to assist with the*	No loading is proposed as part of the development.	**Compliant**

	pick-up and delivery of goods.		
15.1.4.6	*That the number, size, gradient and placement of vehicle access points be regulated to assist traffic safety and control, taking into consideration the requirements of both the New Zealand Transport Agency and the Far North District Council.*	The proposal promotes safe and efficient movements of vehicles. Subject to the implementation of the roading improvements, the proposal will result in positive effects of the roading environment.	**Compliant**
15.1.4.7	*That the needs and effects of cycle and pedestrian traffic be taken into account in assessing development proposals.*	The proposal promotes safe and efficient movements of vehicles. Subject to the implementation of the roading improvements, the proposal will result in positive effects of the roading environment.	**Compliant**
15.1.4.8	*That alternative options be considered to meeting parking requirements where this is deemed appropriate by the Far North District Council.*	No alternative parking options are proposed or required.	**Compliant**

In summary it is concluded that this proposal satisfies the relevant matters requiring consideration under section 104.

FAR NORTH DISTRICT COUNCIL – PROPOSED DISTRICT PLAN

PART 2 – DISTRICT-WIDE MATTERS - GENERAL DISTRICT-WIDE MATTERS - Treaty settlement land overlay

- *Objectives TSL-01 - 04*
- *Policies TSL-P1 – TSL-P4*

The above objectives and policies seek to ensure the viability of Treaty Settlement Land is ensured for future generations. The land to supports social, cultural and economic development and provides for the on-going relationship tangata whenua has with their land. Further reflects the sustainable carrying capacity of the land and surrounding environment. The application site has been shown as a site of significance to Māori. The property is to be utilised for papakainga housing, being on maori land title and recognises the connection and long term protection of the land to mana whenua and future generations. There is a strong relationship between mana

whenua and this land and the proposal is considered to be an appropriate use. Overall the proposal is considered to be consistent with this chapter, which has immediate legal effect.

PART 3 – AREA-SPECIFIC MATTERS – ZONES - Rural zones - Rural production

- *Objectives RPROZ-01 – RPROZ04*
- *Policies RPROZ-P1 – RPROZ-P7*

The above objectives and policies seek to ensure the Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations. To ensure other compatible activities that have a functional need to be in a rural environment. They also seek to maintain the rural character and amenity associated with a rural working environment. The proposal is considered to maintain the rural character and amenity values and given the size of the property and the fact that the majority of the site is covered with indigenous vegetation it is not economic for production. The proposed Papakainga housing on the proposed site is consistent with the direction of the above objectives and policies and allows iwi to reconnect with the land in a more whanau-based living situation.

In summary it is concluded that this proposal satisfies the relevant matters requiring consideration under section 104.

NATIONAL ENVIORNMENTAL STANDARD

NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING & MANAGING CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH) REGULATIONS 2011

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES Contaminated Soils) were gazetted on 13th October 2011 and took effect on 1st January 2012. Council is required by law to implement this NES in accordance with the Resource Management Act 1991 (RMA). The standards are applicable if the land in question is, or has been, or is more likely than not to have been used for a hazardous activity or industry and the applicant proposes to subdivide or change the use of the land, or disturb the soil, or remove or replace a fuel storage system.

The application site has been utilised for small scale pastoral grazing, with no cropping evident on the site. The site has not changed uses in over 50 years and does not contain any areas of contamination or stock yards. Therefore there is no known trigger requirement for consent under this NES.

NATIONAL POLICY STATEMENTS

NATIONAL POLICY STATEMENT FOR INDIGENOUS BIODIVERSITY 2023

The National Policy Statement for Indigenous Biodiversity 2023 seeks to protect, maintain and restore indigenous biodiversity requiring at least no further reduction nationally.

- Objectives 2.1 (1) seek …*to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and*
  (b) to achieve this:
  (i) through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and
  (ii) by recognising people and communities, including landowners, as stewards of indigenous biodiversity; and
  (iii) by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and
  (iv) while providing for the social, economic, and cultural wellbeing of people and communities now and in the future."
- Policies 1 to 17, provide for more detailed implementation of the above objective. Policy 1 is important when considering the application for Papakainga housing which states …*Indigenous biodiversity is managed in a way that gives effect to the decision-making principles and takes into account the principles of the Treaty of Waitangi."* And reinforced by Policy 2, which states …*Tangata whenua exercise kaitiakitanga for indigenous biodiversity in their rohe, including through:*
  (a) managing indigenous biodiversity on their land; and
  (b) identifying and protecting indigenous species, populations and ecosystems that are taonga; and
  (c) actively participating in other decision-making about indigenous biodiversity"

The proposed papakainga housing is not contrary to the direction of the National Policy Statement for Indigenous Biodiversity 2023.

NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT 2020 (NPSFM)

The NPS-FM aims to maintain and enhance freshwater quality. In this case the site does not contain any wetlands.

NATIONAL POLICY STATEMENT FOR HIGHLY PRODUCTIVE LAND (NPS-HPL)

The NPS-HPL came into force on 17 October 2022, with most provisions having immediate effect, placing restrictions on rezoning, subdivision and land-use proposals on land that meets the transitional definition of HPL (Land Use Capability (LUC) classes 1–3, with some exceptions).

The application site has class 3 soils as per the Our Environment Land Use Capability Maps, these being class 2 and 4 soils.

https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main/421,406,404,387,388,389,390,405?contextLayers=water_transport_text

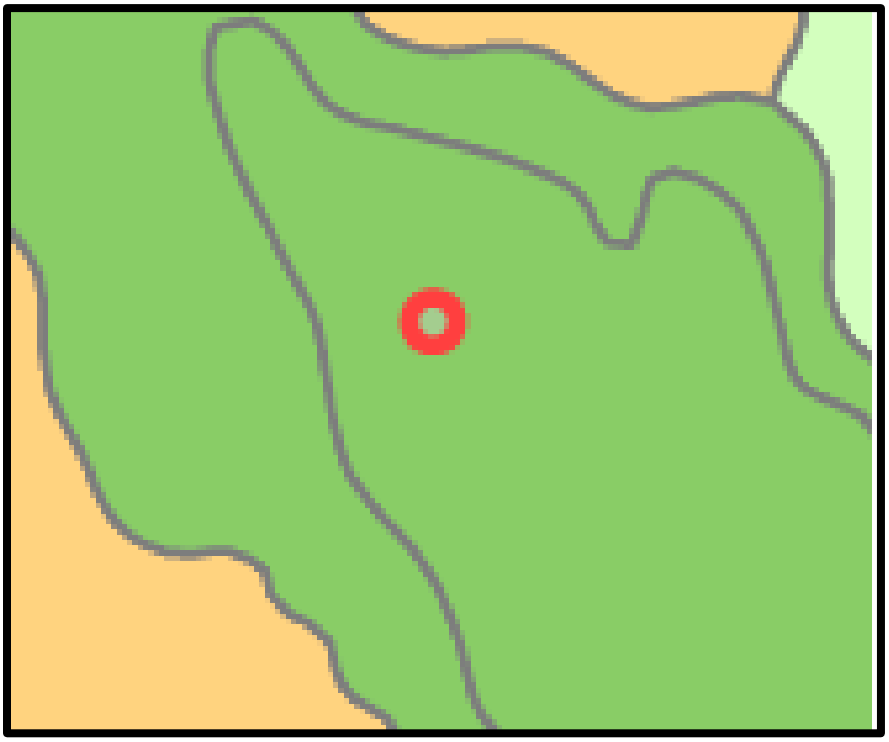


Figure 5 – LUC Map – Source Our Environment

Policy 3.9 of the HPS-HPL provides for the protection of highly productive land from inappropriate use and development. 3.9(2) states that …*A use or development of highly productive land is inappropriate except where at least one of the following applies to the use or development, and the measures in subclause (3)…*" In this case, 3.9(2)(d) excludes land use activities on specified Maori Land. The papakainga housing development is therefore excluded from an inappropriate use under this document.

Overall the proposal is considered to be consistent with the HPS-HPL.

PARTICULAR RESTRICTIONS FOR NON-COMPLYING ACTIVITIES

Under s104D a non-complying activity can only be granted provided it passes at least one of the tests of either s104D(1)(a) or s104D(1)(b).

If an application fails both tests of s104D then it cannot be granted.

The proposal satisfies the threshold test of s104D because the adverse effects on the environment will be minor the proposal will not be contrary to the objectives and policies of the Auckland Unitary Plan.

The application therefore meets both of the tests of s104D and the application can be assessed against the provisions of s104B and a substantive decision made.

PART II OF THE RESOURCE MANAGEMENT ACT

Part II of the Act sets out the Purpose and Principles. This proposal is in keeping with Part II as the effects of the proposal on the environment will be minor and the proposal will not compromise the ability of this site to be used by existing and future generations, also the life supporting capacity of air, water, soil and ecosystems will not be compromised.

Section 5 of the Resource Management Act 1991 (the Act) describes the Purpose and Principles of the Act and provides a definition of 'sustainable management' which includes reference to managing the use and development of natural and physical resources at a rate that allows people and communities to provide for their wellbeing, whilst avoiding, remedying and mitigating any adverse effects of activities on the environment.

This involves sustaining resource potential (excluding minerals), safeguarding the life supporting capacity of air, water, soil and ecosystems and avoiding, remedying or mitigating adverse effects. The effects of this proposal on the environment have been described above.

The proposal is considered to be consistent with the Purposed and Principles outlined above as the effects on character and amenity will be no more than minor. Further any potential effects can be adequately avoided, remedied and mitigated.

Section 6 of the Act requires all persons exercising functions and powers under the Act to recognise and provide for matters of national importance in relation to the natural character of the coastal environment, wetlands, lakes and rivers and the protection of them from inappropriate subdivision use and development. Outstanding natural features and landscapes are also to be protected from inappropriate subdivision, use and development.

The proposal is considered to be consistent with section 6 of the Act as there are considered to be no matters of national importance on this site.

Section 7 relates to other matters that are to which regard must be had in achieving the sustainable management of natural and physical resources: The proposal is considered to be consistent with the provisions of the section of the Act.

Section 8 requires that account shall be taken of the principles of the Treaty of Waitangi. The proposal is considered to be consistent with the matters outlined in Section 8.

Overall, it is considered that the proposal is in keeping with Part II of the Resource Management Act 1991.

CONCLUSION

It is concluded that the proposal will have less than minor adverse effects on the surrounding environment. Further the proposed activity is in keeping with the relevant assessment criteria, objectives and policies set out in Far North District Plan.

As a result of the above granting consent to this proposal will be in keeping with the provisions set out in Part II of the Resource Management Act 1991 and sections 104 and 104B.

Appendix 1 – Record of Title

Appendix 2 – Architectural Plans

Appendix 3 – NZTA Approval

Appendix 4 – Geotechnical Report

Appendix 5 – Flood Assessment Report

Appendix 6 – Wastewater Report

Appendix 7 – Management Plan

Appendix 8 – Fire Fighting Approval

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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

R.W. Muir
Registrar-General
of Land

Identifier	**NA18B/1018**
Land Registration District	**North Auckland**
Date Issued	24 March 1970

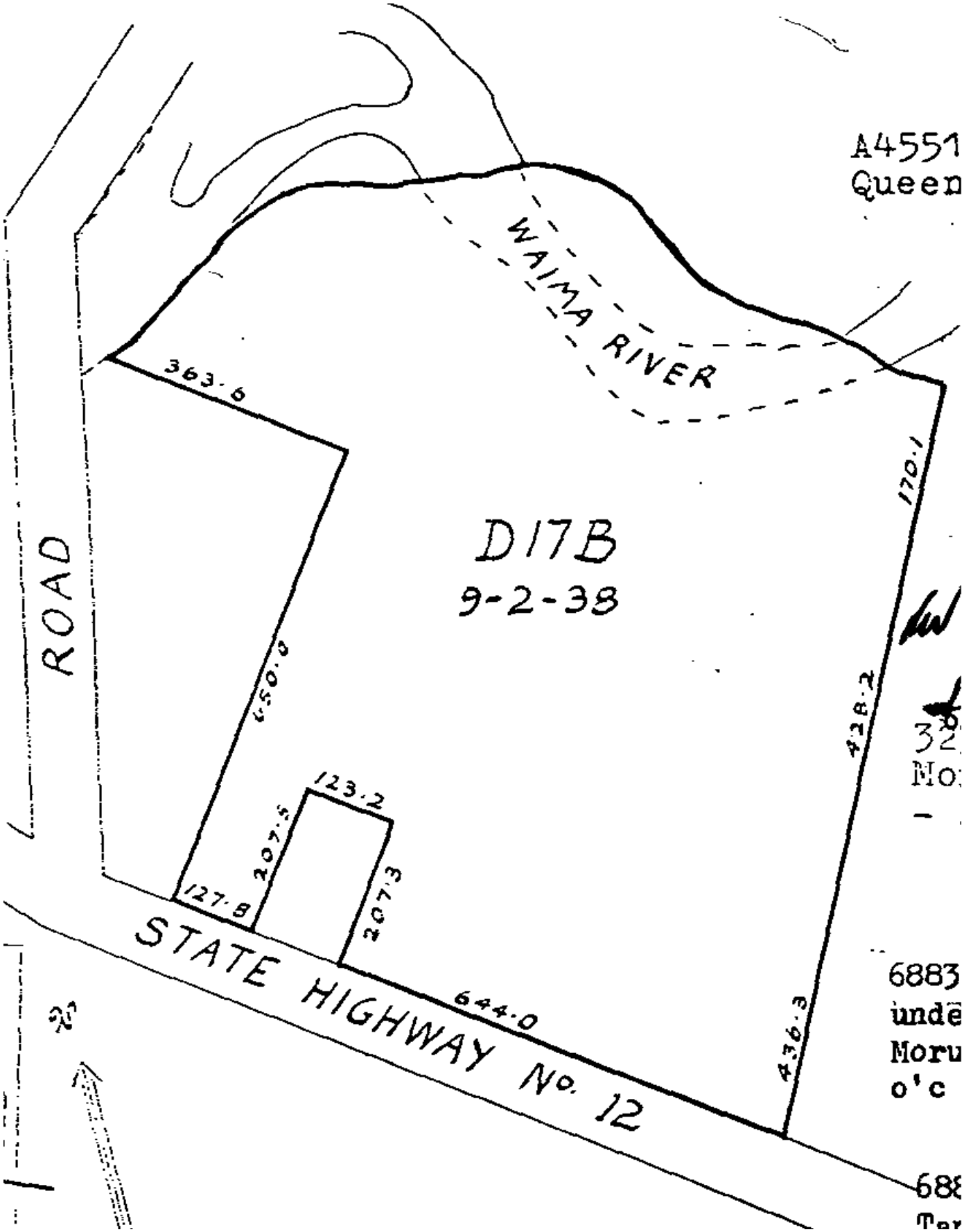
Prior References
NAPR18B/1017

Estate	Fee Simple
Area	3.9406 hectares more or less
Legal Description	Waima D17B Block
Registered Owners	

Tipara Thomas Morunga

Interests

A461701 Status Declaration by the Registrar of the Maori Land Court - 27.4.1970 at 2.00 pm


A4551
Queen
WAIMA RIVER
363.6
ROAD
D17B
9-2-38
650.0
123.2
207.5
127.8
207.3
428.2
170.1
644.0
436.3
STATE HIGHWAY No. 12
6883
unde
Moru
o'c

Advance build

A smarter move

Proposed New Project

2443 State Highway 12, Waima

For: Tokitoki Development

CONTENTS

Concept Plans

Concept 1

October 2025

FINAL WORKING DRAWINGS TAKE PRECEDENCE OVER CONCEPT PLANS. ALL LANDSCAPING, PLANTING, LIGHTING & FENCING IS SHOWN FOR IMAGING PURPOSES ONLY

REVISION:	C01
PROJECT NO.	1291
DRAWN BY:	NMB
HC:	JCS

NB: Boundary Lines are Indicative Only

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023

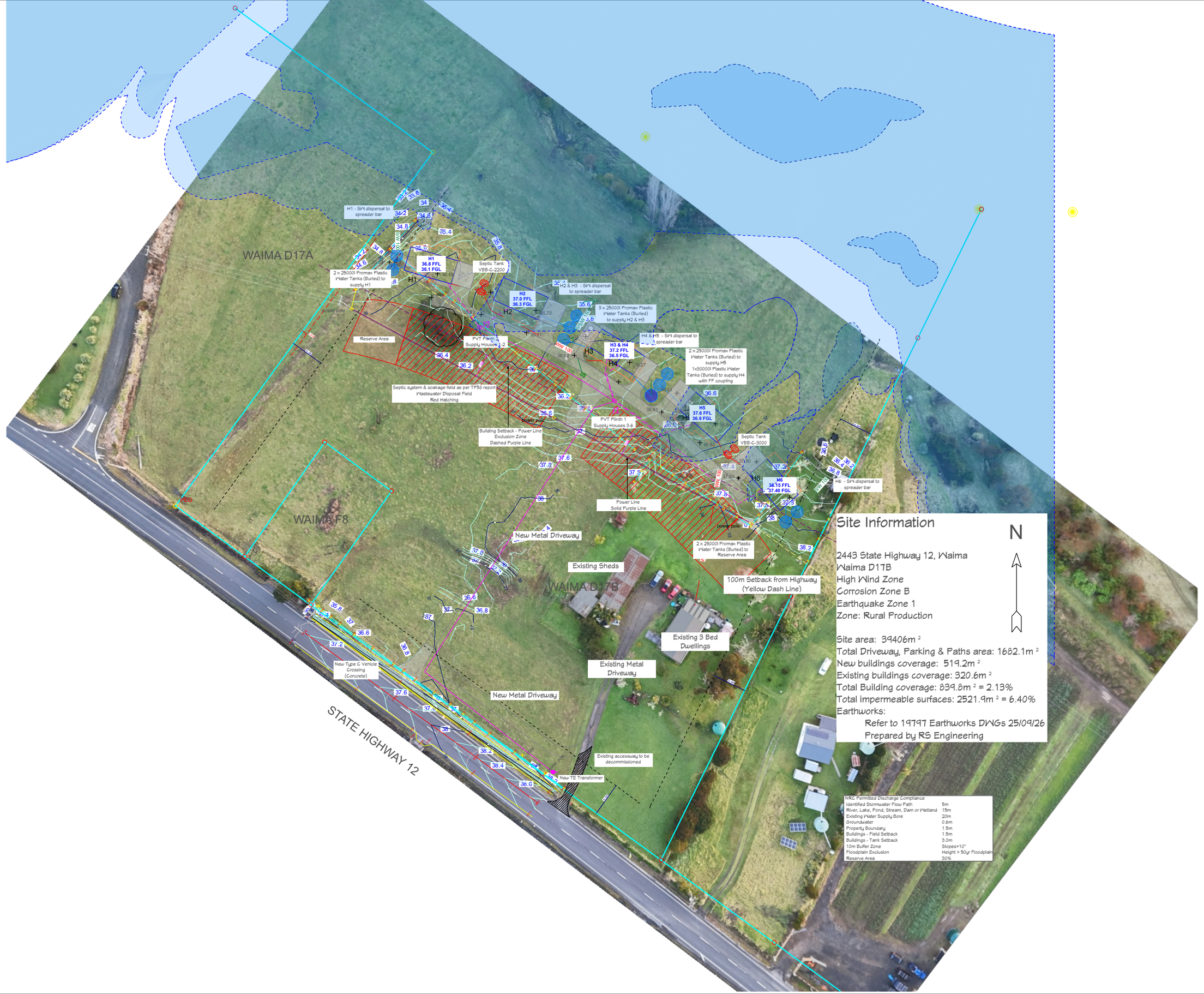
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Location Plan

SCALE: NTS

PROJECT #:	PAGE:	REVISION:
1291	01	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023
Rev	NMB	Mar 23 2023
Rev	NMB	Mar 31 2023
Rev	NMB	Nov 15 2024
Rev	NMB	Nov 26 2024
Rev	NMB	Jun 19 2025
Rev	NMB	Aug 04 2025

Verify all dimensions on site before commencing work. Refer to figured dimensions. Refer any discrepancies to Advance manufacturing Ltd.

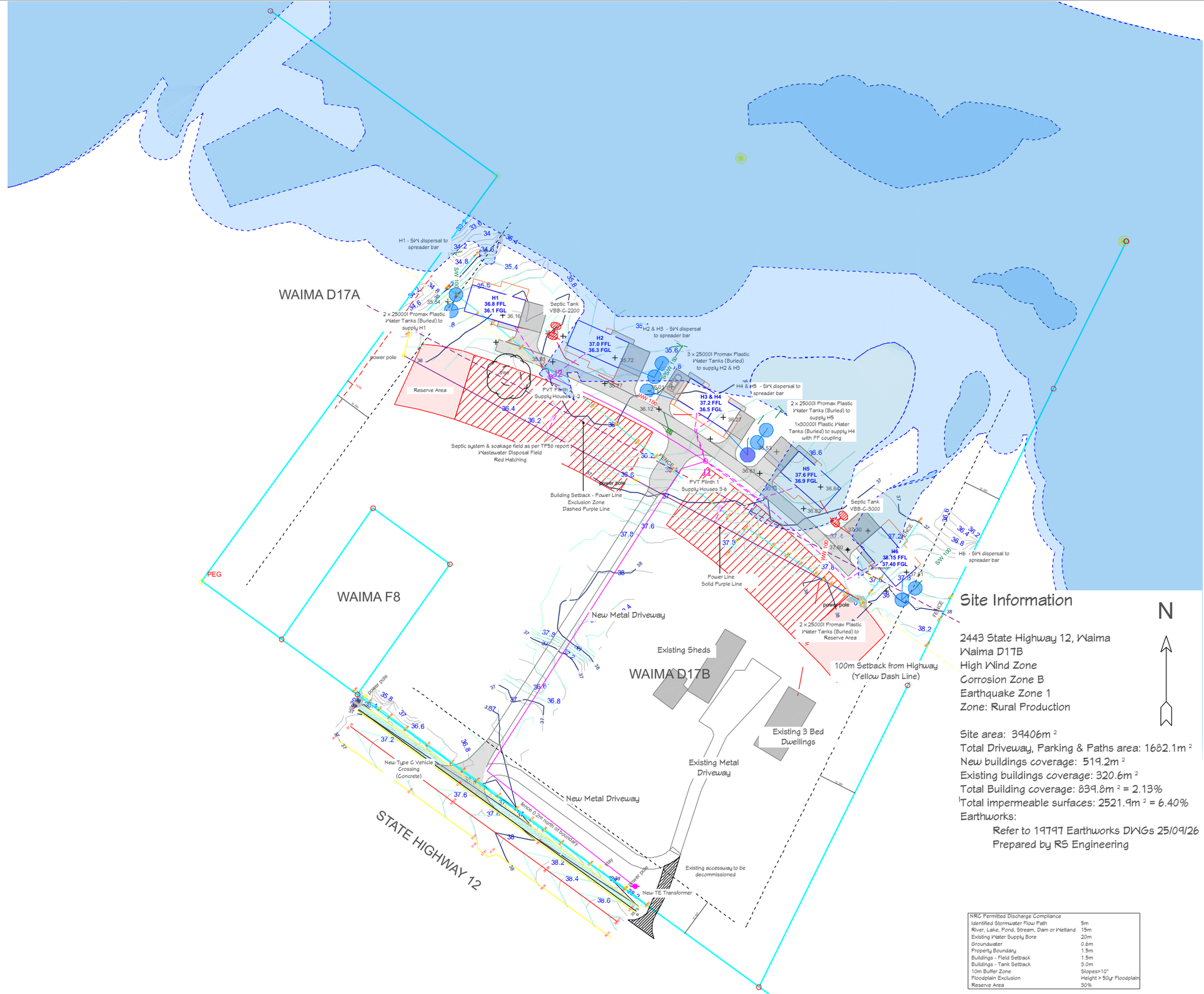
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Overall Site Plan

SCALE: 1 : 1000 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	01A	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023
Rev	NMB	Mar 23 2023
Rev	NMB	Mar 31 2023
Rev	NMB	Nov 15 2024
Rev	NMB	Nov 26 2024
Rev	NMB	Aug 04 2025

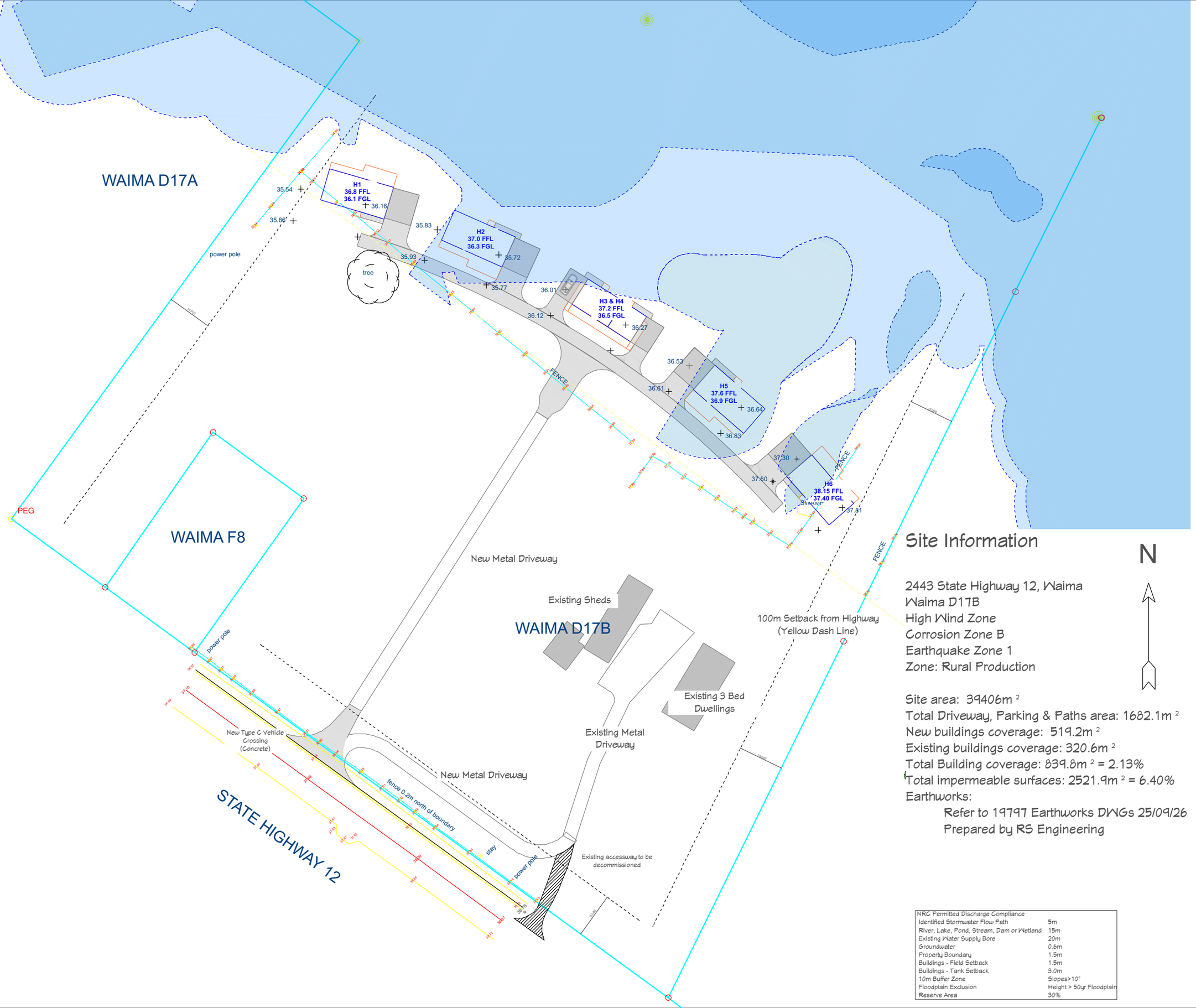
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - No Image

SCALE: 1 : 1000 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	02	C01



Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 08 2025

Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - No Services

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	03	C01

Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025

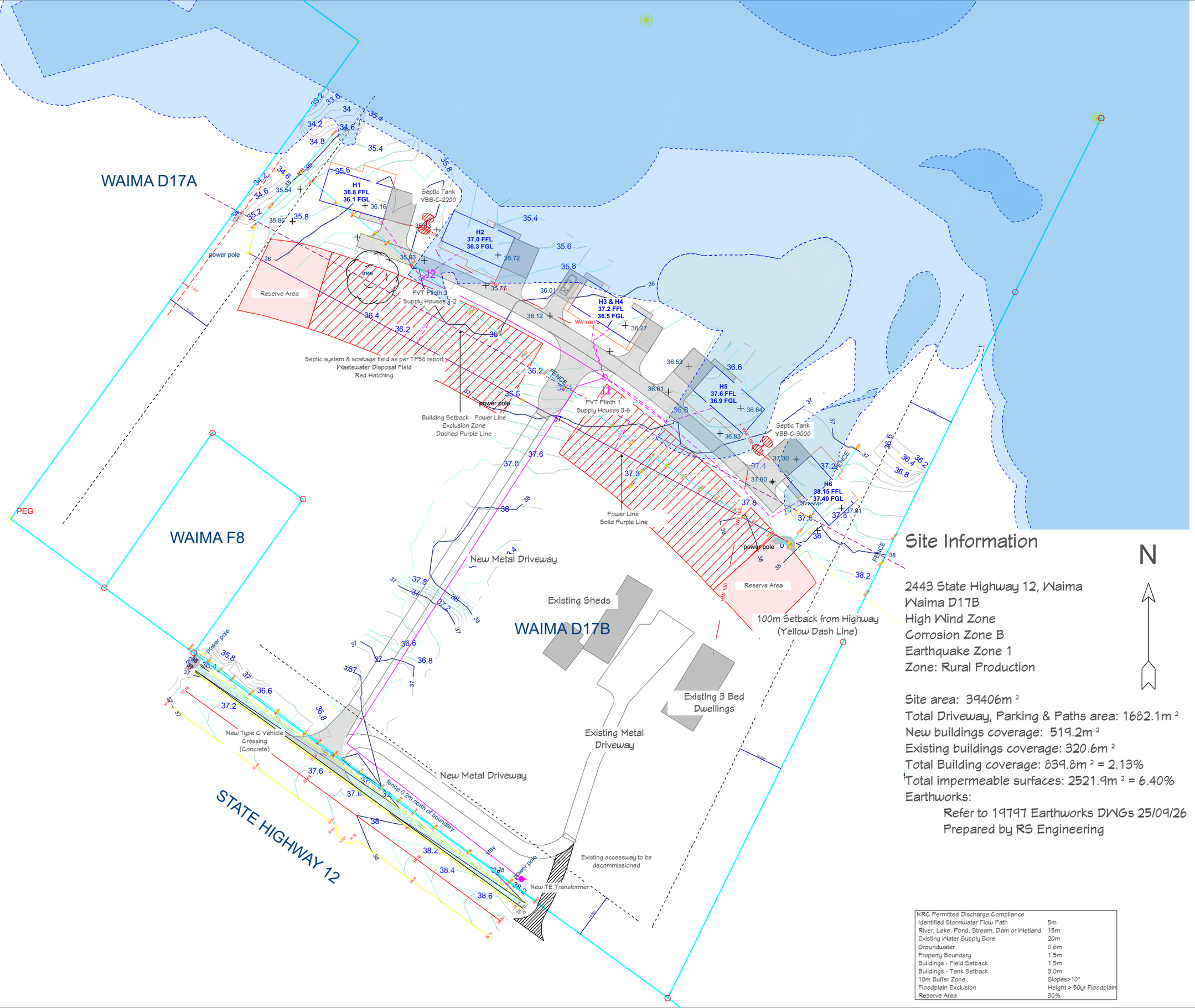
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - S/W & Water

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	04	C01



Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 03 2025

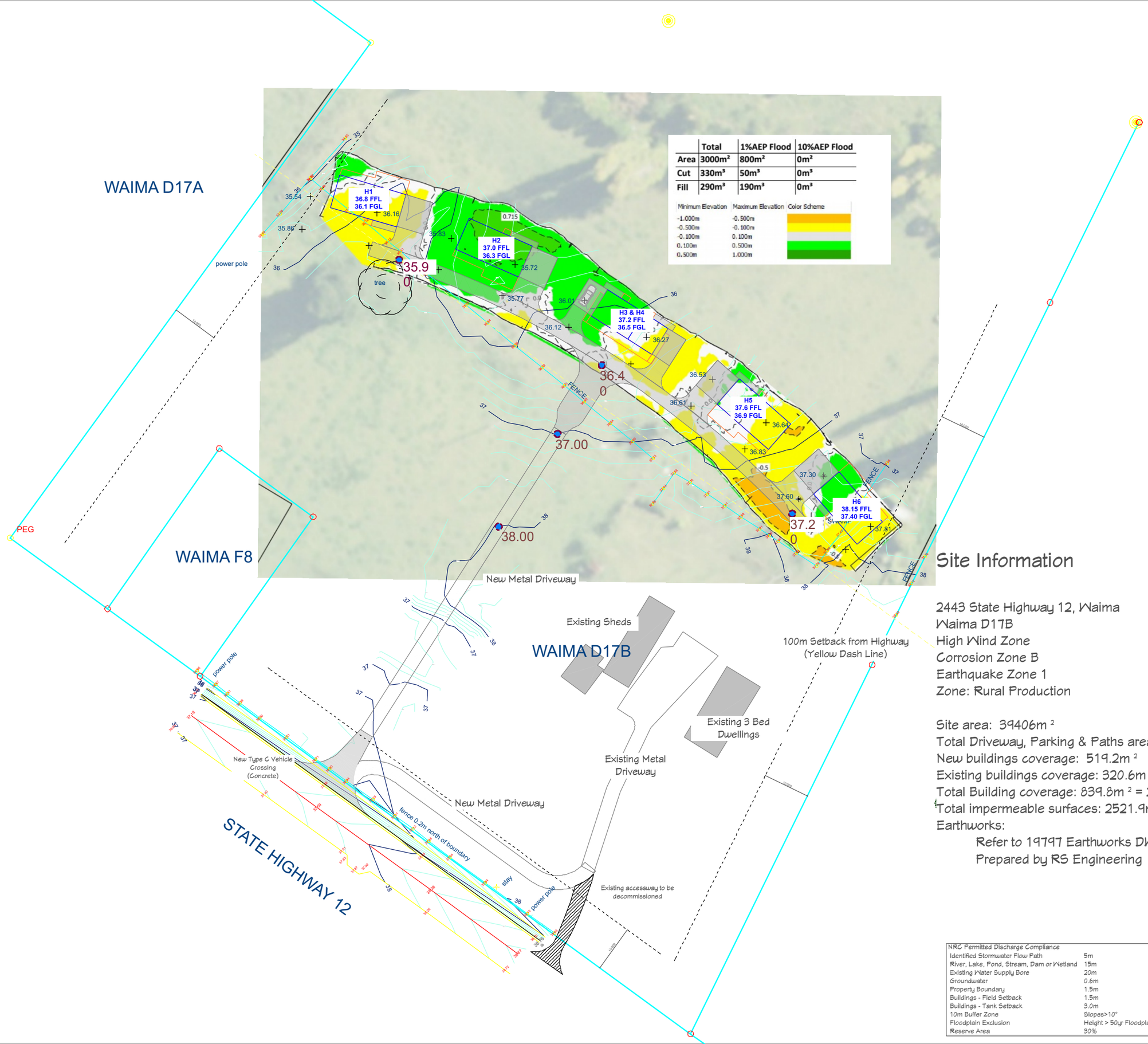
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - Sewer & Power

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	05	C01



	Total	1%AEP Flood	10%AEP Flood
Area	3000m²	800m²	0m²
Cut	330m³	50m³	0m³
Fill	290m³	190m³	0m³

Minimum Elevation	Maximum Elevation	Color Scheme
-1.000m	-0.500m	
-0.500m	-0.100m	
-0.100m	0.100m	
0.100m	0.500m	
0.500m	1.000m	

Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ²
Total Driveway, Parking & Paths area: 1682.1m ²
New buildings coverage: 519.2m ²
Existing buildings coverage: 320.6m ²
Total Building coverage: 839.8m ² = 2.13%
Total impermeable surfaces: 2521.9m ² = 6.40%
Earthworks:
Refer to 19797 Earthworks DWGs 25/09/26
Prepared by RS Engineering

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 12 2025
Rev	NMB	Oct 02 2025

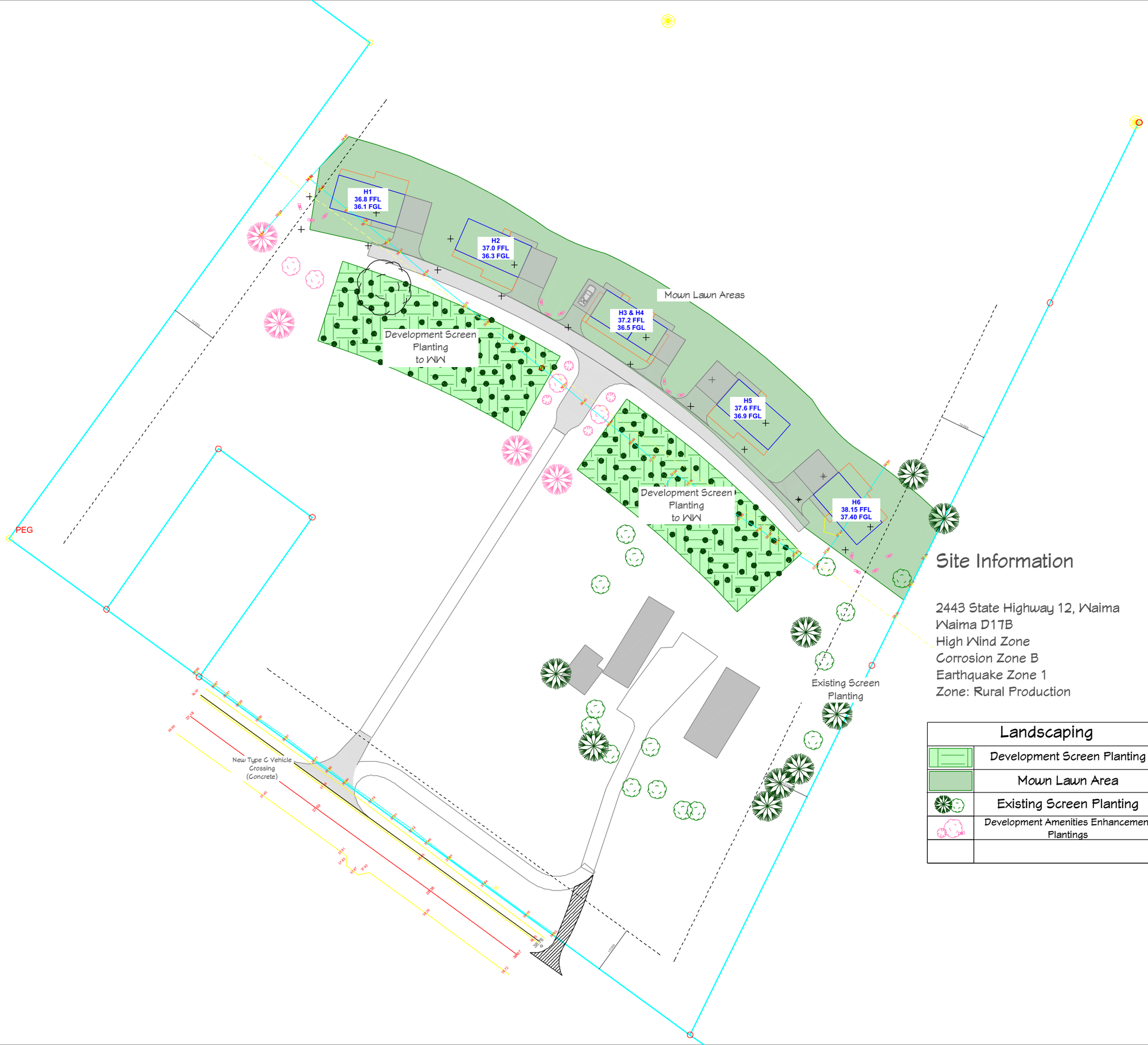
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - Cut & Fill

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	06	C01



Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Landscaping	
	Development Screen Planting
	Mown Lawn Area
	Existing Screen Planting
	Development Amenities Enhancement Plantings

N

REVISION:	BY:	DATE:
Drawn	NMB	Oct 02 2025

Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - Landscaping

SCALE: 1 : 1000 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	07	C01

Proposed New Dwelling

2443 State Highway 12, Waima

For: Tokitoki Development

Advance build

A smarter move

CONTENTS

Concept Plans

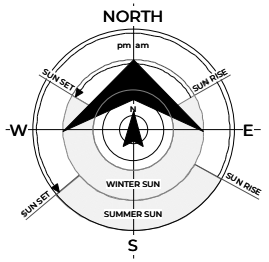
Concept 1

September 2025

REVISION:	C01
PROJECT NO.	1291
DRAWN BY:	NMB
HC:	JCS

FINAL WORKING DRAWINGS TAKE PRECEDENCE OVER CONCEPT PLANS. ALL LANDSCAPING, PLANTING, LIGHTING & FENCING IS SHOWN FOR IMAGING PURPOSES ONLY

NB: Boundary Lines are Indicative Only



REVISION:	BY:	DATE:
Drawn	KAT	Aug 15 2025

Advance build

A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Location Plan

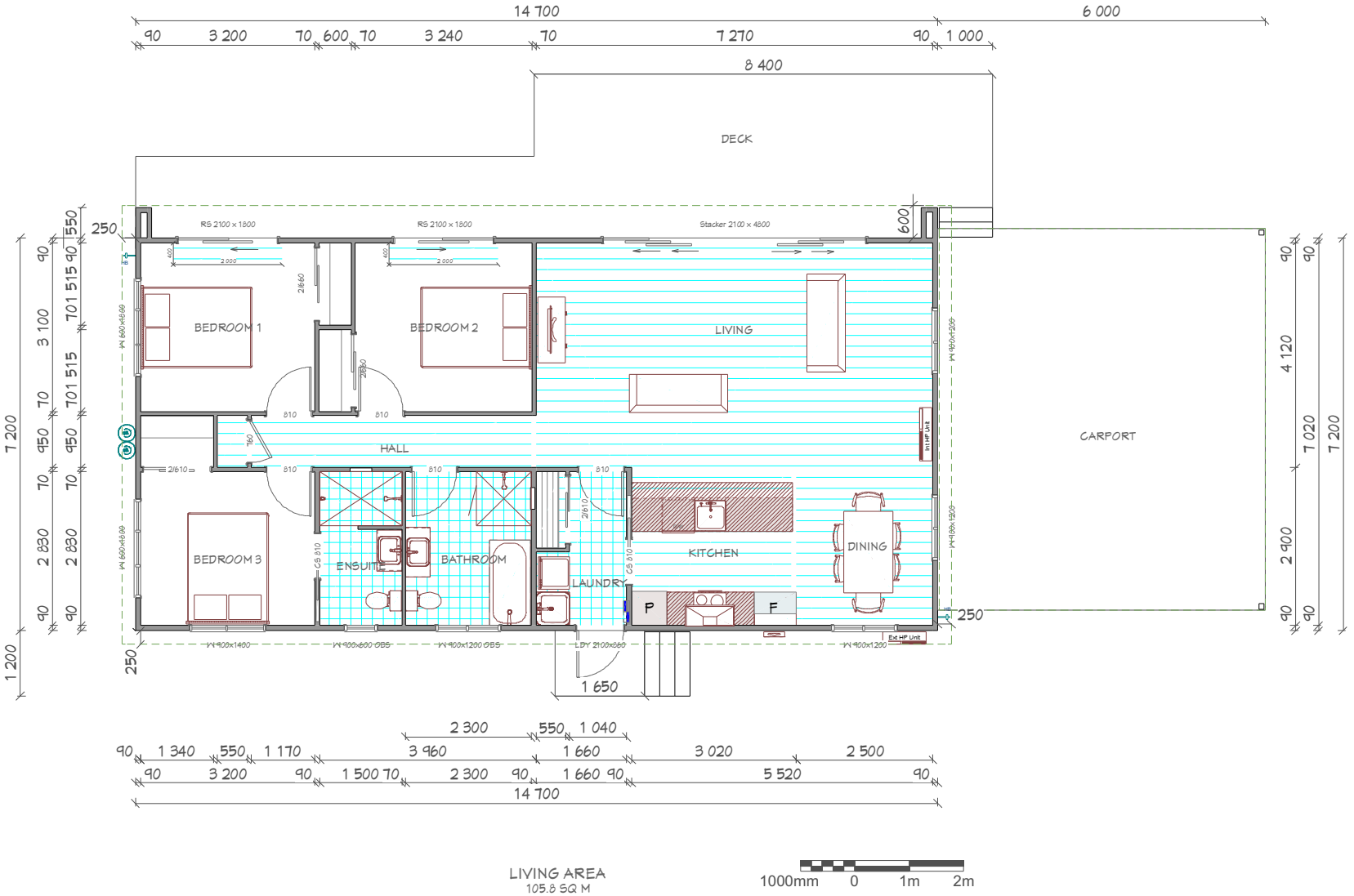
SCALE: NTS

PROJECT #:	PAGE:	REVISION:
1291	01	C01

Typology 1

Roof Pitch 3 deg
Stud height - 2.4m Flat Ceiling

1
4 2
3
Elevations



REVISION:	BY	DATE:
Drawn	NMB	Nov 06 2024
Rev	KAT	Aug 05 2025
Rev	NMB	Sep 01 2025
Rev	NMB	Sep 08 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Floor Plan

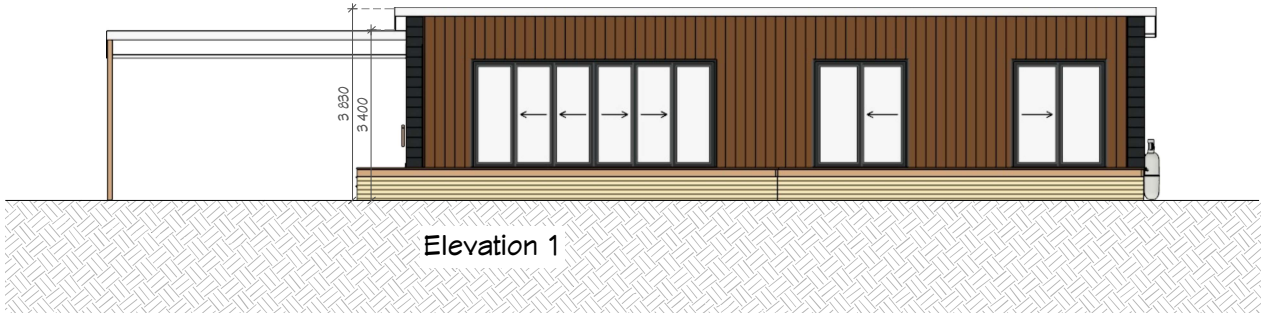
SCALE: 1 : 75 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	02	P01

Roof Pitch 3 deg
Carport Pitch 3 deg
Stud height - 2.4m Flat Throughout

Weathertex Primelok Smooth
200mm - Main Cladding

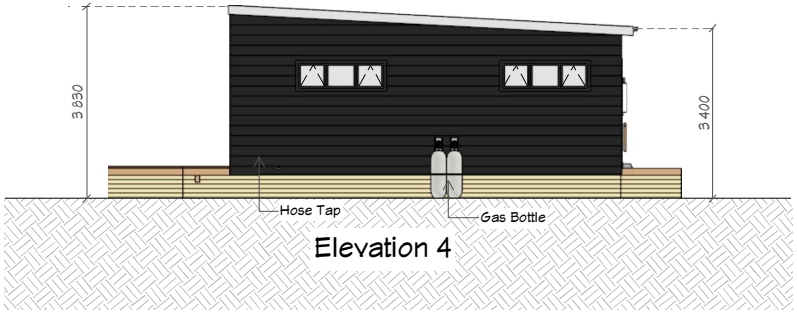
Weathergroove 150mm Vertical Groove - Stained (To Elevation 1 - between Wing Walls) - Secondary Cladding



Elevation 1

Armorsteel 5-Rib, Standard 0.40mm

Double glazed windows

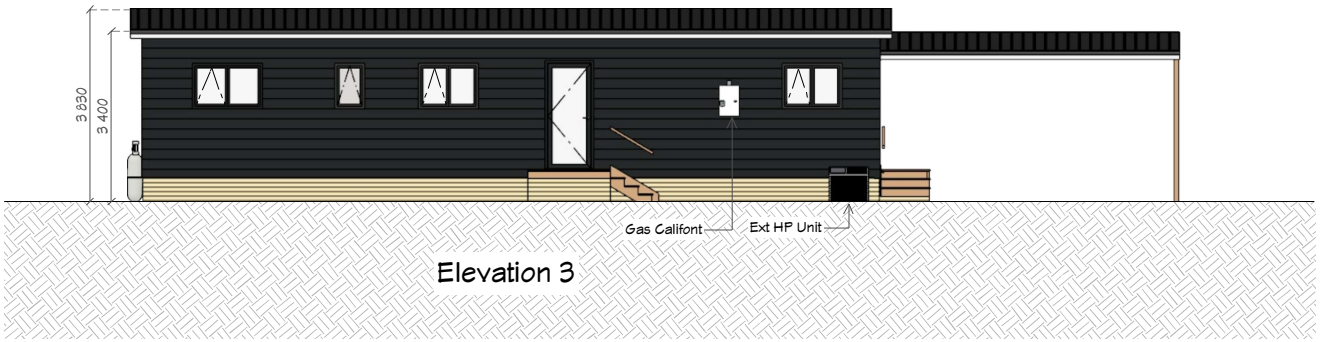


Elevation 4

Elevation 2

140x35 Premium smooth H3 Pine decking - uncoated, Nail Fixed

140x20 PG H3 Pine baseboards Unpainted



Elevation 3

REVISION:	BY	DATE:
Drawn	KAT	Aug 18 2025
Rev	KAT	Aug 19 2025
Rev	NMB	Sep 08 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

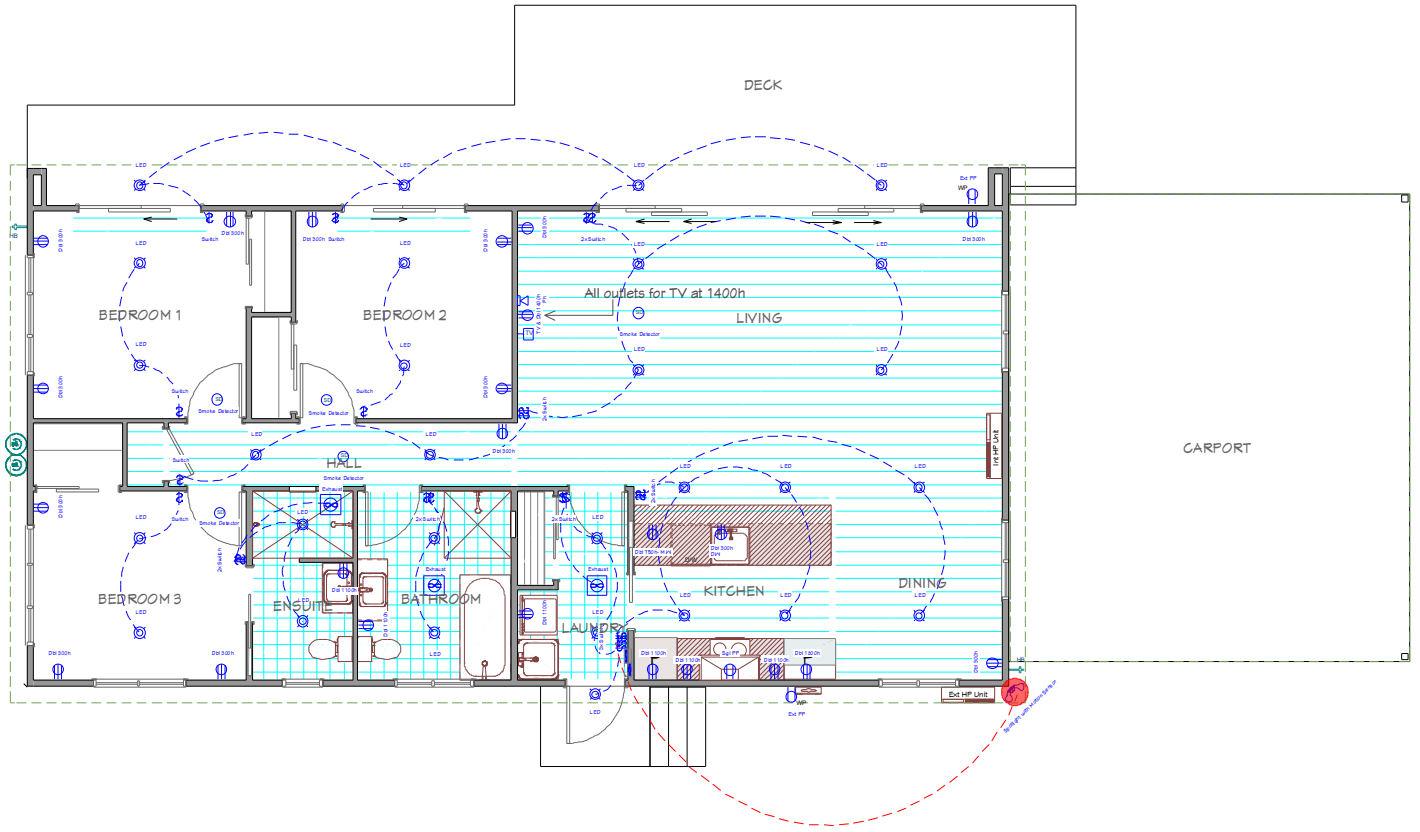
SHEET TITLE:
Elevation

SCALE: 1 : 100 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	03	C01

- LED Spotlight with Motion Sensor

- Sensor Connection



LIVING AREA
105.8 SQ M

1000mm 0 1m 2m

REVISION:	BY	DATE:
Drawn	KAT	Aug 18 2025
Rev	KAT	Aug 19 2025
Rev	NMB	Sep 08 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Electrical Plan

SCALE: 1 : 75 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	04	C01

Interior Door Handles
SL=Sliding
PS=Passage
PV=Privacy
DM=Dummy

Exterior Door Handles
KL=Keyed Lock

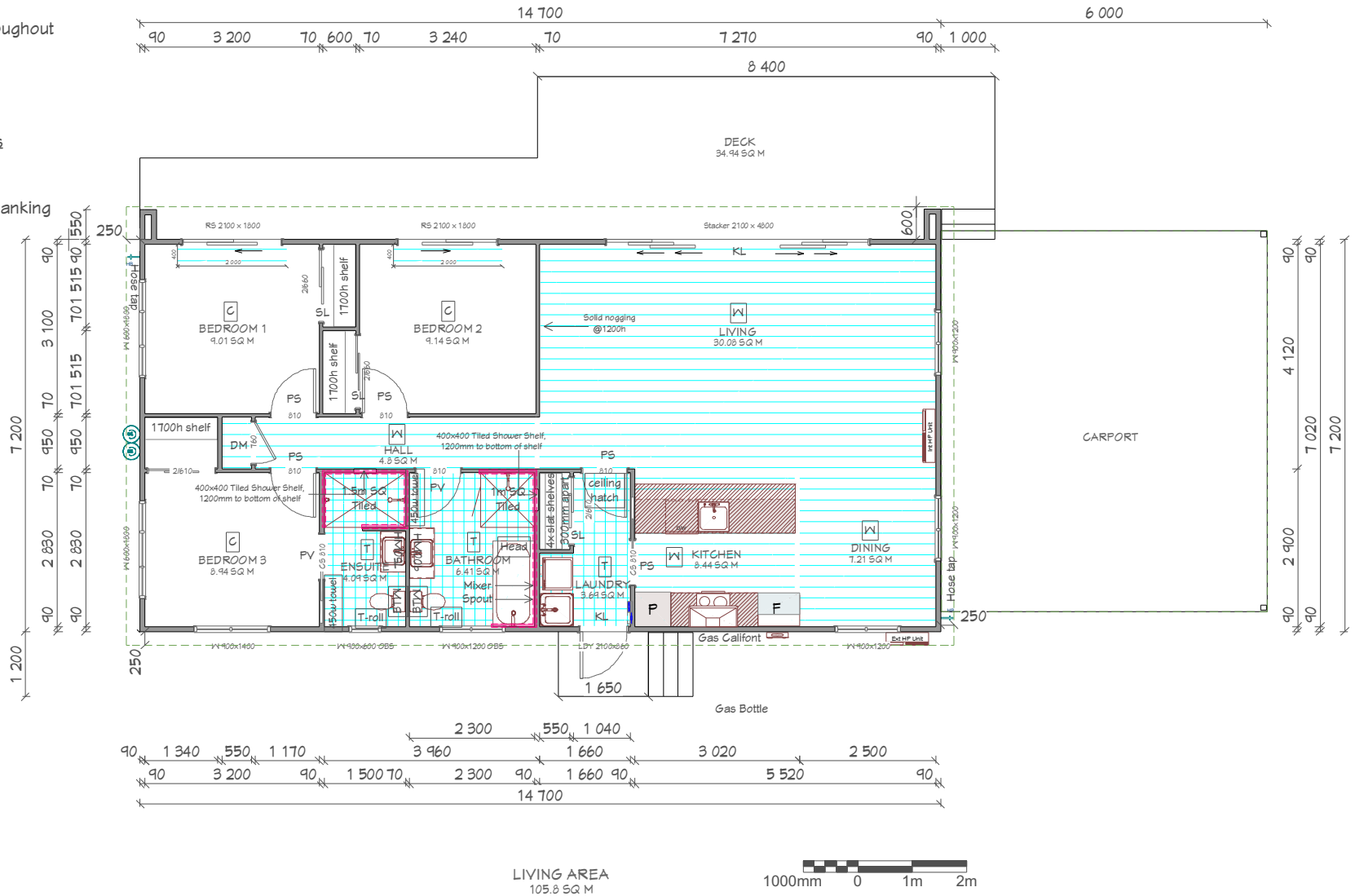
Ceiling Height
2.4m Flat Throughout

Floorcoverings
C=Carpet
T=Tiles
W=Wooden Planking

All Windows and Doors at 2.1m Lintel Height

All Exterior Doors Rebated for Flush Entry

Bath & Shower Wall Tiles (refer to specs for details)



REVISION:	BY	DATE:
Drawn	KAT	Aug 18 2025
Rev	KAT	Aug 19 2025
Rev	NMB	Sep 08 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Fittings Plan

SCALE: 1 : 75 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	05	C01

Right hand kitchen x2.

Advance build
0800 327 828 Tel:09 4087 232
PO Box 59, Awanui 0451
www.advancebuild.co.nz

DRAWING TITLE:
#6155 AB Morunga Houses

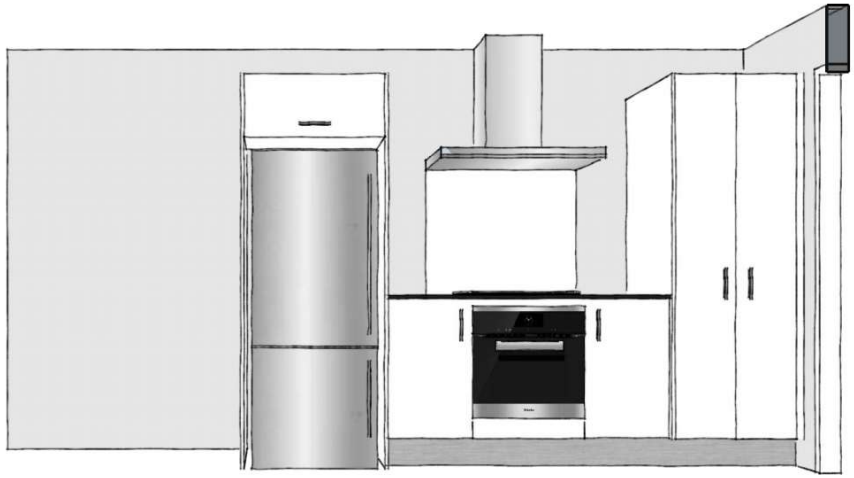
FULL ADDRESS:
2443 State Highway 12
Waima

NOTES:
Verify all dimensions on site before commencing work. Refer to figured dimensions.

Refer any discrepancies to Advance manufacturing Ltd.

STAGE: **CREATED:** 03.09.2025
VERSION: C01
REVISION: BY: **DATE:**
Drawn

DESIGNER: Brooke Foster
TECHNICIAN:
JOB #6155 **SCALE:**
SHEET: 4



Advance build
0800 327 828 Tel:09 4087 232
PO Box 59, Awanui 0451
www.advancebuild.co.nz

DRAWING TITLE:
#6155 AB Morunga Houses

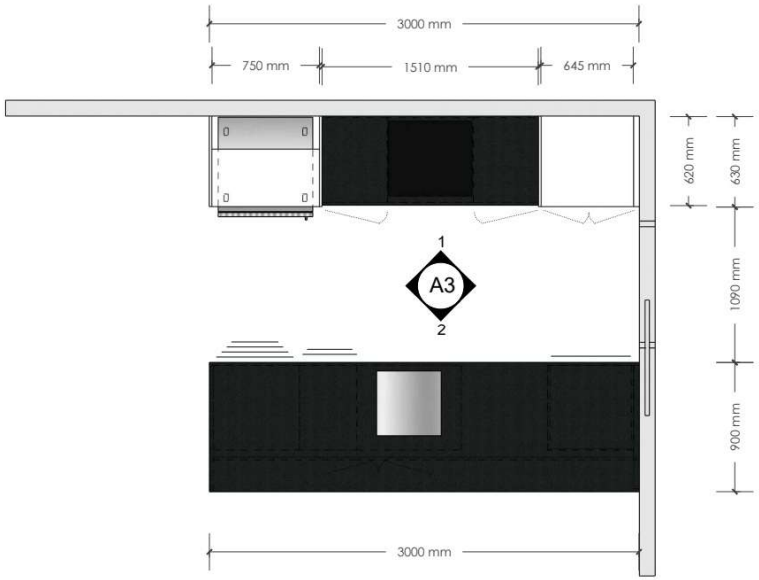
FULL ADDRESS:
2443 State Highway 12
Waima

NOTES:
Verify all dimensions on site before commencing work. Refer to figured dimensions.

Refer any discrepancies to Advance manufacturing Ltd.

STAGE: **CREATED:** 03.09.2025
VERSION: C01
REVISION: BY: **DATE:**
Drawn

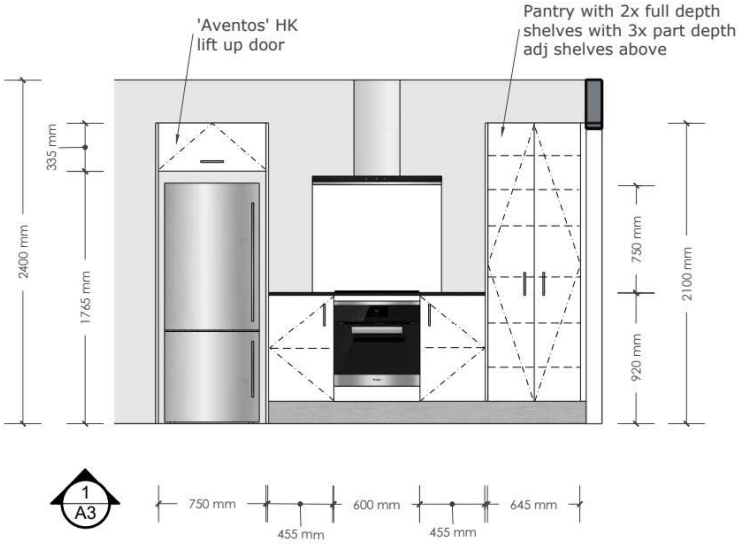
DESIGNER: Brooke Foster
TECHNICIAN:
JOB #6155 **SCALE:**
SHEET: 5

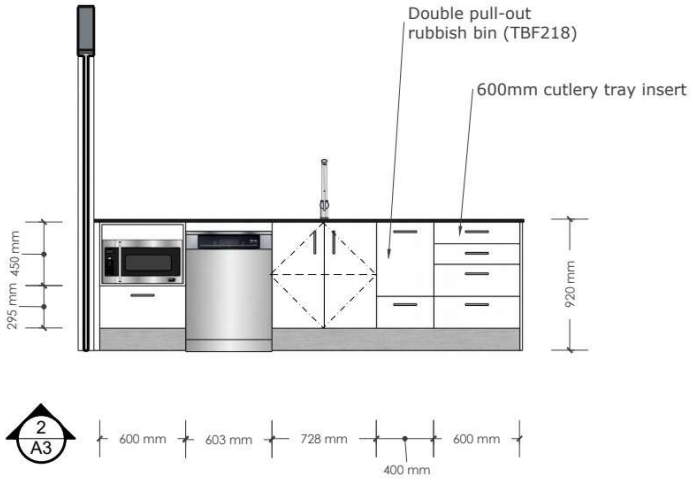


RIGHT KITCHEN SPECIFICATIONS:

CABINET INTERIORS: 16mm Moisture-resistant MDF. Colour: White. Finish: Naturale.
DOORS, DRAWERS & FACE PANELS: 18mm Melamine with matching laser edging (colour dependent). 'AB Standard' range. Colour: Prime White. Finish: Embossed.
BENCHTOP: 20mm Silestone. 'AB Mid' range. Colour: Night Tebas. Finish: Polished
HANDLES: 'AB MID' range. Model: Archant Anzio Length: 160mm Finish: Brushed Nickel
SINK: Acero 'DV105' 450mm sink insert, undermounted.
SINK CABINET: Fitted with space saving waste, 1x adjustable shelf and 1x towel rail.
DRAWERS: White full extension soft close drawer system.
HINGES: Soft close fully adjustable hinges.
KICKBOARD: 150mm brushed stainless, moisture-resistant.
SPLASH BACK: 750h x 900w back painted toughened glass. 'AB Standard' range. Colour: TBC.
BULKHEAD: None.
SCOTIA/GIB COVE: None.
FLOORING: TBC.

APPLIANCES SUPPLIED & FITTED BY ADVANCE BUILD:
Oven: Bosch Series 6 60cm Built-in Oven Black (HBA572EB3A)
Hob: Bosch Series 6 Electric Cooktop 60cm Black (PKE611FA2A)
Rangehood: Robinhood 90cm Box Canopy SS (RWE3CL9SS)
Fridge Space Allowance: 1765h 750w 630d space.
Dishwasher: Bosch Series 4 Freestanding dishwasher 60cm Stainless Steel (SMS4HTI01A)
Tap: Aquatica Saluto Gooseneck Sink mixer, Chrome (SA SMAP)





Advance build
0800 327 828 Tel:09 4087 232
PO Box 59, Awanui 0451
www.advancebuild.co.nz

DRAWING TITLE:
#6155 AB Morunga Houses

FULL ADDRESS:
2443 State Highway 12
Waima

NOTES:
Verify all dimensions on site before commencing work. Refer to figured dimensions.
Refer any discrepancies to Advance manufacturing Ltd.

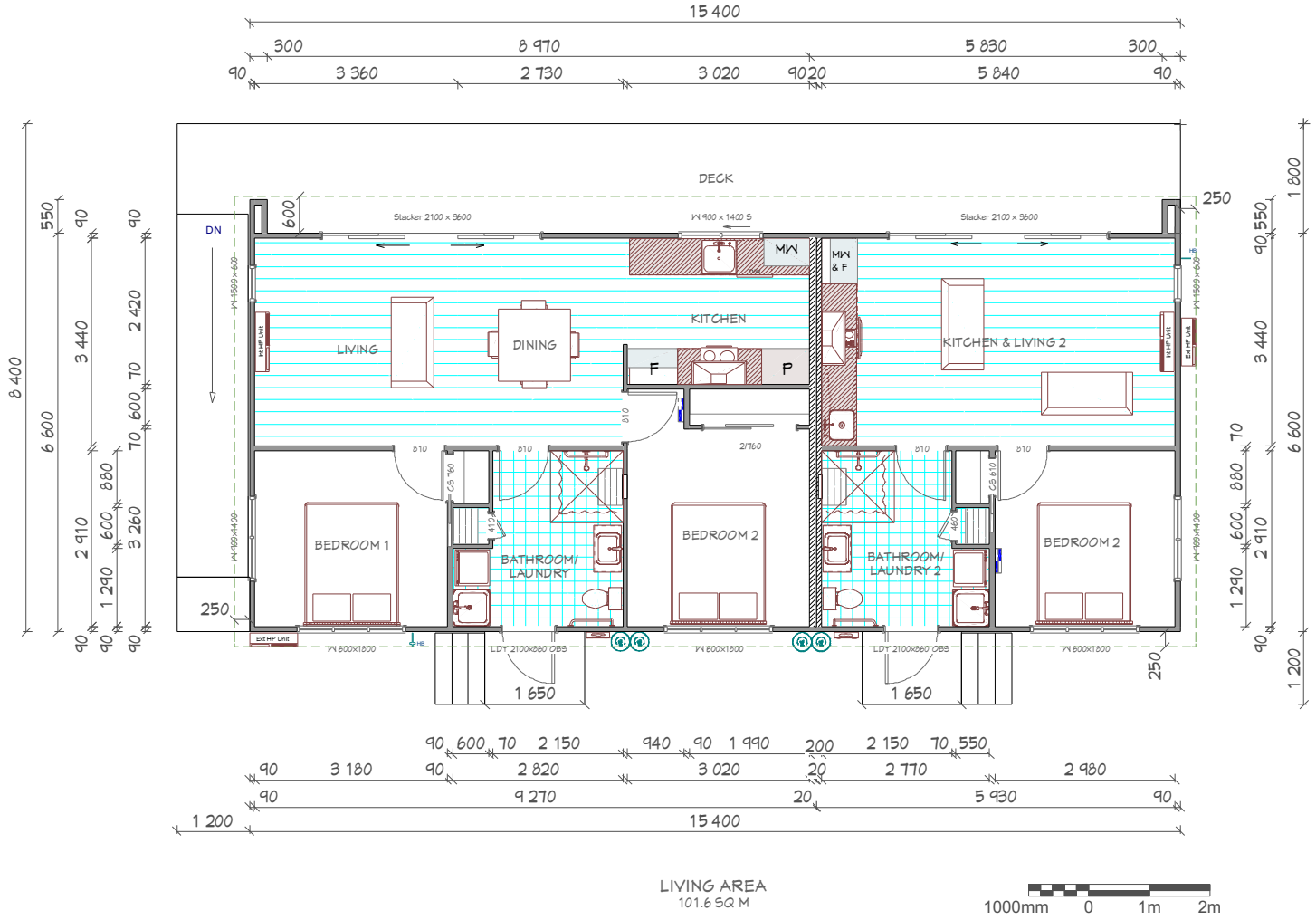
STAGE: **CREATED:** 03.09.2025
VERSION: C01
REVISION: BY: **DATE:**
Drawn

DESIGNER: Brooke Foster
TECHNICIAN:
JOB #6155 **SCALE:**
SHEET: 6

Typology 3

Roof Pitch 3 deg
Stud height - 2.4m Flat Ceiling

1
4 2
3
Elevations



LIVING AREA
101.6 SQ M

1000mm 0 1m 2m

REVISION:	BY	DATE:
Drawn	NMB	Nov 26 2024
Rev	NMB	Dec 02 2024
Rev	KAT	Aug 05 2025
Rev	NMB	Sep 01 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

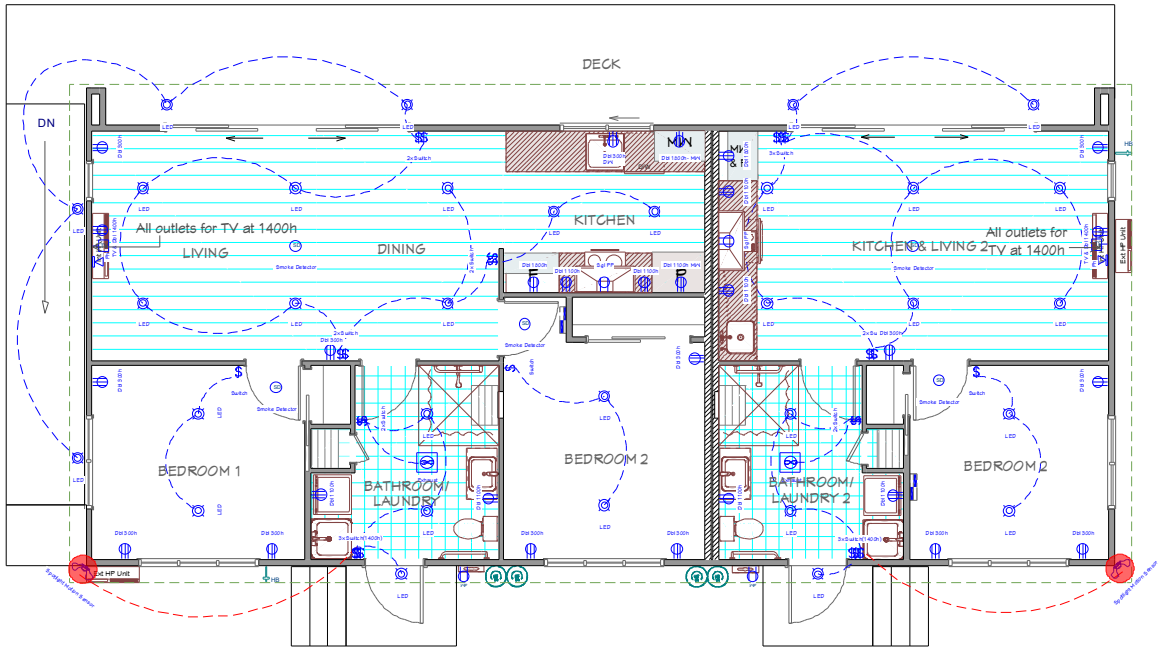
SHEET TITLE:
Floor Plan

SCALE: 1 : 75 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	02	P01

- LED Spotlight with Motion Sensor

------ - Sensor Connection



LIVING AREA
101.6 SQ M

1000mm 0 1m 2m

REVISION:	BY	DATE:
Drawn	KAT	Aug 18 2025

Advance build
A smarter move

Proposed New Home for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Electrical Plan

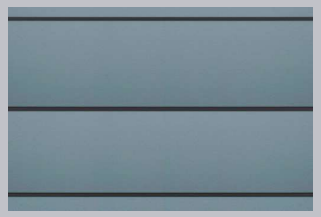
SCALE: 1 : 75 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	04	C01

SCHEDULE OF COLOURS

Exterior Cladding
LRV ≤ 40%

1. Weathergroove Smooth



2. Weathergroove Natural

3. Primelok Weatherboard

4. Selflok Weatherboard

Roofing
LRV ≤ 30%

COLORSTEEL® ENDURA® roofing represents the perfect blend of form and function. It has been created alongside global leaders in both paint technology and the manufacture of pre-painted steel products.

T-Rib
T-Rib profile and matching flashings. T-Rib is a popular and versatile 5 Rib trapezoidal roofing profile that can be used in residential applications as a roof. T-Rib offers the value of Corrugate whilst being able, by design, to achieve roof pitches down to 3 degrees.

Corrugate
Corrugate profile and matching flashings. A true icon of Kiwi culture and construction, the Corrugate profile is cost effective and versatile, able to handle a wide range of roofing and wall cladding applications. To be used on roof pitches over 8degrees'

Inspired by New Zealand, loved by New Zealanders. Colorsteel offers a blend of classic, timeless shades and modern, on-trend tones.

Thunder Grey **TSR : 27% LRV : 12%**	**Ebony** **TSR : 5% LRV : 5%**
Karaka **TSR : 25% LRV : 8%**	**Slate** **TSR : 27% LRV : 9%**
Windsor Grey **TSR : 21% LRV : 7%**	**Flaxpod** **TSR : 23% LRV : 11%**
New Denim Blue **TSR : 25% LRV : 11%**	**Ironsand** **TSR : 25% LRV : 8%**
Grey Friars **TSR : 26% LRV : 10%**	

Total Solar Reflectance (TSR)
Measures the amount of solar energy across the entire spectrum that is reflected away from an object. This correlates closely to the temperature that the object will reach on a hot summer's day.

Light Reflectance Value (LRV)
The approximate light reflectance value (LRV) of a colour indicates the amount of visible light that a colour will reflect. Black has a light reflectance value of 0% and absorbs all light. The surfaces are consequently very dark and can get very hot. In contrast, white has a light reflectance value of 100% and keeps a building light and cool. All colours fit within these two extremes

Trims
Windows

Box Corners

Colours of minor decorative exterior features such as joinery, downpipes and box corners to be in keeping with rural environment and style of house. Lighter colours may be used in conjunction with the proposed roof and cladding palette.

www.nzta.govt.nz

44 Bowen Street
Pipitea, Wellington 6011
Private Bag 6995
Wellington 6141
New Zealand
T 0800 699 000
www.nzta.govt.nz

NZ Transport Agency Waka Kotahi Reference: 2025-0848

21 July 2025

Advance Build
C/- Angela Vujcich
2077 State Highway 10,
Waipapa

Sent via Email: angela@advancebuild.co.nz

Dear Angela,

Six Papakainga Dwellings – 2443 State Highway 12, Waima – Advance Build

Thank you for your request for written approval from NZ Transport Agency Waka Kotahi (NZTA) under section 95E of the Resource Management Act 1991. Your proposal has been considered as follows:

Proposal

Resource consent is sought for the following activities:

- To construct and use six papakainga dwellings at 2443 State Highway 12, Waima.

Assessment

In assessing the proposed activity, NZTA notes the following:

- The subject site is accessed via State Highway 12 in a section that is not gazetted as Limited Access Road.
- A new vehicle access is proposed as part of this application and the existing access will be reinstated to kerb and channel. The new crossing place will be located at approx. NZTM 1653180.91, 6072719.28, refer to Attachment 1.
- Under the Far North District Plan, a papakainga house generates 5 traffic intensity factors/vehicles per day (vdp) and as such, the estimated traffic generation of this proposal is 30vpd.
- The applicant has proposed that the new vehicle crossing be constructed as a NZTA Planning Policy Manual (PPM) Diagram C Standard crossing which aligns with the PPM.
- The proposed dwellings are set back in excess of 100m from the state highway carriageway and as such are unlikely to be affected by noise and vibration of the state highway.
- Overall, the proposed papakainga dwellings are not considered to have any adverse effects on the operation and safety of the state highway.

Conditions

In discussion with NZTA your client's have agreed to include the following conditions as part of your client's resource consent application. The legal name of NZTA is the **New Zealand Transport Agency**; therefore our full legal name is referred to in the conditions and approval.

1. The proposed vehicle crossing (NZTM 1653180.91, 6072719.28) shall be constructed in accordance with New Zealand Transport Agency Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the New Zealand Transport Agency Network Manager.

2. The existing vehicle crossing (NZTM 1653217.54, 6072691.24) shall be permanently closed, including reinstatement of any fence line, grassed areas, berm, highway drainage or kerb. Reinstatement works shall be

consistent with the adjacent road reserve treatment, to the satisfaction of the New Zealand Transport Agency Network Manager.

3. Prior to the occupation of the dwellings the consent holder shall provide to Council, correspondence from the New Zealand Transport Agency confirming that works in the State Highway, including the construction of the new and closure of the existing vehicle crossings, have been constructed to New Zealand Transport Agency standards.

Determination

On the basis of the above assessment of the proposed activity, and the conditions volunteered by the applicant, the New Zealand Transport Agency provides written approval under section 95E of the Resource Management Act 1991.

Advice Notes

Before you undertake any physical work on the state highway, including the formation of any vehicle crossing, you are legally required to apply to the New Zealand Transport Agency for a Corridor Access Request (CAR) and for that request to be approved.

Please submit your CAR to the NZTA CAR Manager via www.submitica.com a minimum of fourteen working days prior to the commencement of any works on the state highway; longer is advised for complex works.

Expiry of this approval

Unless resource consent has been obtained this approval will expire two years from the date of this approval letter. This approval will lapse at that date unless prior agreement has been obtained from The New Zealand Transport Agency.

If you have any queries regarding the above or wish to discuss matters further, please feel free to contact the Environmental Planning team at environmentalplanning@nzta.govt.nz.

Yours sincerely,

TRobins

Tessa Robins
Senior Planner
Poutiaki Taiao / Environmental Planning, System Design, on behalf of NZ Transport Agency Waka Kotahi.

Enclosed:

- Attachment 1: Proposed Site Plan
- Attachment 2: Diagram C Access Standard

Attachment 1: Proposed Site Plan

Revision	By:	Date:
Drawn	NMB	Mar 21 2023
Rev	NMB	Mar 23 2023
Rev	NMB	Mar 31 2023
Rev	NMB	Nov 15 2024
Rev	NMB	Nov 26 2024

Advance build
0800 327 828
Box DP 401 1004
PO Box 111, Fairfield 0243
www.advancebuild.co.nz

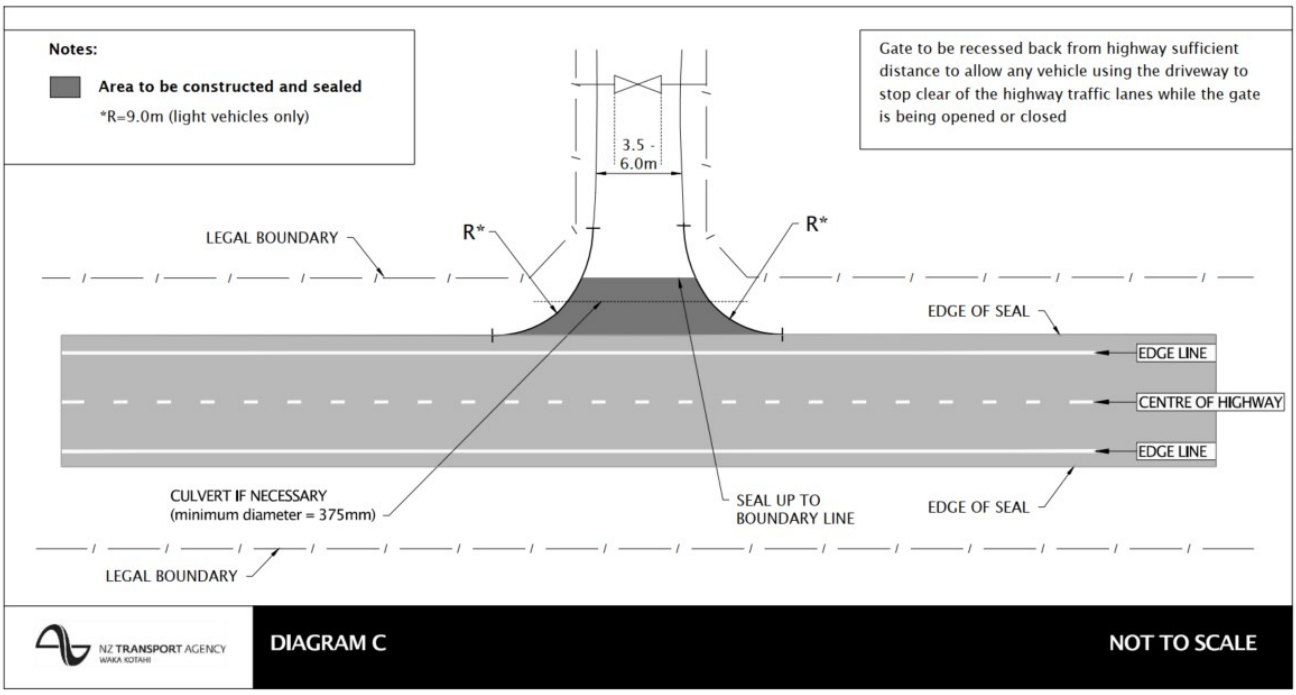
Proposed New Home for:
Tipara Morunga
2443 State Highway 12
Waima

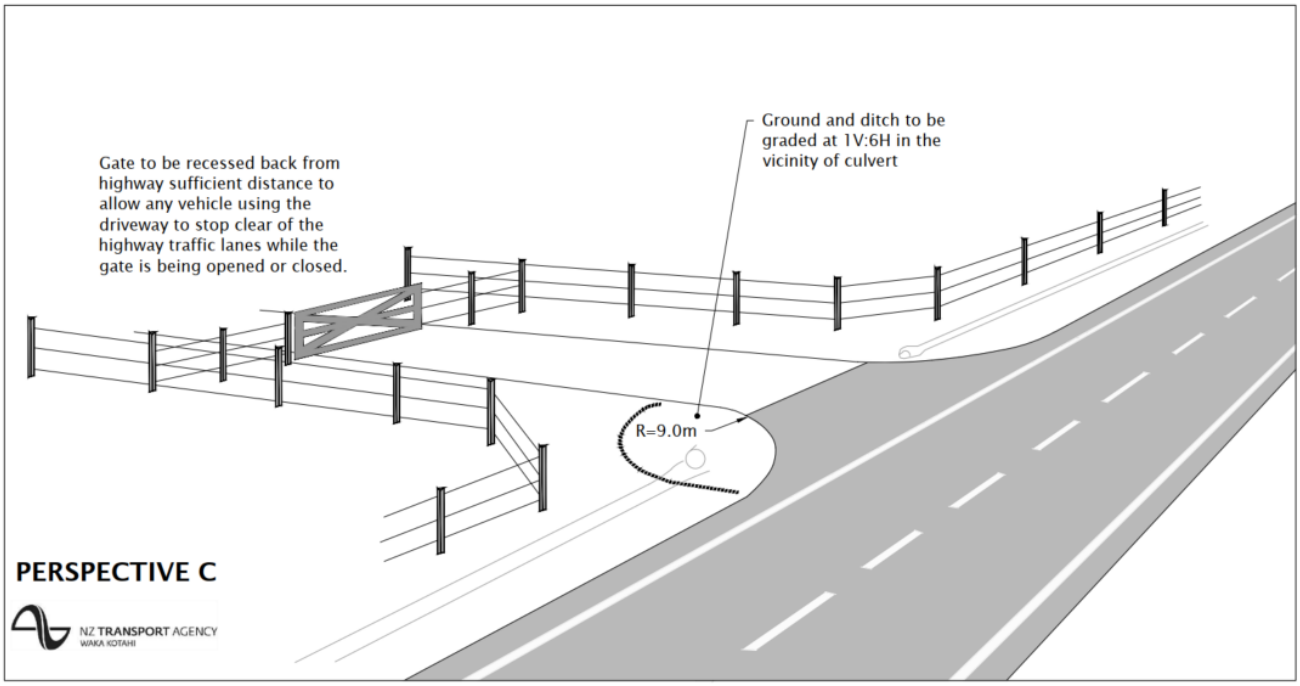
Sheet Title:
Site Plan

Scale: 1 : 1000 (A3 Original)

Project No:	Page:	Revision:
000	01A	C01

Attachment 2: Diagram C Access Standard





GEOTECHNICAL INVESTIGATION REPORT

2443 State Highway 12

Waima

(Waima D17B Block)

RS Eng Ltd • 2 Seaview Road, Whangarei 0110 • **09 438 3273** • **office@RSEng.co.nz**
Consulting Engineers

GEOTECHNICAL INVESTIGATION REPORT

2443 State Highway 12

Waima

(Waima D17B Block)

Report prepared for: Advance Build

Report reference: 19797

Date: 23 September 2025

Revision: 1

Document Control

Date	Revision	Description	Prepared by:	Reviewed by:	Authorised by:
23/09/2025	1	Resource Consent Issue	R Beasley	S Scott Compton	M Jacobson

ace new zealand

association of consulting and engineering

Contents

Appendices

File: 19797
23 September 2025
Revision: 1

GEOTECHNICAL INVESTIGATION REPORT

2443 State Highway 12, Waima

(Waima D17B Block)

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Advance Build to investigate the suitability of their client's property (Waima D17B Block) for residential construction. The purpose of this report is to assess the suitability of the proposed building sites, making foundation and earthworks recommendations.

The client proposes to construct five new dwellings founded on timber pile type foundations.

2.0 Site Description

This 3.94ha property is accessed on the northern side of State Highway 12, situated some 115m northwest of the intersection with Waima School Road. The property consists of gentle slopes falling to the north towards the Waima River bordering the northern edge of the property. Ground coverage at the property consists of pasture, trees and an existing dwelling and shed towards the southeastern boundary.

Figure 1: Waima D17B Block.

3.0 Desk Study

3.1 Referenced/Reviewed Documents

The following documents have been referenced in this report:

- GNS – Geology Of The Whangarei Area – Edbrooke & Brook – 2009.

3.2 Site Geology

The GNS 1:250,000 scale New Zealand Geology Web Map indicates that the property is located within an area that is underlain by Kariotahi Group, which has been described as follows: *"Unconsolidated to poorly consolidated sand, peat, mud and shell deposits (estuarine, lacustrine, swamp, alluvial and colluvial)."*

3.3 Aerial Photography

RS Eng has undertaken a review of historical aerial photography, specifically three images, from 1953, 1977 and 1987 and Google Earth Imagery. See Figure 2 below of the 1977 image. Several notable features were observed, listed below.

- Soil creep was observed towards the riverbank and evidence of abandoned channels along the northeastern boundary of the property were observed in the imagery.
- The proposed building sites remained undeveloped throughout the imagery. Ground coverage at the property consisted of pasture, trees and an existing dwelling sometime after 1953 towards the southern boundary of the property.
- Some evidence of exposed earth and possible minor earthworks towards the northeastern corner of the property was observed in 2012 to the northeast of the proposed building sites. Refer to Figure 3.

Figure 2: 1977 Aerial Image *(Source: www.retrolens.nz) (red outline shows approx. property boundary).*

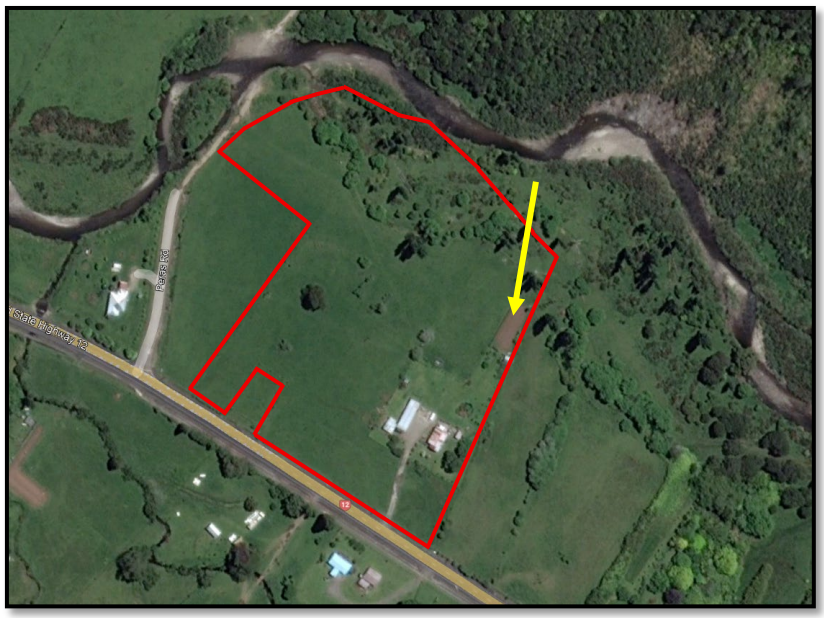


Figure 3: 2012 Aerial Image *(Source: Google Earth Imagery) (red outline shows approx. property boundary).*

4.0 Field Investigation

A Technician and Geologist from this office visited the property on 21 August 2025 to undertake a walkover inspection, ten Scala Penetrometer tests and ten hand augers.

The walkover inspection did not observe any signs of concern at the building sites in relation to the proposal.

The hand augers were dug to a maximum depth of 3.0m below ground level (BGL). Shear Vane readings were taken at regular intervals throughout the hand augers. Soil and rock descriptions are in general accordance with the New Zealand Geotechnical Society guideline.

The Scala Penetrometer tests were performed to a maximum depth of 3.0mBGL. Results ranged between 2 blows/100mm to greater than 33 blows/100mm.

5.0 Subsoil Conditions

Interpretation of the subsurface conditions is based on the investigations shown on the drawings in Appendix A. The conditions are summarised below.

- Topsoil was encountered to a maximum depth of 0.35mBGL.
- Holocene age alluvium was encountered to a maximum investigated depth of 3.0mBGL, consisting of clays, silts gravels and sands. In-Situ Undrained Shear Strengths ranged between 38kPa to 155kPa.

- Large basalt and mudstone gravels and boulders were encountered underlying and amongst these sands, silts and clays to a maximum investigated depth of 3.0mBGL, consisting of silty gravelly sands, dense silty sands and firm to stiff sandy silts. These very dense layers are inferred to vary in thickness, typically being <0.5m.
- Groundwater was encountered at 0.6m, to 1.8mBGL.

6.0 Geotechnical Assessment

6.1 Slope Stability

The property consists of gentle slopes (<5°) generally falling towards the north to the Waima River bordering the property. The proposed building areas are situated on gentle to near level slopes, underlain by Holocene alluvium deposits.

RS Eng considers that, based on the near-level building areas and lack of slope instability, the risk of slope instability is considered to be low.

6.2 Liquefaction

Some thin layers of silts and sands were encountered, potentially at risk of liquefaction. These layers were amongst relatively cohesive alluvium overlying very dense gravels and boulders over the property. The proposal consists of lightweight timber framed dwellings generally considered an Importance Level 2 structure, given the expected potential liquefaction risk and settlement is considered to be no more than minor, RS Eng considers the proposal at low risk of liquefaction.

6.3 Expansive Soils

The clayey soils encountered on-site are likely to be subject to volumetric change with seasonal changes in moisture content (wet winters / dry summers); this is known as expansive or reactive soils. Apart from seasonal changes in moisture content other factors that can influence soil moisture content at the include:

- Influence of garden watering and site drainage.
- The presence of large trees close to buildings. Large trees can cause variation in the soil moisture content for a distance of up to 1.5 times their mature height.
- Initial soil moisture conditions during construction, especially during summer and more so during a drought. Building platforms that have dried out after initial excavation should be thoroughly wet prior to any floor slabs being poured.
- Plumbing leaks.

Based on a visual tactile assessment made during the subsoil investigation, RS Eng considers the soils as being Class M (Moderately Expansive) as per AS 2870.

6.4 Settlement

The investigation encountered layers of soft soils that are potentially compressible under loading. These layers were typically no more than 0.5m in thickness amongst very dense layers of gravels and stiff to very stiff soils. Provided fills are kept less than 1m and buildings are single story NZS3604, RS Eng considers the risk of differential settlements greater than 1:240 as low.

7.0 Engineering Recommendations

7.1 Site Subsoil Class

In accordance with NZS 1170.5:2004, Section 3.12.3 the site has been assessed for its Site Subsoil Class. Based on the observations listed above, RS Eng considers the site soils lie within Site Class C *"Shallow Soil Site."*

7.2 Earthworks

To form level access to and create a building platform for the proposed buildings, earthworks are proposed. To suitably develop the building area, RS Eng recommend the following:

- Cuts and fills shall be limited to a maximum of 1.0m, without further geotechnical assessment.
- Cut and fill batters should be sloped at angles less than 1V to 3H.
- Site works shall generally be completed in accordance with NZS 4431.
- The building sites and driveway should be shaped to assist in stormwater run-off and avoid ponding of surface water.

7.3 Shallow Foundations

It is proposed to construct timber floor dwellings on standard NZS 3604 type pile foundations. To suitably found the proposed construction, RS Eng make the following recommendations:

- Timber pile type foundations designed to NZS 3604 shall extend a minimum of 0.6m into original ground to account for Class M soils, and be specifically designed to account for the bearing capacity given below.
- Excavations may encounter shallow groundwater, observed during the investigations between 0.6mBGL to 2.0mBGL.

Notwithstanding the recommendations of this report, for the specific design of shallow foundations, RS Eng has assessed the following.

- 150kPa Ultimate Bearing Capacity (Geotechnical Ultimate).
- 75kPa Dependable Bearing Capacity (Ultimate Limit State).
- 50kPa Allowable Bearing Capacity (Serviceability Limit State).

7.4 Pavement

RS Eng have assessed that a subgrade CBR of 3 is available. However, further testing should be undertaken following excavations of the subgrade to confirm the design CBR.

8.0 Construction Monitoring and Producer Statements

RS Eng recommends that a suitably experienced Chartered Professional Engineer monitor the construction of the following works to confirm whether the geotechnical conditions are consistent with those outlined in this report:

- Foundation excavations.

Any works not inspected will be excluded from future producer statements (PS4) to be issued by RS Eng. In any event, where doubt exists regarding inspections, this office should be contacted for advice and provided with reasonable notice of inspections.

9.0 Conclusions

It is the conclusion of RS Eng Ltd that the building area is suitable for the proposal, provided the recommendations and limitations stated within this report are adhered to.

RS Eng Ltd also concludes that, subject to the recommendations of this report, in terms of Section 72 of the Building Act 2004;

(a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in slippage or subsidence on the land on which the building work is to be carried out or any other property; and

(b) the land is neither subject to nor likely to be subject to slippage or subsidence.

10.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to determine the engineering suitability of the proposed new building sites, in relation to the material covered by the report. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed. If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, RS Eng should be contacted immediately.

Construction site safety is the responsibility of the builder/contractor. The recommendations included herein should not be construed as direction of the contractor's methods, construction sequencing or procedures. RS Eng can provide recommendations if specifically engaged to, upon request.

This report does not address matters relating to the National Environmental Standard for Contaminated Sites, and if applicable separate advice should be sought on this matter from a suitably qualified person.

Prepared by:

Rachel Beasley
Geologist
BSc(Geology)

Reviewed by:

Sarah Scott Compton
Senior Technician
NZDE(Civil)

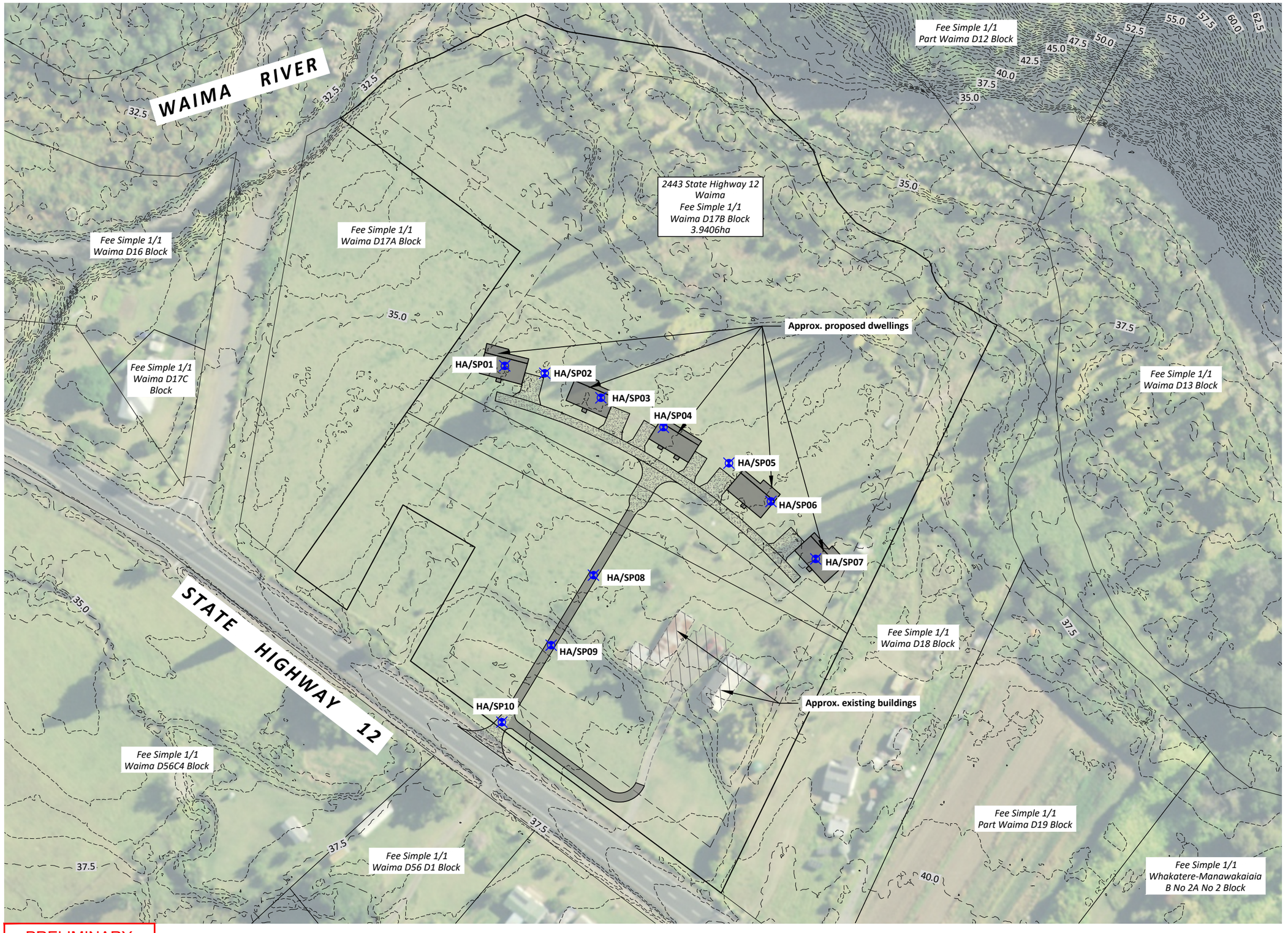
Approved by:

Matthew Jacobson
Director
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

RS Eng Ltd

Appendix A

Drawings



NOTES:

- If any part of these documents are unclear, please contact RSEng Ltd.
- This plan is copyright to RSEng Ltd and should not be reproduced without prior permission.

LEGEND

- Hand Auger Location
- Existing Buildings
- Proposed Dwellings
- Proposed Road/Driveway

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 12.5 25
PLAN 1:1250

PRELIMINARY

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED PAPAKAINGA DEVELOPMENT
GEOTECHNICAL & CIVIL DRAWINGS
SITE PLAN

Client: ADVANCE BUILD
Location: 2443 STATE HIGHWAY 12 WAIMA

Date	Rev	Notes
15/08/2025	A	Original Issue

Drawn by: LMC | Reviewed by: MJ | Approved by: MJ

Scale: 1:1250
Original: A3
Job No.: 19797
Rev No.: A
Sheet No.: C01

Appendix B

Subsurface Investigations

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA01

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations
JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653175mE, 6072844mN
ELEVATION: 36.24m
START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey sandy SILT; dark brown. Stiff; moist; low plasticity.		0.2
			0.4
			0.6
			0.8
			1.0
			1.2
	Lighter brown.		1.4
			1.6
			1.8
	Moist to wet.		2.0
	Clayey SILT; lighter brown. Dense; moist to wet.		2.2
			2.4
	Core loss.		2.6
			2.8
	End Of Hole: 3.00m		3.0

LEGEND

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Scala (Blows / 100mm)
0.0 – 0.2	2, 4
0.2 – 0.4	3, 3
0.4 – 0.6	3, 3, 3
0.6 – 0.8	3, 3, 3
0.8 – 1.0	4, 4
1.0 – 1.2	6, 6, 6
1.2 – 1.4	6, 6, 6
1.4 – 1.6	6, 6, 6
1.6 – 1.8	7, 7
1.8 – 2.0	6, 6, 6
2.2 – 2.4	6, 6, 6
2.4 – 2.6	6, 6, 6
2.6 – 2.8	6, 6, 6
2.8 – 3.0	8, 22 >>

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603

Depth (m)	Values
0.4	155
0.6	73
1.0	126
1.2	49
1.4	140
1.6	73
2.0	84
2.2	34
2.4	61
2.6	30

WATER
22/08/2025

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA02

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653197mE, 6072839mN
ELEVATION: 36.61m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: MM

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey SILT, with some sand; light brown. Stiff; moist; low plasticity; sand, fine to medium.		0.2
	Silty CLAY, with some sand; light brown. Stiff; moist; low plasticity; sand, fine to medium.		0.6
	Sandy SILT, with some clay; light brown. Stiff; moist; low plasticity; sand, fine to coarse.		1.0
	Silty SAND, with some clay; light brown / some orange. Dense; wet; low plasticity; sand, fine to coarse.		1.2
	With some gravel. Gravel, fine to coarse.		1.6
	Completely weathered; GRAVELS; mudstone. - - Silty gravelly SAND, with some clay; greyish blue. Dense; wet; low plasticity; sand, fine to coarse; gravel, fine to coarse, subangular to angular.		2.2
	End of bore - unable to penetrate (boulders / spinning). End Of Hole: 2.50m		2.6

LEGEND

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows / 100mm
0.0 – 0.2	2, 2
0.2 – 0.4	2, 2
0.4 – 0.6	2, 2
0.6 – 0.8	2, 2
0.8 – 1.0	3, 3
1.0 – 1.2	3, 3
1.2 – 1.4	7, 8
1.4 – 1.6	8, 8
1.6 – 1.8	8, 6
1.8 – 2.0	6, 6
2.0 – 2.2	6, 6
2.2 – 2.4	6, 12
2.4 – 2.6	12, 11
2.6 – 2.8	11, 9
2.8 – 3.0	9, 22 >>, 33 >>, 33 >>

VANE SHEAR STRENGTH (kPa) Vane: DR5050

Depth (m)	Peak	Values
0.4 – 0.6	125	47
1.0 – 1.2	125	44
1.4 – 1.6	110	24
1.8 – 2.0	113	24
2.4 – 2.6	UTP	-

WATER

21/08/2025 (Standing Water Level)

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA03

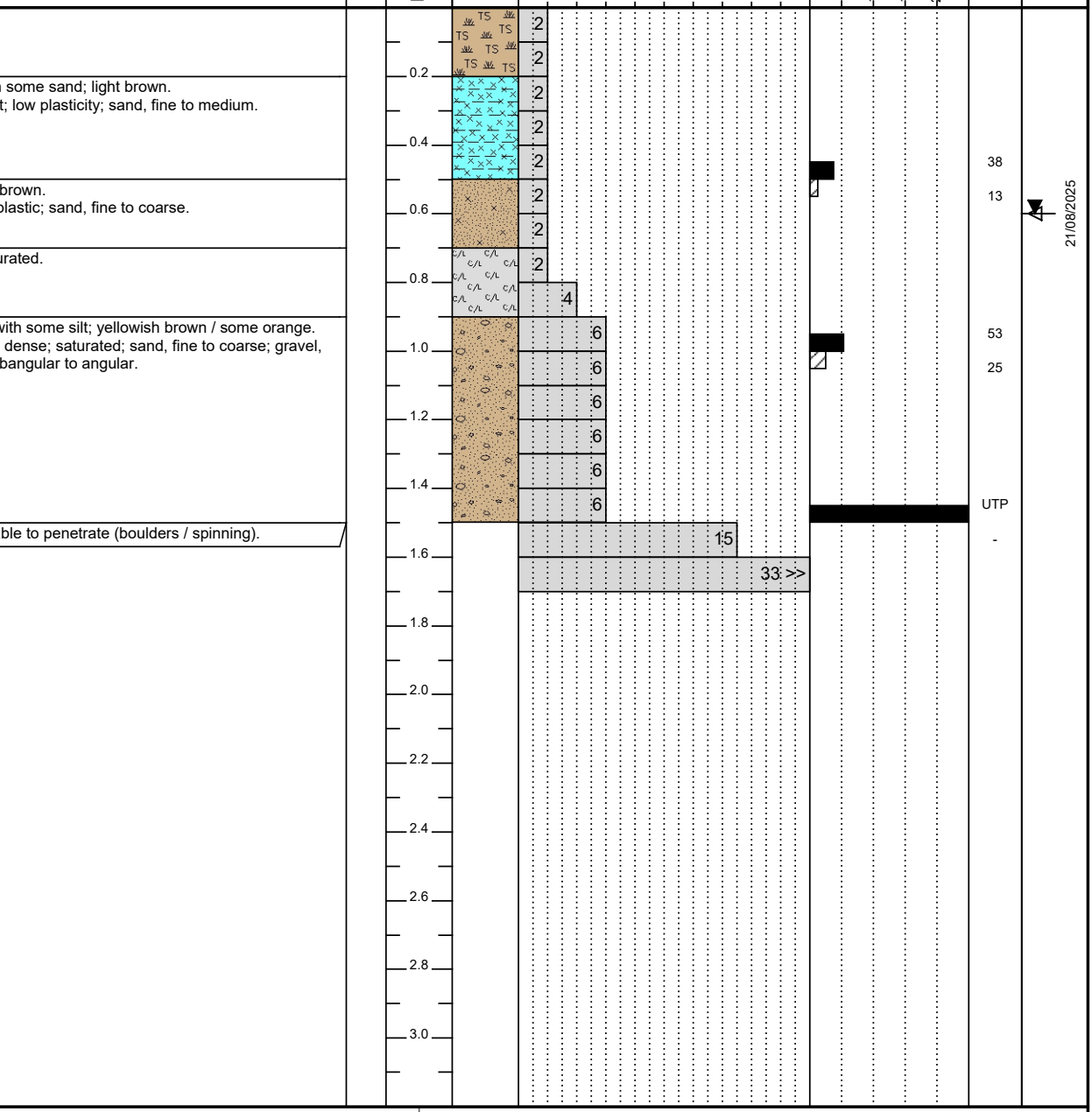
CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653215mE, 6072830mN
ELEVATION: 36.19m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: MM

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey SILT, with some sand; light brown. Firm to stiff; moist; low plasticity; sand, fine to medium.		0.2
	Silty SAND; light brown. Loose; wet; non-plastic; sand, fine to coarse.		0.4
	No retreival - saturated.		0.6
	Gravelly SAND, with some silt; yellowish brown / some orange. Medium dense to dense; saturated; sand, fine to coarse; gravel, fine to coarse, subangular to angular.		0.8
			1.0
			1.2
			1.4
	End of bore - unable to penetrate (boulders / spinning). End Of Hole: 1.50m		1.6
			1.8
			2.0
			2.2
			2.4
			2.6
			2.8
			3.0



PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA04

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653232mE, 6072820mN
ELEVATION: 36.45m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: MM

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Silty SAND; light brown. Dense; moist; non-plastic; sand, fine to medium.		0.2
	Sandy SILT; light brown. Stiff; moist; low plasticity; sand, fine to medium.		0.6
	End Of Hole: 0.90m		0.9

LEGEND

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows
0.8	2
0.9	2
1.0	4
1.1	4
1.2	6
1.3	6
1.4	14

VANE SHEAR STRENGTH (kPa)
Vane: DR5050

Depth (m)	Values
0.4	78
0.5	13
0.8	UTP
1.0	-

WATER

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA05

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653254mE, 6072807mN
ELEVATION: 37m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey SILT, with some sand; dark brown. Firm to stiff; moist; low plasticity; sand, fine to medium.		0.2
	Clayey sandy SILT, with trace rootlets; dark brown. Firm to stiff; moist; low plasticity.		0.4
	Completely weathered; GRAVELS, basalt.		0.6
	- -		0.8
	Silty SAND; orange / brown / red. Dense; moist; non-plastic.		1.0
	Wet to saturated.		1.2
	End of bore - unable to penetrate (boulders / spinning).		1.4
	End Of Hole: 1.50m		1.6
			1.8
			2.0
			2.2
			2.4
			2.6
			2.8
			3.0

LEGEND

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows / 100mm
0.0 – 0.2	2
0.2 – 0.4	2
0.4 – 0.6	2
0.6 – 0.8	2
0.8 – 1.0	6
1.0 – 1.2	3
1.2 – 1.4	3
1.4 – 1.6	5
1.6 – 1.8	5
1.8 – 2.0	7
2.0 – 2.2	7
2.2 – 2.4	11
2.4 – 2.6	25 >>
2.6 – 2.8	33 >>
2.8 – 3.0	33 >>

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603

Depth (m)	Values
0.4 – 0.6	104
0.6 – 0.8	43
1.0 – 1.2	84
1.2 – 1.4	30
1.4 – 1.6	UTP
1.6 – 1.8	-

WATER

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA06

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653268mE, 6072794mN
ELEVATION: 37.35m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey SILT, with some sand; dark brown. Firm to stiff; moist; low plasticity; sand, fine to medium.		0.4
	Clayey SAND, with minor gravel; grey / brown / red mottling. Firm; moist to wet; low plasticity; sand, fine to medium; gravel, fine.		1.2
	Gravelly SAND; dark grey / brown. Hard; moist to wet.		1.4
	End of bore - unable to penetrate. End Of Hole: 1.60m		1.6

SCALA PENETROMETER (Blows / 100mm): 6 blows at 1.4–1.6m

VANE SHEAR STRENGTH (kPa), Vane: GEO3603

Values
88
30
64
23
UTP
-

WATER: 21/08/2025

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA07

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations
JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653284mE, 6072777mN
ELEVATION: 37.98m
START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey sandy SILT; dark brown / greyish. Firm to stiff; moist; low plasticity; sand, fine to medium.		0.2 – 0.8
Colluvium Deposits	Clayey SAND, with some silt; dark brown / grey. Firm; moist; low plasticity.		0.8 – 1.4
	End of bore - gravels encountered. End Of Hole: 1.40m		1.4

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows
0.0 – 0.2	2, 1
0.2 – 0.4	1, 3
0.4 – 0.6	3, 4
0.6 – 0.8	5, 3
0.8 – 1.0	3, 3
1.0 – 1.2	3, 3
1.2 – 1.4	3, 5
1.4 – 1.6	5, 7
1.6 – 1.8	7, 17
1.8 – 2.0	25 >>

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603

Depth (m)	Values
0.4 – 0.6	49, 30
1.0 – 1.2	69, 32

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA08

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653208mE, 6072775mN
ELEVATION: 38.5m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: MM

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey SILT; light brown. Firm to stiff; moist; low plasticity.		0.2
	Stiff.		0.4
	With minor gravel.		0.6
	End of bore - Unable to penetrate (boulders / spinning). End Of Hole: 1.40m		0.8
			1.0
			1.2
			1.4
			1.6
			1.8
			2.0
			2.2
			2.4
			2.6
			2.8
			3.0

LEGEND

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows / 100mm
0.0 – 0.2	2
0.2 – 0.4	3
0.4 – 0.6	3
0.6 – 0.8	3
0.8 – 1.0	4
1.0 – 1.2	6
1.2 – 1.4	6
1.4 – 1.6	17
1.6 – 1.8	11
1.8 – 2.0	11
2.0 – 2.2	15

VANE SHEAR STRENGTH (kPa) Vane: DR5050

Depth (m)	Values
0.4 – 0.6	94
0.6 – 0.8	31
1.0 – 1.2	138
1.2 – 1.4	34
1.4 – 1.6	UTP
1.6 – 1.8	-

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA09

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653188mE, 6072743mN
ELEVATION: 37.49m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Colluvium Deposits	Clayey silty SAND; brown / grey. Loose; moist; non-plastic; sand, fine to coarse.		0.2
	With some gravel. Gravel, fine to coarse, subangular to angular.		0.4
	End of bore - unable to penetrate. End Of Hole: 0.60m		0.6

LEGEND: TS

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows / 100mm
0.0 – 0.2	2, 2, 2, 2
0.2 – 0.4	7, 17
0.4 – 0.6	18, 7
0.6 – 0.8	13, 11
0.8 – 1.0	11, 20
1.0 – 1.2	19, 20
1.2 – 1.4	36 >>, 22 >>
1.4 – 1.6	21 >>, 33 >>
1.6 – 1.8	

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603
Values: UTP, -

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA10a

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES: 1653177mE, 6072725mN
ELEVATION: 37.36m

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Alluvium Dep	Sandy SILT, with some gravel; brown . Firm to stiff; moist to wet; gravel, fine.		0.4
	End of bore - unable to penetrate. End Of Hole: 0.50m		0.6

LEGEND: TS

SCALA PENETROMETER (Blows / 100mm)

Depth (m)	Blows / 100mm
0.0 – 0.2	2
0.2 – 0.4	2
0.2 – 0.4	2
0.2 – 0.4	2
0.4 – 0.6	8
0.6 – 0.8	17
0.6 – 1.0	29 >>
0.8 – 1.0	11
0.8 – 1.0	11
1.0 – 1.2	18
1.0 – 1.2	22 >>
1.0 – 1.2	25 >>

VANE SHEAR STRENGTH (kPa) — Vane: — Values

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA10b

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES:
ELEVATION: Ground

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane:	WATER
TS	TOPSOIL.		0.0	TS	2 4 6 8 10 12 14 16 18	50 100 150 200 Values	undwater Not Encounte
um D	Sandy SILT, with some gravel; brown . Firm to stiff; moist to wet; gravel, fine.		0.4				
	End of bore - unable to penetrate. End Of Hole: 0.40m		0.6				
			0.8				
			1.0				
			1.2				
			1.4				
			1.6				
			1.8				
			2.0				
			2.2				
			2.4				
			2.6				
			2.8				
			3.0				

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA10c

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES:
ELEVATION: Ground

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND
TS	TOPSOIL.		0.0	TS
Alluvium Depos	Sandy SILT, with some gravel; brown . Firm to stiff; moist to wet; gravel, fine.		0.2	
	End of bore - unable to penetrate. End Of Hole: 0.50m		0.4	
			0.6	
			0.8	
			1.0	
			1.2	
			1.4	
			1.6	
			1.8	
			2.0	
			2.2	
			2.4	
			2.6	
			2.8	
			3.0	

SCALA PENETROMETER (Blows / 0mm)
2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa)
Vane: 50 100 150 200 Values

WATER
Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA10d

CLIENT: Advance Build - Morunga
PROJECT: Geotechnical Investigations

JOB NO.: 19797

SITE LOCATION: 2443 State Highway 12, Waima
CO-ORDINATES:
ELEVATION: Ground

START DATE: 21/08/2025
END DATE: 21/08/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane:	WATER
TS	TOPSOIL.		0.2	TS	2 4 6 8 10 12 14 16 18	50 100 150 200 Values	Groundwater Not Encountered
ium Dep	Completely weathered; GRAVELS; mudstone. - - Sandy SILT, with some gravel; brown . Firm to stiff; moist to wet; gravel, fine.		0.4				
	End of bore - unable to penetrate. End Of Hole: 0.50m		0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0				

PHOTO(S)

REMARKS

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

FLOOD ASSESSMENT

2443 State Highway 12

Waima

(Waima D17B Block)

RS Eng Ltd • 2 Seaview Road, Whangarei 0110 • **09 438 3273** • **office@RSEng.co.nz**
Consulting Engineers

FLOOD ASSESSMENT

2443 State Highway 12

Waima

(Waima D17B Block)

Report prepared for: Advance Build

Report reference: 19797

Date: 24 September 2025

Revision: 1

Document Control

Date	Revision	Description	Prepared by:	Reviewed/Approved by:
24/09/2025	1	First Issue	S Scott Compton	M Jacobson

Contents

Appendices

File: 19797
24 September 2025
Revision: 1

FLOOD ASSESSMENT

2443 State Highway 12, Waima

(Waima D17B Block)

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Advance Build, to undertake a detailed flood assessment at Waima D17B Block to assess the effects of proposed earthworks and recommend minimum floor levels.

The client proposes to construct five new dwellings founded on timber pile type foundations.

2.0 Site Description

This 3.94ha property is accessed on the northern side of State Highway 12, situated some 115m northwest of the intersection with Waima School Road. The property consists of gentle slopes falling to the north towards the Waima River bordering the northern edge of the property. Ground coverage at the property consists of pasture, trees and an existing dwelling and shed towards the southeastern boundary.

Figure 1: Waima D17B Block.

3.0 Flooding Assessment

The Northland Regional Council have mapped this property as being flood susceptible within the Priority River Flood model.

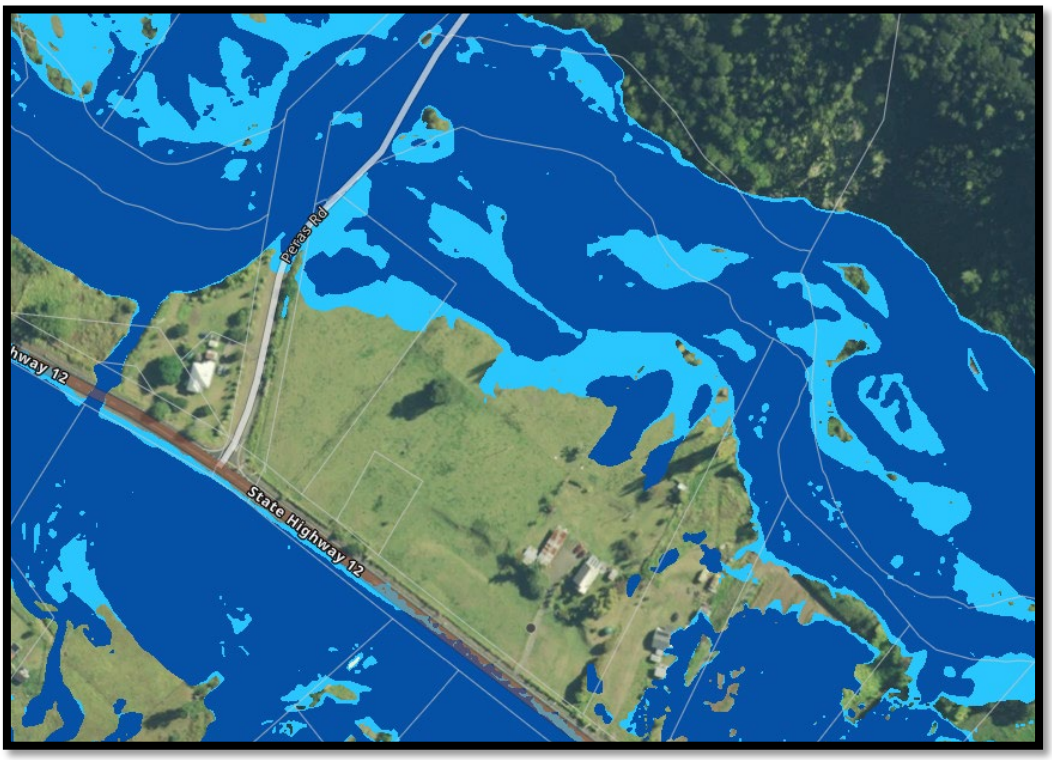


Figure 2: NRC Current Priority River Flood Mapping.

To assess the flood hazard and effects of the development within the flood plain, RS Eng have undertaken modelling using Hec-Ras. We have varied the model inflow to achieve flood levels at the site, consistent with the 2025 NRC priority river model (not published). The NRC have provided flood elevations for varying storm events, refer to Appendix B.

3.1 Hec-Ras

The modelling was completed in Hec-Ras V6.6, using 2D approach with flow hydrographs upstream and tailwater downstream adjusted to be calibrated to the NRC model for this site.

Selected results of the Hec-Ras modelling are included in Appendix B. Table 1 below provides a summary of the modelling.

Table 1: Hec-Ras Model Summary

Model Type	2D
Terrain Model	Pre Dev – 2018 NRC LiDAR Post Dev – 2018 NRC LiDAR + Modified filled future building platforms
Boundary Inlet	Flow hydrographs 1.2km upstream
Boundary outlet	Staged hydrograph 2km downstream
Equation Set	Diffusion Wave
Computation Interval	15s
Modelled grid	10m, refined to 1m adjacent to the area in question.

Figure 4 below provides the flood depth and extent during a 1% AEP+CC flood event.

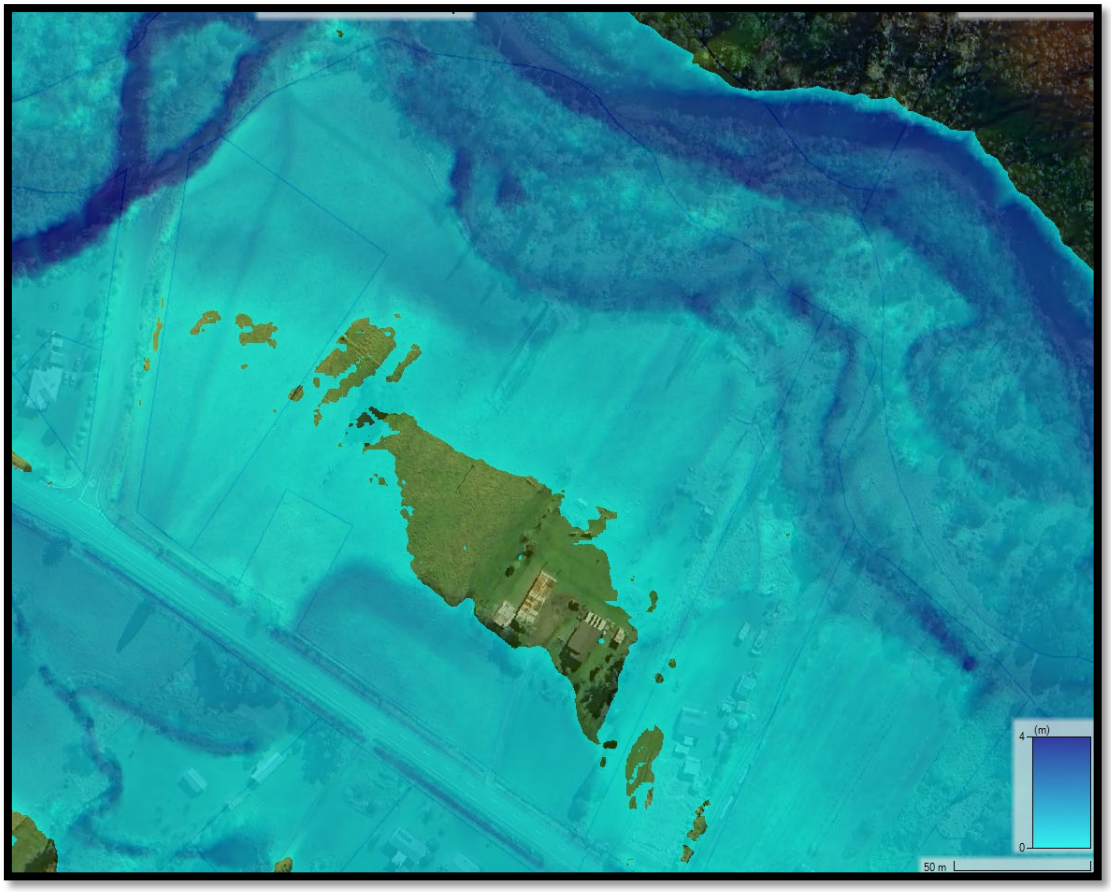


Figure 4: 1%AEP+CC extents pre-development (Depth extent shown >0.05m)

3.2 Adverse Effects

Post development modelling has been undertaken for the 1%AEP+CC storm event to assess the effects of the earthworks to form the building platforms. Refer to Figure 5 of post-development 1%AEP+CC storm event and comparison plots in Appendix C.

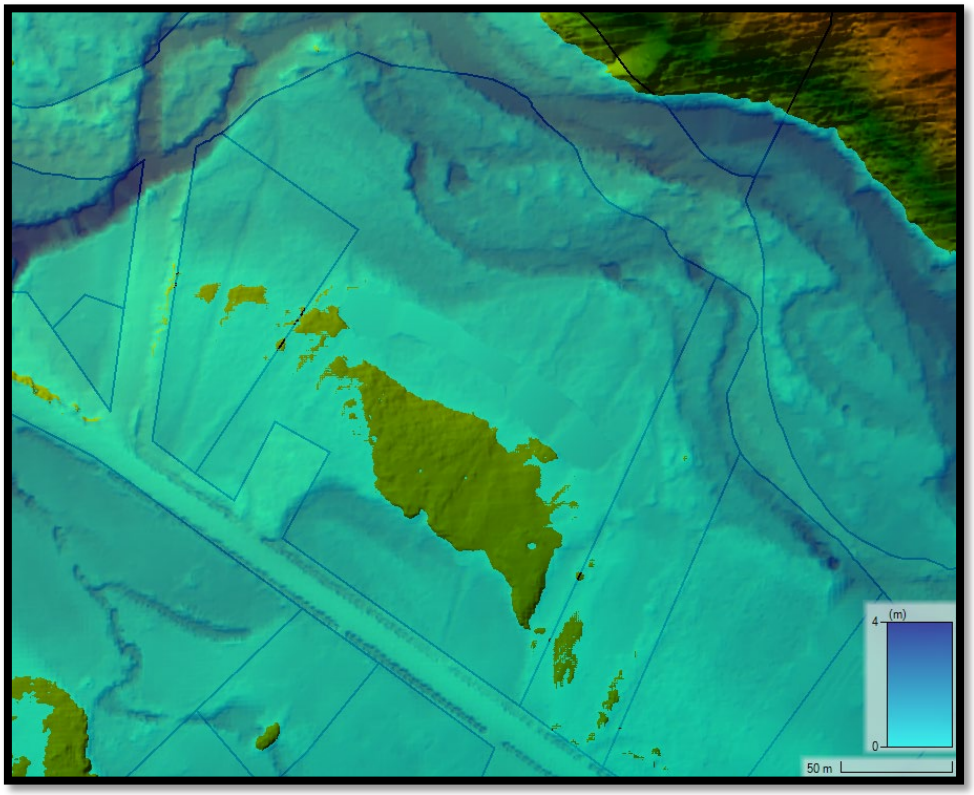


Figure 5: 1%AEP+CC extents post-development (Depth extent shown >0.03m)

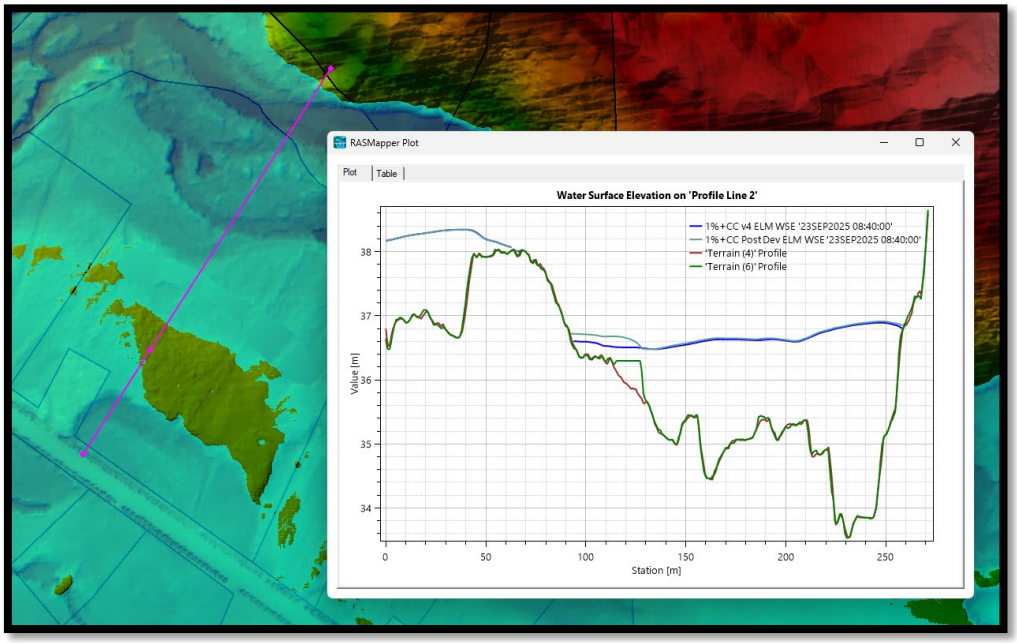


Figure 6: 1%AEP+CC extents pre vs post-development comparison plot

The post-development maximum increase in depth and velocity at the western and eastern boundaries are <30mm and <0.05m/s. Post-development, there is no effect to the upstream neighbouring dwelling.

4.0 Recommendations

4.1 Finished Floor Levels

To comply with the NZ Building Code as a minimum, the floor levels must achieve a minimum vertical freeboard of 500mm above the 50-year flood level.

It is common practice to achieve 0.5m freeboard above the 100-year level should the client wish to construct the buildings to take a low risk approach. Minimum levels are recommended below in Tables 2 and 3 and have been derived from the unpublished priority river model provided by the NRC.

Table 2: Minimum Ground/Flood Levels

House no.	50yr Flood Level mNZVD	100yr+CC Flood Level mNZVD
1	35.5	35.8
2	35.9	36.1
3/4	36.5	36.8
5	37.0	37.5
6	37.6	38.1

Table 3: Recommended Minimum Finished Floor Levels
(0.5m freeboard)

House no.	50yr FFL mNZVD*	100yr+CC FFL mNZVD
1	36.0	36.3
2	36.4	36.6
3/4	37.0	37.3
5	37.5	38.0
6	38.1	38.6

*Absolute minimum floor levels as per the New Zealand Building Code.

5.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to assess the effects to the flood hazard in relation to the proposed development. The reliance by other parties on the information or opinions contained therein shall, without our prior review and agreement in writing, do so at their own risk. Recommendations and opinions in this report are based on data obtained as previously detailed.

The minimum flood levels recommended herein are based on requirements of the NZ Building Code and may be subject to inundation in storm events greater than the minimum levels specified.

Prepared by:

Sarah Scott Compton
Senior Technician
NZDE(Civil)
RS Eng Ltd

Reviewed/approved by:

Matthew Jacobson
Director
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

Appendix A

Drawings

Advance build

A smarter move

Proposed New Project

2443 State Highway 12, Waima

For: Tokitoki Development

CONTENTS

Concept Plans

Concept 1
September 2025

FINAL WORKING DRAWINGS TAKE PRECEDENCE OVER CONCEPT PLANS. ALL LANDSCAPING, PLANTING, LIGHTING & FENCING IS SHOWN FOR IMAGING PURPOSES ONLY

REVISION:	C01
PROJECT NO.	1291
DRAWN BY:	NMB
HC:	JCS

NB: Boundary Lines are Indicative Only

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023

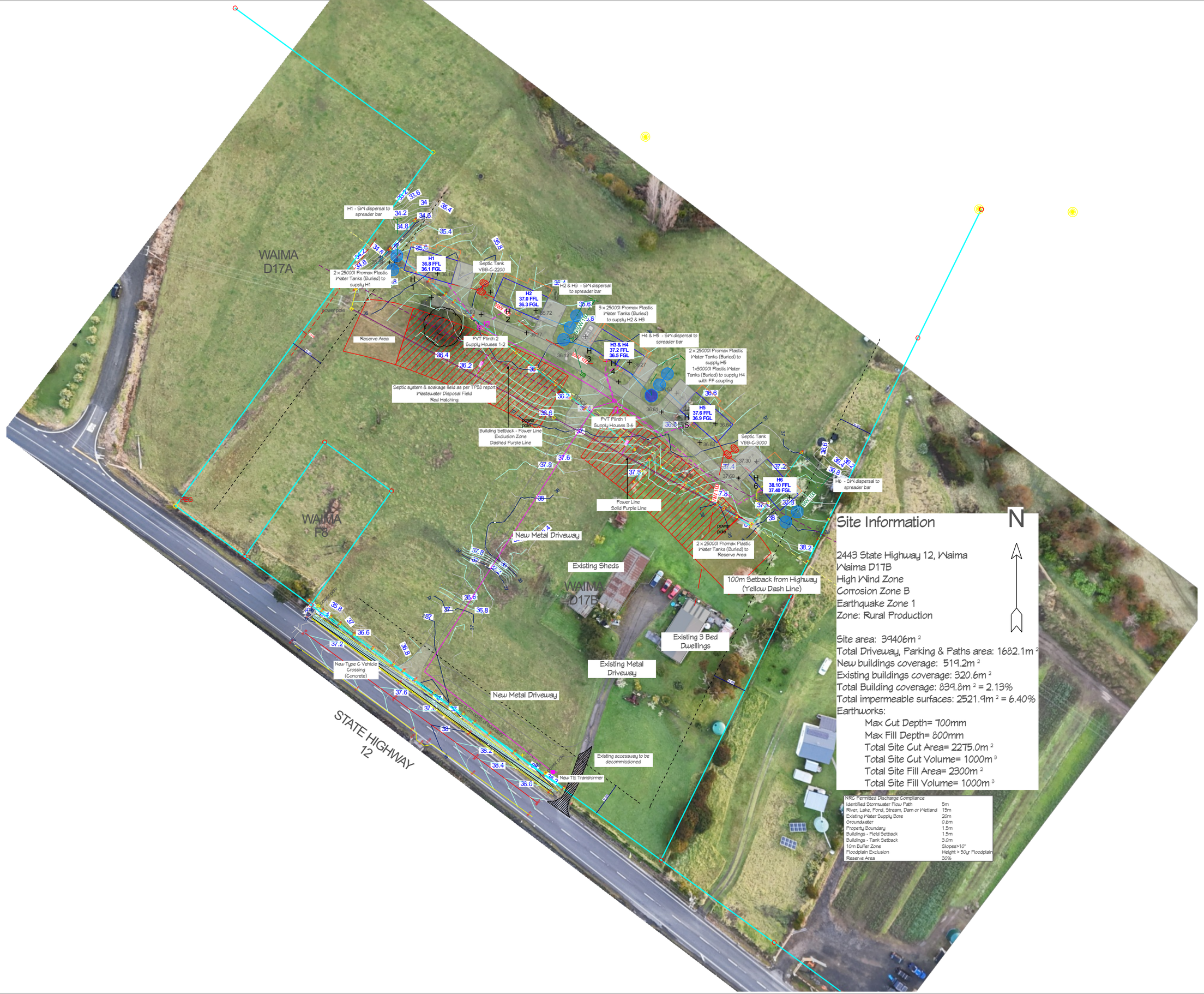
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Location Plan

SCALE: NTS

PROJECT #:	PAGE:	REVISION:
1291	01	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:
- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023
Rev	NMB	Mar 23 2023
Rev	NMB	Mar 31 2023
Rev	NMB	Nov 15 2024
Rev	NMB	Nov 26 2024
Rev	NMB	Jun 19 2025
Rev	NMB	Aug 04 2025

Advance build

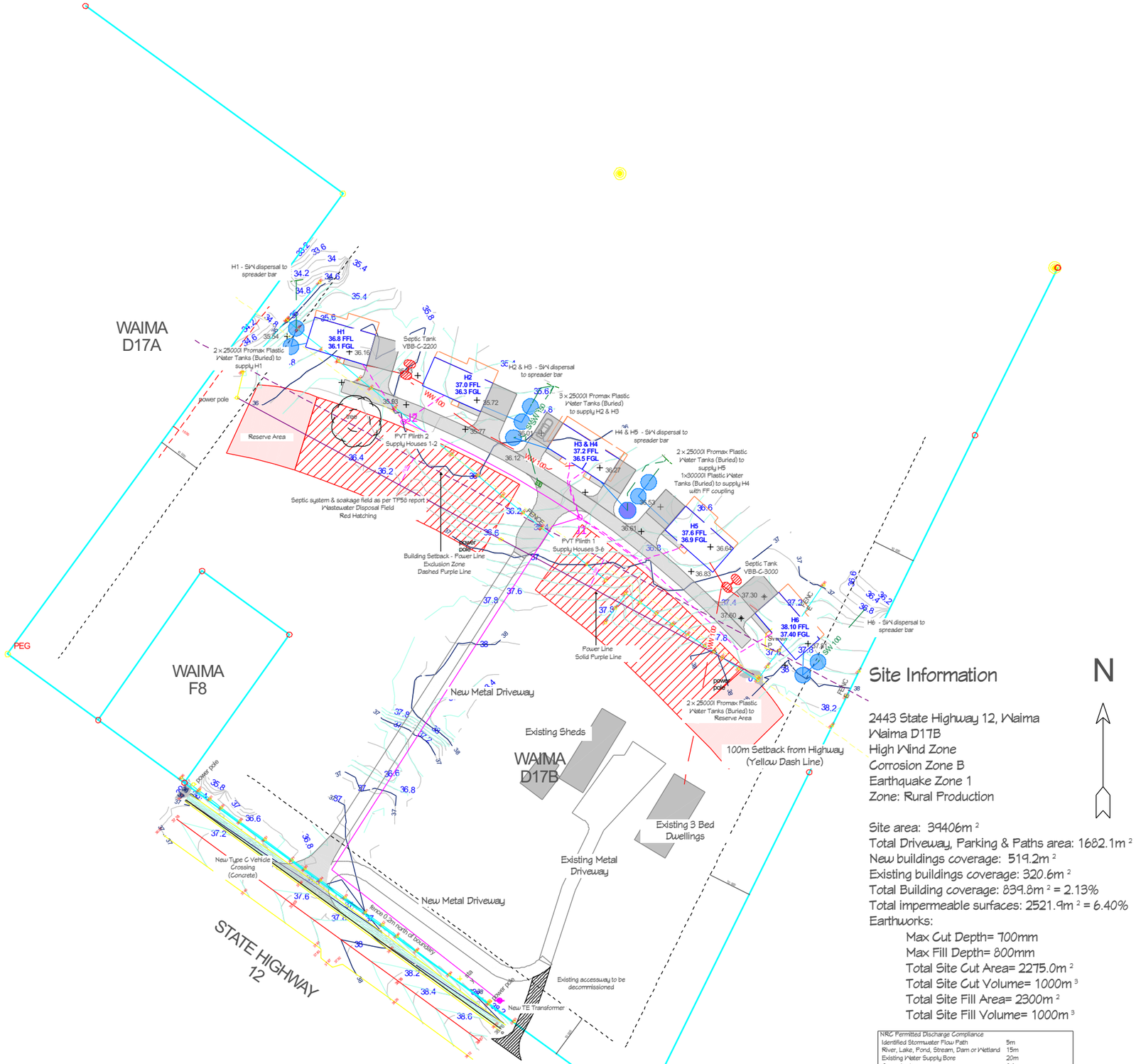
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Overall Site Plan

SCALE: 1 : 1000 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	01A	C01



Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:

- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Mar 21 2023
Rev	NMB	Mar 23 2023
Rev	NMB	Mar 31 2023
Rev	NMB	Nov 15 2024
Rev	NMB	Nov 26 2024
Rev	NMB	Aug 04 2025

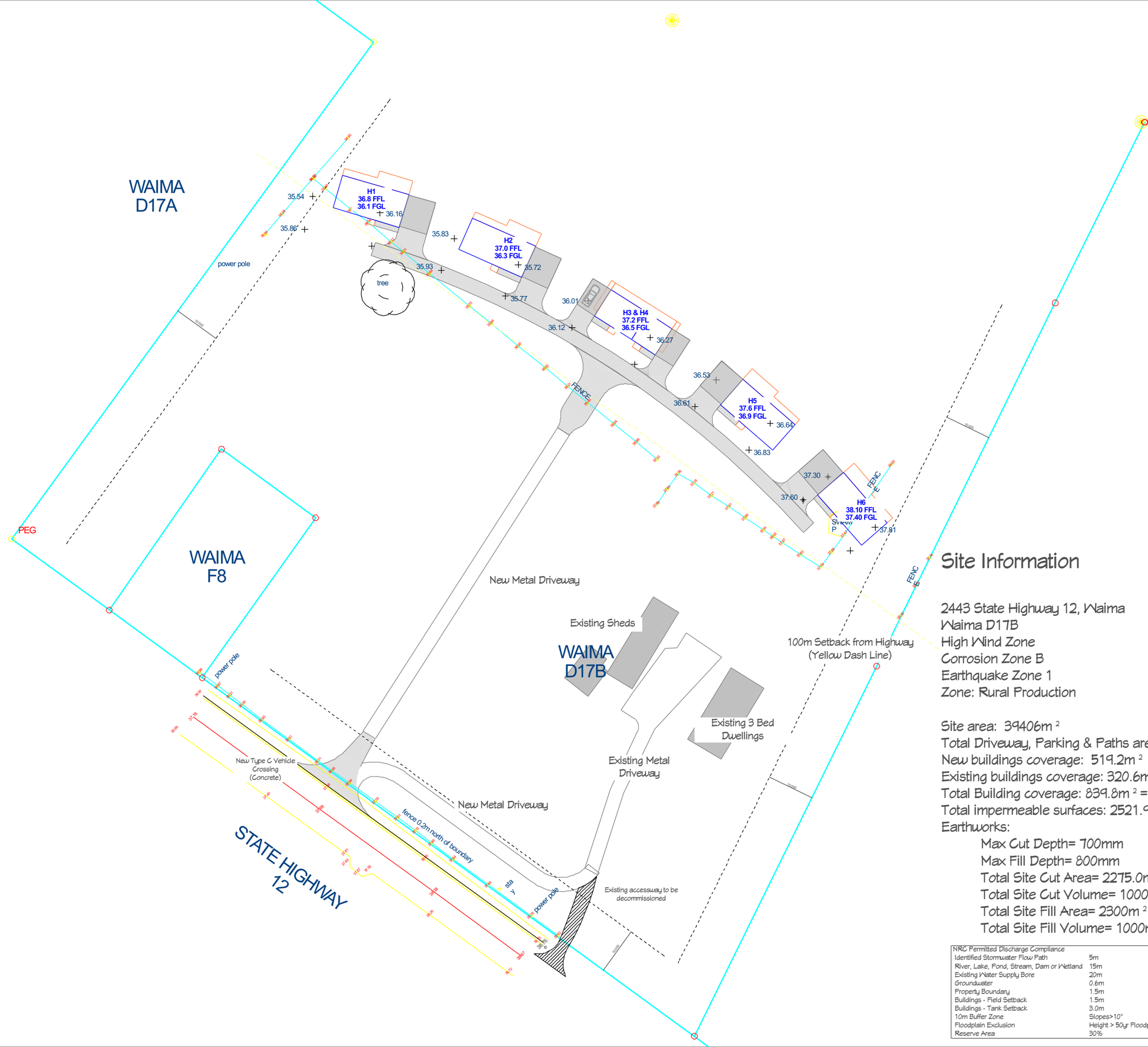
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - No Image

SCALE: 1 : 1000 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	02	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:

- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 08 2025

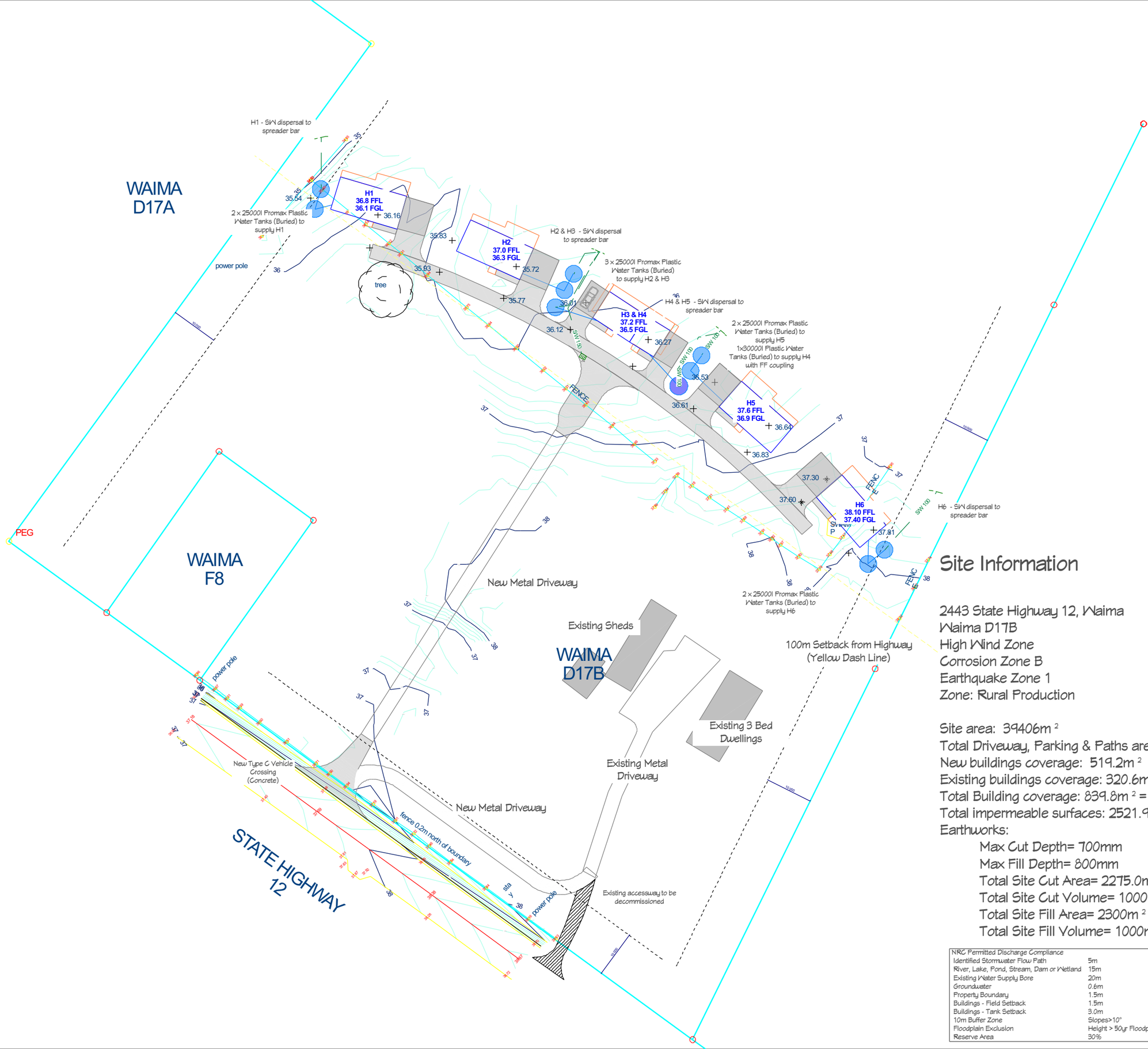
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - No Services

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	03	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:
- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025

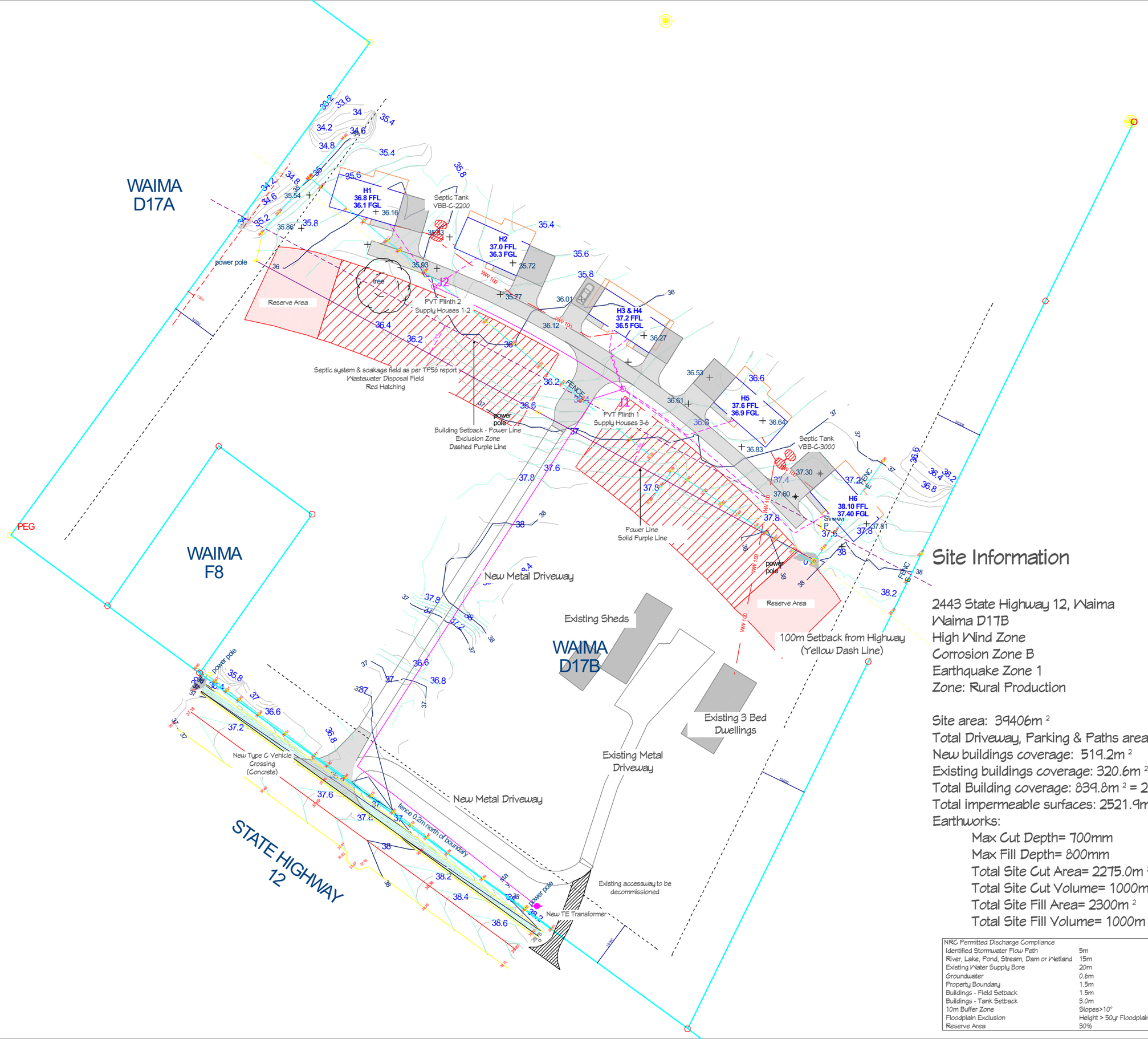
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - S/W & Water

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	04	C01



Site Information

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:

- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

N

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 03 2025

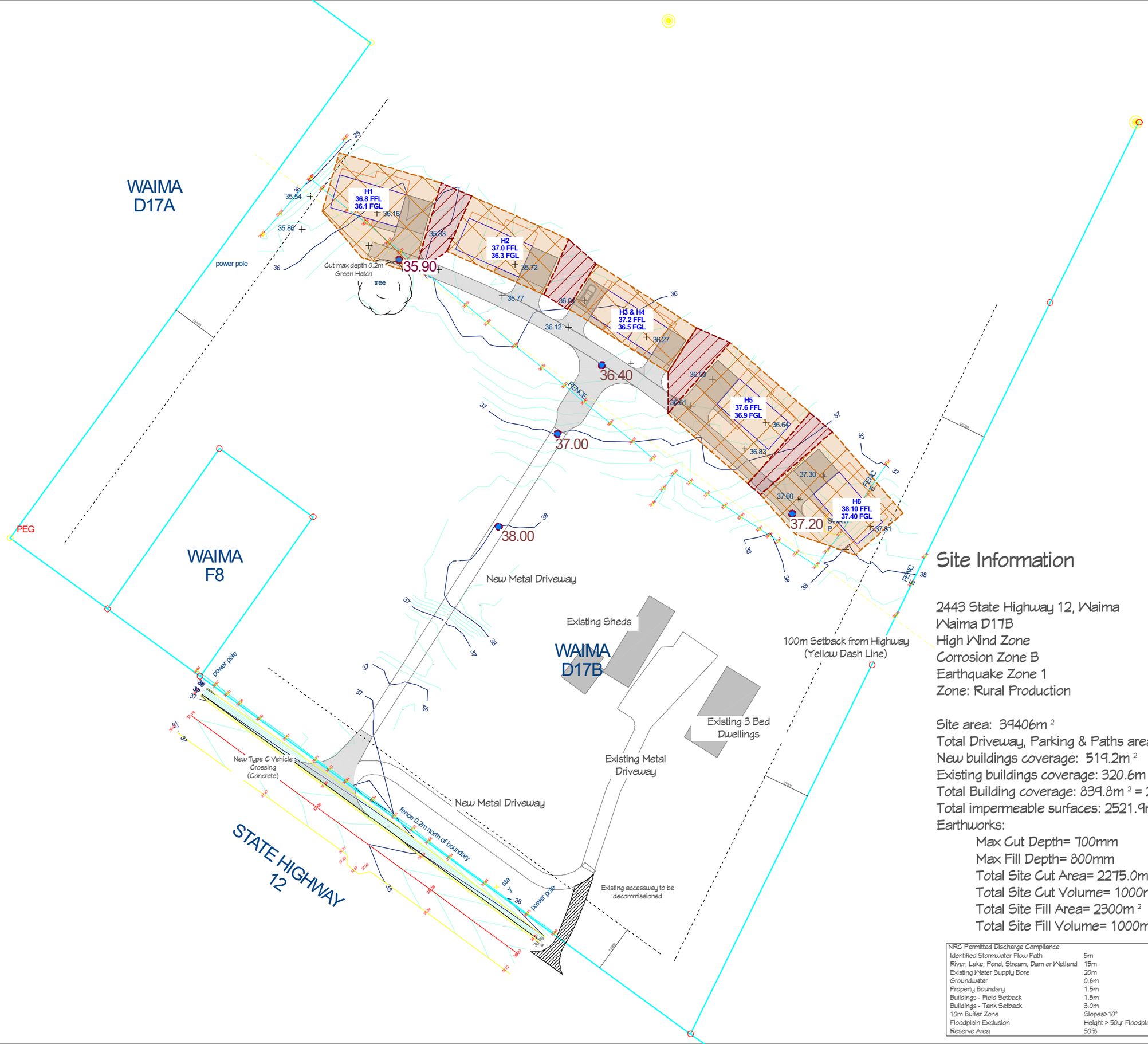
Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - Sewer & Power

SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	05	C01



Site Information

N

2443 State Highway 12, Waima
Waima D17B
High Wind Zone
Corrosion Zone B
Earthquake Zone 1
Zone: Rural Production

Site area: 39406m ^{2}
Total Driveway, Parking & Paths area: 1682.1m ^{2}
New buildings coverage: 519.2m ^{2}
Existing buildings coverage: 320.6m ^{2}
Total Building coverage: 839.8m ^{2} = 2.13%
Total impermeable surfaces: 2521.9m ^{2} = 6.40%
Earthworks:

- Max Cut Depth= 700mm
- Max Fill Depth= 800mm
- Total Site Cut Area= 2275.0m ^{2}
- Total Site Cut Volume= 1000m ^{3}
- Total Site Fill Area= 2300m ^{2}
- Total Site Fill Volume= 1000m ^{3}

NRC Permitted Discharge Compliance	
Identified Stormwater Flow Path	5m
River, Lake, Pond, Stream, Dam or Wetland	15m
Existing Water Supply Bore	20m
Groundwater	0.6m
Property Boundary	1.5m
Buildings - Field Setback	1.5m
Buildings - Tank Setback	3.0m
10m Buffer Zone	Slopes>10°
Floodplain Exclusion	Height > 50yr Floodplain
Reserve Area	30%

REVISION:	BY:	DATE:
Drawn	NMB	Aug 22 2025
Rev	NMB	Sep 12 2025

Advance build
A smarter move

Proposed New Project for:
Tokitoki Development
2443 State Highway 12
Waima

SHEET TITLE:
Site Plan - Cut & Fill

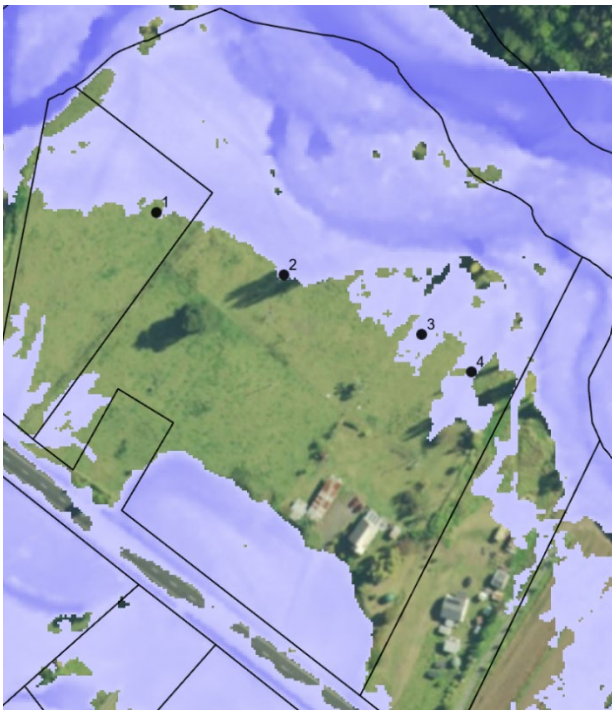
SCALE: 1 : 750 (A3 Original)

PROJECT #:	PAGE:	REVISION:
1291	06	C01

Appendix B

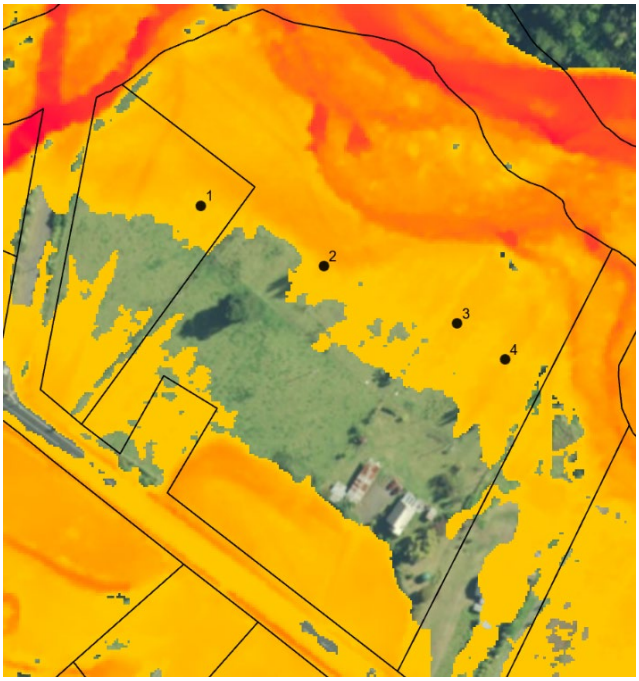
NRC Priority River Models

10yr (NZVD)

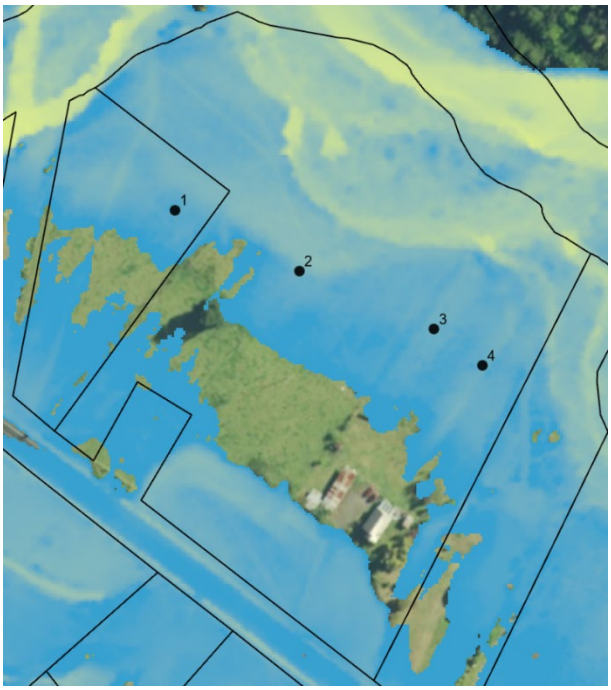


50yr (NZVD)

100yr (NZVD)



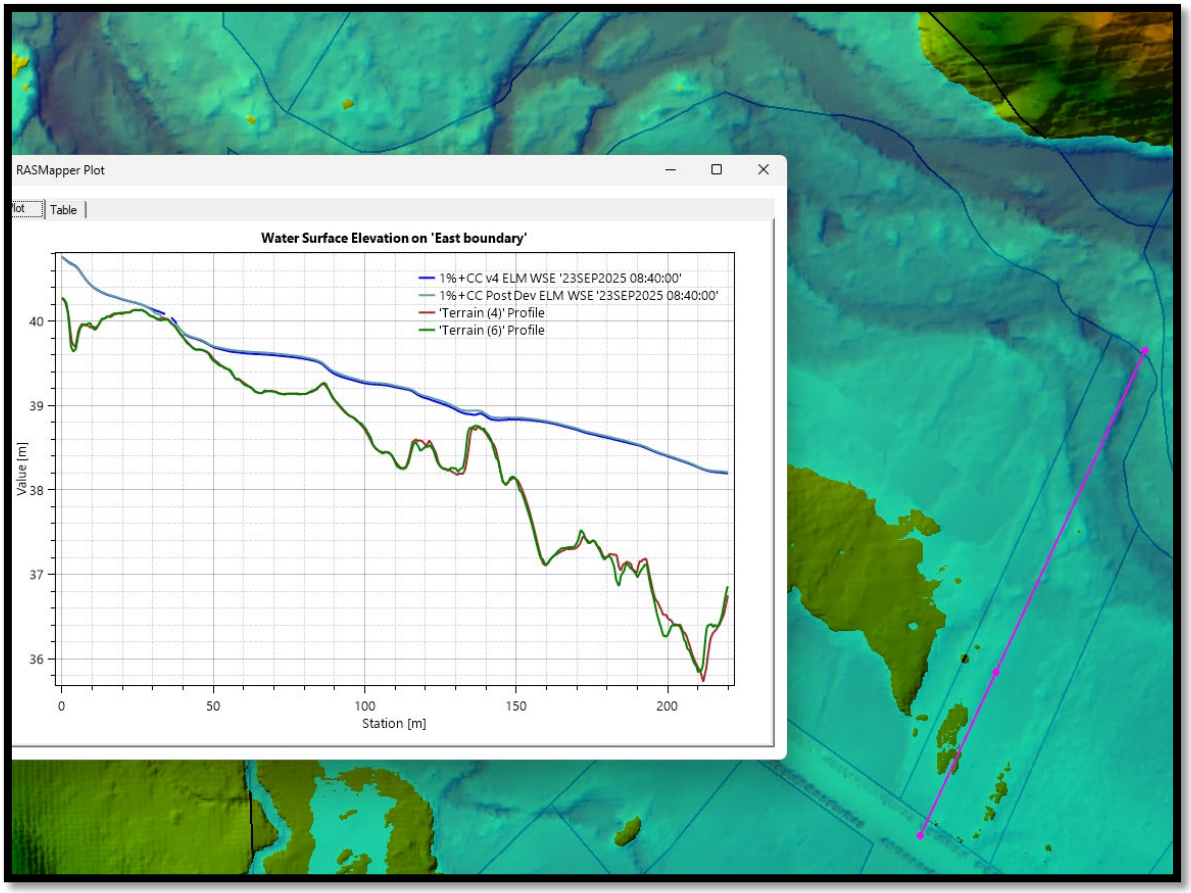
100yr+CC (NZVD)



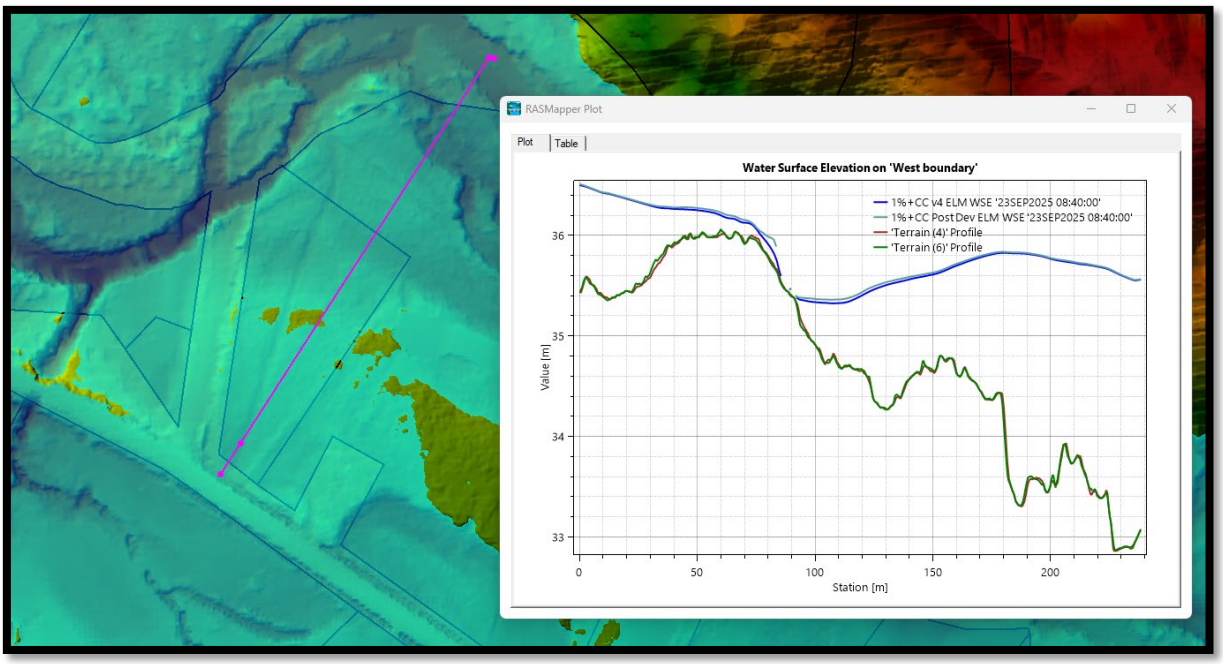
Appendix C

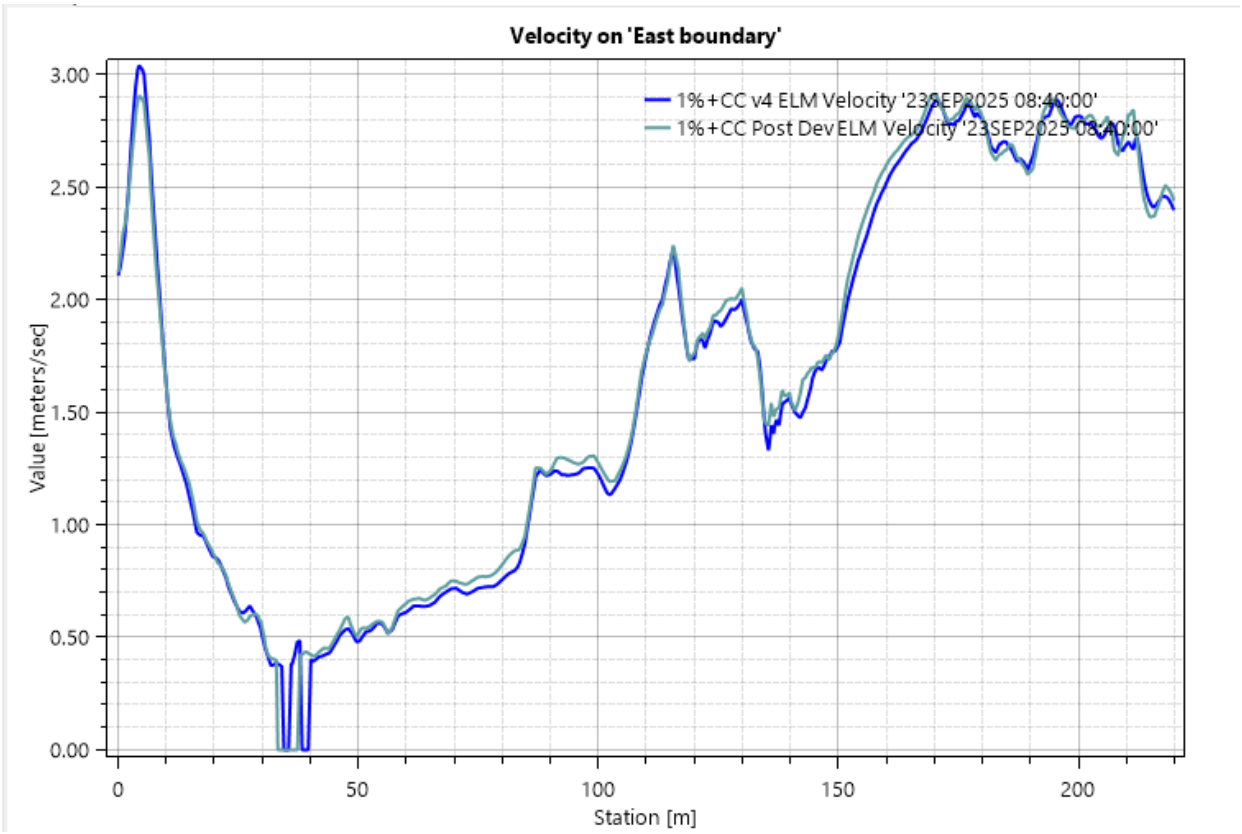
Hec-Ras

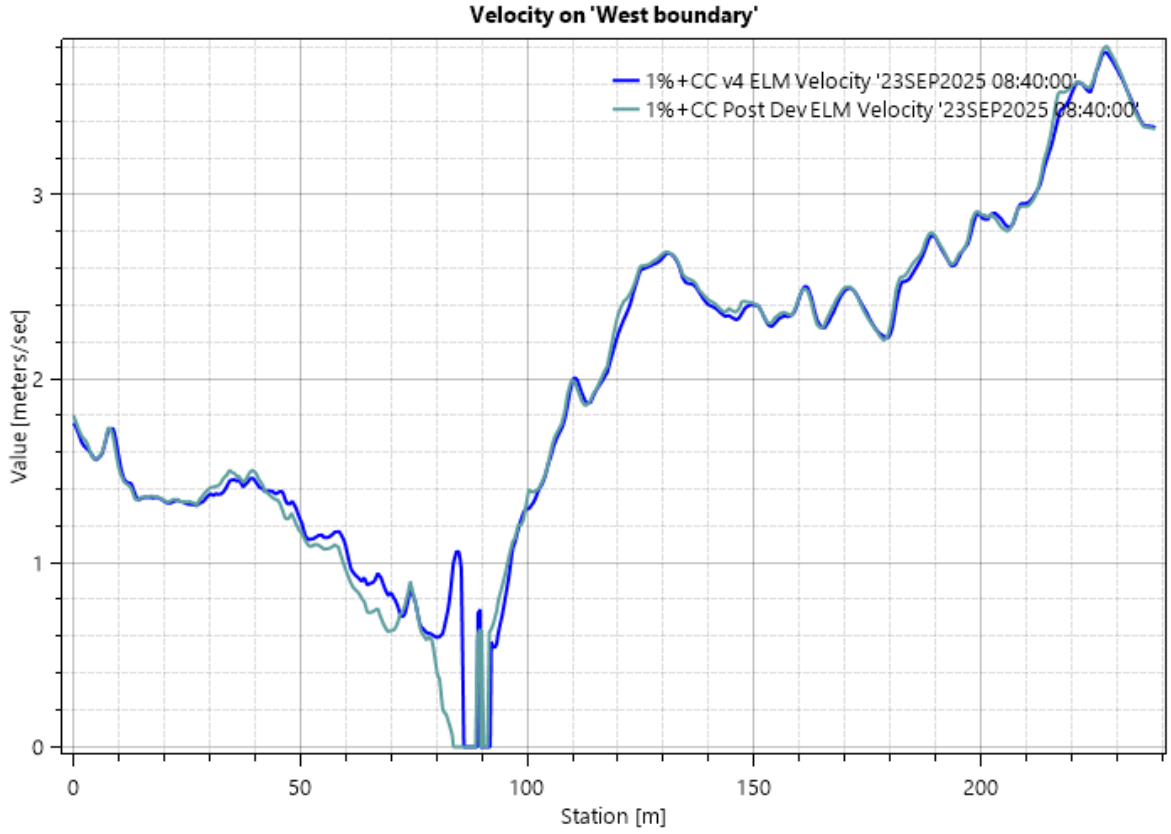
Pre vs Post Development Depth Comparison along the western boundary



Pre vs Post Development Depth Comparison along eastern boundary




Velocity on 'East boundary'
1%+CC v4 ELM Velocity '23SEP2025 08:40:00'
1%+CC Post Dev ELM Velocity '23SEP2025 08:40:00'
Value [meters/sec]
Station [m]
0.00
0.50
1.00
1.50
2.00
2.50
3.00
0
50
100
150
200


Velocity on 'West boundary'
1%+CC v4 ELM Velocity '23SEP2025 08:40:00'
1%+CC Post Dev ELM Velocity '23SEP2025 08:40:00'
Value [meters/sec]
Station [m]
0
1
2
3
0
50
100
150
200

STATEMENT OF DESIGN - PS1

Issued by: Matt Riddell
To: Tipara Morunga
Copy to be supplied to: Far North District Council
In Respect of: Econotreat Domestic Onsite Wastewater and Sewage System Design
At: 2443 State Highway 12, Waimā
Legal Description: Waima D17B Block

Waterflow NZ Ltd has been engaged by Tipara Morunga to provide the technical design services and details in respect of the requirements of G13/VM4 and B2 Durability of the Building Code 2004, for an Onsite Wastewater and Sewage System for their building at the above location.

The Design has been carried out in accordance with AS/NZS 1547/2012 and Clause B2, G13 and G14 of the Building Regulations 2004.

The proposed building work covered by this producer statement is described on the drawings titled: Tipara Morunga Onsite Wastewater Design Report, and numbered 1-42 together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:
(i) Site verification of the following design assumptions: correct installation of the system and drainage fields
(ii) All proprietary products meeting their performance specification requirements;

As an independent design professional covered by a current policy for Professional Indemnity Insurance, no less than $200,000*, I **believe on reasonable grounds** the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

Signed by: Matt Riddell - PS Author ‘2384’ Auckland Council, Approved Designer

Date: 11/09/2025

Signature: 

Waterflow NZ Ltd
4/525 Great South Road
Penrose, Auckland 1061

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000.*

WaterFlow
Bringing Clarity to Wastewater

2025

Waterflow NZ Ltd

Certified Designer

Tipara Morunga
2443 State Highway 12
Waimā
Waima D17B Block

Reference Number:

Issued 11/09/2025

ONSITE WASTEWATER DESIGN REPORT

WaterFlow
Bringing Clarity to Wastewater

TABLE OF CONTENTS

Attachments

- **PS1**
- **Land Application System Schematics**
- **Pump Specification**
- **Electrical Diagram**
- **Assessment of Environmental Effects**
- **System & Installation Specifications**
- **Home Owners Care Guide**

Disclaimer

The design presented herein is based on the information available at the time of preparation and reflects the conditions known at that time.

If additional information comes to light or if there are significant changes in site conditions or circumstances, the design may no longer be valid. In such cases, the design must be reassessed and potentially revised by the designer to ensure its continued suitability.

The designer(s) disclaim any responsibility for the design's applicability or effectiveness under new or altered conditions and recommend a review before implementation if any such changes occur.

PART A: CONTACT AND PROPERTY DETAILS

A 1. Consultant / Evaluator

Name:	Alexandra Sabath
Company/Agency:	Waterflow New Zealand Ltd
Address:	1160 State Highway 12, Maungaturoto 0520
Phone:	09 431 0042
Fax:	
Email Address:	sandra@waterflow.co.nz

A 2: Applicant Details

Applicant Name:	Tipara Morunga
Company Name:	
Property Owner:	Tipara Morunga
Owner Address:	2443 State Highway 12, Waimā
Phone:	
Mobile:	021 351 467
Email Address:	angela@advancebuild.co.nz

A 3: Site Information

Sited Visited by:		Ken Hoyle		**Date:**	Thursday, 4 September 2025		
Physical Address:		2443 State Highway 12, Waimā					
Territorial Authority:		Far North District Council					
Regional Council:		Northland Regional Council					
Regional Rule		C.6.1.5					
Legal Status of Activity:		**Permitted:**		**Controlled:**		**Discretionary:**	**x**
Total Property Area (m^2):		39406m^2					
Map Grid Reference:		35°29'12.7"S 173°35'11.9"E					
Legal Description of Land (as on Certificate of Title):							
Lot No:	Waima D17B Block						
DP No:							
CT No:	NA18B/1018						

A 4: Are there any previous existing discharge consents relating to this proposal or other waste discharge/disposal on the site?

Yes:		**No:**	**x**

If yes, give reference No's and description:

A 5: Dwelling(s) for which on-site wastewater service is to be provided

Status of dwelling(s) to be serviced:	**New**		**Existing**		**Multiple**	**x**
How many dwellings on the property?	7					
Capacity of dwellings:	**Dwelling 1**	5 x 3 bedroom @ 5pax				
(or number of bedrooms)	**Dwelling 2**	1 x 2 bedroom @ 4 pax				
	Dwelling 3	1 x 1 bedroom @ 2 pax				
	Other:					
Notes:						

PART B: SITE ASSESSMENT - SURFACE EVALUATION

B 1: Site Characteristics

Performance of adjacent systems:	**(Unknown)**			
Estimated annual rainfall (mm):	1000 - 1250 **(as per NIWA statistics)**			
Seasonal variation (mm):	300-400mm			
Vegetation cover:	Pasture Grass			
Slope shape:	Linear Planar			
Slope angle:	<5 °			
Surface water drainage characteristics:	Broad overland to stream			
Flooding potential?	**Yes:**		**No:**	**x**
If Yes, specify relevant flood levels relative to disposal area:				
Site characteristics:	2443 State Highway 12 is a large rural property of about 3.94 hectares. There is an existing dwelling and shed on the property and this development involves the creation of additional 6 dwellings within 5 new buildings. The domestic wastewater from the existing dwelling and the new dwellings will drain (or be pumped) to two new onsite wastewater management systems detailed in this report. The land where the disposal of secondary treated wastewater is proposed is relatively flat with a slight slope towards the north. The area is currently covered with pasture.			

B 2: Slope Stability

Has a slope stability assessment been carried out on the site?

Yes:		**No:**	**x**

If no, why not?

Low slope:	**x**	**No signs of instability:**	**x**	**Other:**

If yes, give brief details of report:

Details:	
Author:	
Company/Agency:	
Date of report:	

B 3: Site Geology

B 4: Slope Direction

What aspect does the proposed disposal system face?

North	x	West	
North-West		South-West	
North-East		South-East	
East		South	

B 5: Site Clearances if applicable (also on site plan)

	Treatment Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries:	>1.5	>1.5
Surface Water:	>20	>20
Ground Water:	>1.2	>1.2
Stands of Trees / Shrubs:	n/a	n/a
Wells/Water Bores:	>20	>20
Embankments / Retaining Walls:	>3	>3
Buildings:	>3	>3
Other:		

B 6: Please identify any site constraints applicable for this property, and indicate how the design process is to deal with these.

Constraints	Explain how constraints are being dealt with
1 Site constraints:	n/a

WaterFlow
Bringing Clarity to Wastewater

PART C: SITE ASSESSMENT - SOIL INVESTIGATION

C 1: Soil Profile Determination Method

Test pit:		Depth (mm):		No. of Test pits:	
Bore hole:	x	Depth (mm):	1200	No. of Bore holes	2
Other:					

C 2: Fill Material

Was fill material intercepted during the subsoil investigation?

Yes:		No:	x

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

C 3: Permeability Testing

Has constant head Permeability Testing (Ksat) been carried out?

Yes:		No:	x

If yes, please indicate the details (test procedure, number of tests):

Test report attached?

Yes:		No:	x

C 4: SURFACE WATER CUT OFF DRAINS

Are surface water interception/diversion drains required?

Yes:		No:	x

C 5: DEPTH OF SEASONAL WATER TABLE:

Winter (m):	>1.2
Summer (m):	>1.2

Was this:

Measured:	✓ no sign of ground water or mottling in bore holes
Estimated:	

C 6: SHORT CIRCUITS

Are there any potential short circuit paths?

Yes:		No:	x

If yes, how have these been addressed?

C 7: SOIL CATEGORY

Is topsoil present?

Yes:	x	**No:**	

If yes, what is the topsoil depth & soil description?

200mm sandy silt loam topsoil over sandy silty loam

Indicate the disposal field soil category (as per AS/NZS 1547:2012 Table E1)

Category	Description	Drainage	(x)
1	Gravel, coarse sand	Rapid draining	
2	Loamy sand, sandy loam	Free draining	
3	Medium-fine sandy loam, loam & silt loam	Good draining	
4	Sandy clay-loam, clay loam & silty clay-loam	Moderate draining	x
5	Sandy clay, light clay, silty clay	Moderate to slow draining	
6	Medium to Heavy Clays	Slow draining	

Reason for placing in stated category:

Result of bore hole/test pit sample	x
Profile from excavation	
Geotech report	
Other:	

C 8: SOIL STRUCTURE

Based on results of the in-situ soil profile investigation above (C7) please indicate the disposal (land application) field soil structure:

Massive	
Single grained	
Weak	
Moderate	x
Strong	

C 9: As necessary, provide qualifying notes on the relationship of Soil Category (C7) to Soil Structure (C8) and the effect this relationship will have on design loading rate selection:

WaterFlow
Bringing Clarity to Wastewater

PART D: DISCHARGE DETAILS

D 1: Water supply source for the property:

Rain water (roof collection)	x
Bore/well	
Public supply	

D 2: Are water reduction fixtures being used?

Yes:		No:	x	(according to our knowledge at time of design report)

If 'yes' Please state:

Standard Fixtures include dual flush 11/5.5 or 6/3 litre toilet cisterns, and includes standard automatic washing machine, but a low water use dishwasher, no garbage grinder.

D 3: Daily volume of wastewater to be discharged:

No. of bedrooms/people:	1:	5 x 3 bedroom dwelling (H1, H2, H5, H6 & existing)
	2:	1 x 2 bedroom dwelling (H3)
	3:	1 x 1 bedroom dwelling (H4)
Design occupance (people):	1:	25 People
(as per AC TP-58, Table 6.1)	2:	4 People
	3:	2 People
		Black / Grey water
Per capita wastewater production (litres/person/day):	1:	160 L/day
(as per AS/NZS 1547:2012 Table H3, Note 2)	2:	160 L/day
	3:	160 L/day
Total daily wastewater production (litres per day):		4960 L/day
Notes:		

D 4: Is daily wastewater discharge volume more than 2000 litres?

Yes:	x	No:	

D 5: Gross lot area to discharge ratio:

Gross lot area:	39406 m²
Total daily wastewater production (litres/day):	4960 L
Lot area to discharge ratio:	7.94

D 6: Net Lot Area

Area of lot available for installation of the disposal (land application) field and reserve area:

Net lot area (m²):	38406 m²	
Reserve area (m²):	30%	496m²

WaterFlow
Bringing Clarity to Wastewater

PART E: LAND DISPOSAL METHOD

E 1: Indicate the proposed loading method:

	Black / Grey Water
Gravity Dose:	
Dosing Siphon:	
Pump:	D42A/B

E 2: If a pump is being used please provide following information:

Total Design Head (m):	12
Pump Chamber Volume (litres):	500L x 2
Emergency Storage Volume (litres):	3000L x 2

Is a high water level alarm being installed in pump chambers?

Yes:	**x**	**No:**	

E 3: Identify the type(s) of Land Disposal method proposed for this site:

	Black / Grey Water
P.C.D.I. Dripper Irrigation:	PCDI surface laid and mulched
L.P.E.D. System:	
Evapo-Transpiration Beds:	
Other:	
	(as per Schematics attached)

E 4: Identify the Loading Rate proposed for option selected in E3:

as per AS/NZS 1547:2012 Table L1 & M1	**Black / Grey Water**
Loading Rate (litres/m²/day):	3
Disposal Area Basal (m²):	
Areal (m²):	1653

E 6: Details and dimensions of the disposal (land application) field:

Length (m):	118.1	**No. Lines:**	14	**Hole Size:**	N/A
Width (m):	14.0	**Spacing (m):**	1.0	**Hole Spacing:**	N/A

Notes:	**1653sqm of Surface laid PCDI dripline pinned at 1m centers and covered with a minimum covering of 100mm mulch. See schematic drawing attached.**

PART F: PROPOSED WASTEWATER TREATMENT SYSTEM

Wastewater treatment for the new residential buildings is to consist of two Econotreat aerobic wastewater treatment plants.
1. An Econotreat ET-60C (#1)will receive wastewater draining from new dwellings 1, 2, 3 & 4
2. An Econotreat ET-60C (#2) will receive wastewater draining from new dwellings 5 & 6 and the existign dwelling.
3. A ST52C (5200 litre pumped septic tank) will pump primary treated wastewater from the duplex (dwellings 3 & 4) to the ET-60C # 1
4. A ST52C (5200 litre pumped septic tank) will pump primary treated wastewater from the duplex (dwellings 3 & 4) to the ET-60C #2
The Econotreat wastewater treatment plants will pump secondary treated wastewater to the land disposal area.

PART G: OPERATION AND MAINTENANCE OF SYSTEM

The operation of this complete system will be explained verbally to the owner by the Installer or Agent on Completion of Installation; also provided with Waterflow's Home Owner's Manual.

Waterflow NZ Ltd encourages the Home Owner to monitor and care for your Econotreat system yourself, with our backing and support, and by doing so you will learn how your system works and operates and how to keep it in top working order.

It is also recommended that a Maintenance Program contract is in place at all times to ensure this system is maintained at top performance at all times.

All on site wastewater systems require regular maintenance; in this case once annually is suffice and may be specified within the consent process by the Building Department of Far North District Council. This Maintenance will be recorded on hard copy and supplied to both the Owner and Far North District Council Compliance Officer if requested.

NOTE TO OWNER: All written records pertaining to the wastewater system should be retained in a safe place. When a change of ownership occurs, a full and complete history is able to be passed to the new owners.

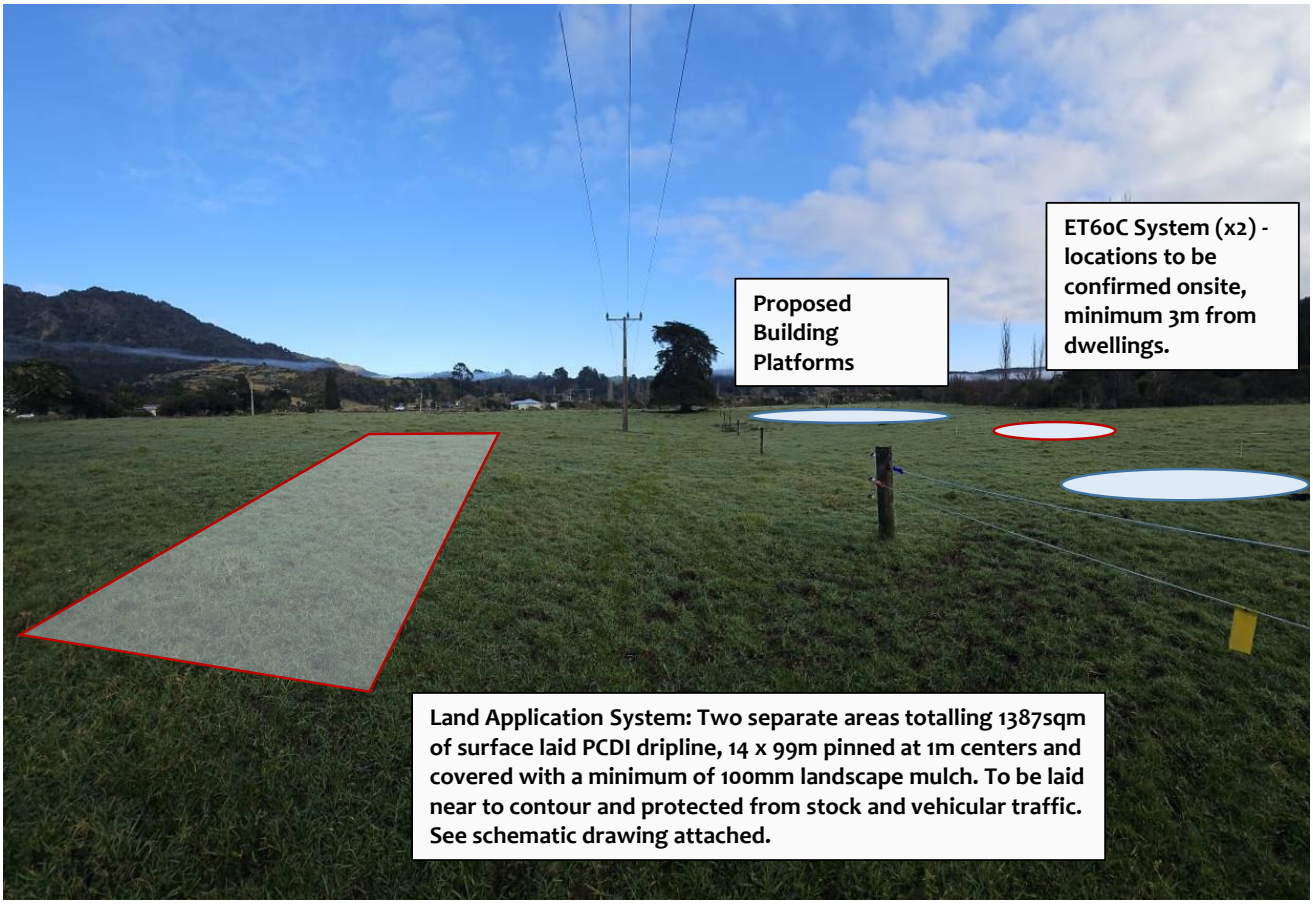
Animals are to be physically excluded from the installed effluent field to avoid damage, and to reduce the risk of soil compaction in the vicinity of the bed.

Planting within this area is encouraged to assist with evapotranspiration by plants.

PART H: SOIL LOG PROFILE

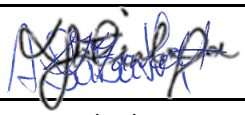
200mm sandy silt loam topsoil over sandy silty loam. Soil Category 4, (as per AS/NZS 1547:2012 Table E1)

PART I: SITE IMAGES



DECLARATION

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

Prepared By:	
Name:	**Alexandra Sabath - Approved Designer**
Signature:	
Date:	11/09/2025

Reviewed By:	
Name:	**Matt Riddell - PS Author '2384' Auckland Council, Approved Designer**
Signature:	
Date:	11/09/2025

NOTE: The Waterflow Systems are to be installed by a registered drainlayer to the designs supplied by Waterflow NZ Ltd. All work to comply with Regional Council Water and Soil Plans.

Comments/Summary:

The disposal field will need to be protected from traffic and animal grazing. Planting this area is recommended to increase Evapotranspiration.

Suitable plants for the disposal field can be found on our website www.naturalflow.co.nz

Waterflow Treatment systems to be installed by accredited installer unless other arrangements have been made by Waterflow NZ Ltd

For more information do not hesitate to contact the team at Waterflow NZ Ltd on 0800 628 356

N	WaterFlow Bringing Clarity to Wastewater	**SITE LOCATION PLAN:** Tipara Morunga 2443 State Highway 12 Waimā Waima D17B Block 3.9406HA	**SCALE:** 1 : 28302 @ A3

DESIGN FLOW = 4960 LITRES PER DAY

CATEGORY 5 SOILS:
DLR = 3mm/DAY
MINIMUM DISPOSAL AREA = 1652m2 (852m2 + 800m2)
MINIMUM RESERVE DISPOSAL AREA = 496m2 (30%)

MINIMUM 1.5m FROM PROPERTY BOUNDARIES
MINIMUM 3.0m FROM HABITABLE BUILDINGS
MINIMUM 5m FROM OPEN DRAINS
MINIMUM 15m FROM OTHER SURFACE WATER

PROPOSED LAND DISPOSAL AREA:

165m2 DISPOSAL AREA CONSISTING OF
1653 LINEAL METRES OF PRESSURE COMPENSATING DRIPLINE.

TO BE INSTALLED SURFACE PINNED ON 100mm RAISED GROUND
& COVERED WITH 100mm OF TOPSOIL OR BARK MULCH.

DRIPLINE TO BE INSTALLED AT AN AVERAGE OF NO LESS THAN
1.0m ROW SPACING. THE RECOMMENDED SPEC FOR THE
DELIVERY PIPELINE IS 32mm DIAMETER LOW DENSITY PE

DRIPLINE LATERALS TO BRANCH OFF DELIVERY PIPELINE.
DISPOSAL AREA 1: ~853m DRIPLINE e.g. 14 x 61m LATERALS
DISPOSAL AREA 2: ~800m DRIPLINE e.g. 14 x 57.1m LATERALS
EACH LATERAL TO TERMINATE IN A NORMALLY CLOSED FLUSH VALVE.

FINAL LOCATIONS OF TREATMENT PLANT AND
LAND DISPOSAL AREAS MAY BE ALTERED BY
INSTALLING DRAINLAYER TO SUIT SITE/INSTALLATION
CONDITIONS AND PROPERTY OWNER PREFERENCES.
CHANGES TO BE RECORDED ON THE 'AS-BUILT' PLAN.

40
35
35
ECONO-TREAT ET-60C
SERVICES HOUSES 1, 2, 3 & 4
LOCATION TBC, >3.0m FROM
BUILDINGS
ST52C PUMPED
SEPTIC TANK (STEP)
LOCATION TBC, >3.0m FROM
BUILDINGS
>1.5m FROM
BOUNDARIES
HOUSE 1
3 BDRM
HOUSE 2
3 BDRM
H 3
2 BD
H 4
1 BD
HOUSE 5
3 BDRM
HOUSE 6
3 BDRM
DISPOSAL AREA 1 (853m2)
RESERVE AREA 1 (256m2)
DISPOSAL AREA 2 (800m2)
RESERVE AREA 2 (240m2)
BOREHOLES
ECONO-TREAT ET-60C
SERVICES HOUSES 5 & 6
AND EXISTING DWELLING
LOCATION TBC, >3.0m FROM
BUILDINGS
ST52C PUMPED
SEPTIC TANK (STEP)
LOCATION TBC, >3.0m FROM
BUILDINGS
State Highway 12
0m
100m
200m

WaterFlow
Bringing Clarity to Wastewater

PO Box 24
Maungaturoto
www.waterflow.co.nz

CLIENT
ADVANCE BUILD

PROJECT
2443 STATE HIGHWAY 12, WAIMA
ON-SITE WASTEWATER
TREATMENT AND DISPOSAL

TITLE
PROPOSED ONSITE
WASTEWATER LAYOUT

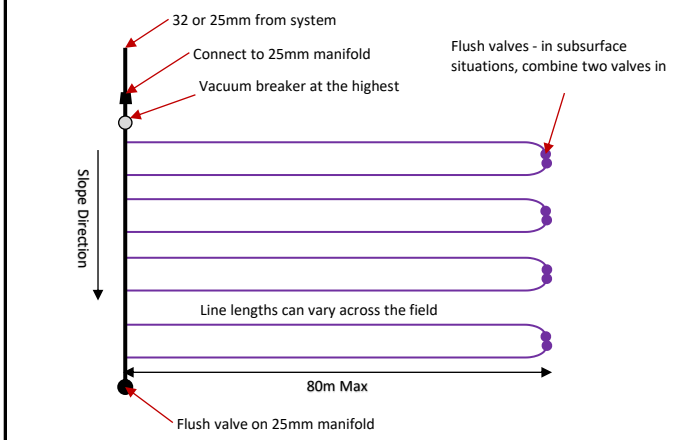
DATE	*15/09/25*	
DRAWN	*MR*	
DESIGN	*MR*	
CHECKED	*KH*	

JOB No.	SCALE.
WF12397	1:1000@A3

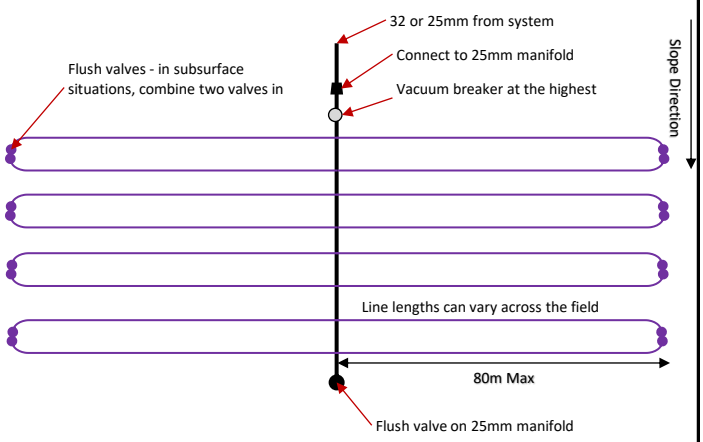
DWG No.	REV.
WF12397-01	*A*

Common PCDI Layouts

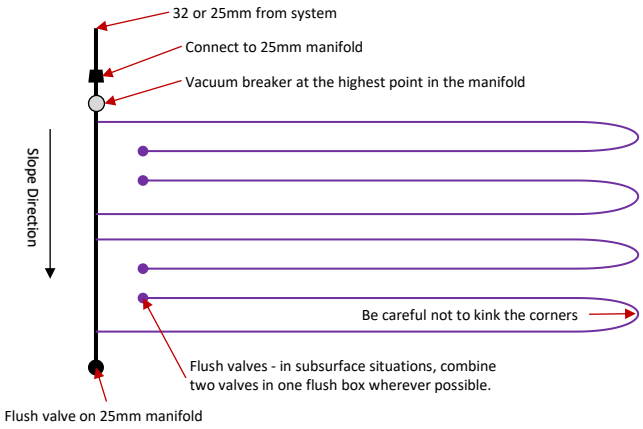
Single Side Manifold - straight



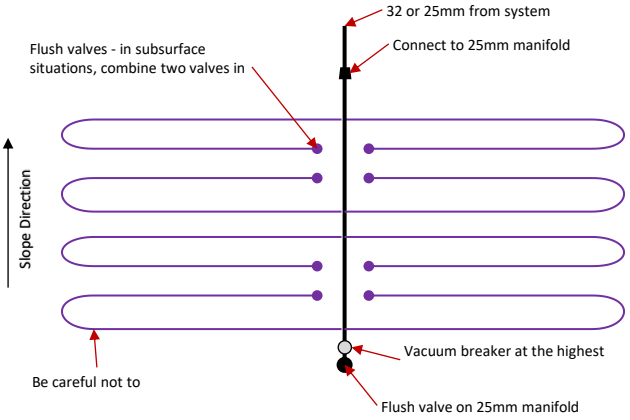
Single Center Manifold - straight



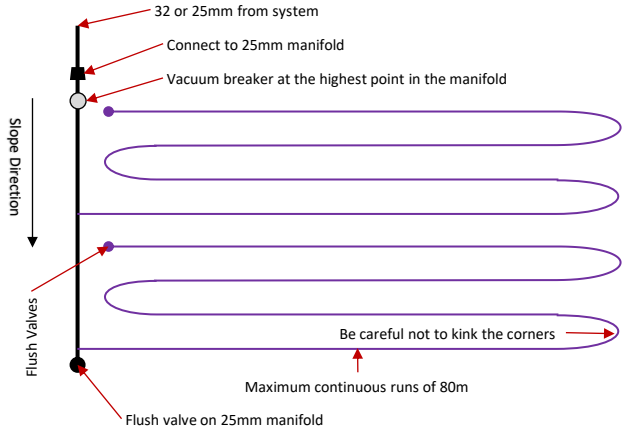
Single Side Manifold - curled



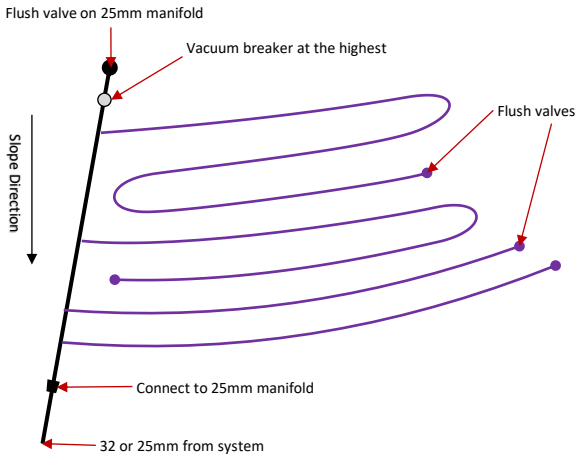
Single Center Manifold - curled



Long Single Runs



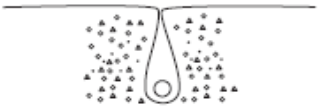
Custom Layout



Cross Sections of PCDi installation

150mm Mulch or Leaf Litter

Subsoil Buried @ 100-150mm

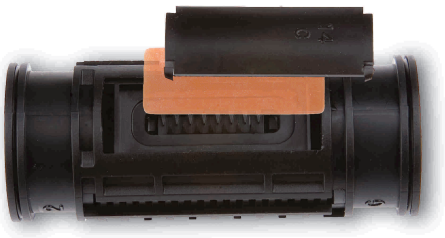


METZERPLAS

ADI

Cylindrical PC (Pressure Compensated) dripper.

- Cylindrical PC dripper, with unique regulating labyrinth with self-flushing operation at the beginning and the end of each irrigation cycle.
- Triple inlet filter with filtering area 10 times larger than any other dripper.
- High clog resistance.
- Suitable for poor quality and effluent water.
- Large pressure compensation range up to 4.3 bars.
- Dripline diameter: 16, 18 and 20 mm.
- Dripper flow rate: 1.6, 2.2 and 3.5 l/h.
- *Rootguard*® configuration available for extra root protection in SDI (Subsurface Drip Irrigation).



ADI Dripline Technical Data:

Model	Inside Diameter (mm)	Wall Thickness (mm)	Min. Working Pressure (bars)	Max. Working Pressure (bars)	KD
ADI 16	13.8	0.9	0.8	3.5	1.12
		1.15	0.8	4.3	0.95
ADI 18	15.8	1.2	0.8	4.3	0.95
ADI 20	17.4	1.0	0.8	3.5	0.85
		1.25	0.8	4.3	0.6

METZERPLAS IRRIGATION SYSTEMS

Kibbutz Metzer M.P. Heffer 38820 ISRAEL Tel: 972-4-6387001 Fax: 972-4-6385385
info@metzerplas.com • www.metzerplas.com

METZERPLAS

ADI

Cylindrical PC (Pressure Compensated) dripper.

ADI 16 mm. Maximum lateral length (I.D. 13.8 mm, W.T 0.9 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
1.6	86	122	156	188	218	260	324
2.2	72	103	131	157	182	216	269
3.5	51	73	94	113	131	156	195

ADI 18 mm. Maximum lateral length (I.D. 15.8 mm, W.T 1.2 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
2.0	93	134	171	205	238	284	355
3.5	65	92	118	142	166	198	247

ADI 20 mm. Maximum Lateral length (I.D. 17.4 mm, W.T 1.0 mm, Inlet pressure 2.5 bars):

Nom. Flow Rate (l/h)	Spacing Between Drippers (m)						
	0.20	0.30	0.40	0.50	0.60	0.75	1.00
1.6	128	182	234	281	325	388	484
2.2	113	159	202	242	279	331	409
3.5	76	109	140	168	196	233	291

For additional tables and data please contact Metzerplas Technical Department or visit our website: www.metzerplas.com

Packaging Data

Model	Roll Length (m)	Quantity Per Container (Rolls)		
		20	40	40 h
ADI 16	400	150	300	350
ADI 18	300	150	300	333
ADI 20	300	133	266	300

METZERPLAS IRRIGATION SYSTEMS

Kibbutz Metzer M.P. Heffer 38820 ISRAEL Tel: 972-4-6387001 Fax: 972-4-6385385
info@metzerplas.com • www.metzerplas.com

DAVEY

APPLICATIONS

> Non-potable rainwater applications
> Lawn and garden irrigation
> Sump emptying to higher heads
> Treated effluent disposal
> Water transfer from wells

D42A/B D53A/B

Submersible Drainage Pumps

Model Numbers: D42A/B, D53A/B

Submersible sump pump with two and three impeller designs for higher pressure, up to 45m head.

WHY CHOOSE DAVEY SUBMERSIBLE DRAINAGE PUMPS?

Double mechanical seal, one in oil bath on motor and extra mechanical seal on pump
- Superior reliability
- Long service life

Corrosion resistant 304 stainless steel shaft, motor shell and fasteners
- Long service life

Cast 316 stainless steel motor caps and super tough engineered thermo plastic pump casing
- Outstanding corrosion resistance
- Long life

Centrifugal multistage 2 and 3 impeller designs
- Higher pressures and increased efficiency

Closed vane impellers with long engagement “D” drives
- Positive operation
- Long service life

Patented independently floating neck rings
- Outstanding pump performance
- Long pump life

Corrosion resistant hard wearing polycarbonate impellers
- Long service life

Corrosion resistant stainless steel fine mesh suction strainer with large surface area
- Prevents blockages of the pump by solids

In-built automatic thermal overload
- Protects the motor in the event of blockage or voltage supply problems

HO7RNF oil resistant leads, 10 metres long with 3 pin power plug
- Easy to connect to power supply
- Longer life in dirty water

proudly australian since 1934

Sump Pumps

OPERATING LIMITS

Type	D42A/B	D53A/B
Capacities to	120 lpm	130 lpm
Maximum total head	32m	45m
Maximum submergence	12m	
Maximum pumped water temperature	40°C	
Maximum soft solids	1.9mm O.D.	
Outlet size (BSP)	1" F	

SUITABLE FLUIDS

Clean water of neutral pH containing up to 1% small solids. Some wear should be expected while pumping hard solids in suspension.

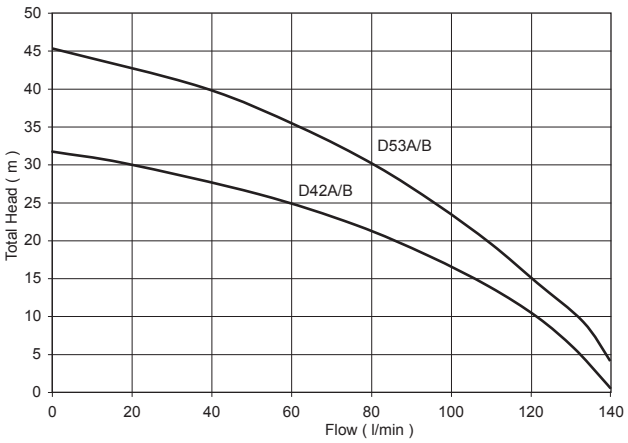
MATERIALS OF CONSTRUCTION

PART	MATERIAL
Impeller	Glass filled polycarbonate
Lock nut	304 stainless steel
Pump casing	Glass filled polycarbonate
Diffuser and blanking ring	Glass filled noryl
Mechanical seal – pump	Carbon / ceramic
Mechanical seal – motor	Silicon carbide / ceramic oil in bath
Shaft seal elastomer	Nitrile rubber
Pump shaft	304 stainless steel
O-rings	Nitrile rubber
Motor shell	304 stainless steel
Bottom bearing housing	Cast 316 stainless steel
Upper motor cover	Cast 316 stainless steel
Handle	304 stainless steel
Fasteners	304 stainless steel
Float and power supply leads	HO7RN-F oil resistant

ELECTRICAL DATA

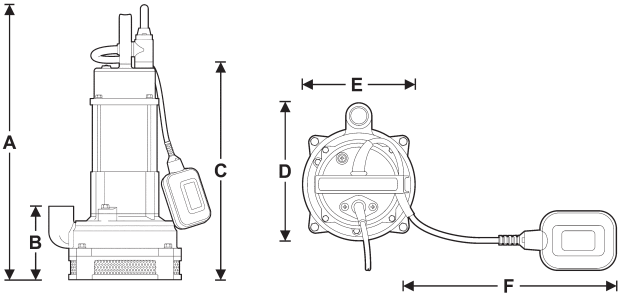
Type	D42A/B	D53A/B
Supply voltage	220-240V	
Supply frequency	50Hz single phase	
Speed	2 pole, 2850rpm	
Full load current (Run)	4.3A	5.7A
Locked rotor current (Start)	14A	
Input power (P_1)	1.00kW	1.31kW
Output power (P_2)	0.60kW	0.84kW
IP rating	X8	
Insulation class	Class F	
Starting	P.S.C.	
Lead	10m long	

HYDRAULIC PERFORMANCE



DIMENSIONS (MM)

Type	A	B	C	D	E	F	Outlet B.S.P.	Net Weight (kg)
D42A/B	475	130	370	235	195	330	1"F	10.8
D53A/B	535	170	430	235	195	330	1"F	16.5



INSTALLATION AND PRIMING

Use a rope to position and retrieve the pump. Do not lower or retrieve the pump using the power lead as this may damage the cable entry seals, causing water leaks and unsafe operation.

Do not use this product for recirculating or filtering swimming pools, spas, etc. While these pumps are built to high safety standards, they are not approved for installations where people will be in the water while they are operating.

Do not pump abrasive materials. Sand and grit in the water being pumped will accelerate wear, causing shortened pump life.

Keep your pump clean, particularly in situations where lint, hair or fibrous materials may get bound around the pump shaft. Regular inspection and cleaning will extend pump life.

Make room for the float switch to operate. Automatic models have a float switch to turn them on when the water level rises and turn them off again when it has been pumped down to the safe operating level of the pump. If the float switch is not free to rise and fall, correct pump operation may not be possible.

Do not run your pump dry. Non-automatic models must be switched off manually or by way of an external float/level switch when the water level is reduced to the top of the pump housing.

DWP0327-3/0818

Assessment of Environmental Effects

Tipara Morunga of 2443 State Highway 12, Waimā
Waima D17B Block

1.1 Description of Proposal

The owners of this site propose the construction of 4 new 3 bedroom dwellings and a one & two bedroom duplex . The development will require a new onsite wastewater management systems for the six new dwelling as well as an existing three bedroom dwelling.

1.2 Site Description

2443 State Highway 12 is a large rural property of about 3.94 hectares. There is an existing dwelling and shed on the property and this development involves the creation of additional 6 dwellings within 5 new buildings. The domestic wastewater from the existing dwelling and the new dwellings will drain (or be pumped) to two new onsite wastewater management systems detailed in this report. The land where the disposal of secondary treated wastewater is proposed is relatively flat with a slight slope towards the north. The area is currently covered with pasture.

1.3 Wastewater Volume

In calculating the wastewater flows we have allowed for a maximum occupancy of 31 persons, based on the 6 proposed new dwellings and existing dwelling (as per AC TP-58, Table 6.1). Total wastewater production is based on an allowance of 160 litres per person per day (as per AS/NZS 1547:2012 Table H3, Note 2), which is conservative given that water supply is roof collected rain water and standard water fixtures will be used throughout the dwellings.

1.4 Wastewater Volume

An Econotreat ET-60C will receive wastewater from new dwellings 1, 2, 3 & 4. An ST52C (pumped septic tank) will pump primary treated wastewater from the duplex building (dwelling 3 & 4) to the Econotreat ET-60C.
A second Econotreat ET-60C will receive wastewater from new dwellings 5 & 6. An ST52C (pumped septic tank) will pump primary treated wastewater from the existing 3 bedroom dwelling to the Econotreat ET-60C.
The Econotreat wastewater treatment plants will each pump secondary treated wastewater to adjacent land disposal areas.

The systems will be capable of producing reductions in Biochemical Oxygen Demand, Total Suspended Solids, Nitrogen, and Coliforms to a standard that meets the requirements (see details below). The system will cater for the wastewater requirements of the private dwellings (domestic wastewater) and will not service any commercial or trade waste sources. Risk Minor to Nil.

1.5 Proposed Treatment System

The primary objective of the proposed treatment system is to effectively reduce and remove contaminants from wastewater prior to its discharge into the receiving soil. This process enhances the long-term performance of the disposal field while minimizing potential environmental risks.

The system will comprise two Econotreat aerobic wastewater treatment plants. Secondary-treated effluent will be dispersed via two designated land disposal areas, incorporating a total of 1,653 meters of surface-installed PCDI.

The system is constructed using concrete tanks and is designed to produce treated effluent with biochemical oxygen demand (BOD) <20 mg/L and total suspended solids (TSS) <20 mg/L, ensuring compliance with relevant wastewater treatment standards.

1.6 Land Application System

The proposed irrigation system uses pressure-compensating dripper lines ensuring an even delivery of moisture over the entire irrigation field and a conservative DLR of 3mm. We propose the use of Metzerplas unibioline ADI16/2.2 @ 0.6m/c with the Dripline laid out at 1m centres. This Dripline will then be covered by 100mm landscape mulch. Densely planting this area will greatly enhance evapo-transpiration and be very beneficial especially in the wetter months of the year. This irrigation can be installed in conjunction with existing or proposed landscaping.

1.7 Surface & Ground Water

It is proposed to treat the water to a high standard prior to discharge and the proposed irrigation system will introduce the water into the topsoil horizon using PCDI irrigation. A low application rate of treated effluent into the topsoil will significantly reduce the likelihood of, any breakout or runoff or any risk of surface water contamination. With the ground water levels being >1.2m this conservative DLR also means the risk of ground water contamination is virtually nil.

1.8 Air Quality

The proposed Econotreat aerobic wastewater systems will produce no noticeable odour when functioning correctly. Any odour will be contained within the tanks. The PCDI irrigation system will load the soil at a rate that should not cause ponding, spraying or aerosol of the effluent that could potentially cause odours.

1.9 Visual Impact

The tanks are installed wholly below ground level with only the lids being visible. The lids will protrude approximately 100mm to prevent egress of storm water into the system. The disposal field will be located in a purpose designed mulched and intensively planted disposal area. Warning signs may be installed to indicate the presence of the disposal area, although probably not necessary in a domestic situation, also the area may be fenced to restrict access.

1.10 Environmental Risks

Risks are associated with this proposal are minor. The treatment system will be automated, and the Home Owner will be given a 'Home Owners Care Guide' which explains the necessary visual checks to ensure no issues arise with the system, specifically – solids build-up - high water level – discharge failure – filter blockage.

Peak flow into the system are not expected to be significant and the system includes a large emergency storage volume.

1.11 Maintenance Requirements

The maintenance requirement of this system is minimal, with the system fully automated. The system requires little input from the operator apart from the regular cleaning of the outlet filter between the treatment system and the Dripline field. All other maintenance interventions must be carried out by service persons familiar with the operation of the system and approved by the manufacturer. Maintenance may include checking of the dissolved oxygen levels, cleaning of effluent outlet filter, removal of excess sludge volume, checking of control panel function, etc.…

The disposal field is quite possibly the most important and sensitive part of the treatment system and requires a reasonable amount of maintenance to keep it functioning well. Any leaking or damaged Dripline must be fixed quickly using the appropriate materials, the planting must be maintained, weeds removed and grass kept cut. The Dripline should be kept covered with a suitable bark, mulch, or topsoil.

Warning signs such as ponding, odours, and signs of excessive growth act as an indicator to possible problems. A disk filter s fitted to help prevent blockage of the drippers and to protect the Dripline. This filter will require cleaning during servicing of the system.The owners will be verbally informed at the commissioning of this system of all maintenance requirements and strongly advised to have a service contract in place prior to final sign off of the system installation.

WaterFlow
Bringing Clarity to Wastewater

ECONOTREAT™

ET60C Treatment System

System Specificatons & Installation Instructions

ET-60C-SpecInstall-250516

ET60C

System Specificatons & Installation Instructions

Compliance Requirements

All Waterflow Septic Tanks and Treatment Modules meet the requirements of the New Zealand Building Code G13-VM4, Clause B1 - Structure, and Clause B2 Durability As stated in the AS/NZS 1546.1:2008 Standard, 1.5.2.1, all septic tanks constructed to this Standard meet the requirements of the New Zealand Building Code for Clause B1 - Structure and Clause B2 Durability.

The design and specifications of the septic tank are fully compliant with the AS/NZS1546.1:2008 Standard, including but not limited to:

Structural Integrity: The tank is designed using 50 MPa fibre-reinforced concrete with appropriate foot anchors and reinforcement, ensuring it meets the structural requirements specified in the standard.
Material Specifications: All materials used, including the reinforcing details and concrete mix, comply with the necessary standards for durability and suitability in septic tank applications.
Capacity and Dimensions: The tank's dimensions and baffle placements align with the standard's guidelines, ensuring proper functionality and waste management.
Access and Maintenance Provisions: The design includes provisions for easy access, necessary for regular inspection, cleaning, and maintenance in accordance with the standard.

Please feel free to ask for a copy of this complete document, if required.

ET60C

System Specificatons & Installation Instructions

Treatment Process

Primary Chamber / Tank
Influent enters the chamber via the source whereby scum and solids capable of settling are separated from the raw influent. Primary treated effluent flows through a transfer port to the aeration tank. This primary tank will also act as a storage chamber for sludge returned from the Clarification Chamber.
After primary settling, the sewage passes through a Reln outlet filter.

Aeration Chamber
Water enters from the Primary Chamber. Air is introduced into this chamber via an air blower to create an environment for aerobic bacteria and other helpful organisms to consume the organic matter present. The aeration tank is designed in a manner to help prevent short circuiting of the wastewater to ensure extended aeration. Media is present in the tank to support the growth of bacteria.

Clarification Chamber
The Clarification chamber is essentially a quiescent zone where suspended particles/solids are settled out of the water. These particles are returned to the Primary chambers via a sludge return which aids in further biological reduction, denitrification and providing a constant food supply rich in microbes supporting the system through periods of limited flows.

System Performance

BOD (g/m^3)	<10
TSS (g/m^3)	<10
Total Nitrogen TN (g/m^3)	<15
Ammonia Nitrogen NH4-N (g/m^3)	<15
Total Phosphorous (g/m^3)	<15

ET60C

System Specificatons & Installation Instructions

Effluent Quality

The EconoTreat ET60C Series wastewater treatment system generates advanced secondary treated effluent of the following quality provided that there are no inhibitory or toxic substances within the wastewater that will impair the biological performance of the system:

- 5-day Biochemical Oxygen Demand (BOD5) 15 mg/L
- Suspended solids 15 mg/L

Note: Please read Guidelines on how to care for your EconoTreat wastewater system which are to be adhered to at all times.

The treated wastewater will usually be disposed of via a land application system, designed accordingto AS/NZS 1547:2012which describes various land application systems for primary treated effluent. Disposal systems must also comply with the relevant Regional Authority rules, and these should be consulted.

Loading Rates

• Total Daily Flow Rate	3000 L per day
• Organic loading as BOD5	700g per day
• Suspended solids loading	700g per day

Important: the actual maximum loading of an installed EconoTreat VBB-C-3000 System is limited to the capacity of the land application system it discharges to. For example if the land application system is designed with a capacity of 800L per day, then the VBB-C-3000 System must not be loaded at more then 800L per day.

Dual Chamber Septic Tank

6000L Nominal Capacity
2200mm Diameter
1960mm High
~4,100kg

Aeration Tank

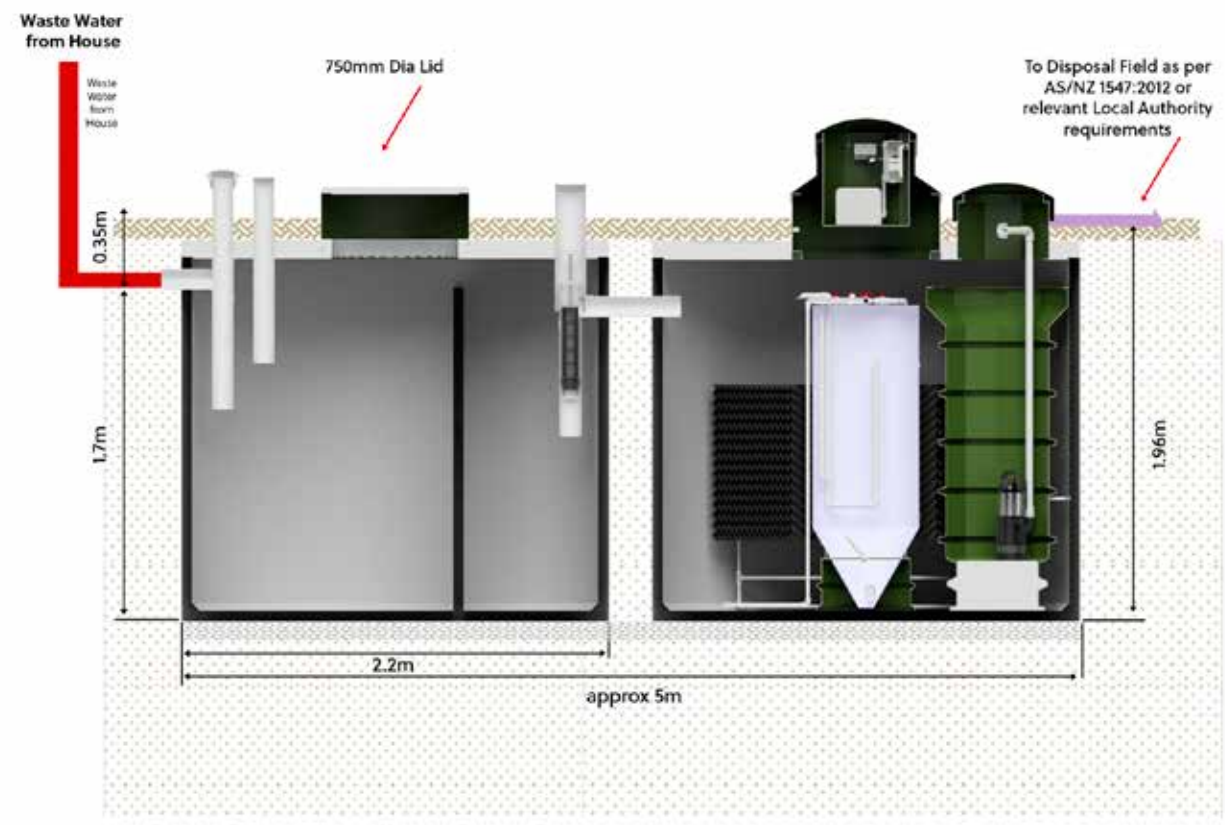
6000L Nominal Capacity
2200mm Diameter
1960mm High
~3,640kg

Pump Chamber

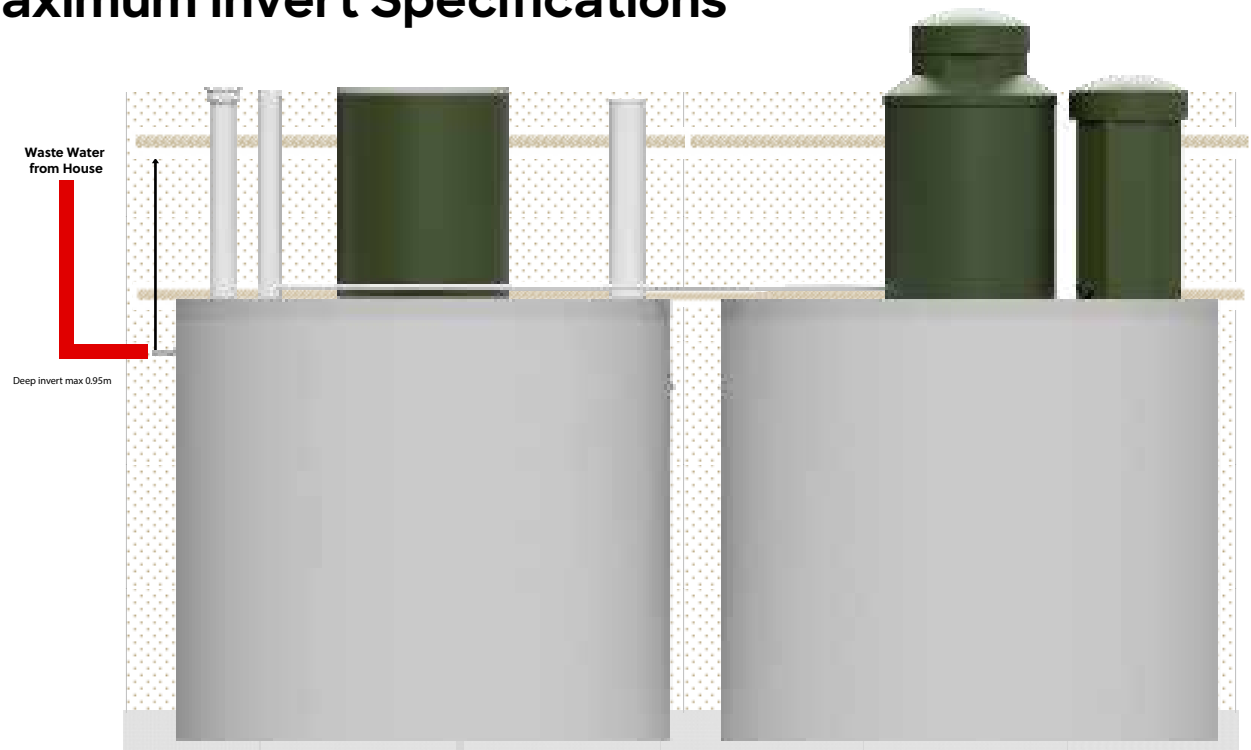
500L Pump Chamber
3000L Emergency Storage

ET60C

Schematic Drawings

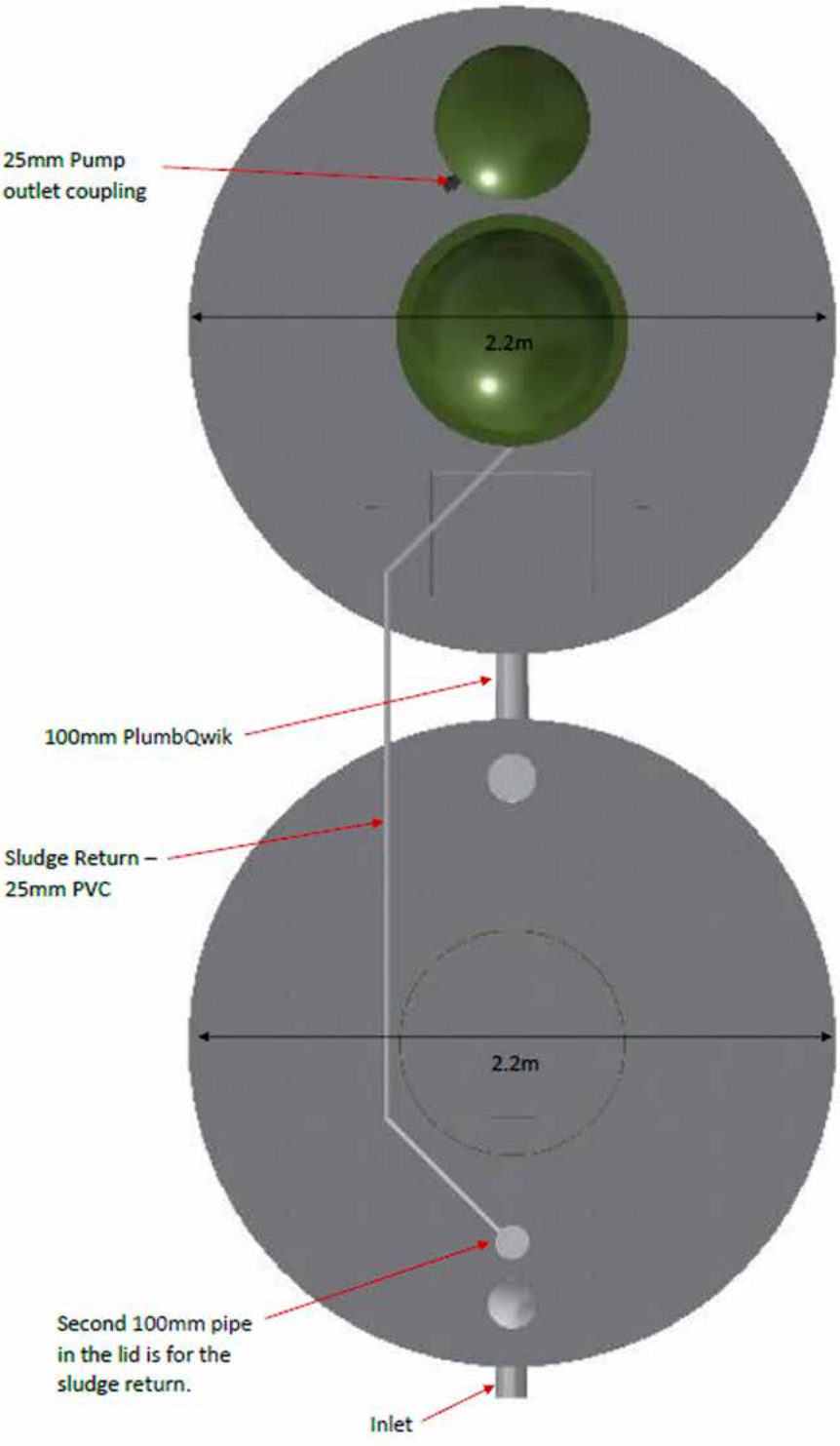


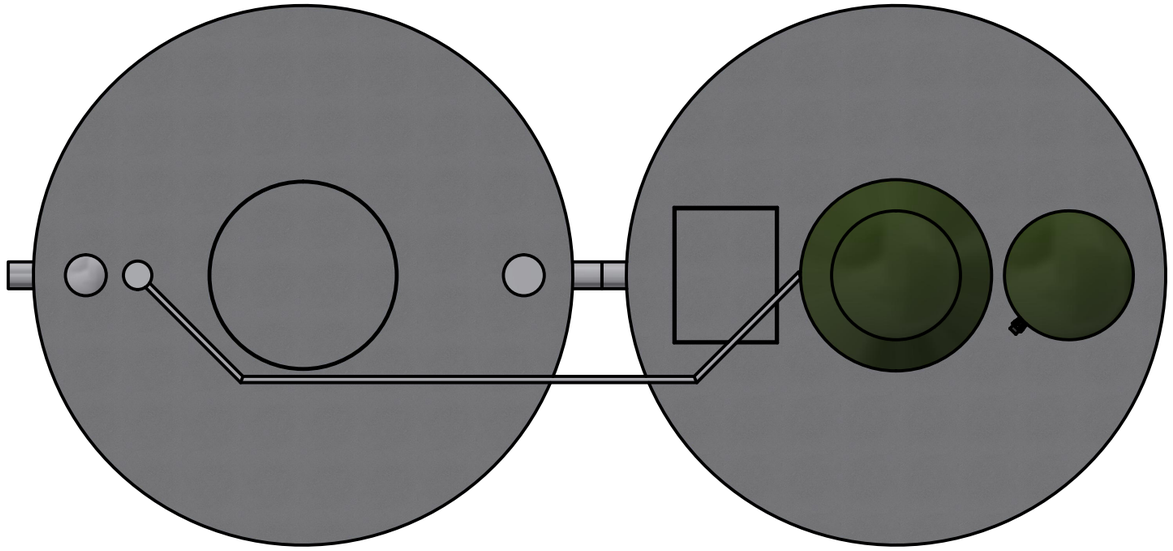
Maximum Invert Specifications

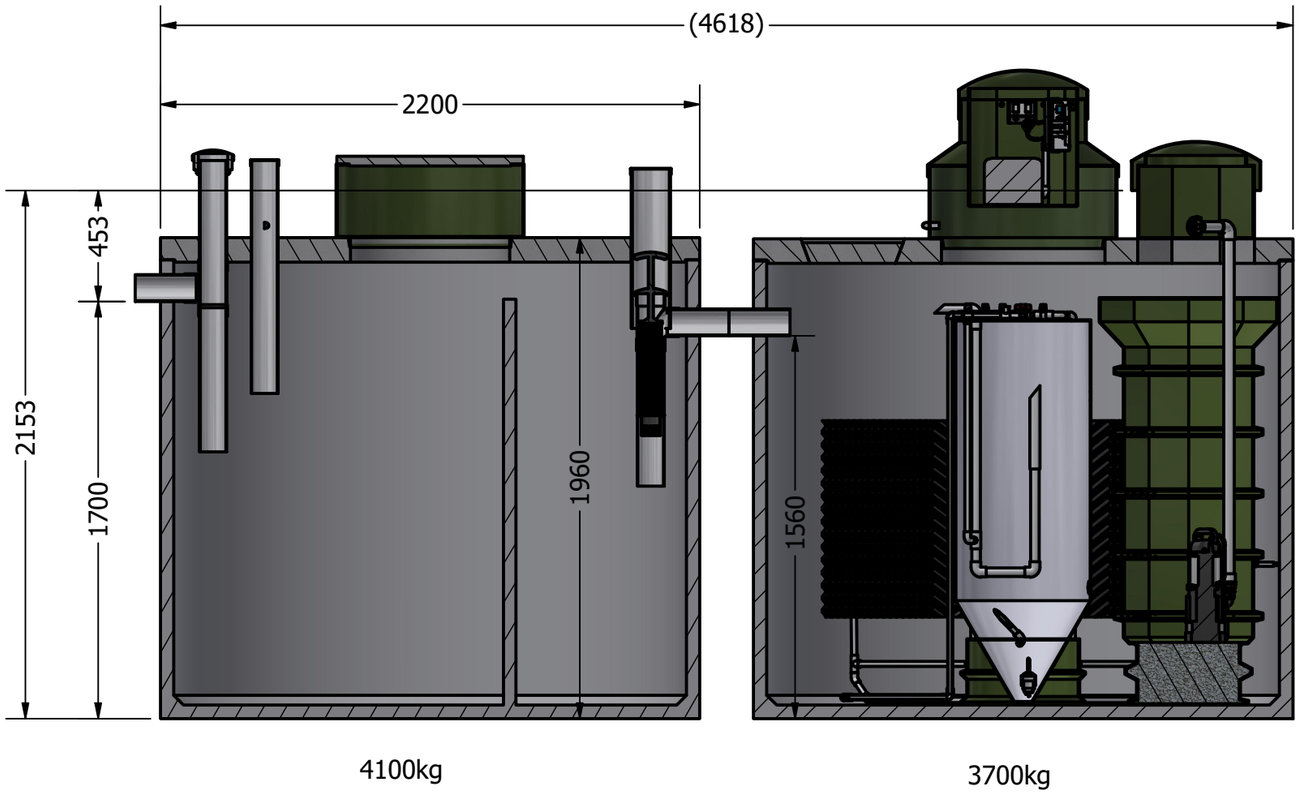


ET60C

Schematic Drawings







4100kg

3700kg

Econotreat VBB-C-3000 System

Manufacturer rated flow per day	3,000LPD
Description of system process	Aerated submerged fixed film media (open and closed type). Intermittent operation (fine and very large bubble combo)
Volumes (Litres) Number of chambers/tanks (volume) Pump Chamber Size Primary chamber/septic tank Aeration chamber Clarification/Re-circulation chamber Total emergency volume	 2 x Tanks (12,000L) 500L 6,000L 6,000L 300L 3,000L
Air Blower	Nitto LA120
Irrigation Pump	D42 Pump unless otherwise specified
Treatment Performance BOD TSS	 <20 <20
Electrical Controls & Alarms	Air & High Water alarms (Audible & visual) 10A circuit breaker Aeration controlled by time clock

WaterFlow
Bringing Clarity to Wastewater

1160 SH12
MAUNGATUROTO 0548
PH: 0800 628 356
E: sales@waterflow.co.nz

Econotreat VBB-C-3000 System

PREPARED FOR:

Sheet 1 of 1

DRAWN: GeraldHoyle | DWG: | SCALE: 1 / 25

REVISION | DATE: 17/04/2019

ET60C

Instructions for Installation

The EconoTreat system is to be installed or signed off by a registered Drain layer to the design specified by Waterflow NZ Ltd. The following installation instructions and procedures followed correctly will ensure System performance is not compromised in any way.

1. Excavate two 3m x 2m level platforms at an appropriate depth to ensure adequate fall for inlet pipe from the source. This has to be installed on virgin ground. The two platforms are ideally on the same level and next to each other, either side-by-side or end-on-end.

2. Lay 100mm of bedding metal on platform and place the Septic and Aeration tanks next to each other. As close as practically possible to minimize the connection distance between the tanks.

3. Connect the two tanks with 100mm PVC. If the tanks are side-by-side the connection will need supporting. This is done by, extending the connection back onto virgin ground or hard-filling and compacting and also tying it back to the wire on the lids with a length of rope supplied. The rope can be found in the top of the treatment tank.

ET60C

Instructions for Installation

4. Next connect the sludge return. This is a 25mm PVC pipe that come out of the central riser on the treatment tank. This must be plumbed back to the second 100mm PVC at the start of the septic tank. It is important that this pipe is falling slightly or at minimum flat.

5. Trench from Dose Chamber outlet to disposal field and lay the 25mm alkathene feed line.

6. Take a minimum of 3 photos at this point to showing connections and back fill, to ensure correct installation for sign off.

7. Back fill around tanks. Using spoil from the excavation is fine if it is suitable otherwise consider a hard fill. Please be aware that soils will settle over time though.

Caution: System must be protected from excessive super imposed loads both lateral and top loads. E.g. loads from vehicular traffic. There needs to be at least 2m of clearance maintained around system.

ET60C

System Specificatons & Installation Instructions

Installation Location and Certification

These tanks are not designed for vehicle loads and shall be located no closer than 2m to a driveway, road frontage or a building. If for any reason the tank is located where vehicle traffic may drive over the tank or approach closer than 2m, or where it may be trampled on by farm stock then the tank should be protected by a concrete slab designed to support these loads. Surface water must also be diverted from flowing into the installation.

Installation must be certified to AS/NZS 1547:2012, the certificate to be issued and held by the regulatory authority.

High Water Table Installations

All tanks have been engineered and designed for maximum strength, in accordance with the NZC 3604. Clauses B1 and B2 for structure and durability, to withstand any hydraulic pressures, both lateral and uplift, created by high water table conditions.

In high water table installations, it is important to fill the tanks with water. This removes the hydraulic uplift and simplifies the installation. In extremely high-water tables, cement can be added to fine metal to create a mass around the dead men anchors secured to the tanks (alternately concrete could be used). Waterflow must be made aware of this early on in vies of supplying a tank that is fit for purpose.

Plumbing Pipes and Fittings

All internal plumbing is done with PVC pipes with appropriate connections according to AS/NZS 1260 and AS/NZS 4130.

Alarm System

The ET60C System is equipped with an AS/NZS 1546.3 compliant audible and visual alarm with a mutable alarm signal and alarm light. The alarm panel must be mounted in a location that is readily visible within the dwelling.

Alarm is triggered by a high-level float switch in the pump well.

ET60C

System Specificatons & Installation Instructions

Plumbing Pipes and Fittings

All internal plumbing is done with PVC pipes with appropriate connections according to AS/NZS 1260 and AS/NZS 4130.

Backfill and Bedding

Backfill the excavation from the base of the tank with a GAP/PAP 20 metal, dry mixed with cement to form a solid mass, to a minimum of 400mm above the anchor plates. Then continue with metal, clean unsaturated soils or spoil from the excavation, (if suitable i.e. up to Class 4 as per AS/NZS 1547:2012) in approximately 200mm layers. Compact each layer evenly with a mechanical compactor to minimise subsidence and back fill to the level of the invert pipe.

Electrical

Where a pump is required to dose the Land Application System, all electrical connections must be installed according to AS/NZS 3000. The electrical connections are housed in an enclosure on the top of the tank. Please see separate Electrical Guide for more details.

Warranty

WATERFLOW NZ LTD warrants that all Treatment Systems manufactured by WaterFlow NZ Ltd will be free from defects in materials and workmanship for the following periods from the date of installation, under the following conditions:

1. Plastic-Moulded tanks: 15 years

2. Concrete Tanks: 15 years

3. Filter Media: 5 years

4. Dosing float: 2 years

5. Electrical Components and Pump: 2 years

WATERFLOW NZ LTD will, at its discretion, repair or replace any defective components with the same or equivalent part at no charge to the consumer, in accordance with the following terms and conditions laid out in the WaterFlow NZ's Warranty Certificate. Full text warranty available on request.

1st June 2025
Dean Hoyle
Managing Director

WaterFlow

Bringing Clarity to Wastewater

Our team of wastewater experts are here to help.
Let's see if Econotreat could be right for your backyard.

Smarter wastewater and sewage systems, for a cleaner New Zealand.

0800 628 356
www.waterflow.co.nz
sales@waterflow.co.nz
ET-60C-SpecInstall-250516

ECONOTREAT™

WaterFlow

Bringing Clarity to Wastewater

Econotreat STEP Tank System ST52C

System Specificatons & Installation Instructions

ST-52C-SpecInstall-250516

Econotreat ST52C

System Specificatons & Installation Instructions

Compliance Requirements

All Waterflow Septic Tanks and Treatment Modules meet the requirements of the New Zealand Building Code G13-VM4, Clause B1 - Structure, and Clause B2 Durability. As stated in the AS/NZS 1546.1:2008 Standard, 1.5.2.1, all septic tanks constructed to this Standard meet the requirements of the New Zealand Building Code for Clause B1 - Structure and Clause B2 Durability.

The design and specifications of the septic tank are fully compliant with the AS/NZS1546.1:2008 Standard, including but not limited to:

Structural Integrity: The tank is designed using 50 MPa fibre-reinforced concrete with appropriate foot anchors and reinforcement, ensuring it meets the structural requirements specified in the standard.
Material Specifications: All materials used, including the Polymer composition, comply with the necessary standards for durability and suitability in septic tank applications.
Capacity and Dimensions: The tank's dimensions and baffle placements align with the standard's guidelines, ensuring proper functionality and waste management.
Access and Maintenance Provisions: The design includes provisions for easy access, necessary for regular inspection, cleaning, and maintenance in accordance with the standard.

Please feel free to ask for a copy of this complete document, if required.

Econotreat ST52C

System Specificatons & Installation Instructions

Role of Step Tanks

Step tanks, also known as step feed tanks or stepped aeration tanks, are used in various applications within wastewater treatment processes. These tanks can play a crucial role in the biological treatment phase of wastewater treatment plants (WWTPs). Here are some specific applications and contexts where step tanks are used:

Activated Sludge Process:

Improved Nitrogen Removal: Step feed tanks are used to introduce wastewater at multiple points along the length of the aeration tank. This helps in creating zones with different oxygen levels, which can enhance nitrogen removal through nitrification and denitrification processes.

Load Distribution: By feeding wastewater at multiple steps, the organic load is distributed more evenly across the tank. This prevents overloading at the beginning of the tank and allows for better microbial activity and efficiency.

Biological Nutrient Removal (BNR):

Enhanced Phosphorus Removal: In BNR systems, step tanks can create anaerobic, anoxic, and aerobic zones, which are essential for the removal of phosphorus through biological means.

Flexibility in Operation: Step feeding provides operational flexibility, allowing for adjustments based on influent characteristics and treatment goals, which is beneficial for nutrient removal.

Secondary Treatment:

Improved Settling Characteristics: Step tanks can improve the settling characteristics of the mixed liquor in the secondary clarifier by reducing the sludge age and preventing the buildup of filamentous organisms.

Enhanced Sludge Management:

By controlling the sludge age and microbial population dynamics, step tanks help in better sludge handling and management in the subsequent stages.

Econotreat ST52C

System Specificatons & Installation Instructions

Industrial Wastewater Treatment:

Handling Variable Loads: In industries where the wastewater load can vary significantly, step feed systems can provide a more stable treatment environment, improving the overall efficiency of the treatment process.

Retrofit of Existing Systems:

Upgrading Old Plants: Step tanks are sometimes used to retrofit and upgrade existing wastewater treatment plants to meet stricter discharge standards or to handle increased capacity without the need for extensive construction.

Cluster based developments or subdivisions:

On-Site Treatment: Step tanks can serve as part of a decentralized wastewater treatment system, treating sewage on-site rather than relying on a central treatment facility. This is particularly beneficial in rural areas where centralized sewer infrastructure might be lacking or too costly to implement.

Flexibility and Scalability: Step tanks can be designed to accommodate the specific needs and scale of a cluster-based subdivision, providing a flexible solution that can be adjusted as the community grows.

Lower Infrastructure Costs: Implementing step tanks can reduce the need for extensive and expensive centralized sewer infrastructure. This is particularly advantageous in rural subdivisions where the cost of laying long sewer lines can be prohibitive.

Operational Savings: Step tanks can be designed to require minimal maintenance and energy, resulting in lower operational costs compared to traditional wastewater treatment systems.

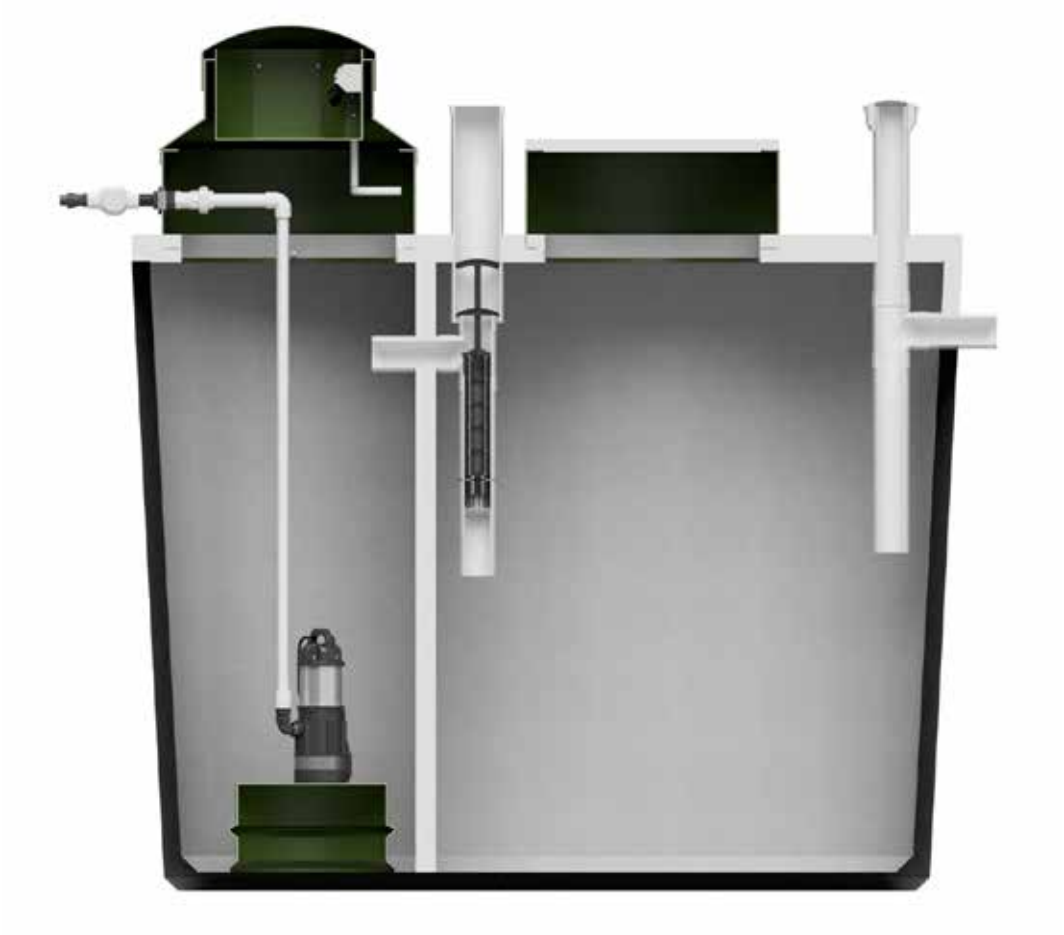
Overall, step tanks are valuable in optimizing the biological treatment process, enhancing nutrient removal, and providing operational flexibility in various wastewater treatment scenarios.

Econotreat ST52C

System Specificatons & Installation Instructions

Tank Specifications

Tanks are made of precast concrete, which is suitable material for wastewater treatment containment meeting all the requirements of Section 4.3.3 of AS/NZS 1547:2012. These tanks have an expected lifespan of 50 years.



Septic Tank

5200L Capacity
2500mm Long
1700mm Wide
1975mm High

Pump Chamber

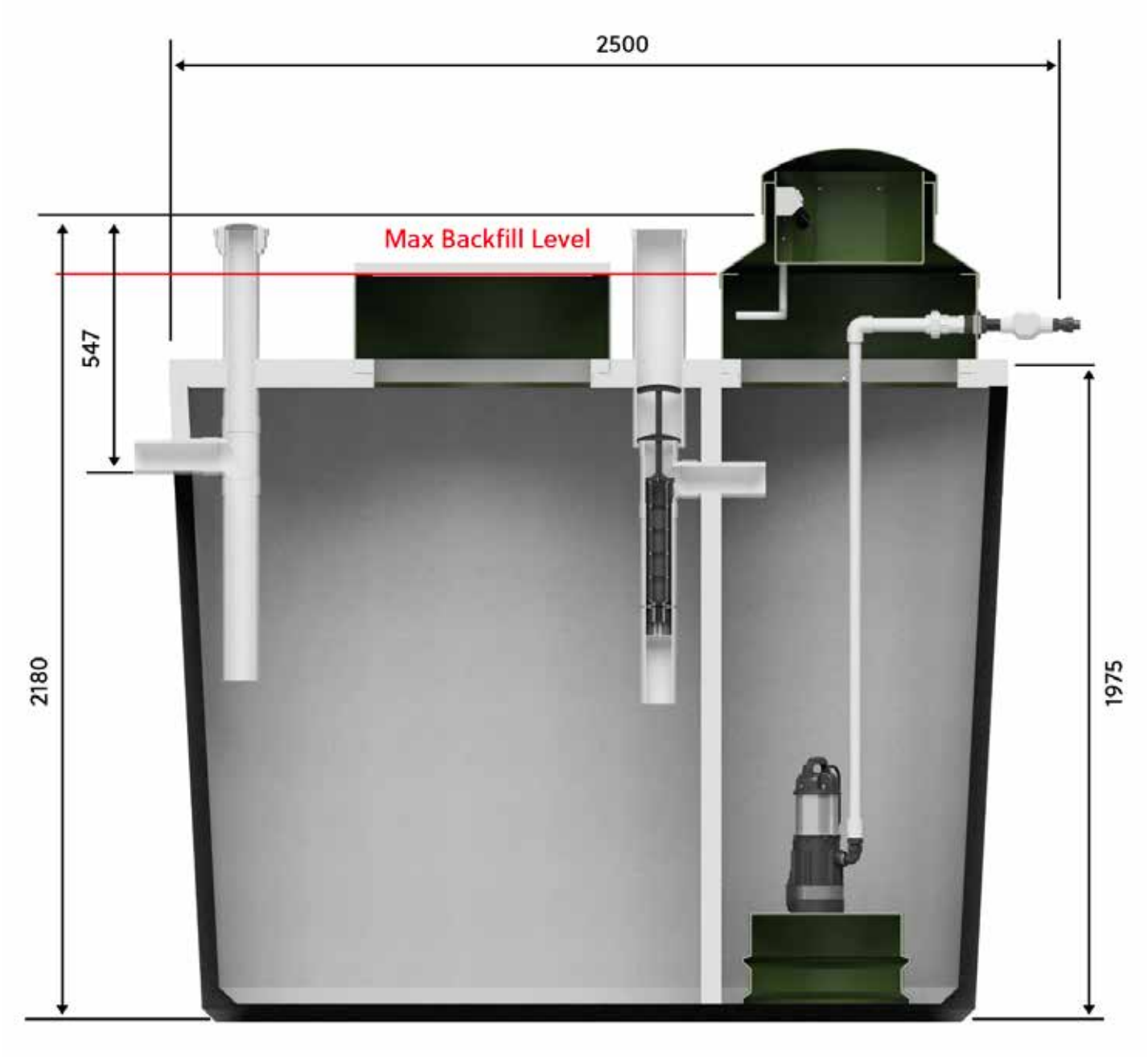
500ltrs Nominal capacity

Septic Chamber

3400L Capacity

Econotreat ST52C

Flow Charts



Econotreat ST52C

Instructions for Installation

The Econotreat system is to be installed or signed off by a registered Drain layer to the design specified by Waterflow NZ Ltd. The following installation instructions and procedures followed correctly will ensure System performance is not compromised in any way.

1. Excavate a 2m x 3m level platform at an appropriate depth to ensure adequate fall for inlet pipe from the source. This must be installed on virgin ground.

2. Lay 100mm of bedding metal on platform and place the tank in the hole, take a photo of this for Waterflow signoff.

3. Back fill tank tanks. Using fill from the excavation is fine but be aware this will settle over time. Metal is preferred as it isn't subject to settlement.

4. Trench from Dose Chamber outlet to disposal point and lay feed line.

5. Take a minimum of 3 photos at this point to showing both connections and the back fill, to ensure correct installation for sign off.

6. Put a minimum of 3000L of water into the tank to resist hydraulic uplift.

High Water Tables: Waterflow can add an uplift restraint foot to the tank. This is a concrete foot, added during manufacture. We must know in advance that this is required, in order to supply a tank that is fit for purpose.

When installing in a high-water table, it is advisable to fill the tank with water before back filling, to counter hydraulic uplift.

Caution: System must be protected from excessive super imposed loads both lateral and top loads. E.g. loads from vehicular traffic. There needs to be at least 2m of clearance maintained around system, unless otherwise designed by a suitably qualified engineer.

Econotreat ST52C

System Specificatons & Installation Instructions

Installation Location and Certification

These tanks are not designed for vehicle loads and shall be located no closer than 2m to a driveway, road frontage or a building. If for any reason the tank is located where vehicle traffic may drive over the tank or approach closer than 2m, or where it may be trampled on by farm stock then the tank should be protected by a concrete slab designed to support these loads. Surface water must also be diverted from flowing into the installation.

Installation must be certified to AS/NZS 1547:2012, the certificate to be issued and held by the regulatory authority.

High Water Table Installations

All tanks have been engineered and designed for maximum strength, in accordance with the NZC 3604. Clauses B1 and B2 for structure and durability, to withstand any hydraulic pressures, both lateral and uplift, created by high water table conditions. In high water table installations, it is important to fill the tanks with water. This removes the hydraulic uplift and simplifies the installation. In extremely high-water tables, uplift restraint plates should be used. Waterflow must be made aware of this early on in vies of supplying a tank that is fit for purpose.

Plumbing Pipes and Fittings

All internal plumbing is done with PVC pipes with appropriate connections according to AS/NZS 1260 and AS/NZS 4130.

Backfilling and Bedding

Place and bed to NZBC G13/AS2, using compacted granular metal, in layers not exceeding 100mm.

Electrical

Where a pump is required to dose the Land Application System, all electrical connections must be installed according to AS/NZS 3000. The electrical connections are housed in an enclosure on the top of the tank. Please see separate Electrical Guide for more details.

Warranty

WATERFLOW NZ LTD warrants that all Treatment Systems manufactured by WaterFlow NZ Ltd will be free from defects in materials and workmanship for the following periods from the date of installation, under the following conditions:

1. Plastic-Moulded tanks: 15 years

2. Concrete Tanks: 15 years

3. Filter Media: 5 years

4. Dosing float: 2 years

5. Electrical Components and Pump: 2 years

WATERFLOW NZ LTD will, at its discretion, repair or replace any defective components with the same or equivalent part at no charge to the consumer, in accordance with the following terms and conditions laid out in the WaterFlow NZ's Warranty Certificate. Full text warranty available on request.

1st June 2025
Dean Hoyle
Managing Director

WaterFlow

Bringing Clarity to Wastewater

Our team of wastewater experts are here to help. Let's see if **STEP Tank ST52C** could be right for your backyard.

Smarter wastewater and sewage systems, for a cleaner New Zealand.

0800 628 356
www.waterflow.co.nz
sales@waterflow.co.nz

ST-52C-SpecInstall-250516

WaterFlow
Bringing Clarity to Wastewater

ECONOTREAT™

Advanced Secondary Treatment Aerated Wastewater System

Owner's Manual

EconoTreat Wastewater Systems

Owner's Manual

Contents

EconoTreat Wastewater Systems

Owner's Manual

To the Owner

Thank you for choosing an EconoTreat System to treat and care for your on-site sewage and wastewater.

Your EconoTreat System is fully automatic in operation and requires little owner intervention to ensure years of service. It is useful that the owner/operator of the system understand some of the broad concepts of the system operation. This manual has been written to provide this simple explanation and to serve as a future reference so that you can ensure that the system is operating effectively at all times.

We encourage you to monitor and care for your EconoTreat system with our backing and support. By doing so you will learn how your system works and operates and how to keep it in top working order. WaterFlow promises consistent results year after year.

Kind regards,
The Waterflow Team

WaterFlow NZ Ltd Warranty

WATERFLOW NZ LTD warrants that the Waterflow NZ System will be free from defects in materials and workmanship for the following periods from the date of installation, under the following conditions:

1. Plastic-Moulded tanks: 15 years
2. Concrete Tanks: 15 years
3. Filter media: 5 years
4. Dosing float: 2 years
5. Electrical components and Pump: 2 years

WATERFLOW NZ LTD will, at its discretion, repair or replace any defective components with the same or equivalent part at no charge to the consumer, in accordance with the full terms.

Note: Full warranty document available at your request.

EconoTreat Wastewater Systems

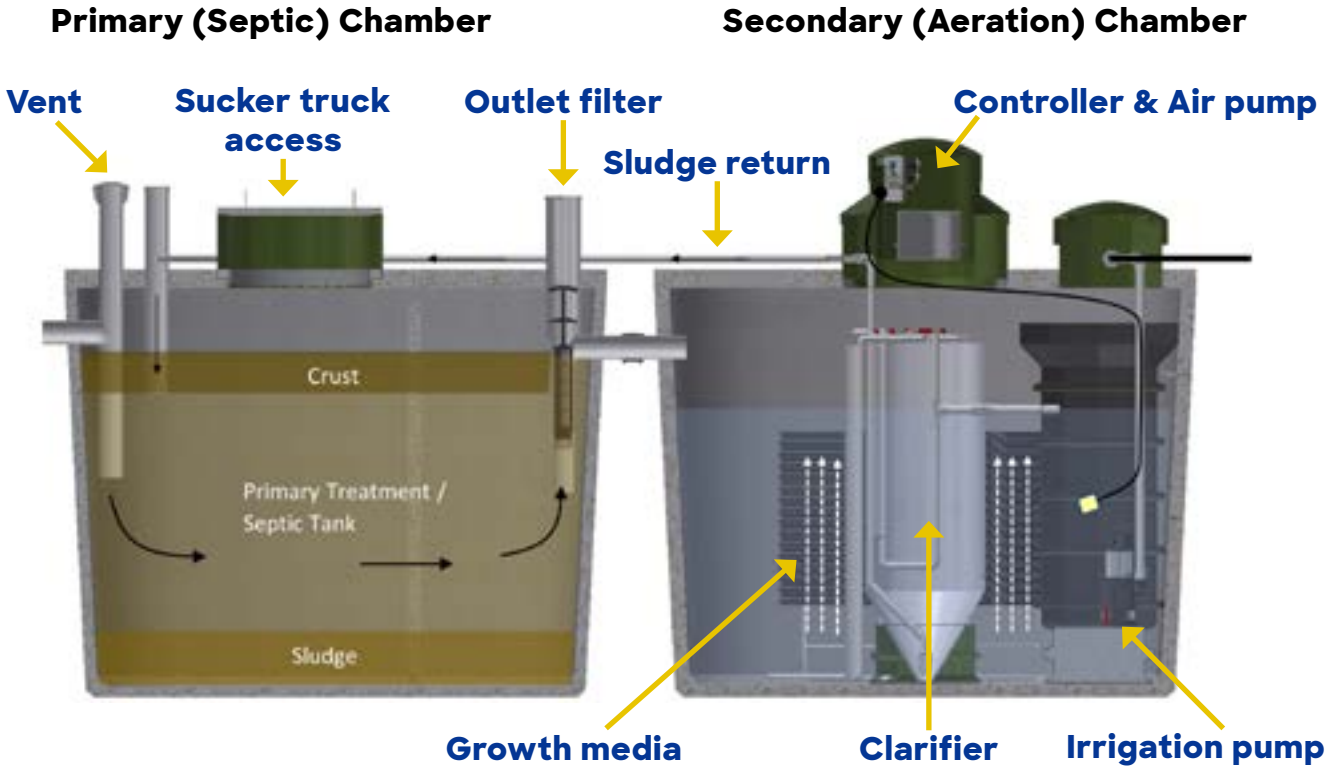
Owner's Manual

Components of Your Wastewater Septic System

Primary Chamber / Tank
Influent enters the chamber via the source whereby scum and solids capable of settling are separated from the raw influent. Primary treated effluent flows through a transfer port to the aeration tank. This primary tank will also act as a storage chamber for sludge returned from the Clarification Chamber.

Aeration Chamber
Water enters from the Primary Chamber. Air is introduced into this chamber via an air blower to create an environment for aerobic bacteria and other helpful organisms to consume the organic matter present. The aeration tank is designed in a manner to help prevent short circuiting of the wastewater to ensure extended aeration. Media is present in the tank to support the growth of bacteria.

Clarification Chamber
The Clarification chamber is essentially a quiescent zone where suspended particles/solids are settled out of the water. These particles are returned to the Primary chambers via a sludge return which aids in further biological reduction, denitrification and providing a constant food supply rich in microbes supporting the system through periods of limited flows.



Service Agent Role

Your EconoTreat System requires annual service and maintenance inspections unless otherwise specified by local regulations. This will need to be done by our trained technicians. We will phone to arrange a suitable time to attend to your servicing needs. Servicing done by technicians who are not approved by WaterFlow will void your Warranty.

A record sheet (in duplicate) will be completed by our technician at the time of service. One copy is for you the customer and available upon payment, the other copy will be retained for our records.

Please call our office for the cost of servicing after the initial 12-month period.

Servicing includes:

1. A general inspection of tank area, irrigation and drainage.
2. Inspection of electrical equipment including timer, Low powered Blower, irrigation pump, warning lights and connections.
3. Inspection of Pump-out Chamber and septic tank, checking air lines, adjusting air supply (if necessary), operating de-sludging unit, resetting air control, operating submersible switch, checking bio-mass growth, checking sludge level.
4. Inspection of irrigation including lines, jets and outlets. Between 4 - 9 years the tank will need to be de-sludged (pumped out) as with any septic tank. We will notify you of this requirement, as the service technicians will be monitoring sludge depth annually.

EconoTreat Wastewater Systems

Owner's Manual

Owner Care Role

Did you know...
...that as a homeowner you're responsible to make sure your wastewater system gets the required maintenance needed to protect the investment in your home? This guide will help you care for your wastewater system. It will help you understand how your system works and what steps you can take as a homeowner to ensure your system will work efficiently.

The owner is greatly encouraged to maintain a monthly visual check of the operation of their system and to make sure their land application systems are maintained in good condition.

1. Industry recommendation is to have a maintenance contract in place at all times
2. Visual check of treatment system
3. Visual check of land application system
4. Notify your approved service provider of any issues

Intermittent Use
There are no precautions to take. Your EconoTreat can be left to function automatically for 6 to 12 months. However, if you are likely to be away from home for more than six months you may like to contact our office, so we can make a routine check.

Efficient Water Use - it really does make a difference
Average indoor water use in the typical single-family home is approximately 180ltrs per person per day. The more water a household conserves, the less water enters the septic system. Efficient water use can improve the operation of the wastewater system and reduce any risk of disposal field overload.

Washing machines
By selecting the proper load size, you'll reduce wastewater. Washing small loads of laundry on the large-load cycle wastes precious water and energy. If you can't select load size, run only full loads of laundry. N.B. A new Energy Star washing machine uses 35 percent less energy and 50 percent less water than a standard model.

EconoTreat Wastewater Systems

Owner's Manual

Inspection Checklist

When checking the system operation, take particular note of;

1. Remove and clean outlet filter every 3-4 months.
2. Field performance, particularly looking for any undue odours or effluent breakout (flush field lines 2-3 monthly).
3. All electrical parts (if applicable). Ensure all pump alarms are working.
4. Clean disc filter 2–3 monthly (if applicable)

EconoTreat Wastewater Systems

Owner's Manual

Care for your Land Application System (LAS / Disposal Field)
Your disposal field is an important part of your wastewater system. Here are a few things you should do to maintain it:

- Flush driplines regularly – every 3 months recommended
- Mow your disposal field and maintain plantings regularly to ensure access to flushpoints etc.
- Plant only recommended wetland plants over and near your wastewater system. Roots from nearby trees or shrubs might clog and damage the disposal field
- Protect both the treatment system and the disposal field from vehicle traffic, including livestock to avoid damage to the pipes, tank, or other septic system components.
- Do not build any structures over it or seal it with concrete, asphalt etc
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the disposal field. Flooding the disposal field with excessive water slows down or stops treatment processes and can cause plumbing fixtures to back up
- Trees with very aggressive roots, such as willows, should be kept well away from the disposal field
- A soggy disposal field won't absorb and neutralise liquid waste. Plan landscaping, roof gutters and foundation drains so that excess water is diverted away from the disposal field

Effects of Household Cleaning Chemicals

Use of many cleaning chemicals in facilities served by on-site disposal systems, can result in high concentrations of the constituents in those cleaning agents being discharged into the receiving soils. These chemicals and constituents can have a massive impact on the quality and condition of the receiving soils over time.

Many of the chemicals can disrupt soil structure and decrease hydraulic conductivity while others can act as bactericides, destroying the essential micro-organisms required to achieve the high level of biodegradation in the treatment and disposal systems.

The following matters need to be considered when using cleaning agents in a domestic situation:

- Laundry powders are often extremely high in sodium which will destroy the salt balance in the soils. Check the labels for low sodium and phosphorous contents.
- Wastewater flow from dishwashing machines can have an impact on wastewater treatment systems, in terms of the strong cleaning chemicals used, so check labels for low sodium products
- Highly corrosive cleaners (such as toilet and drain cleaners) that have precautionary labels warning users to minimise direct contact, are an indication that they can adversely affect the wastewater treatment system. Up to 1 cup of bactericides such as bleach can be sufficient to impact on all the micro-organisms/bugs in a septic system.

Substitutes For Household Cleaning Chemicals

Use of the following readily biodegradable substitutes for common potentially harmful household cleaning chemicals will reduce the stress on any wastewater system, significantly enhance the performance of the whole system and increase the life of the land application system, while reducing the potential effects of the receiving soils.

General Cleaners
Use soft soap cleaners and bio-degradable cleaners and those low in chlorine levels. Contact us for a new biological cleaner that will help you system.

Ammonia-Based Cleaners
Instead sprinkle baking soda on a damp sponge.

Disinfectants
In preference use Borax (sold in most Bin Inn stores): ½ cup in 4-litres of water.

Drain De-Cloggers
Avoid using de-clogging chemicals. Instead use a plunger or metal snake, or remove and clean trap. Contact us for very effective, worm friendly, drain cleaning products.

Scouring Cleaners and Powders
Instead sprinkle baking soda on a damp sponge or add 4-Tbs baking soda to 1-Litre warm water. It's cheaper and won't scratch.

Toilet Cleaners
Sprinkle on baking soda, then scrub with toilet brush.

Laundry Detergent
Choose one with a zero phosphate content and low in alkaline salts (in particular, a low sodium level) and no chlorine.

EconoTreat Wastewater Systems

Owner's Manual

Do's and don'ts

DO

- If your system requires power supply make sure this remains on continuously
- Wipe and bin your fats and frying oils rather than rinsing them down the drain
- Check faucets and toilets for leaks; make repairs if necessary
- Use low flush toilets where possible
- Use a 'displacer' to reduce the amount of water needed to flush older toilets
- Use aerators on faucets and flow reducer nozzles on showers to help lower water consumption
- Reduce water levels for small loads of laundry
- Wait until the dishwasher is full to run it
- Perform regular monthly visual checks of your system and field
- Keep records of all maintenance undertaken on the wastewater systems

DO NOT

- Switch off power unless servicing
- Use cleaners high in chlorine, phosphorous or ammonia in toilets or kitchen sink
- Pour any toxic/strong chemicals (paint, oil, grease, paint thinners or pesticides) down any drains
- Pour strong or large volumes of acid down any drains. These include: vinegar, brine, lemon juice.
- Flush down your toilet – Dental floss, feminine hygiene products, diapers, wipes, cotton swabs, cigarette butts, cat litter, dog poo, and other kitchen and bathroom items. Flushing household chemicals, gasoline, oil, pesticides, antifreeze, and paint can also stress or destroy the biological treatment taking place in the system or might contaminate surface or ground waters.
- Discard any drugs down the sink or toilet
- Alter or add any part of your system without Waterflow NZ LTD's approval

Troubleshooting

To ensure the most effective operation of your EconoTreat System you should familiarize yourself with the contents of this manual. The EconoTreat has been designed to include additional safety margins and minor mishaps and normal household usage will not usually affect the operation of the system.

However, if the alarm sounds or strong odours persist, please call your service agent.

Problem	Potential Cause(s)	Remedial Action(s)
Alarm sounds (will indicate air or water alarm)	Irrigation pump not working Air supply not working No power at the tank Blocked Septic filter	Check power source and wriggle pipe from pump to ensure float is not stuck Check water levels Listen for the air compressor Clean septic outlet filter Check your fuse board Open the taps on your drip field to assist water exiting faster High level float switch in the pump well may be triggered – the alarm will reset after the water level in the sump subsides If your system has a disc filter, remove and clean it If everything all looks to be ok, it may be a faulty alarm sensor (mute alarm and contact your service provider.
Water around tank	System overflowing Blocked outlet filter Storm/Surface water	Check there is power on at the system Remove and clean outlet filter Divert Storm/Surface water away from the system
Excessive foaming	Too much laundry detergent Too many washes	Use recommended quantities Spread wash loads over different days

EconoTreat Wastewater Systems

Owner's Manual

Problem	Potential Cause(s)	Remedial Action(s)
Persistent odours	Too much water usage Excessive chemicals in use Gully traps dried out or non-existent (if the bathroom does not get used often, the water can evaporate out of a gully trap allowing odour to escape into the house).	Add biologic starter pack Install water saving devices Stop fats, oils, and grease going down the drain Reduce water usage or install water saving devices Avoid using nasty chemicals (Eco store, Earthwise, Ecobeings and Dishpod are great options) Run water down drain to ensure gully trap is blocking odour System will recover
Irrigation system not working	Irrigation pump not working Irrigation lines kinked or blocked Saturated areas at the end of the irrigation field	Check power source and wriggle pipe from pump to ensure float is not stuck Locate all flush valves, check if water is exiting Flush irrigation line and remove kinks or blockages Turn flush valves off to avoid further saturation Check if any large machinery has driven over / near it
Water ponding on irrigation field	Storm/Surface water Irrigation line blocked Excessive water use	Install water saving devices Repair irrigation pipe Redirect any surface water away from the irrigation field
Household drains gurgling	Blocked drain to the tank Check your main switchboard that the power to the system is on Check water levels, if flooded then a technician may be needed to investigate further	Check and make sure you can see the inlet into the tank. If you can you have a drainage issue. Send pictures of the inside of the tank to **service@waterflow.co.nz** to arrange an inspection Please limit water usage until we can come to site Stop and fats, oils, or grease going down the drain

ECONOTREAT™

Need a hand? We're here to help.

0800 628 356

www.waterflow.co.nz

sales@waterflow.co.nz

WaterFlow

MANAGEMENT PLAN

Tipara Thomas Morunga 2443 State Highway 12, Waima

CPPC PLANNING

PLANNING DEVELOPMENT CONSULTANT

EXECUTIVE BRIEF

This Management Plan is prepared on behalf of Tipara Thomas Morunga for the relocation of for the relocation six new prebuilt papakainga dwellings, (earthworks and servicing.

The objective of the proposal is to provide for Papakainga Housing on Maori Land on a 3.9406 hectares property in the way of a low-impact and appropriate development on the subject property at 2443 State Highway 12, Waima.

The Management Plan describes the sites of cultural and historical significance on the property and provides protocols for ensuring these are respected and protected.

The Management Plan facilitates the sustainable management of natural and physical resources in an integrated way.

The responsibility for the implementation of the Management Plan shall fall on the current and the future owners of the property.

The Management Plan should be read in conjunction with the Assessment of Environmental Effects (AEE) dated 6-10-25 prepared by CPPC Planning.

CONTEXT

Tipara Thomas Morunga property is a 3.9406 hectare site located at 2443 State Highway 12, Waima.

The property contains an existing dwelling and sheds, which are accessed over an existing crossing and driveway with State Highway 12.

The application site is located within a landscape that depicts a strong rural character. This is evidenced by the pastoral paddocks in the valley floor and along the foot hills. The steeper hill slopes and ranges are vegetated in predominantly native forest. The valley floors often have a scattering of native forest either following stream alignments or remnant stands of large trees.

Built development within this area is relatively sparse, as it is not a highly populated area. Dwellings are often located just off the main highway or side roads, often with a main dwelling and a number of accessory buildings particularly on the larger farm holdings.

There are several small settlements located along the main highway that provide a limited number of amenities and services/shops.

The Management Plan enables the land to be developed in a holistic manner, encompassing all natural and physical features.

The Management Plan outlines the use of the land within the T Tipara Thomas Morunga property.

The effective implementation of the management plan will ensure that the rural character and amenity values of the site will be preserved for current and future generations.

The Management Plan provisions are an ideal way to manage the resources on the site in a holistic manner and with significant landscape planting, recessive colours and materials and earthworks to ensure the development is integrated into this landscape.

The architectural and landscape plans are included with this Management Plan.

1.0 PURPOSES OF THE MANAGEMENT PLAN

The purposes of this Management Plan are as follows:

- To allow Māori to return to their ancestral home as a communal group and provide for their customary connection, power and authority from the land.
- To effectively manage the site to ensure that the rural character of the site will be preserved for current and future generations.
- To manage the resources on the site in a holistic manner and with significant landscape planting, recessive colours and

materials and earthworks to ensure the development is integrated into this landscape.

- To ensure that the site and associated development does not result in instability.

- That the site can be suitably services with on-site wastewater, stormwater, access and maneuvering.

- To satisfy the requirements of Rule 8.6.5.4.2 Integrated Development as the requirements of Rule 8.6.5.2.2 were not met for Papakainga Housing as a Controlled Activity or Discretionary Activity.

1.1 General Objective

The overall objective of the Management Plan is to provide a mechanism to control, manage and maintain the subject property. The property is to be viewed as a whole and in a holistic manner. This includes the utilization of the existing natural features and the preservation of these features for the use of current and future generations, the design and location of buildings on the property and on-going maintenance.

2.0 SITE DESIGN

2.1 Objective

- Indigenous Māori have an intricate, holistic and interconnected relationship with the natural world and its resources, with a rich knowledge base – Mātauranga Māori. The body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices. It is critical to ensure that the values that are and were placed do not devalue with any development that may occur. What is taken from the environment must be put back.

- Papakainga Housing to allow whanau to utilize the land in a manner that is customary, whilst taking into consideration the character and amenity values of the site. The design controls seek to ensure that the development of the site is undertaken in such a manner that the integrity of the landscape is enhanced and that buildings, and structures are sympathetic to the landscape and character of the property as a whole. The weed and pest control plans and monitoring programs seek to ensure that the proposed landscape planting is established satisfactorily and can be maintained in a healthy state.

2.2 Design Controls

The Papakainga houses have been designed to be integrated into the site and will be:

- Constructed and finished with appropriate recessive rural colours and materials

- Being purpose-built dwellings have been designed to maximize solar access, whilst also provided for appropriate outdoor living areas and access to communal areas.

- Each dwelling has access to internal parking through the proposed accessways.

- Each dwelling has access to communal areas, such as playground and vegetable patch.

3.0 MAORI CULTURE AND HERITAGE

4.1 Objective

- To protect, preserve and maintain areas of cultural or archaeological value, including the cultural significance of the site to maori.

4.2 Introduction and Overview

The Far North and west coast have a rich historical legacy. Evidence exists of European occupation as well as Maori occupation on the subject site.

This section of the Management Plan sets out the procedures and protocols for ensuring that these areas are properly protected and respected.

Because the area has a rich historic legacy archaeological features may be discovered either during earthworks for the establishment or simply be uncovered over time naturally. This section of the management plan includes protocols and procedures to ensure minimal disturbance of any sites and ensure that proper processes are followed, including the legal requirements of the Heritage New Zealand (HNZ).

4.3 Maori Principles and Key Values

Fundamental principles for protecting and preserving cultural values as follows.

4.3.1 Principles

- Avoid Contact and Impacts. - Ultimately, best practice planning is required to avoid contact or intrusion in areas significant to Maori that may threaten or impact upon heritage and cultural values. Maori input into this plan provided appropriate information to assist the owners with the future management and development of their property.

- Remedy Proposals - In the event that a proposed activity or development suggests impact on heritage and cultural values, revision of the proposal to avoid such contact or impact must then be attempted. The owners of the lots are encouraged to discuss their proposal with local Maori prior to initiating any developments.

- Mitigate Negative Effects - In the event that principles 1 & 2 above cannot be achieved, negative impact to heritage and cultural value is most certain. This is the least desired outcome as it contradicts the objectives of this management plan. In most cases, mitigating negative effects results in loss of values. It must be clearly understood that Maori do not favorably support mitigating negative effects therefore extensive discussions with Maori must be engaged for all proposals.

4.3.2 Koiwi (Human Remains)

Koiwi were often buried in areas through out the Far North and west coast that have no identification as to their whereabouts. However, they are largely discovered along beach-front areas, at times in great numbers. It is however unlikely that koiwi are buried on the property, as it does not contain a pa in the location of the building areas. It is however noted that precautions must be taken on the property.

4.4 Maori Taonga and Wahi Tapu

4.4.1 Archaeology

The ongoing protection, maintenance and integrity of heritage sites and matters of cultural importance are the responsibility of owners of the site in the development and maintenance of their properties. No known archaeological sites are within the application site. It is noted from aerial photography that there has been no modification of the land since the 1950 images.

4.4.2 Implementation

The implementation section is broken down into protocols and controls for the following:

- Identification of archaeological sites;
- Discovery of potential sites of archaeological or cultural value.

The section concludes with the protocols for consultation with iwi representatives if changes are proposed to the Management Plan, and the contact details of relevant parties in relation to this section.

4.4.3 Discovery of potential sites of archaeological or cultural value

In some instances, such as natural erosion, archaeological material or koiwi may become unearthed. If subsurface evidence (e.g. pipi shell or other shellfish material, signs of charred wood or rock and

any other material which may indicate possible historic activities or bones of any kind) should be unearthed during earthworks or construction, earthworks, other activities or natural events the following protocol shall be followed:

1) Work shall cease in the vicinity of the remains immediately. Maori remains shall not be removed from their resting place and no other archaeological items shall be removed.

2) The person undertaking or monitoring the works shall contact the Heritage New Zealand. If the archaeological remains relate to Maori occupation of the land, then the iwi contacts shall be advised. If the remains are koiwi then the New Zealand Police, Heritage New Zealand and local iwi shall be advised; in that order.

3) No work shall resume around the area of the remains until the following procedure has been undertaken and the approval of the New Zealand Police, Heritage New Zealand and iwi has been obtained as required.

4) Any koiwi uncovered on the property shall be interred in these locations by iwi and in accordance with their cultural requirements. Property owners shall allow access to the urupa for the re-interment of koiwi and shall respect and not disturb these places.

5) Unless otherwise approved by local iwi, archaeological remains shall stay on the property in depositories approved by local iwi. Property owners shall allow access to these for placement of archaeological remains and shall respect and not disturb these places.

6) Individual allotment owners, in conjunction with local iwi, shall keep a record of koiwi and archaeological remains interred on the property, including their location.

The application site is shown on the FNDC GIS as areas of cultural significance to maori. Clearly the land is maori owned land and will continue to provide for whanau.

4.5 Contacts

This section of the Management Plan details procedures and protocols which involve local Maori and the New Zealand Historic Places Trust.

At present the key contact people in this regard are as follows:

Heritage New Zealand
Regional Archaeologist Northland
PO Box 836, Kerikeri
Telephone: +64 9 401-7947
Mobile: +64 27 249 0864

Toni Collins - Independent Papakāinga Consultant, Project lead
Mobile: +64 21455720
Website: www.toni.nz

The applicants are part of the local marae.

4.0 EARTHWORKS

5.1 Objective

- To control and manage earthworks during the installation of the access way and driveways.

5.2 Implementation

5.2.1 Surface materials

All surface soil material along the access way and driveway alignment is to be removed and stockpiled on the site for reuse on site.

Earthworks are limited to the formation of the driveway as the property is flat in the location of the proposed papakainga.

5.2.3 Topsoiling

A minimum of 100mm of topsoil shall be placed over the subgrade-sloping up to a depth of 50mm within 100mm of the access way surface. It shall be leveled but not compacted, except for the verge areas, which shall be compacted. Topsoil on batters shall be placed so as to avoid filling.

5.2.4 Surface treatment

Excavation undertaken outside this period shall be grassed within 1 week of final gradients being established provided the establishment period is between 1st April and the 31st November.

If surfaces are completed between the 1st December and the 31st March, they shall be mulched with hay or straw, or bark, wood residue/wood pulp spread over the surface of the disturbed ground in an even layer a minimum of 25mm thick within one week of final gradients being established. Grass seed shall be installed later as above.

5.0 EROSION AND SILT CONTROL

6.1 Objective

- To control and manage erosion and silt run off.

6.2 Implementation

Silt control measures such as the provision of silt fences and regrassing, or other appropriate devices shall be installed to control any silt runoff and erosion from the site during the construction process.

6.0 STORMWATER AND EFFLUENT DISPOSAL

7.1 Objective

- To control and maintain storm water produced as a result of the proposal and on-site effluent disposal.

7.2 Implementation

The proposal involves impervious surfaces of 2521.9m^2 (6.4% of the site area) which includes the proposed papakainga dwellings, existing buildings and proposed accessways and driveways.

All stormwater/water from the roof is to be collected for portable water supply with an on-site stormwater pond and the Pukepoto Stream to mitigate post development flows.

The design for stormwater is contained within the RS Eng engineering report dated 30 November 2023 and referenced 18887 and includes:

- Flows from the central, northern and eastern portion of the development will be directed over the northern boundary, via the existing overland flow path. Attenuation of the runoff from impervious surfaces to be directed north will flow through a treatment and detention pond.

- It is proposed to direct runoff from the southern portion of the development to the west, discharging to the Pukepoto Stream.

- Runoff from the roofs of the buildings will be collected and directed to the proposed communal potable water supply tanks. The overflow from the tanks will be piped to the proposed stormwater reticulation network.

7.0 WASTEWATER

8.1 Objective

- To provide ensure that there is suitable on-site wastewater to accommodate the development and ensure that the soil and environment is suitably protected

8.2 Implementation

- It is proposed that the domestic wastewater from the existing dwelling and the new dwellings will drain (or be pumped) to two new onsite wastewater management systems detailed in this

report. The land where the disposal of secondary treated wastewater is proposed is relatively flat with a slight slope towards the north. Details of on-site wastewater can be found in the report prepared by Water Flow NZ Ltd report dated 11 September 2025.

8.0 WATER SUPPLY

9.1 Objective

To provide sufficient water supply to meet the residential needs of the occupants of the property.

9.2 Implementation

- Each dwelling will have a minimum of 20,000 litre promax water tank for water supply, with a total of 10 water tanks with the provision for fire fighting. It is noted of the 10 there is one 30,000 litre tank with 10,000 litre attenuated for Fire Fighting.

- Potable water will be provided to each building by rainwater tanks located in clusters spread through the development. Runoff from each roof area will need to be directed to the tanks by suitable pipe networks. Potable water shall be treated for contaminants in line with G12 of the NZ Building Code. Textile filters and/or UV filtration would achieve this.

- Suitable fire fighting supply will be provided for within the development.

9.0 ELECTRICTY AND TELECOMMUNICATIONS

10.1 Objective

To ensure domestic scale renewable energy and/or community renewable energy development;

10.2 Implementation

In terms of telecommunications, it is proposed to have connect to wireless network. It is acknowledged that there will be no physical connection lines to underground telecommunications at this stage.

10.0 GEOTEHCINAL CONSIDERATIONS

11.1 Objective

- To ensure that the land is geotechnically stable for the Papakainga housing development.

11.2 Implementation

- RS Eng has prepared a site suitability report for the development of the Papakainga dwellings. New Zealand Geology Web Map indicates that the property is located within an area that is "Unconsolidated to poorly consolidated sand, peat, mud and shell deposits (estuarine, lacustrine, swamp, alluvial and colluvial."

- It is also anticipated that the proposed development will not affect or worsen the current stability of the site.

- RS Eng confirms that the property is generally suitable for the proposed papakainga development.

11.0 TRAFFIC, ACCESS AND PARKING

12.1 Objective

- To ensure that the development has suitably designed vehicle access, maneuvering and layout.

12.2 Implementation

- Access to the development will be over a new crossing and driveway with State Highway 12 (SH12), being a limited access road administered by The New Zealand Transport Agency (NZTA Waka Kotahi). The NZTA have confirmed agreement to the

proposal subject to the following conditions, which form part of this consent:

- The proposed vehicle crossing (NZTM 1653180.91, 6072719.28) shall be constructed in accordance with New Zealand Transport Agency Diagram C standard as outlined in the Planning Policy Manual (2007) and to the satisfaction of the New Zealand Transport Agency Network Manager.

- The existing vehicle crossing (NZTM 1653217.54, 6072691.24) shall be permanently closed, including reinstatement of any fence line, grassed areas, berm, highway drainage or kerb. Reinstatement works shall be consistent with the adjacent road reserve treatment, to the satisfaction of the New Zealand Transport Agency Network Manager.

- Prior to the occupation of the dwellings the consent holder shall provide to Council, correspondence from the New Zealand Transport Agency confirming that works in the State Highway, including the construction of the new and closure of the existing vehicle crossings, have been constructed to New Zealand Transport Agency standards.

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 200m^2 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:	Angela Vujcich /- Advance Build
Address:	2077 State Highway 10, Waipapa
Contact Details:	021351467
Return Email Address:	angela@advancebuild.co.nz

Section C – Property Details

Property Details	
Address of Property:	2443 State Highway 12, Waima
Lot Number/s:	Waima D17B Block
Dwelling Size: (Area = Length & Width)	6 new Dwellings, existing buildings
Number of levels: (Single / Multiple)	Single

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 **approx 5-10m**	

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: Click or tap here to enter text.

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 litres

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 10 tanks on site 1 fitted with FF coupling Number of Tank Farms pro text. Water volume at each Tank Farm Click or tap here to enter text. Litres Volume of dedicated firefighting water 10000 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: **Tanks will be visible**

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: **Cable 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: **Rain Water collection**

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: Click or tap here to enter text.	
Contact Details: Click or tap here to enter text.	
Proposed volume of storage?	Litres: Click or tap here to enter text.
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.

See attached site plan

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
Given the size of the site and location to the scrub in the reserve, the proposal is mostly able to comply with the 20-meter setback from vegetation on site. With respect to the site itself, the vegetation and scrub have been cleared as much as possible. In terms of fire hazard, Advance Build has included in there design the following mitigation: i.The use of fire-resistant building materials – Weathertex weathergroove with Coloursteel roofing, metal guttering and aluminium joinery. As per the product fact sheet, Weathertex weathergroove are flammable but difficult to ignite. ii.Remove all scrub on the property where able to do so. The property has good egress to allow for the evacuation and the access via fire appliances

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: **Angela Vujcich c/o Advance Build** Dated: **08/08/2025**

Contact No.: **021351467**

Email: **angela@advancebuild.co.nz**

Signature:

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 to enter text.

Signature: Click or tap here to enter text. Dated: Click or tap to enter a date.

P.P on behalf of the Area Manager

Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 9:50 am, Aug 14, 2025

Jason Goffin- Advisor Risk Reduction

Project Starter Pack

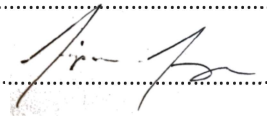
Authorisation for Council

As the legal owner/s or representative/s of property at: 2443 State Highway 12 Waima

I give authority for the builder (Advance Manufacturing Ltd) or nominated delegates to apply for a PIM Report, Resource Consent, Building Consents on my behalf and to undertake site visits on my property.

It is not a requirement for all landowners to give authorisation, one or more key stakeholders is sufficient.

Date: 10 August 2025 Project Consultant: .....

Owner/ Representative Name: Tipara Morunga Signature: 

Owner/ Representative Name: ..... Signature: .....

Owner/ Representative Name: ..... Signature: .....

Owner/ Representative Name: ..... Signature: .....

Owner/ Representative Name: ..... Signature: .....

Owner/ Representative Name: ..... Signature: .....