

# 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):

- |                                                                                                                           |                                                           |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <input checked="" type="radio"/> Land Use                                                                                 | <input type="radio"/> Discharge                           |
| <input type="radio"/> Fast Track Land Use*                                                                                | <input type="radio"/> Change of Consent Notice (s.221(3)) |
| <input type="radio"/> Subdivision                                                                                         | <input type="radio"/> Extension of time (s.125)           |
| <input type="radio"/> Consent under National Environmental Standard<br>(e.g. Assessing and Managing Contaminants in Soil) |                                                           |
| <input checked="" type="radio"/> Other (please specify) <u>Amendment to 2250418-RMALUC</u>                                |                                                           |

\* 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](mailto:tehonosupport@fndc.govt.nz)

## 5. Applicant Details

**Name/s:**

Angela Vujcich

**Email:**

**Phone number:**

V

Home

**Postal address:**

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

Po Box 111, Kerikeri

Postcode

0230

## 6. Address for Correspondence

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

**Name/s:**

Advance Build Ltd

**Email:**

**Phone number:**

Work

Home

**Postal address:**

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

PO Box 111, Kerikeri

Postcode

0245

*\* 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:**

Te Tii(Waitangi) B3 Trust

**Property Address/  
Location:**

22 Te Kemara Ave, Waitangi

Postcode

0200

## 8. Application Site Details

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

**Name/s:**

Te Tii(Waitangi) B3 Trust

**Site Address/  
Location:**

44 Te Kemara Ave, Waitangi

Postcode

**Legal Description:**

Lot 5 DP 49984

**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 as we will need to let the owners know.

## 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.

Amendment to original RC to relocate 2 brand new duplex's to site and updating the SW provisions  
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
- ☐ Regional Council Consent (ref # if known)
- ☐ National Environmental Standard consent
- ☐ Other (please specify)

## 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

- |                                                           |                                                                   |
|-----------------------------------------------------------|-------------------------------------------------------------------|
| <input type="radio"/> Subdividing land                    | <input type="radio"/> Disturbing, removing or sampling soil       |
| <input type="radio"/> Changing the use of a piece of land | <input type="radio"/> 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.

|                                                                                           |                                                                                               |             |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------|
| <b>Name/s:</b> (please write in full)                                                     | Advance Build Ltd                                                                             |             |
| <b>Email:</b>                                                                             |             |             |
| <b>Phone number:</b>                                                                      | <b>Work</b>  | <b>Home</b> |
| <b>Postal address:</b><br>(or alternative method of service under section 352 of the act) | PO Box 111, Kerikeri                                                                          |             |
|                                                                                           | <b>Postcode</b>                                                                               | 0230        |

### 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.

|                                                |                                                                                     |                         |
|------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------|
| <b>Name:</b> (please write in full)            | Angela Vujcich                                                                      |                         |
| <b>Signature:</b><br>(signature of bill payer) |  | <b>Date</b> 21-Nov-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](http://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:**



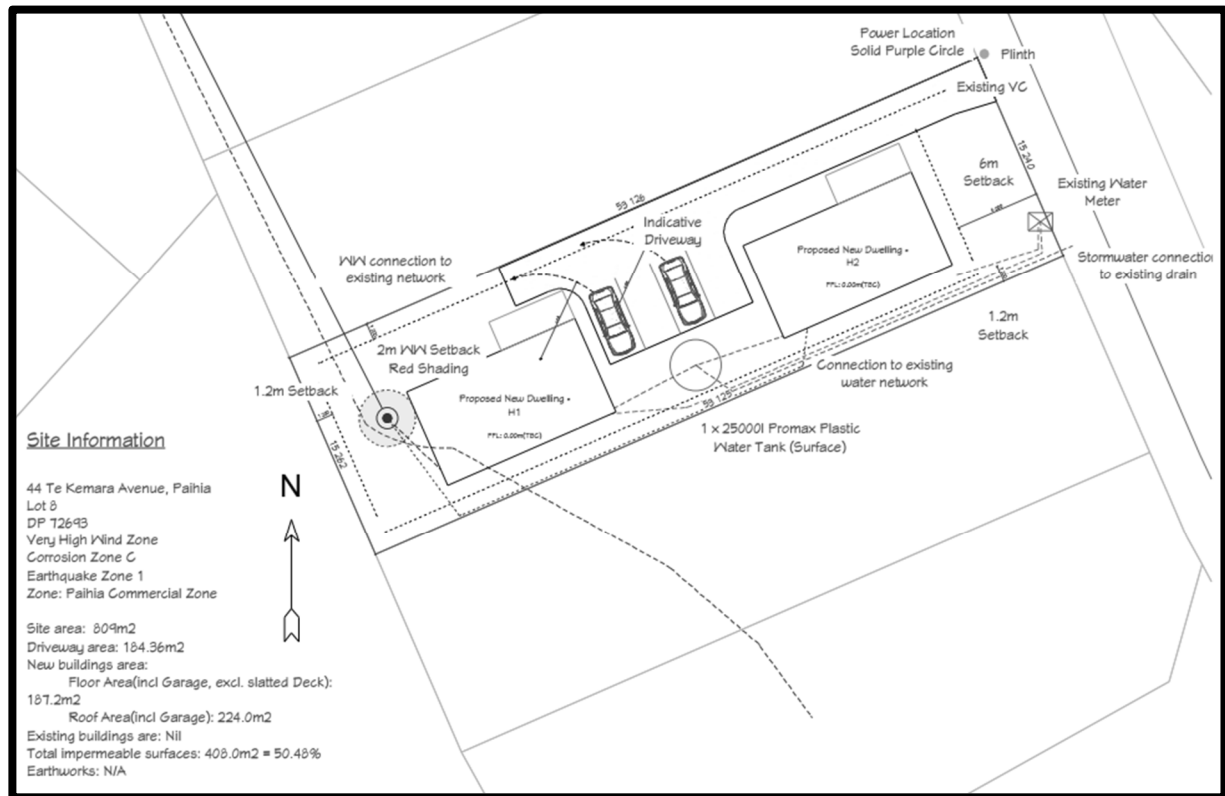
**Date** 21-Nov-2025

*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.



## LANDUSE RESOURCE CONSENT APPLICATION TO CONSTRUCT TWO DWELLINGS

44 TE KEMARA AVENUE, WAITANGI  
LOT 5 DP 49984

### ASSESSMENT OF ENVIRONMENTAL EFFECTS

PREPARED FOR:

**TE TII WAITANGI B3 TRUST**

Rev B (Variation) Updated Stormwater Report  
15 OCTOBER 2025



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## APPENDICES:

**Appendix A – Site, Floor and Elevation Plans**

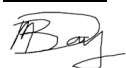
**Appendix B – Certificate of Title**

**Appendix C – Engineering Reports**

## 1.0 THE APPLICANT AND PROPERTY DETAILS

|                                        |                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>To:</b>                             | Far North District Council                                                                                                                                                                                                                                                                           |
| <b>Site address:</b>                   | 44 Te Kemara Avenue, Waitangi                                                                                                                                                                                                                                                                        |
| <b>Applicant's name:</b>               | Te Tii Waitangi B3 Trust                                                                                                                                                                                                                                                                             |
| <b>Address for service:</b>            | Advance Build<br>Attn: Mark Day<br>2077 State Highway 10<br>Waipapa, 0295                                                                                                                                                                                                                            |
| <b>Legal description:</b>              | Lot 5 DP 49984                                                                                                                                                                                                                                                                                       |
| <b>Site area:</b>                      | 809m <sup>2</sup>                                                                                                                                                                                                                                                                                    |
| <b>Site owner/s:</b>                   | Te Tii (Waitangi) B3 Trust:<br>Dr Maryann Baker<br>George Frederick Riley<br>Whati Rameka<br>Melanie Jane Sweet<br>Emma Hepi<br>Marsha Elaine Davis<br>Wiremu Leslue Tane                                                                                                                            |
| <b>Operative District Plan:</b>        | Far North District Plan                                                                                                                                                                                                                                                                              |
| <b>Operative zoning:</b>               | Commercial Zone                                                                                                                                                                                                                                                                                      |
| <b>Overlays/resource areas:</b>        | Commercial Zone: A1 Overlay                                                                                                                                                                                                                                                                          |
| <b>Proposed zoning/overlays:</b>       | Maori Purpose – Urban<br>Coastal Erosion Hazard Zone (2 and 3)<br>River Flood Hazard Zone (10/50/100 Year ARI Event)<br>Coastal Flood Hazard Zone 3                                                                                                                                                  |
| <b>Brief description of proposal:</b>  | To construct two residential dwellings in the Commercial Zone, breaching the following rules: <ul style="list-style-type: none"> <li>• 7.7.5.1.5 Noise Mitigation for Residential Activities</li> <li>• 15.1.6C.1.2(c) Private Accessways in Urban Zones</li> <li>• 7.7.5.1.11 Stormwater</li> </ul> |
| <b>Summary of reasons for consent:</b> | Overall, resource consent is required as a <b>Discretionary Activity</b> under the Far North District Plan.                                                                                                                                                                                          |

### AUTHOR



### **Mark Day**

Design & Planning | BAS (Technology) | DESIGN & CARPENTRY LBP |

**Date: 15 October 2025**



## 2.0 PROPOSAL

The applicants, Te Tii Waitangi B3 Trust (The Trust), are an ahu whenua trust constituted under section 215 of the Te Ture Whenua Māori Act 1993. The Trust administers 70 freehold blocks located in Waitangi, including the subject site which is located at 44 Te Kemara Avenue and legally described as Lot 5 DP 49984.

The proposal is to construct two residential dwellings on the subject site, in the Commercial Zone. Resource consent is required under the following rules:

- 7.7.5.1.5 Noise Mitigation for Residential Activities (APPROVED – 2250418-RMZLUC)
- 15.1.6C.1.2(c) Private Accessways in Urban Zones (APPROVED – 2250418-RMZLUC)
- 7.7.5.1.11 Stormwater (APPROVED – 2250418-RMZLUC) Requiring Variation

All necessary engineering reports have been prepared in support of the proposed development, as attached at **Appendix C**.

A comprehensive district plan assessment has been provided in Section 4.0 below.

Overall, the application has been assessed as a Discretionary Activity under the ODP.

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

## 3.0 SITE CONTEXT

The subject site is located at 3 Te Kemara Avenue in the centre of the Waitangi township. The site is legally described as Lot 5 DP 49984 (NA69A/213) and is within Māori Freehold Land. A copy of the relevant Certificate of Title (CT) is attached as **Appendix B**.

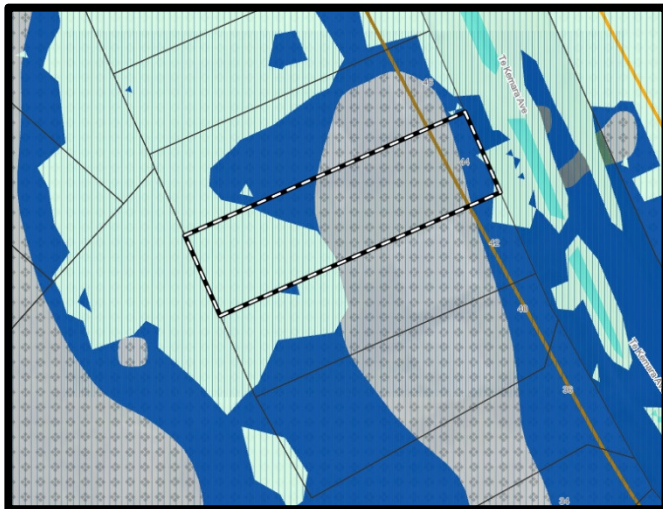


The site is zoned Commercial and is subject to the Commercial Zone: A1 Overlay under the ODP. The site is also located within the NRC Coastal Environment.

Under the PDP, the subject site is zoned Maori Purpose – Urban.

In terms of natural hazards, the site is subject to the following:

- Coastal Erosion Hazard Zone (2 and 3)
- River Flood Hazard Zone (10/50/100 Year ARI Event)
- Coastal Flood Hazard Zone 3



*Figure 2: Map showing extent of flood susceptibility (Far North PDP Maps)*

While zoned Commercial, the immediate surrounding environment is largely characterised by residential development, with the exception of the Waitangi Treaty Grounds.

The subject site is currently vacant. However, based on a search of Council's property file, it is understood that residential development has previously occurred on the site.

There are no significant areas of indigenous vegetation or habitats of indigenous fauna.

A review of the New Zealand Archaeological Association (NZAA) database shows that there are no registered archaeological features within the subject site.

Access to the subject site is currently gained via an existing vehicle crossing off Te Kemara Avenue which will meet the Council's Engineering Standards.



**Figure 3: Image showing existing vehicle crossing to subject site (Google Streetview)**

#### 4.0 FAR NORTH DISTRICT PLAN ASSESSMENT

**Table 1 – Assessment of Commercial Zone and District-Wide provisions**

[illegible]



| Commercial Zone/ Paihia Area A1 (ODP)                 | Permitted Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.7.5.1.4 Setback from boundaries                     | In the Paihia Commercial Zone: A1, a minimum setback distance of 6m from the road boundary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | As per the site plan, the minimum setback distance from the road boundary will be 6.5m.<br><br><b>Permitted</b>                                                                                                                                                                                                                                                                                                                                                                                 |
| 7.7.5.1.5 Noise Mitigation for Residential Activities | Any new residential activity involving permanent or non-permanent accommodation shall be developed in such a way that the attenuation of noise between any boundary and living room is no less than 20 dB, and between any boundary and any room used for sleeping is no less than 30 dB. In the absence of forced ventilation or air-conditioning, these reductions shall be achieved with any exterior windows open.<br><br>The Council will require an acoustic design report prepared by a suitably qualified and experienced person demonstrating compliance with this requirement prior to issuing any Certificate of Compliance under s139 of the Act. | Given the subject site and the immediate surrounding environment are largely characterised by residential development, it is considered that an acoustic design report to comply with commercial standards is not necessary in this instance. This notion is supported by the proposed rezoning of the subject site to 'Maori Purpose – Urban' where the relevant provisions do not require an acoustics report for new residential activities.<br><br><b>Restricted Discretionary Activity</b> |
| 7.7.5.1.6 Transportation                              | Permitted: <ul style="list-style-type: none"> <li>• Two parking spaces per unit</li> <li>• Adequate manoeuvring area</li> <li>• Concrete or sealed driveway</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Two parking spaces per unit and adequate manoeuvring area will be provided. The vehicle crossing to the subject site will be concreted at least 5m inwards from the road edge. However, the internal driveway will be gravel.<br><br><b>Discretionary Activity</b>                                                                                                                                                                                                                              |
| 7.7.5.1.8 Noise                                       | (a) All activities within the zone shall be conducted so that noise measured at any point within any other site in the zone shall not exceed: 0700 to 2200 hours 65 dBA L10 2200 to 0700 hours 55 dBA L10 and 80 dBA Lmax<br><br>(b) All activities within the zone shall be conducted so as to ensure that noise measured at any point within any site in the Residential, Coastal Residential or Russell Township Zones or at or within the notional boundary of any other dwelling in any other rural or coastal zone shall not exceed: 0700 to 2200 hours 55 dBA L10 2200 to 0700 hours 45 dBA L10 and 70 dBA Lmax                                        | The proposal is for a residential activity and will be able to comply with this rule.<br><br><b>Permitted</b>                                                                                                                                                                                                                                                                                                                                                                                   |

| Commercial Zone/ Paihia Area A1 (ODP) | Permitted Standards                                                                                                                                                                                                  | Comment                                                                                                                                       |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 7.7.5.1.11 Stormwater                 | The disposal of collected stormwater from the roof of all new buildings and new impervious surfaces provided that the activity is within an existing consented urban stormwater management plan or discharge consent | There is no public stormwater network available to the site. Onsite soakage pits are therefore required.<br><br><b>Discretionary Activity</b> |

Overall, the proposal requires resource consent as a **Discretionary Activity** under the Far North District Plan.

## 5.0 NES CONTAMINATED SOILS (NESCS)

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

Based on a search of Council records, historic aerial images, and the documentation provided in support of this application, there is no evidence to suggest that a HAIL activity is, has been, or is more than likely to not have been undertaken on any part of the site. Therefore, the NES Contaminated Soils is not applicable in this instance.

## 6.0 NES FRESHWATER (NESFW)

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

## 7.0 NPS INDIGENOUS BIODIVERSITY (NPS-IB)

As discussed earlier in the report, the subject site does not contain any significant areas of indigenous vegetation or habitats of indigenous fauna.

## 8.0 NPS HIGHLY PRODUCTIVE LAND (NPSHPL)

As shown on Far North LUC Maps, the site does not contain any highly versatile soils. The NPSHPL is therefore not applicable in this instance.

## 9.0 NOTIFICATION

### **Public Notification**

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

**Step 1: Mandatory public notification is required in certain circumstances** Under Section 95A(3) an application must be publicly notified if:

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

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

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

**Step 2: If not required by Step 1, public notification precluded in certain circumstances** Under Section 95A (4) an application must not be publicly notified if:

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

None of the above criteria apply, therefore public notification is not precluded in this instance. Step 3 must be considered.

**Step 3: If not precluded by step 2, public notification required in certain circumstances** Under Section Under Section 95A(7), public notification is required if:

- a) *the application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification;*
- b) *the consent authority decides, in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor.* Clause (a) does not apply in this situation.

An assessment of environmental effects in accordance with s95D has been undertaken in Section 8.0 below which concludes that any adverse effect arising as a result of the proposed development will be less than minor. Public notification is therefore not required in this instance.

### **Step 4: Public notification in special circumstances**

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

- *exceptional or unusual, but something less than extraordinary; or*
- *outside of the common run of applications of this nature; or*

- *circumstances which make notification desirable, notwithstanding the conclusion that the adverse effects will be no more than minor.*

There are no special circumstances that apply to the subject site.

### **Public Notification Conclusion**

Based on the above, it is considered that this application can be processed without public notification.

### **Limited Notification**

Under Section 95B, if an application is not publicly notified, the Council must decide if there are any 'affected persons' and undertake limited notification to those persons. Under Section 95E(1) a person is considered 'affected' if the adverse effects of the activity on that person are 'minor or more than minor'. If the application is not publicly notified, the consent authority must follow the following steps to determine whether to give limited notification of an application.

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

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

The above does not apply to this land.

**Step 2: If not required by step 1, limited notification precluded in certain circumstances** Step 2 describes that limited notification is precluded where all applicable rules and NES preclude limited notification; or the application is for a controlled activity (other than the subdivision of land) or a prescribed activity under section 360H(1)(a)(ii).

None of the above apply in this instance.

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

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

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

If yes to any of the above, Council shall notify each affected person identified under subsections (7) and (8) of the application.

As per the assessment of effects, it is considered that any potential adverse effects will be less than minor such that no written approvals have been requested.

#### **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.

As previously discussed, special circumstances are not considered to apply to this proposal.

## Limited Notification Conclusion

Having undertaken the s95B limited notification tests, it is considered that this application can be processed without limited notification.

## 10.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

In accordance with Section 88(2)(b) of the Act and Clause 1(d) of Schedule 4, this assessment of environmental effects of the proposed activity has been prepared in such detail as corresponds with the scale and significance of the effects it may have on the environment.

### Noise Mitigation for Residential Activities

In assessing an application resulting from a breach of Rule 7.7.5.1.5 Noise Mitigation for Residential Activities the matters to which the Council will restrict its discretion are:

*(a) the degree of noise attenuation achieved by the residential activity, taking into account the risk of exposure to noise from activities in the vicinity.*

**Comment:** As mentioned above, the subject site is located in a well-defined residential area. With the exception of the Treaty Grounds which are located across the road from the subject site, all adjoining properties are currently in residential use. Based on a review of aerial images, the nearest commercial activity is located at least 170m to the south of the subject site, being Waitangi Woolworths. On this basis, it is considered that the risk of exposure to noise from neighbouring activities is minimal such that additional noise attenuation to a commercial standard is not warranted in this instance.

*(b) the hours of operation of the adjoining activity that is generating the noise;*

**Comment:** As above. The nearest commercial activity is located at least 170m to the south of the subject site, being Waitangi Woolworths, and is not adjoining.

*(c) the timing and duration of the noise from adjoining sites that is affecting the site of the application.*

**Comment:** As above.

### Transportation

As per the site plans provided, the proposal is able to comply with all relevant transportation rules except Rule 15.1.6C.1.2(c) Private Accessways in Urban Zones which requires all private accessways in the Commercial Zone that serve two or more activities to be sealed or concreted.

While the proposed vehicle crossing off Te Kemara Avenue will be concreted at least 5m inwards from the existing road edge, the internal driveway will be gravelled which is considered to be the most practical and appropriate option for the proposed activities. The gravel driveway will not affect

the adequacy of sight distances available at the access location, nor will it contribute to any traffic safety or congestion issues in the area.

Given the proposal is for a residential activity where the maximum TIF will be 20 one-way daily traffic movements, there are no foreseeable changes in traffic patterns in the area. As per the attached engineering plans and reports, stormwater runoff will be managed appropriately.

### **Stormwater**

The site does not have access to a reticulated stormwater network. The previous dwelling (now demolished) utilised on-site soakage for stormwater disposal. It is proposed is to use an Attenuation tank and soakage pit for the new dwellings.

The proposed impervious areas on the development site will be directed to drain into the proposed attenuation tank and then the overflow to the soakage device associated with each site. Refer to the Stormwater report prepared by RS Eng Ltd attached as Appendix C.

### **Conclusion**

Based on the above, it is considered that any adverse effects as a result of the proposal will be less than minor.

## **11.0 SECTION 104 ASSESSMENT**

### **Assessment of Effects**

Section 104(1)(a) requires consideration of any actual and potential effects on the environment of allowing the activity. This has been carried out in the assessment above. The conclusion reached overall is that the adverse effects of granting consent to the proposal are less than minor. Some positive effects will arise from the development, including:

- The provision for cultural well-being of the applicants and wider whānau;
- The provision of social well-being through addressing the current housing shortage in the Far North;
- The proposed development will also provide for the economical well-being of the Far North District through providing employment opportunities throughout the construction phase.

Therefore, the effects are considered acceptable in the receiving environment.

### **National and Regional Planning Documents**

Other than those discussed earlier, there are no other national or regional planning documents directly relevant to this application.

### **Operative Far North District Plan – Objectives and Policies**

Given the approvals sought by this application slightly deviate from the relevant objectives and policies in the Commercial Zone, a full assessment of the objectives and policies contained within



this chapter would not seem overly useful in this instance. However, it is considered that the proposed development is not contrary to the relevant objectives and policies for the following reasons:

- The proposed development is consistent with existing development patterns in the immediate surrounding environment, which is clearly defined as a residential area, despite the commercial zoning.
- The above notion is further supported by the PDP where it is proposed to rezone the site to Māori Purpose – Urban where residential activities are a permitted activity.
- Council's property file shows that residential activities have previously occurred on the site as per previous Council approvals.

On the basis of the above assessment, it is considered that the proposed development is not contrary to the relevant objectives and policies of the District Plan.

### **Proposed Far North District Plan – Objectives and Policies**

As of Monday 4 September 2023, the further submission period on the PDP has closed. However, Council are yet to make a decision on submissions made and publicly notify this decision. Therefore, the application shall only 'have regard to' the relevant objectives and policies in the PDP. Relevant objectives and policies in the PDP are contained within the Māori Purpose chapter.

Based on the AEE, it is considered that the proposal is largely consistent with the anticipated outcome of the relevant objectives and policies, particularly the following:

- MPZ-01 to MPZ-03
- MPZ-P1 to MPZ-P4

### **Other Matters**

There are no other matters considered relevant to the proposal.

## **12.0 PART 2 ASSESSMENT**

As per current case law, an assessment of matters under Part 2 is only required where there is invalidity, incomplete coverage or uncertainty in the planning provisions. The Operative District Plans contain provisions that are relevant to the proposal, and there is no evidence to suggest the relevant provisions are invalid, incomplete or present uncertainty in making any decision. No assessment of the Part 2 provisions is therefore required.

## **13.0 OVERALL CONCLUSION**

The applicants, Te Tii Waitangi B3 Trust (The Trust), propose to construct two residential dwellings on the subject site, in the Commercial Zone. Resource consent is required under the following rules:

- 7.7.5.1.5 Noise Mitigation for Residential Activities
- 15.1.6C.1.2(c) Private Accessways in Urban Zones
- 7.7.5.1.11 Stormwater

All necessary engineering reports have been prepared in support of the proposed development, as attached at **Appendix C**.

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

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

#### **AUTHOR**



**Mark Day**

Design & Planning | BAS (Technology) | DESIGN & CARPENTRY LBP |

**Date: 15 October 2025**

#### **APPENDICES:**

**Appendix A – Site, Floor and Elevation Plans**

**Appendix B – Certificate of Title**

**Appendix C – Engineering Reports**

## **Appendix A – Site, Floor and Elevation Plans**

# Proposed New Dwelling

44 Te Kemara Ave, Waitangi

For: Te Tii(Waitangi) B3 Trust

## CONTENTS

|      |                    |
|------|--------------------|
| P01  | SITE LOCATION PLAN |
| P01A | SITE PLAN          |
| P02  | FLOOR PLAN         |
| P03  | ELEVATIONS         |
| P04  | ELECTRICAL PLAN    |
| P05  | FITTING PLAN       |
| P06  | KITCHEN PLAN       |



## Concept Plans

Concept 1  
August 2025

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

REVISION:  
PROJECT NO.  
DRAWN BY:  
HC:

C01  
1288  
NMB  
JCS





NB: Boundary Lines are Indicative Only

|           |     |             |
|-----------|-----|-------------|
| REVISION: | BY: | DATE:       |
| Drawn     | NMB | Feb 14 2025 |

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**Advance**  
build  
A smarter move

Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 1)

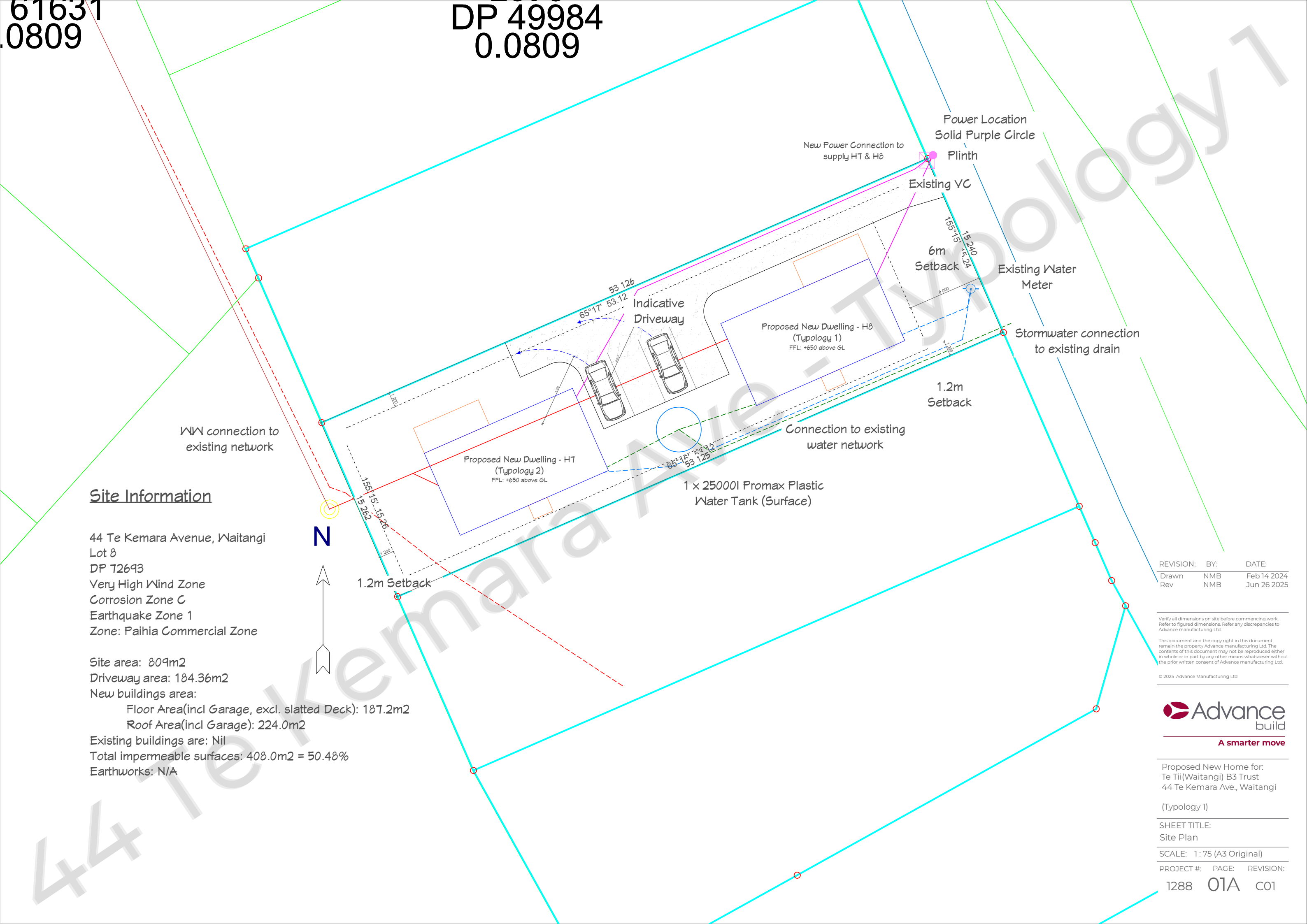
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Site Location Plan

SCALE: NTS

|            |       |           |
|------------|-------|-----------|
| PROJECT #: | PAGE: | REVISION: |
| 1288       | 01    | C01       |

61631  
0809

DP 49984  
0.0809



## Site Information

44 Te Kemara Avenue, Waitangi  
Lot 8  
DP 12693  
Very High Wind Zone  
Corrosion Zone C  
Earthquake Zone 1  
Zone: Paihia Commercial Zone

Site area: 809m<sup>2</sup>  
Driveway area: 184.36m<sup>2</sup>  
New buildings area:  
Floor Area(incl Garage, excl. slatted Deck): 187.2m<sup>2</sup>  
Roof Area(incl Garage): 224.0m<sup>2</sup>  
Existing buildings are: Nil  
Total impermeable surfaces: 408.0m<sup>2</sup> = 50.48%  
Earthworks: N/A

| REVISION: | BY: | DATE:       |
|-----------|-----|-------------|
| Drawn     | NMB | Feb 14 2024 |
| Rev       | NMB | Jun 26 2025 |

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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 1)

SHEET TITLE:  
Site Plan

SCALE: 1 : 75 (A3 Original)

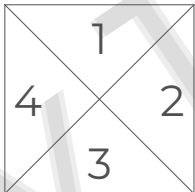
PROJECT #: PAGE: REVISION:

1288 01A C01

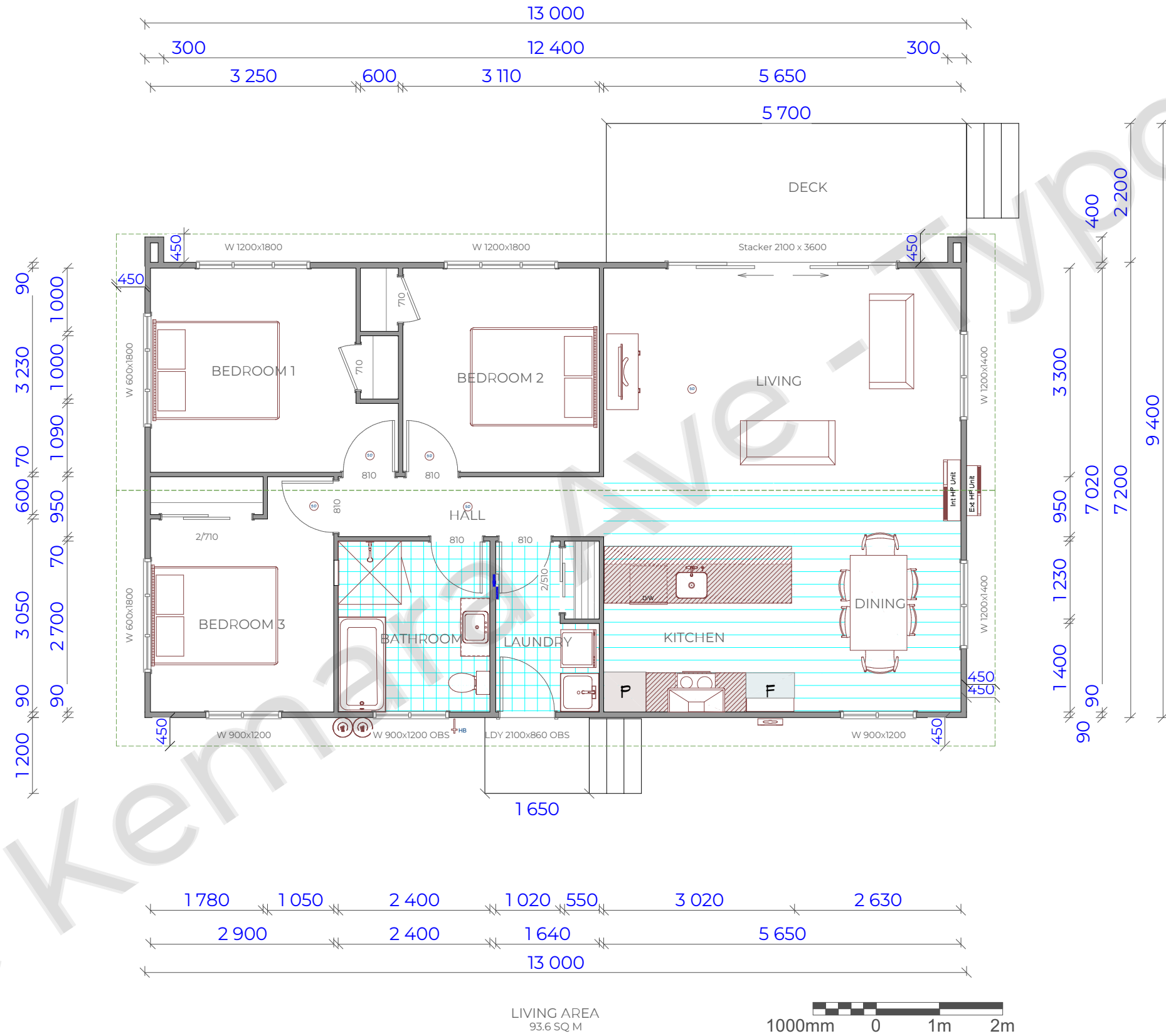


Typology 1

Roof Pitch 15 deg  
Stud height - 2.4m Flat Ceiling



Elevations



|           |     |             |
|-----------|-----|-------------|
| REVISION: | BY: | DATE:       |
| Drawn     | NMB | Feb 15 2025 |
| Rev       | NMB | Feb 21 2025 |
| Rev       | NMB | Jun 26 2025 |

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Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 1)

SHEET TITLE:  
Floor Plan

SCALE: 1 : 75 (A3 Original)

|            |       |           |
|------------|-------|-----------|
| PROJECT #: | PAGE: | REVISION: |
| 1288       | 02    | P01       |

Roof Pitch 15 deg  
Stud height - 2.4m Flat Throughout

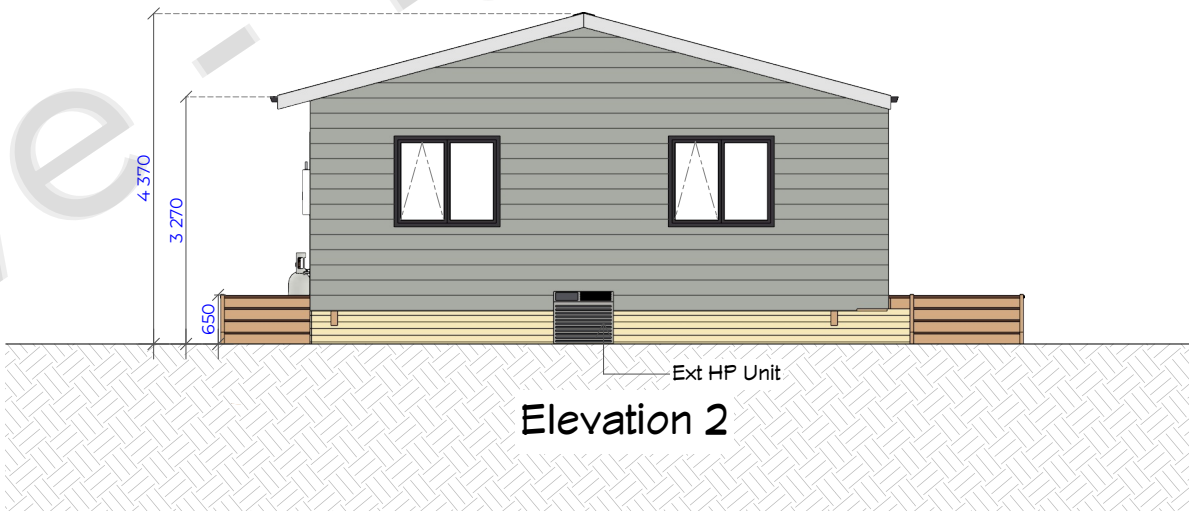
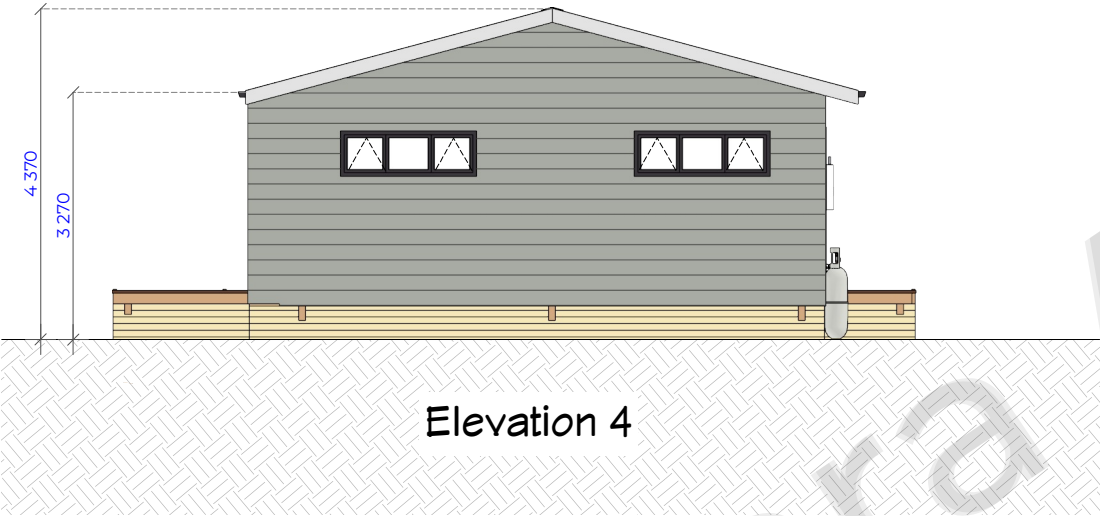
Weathertex Primelok Smooth  
200mm - Main Cladding

Secondary Feature Cladding -  
Weathertex Weathergroove 150mm  
cladding - To Elevation 1 - between Wing  
Walls



Armorsteel 5-Rib, UltraZen

Double glazed windows

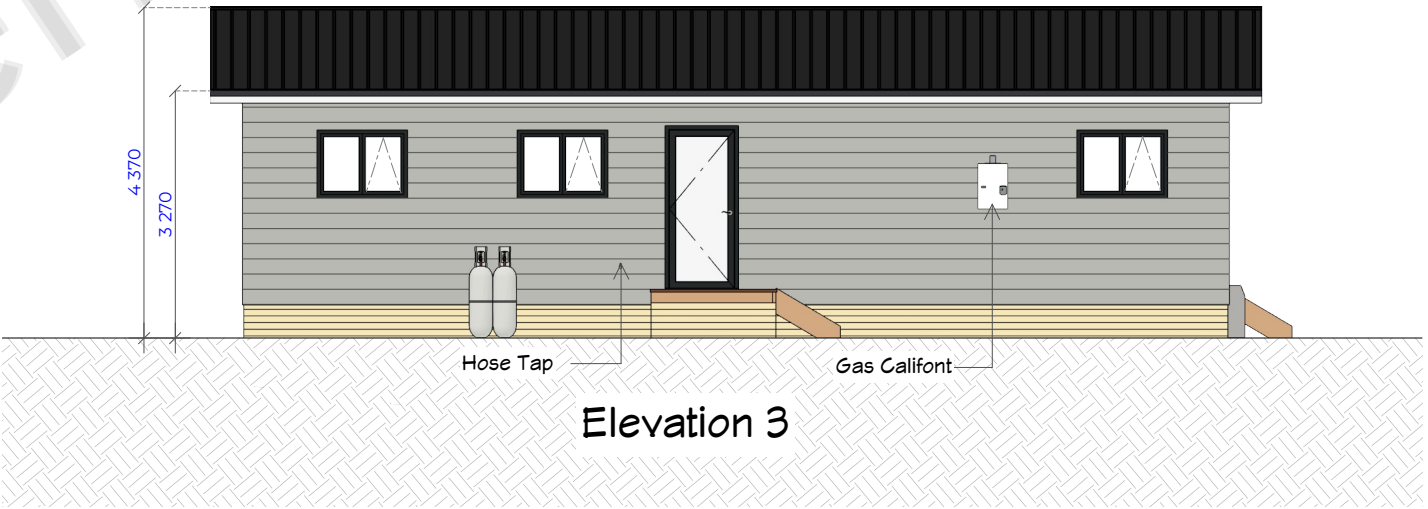


REVISION: BY DATE:  
Drawn KAT Aug 06 2025

Timber grabrail with baluster fixed to  
house, unpainted

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

140x20 PG H3 Pine baseboards Unpainted



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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 1)  
SHEET TITLE:  
Elevations  
SCALE: 1 : 100 (A3 Original)  
PROJECT #: PAGE: REVISION:  
1288 03 C01

# Proposed New Dwelling

44 Te Kemara Ave, Waitangi  
For: Te Tii(Waitangi) B3 Trust



A smarter move

## CONTENTS

|      |                    |
|------|--------------------|
| P01  | SITE LOCATION PLAN |
| P01A | SITE PLAN          |
| P02  | FLOOR PLAN         |
| P03  | ELEVATIONS         |
| P04  | ELECTRICAL PLAN    |
| P05  | FITTING PLAN       |
| P06  | KITCHEN PLAN       |



## Concept Plans

Concept 1  
August 2025

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

REVISION:  
PROJECT NO.  
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HC:

C01  
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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 2)

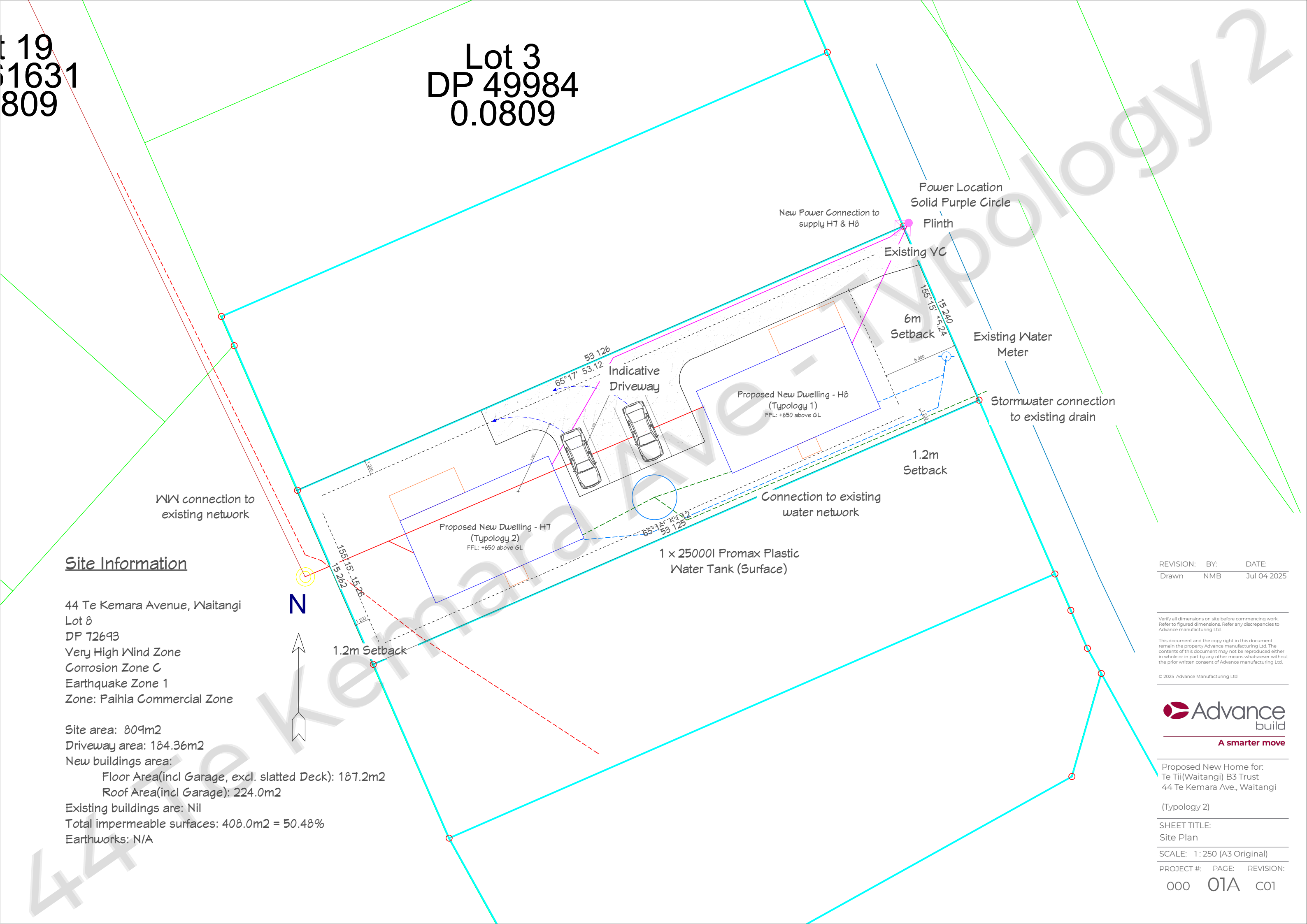
SHEET TITLE:  
Site Location Plan

SCALE: NTS

| PROJECT #: | PAGE | REVISION |
|------------|------|----------|
| 000        | 01   | C01      |

t 19  
1631  
809

Lot 3  
DP 49984  
0.0809



Site Information

44 Te Kemara Avenue, Waitangi  
Lot 8  
DP 12693  
Very High Wind Zone  
Corrosion Zone C  
Earthquake Zone 1  
Zone: Pahiia Commercial Zone

Site area: 809m2  
Driveway area: 184.36m2  
New buildings area:  
Floor Area(incl Garage, excl. slatted Deck): 187.2m2  
Roof Area(incl Garage): 224.0m2  
Existing buildings are: Nil  
Total impermeable surfaces: 408.0m2 = 50.48%  
Earthworks: N/A

REVISION: BY: DATE:  
Drawn NMB Jul 04 2025

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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 2)  
SHEET TITLE:  
Site Plan  
SCALE: 1 : 250 (A3 Original)  
PROJECT #: PAGE: REVISION:  
000 01A C01



## Elevations



Roof Pitch 15 deg  
Stud height - 2.4m Flat Throughout

Weatherex Primelok Smooth  
200mm - Main Cladding

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

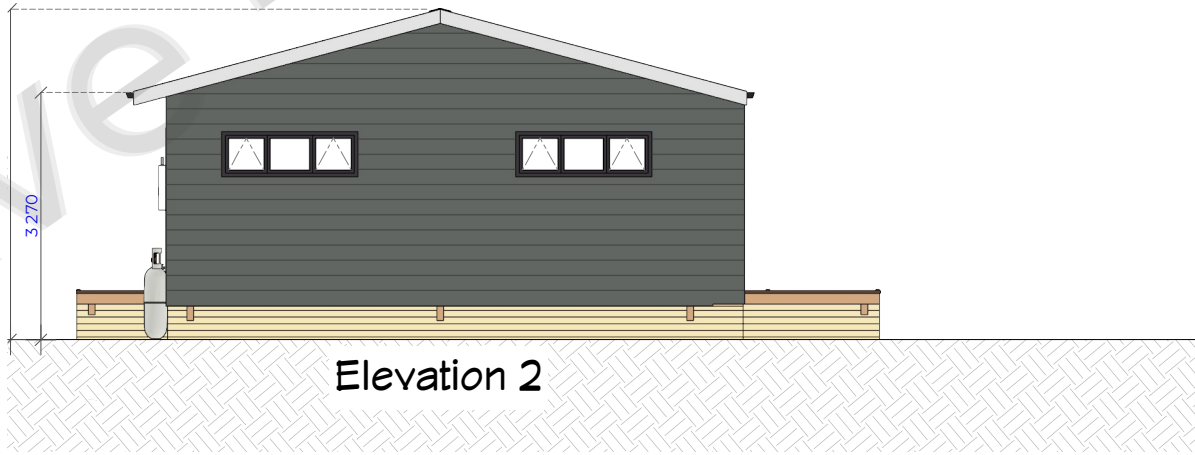
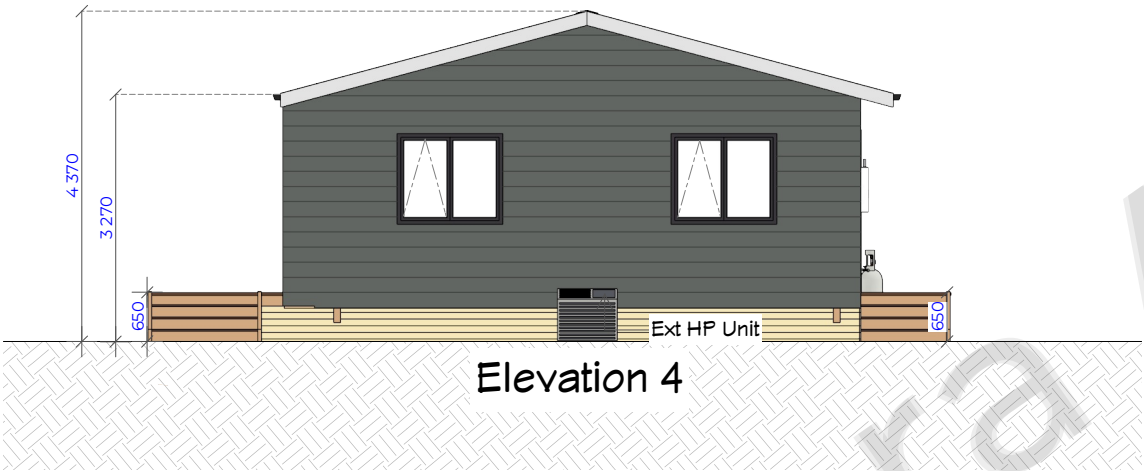
Armorsteel 5-Rib, Standard 0.40mm

Double glazed windows

Timber grabrail with baluster fixed to  
house, unpainted

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

140x20 PG H3 Pine baseboards Unpainted



REVISION: BY DATE:  
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Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave., Waitangi

(Typology 2)

SHEET TITLE:  
Elevations

SCALE: 1 : 100 (A3 Original)

PROJECT #: PAGE: REVISION:  
000 03 C01

**Appendix B – Certificate of Title**



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD**

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



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** **NA69A/213**  
**Land Registration District** **North Auckland**  
**Date Issued** 23 October 1987

**Prior References**  
NA51D/1302

---

**Estate** Fee Simple  
**Area** 809 square metres more or less  
**Legal Description** Lot 5 Deposited Plan 49984

**Registered Owners**

Dr. Maryanne Baker, George Frederick Riley, Whati Rameka, Melanie Jane Sweet, Emma Hepi, Marsha Elaine Davis and Wiremu Leslie Tane as responsible trustees jointly, no survivorship

---

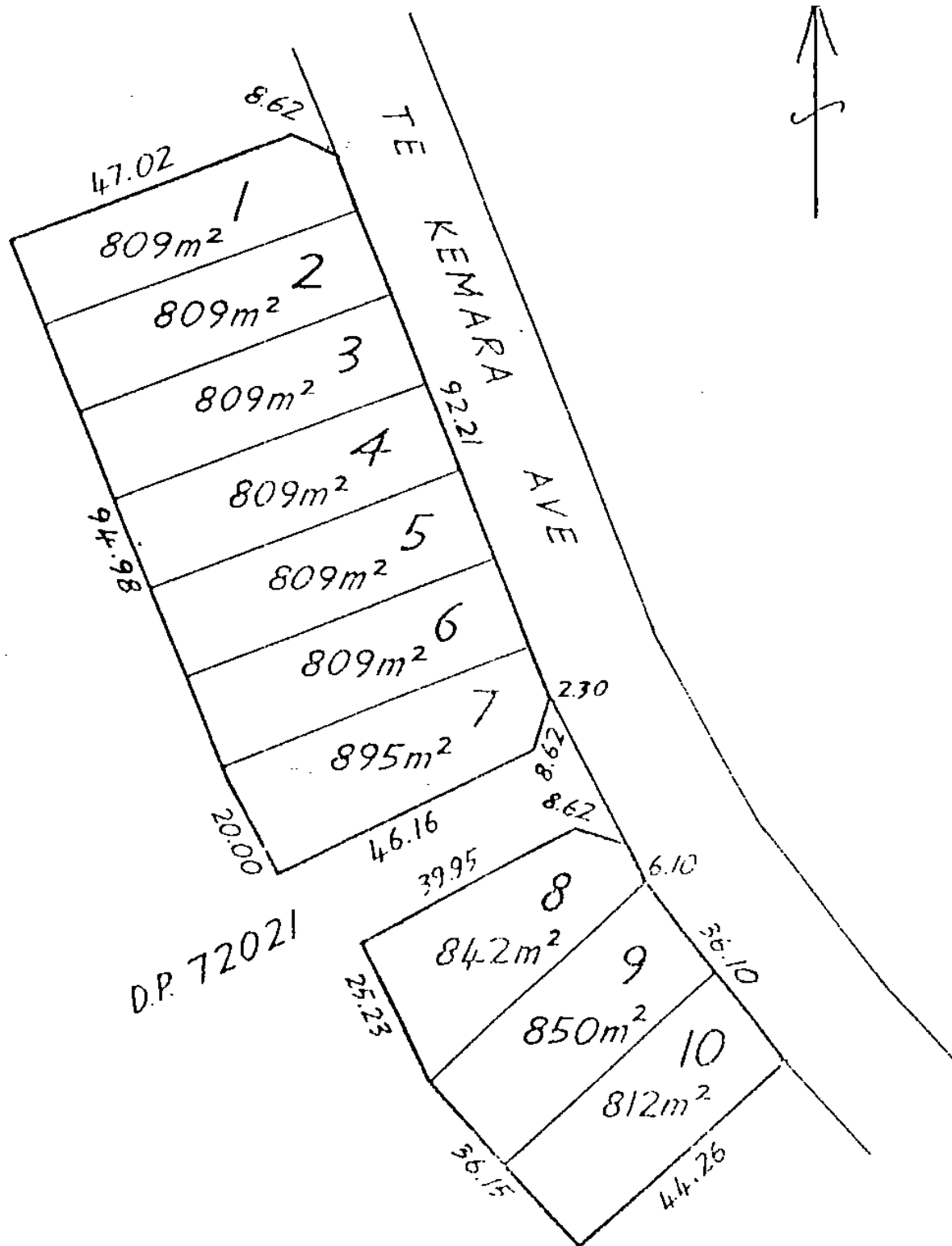
**Interests**

D143534.1 STATUS ORDER DETERMINING THE STATUS OF THE WITHIN LAND TO BE MAORI FREEHOLD LAND - 14.5.1997 AT 9.30 AM

13362870.1 Notification that a building consent issued pursuant to Section 72 Building Act 2004 identifies inundation as (a) natural hazard(s) - 24.7.2025 at 7:00 am

13362882.1 Notification that a building consent issued pursuant to Section 72 Building Act 2004 identifies inundation as (a) natural hazard(s) - 24.7.2025 at 7:00 am







## Report on Maori Land details for the following Record(s) of Title



---

**Record(s) of Title**

NA69A/213

Identified as potentially Maori Freehold Land

---

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

## **Appendix C – Engineering Reports**

File: 19780

11 September 2025

Issue: 1

# STORMWATER MANAGEMENT

## 44 Te Kemara Avenue, Waitangi

(Lot 5 DP 49984)

---

### 1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Advance Build to detail and design stormwater management system at 44 Te Kemara Avenue, Waitangi for residential construction.

The client proposes to construct two dwellings being single-storey as well as a shared driveway and parking area proposed.

### 2.0 Stormwater Attenuation Assessment

The property is located within the Commercial Zone. As per section 7.7.5.1.11 of the District Plan, “The disposal of collected stormwater from the roof of all new buildings and new impervious surfaces provided that the activity is within an existing consented urban stormwater management plan or discharge consent.” Given that there is no stormwater network available for the property to discharge to, the proposals fall under Restricted Discretionary Activity. As a result, attenuation of the stormwater runoff is proposed. This minimises any potential adverse effects on downstream properties and council assets.

The Far North District Council (WDC) Engineering Standards (ES) requires attenuation of stormwater runoff from any increase in impervious areas so that post-development peak flows are less than 80% of pre-development. The FNDC ES specifies that the flows be attenuated for the 20% and 1% Annual Exceedance Probability (AEP) events.

It is proposed to direct stormwater runoff from the roof of the new dwellings into a rainwater storage tank with restricted outlets which reduce the peak flows to predevelopment levels. The property contains existing impervious surfaces being a driveway and concrete slab (that are proposed to be removed) which make up an area of 86m<sup>2</sup> respectively. The increase in newly formed impervious surfaces is therefore 190m<sup>2</sup> of total roof area and 97m<sup>2</sup> for additional driveway.

The pre-development and post-development runoff flows were modelled using HydroCAD. The United States Department of Agriculture Technical Release 55 (TR55) Type 1A method was adopted for calculating the run-off flow, using rainfall depths from HIRDS 4 (High Intensity Rainfall Design System, NIWA) including an additional 20% rainfall depth to account for climate change as required by WDC ES. The subsoils have been assessed as sands, designated as Group B soils. Table 1 includes a summary of the stormwater attenuation modelling.

**Table 1:** Stormwater Attenuation Design Summary for Each Property.

|                                                            | Pre-development           |             | Post-development           |                    |
|------------------------------------------------------------|---------------------------|-------------|----------------------------|--------------------|
| Permeable Area (m <sup>2</sup> )<br>Grassed                | 287                       |             | -                          |                    |
| Impervious Area (m <sup>2</sup> )<br>Roof Area<br>Driveway | -                         |             | 190<br>97                  |                    |
| Peak flow l/s                                              | 20% AEP                   | 1% AEP      | 20% AEP                    | 1% AEP             |
| From surfaces                                              | 1.59                      | 3.77        | +20%<br>3.03               | +20%<br>5.48       |
| <b>80% (design flows reqd.)</b>                            | <b>1.27</b>               | <b>3.01</b> |                            |                    |
| <b>Total attenuated flows</b>                              |                           |             | <b>1.26</b>                | <b>2.97</b>        |
| <b>Storage Required</b>                                    |                           |             | 14.6m <sup>3</sup>         | 19.0m <sup>3</sup> |
| <b>Attenuation Tank Summary</b>                            |                           |             |                            |                    |
| <b>Tank</b>                                                | 25,000L Promax or similar |             |                            |                    |
| <b>Tank Diameter</b>                                       | 3.6m                      |             |                            |                    |
|                                                            | <b>Diameter</b>           |             | <b>Depth from Overflow</b> |                    |
| <b>Primary Orifice</b>                                     | 10mm                      |             | 2.0m                       |                    |
| <b>Secondary Orifice</b>                                   | 30mm                      |             | 0.4m                       |                    |

### 3.0 Disposal

To suitably manage and dispose of stormwater it is proposed to discharge stormwater to the existing drain.



#### 4.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to design stormwater management system 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.

Prepared by:



**Sarah Scott Compton**

Senior Technician

NZDE(Civil)

Reviewed by:



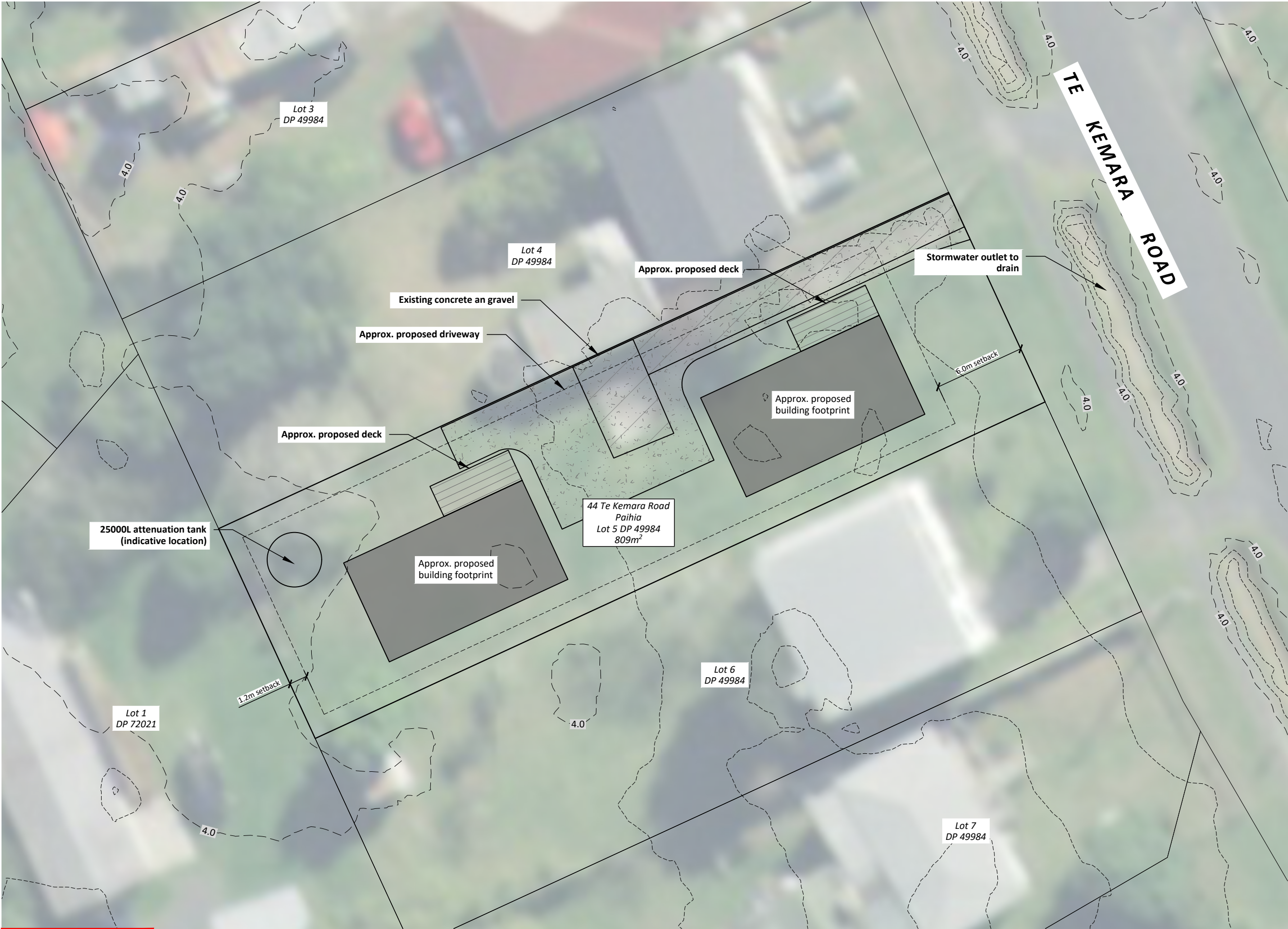
**Matthew Jacobson**

Director

NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

## **Appendix A**

### **Drawings**

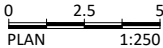


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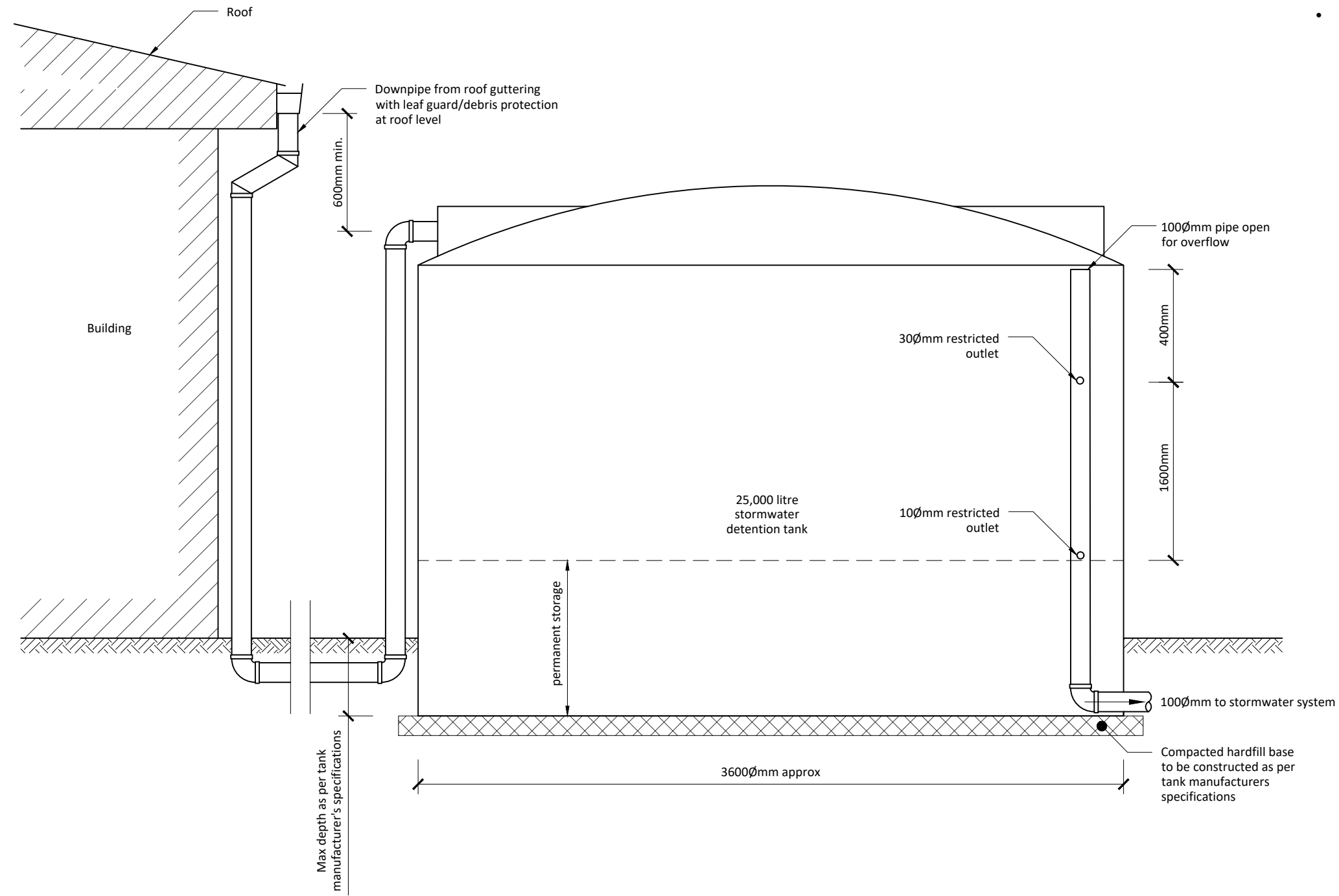
| LEGEND |                              |
|--------|------------------------------|
|        | Proposed Dwelling            |
|        | Proposed Driveway            |
|        | Proposed Deck                |
|        | Existing concrete and gravel |

Contour Interval: 0.2m  
Vertical Datum: NZVD2016  
Survey Data Source: LiDAR (2018)



FOR CONSENT

|  |                                                                                             |  |                                                                                                                                                                             |  |                                                                   |  |                                                 |  |                                                      |  |                         |                     |
|--|---------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------|--|-------------------------------------------------|--|------------------------------------------------------|--|-------------------------|---------------------|
|  | <b>RS Eng Ltd</b><br>09 438 3273<br>office@RSEng.co.nz<br>2 Seaview Road,<br>Whangarei 0110 |  | These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission.<br>If any part of these documents are unclear, please contact RS Eng Ltd. |  | <b>PROPOSED DWELLINGS<br/>SITE PLAN<br/>STORMWATER MANAGEMENT</b> |  | Client<br><b>ADVANCE BUILD</b>                  |  |                                                      |  | Scale<br><b>1:250</b>   | Rev No.<br><b>A</b> |
|  |                                                                                             |  |                                                                                                                                                                             |  |                                                                   |  | Location<br><b>44 TE KEMARA ROAD<br/>PAIHIA</b> |  |                                                      |  | Original<br><b>A3</b>   | Sheet No.           |
|  |                                                                                             |  |                                                                                                                                                                             |  |                                                                   |  |                                                 |  | 11/09/2025    A    Original Issue                    |  | Job No.<br><b>19780</b> | <b>C05</b>          |
|  |                                                                                             |  |                                                                                                                                                                             |  |                                                                   |  |                                                 |  | Date    Rev    Notes                                 |  |                         |                     |
|  |                                                                                             |  |                                                                                                                                                                             |  |                                                                   |  |                                                 |  | Drawn by: LMC    Reviewed by: SSC    Approved by: MJ |  |                         |                     |



**STORMWATER ATTENUATION 25,000L PLASTIC TANK DETAIL**  
1:25

- NOTES:**
- All services should be located on-site prior to commencement of works.
  - All works to comply with all relevant local authority by-laws and council regulations where applicable.
  - Contractors to confirm all dimensions on site prior to commencing any work.
  - Do not scale off drawings.
  - These drawings are to be read in conjunction with specifications - plans take precedence.
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**RS Eng Ltd**  
09 438 3273  
office@RSEng.co.nz  
2 Seaview Road,  
Whangarei 0110

Title  
**STORMWATER ATTENUATION TANK DETAIL**

Client

Location

|            |     |                |
|------------|-----|----------------|
|            |     |                |
| 23/12/2021 | A   | Original Issue |
| Date       | Rev | Notes          |

|               |                |                    |
|---------------|----------------|--------------------|
| Scale<br>1:25 | Original<br>A3 | Rev<br>A           |
| Drawn<br>MYH  | Approved<br>MJ | File #<br><b>1</b> |

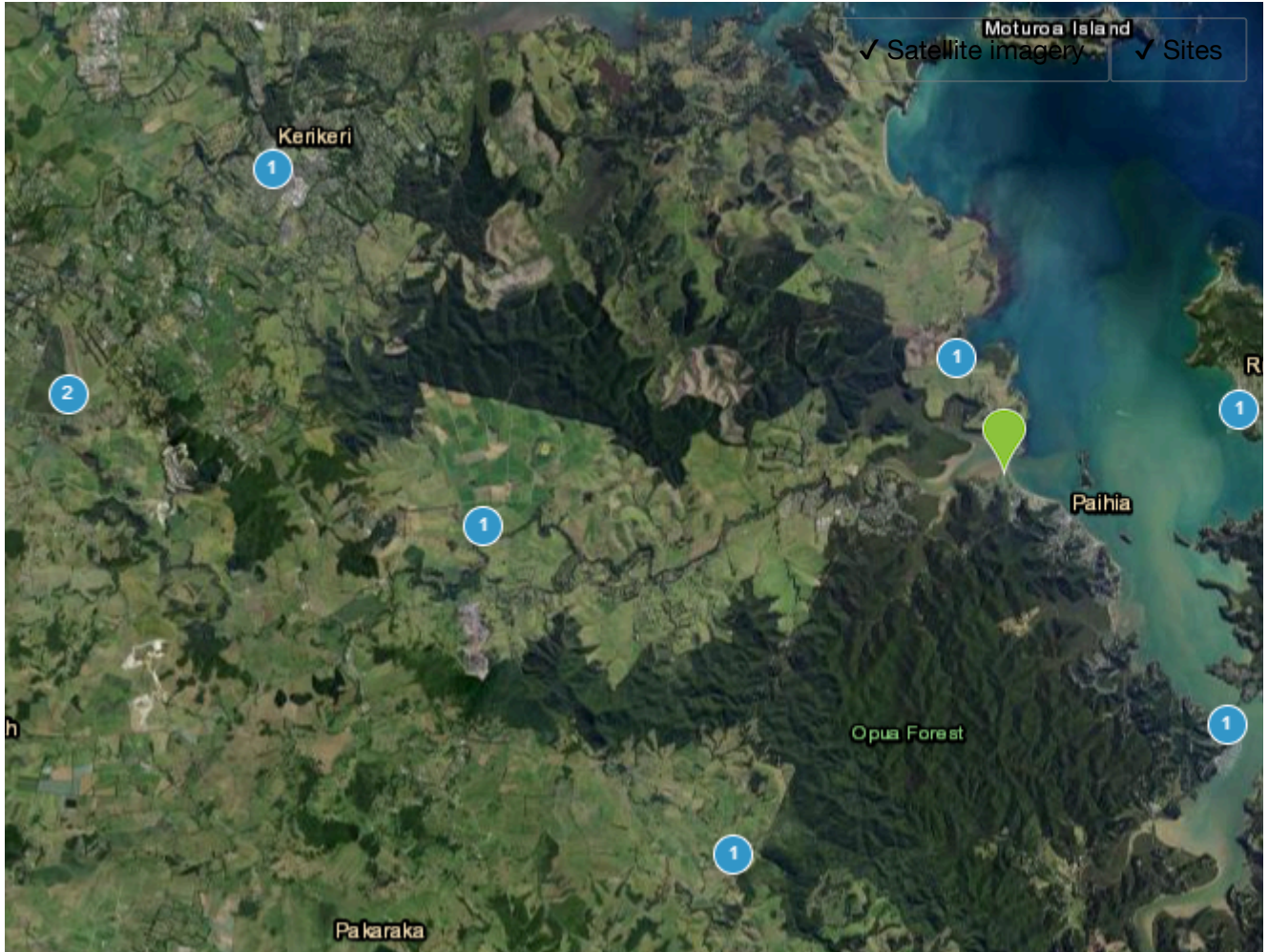
## **Appendix B**

### **Stormwater Attenuation Design**



## Location

|                |                                              |
|----------------|----------------------------------------------|
| Address search | Enter your address and press enter to search |
|----------------|----------------------------------------------|



## Site Information

To generate a set of results, either click on an existing data point, or a new location and enter a site name, then press the Generate Report button.

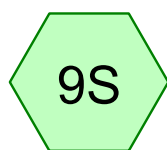
|           |                    |
|-----------|--------------------|
| Latitude  | -35.2756835399634  |
| Longitude | 174.07953655971198 |
| Site Name | Custom Location    |



| ARI | AEP   | 10m | 20m | 30m | 1h  | 2h  | 6h | 12h | 24h | 48h | 72h | 96h | 120h |
|-----|-------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|------|
| 10  | 0.100 | 2.6 | 3.5 | 4.1 | 5.1 | 7.5 | 13 | 19  | 26  | 33  | 38  | 41  | 41   |
| 20  | 0.050 | 3.3 | 4.5 | 5.5 | 6.8 | 9.9 | 16 | 24  | 31  | 38  | 45  | 49  | 49   |
| 30  | 0.033 | 3.8 | 5.3 | 6.5 | 8.0 | 12  | 19 | 27  | 34  | 42  | 50  | 54  | 53   |
| 40  | 0.025 | 4.2 | 5.9 | 7.3 | 9.1 | 13  | 21 | 30  | 37  | 45  | 53  | 58  | 57   |
| 50  | 0.020 | 4.6 | 6.4 | 8.1 | 9.9 | 14  | 23 | 33  | 39  | 47  | 56  | 61  | 60   |
| 60  | 0.017 | 4.9 | 6.8 | 8.7 | 11  | 15  | 25 | 35  | 41  | 49  | 58  | 63  | 63   |
| 80  | 0.013 | 5.4 | 7.6 | 9.8 | 12  | 17  | 28 | 39  | 43  | 52  | 62  | 68  | 67   |
| 100 | 0.010 | 5.9 | 8.2 | 11  | 13  | 18  | 30 | 43  | 46  | 55  | 66  | 71  | 70   |
| 250 | 0.004 | 8.0 | 11  | 16  | 19  | 26  | 44 | 60  | 57  | 67  | 81  | 88  | 87   |

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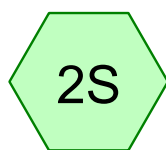
Creative Commons (CC-BY-NC) 4.0 License (<http://creativecommons.org/licenses/by-nc/4.0/legalcode>)



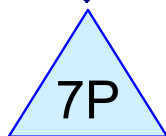
Pre-development



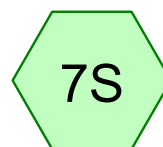
80% Flows



Dwelling Roofs



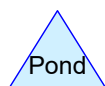
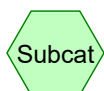
Tank



Driveway



Total post dev



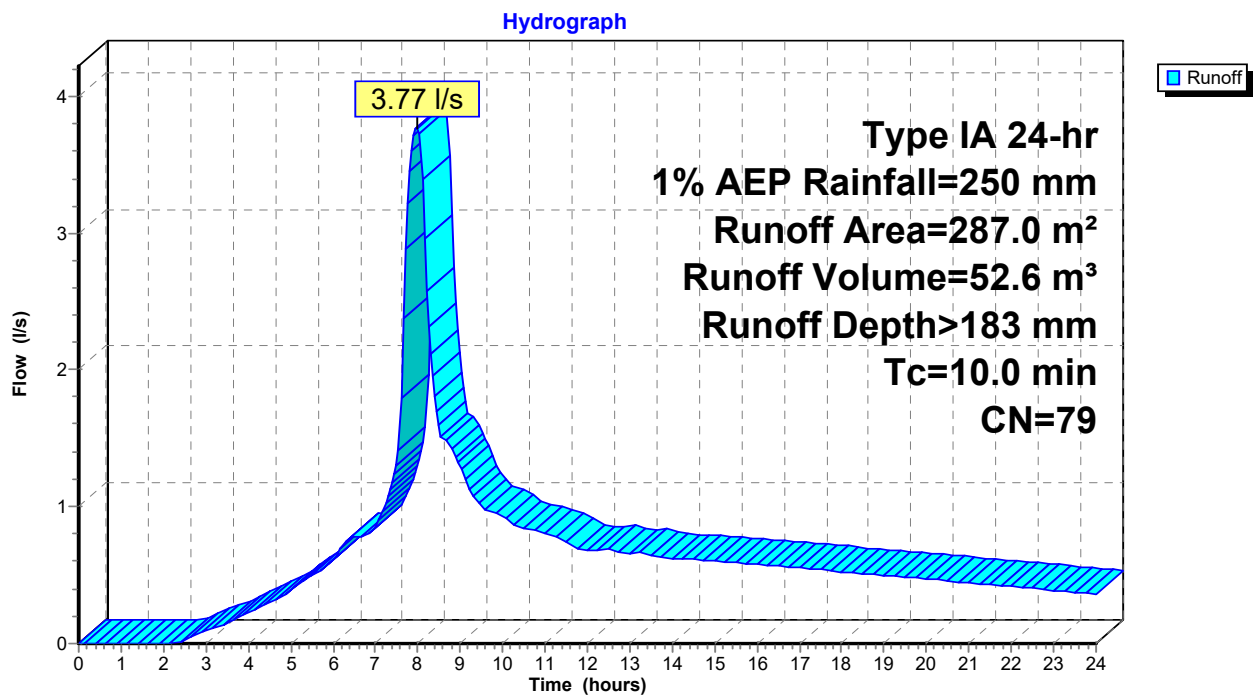
**Summary for Subcatchment 9S: Pre-development**

Runoff = 3.77 l/s @ 7.98 hrs, Volume= 52.6 m<sup>3</sup>, Depth> 183 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP Rainfall=250 mm

| Area (m <sup>2</sup> ) | CN | Description                   |
|------------------------|----|-------------------------------|
| 287.0                  | 79 | <50% Grass cover, Poor, HSG B |
| 287.0                  |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(meters) | Slope<br>(m/m) | Velocity<br>(m/sec) | Capacity<br>(m <sup>3</sup> /s) | Description   |
|-------------|--------------------|----------------|---------------------|---------------------------------|---------------|
| 10.0        |                    |                |                     |                                 | Direct Entry, |

**Subcatchment 9S: Pre-development**



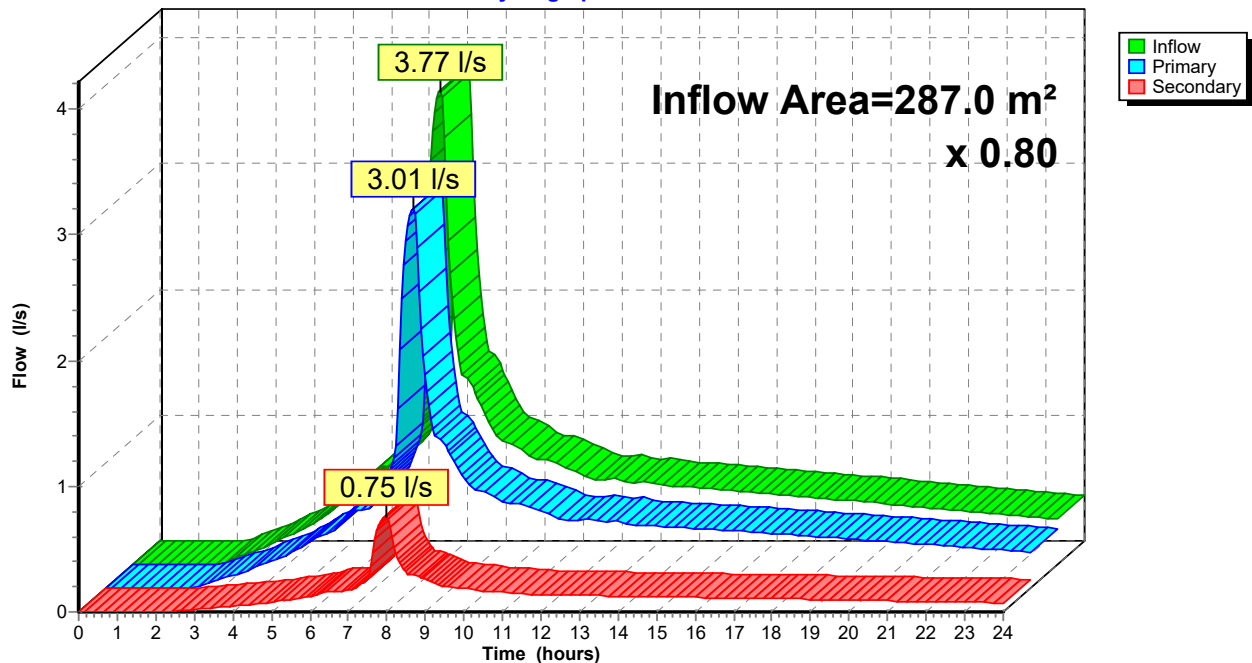
### Summary for Link 4L: 80% Flows

Inflow Area = 287.0 m<sup>2</sup>, 0.00% Impervious, Inflow Depth > 183 mm for 1% AEP event  
 Inflow = 3.77 l/s @ 7.98 hrs, Volume= 52.6 m<sup>3</sup>  
 Primary = 3.01 l/s @ 7.98 hrs, Volume= 42.1 m<sup>3</sup>, Atten= 20%, Lag= 0.0 min  
 Secondary = 0.75 l/s @ 7.98 hrs, Volume= 10.5 m<sup>3</sup>

Primary outflow = Inflow x 0.80, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

### Link 4L: 80% Flows

Hydrograph



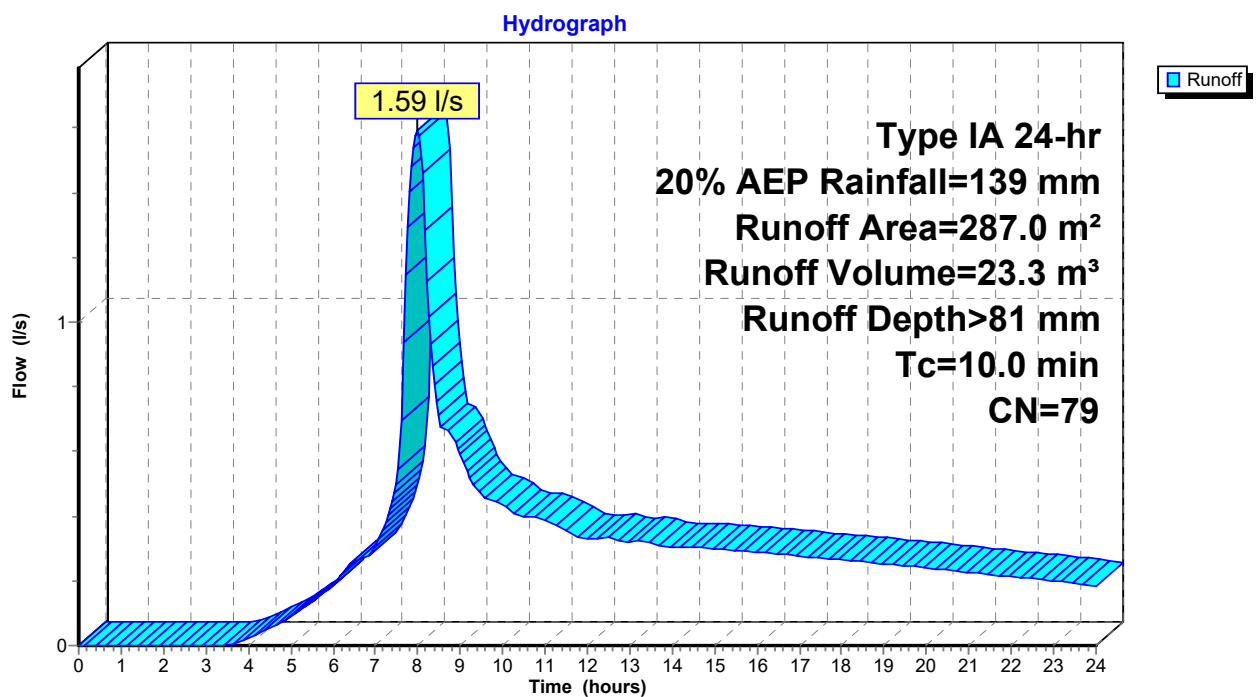
**Summary for Subcatchment 9S: Pre-development**

Runoff = 1.59 l/s @ 8.00 hrs, Volume= 23.3 m<sup>3</sup>, Depth> 81 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP Rainfall=139 mm

| Area (m <sup>2</sup> ) | CN | Description                   |
|------------------------|----|-------------------------------|
| 287.0                  | 79 | <50% Grass cover, Poor, HSG B |
| 287.0                  |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(meters) | Slope<br>(m/m) | Velocity<br>(m/sec) | Capacity<br>(m <sup>3</sup> /s) | Description   |
|-------------|--------------------|----------------|---------------------|---------------------------------|---------------|
| 10.0        |                    |                |                     |                                 | Direct Entry, |

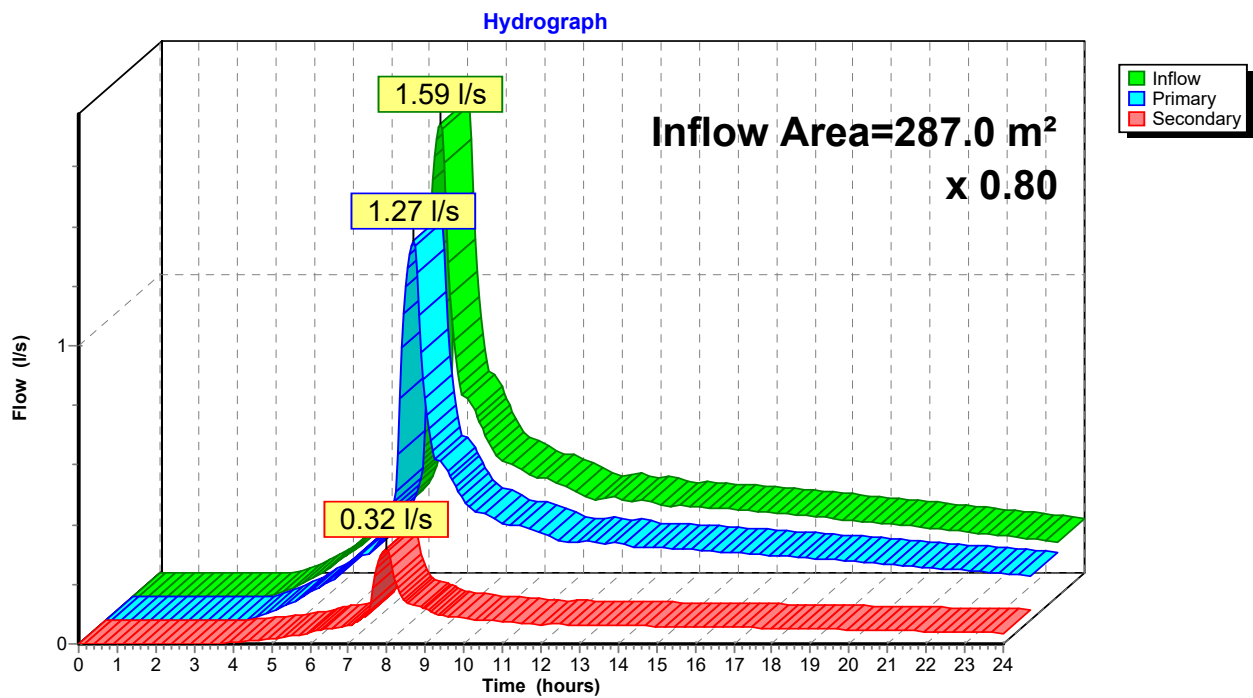
**Subcatchment 9S: Pre-development**

### Summary for Link 4L: 80% Flows

Inflow Area = 287.0 m<sup>2</sup>, 0.00% Impervious, Inflow Depth > 81 mm for 20% AEP event  
 Inflow = 1.59 l/s @ 8.00 hrs, Volume= 23.3 m<sup>3</sup>  
 Primary = 1.27 l/s @ 8.00 hrs, Volume= 18.7 m<sup>3</sup>, Atten= 20%, Lag= 0.0 min  
 Secondary = 0.32 l/s @ 8.00 hrs, Volume= 4.7 m<sup>3</sup>

Primary outflow = Inflow x 0.80, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

### Link 4L: 80% Flows



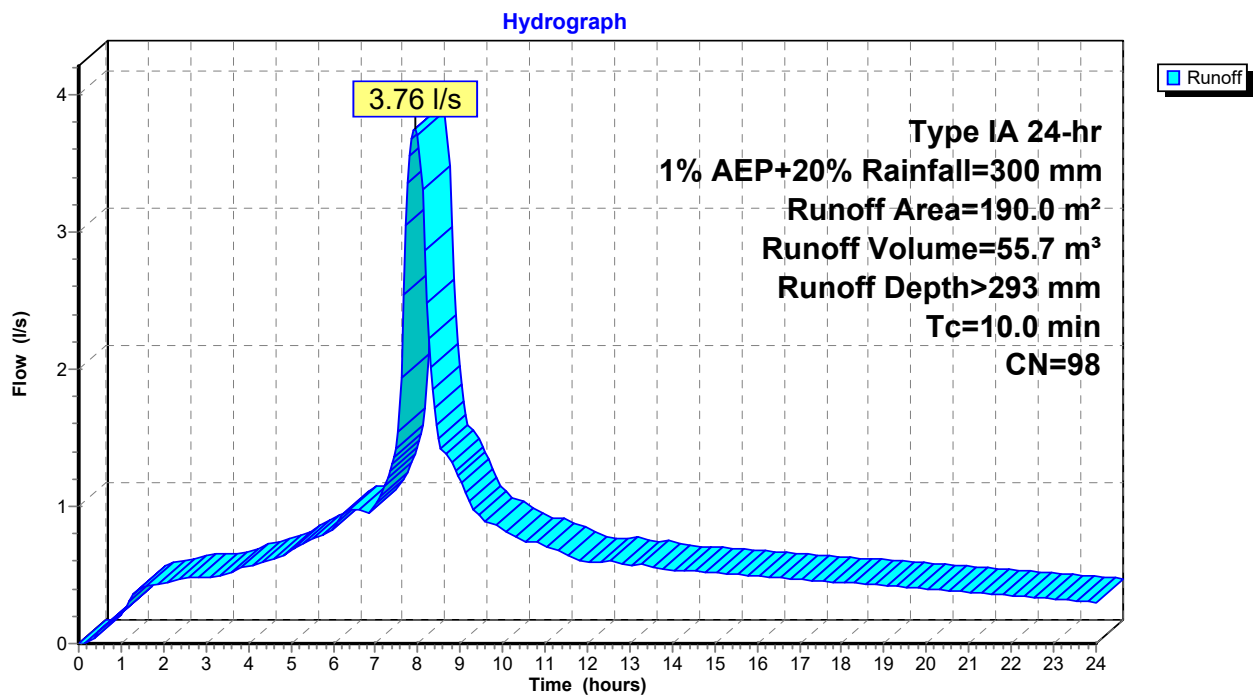
**Summary for Subcatchment 2S: Dwelling Roofs**

Runoff = 3.76 l/s @ 7.94 hrs, Volume= 55.7 m<sup>3</sup>, Depth> 293 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP+20% Rainfall=300 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 190.0                | 98 | House roof              |
| 190.0                  |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(meters) | Slope<br>(m/m) | Velocity<br>(m/sec) | Capacity<br>(m <sup>3</sup> /s) | Description   |
|-------------|--------------------|----------------|---------------------|---------------------------------|---------------|
| 10.0        |                    |                |                     |                                 | Direct Entry, |

**Subcatchment 2S: Dwelling Roofs**

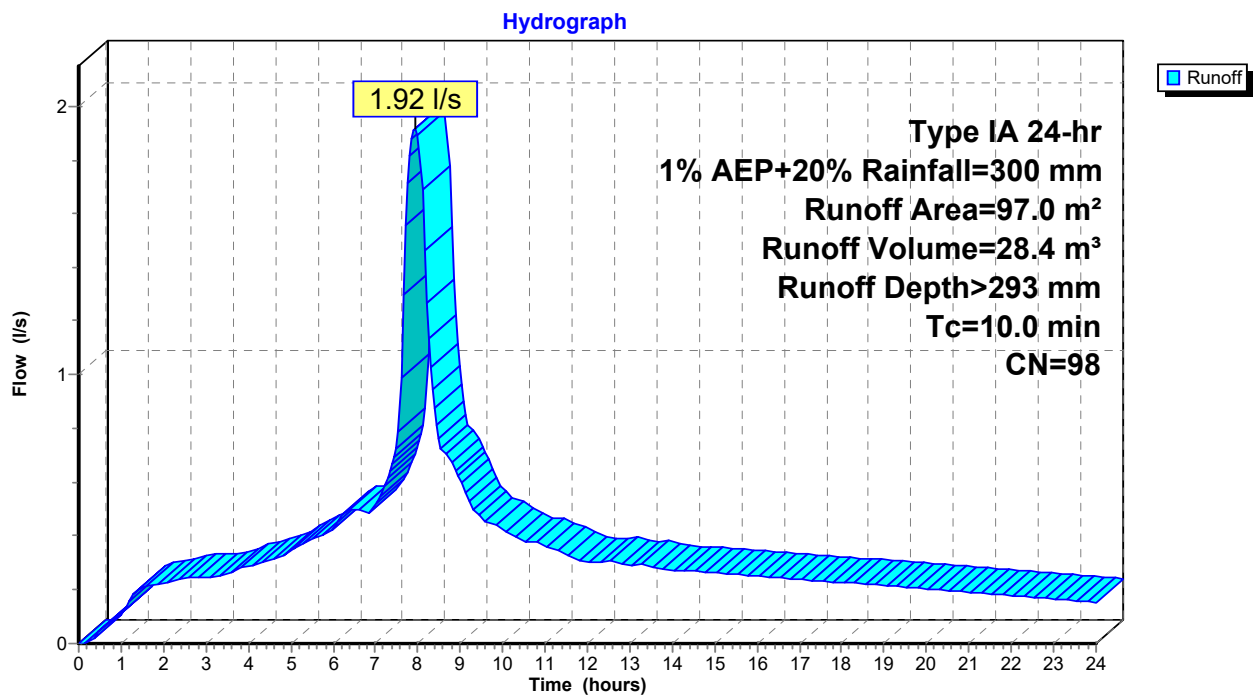
**Summary for Subcatchment 7S: Driveway**

Runoff = 1.92 l/s @ 7.94 hrs, Volume= 28.4 m<sup>3</sup>, Depth> 293 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP+20% Rainfall=300 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 97.0                 | 98 | House roof              |
| 97.0                   |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

**Subcatchment 7S: Driveway**



### Summary for Pond 7P: Tank

Inflow Area = 190.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 293 mm for 1% AEP+20% event  
 Inflow = 3.76 l/s @ 7.94 hrs, Volume= 55.7 m<sup>3</sup>  
 Outflow = 1.42 l/s @ 8.56 hrs, Volume= 40.2 m<sup>3</sup>, Atten= 62%, Lag= 37.2 min  
 Primary = 1.42 l/s @ 8.56 hrs, Volume= 40.2 m<sup>3</sup>

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 1.977 m @ 8.56 hrs Surf.Area= 9.6 m<sup>2</sup> Storage= 19.0 m<sup>3</sup>

Plug-Flow detention time= 317.4 min calculated for 40.2 m<sup>3</sup> (72% of inflow)  
 Center-of-Mass det. time= 140.1 min ( 784.3 - 644.2 )

| Volume | Invert  | Avail.Storage       | Storage Description                      |
|--------|---------|---------------------|------------------------------------------|
| #1     | 0.000 m | 24.1 m <sup>3</sup> | 3.50 mD x 2.50 mH Vertical Cone/Cylinder |

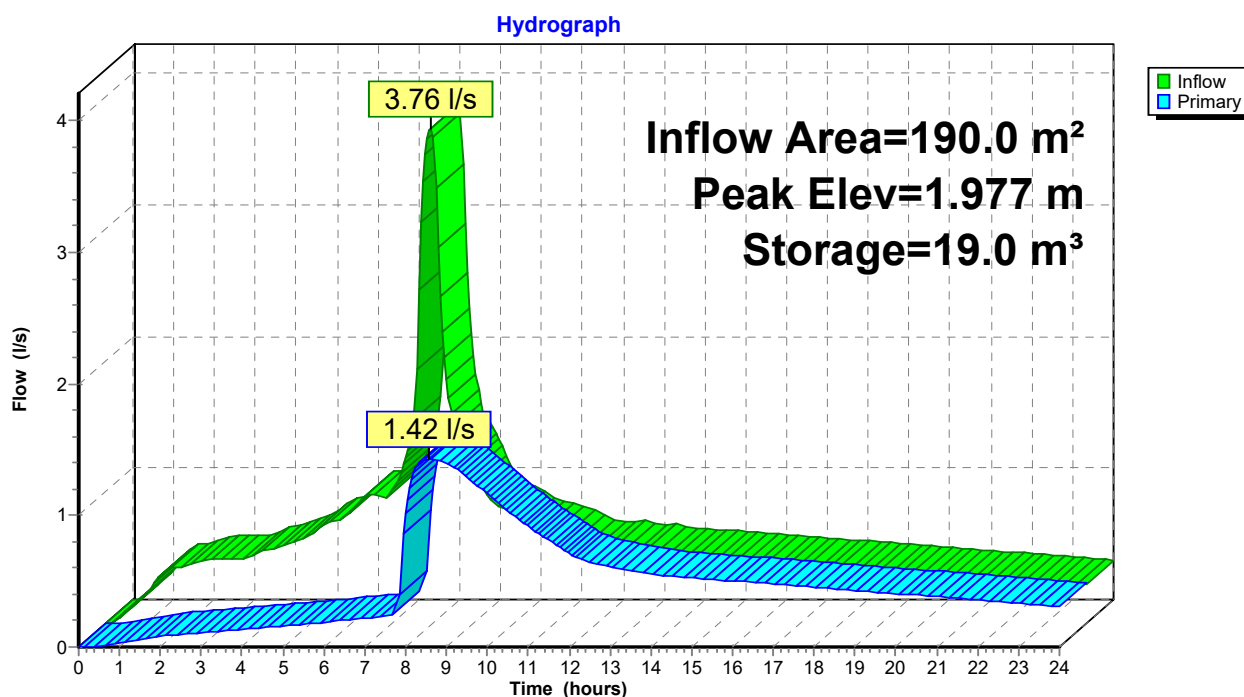
| Device | Routing | Invert  | Outlet Devices                     |
|--------|---------|---------|------------------------------------|
| #1     | Primary | 0.000 m | 10 mm Vert. Orifice/Grate C= 0.600 |
| #2     | Primary | 1.600 m | 30 mm Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=1.42 l/s @ 8.56 hrs HW=1.977 m (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.29 l/s @ 3.73 m/s)

2=Orifice/Grate (Orifice Controls 1.13 l/s @ 1.60 m/s)

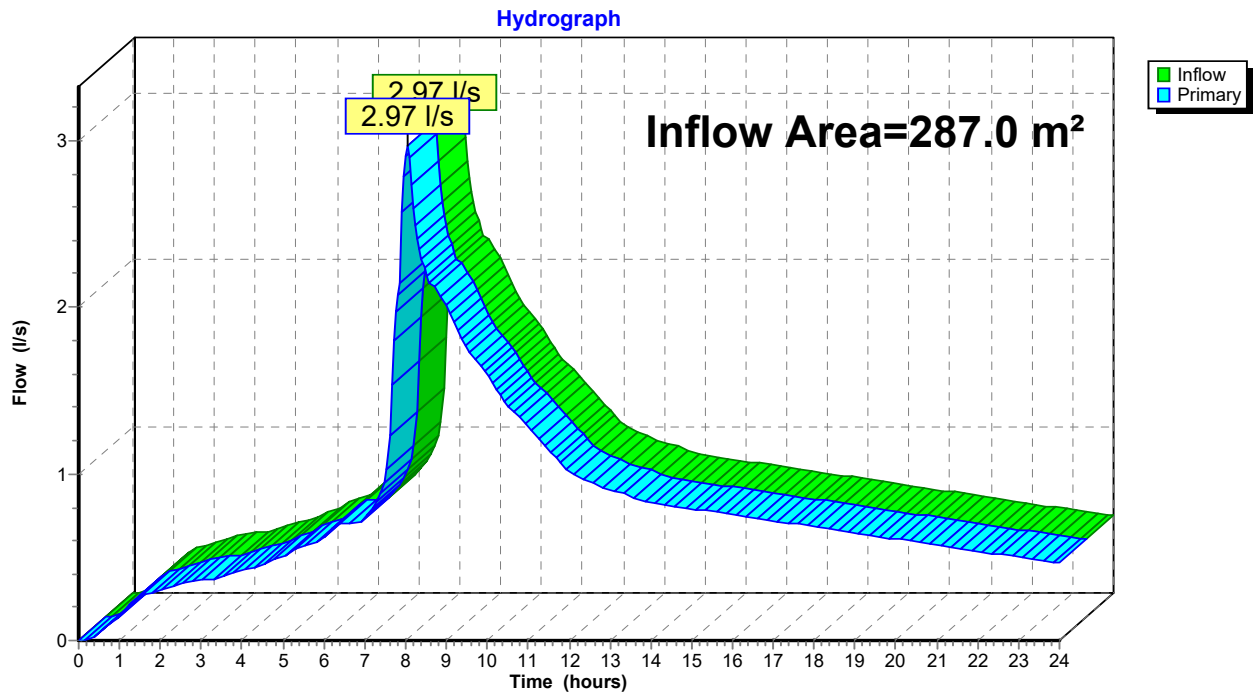
### Pond 7P: Tank



**Summary for Link 6L: Total post dev**

Inflow Area = 287.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 239 mm for 1% AEP+20% event  
Inflow = 2.97 l/s @ 8.05 hrs, Volume= 68.7 m<sup>3</sup>  
Primary = 2.97 l/s @ 8.05 hrs, Volume= 68.7 m<sup>3</sup>, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Link 6L: Total post dev**

## Summary for Subcatchment 2S: Dwelling Roofs

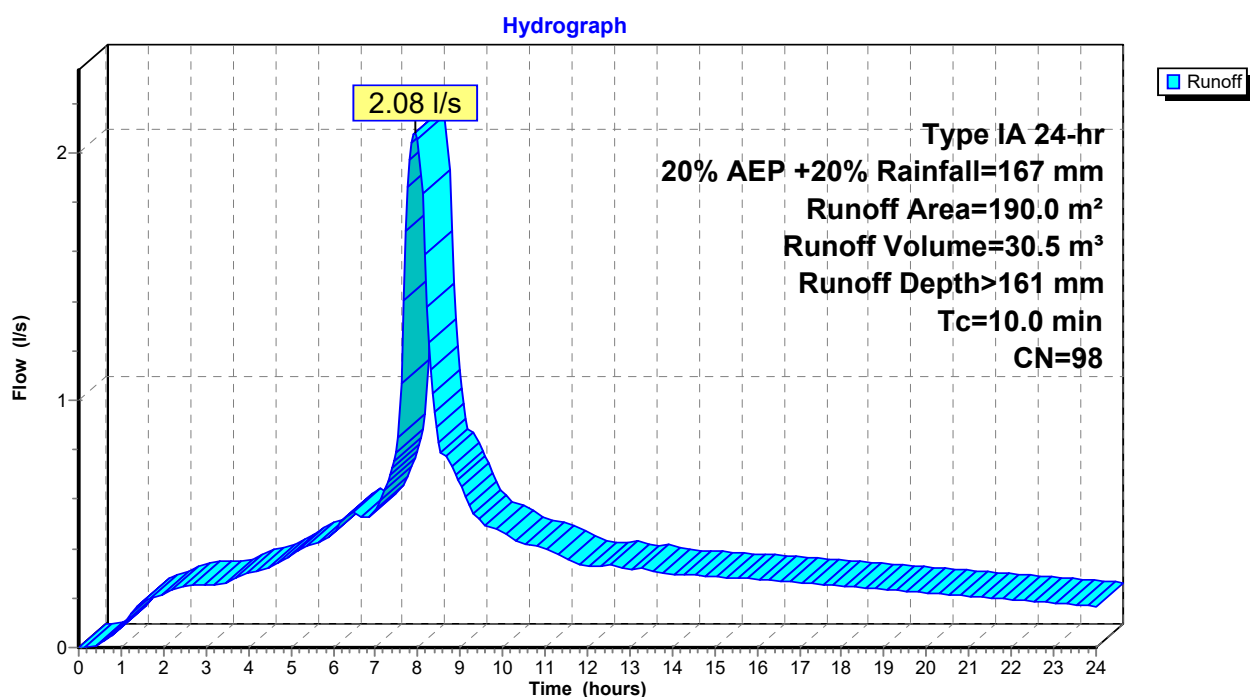
Runoff = 2.08 l/s @ 7.94 hrs, Volume= 30.5 m<sup>3</sup>, Depth> 161 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP +20% Rainfall=167 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 190.0                | 98 | House roof              |
| 190.0                  |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

## Subcatchment 2S: Dwelling Roofs



### Summary for Subcatchment 7S: Driveway

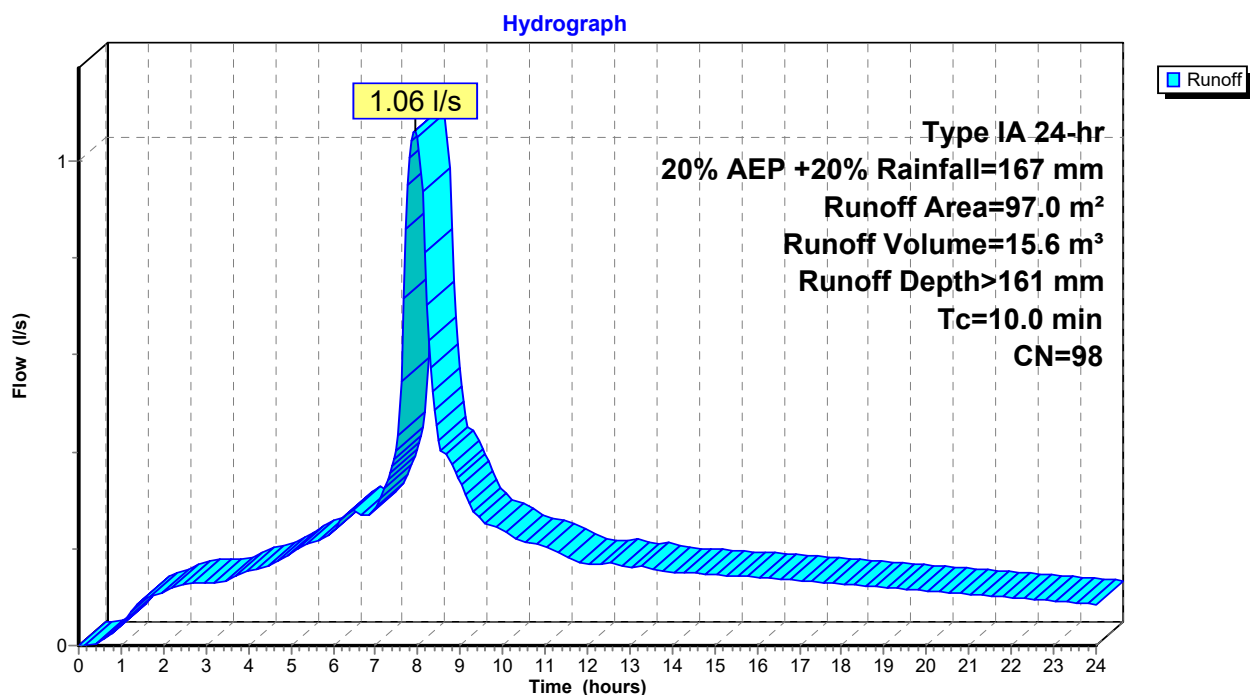
Runoff = 1.06 l/s @ 7.94 hrs, Volume= 15.6 m<sup>3</sup>, Depth> 161 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP +20% Rainfall=167 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 97.0                 | 98 | House roof              |
| 97.0                   |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

### Subcatchment 7S: Driveway



### Summary for Pond 7P: Tank

Inflow Area = 190.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 161 mm for 20% AEP +20% event  
 Inflow = 2.08 l/s @ 7.94 hrs, Volume= 30.5 m<sup>3</sup>  
 Outflow = 0.26 l/s @ 17.36 hrs, Volume= 16.9 m<sup>3</sup>, Atten= 88%, Lag= 565.3 min  
 Primary = 0.26 l/s @ 17.36 hrs, Volume= 16.9 m<sup>3</sup>

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 1.514 m @ 17.36 hrs Surf.Area= 9.6 m<sup>2</sup> Storage= 14.6 m<sup>3</sup>

Plug-Flow detention time= 466.6 min calculated for 16.9 m<sup>3</sup> (56% of inflow)  
 Center-of-Mass det. time= 218.7 min ( 870.4 - 651.7 )

| Volume | Invert  | Avail.Storage       | Storage Description                             |
|--------|---------|---------------------|-------------------------------------------------|
| #1     | 0.000 m | 24.1 m <sup>3</sup> | <b>3.50 mD x 2.50 mH Vertical Cone/Cylinder</b> |

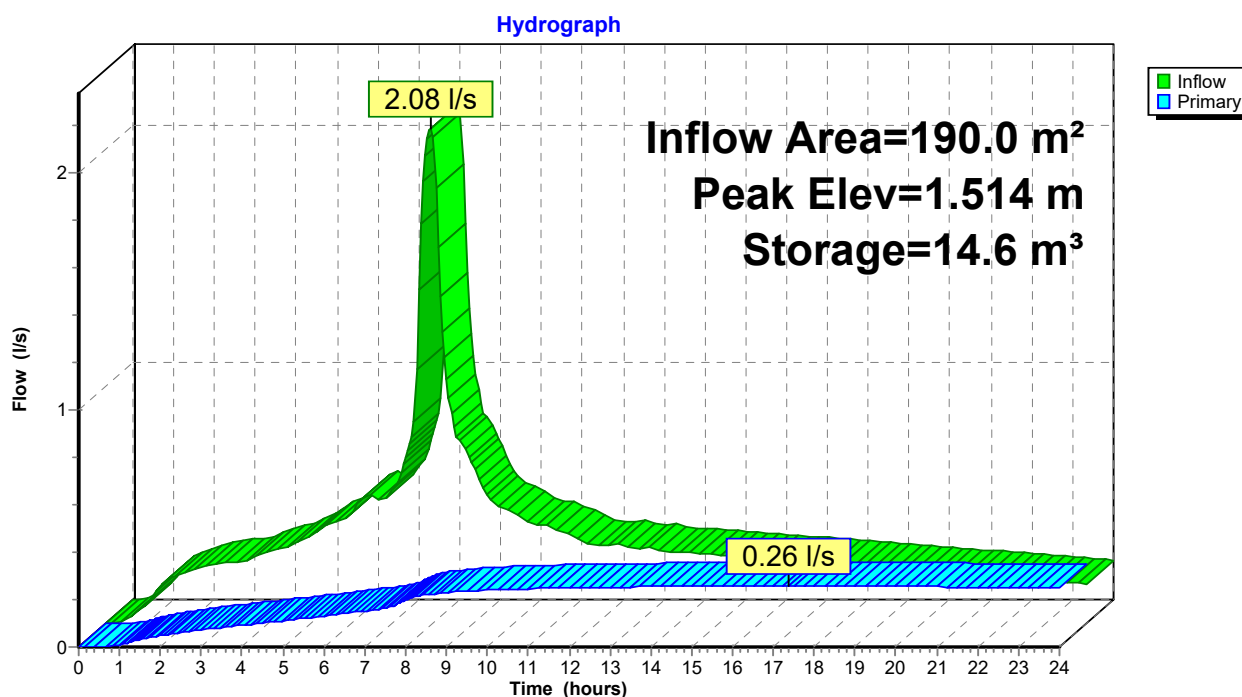
| Device | Routing | Invert  | Outlet Devices                            |
|--------|---------|---------|-------------------------------------------|
| #1     | Primary | 0.000 m | <b>10 mm Vert. Orifice/Grate</b> C= 0.600 |
| #2     | Primary | 1.600 m | <b>30 mm Vert. Orifice/Grate</b> C= 0.600 |

**Primary OutFlow** Max=0.26 l/s @ 17.36 hrs HW=1.514 m (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.26 l/s @ 3.26 m/s)

2=Orifice/Grate ( Controls 0.00 l/s)

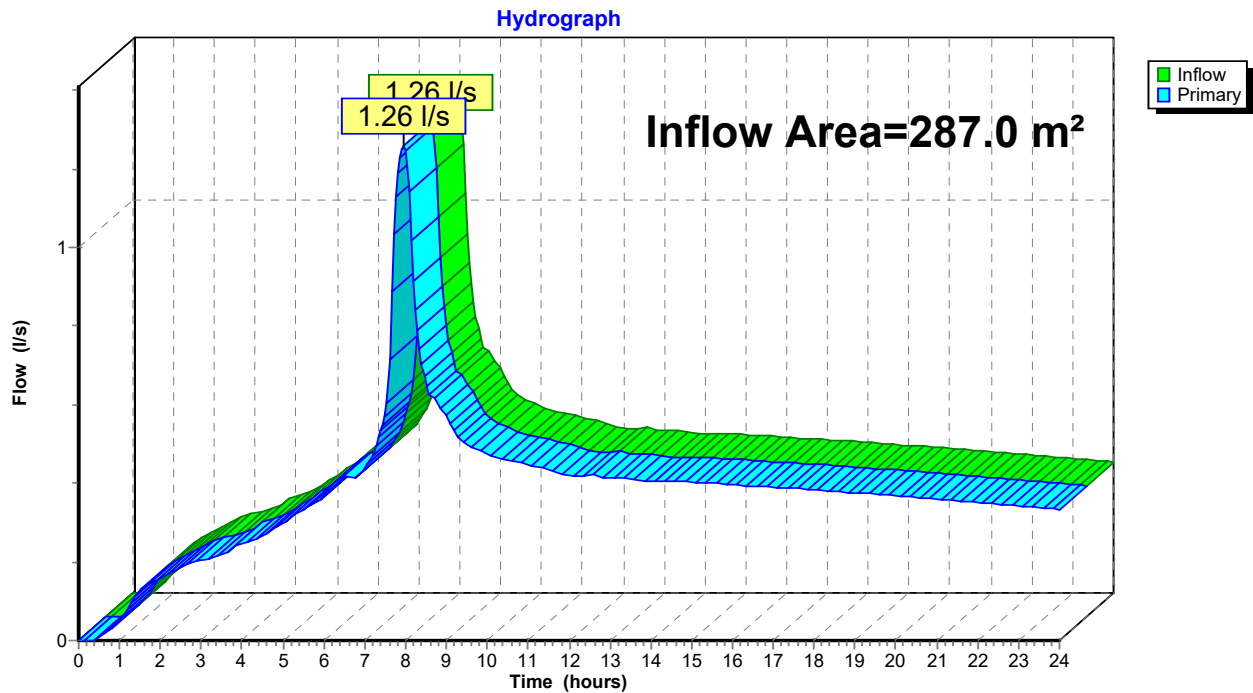
### Pond 7P: Tank



**Summary for Link 6L: Total post dev**

Inflow Area = 287.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 113 mm for 20% AEP +20% event  
Inflow = 1.26 l/s @ 7.95 hrs, Volume= 32.5 m<sup>3</sup>  
Primary = 1.26 l/s @ 7.95 hrs, Volume= 32.5 m<sup>3</sup>, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Link 6L: Total post dev**



## **DECISION ON LAND USE CONSENT APPLICATION UNDER THE RESOURCE MANAGEMENT ACT 1991**

**Pursuant to s133A of the Act on the 17<sup>th</sup> July 2025**

### **Decision**

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

|                           |                                  |
|---------------------------|----------------------------------|
| <b>Applicant:</b>         | Te Tii Waitangi B3 Trust         |
| <b>Council Reference:</b> | 2250418-RMALUC                   |
| <b>Property Address:</b>  | 44 Te Kemara Avenue, Paihia 0200 |
| <b>Legal Description:</b> | Lot 5 DP 49984                   |

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

The proposal is to construct two residential dwellings on the subject site breaching Noise Mitigation for Residential Activities, Private Accessways in Urban Zones and Stormwater in the Commercial Zone and as Discretionary activity.

### **Conditions**

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

1. The activity shall be carried out in general accordance with the approved plans prepared by Panel Lock, referenced House 7 and 8 3 Bedroom dwellings on Lot 5 for Te Ti Waitangi, dated 5/03/2025, and attached to this consent with the Council's "Approved Stamp" affixed to it.
2. The activity shall be carried out in general accordance with the approved plans prepared by Chester, referenced CIVIL DESIGN - DRAINAGE & COMMON ACCESS, dated 24/06/2025, and attached to this consent with the Council's "Approved Stamp" affixed to it.
3. The activity shall be carried out in general accordance with the approved plans prepared by Chester, referenced Geotechnical Investigation for Proposed Dwelling at 3, 15, 19 & 44 Te Kemara Avenue, Paihia, dated 4 February 2025.
4. The activity shall be carried out in general accordance with the approved plans prepared by Chesters, referenced Land Development Report, dated 24 June 2025.

## **Pre Commencement**

5. 24 hours prior to commencement of any works on site associated with conditions included in this notice, the consent holder must provide notice to the Councils Development Engineer or delegated representative ([planning.support@fndc.govt.nz](mailto:planning.support@fndc.govt.nz)).
6. Prior to the commencing any physical site works, a construction management plan must be submitted to and approved by the Councils Development Engineer or delegated representative. The plan shall contain information on, and site management procedures, for the following:
  - a) The timing of construction works, including hours of work, key project and site management personnel;
  - b) The transportation of demolition and construction materials from and to the site and associated controls on vehicles through sign-posted site entrance/exits and the loading and unloading of materials;
  - c) Control of dust and noise on-site and any necessary avoidance or remedial measures;
  - d) Prevention of earth and other material being deposited on surrounding roads from vehicles and remedial actions should it occur;
  - e) Publicity measures and safety measures, including signage, to inform adjacent landowners and occupiers, pedestrians and other users of Te Kemara Road;
  - f) Erosion and sediment control measures to be in place for the duration of the works.

## **During Construction**

7. The consent holder must ensure a minimum separation distance of 5m from the rising main must be maintained between the proposed dwelling.
8. The consent holder will be responsible for the repair and reinstatement of the public road (Te Kemara) carriageway and footpath, if damaged as a result of constructing the vehicle access crossing to the satisfaction of the Resource Consent Engineer or delegated representative.
9. The consent holder must ensure that construction vehicles are not parked on Te Kemara Road.

## **Prior to Occupation**

10. Prior to occupation of the dwellings, the consent holder must provide evidence that a 100mm sewerage connection has been provided to Councils reticulated infrastructure in accordance with the requirements of Council's Engineering Standards and Guidelines.
11. Prior to occupation of the dwellings, the consent holder must provide evidence that there is a metered connection to Councils reticulated water supply system in accordance with the requirements of Councils Engineering Standards and Guidelines.
12. Prior to occupation of the dwellings, the consent holder must provide evidence that lot has a formed and concreted entrance to the lot which complies with the Sheet 7-8 for

urban private way and section 3.2.7.7 of Councils Engineering Standards 2023 and NZS 4404:2010, to the satisfaction of Councils Resource Consents Engineer or their delegated representative.

13. Prior to occupation of the dwellings, the consent holder must ensure the driveway and parking areas are formed, drained and marked out in accordance with the approved plans prepared by PanelLock, referenced House 7 and 8 3 Bedroom dwellings on Lot 5 for Te Ti Waitangi, dated 5/03/2025 and plans prepared by Chester, referenced CIVIL DESIGN - DRAINAGE & COMMON ACCESS to the satisfaction of Councils Resource Consents Engineer or their delegated representative.
14. Prior to occupation of the dwellings, the consent holder must install raised headwalls or other barriers to prevent vehicles inadvertently falling in the roadside drain to the satisfaction of Councils Resource Consents Engineer or their delegated representative.
15. During all construction works to be undertaken as approved under this consent, in the event of an “accidental discovery” of archaeological material, the following steps must be taken:
  - a. All work on the site will cease immediately. The contractor/works supervisor will shut down all equipment and activity.
  - b. The contractor/works supervisor/owner will take immediate steps to secure the site(tape it off) to ensure the archaeological remains are undisturbed and the site is safe in terms of health and safety requirements. Work may continue outside of the site area.
  - c. The contractor/works supervisor/owner will notify the Area Archaeologist of Heritage New Zealand – Pouhere Taonga (Northland Office), tangata whenua and any required statutory agencies (such as the NZ Police if human remains/koiwi tangata are found) if this has not already occurred.
  - d. Heritage New Zealand – Pouhere Taonga advise the use of a qualified archaeologist who will confirm the nature of the accidentally discovered material.
  - e. If the material is confirmed as being archaeological, under the terms of the Heritage New Zealand Pouhere Taonga Act 2014, the landowner will ensure that an archaeological assessment is carried out by a qualified archaeologist, and if appropriate, an archaeological authority is obtained from Heritage New Zealand – Pouhere Taonga before work resumes.
  - f. If burials, human remains/koiwi tangata are uncovered, steps in conditions 15 (a) to (c) above must be taken and the Area Archaeologist of Heritage New Zealand – Pouhere Taonga, the New Zealand Police and the Iwi representative for the area must be contacted immediately. The area must be treated with discretion and respect and the koiwi tangata/human remains dealt with according to law and tikanga.
  - g. Works at the site area must not recommence until an archaeological assessment has been made, all archaeological material has been dealt with appropriately, and statutory requirements met. All parties will work towards work recommencement in the shortest possible timeframe while ensuring that archaeological and cultural requirements are complied with.

## Ongoing Conditions

16. While the commercial zoning applies, any the lot owner, occupier of, or visitor to the site shall make no complaint, submission, appeal, or objection in relation to the lawful operation of commercial activity within the surrounding environment that is also zoned Commercial for the duration of this consent. This includes activities allowed by regional

or district plans, resource consents, designations, or regulations under the Resource Management Act 1991. This includes not taking legal action or seeking enforcement against any lawful activities conducted within or associated with Commercial Zone.

## **Advice Notes**

### **Lapsing of Consent**

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

### **Right of Objection**

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

### **Archaeological Sites**

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

### **General Advice Notes**

4. *The consent holder must pay the Council's compliance monitoring charges to cover the actual and reasonable costs incurred in monitoring compliance with the conditions of this consent, in accordance with section 36(1)(c) of the Resource Management Act.*
5. *Any work activity, excavation and non- excavation carried out in the road reserve, must lodge formal notice if intention to carry out Works, in the form of a Corridor Access Request, submitted to the Corridor Manager for Approval.*  
*A Corridor Access Request (CAR) is an application for a permit to carry out works within the road reserve, this is defined in the National Code of Practice for Utilities access to the transport Corridors and has been adopted by Council.*  
*A Traffic Management Plan (TMP) must be uploaded with the CAR submission, describing the proposed works, design, setup, and removal of any activity being carried out within the road Reserve. A Work Access Permit (WAP) and reasonable conditions will be issued once TMP is Approved. Enquiries as to its use may be directed to Council's Road Corridor Manager, [corridor.access@fndc.govt.nz](mailto:corridor.access@fndc.govt.nz).*
6. *Council policy prohibits the building of any structure over an existing water, sewer or stormwater reticulation main.*

7. *All earthworks are required to comply with the Northland Regional Council Regional Water and Soil Plan for Northland noting Erosion & sediment control and dust suppression requirements.*
8. *Erosion and Sedimentation Control shall be designed and carried out in accordance with GD05 "Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region".*
9. *The consent holder is responsible for arranging for buried services to be located and marked prior to commencing any construction works and is also responsible for the repair and reinstatement of any underground services damaged as a result of the proposal.*

## **Reasons for the Decision**

1. By way of an earlier report that is contained within the electronic file of this consent, it was determined that pursuant to sections 95A and 95B of the Act the proposed activity will not have, and is not likely to have, adverse effects on the environment that are more than minor, there are also no affected persons and no special circumstances exist. Therefore, under delegated authority, it was determined that the application be processed without notification.
2. The application is for a Discretionary activity resource consent as such under section 104 the Council can consider all relevant matters. In particular the matters listed in 7.7.5.1.5 Noise Mitigation for Residential Activities, 15.1.6C.1.2(c) Private Accessways in Urban Zones and 7.7.5.1.11 Stormwater are of particular relevance.
3. In regard to section 104(1)(a) of the Act the actual and potential effects of the proposal will be acceptable as:
  - a. The subject sites do not contain any areas of cultural significance, outstanding landscape, nor outstanding natural/landscape feature.
  - b. The proposal can accommodate onsite infrastructure in a manner which does not adversely affect the safety and efficiency of the roading network.
  - c. The receiving environment is characterised by residential development and the proposed development will have negligible adverse effects on the character or amenity on the immediate surrounding area.
  - d. 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.
  - e. The proposal will also result in positive effects as the proposal includes a dwelling and that will have economic and social benefits for members of the community, particularly a community that is experiencing a shortage of housing.
4. In regard to section 104(1)(ab) of the Act there are no offsetting or environmental compensation measures proposed or agreed to by the applicant for the activity. =

5. In regard to section 104(1)(b) of the Act the following statutory documents are considered to be relevant to the application:

- a. New Zealand Coastal Policy Statement 2010,
- b. Operative Far North District Plan 2009,
- c. Proposed Far North District Plan 2022

*New Zealand Coastal Policy Statement 2010*

The activity is consistent with the relevant objectives and policies of the New Zealand Coastal Policy Statement (NZCPS) because:

- *The site is set back from the coastal marine area (CMA) with the esplanade reserve and road reserve providing separation and continued public access to the CMA*
- *The proposed development has been designed to sit within the existing vacant lot with minimal impacts on the surrounding coastal environment.*
- *NZCPS seeks to ensure that coastal hazard risks are taken into account and are managed by locating new development away from risk prone areas. The site is outside the area affected by sea level rise, however, it does fall within an area of potential coastal erosion occurring. The risks arising from sea level rise and potential coastal erosion are also minimised through the low-density development. Although no hard protection measure is proposed, it is noted that the vulnerable activity is elevated above the coastal hazard*

Overall, the proposal is considered consistent with the objectives and policies of NZCPS.

*Operative Far North District Plan*

The activity is consistent with the relevant objectives, policies of the Operative District Plan because the Commercial zone provides for a wide range of activities which would not have adverse effects on the environment and would contribute to the needs and well-being of the community.

The receiving environment is characterised by residential based activities with a mix of residential dwellings and the nearest commercial activity is located at least 300m to the southwest of the subject site, being Waitangi Woolworths. The dwelling is not considered out of character with the existing activities in the immediate area.

Temporary earthworks effects will be managed with appropriate erosion and sediment controls designed in accordance with best practice GD05.

In respect to Chapter 15 of the ODP, the site will be accessed via an vehicle crossing off Te Kemara Avenue and will be concreted at least 5m inwards from the existing road edge and the internal driveway will be gravelled. The additional traffic generated by the proposal can be accommodated by the proposed access formation. As such, it is considered that adverse traffic effects are minimised, and an appropriate level of traffic safety is provided

Overall, the activity is consistent with the relevant objectives, policies and assessment criteria of the Operative District Plan.



### *Proposed Far North District Plan*

The activity is consistent with the relevant objectives, policies and assessment criteria of the Proposed District Plan because:

- The proposed dwellings support papakāinga development by providing accommodation for whānau on ancestral land. It reinforces tikanga Māori and enables intergenerational living on whenua Māori.
- The proposal aligns with cultural and social aspirations by enhancing whānau wellbeing and land utilisation. The design and location of the dwellings are likely to maintain a connection to traditional land uses and whānau structures.
- The proposal supports mana whenua rights to occupy and develop their land in a manner consistent with their traditions which sustains cultural values.
- This development is consistent with residential papakāinga intent, maintaining a low-density housing arrangement and on-site infrastructure and access will be provided.
- Any earthworks will need to comply with regional standards.

Overall, the activity is consistent with the relevant objectives, policies and assessment criteria of the Proposed District Plan and promotes Māori aspirations for cultural and social development. Furthermore, it meets the intent of enabling tangata whenua to use and develop their land while imposing conditions to manage infrastructure, access, and effects on the wider environment.

6. In regard to section 104(1)(c) of the Act there are no other matters relevant and reasonably necessary to determine the application.
7. Based on the assessment above the activity will be consistent with Part 2 of the Act.  
The activity will avoid, remedy or mitigate any potential adverse effects on the environment while providing for the sustainable management of natural and physical resources and is therefore in keeping with the Purpose and Principles of the Act. There are no matters under section 6 that are relevant to the application. The proposal is an efficient use and development of the site that will maintain existing amenity values without compromising the quality of the environment. The activity is not considered to raise any issues in regard to Te Tiriti o Waitangi.
8. Overall, for the reasons above it is appropriate for consent to be granted subject to the imposed conditions.

## **Approval**

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



**Name: Pat Killalea**

**Date: 15<sup>th</sup> July 2025**

**Title: Independent Commissioner**

## **Approval**

This Decision has been amended pursuant to s133A of the Resource Management Act on 17<sup>th</sup> July 2025. Details of the changes can be found in the resource consent file.



---

**Name: Whitney Peat**

**Date: 17/07/2025**

**Title: Senior Planner**



## Te Tii (Waitangi) B3 Trust

22 Te Kemara Avenue, Waitangi, 0200  
PO BOX 273, Paihia, 0200  
[administrator@tetiwaitangi.co.nz](mailto:administrator@tetiwaitangi.co.nz)

Te Tii (Waitangi) B3 Trust  
Friday 10 October 2025

### Confirmation of Appointment as Agent

Te Tii (Waitangi) B3 Trust

To Whom It May Concern,

This letter serves as formal confirmation of the appointment of Mrs. Pania Sigley, Company Secretary of Te Tii Limited Partnership (a subsidiary of Te Tii (Waitangi) B3 Trust), as an authorised agent acting on behalf of the Trust.

Mrs. Sigley is granted full authority to represent Te Tii (Waitangi) B3 Trust in all matters relating to land files associated with the Te Tii B3 Block, including relevant documentation held by the Far North District Council. This authority includes, but is not limited to, receiving and responding to correspondence and submitting documentation on behalf of the Trust.

Please direct all relevant communications, queries, and documentation requests to Mrs. Sigley in the first instance.

Should you require any further information or supporting documentation, you may contact Mrs. Sigley directly:

Email: [secretary@tetiwaitangi.co.nz](mailto:secretary@tetiwaitangi.co.nz)

Phone: 027 687 8548

Yours sincerely,

George Riley

Trust Chair— Te Tii (Waitangi) B3 Trust



26<sup>th</sup> November 2025

Far North District Council

Resource Consents Team

Re: Application to Amend Conditions of Resource Consent 2250418-RMALUC

Site: 44 Te Kemara Avenue, Paihia (Lot 5 DP 49984)

I request an amendment to Conditions 1 to 4 of Resource Consent 2250418-RMALUC under section 127 of the Resource Management Act 1991.

The amendments are required so the consent references the updated Advance Build architectural plans and the updated RS Eng engineering documents. These replace the original Panel Lock and Chester documents currently referenced in the consent. The development remains unchanged in scale, location, intensity, and effects.

#### 1. Updated Architectural Plans – Advance Build

Condition 1 currently requires the activity to be carried out in accordance with the Panel Lock plans.

I request that Condition 1 be amended to instead reference the Advance Build concept plans titled 'Proposed New Dwelling, 44 Te Kemara Ave, Waitangi – Concept Plans, Revision C01, June 2025', which include the site plan, Location plan and floor plan

These plans are attached.

## 2. Updated Stormwater Design – RS Eng

Condition 2 currently cites the Chester drainage plans.

I request that Condition 2 be amended to reference the RS Eng stormwater design titled 'Stormwater Management, 44 Te Kemara Avenue, Issue 1, 11 September 2025' including the attenuation design, modelling, and stormwater layout.

## 3. Updated Geotechnical Report – RS Eng

Condition 3 currently references the Chester geotechnical investigation.

I request that Condition 3 be amended to reference the RS Eng 'Geotechnical Investigation Report, 3, 15, 19 and 44 Te Kemara Avenue, 12 August 2025' including site classification.

## 4. Updated Civil Plans – RS Eng

Condition 4 references the Chester Land Development Report.

I request that Condition 4 be amended to reference the updated RS Eng civil engineering plans contained in the above stormwater and geotechnical packages.

## Summary

Only the referenced documents are being updated.

No changes are proposed to the design, scale, location, or environmental effects of the authorised development. The proposal continues to comply with all relevant assessment criteria previously considered by Council.

Please advise if any further information is required to process this application.

## Attachments

1. Advance Build Concept Plans, Rev C01 (June 2025)
2. RS Eng Stormwater Management Report (11 September 2025)
3. RS Eng Geotechnical Investigation Report (12 August 2025)
4. RS Eng Civil Plans (included within attachments)

Signed: 

Mark Day

Advance Build



# Proposed New Dwelling

44 Te Kemara Ave, Waitangi

For: Te Tii(Waitangi) B3 Trust



A smarter move

## CONTENTS

- P01 SITE LOCATION PLAN
- P01A SITE PLAN
- P02 FLOOR PLAN
- P03 ELEVATIONS
- P04 ELECTRICAL PLAN
- P05 FITTING PLAN
- P06 KITCHEN PLAN



## Concept Plans

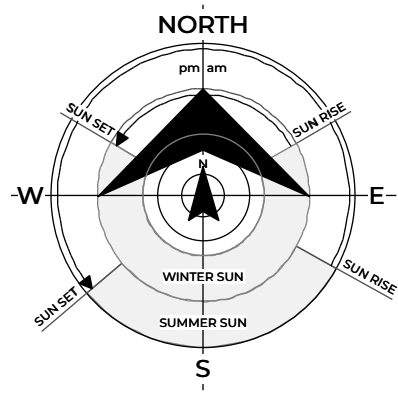
Concept 1  
June 2025

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

REVISION:  
PROJECT NO.  
DRAWN BY:  
HC:

C01  
000  
NMB  
JCS





NB: Boundary Lines are Indicative Only

| REVISION | BY: | DATE        |
|----------|-----|-------------|
| Drawn    | NMB | Feb 14 2025 |

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

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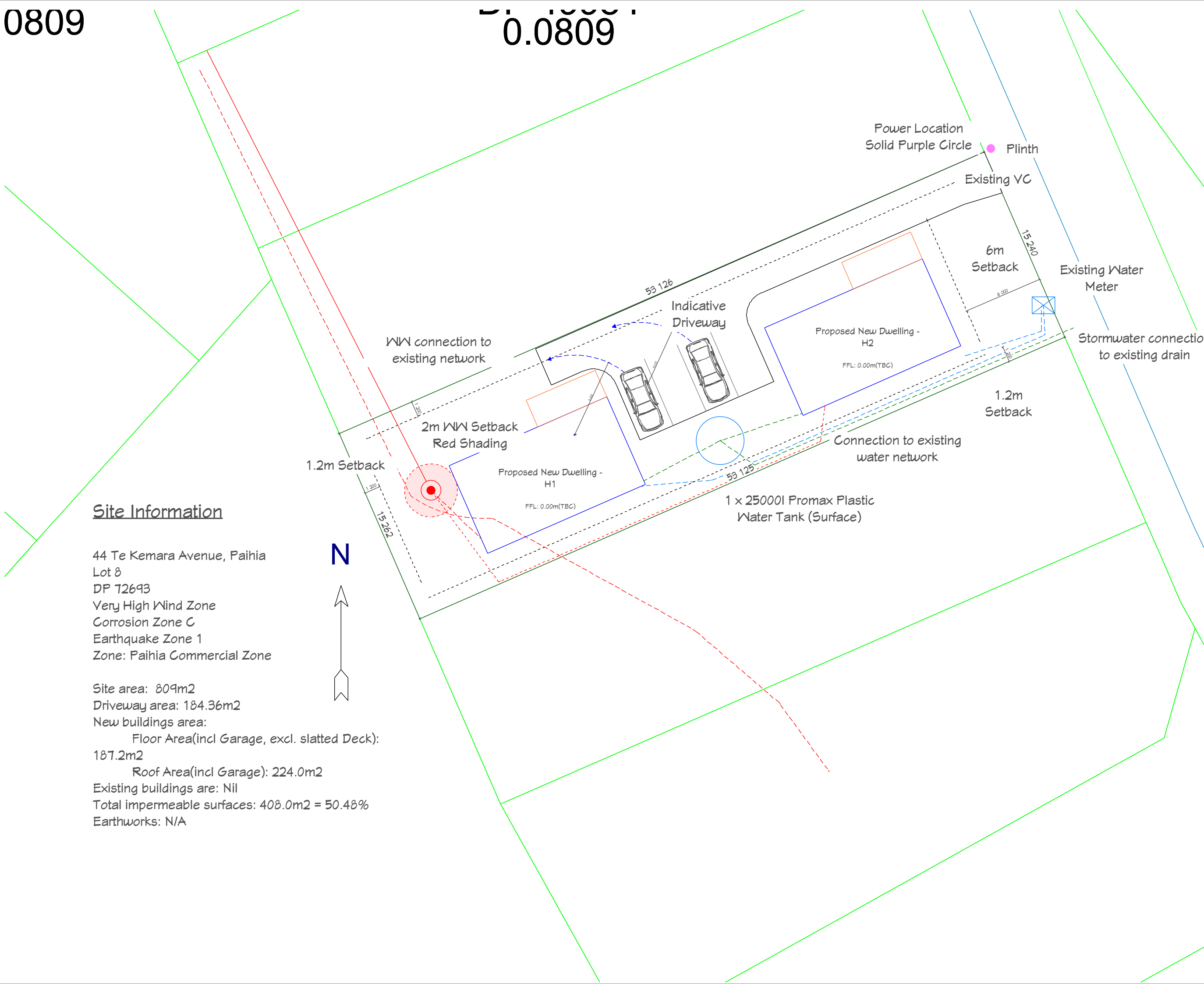
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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave  
Waitangi

| SHEET TITLE:  |      |          |
|---------------|------|----------|
| Site Location |      |          |
| Plan          |      |          |
| SCALE: NTS    |      |          |
| PROJECT       | PAGE | REVISION |
| #:            | :    | :        |
| 000           | 01   | C01      |





Site Information

44 Te Kemara Avenue, Paihia  
Lot 8  
DP 72693  
Very High Wind Zone  
Corrosion Zone C  
Earthquake Zone 1  
Zone: Paihia Commercial Zone

Site area: 809m2  
Driveway area: 184.36m2  
New buildings area:  
    Floor Area(incl Garage, excl. slatted Deck):  
187.2m2  
    Roof Area(incl Garage): 224.0m2  
Existing buildings are: Nil  
Total impermeable surfaces: 408.0m2 = 50.48%  
Earthworks: N/A

| REVISION: | BY: | DATE:       |
|-----------|-----|-------------|
| Drawn     | NMB | Feb 14 2024 |
| Rev       | NMB | Jun 26 2025 |

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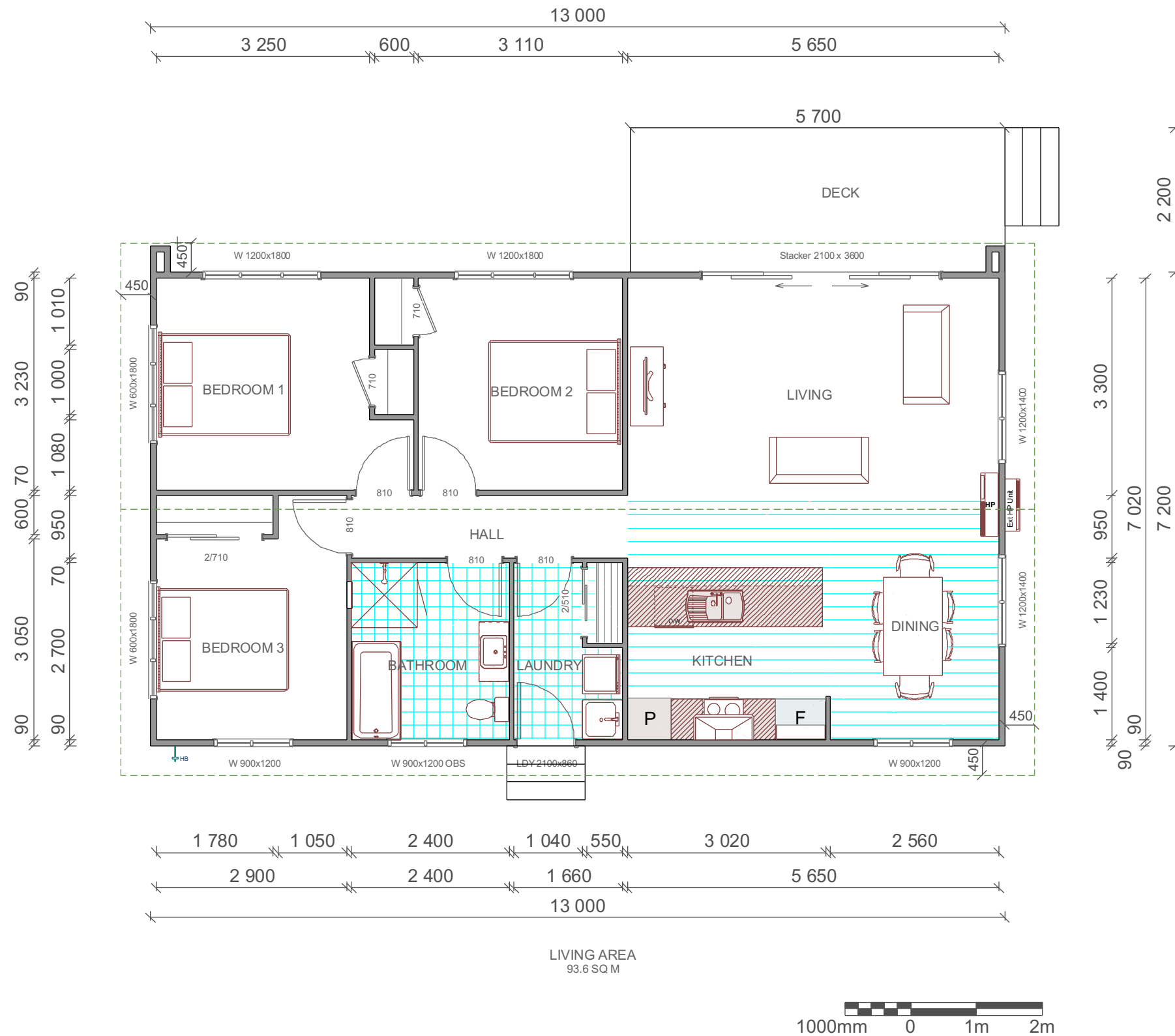
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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave  
Waitangi

|                             |       |           |
|-----------------------------|-------|-----------|
| SHEET TITLE:<br>Site Plan   |       |           |
| SCALE: 1 : 75 (A3 Original) |       |           |
| PROJECT #:                  | PAGE: | REVISION: |
| 000                         | 01A   | C01       |

Roof Pitch 15 deg  
Stud height - 2.4m Flat Ceiling



|           |     |             |
|-----------|-----|-------------|
| REVISION: | BY: | DATE:       |
| Drawn     | NMB | Feb 15 2025 |
| Rev       | NMB | Feb 21 2025 |
| Rev       | NMB | Jun 26 2025 |

Verify all dimensions on site before commencing work.  
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Proposed New Home for:  
Te Tii(Waitangi) B3 Trust  
44 Te Kemara Ave  
Waitangi

SHEET TITLE:  
Floor Plan

SCALE: 1:75 (A3 Original)

PROJECT #:      PAGE:      REVISION:

000 02 P01



# **GEOTECHNICAL INVESTIGATION REPORT**

**3, 15, 19 and 44 Te Kemara Avenue**

**Waitangi**

**(Lots 12, 14 & 20 DP 43842 and Lot 5 DP 49984)**

# GEOTECHNICAL INVESTIGATION REPORT

**3, 15, 19 and 44 Te Kemara Avenue**

**Waitangi**

(Lots 12, 14 & 20 DP 43842 and Lot 5 DP 49984)

**Report prepared for:** Advance Build

**Report reference:** 19780

**Date:** 12 August 2025

**Revision:** 1

## Document Control

| Date       | Revision | Description            | Prepared by:    | Reviewed by: | Authorised by: |
|------------|----------|------------------------|-----------------|--------------|----------------|
| 12/08/2025 | 1        | Building Consent Issue | S Scott Compton | C Hay        | M Jacobson     |
|            |          |                        |                 |              |                |
|            |          |                        |                 |              |                |
|            |          |                        |                 |              |                |



association of  
consulting and  
engineering



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| C | Liquefaction Analysis     |

# GEOTECHNICAL INVESTIGATION REPORT

## 3, 15, 19 & 44 Te Kemara Avenue, Waitangi

(Lots 12, 14 & 20 DP 43842 & Lot 5 DP 49984)

### 1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Advance Build to investigate the suitability of the properties (Lots 12, 14 and 20 DP 43842 and Lot 5 DP 49984) for residential construction. The purpose of this report is to assess the suitability of the building site making foundation and earthworks recommendations.

The client proposes to construct two, single storey, timber floored dwellings on each of the aforementioned properties.

### 2.0 Site Description

These 800m<sup>2</sup> approx. properties are located off Te Kemara Avenue amongst gently sloping topography. The properties are currently in lawn, with exception to 3 Te Kemara that contains a driveway and garage.



**Figure 1:** Lots 12, 14 & 20 DP 43842 & Lot 5 DP 49984.

### **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: *“Weakly cemented sand in fixed transverse dune ridges.”*

### **4.0 Field Investigation**

Technicians from this office visited the property on 31 July 2025 to undertake a walkover inspection, eight Scala Penetrometer tests and ten hand augers. Geocivil completed four Cone Penetration Tests (CPTs) on 6 August 2025.

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 3.2m 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 next to the hand augers. The results ranged from 1 to 14 blows per 100mm to a tested depth of 3.2mBGL.

The CPTs extended to depths of 14.4m, 15.6m, 15.8m and 7.8mBGL.

### **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.

#### **3, 15 and 19 Te Kemara:**

- Topsoil ranged between depths of 0.2m-0.4mBGL.
- Holocene dune sands of Kariotahi Group consisted of fine to medium grained sands with minor gravels being loose to very dense.
- The dune sands extend to a depth of 6m-7m overlying lightly to moderate over consolidated alluvial clays and silts.
- Greywacke is inferred from depths of 13m-20mBGL.

- Groundwater was encountered between depths of 2m-3mBGL.

#### **44 Te Kemara:**

- Topsoil ranged between depths of 0.2m-0.4mBGL.
- Holocene dune sands of Kariotahi Group consisted of fine to medium grained sands with minor gravels being loose to very dense and slightly cemented with depth.
- The dune sands are inferred to extend to a depth of 7m overlying greywacke of Waipapa Group.
- Groundwater was encountered between depths of 2.5m-3mBGL.

## **6.0 Geotechnical Assessment**

### **6.1 Slope Stability**

The identified building areas consist of gentle slopes, underlain with Kariotahi Group sands. Given the gentle slopes, lack of slope instability observed, and the underlying geology, the risk of slope instability to the building areas is considered to be low.

### **6.2 Liquefaction**

Sand, sandy gravels and sandy silts are potentially at risk of liquefaction induced by earthquake ground shaking. Soils potentially prone to liquefaction are generally classified by a normalised soil behaviours index ( $I_c$ ) less than 2.6, assessed using the CPT. The CPTs completed observed silty sands and sandy silts.

The proposed dwellings are an Importance Level 2 structure, as per AS1170. The following values of peak ground acceleration and magnitude are based on MBIE Geotechnical Engineering Module 1, November 2021.

In accordance with MBIE Geotechnical Engineering Module 3, using the software package, CLiq V.3 analysis was undertaken to assess the potential of earthquake induced liquefaction settlement using Boulanger and Idriss (2014). The results of the analysis are presented in Table 1 below.

**Table 1:** Liquefaction Analysis/Results.

| Seismic Event | PGA (g) | M <sub>w</sub> | Liquefaction Potential (LPI) | Liquefaction Severity (LSN) | Free Field Settlement   |              |              |              |
|---------------|---------|----------------|------------------------------|-----------------------------|-------------------------|--------------|--------------|--------------|
|               |         |                |                              |                             | 3 Te Kemara (10m limit) | 15 Te Kemara | 19 Te Kemara | 44 Te Kemara |
| ULS           | 0.19    | 6.5            | <8<br>High risk              | <25<br>moderate expression  | 12cm                    | 8cm          | 7cm          | 4cm          |
| SLS           | 0.03    | 5.8            | 0<br>Low Risk                | 0<br>No expression          | <1cm                    | <1cm         | <1cm         | <1cm         |

Liquefaction triggering during an SLS event is unlikely. During a ULS seismic event, up to 12cm of free field settlement has been assessed on 3 Te Kemara and less than 8cm at the other properties.

### 6.3 Expansive Soils

The sandy soils onsite are considered as non-expansive. RS Eng considers the soils as being Class A (Non-Expansive) as per AS 2870.

## 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 access to and create a building platform for the proposed building(s), earthworks are proposed. To suitably develop the building area, RS Eng recommend as follows.

- Cuts and fills should be limited to minor levelling (<0.3m) only.
- Site works shall generally be completed in accordance with NZS 4431.
- An underground concrete tank is located on each 3 and 19 Te Kemara. If these are within the footprint of buildings or access, confirmations of ground conditions beneath these would be required and/or they be removed and the void be suitably backfilled with compacted fill. The existing tanks are expected to be 1.2m deep.
- Any services or remains from previously removed dwellings should be removed and backfilled with compacted granular fill beneath buildings and access.
- The building site and driveway should be shaped to assist in stormwater run-off and avoid ponding of surface water.

### 7.3 Foundations

It is proposed to construct dwelling(s) with a timber floor on timber piled foundations. To suitably found the proposed dwelling(s) the following is recommended;

#### **3 Te kemara:**

- All foundations shall be designed to account for the reduced bearing capacities set out below.
- The foundations shall be specifically designed to account for the following potential settlements during a ULS seismic event, of up to 120mm of vertical settlement and 1:50 of differential settlement, respectively.
- The foundations shall be checked for potential punching shear during the ULS seismic event. In this case, the liquefied sands can be considered to have a residual shear strength of 15kPa. A 1.5m depth of non-liquefiable crust is available.
- Piled foundations shall extend a minimum of 0.5m below original ground level.

#### **15, 19 & 44 Te kemara:**

- All foundations shall be designed to account for the reduced bearing capacities set out below.
- The foundations shall be specifically designed to account for the following potential settlements during a ULS seismic event, of up to 80mm vertical settlement and 1:75 of differential settlement, respectively.
- The foundations shall be checked for potential punching shear during the ULS seismic event. In this case, the liquefied sands can be considered to have a residual shear strength of 15kPa. A 1.5m depth of non-liquefiable crust is available.
- Piled foundations shall extend a minimum of 0.5m below cleared ground level.

As per Section 7.2, existing underground concrete tanks on 3 and 19 Te Kemara should be suitably backfilled, or foundations located within a horizontal distance of 2 times the depth of the existing tanks, will need to extend 0.5m below the base of the tanks.

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

- 150kPa Ultimate Bearing Capacity (Geotechnical Ultimate).
- 100kPa Dependable Bearing Capacity (Ultimate Limit State).
- 50kPa Allowable Bearing Capacity (Serviceability Limit State).



## **8.0 Construction Monitoring and Producer Statements**

RS Eng recommends a suitably experienced Chartered Professional Engineer monitor the construction of the following works to confirm if the geotechnical conditions are consistent with that 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 dwellings, 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:



**Sarah Scott Compton**

Senior Technician  
NZDE(Civil)

Reviewed by:



**Codie Hay**

Senior Technician  
NZDE(Civil)

Approved by:



**Matthew Jacobson**

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

**RS Eng Ltd**

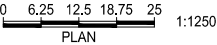
## **Appendix A**

### **Drawings**



| DETAILS  |            |                |
|----------|------------|----------------|
| JOB NO.  | 19780      |                |
| DATE     | 06/08/2025 |                |
| REVISION | A          | Original Issue |

| SHEET INDEX |                   |     |           |
|-------------|-------------------|-----|-----------|
| NO.         | SHEET NAME        | REV | DATE      |
| C01         | OVERALL SITE PLAN | A   | 1/08/2025 |
| C02         | 3 TE KEMARA ROAD  | A   | 1/08/2025 |
| C03         | 15 TE KEMARA ROAD | A   | 1/08/2025 |
| C04         | 19 TE KEMARA ROAD | A   | 1/08/2025 |
| C05         | 44 TE KEMARA ROAD | A   | 1/08/2025 |

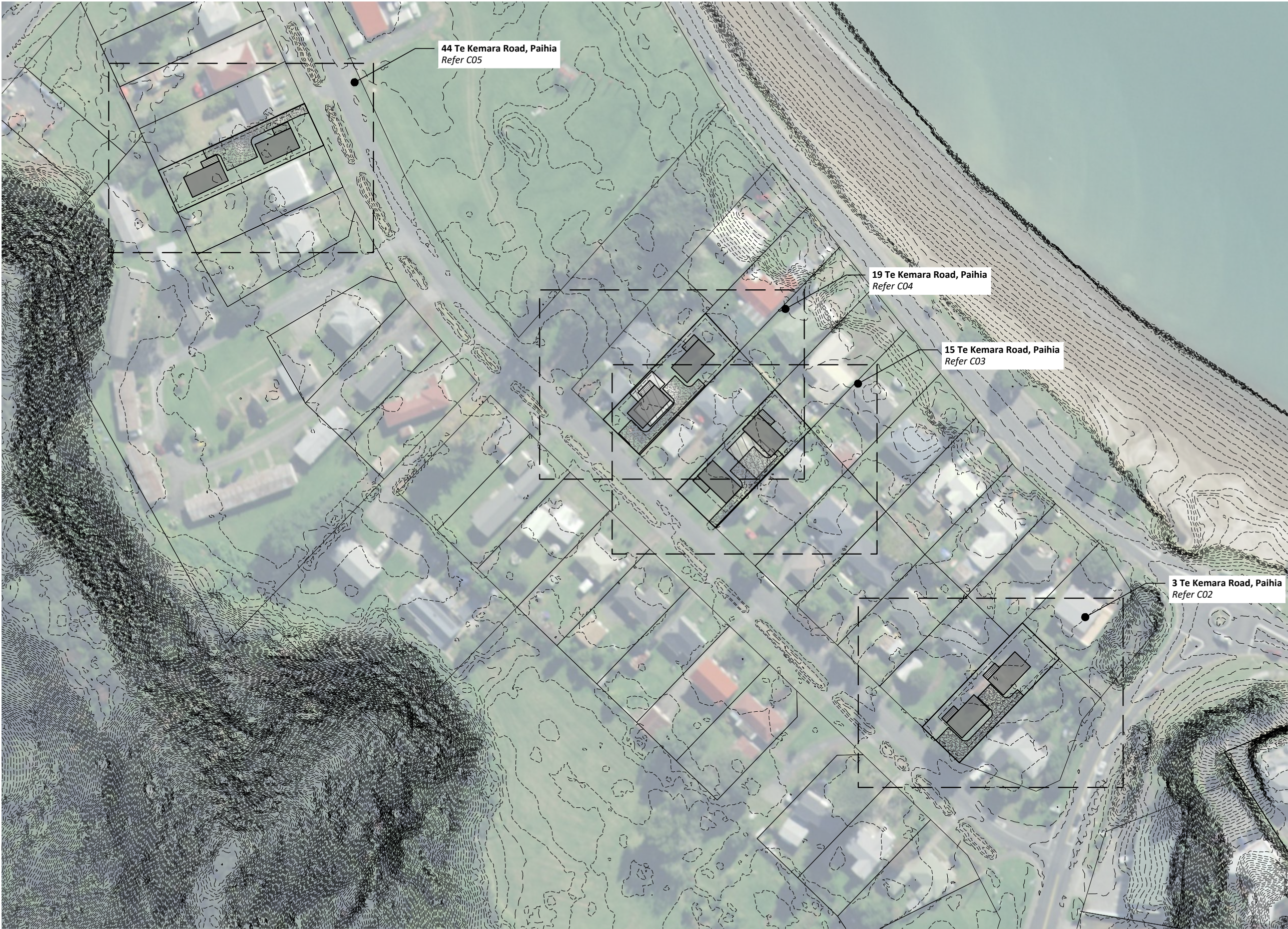


**PROPOSED DWELLINGS**  
SITE PLAN & SITE INVESTIGATIONS  
ADVANCE BUILD  
3, 15, 19, & 44 TE KEMARA ROAD, PAIHIA

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







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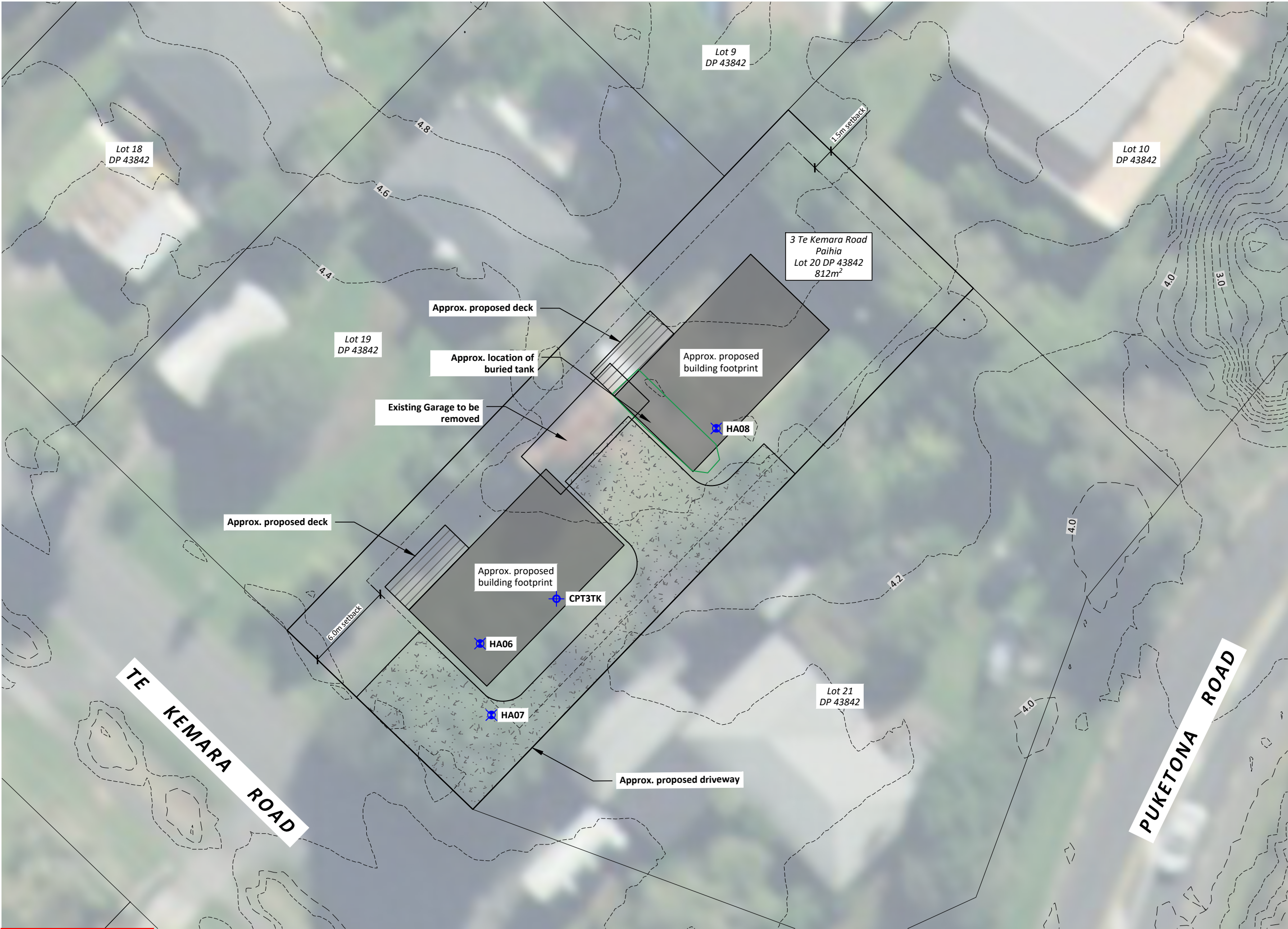


Contour Interval: 0.5m  
Vertical Datum: NZVD2016  
Survey Data Source: LiDAR (2018)

0 12.5 25  
PLAN 1:1250

|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                                        |  |                             |  |       |          |     |           |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------|--|-----------------------------|--|-------|----------|-----|-----------|
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|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | ADVANCE BUILD                          |  |                             |  |       | 1:1250   |     | A         |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | Location                               |  |                             |  |       | Original |     | Sheet No. |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | 3, 15, 19, 44 TE KEMARA ROAD<br>PAIHIA |  | 01/08/2025 A Original Issue |  |       | A3       |     |           |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                                        |  | Date Rev Notes              |  |       | Job No.  |     |           |
|                                                                                    |                                                                                             | Drawn by: LMC                                                                                                                                                                   |                                                                 | Reviewed by: SSC                       |  | Approved by: MJ             |  | 19780 |          | C01 |           |





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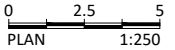
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**LEGEND**

- Hand Auger Location
- Cone Penetration Test Location
- Proposed Dwelling
- Proposed Driveway
- Proposed Deck

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



|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                      |               |     |                |                                                                                   |                                                    |
|--|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------|-----|----------------|-----------------------------------------------------------------------------------|----------------------------------------------------|
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|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                      | 01/08/2025    | A   | Original Issue |                                                                                   |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                      | Date          | Rev | Notes          |                                                                                   |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                      | Drawn by: LMC |     |                | Reviewed by: SSC                                                                  |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                      |               |     |                | Approved by: MJ                                                                   |                                                    |





**NOTES:**

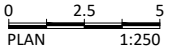
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**LEGEND**

- Hand Auger Location
- Cone Penetration Test Location
- Proposed Dwelling
- Proposed Driveway
- Proposed Deck

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



FOR CONSENT

|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                       |               |     |                |                                                                                   |                                                    |
|--|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------|-----|----------------|-----------------------------------------------------------------------------------|----------------------------------------------------|
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|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                       | 01/08/2025    | A   | Original Issue |                                                                                   |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                       | Date          | Rev | Notes          |                                                                                   |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                       | Drawn by: LMC |     |                | Reviewed by: SSC                                                                  |                                                    |
|  |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                                                       |               |     |                | Approved by: MJ                                                                   |                                                    |





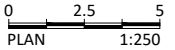
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- LEGEND
- Hand Auger Location
  - Cone Penetration Test Location
  - Proposed Dwelling
  - Proposed Driveway
  - Proposed Deck

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



|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                             |            |         |                |  |          |           |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------|------------|---------|----------------|--|----------|-----------|
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|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | ADVANCE BUILD               |            |         |                |  | 1:250    | A         |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | Location                    |            |         |                |  | Original | Sheet No. |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | 19 TE KEMARA ROAD<br>PAIHIA | 01/08/2025 | A       | Original Issue |  | A3       | C04       |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                             | Date       | Rev     | Notes          |  |          |           |
| Drawn by: LMC                                                                      |                                                                                             | Reviewed by: SSC                                                                                                                                                                |                                                                 | Approved by: MJ             |            | Job No. |                |  |          |           |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                             |            | 19780   |                |  |          |           |





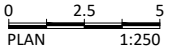
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**LEGEND**

- Hand Auger Location
- Cone Penetration Test Location
- Proposed Dwelling
- Proposed Driveway
- Proposed Deck

Contour Interval: 0.2m  
Vertical Datum: NZVD2016  
Survey Data Source: LiDAR (2018)



FOR CONSENT

|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                 |  |  |                                   |  |  |                       |                             |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------|--|--|-----------------------------------|--|--|-----------------------|-----------------------------|
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|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | Location<br><b>44 TE KEMARA ROAD<br/>PAIHIA</b> |  |  |                                   |  |  | Original<br><b>A3</b> | Sheet No.<br><br><b>C05</b> |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 |                                                 |  |  | 01/08/2025    A    Original Issue |  |  |                       |                             |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | Date    Rev    Notes                            |  |  | Job No.<br><b>19780</b>           |  |  |                       |                             |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                 | Drawn by: LMC                                   |  |  | Reviewed by: SSC                  |  |  | Approved by: MJ       |                             |

## **Appendix B**

### **Subsurface Investigations**



**HOLE NO.:**  
**HA01**

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698303mE, 6095732mN

**ELEVATION:** 4.8m

START DATE: 31/07/2025  
END DATE: 31/07/2025  
LOGGED BY: MM

←

## REMARKS



 Standing Water Level  
 Out flow  
 In flow

## INVESTIGATION TYPE

☒ Hand Auger  
☐ Test Pit



# HAND AUGER LOG

**HOLE NO.:**

HA02

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi

**CO-ORDINATES:** 1698286mE, 6095718mN

**ELEVATION:** 4.5m

**START DATE: 31/07/2025**

**END DATE: 31/07/2025**

LOGGED BY: RB

| UNIT         | MATERIAL DESCRIPTION<br>(See Classification & Symbology sheet for details)                                                        | SAMPLES | DEPTH (m)                       | LEGEND                                 | SCALA PENETROMETER<br>(Blows / 100mm)     | VANE SHEAR STRENGTH<br>(kPa)<br>Vane: | Values | WATER |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------|----------------------------------------|-------------------------------------------|---------------------------------------|--------|-------|
|              |                                                                                                                                   |         |                                 |                                        | 2 4 6 8 10 12 14 16 18                    | 50 100 150 200                        |        |       |
| TS           | TOPSOIL.<br>& FILL.                                                                                                               |         |                                 | TS<br>TS<br>TS<br>TS<br>TS<br>TS<br>TS | 2<br>2<br>2<br>2<br>2<br>2<br>2           |                                       |        |       |
|              | SAND, with some silt; darker yellowish grey.<br>Loose; moist; non-plastic; sand, medium to coarse.                                |         | 0.2<br>0.4<br>0.6               |                                        | 2<br>2<br>2<br>2                          |                                       |        |       |
|              | SAND, with some silt; darker greyish yellow.<br>Loose; moist; non-plastic; sand, fine to medium.                                  |         | 0.8<br>1.0<br>1.2               |                                        | 2<br>2<br>3<br>5<br>6                     |                                       |        |       |
| Karoliahi Gr | SAND, with some silt, with minor gravel; yellowish grey.<br>Loose; moist; non-plastic; sand, fine to coarse; gravel, fine.        |         | 1.4<br>1.6<br>1.8<br>2.0<br>2.2 |                                        | 5<br>5<br>5<br>6<br>7<br>5<br>6<br>6<br>6 |                                       |        |       |
|              | SAND, with some silt, with minor gravel; yellowish grey.<br>Loose; moist to wet; non-plastic; sand, fine to coarse; gravel, fine. |         | 2.4<br>2.6<br>2.8               |                                        | 4<br>9<br>8<br>11<br>11                   |                                       |        |       |
|              | SAND, with some silt, with minor gravel; yellowish grey.<br>Loose; saturated; non-plastic; sand, fine to coarse; gravel, fine.    |         | 3.0                             |                                        | 12<br>9                                   |                                       |        |       |
|              | EOB - Saturated / collapsing.<br>End Of Hole: 3.00m                                                                               |         | 3.2                             |                                        |                                           |                                       |        |       |

**PHOTO(S)**



## REMARKS

## WATER

-  Standing Water Level  
 Out flow  
 In flow

## INVESTIGATION TYPE

- ☒ Hand Auger  
☐ Test Pit



HOLE NO.:  
**HA03**

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698327mE, 6095708mN

**ELEVATION:** 4.7m

**START DATE:** 31/07/2025  
**END DATE:** 31/07/2025  
**LOGGED BY:** SSC

↑

## REMARKS



 Standing Water Level  
 Out flow  
 In flow

☒ Hand Auger  
☐ Test Pit



HOLE NO.:  
**HA04**

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698309mE. 6095691mN

**ELEVATION:** 4.6m

Karioitahi Gr

REMARKS



 Standing Water Level  
 Out flow  
 In flow

## INVESTIGATION TYPE

☒ Hand Auger  
☐ Test Pit



HOLE NO.:  
**HA05**

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698312mE. 6095687mN

**ELEVATION:** 4.6m

START DATE: 31/07/2025  
END DATE: 31/07/2025  
LOGGED BY: SSC

[illegible]

## REMARKS



## INVESTIGATION TYPE

 Standing Water Level  
 Out flow  
 In flow

☒ Hand Auger  
☐ Test Pit

Generated with CORE-GS by Geroo - 1 - Hand Auger - RS Standard scale & vane bars - 7/08/2025 3:02:11 pm

|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               |           |                                                                                                                                          |                                       |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--|--|--|----|--|--|-----------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------|--|--|--|-------|--|--|
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| <div><div>SITE LOCATION: Te Kemara Ave, Waitangi</div><div>CO-ORDINATES: 1698392mE, 6095612mN</div></div> <div><div>ELEVATION: 4.4m</div><div>START DATE: 31/07/2025<br/>END DATE: 31/07/2025<br/>LOGGED BY: MM</div></div>                         |                                                                              |                                                                                                               |           |                                                                                                                                          |                                       |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
| UNIT                                                                                                                                                                                                                                                | MATERIAL DESCRIPTION<br>(See Classification & Symbolology sheet for details) | SAMPLES                                                                                                       | DEPTH (m) | LEGEND                                                                                                                                   | SCALA PENETROMETER<br>(Blows / 100mm) |  |  |  |    |  |  |                                                                                               |  |  | VANE SHEAR STRENGTH<br>(kPa)<br>Vane:<br>50 100 150 200 Values |  |  |  | WATER |  |  |
| TS                                                                                                                                                                                                                                                  | Sandy TOPSOIL.                                                               |                                                                                                               |           | <div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div></div> | 1                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -0.2      | <div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div><div>TS</div><div>业</div></div> | 1                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     | Silty SAND; orangish light brown.<br>Loose; moist; non-plastic.              |                                                                                                               | -0.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 2                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -0.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 2                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -0.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 2                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -1.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 3                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -1.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 3                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -1.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 4                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -1.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 4                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -1.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 5                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -2.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 5                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -2.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 6                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -2.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 6                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -2.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 6                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -2.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -3.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -3.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -3.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -3.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -3.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -4.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -4.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -4.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -4.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -4.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -5.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -5.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -5.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -5.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -5.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -6.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -6.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -6.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -6.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -6.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -7.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -7.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -7.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -7.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -7.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -8.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -8.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -8.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -8.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -8.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -9.0      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -9.2      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -9.4      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -9.6      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -9.8      | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -10.0     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -10.2     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -10.4     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -10.6     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -10.8     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -11.0     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -11.2     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -11.4     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -11.6     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -11.8     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -12.0     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -12.2     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -12.4     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -12.6     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -12.8     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -13.0     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -13.2     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -13.4     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -13.6     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -13.8     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -14.0     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -14.2     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  |    |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |
|                                                                                                                                                                                                                                                     |                                                                              |                                                                                                               | -14.4     | <div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div><div>业</div></div>      | 7                                     |  |  |  | </ |  |  |                                                                                               |  |  |                                                                |  |  |  |       |  |  |





HOLE NO.:  
HA07

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698394mE, 6095607mN

|                        |                               |
|------------------------|-------------------------------|
| <b>ELEVATION:</b> 4.3m | <b>START DATE:</b> 31/07/2025 |
|                        | <b>END DATE:</b> 31/07/2025   |
|                        | <b>LOGGED BY:</b> SSC         |

## Underwater Not Encountered

**PHOTO(S)**

REMARKS

## WATER

## INVESTIGATION TYPE

 Standing Water Level  
 Out flow  
 In flow

☒ Hand Auger

☐ Test Pit



HOLE NO.:  
**HA08**

|                 |                             |
|-----------------|-----------------------------|
| <b>CLIENT:</b>  | Advance Build               |
| <b>PROJECT:</b> | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698408mE, 6095624mN

**ELEVATION:** 4.4m

**START DATE:** 31/07/2025  
**END DATE:** 31/07/2025  
**LOGGED BY:** RB

←

**PHOTO(S)**



## REMARKS

## WATER

-  Standing Water Level  
 Out flow  
 In flow

## INVESTIGATION TYPE

- ☒ Hand Auger  
☐ Test Pit



**HOLE NO.:**  
**HA09**

|          |                             |
|----------|-----------------------------|
| CLIENT:  | Advance Build               |
| PROJECT: | Geotechnical Investigations |

**JOB NO.:**  
**19780**

**SITE LOCATION:** Te Kemara Ave, Waitangi  
**CO-ORDINATES:** 1698171mE. 6095810mN

**ELEVATION:** 4.4m

START DATE: 31/07/2025  
END DATE: 31/07/2025  
LOGGED BY: SSC

[illegible]

**PHOTO(S)**



## REMARKS

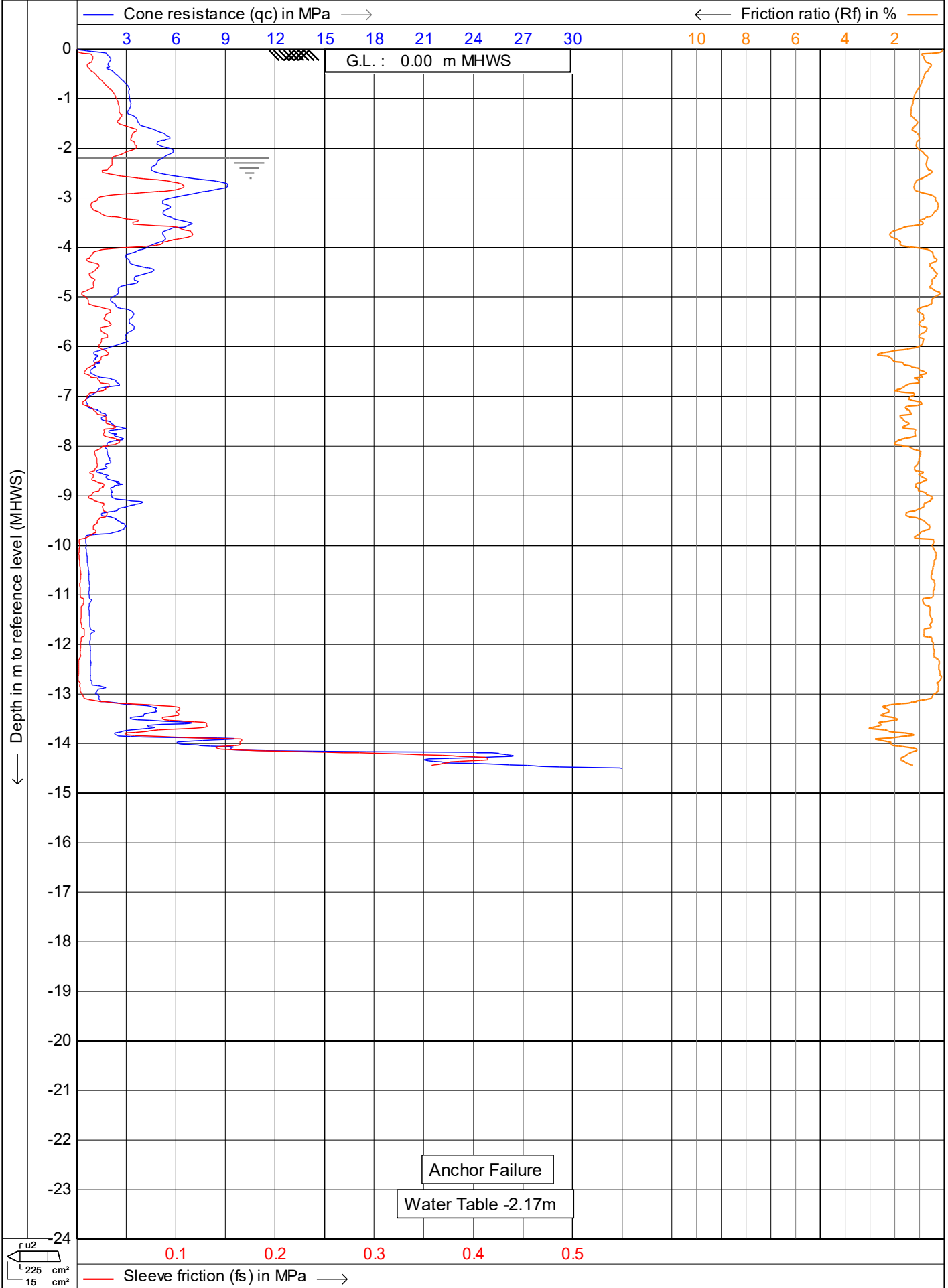
## WATER

-  Standing Water Level  
 Out flow  
 In flow

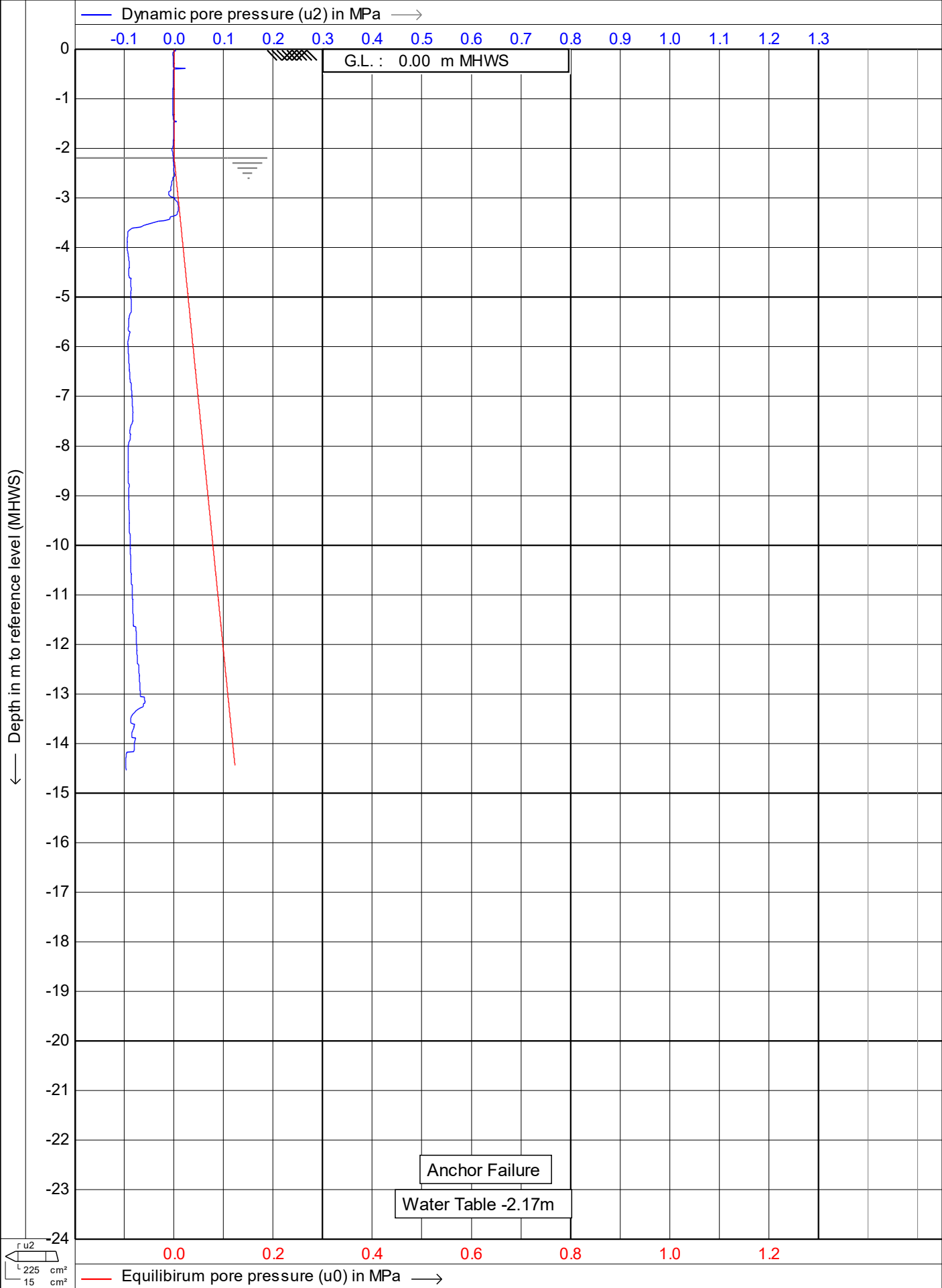
## INVESTIGATION TYPE

- ☒ Hand Auger  
☐ Test Pit

|  <div>RS Eng Ltd<br/>09 438 3273<br/>office@RSEng.co.nz<br/>2 Seaview Road,<br/>Whangarei 0110</div> |                                                                                                         | <b>HAND AUGER LOG</b>                                                                                                                                                                                                                                                                         |           |        |                                       |                                                                |  | HOLE NO.:<br><b>HA10</b> |  |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|---------------------------------------|----------------------------------------------------------------|--|--------------------------|--|-------|
| CLIENT: Advance Build<br>PROJECT: Geotechnical Investigations                                                                                                                       |                                                                                                         | JOB NO.:<br><b>19780</b>                                                                                                                                                                                                                                                                      |           |        |                                       |                                                                |  |                          |  |       |
| SITE LOCATION: Te Kemara Ave, Waitangi<br>CO-ORDINATES: 1698153mE, 6095802mN                                                                                                        |                                                                                                         | ELEVATION: 4.3m<br>START DATE: 31/07/2025<br>END DATE: 31/07/2025<br>LOGGED BY: MM                                                                                                                                                                                                            |           |        |                                       |                                                                |  |                          |  |       |
| UNIT                                                                                                                                                                                | MATERIAL DESCRIPTION<br>(See Classification & Symbolology sheet for details)                            | SAMPLES                                                                                                                                                                                                                                                                                       | DEPTH (m) | LEGEND | SCALA PENETROMETER<br>(Blows / 100mm) | VANE SHEAR STRENGTH<br>(kPa)<br>Vane:<br>50 100 150 200 Values |  |                          |  | WATER |
| TS                                                                                                                                                                                  | TOPSOIL & FILL.                                                                                         |                                                                                                                                                                                                                                                                                               |           | TS     | 1                                     |                                                                |  |                          |  |       |
| Kariotahi Gr                                                                                                                                                                        | Clayey SAND, with some silt; brown / grey.<br>Loose; moist; non-plastic; sand, fine to coarse.          |                                                                                                                                                                                                                                                                                               | 0.2       | TS     | 1                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     | SAND; grey / brown.<br>Loose; moist; sand, fine to medium.                                              |                                                                                                                                                                                                                                                                                               | 0.4       | TS     | 1                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 0.6       |        | 1                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 0.8       |        | 2                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 1.0       |        | 4                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 1.2       |        | 5                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     | SAND, with trace gravel; grey / brown.<br>Loose; moist; sand, fine to medium; gravel, fine, subangular. |                                                                                                                                                                                                                                                                                               | 1.4       |        | 3                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 1.6       |        | 3                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 1.8       |        | 5                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 2.0       |        | 5                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 2.2       |        | 8                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 2.4       |        | 9                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         |                                                                                                                                                                                                                                                                                               | 2.6       |        | 5                                     |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         | 2.8                                                                                                                                                                                                                                                                                           |           | 5      |                                       |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         | 3.0                                                                                                                                                                                                                                                                                           |           | 8      |                                       |                                                                |  |                          |  |       |
|                                                                                                                                                                                     |                                                                                                         | 3.2                                                                                                                                                                                                                                                                                           |           | 11     |                                       |                                                                |  |                          |  |       |
|                                                                                                                                                                                     | EOB - Hole collapse.<br>End Of Hole: 2.40m                                                              |                                                                                                                                                                                                                                                                                               |           |        |                                       |                                                                |  |                          |  |       |
| PHOTO(S)                                                                                                                                                                            |                                                                                                         | REMARKS                                                                                                                                                                                                                                                                                       |           |        |                                       |                                                                |  |                          |  |       |
|                                                                                                  |                                                                                                         | <div><b>WATER</b><br/><input checked="" type="checkbox"/> Standing Water Level<br/><input type="checkbox"/> Out flow<br/><input type="checkbox"/> In flow</div> <div><b>INVESTIGATION TYPE</b><br/><input checked="" type="checkbox"/> Hand Auger<br/><input type="checkbox"/> Test Pit</div> |           |        |                                       |                                                                |  |                          |  |       |







TEST RIGHT • BUILD RIGHT

NORTHLAND • WELLINGTON • CANTERBURY • OTAGO

Test performed in accordance with ASTM D5778-12

Project : **RS Eng**

Location: **Waitangi, 3 Te Kemara Ave**

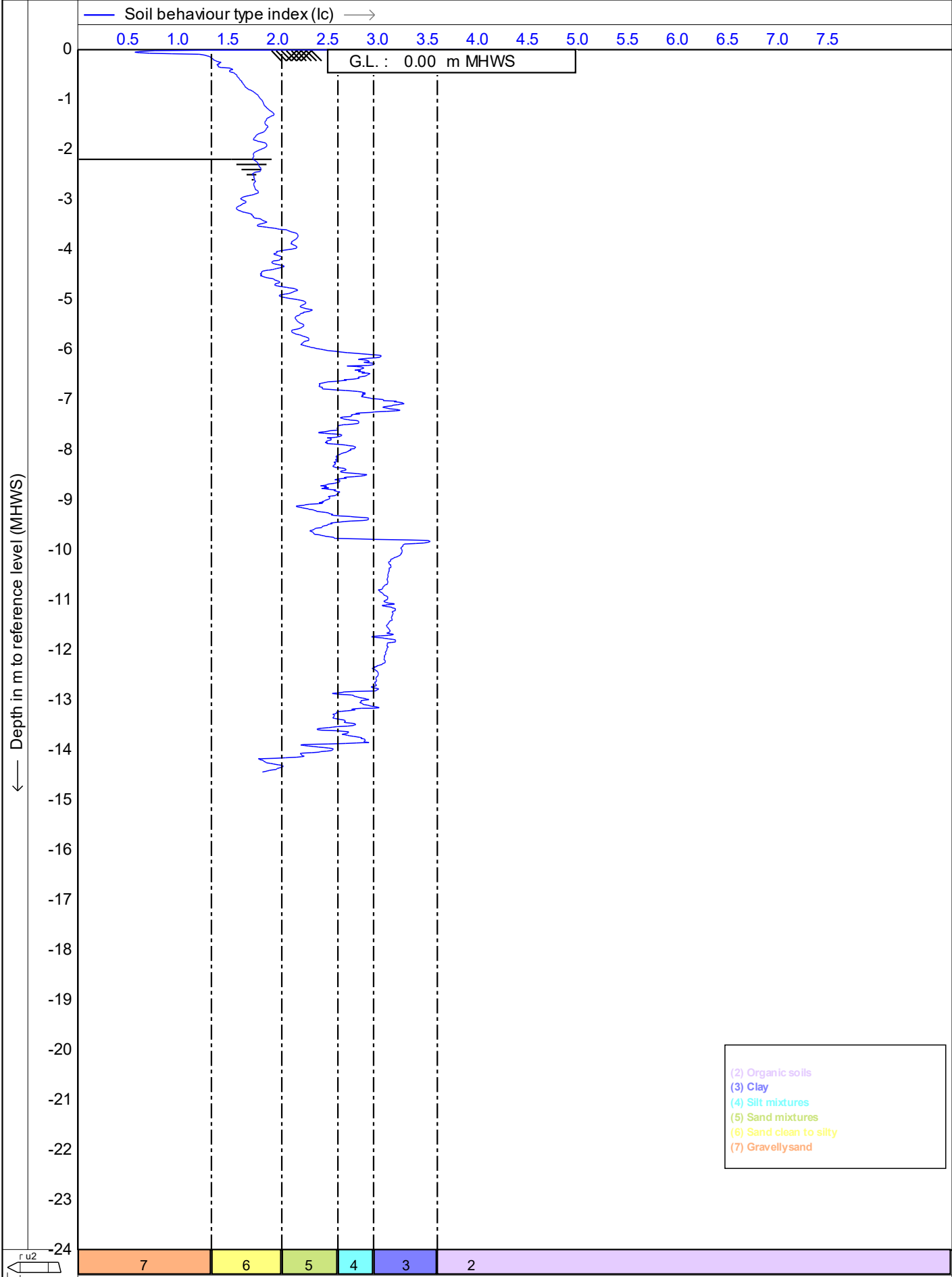
Position: **174.081986, -35.27775 WGS84**

Date : **6/08/2025**

Cone no. : **C15CFIIP.C21199**

Project no. : **8155-290**

CPT no. : **CPT3TK** 2/4



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Test performed in accordance with ASTM D5778-12

Project : RS Eng

Location: Waitangi, 3 Te Kemara Ave

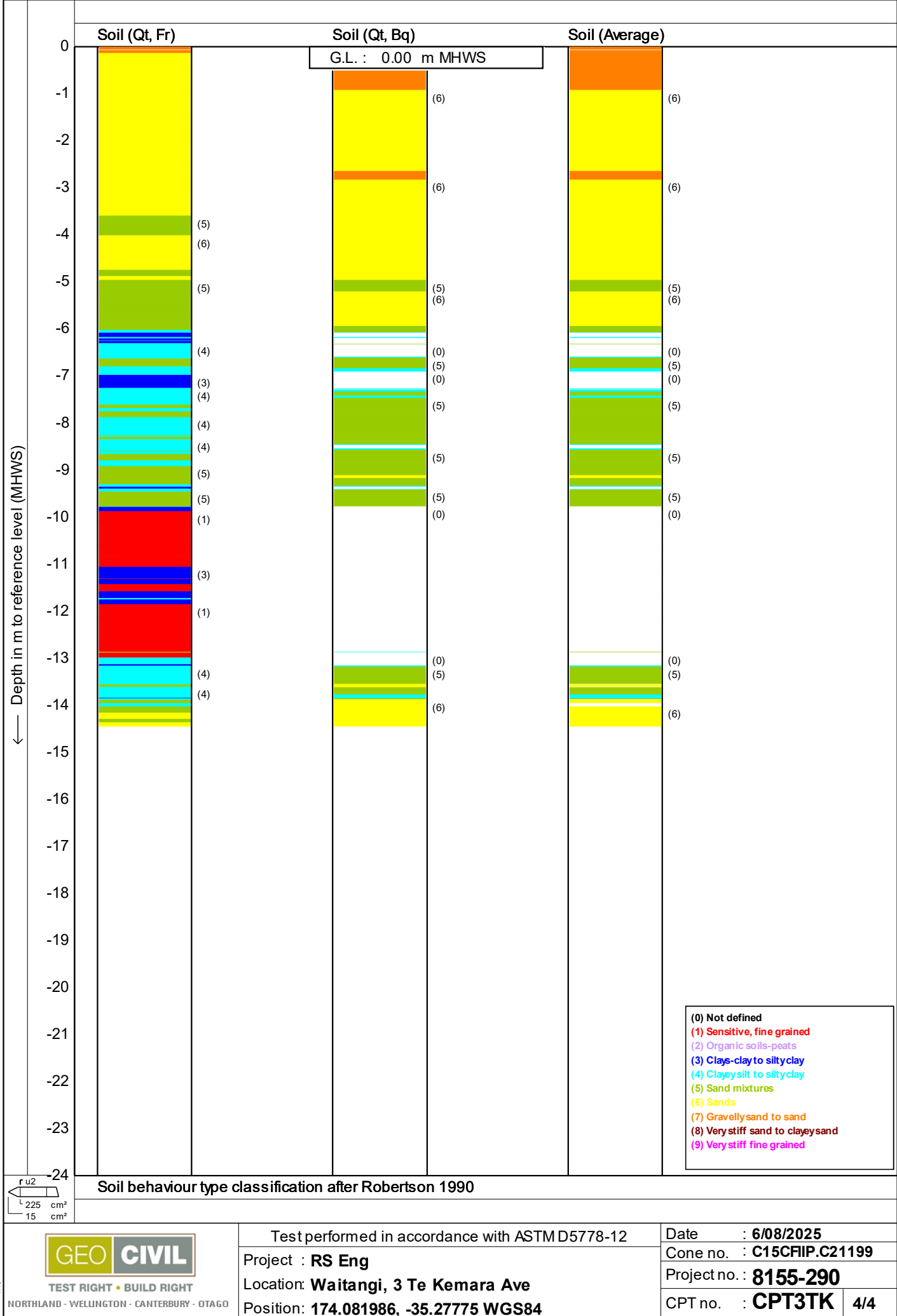
Position: 174.081986, -35.27775 WGS84

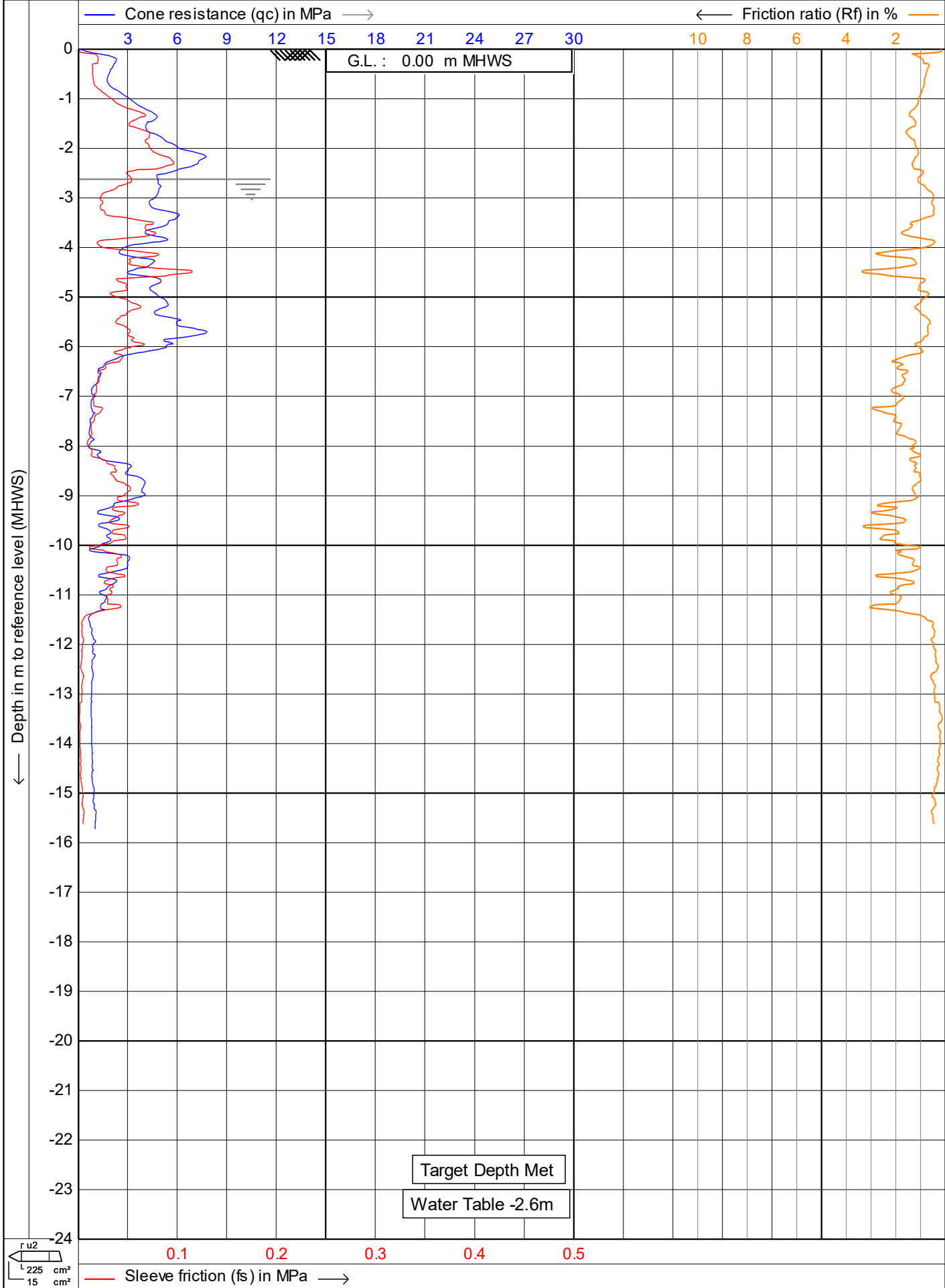
Date : 6/08/2025

Cone no. : C15CFIIP.C21199

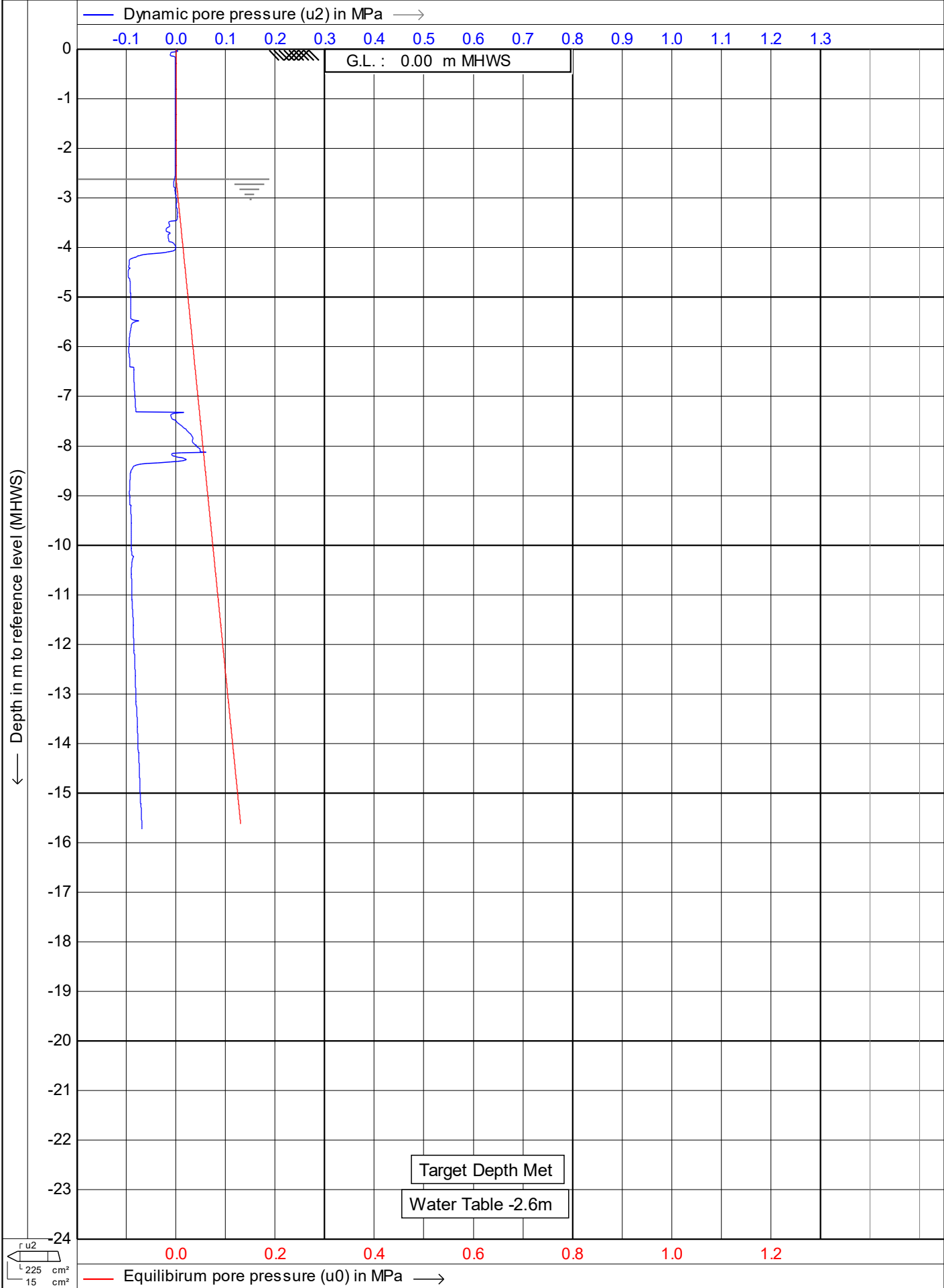
Project no. : 8155-290

CPT no. : CPT3TK 3/4

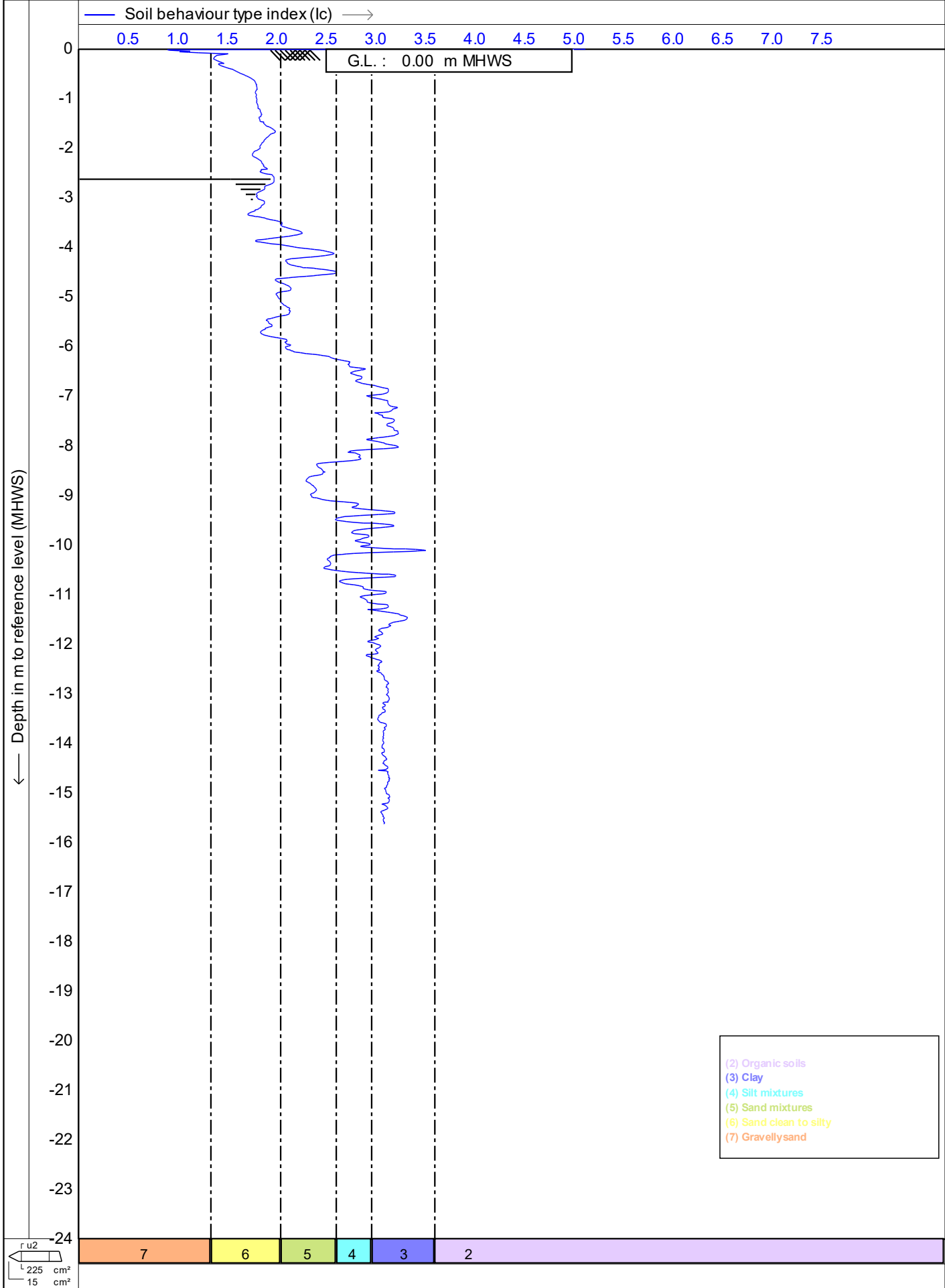




|                                                                                                                                                                |                                                 |  |                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--|---------------------------|
| <br>TEST RIGHT • BUILD RIGHT<br>NORTHLAND • WELLINGTON • CANTERBURY • OTAGO | Test performed in accordance with ASTM D5778-12 |  | Date : 6/08/2025          |
|                                                                                                                                                                | Project : RS Eng                                |  | Cone no. : C15CFIP.C21199 |
|                                                                                                                                                                | Location: Waitangi, 15 Te Kemara Ave            |  | Project no. : 8155-290    |
|                                                                                                                                                                | Position: 174.081079, -35.277078 WGS84          |  | CPT no. : CPT15TK 1/4     |







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Test performed in accordance with ASTM D5778-12

Project : **RS Eng**

Location: **Waitangi, 15 Te Kemara Ave**

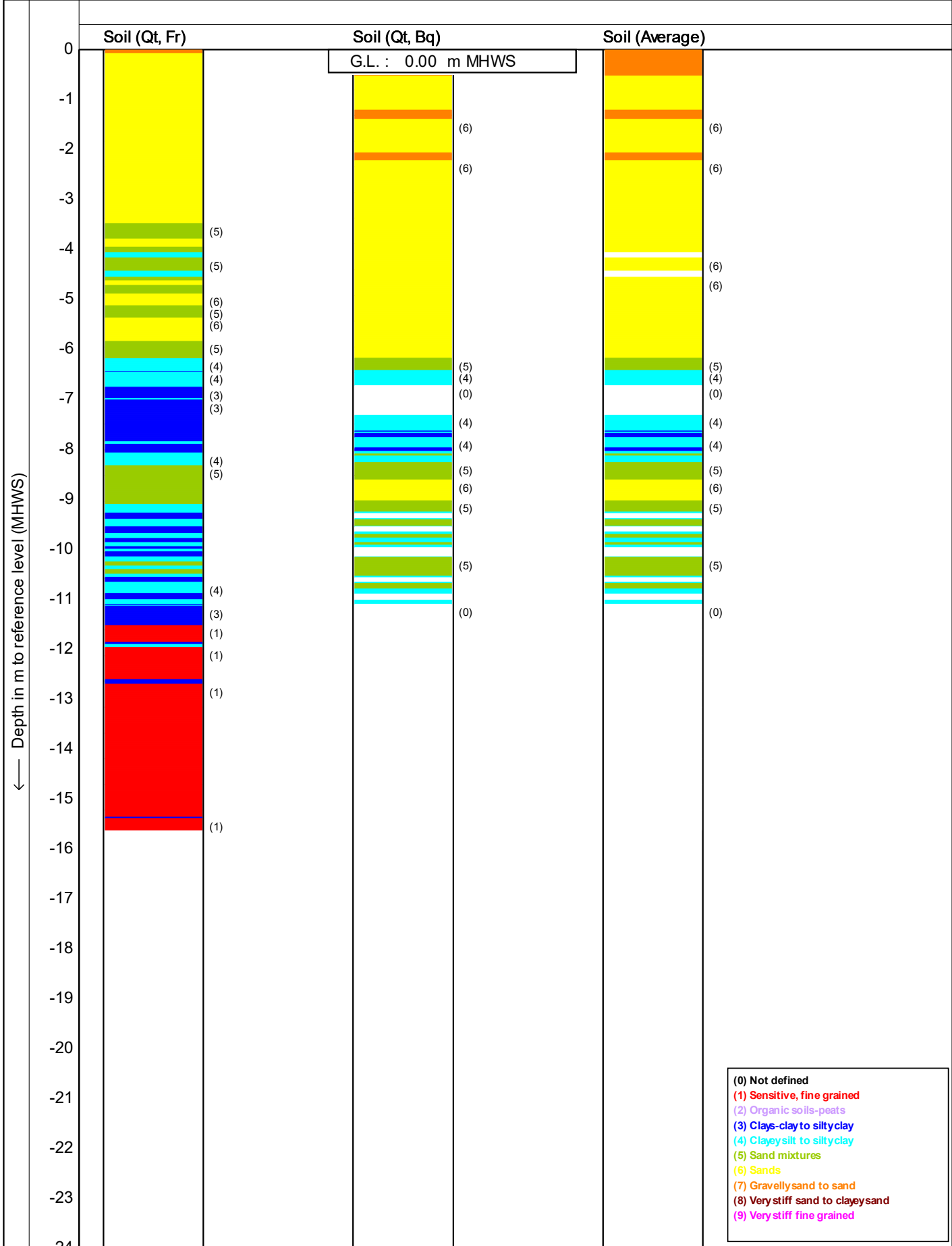
Position: **174.081079, -35.277078 WGS84**

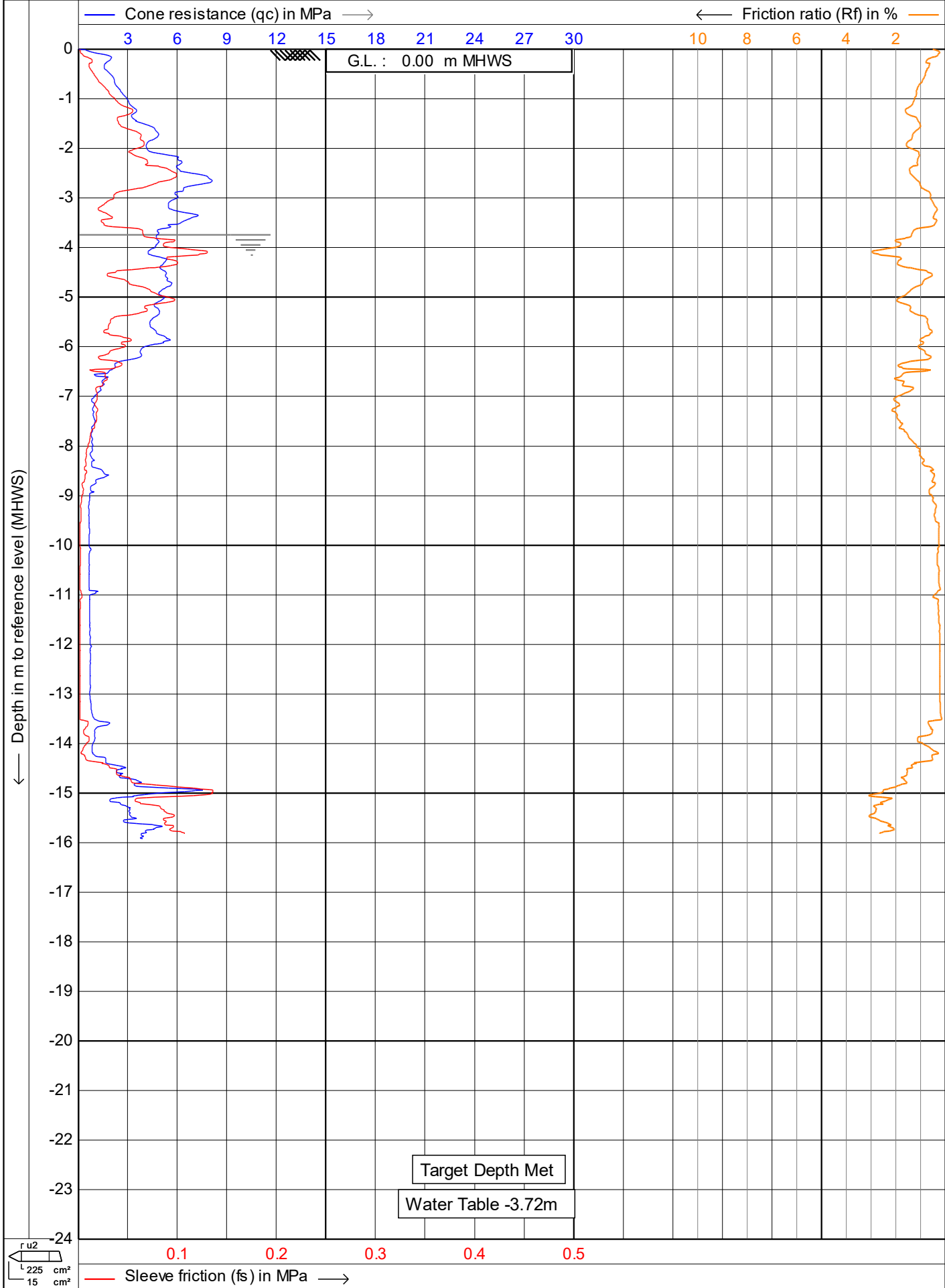
Date : **6/08/2025**

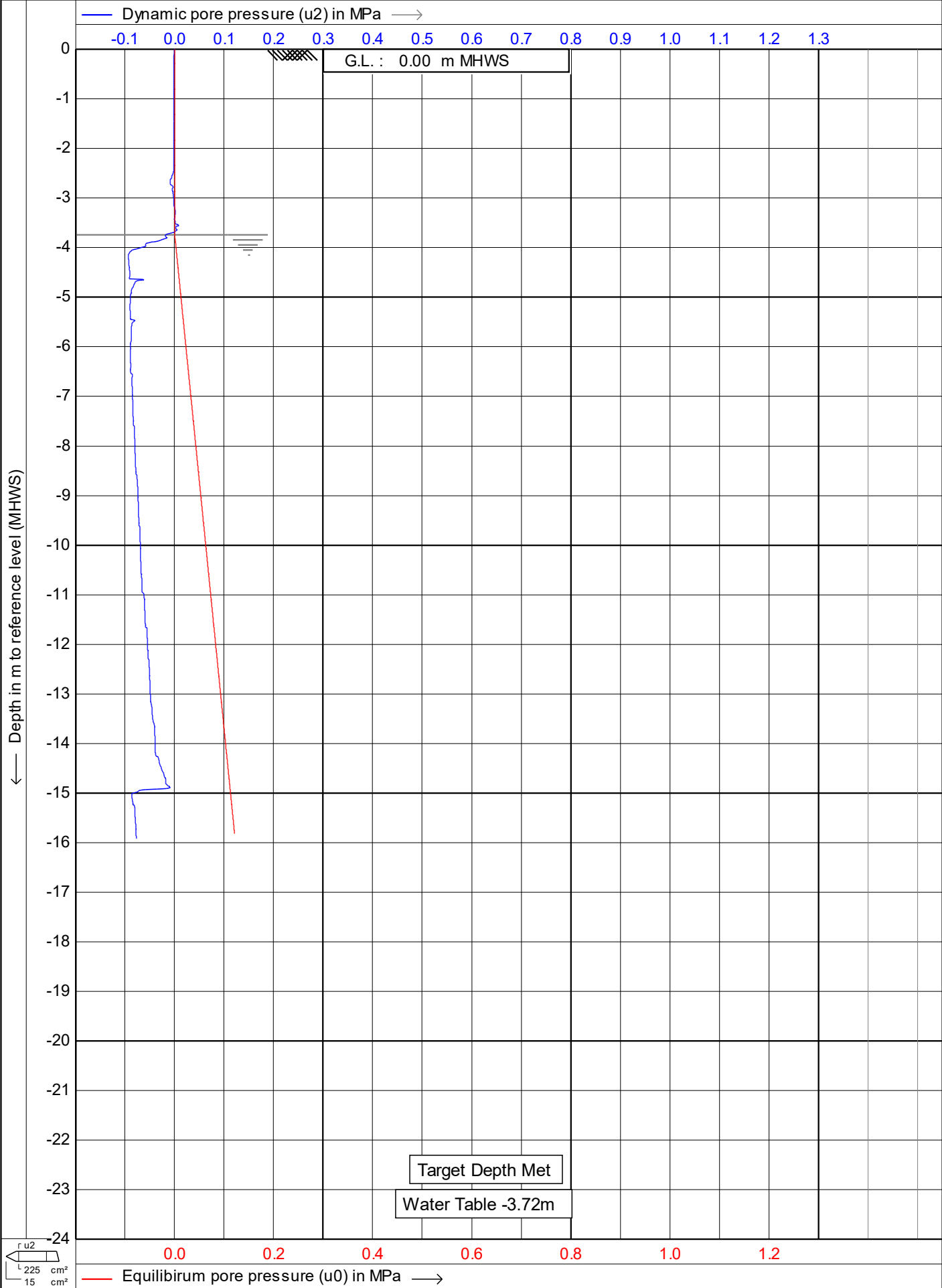
Cone no. : **C15CFIIP.C21199**

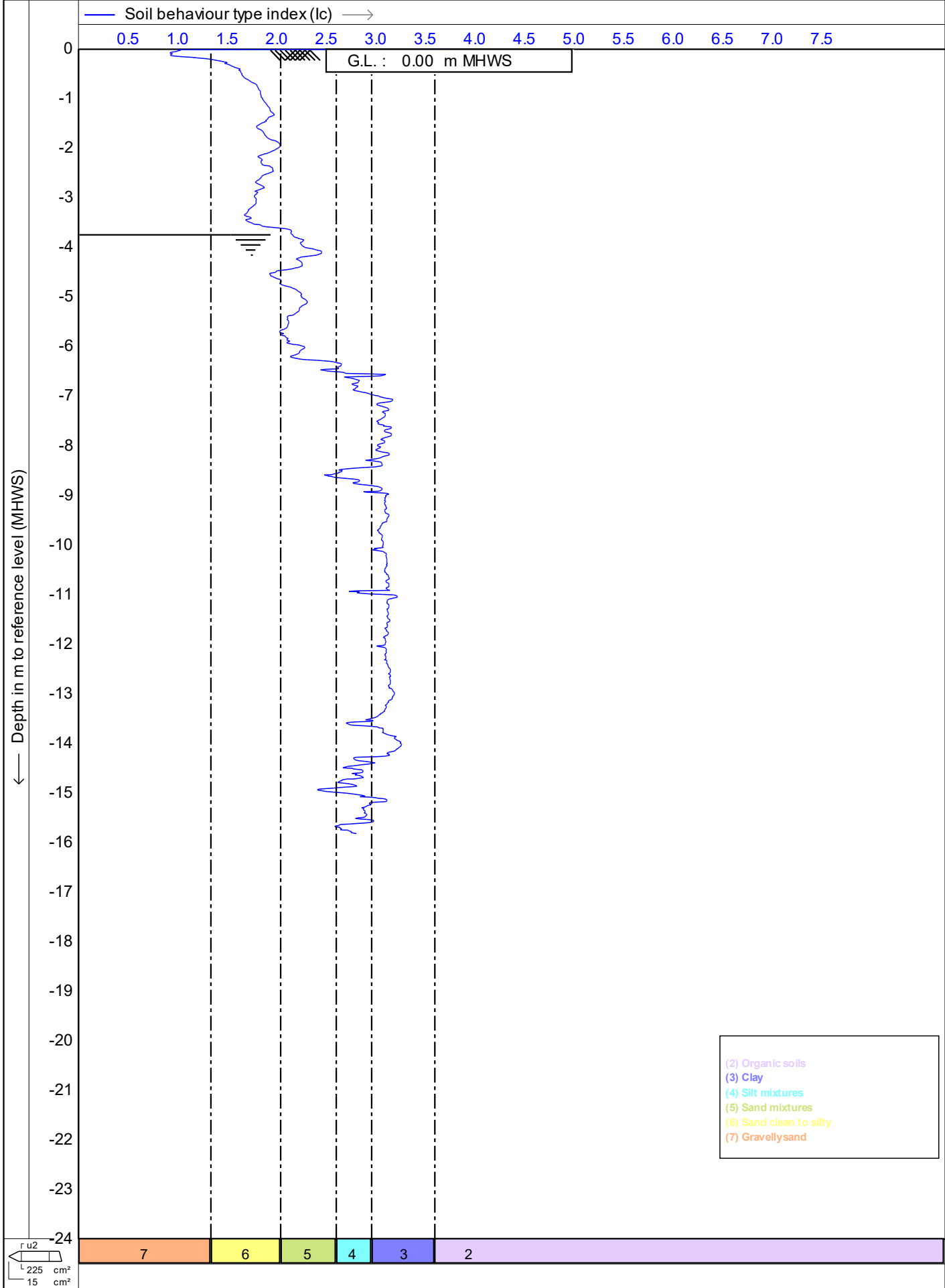
Project no. : **8155-290**

CPT no. : **CPT15TK** 3/4









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Test performed in accordance with ASTM D5778-12

Project : RS Eng

Location: Waitangi, 19 Te Kemara Ave

Position: 174.080787, -35.276806 WGS84

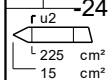
Date : 6/08/2025

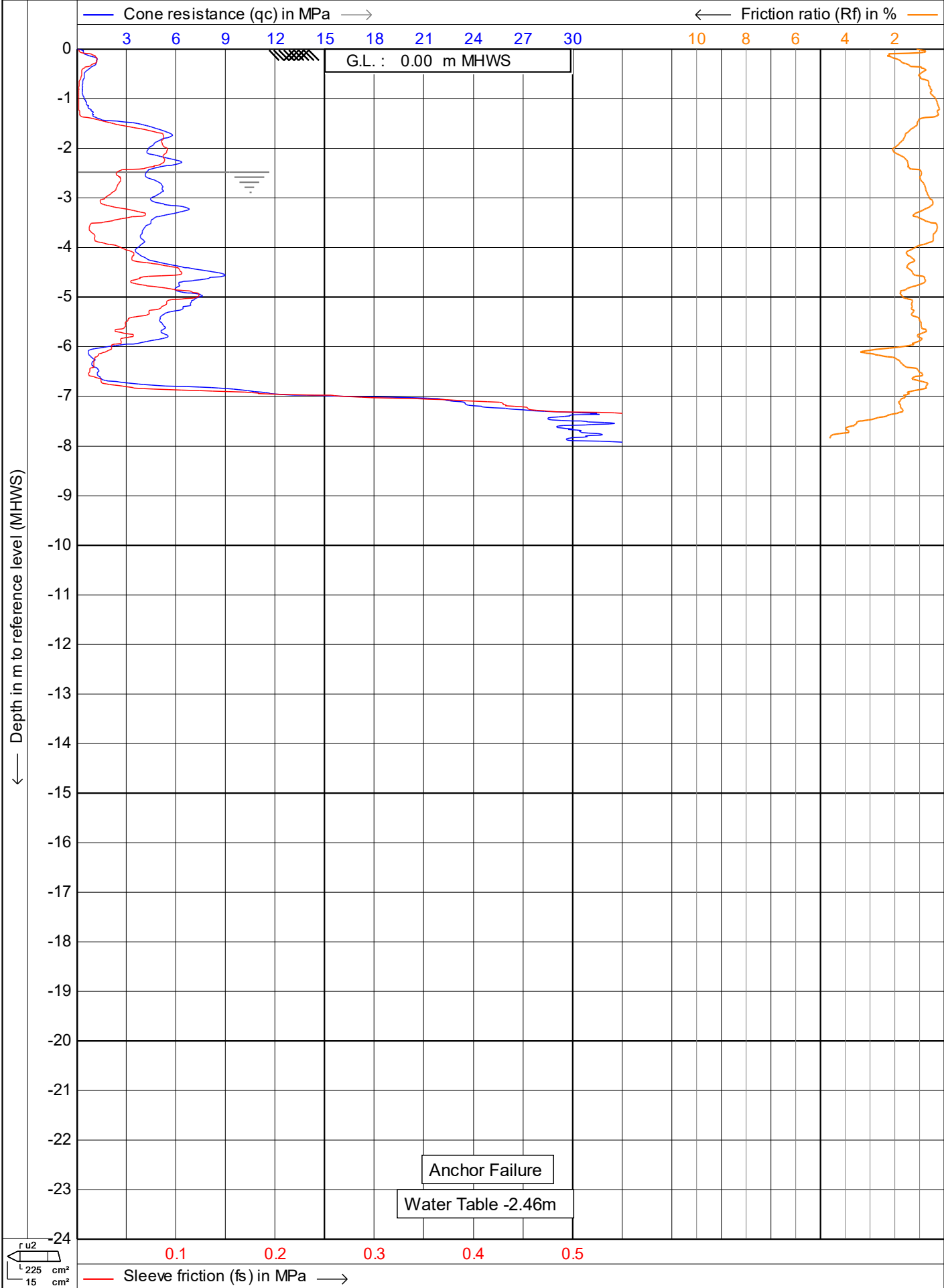
Cone no. : C15CFIIP.C21199

Project no. : 8155-290

CPT no. : CPT19TK 3/4







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Test performed in accordance with ASTM D5778-12

Project : RS Eng

Location: Waitangi, 44 Te Kemara Ave

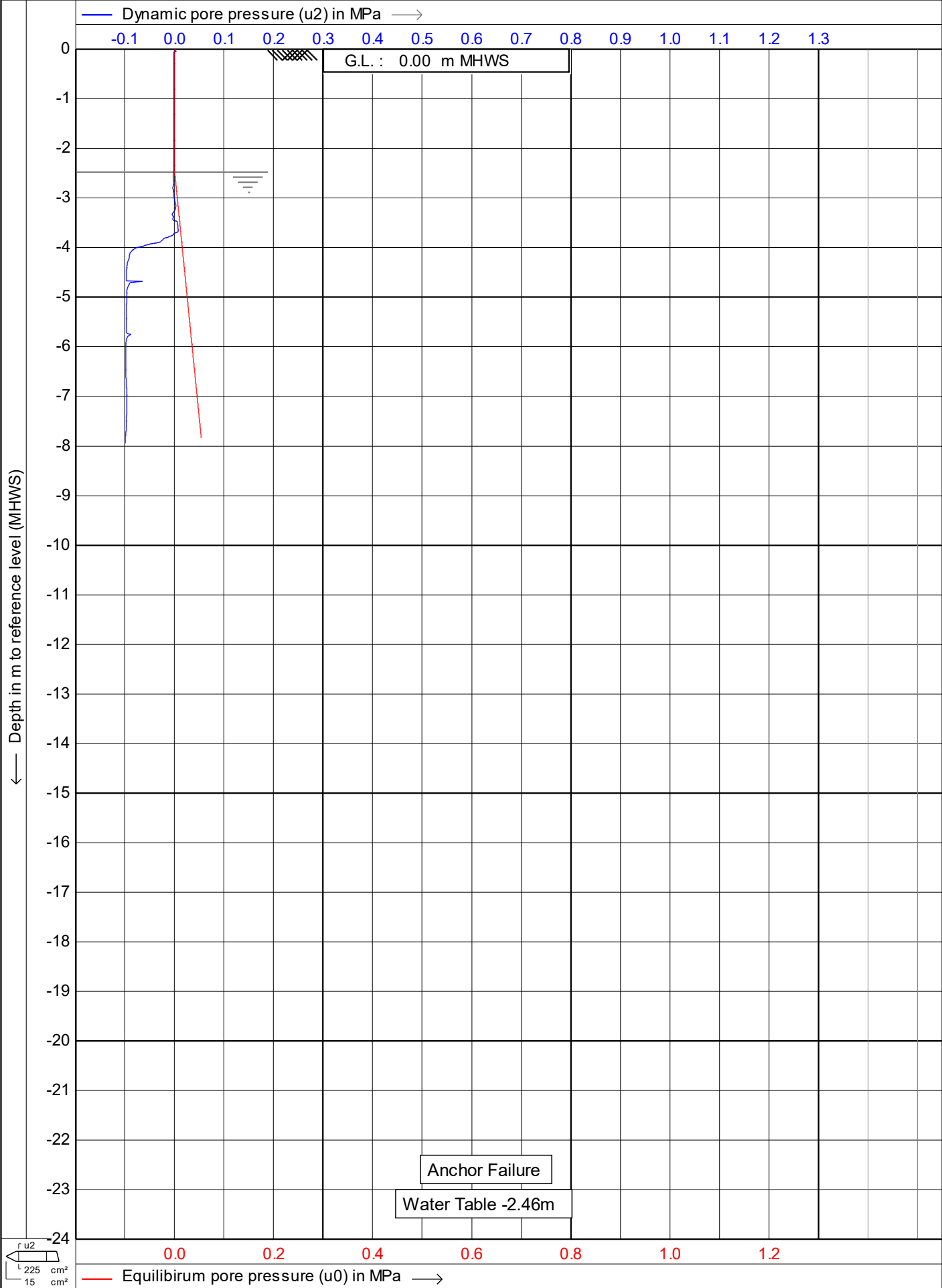
Position: 174.079232, -35.27609 WGS84

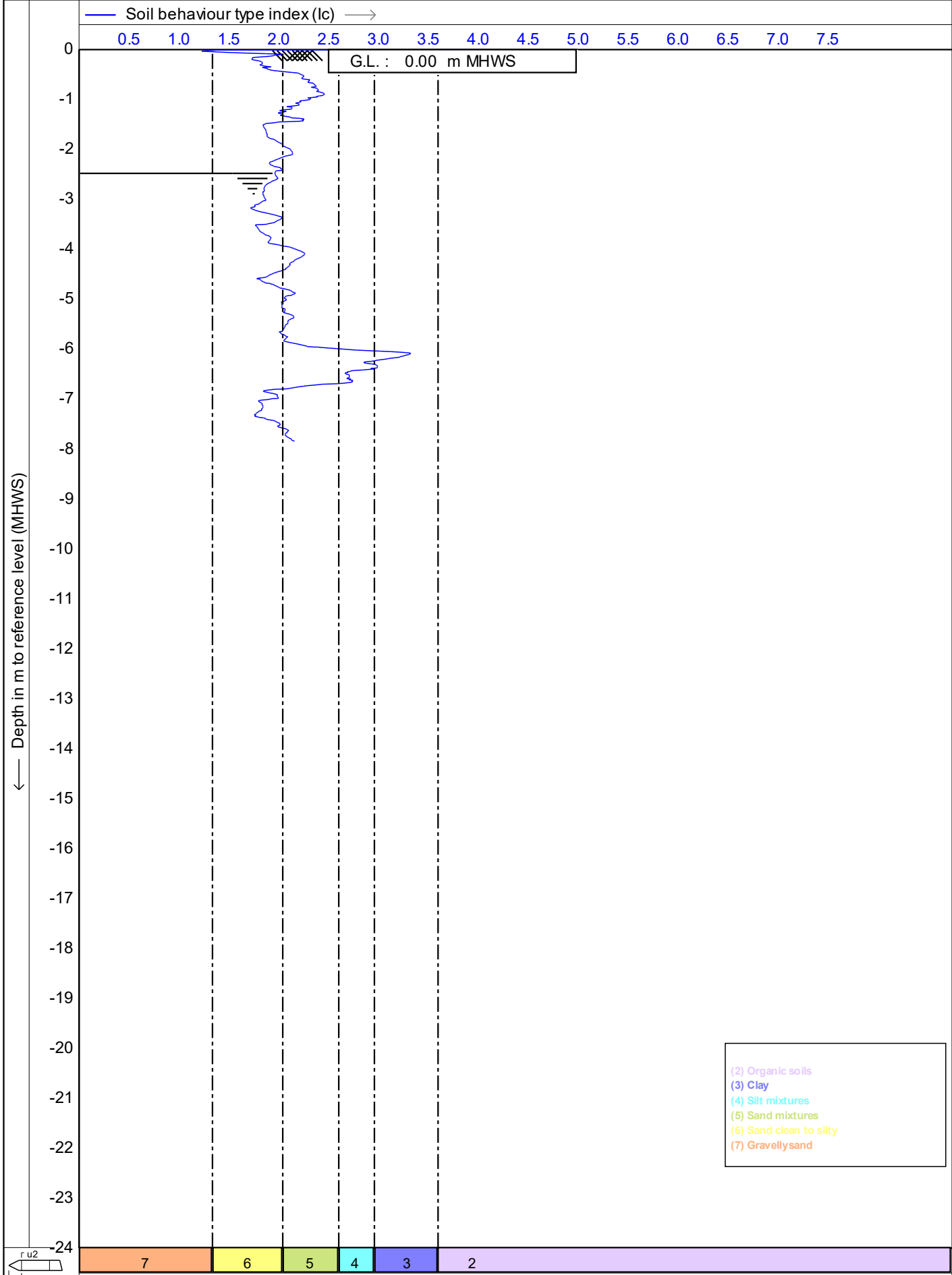
Date : 6/08/2025

Cone no. : C15CFIIP.C21199

Project no. : 8155-290

CPT no. : CPT44TK 1/4





1.49

225 cm<sup>2</sup>  
15 cm<sup>2</sup>



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NORTHLAND - WELLINGTON - CANTERBURY - OTAGO

Test performed in accordance with ASTM D5778-12

Project : RS Eng

Location: Waitangi, 44 Te Kemara Ave

Position: 174.079232, -35.27609 WGS84

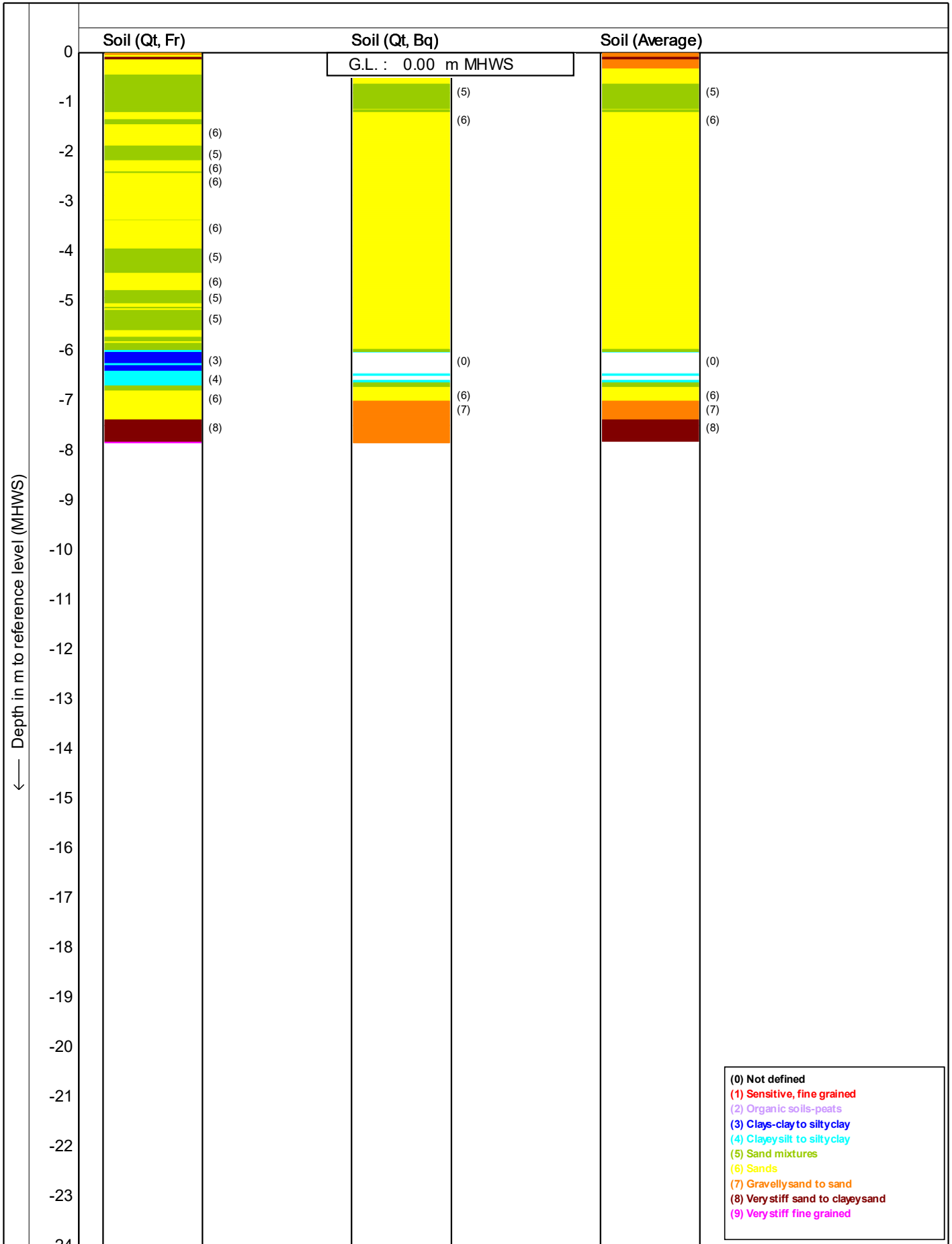
Date : 6/08/2025

Cone no. : C15CFIIP.C21199

Project no. : 8155-290

CPT no. : CPT44TK 3/4

← Depth in m to reference level (MHWS)

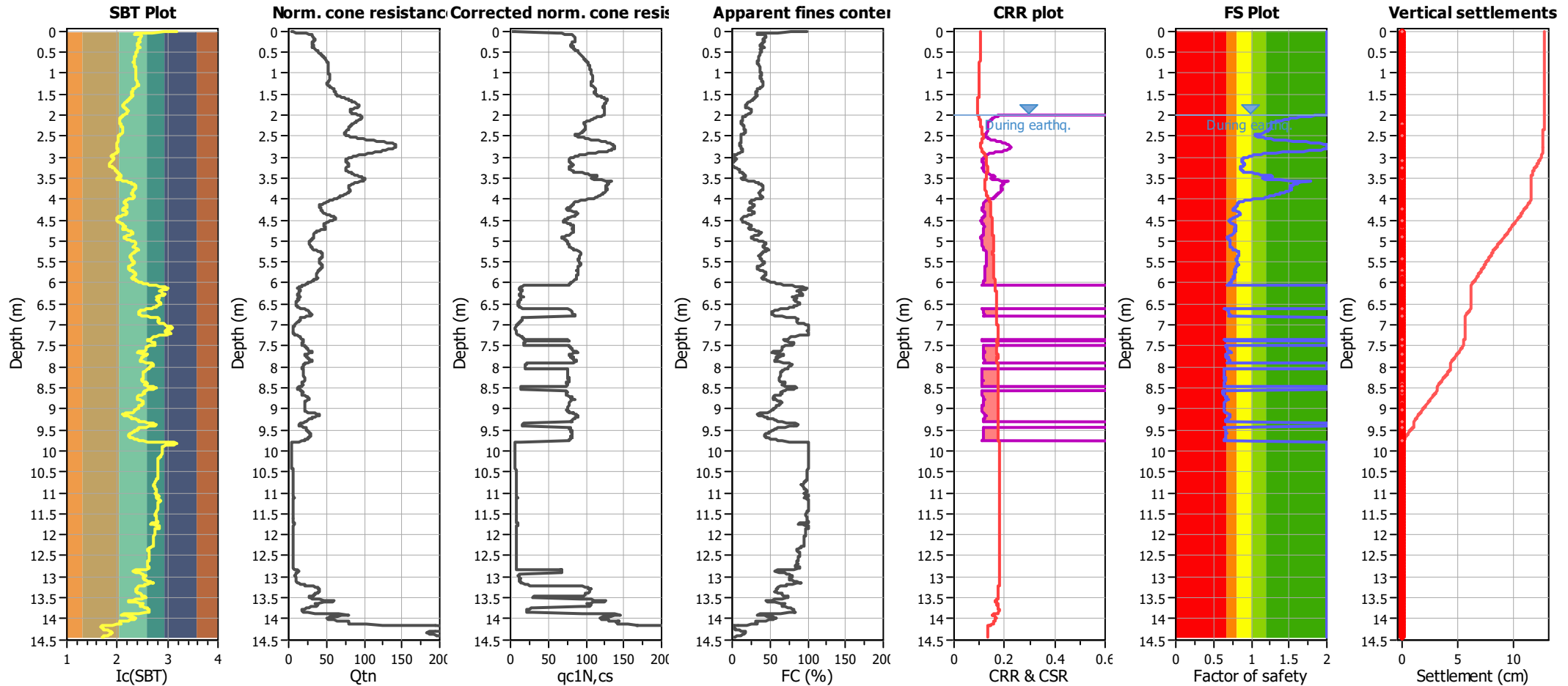


Soil behaviour type classification after Robertson 1990



## **Appendix C**

### **Liquefaction Analysis**

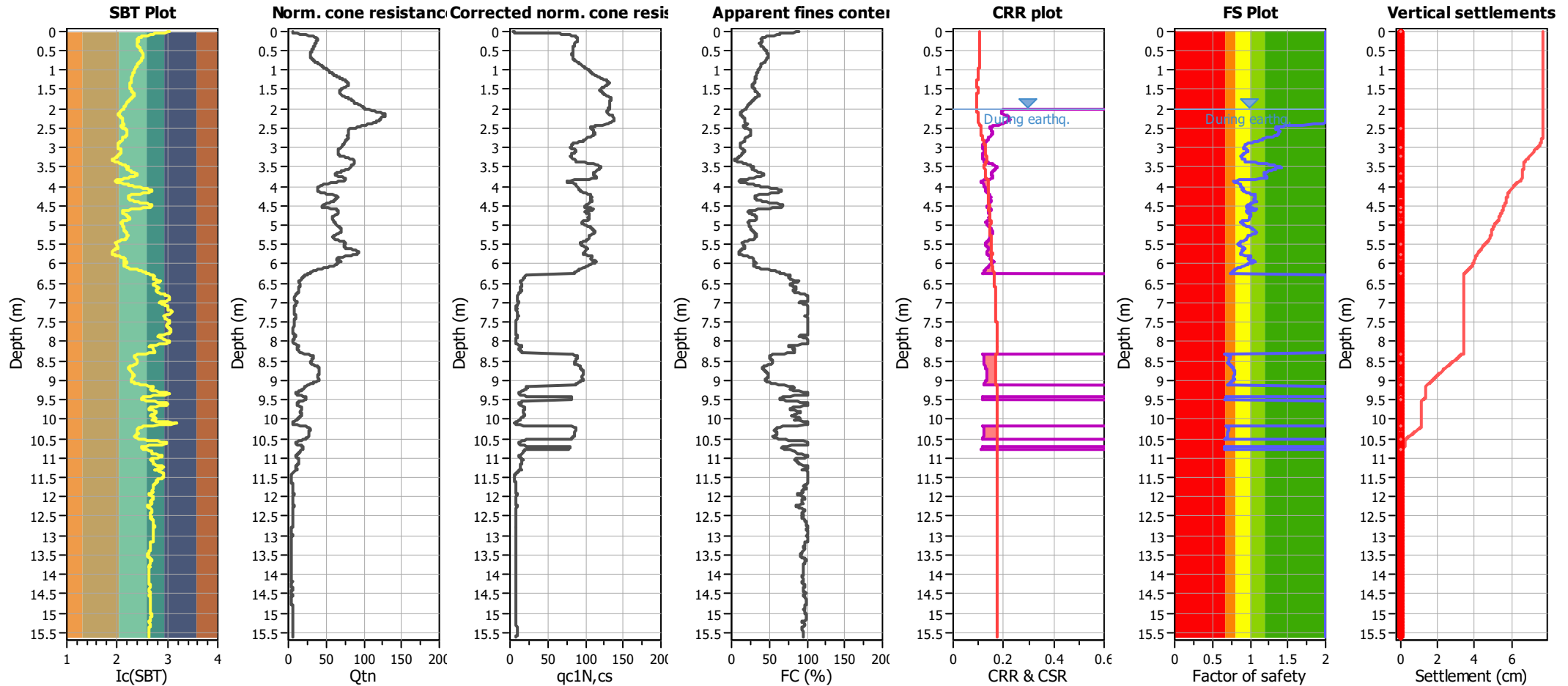


|                              |                   |                           |              |                         |     |                      |              |
|------------------------------|-------------------|---------------------------|--------------|-------------------------|-----|----------------------|--------------|
| Analysis method:             | B&I (2014)        | G.W.T. (in-situ):         | 2.50 m       | Use fill:               | No  | Clay like behavior   |              |
| Fines correction method:     | B&I (2014)        | G.W.T. (earthq.):         | 2.00 m       | Fill height:            | N/A | applied:             | .            |
| Points to test:              | Based on Ic value | Average results interval: | 3            | Fill weight:            | N/A | Limit depth applied: | Yes          |
| Earthquake magnitude $M_w$ : | 6.50              | Ic cut-off value:         | 2.60         | Trans. detect. applied: | No  | Limit depth:         | 10.00 m      |
| Peak ground acceleration:    | 0.19              | Unit weight calculation:  | Based on SBT | $K_0$ applied:          | Yes | MSF method:          | Method based |

**Project: RS19780**  
**Location: Te Kemara Waitangi**

**CPT: CPT15TK**

Total depth: 15.62 m

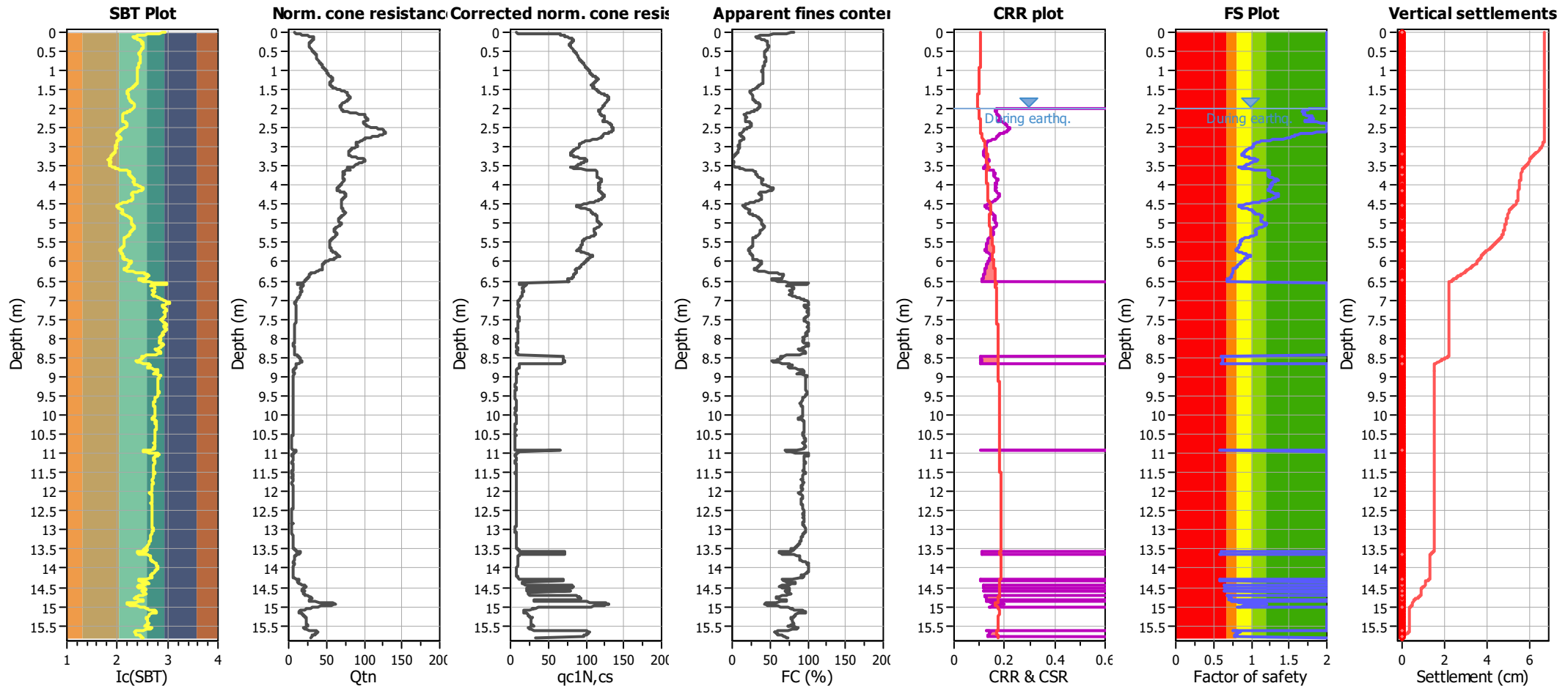


|                              |                   |                           |              |                         |     |                      |              |
|------------------------------|-------------------|---------------------------|--------------|-------------------------|-----|----------------------|--------------|
| Analysis method:             | B&I (2014)        | G.W.T. (in-situ):         | 2.50 m       | Use fill:               | No  | Clay like behavior   |              |
| Fines correction method:     | B&I (2014)        | G.W.T. (earthq.):         | 2.00 m       | Fill height:            | N/A | applied:             | .            |
| Points to test:              | Based on Ic value | Average results interval: | 3            | Fill weight:            | N/A | Limit depth applied: | No           |
| Earthquake magnitude $M_w$ : | 6.50              | Ic cut-off value:         | 2.60         | Trans. detect. applied: | No  | Limit depth:         | N/A          |
| Peak ground acceleration:    | 0.19              | Unit weight calculation:  | Based on SBT | $K_0$ applied:          | Yes | MSF method:          | Method based |

**Project: RS19780**  
**Location: Te Kemara Waitangi**

**CPT: CPT19TK**

Total depth: 15.82 m

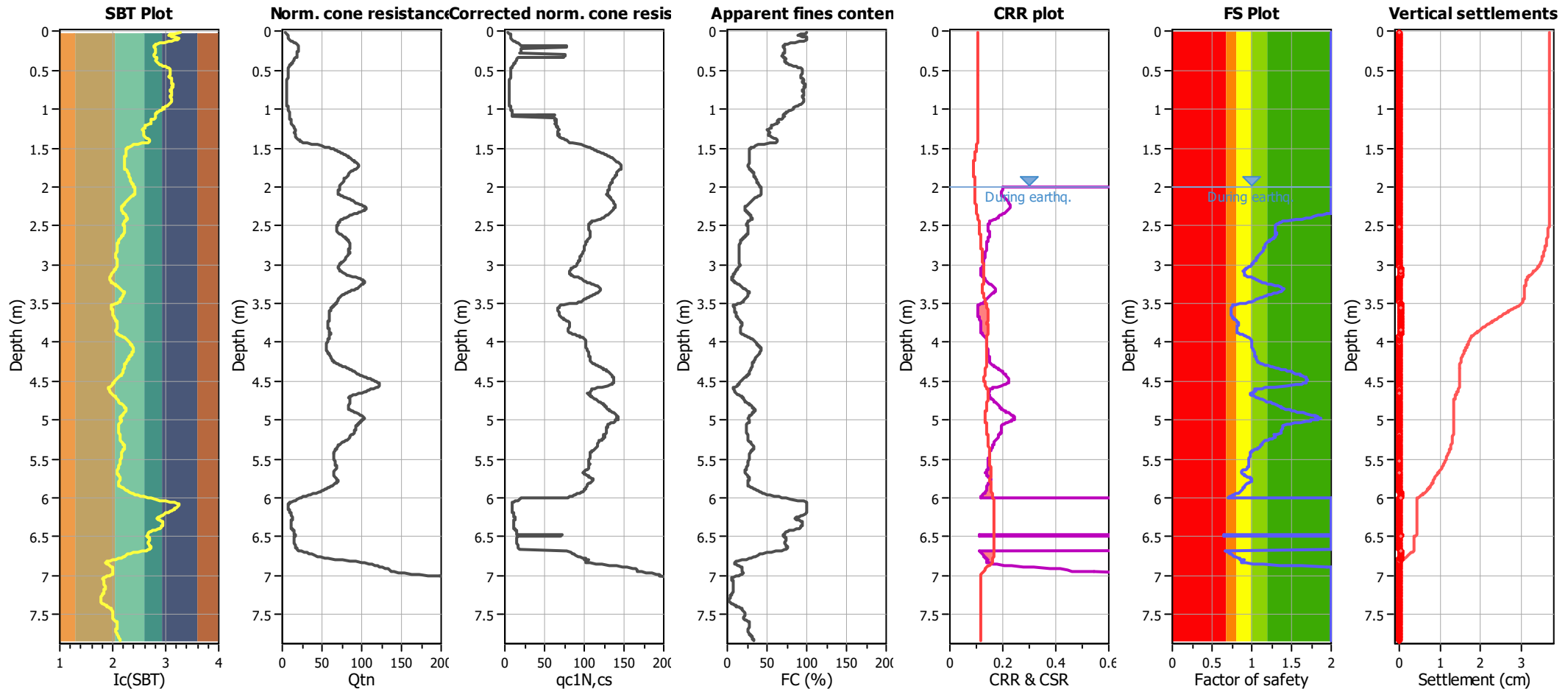


|                              |                   |                           |              |                         |     |                      |              |
|------------------------------|-------------------|---------------------------|--------------|-------------------------|-----|----------------------|--------------|
| Analysis method:             | B&I (2014)        | G.W.T. (in-situ):         | 2.50 m       | Use fill:               | No  | Clay like behavior   |              |
| Fines correction method:     | B&I (2014)        | G.W.T. (earthq.):         | 2.00 m       | Fill height:            | N/A | applied:             | .            |
| Points to test:              | Based on Ic value | Average results interval: | 3            | Fill weight:            | N/A | Limit depth applied: | No           |
| Earthquake magnitude $M_w$ : | 6.50              | Ic cut-off value:         | 2.60         | Trans. detect. applied: | No  | Limit depth:         | N/A          |
| Peak ground acceleration:    | 0.19              | Unit weight calculation:  | Based on SBT | $K_\sigma$ applied:     | Yes | MSF method:          | Method based |

**Project: RS19780**  
**Location: Te Kemara Waitangi**

**CPT: CPT44TK**

Total depth: 7.84 m



|                              |                   |                           |              |                         |     |                      |              |
|------------------------------|-------------------|---------------------------|--------------|-------------------------|-----|----------------------|--------------|
| Analysis method:             | B&I (2014)        | G.W.T. (in-situ):         | 2.50 m       | Use fill:               | No  | Clay like behavior   |              |
| Fines correction method:     | B&I (2014)        | G.W.T. (earthq.):         | 2.00 m       | Fill height:            | N/A | applied:             | .            |
| Points to test:              | Based on Ic value | Average results interval: | 3            | Fill weight:            | N/A | Limit depth applied: | No           |
| Earthquake magnitude $M_w$ : | 6.50              | Ic cut-off value:         | 2.60         | Trans. detect. applied: | No  | Limit depth:         | N/A          |
| Peak ground acceleration:    | 0.19              | Unit weight calculation:  | Based on SBT | $K_0$ applied:          | Yes | MSF method:          | Method based |



File: 19780

11 September 2025

Issue: 1

# **STORMWATER MANAGEMENT**

## **44 Te Kemara Avenue, Waitangi**

(Lot 5 DP 49984)

---

### **1.0 Introduction**

RS Eng Ltd (RS Eng) has been engaged by Advance Build to detail and design stormwater management system at 44 Te Kemara Avenue, Waitangi for residential construction.

The client proposes to construct two dwellings being single-storey as well as a shared driveway and parking area proposed.

### **2.0 Stormwater Attenuation Assessment**

The property is located within the Commercial Zone. As per section 7.7.5.1.11 of the District Plan, “The disposal of collected stormwater from the roof of all new buildings and new impervious surfaces provided that the activity is within an existing consented urban stormwater management plan or discharge consent.” Given that there is no stormwater network available for the property to discharge to, the proposals fall under Restricted Discretionary Activity. As a result, attenuation of the stormwater runoff is proposed. This minimises any potential adverse effects on downstream properties and council assets.

The Far North District Council (WDC) Engineering Standards (ES) requires attenuation of stormwater runoff from any increase in impervious areas so that post-development peak flows are less than 80% of pre-development. The FNDC ES specifies that the flows be attenuated for the 20% and 1% Annual Exceedance Probability (AEP) events.

It is proposed to direct stormwater runoff from the roof of the new dwellings into a rainwater storage tank with restricted outlets which reduce the peak flows to predevelopment levels. The property contains existing impervious surfaces being a driveway and concrete slab (that are proposed to be removed) which make up an area of 86m<sup>2</sup> respectively. The increase in newly formed impervious surfaces is therefore 190m<sup>2</sup> of total roof area and 97m<sup>2</sup> for additional driveway.

The pre-development and post-development runoff flows were modelled using HydroCAD. The United States Department of Agriculture Technical Release 55 (TR55) Type 1A method was adopted for calculating the run-off flow, using rainfall depths from HIRDS 4 (High Intensity Rainfall Design System, NIWA) including an additional 20% rainfall depth to account for climate change as required by WDC ES. The subsoils have been assessed as sands, designated as Group B soils. Table 1 includes a summary of the stormwater attenuation modelling.

**Table 1:** Stormwater Attenuation Design Summary for Each Property.

|                                                            | Pre-development           |             | Post-development           |                    |
|------------------------------------------------------------|---------------------------|-------------|----------------------------|--------------------|
| Permeable Area (m <sup>2</sup> )<br>Grassed                | 287                       |             | -                          |                    |
| Impervious Area (m <sup>2</sup> )<br>Roof Area<br>Driveway | -                         |             | 190<br>97                  |                    |
| Peak flow l/s                                              | 20% AEP                   | 1% AEP      | 20% AEP                    | 1% AEP             |
| From surfaces                                              | 1.59                      | 3.77        | +20%<br>3.03               | +20%<br>5.48       |
| <b>80% (design flows reqd.)</b>                            | <b>1.27</b>               | <b>3.01</b> |                            |                    |
| <b>Total attenuated flows</b>                              |                           |             | <b>1.26</b>                | <b>2.97</b>        |
| <b>Storage Required</b>                                    |                           |             | 14.6m <sup>3</sup>         | 19.0m <sup>3</sup> |
| <b>Attenuation Tank Summary</b>                            |                           |             |                            |                    |
| <b>Tank</b>                                                | 25,000L Promax or similar |             |                            |                    |
| <b>Tank Diameter</b>                                       | 3.6m                      |             |                            |                    |
|                                                            | <b>Diameter</b>           |             | <b>Depth from Overflow</b> |                    |
| <b>Primary Orifice</b>                                     | 10mm                      |             | 2.0m                       |                    |
| <b>Secondary Orifice</b>                                   | 30mm                      |             | 0.4m                       |                    |

### 3.0 Disposal

To suitably manage and dispose of stormwater it is proposed to discharge stormwater to the existing drain.

#### 4.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to design stormwater management system 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.

Prepared by:



**Sarah Scott Compton**

Senior Technician

NZDE(Civil)

Reviewed by:



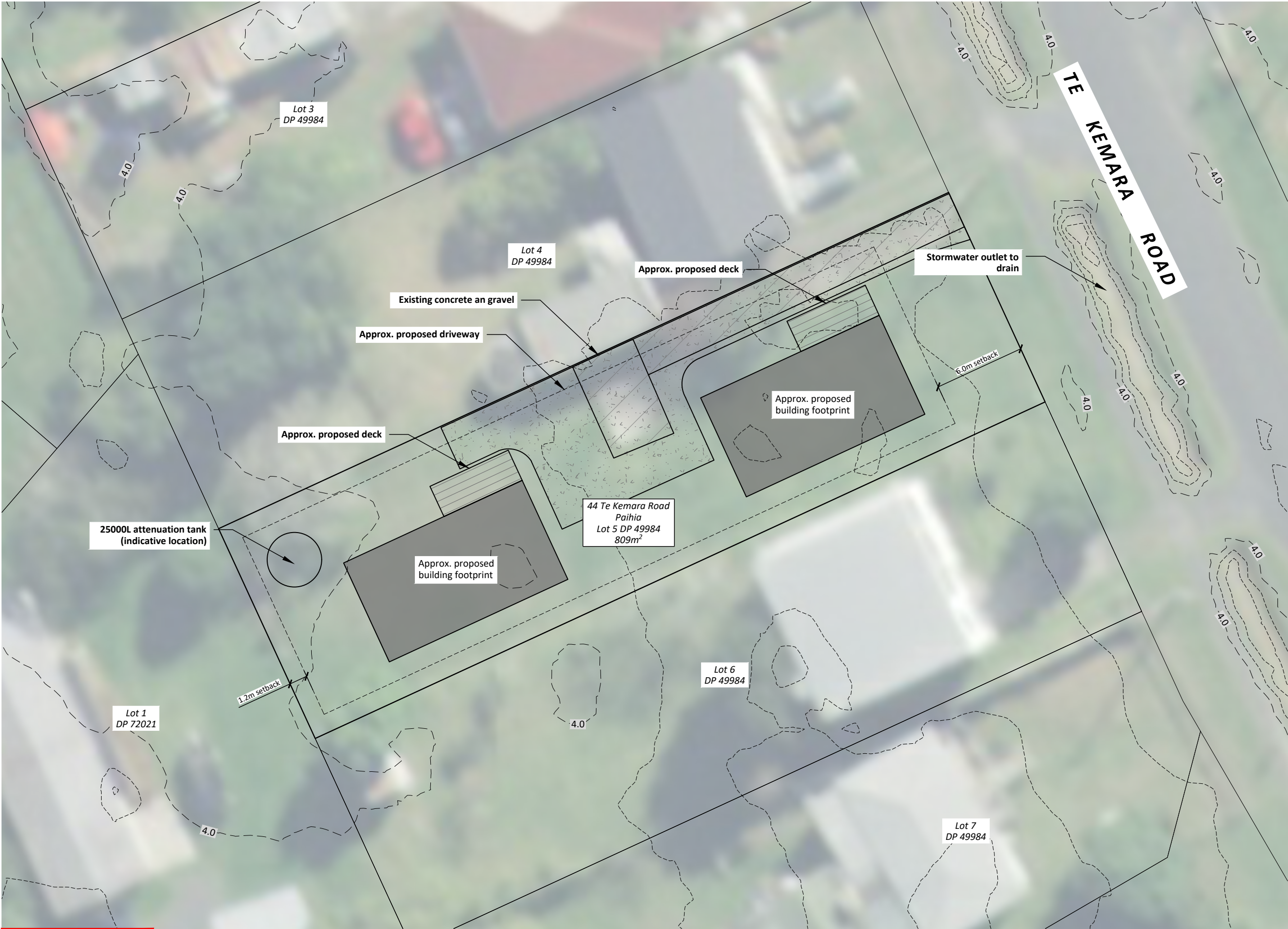
**Matthew Jacobson**

Director

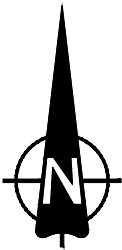
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

## **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 |                              |
|--------|------------------------------|
|        | Proposed Dwelling            |
|        | Proposed Driveway            |
|        | Proposed Deck                |
|        | Existing concrete and gravel |

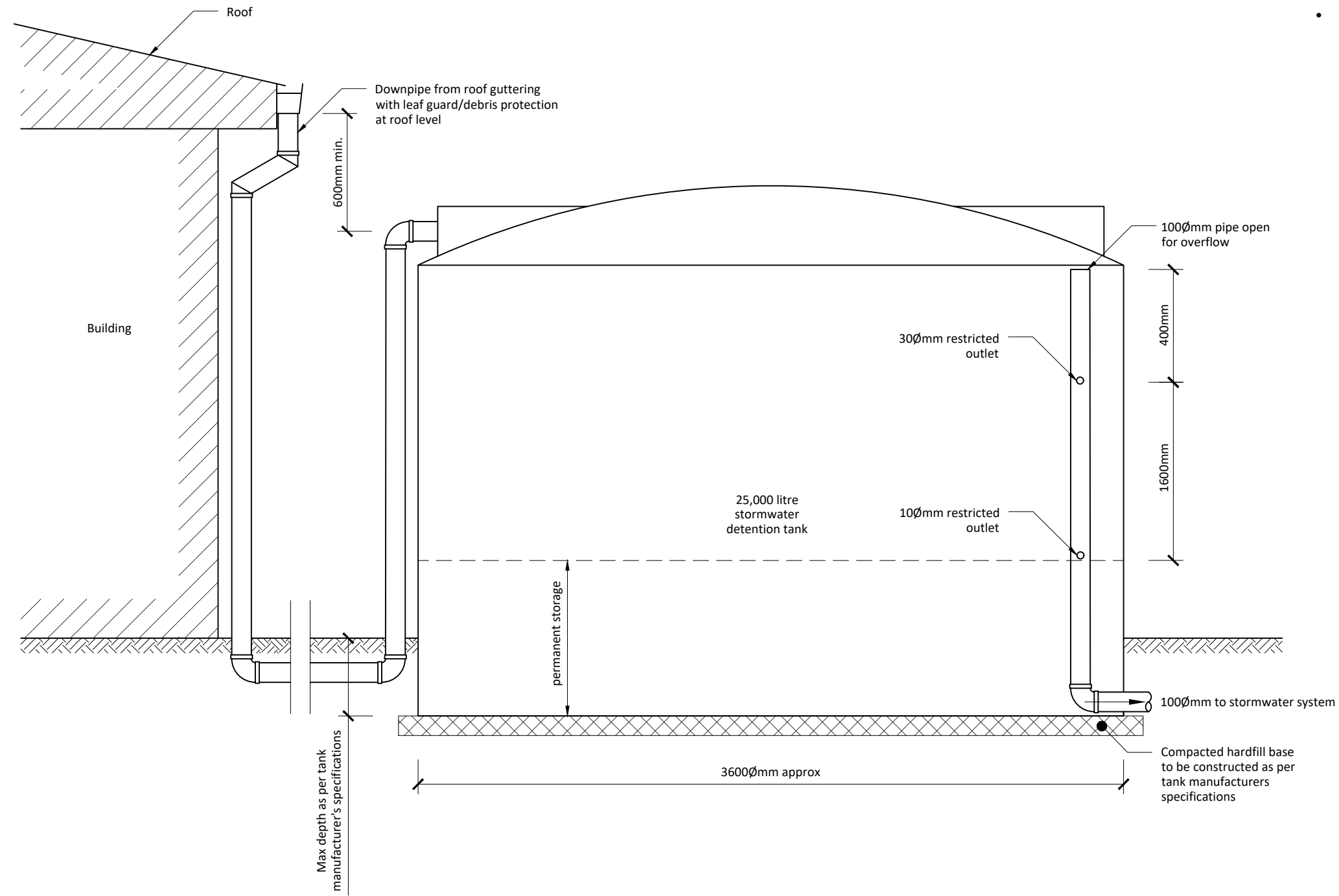
|                                  |  |
|----------------------------------|--|
| Contour Interval: 0.2m           |  |
| Vertical Datum: NZVD2016         |  |
| Survey Data Source: LiDAR (2018) |  |

0 2.5 5  
PLAN 1:250

FOR CONSENT

|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                   |                             |  |                                   |  |       |          |     |           |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------|--|-----------------------------------|--|-------|----------|-----|-----------|
|  | <b>RS Eng Ltd</b><br>09 438 3273<br>office@RSEng.co.nz<br>2 Seaview Road,<br>Whangarei 0110 | These drawings are copyright to RS Eng Ltd and should not be reproduced without prior permission.<br><br>If any part of these documents are unclear, please contact RS Eng Ltd. | <b>PROPOSED DWELLINGS<br/>SITE PLAN<br/>STORMWATER MANAGEMENT</b> | Client                      |  |                                   |  |       | Scale    |     | Rev No.   |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                   | ADVANCE BUILD               |  |                                   |  |       | 1:250    |     | A         |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                   | Location                    |  |                                   |  |       | Original |     | Sheet No. |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                   | 44 TE KEMARA ROAD<br>PAIHIA |  | 11/09/2025    A    Original Issue |  |       | A3       |     |           |
|                                                                                    |                                                                                             |                                                                                                                                                                                 |                                                                   |                             |  | Date    Rev    Notes              |  |       | Job No.  |     |           |
|                                                                                    |                                                                                             | Drawn by: LMC                                                                                                                                                                   |                                                                   | Reviewed by: SSC            |  | Approved by: MJ                   |  | 19780 |          | C05 |           |





- NOTES:**
- All services should be located on-site prior to commencement of works.
  - All works to comply with all relevant local authority by-laws and council regulations where applicable.
  - Contractors to confirm all dimensions on site prior to commencing any work.
  - Do not scale off drawings.
  - These drawings are to be read in conjunction with specifications - plans take precedence.
  - 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.

**STORMWATER ATTENUATION 25,000L PLASTIC TANK DETAIL**  
1:25

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

Title

**STORMWATER ATTENUATION TANK DETAIL**

Client

Location

|            |     |                |
|------------|-----|----------------|
|            |     |                |
| 23/12/2021 | A   | Original Issue |
| Date       | Rev | Notes          |

Scale  
1:25

Original  
A3

Rev  
A

Drawn  
MYH

Approved  
MJ

File #

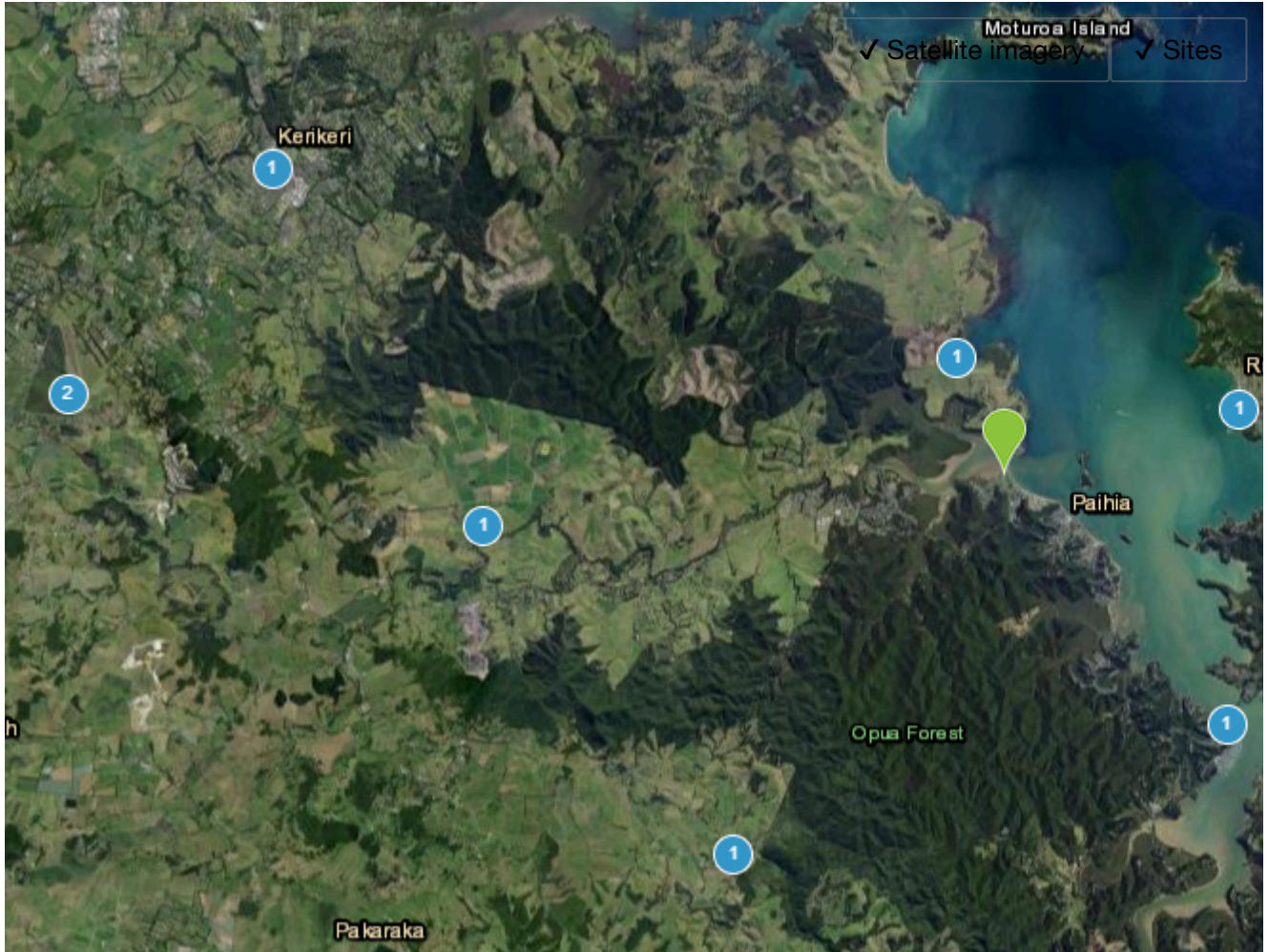
Sheet  
**1**

## **Appendix B**

### **Stormwater Attenuation Design**

## Location

|                |                                              |
|----------------|----------------------------------------------|
| Address search | Enter your address and press enter to search |
|----------------|----------------------------------------------|



## Site Information

To generate a set of results, either click on an existing data point, or a new location and enter a site name, then press the Generate Report button.

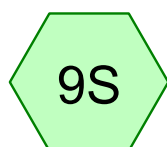
|           |                    |
|-----------|--------------------|
| Latitude  | -35.2756835399634  |
| Longitude | 174.07953655971198 |
| Site Name | Custom Location    |



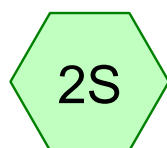
|                                                                                                                    | ARI                                          | AEP   | 10m | 20m | 30m | 1h  | 2h  | 6h | 12h | 24h | 48h | 72h | 96h | 120h |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|------|
|                                                                                                                    | 10                                           | 0.100 | 2.6 | 3.5 | 4.1 | 5.1 | 7.5 | 13 | 19  | 26  | 33  | 38  | 41  | 41   |
|                                                                                                                    | 20                                           | 0.050 | 3.3 | 4.5 | 5.5 | 6.8 | 9.9 | 16 | 24  | 31  | 38  | 45  | 49  | 49   |
|                                                                                                                    | 30                                           | 0.033 | 3.8 | 5.3 | 6.5 | 8.0 | 12  | 19 | 27  | 34  | 42  | 50  | 54  | 53   |
|                                                                                                                    | 40                                           | 0.025 | 4.2 | 5.9 | 7.3 | 9.1 | 13  | 21 | 30  | 37  | 45  | 53  | 58  | 57   |
|                                                                                                                    | 50                                           | 0.020 | 4.6 | 6.4 | 8.1 | 9.9 | 14  | 23 | 33  | 39  | 47  | 56  | 61  | 60   |
|                                                                                                                    | 60                                           | 0.017 | 4.9 | 6.8 | 8.7 | 11  | 15  | 25 | 35  | 41  | 49  | 58  | 63  | 63   |
|                                                                                                                    | 80                                           | 0.013 | 5.4 | 7.6 | 9.8 | 12  | 17  | 28 | 39  | 43  | 52  | 62  | 68  | 67   |
|                                                                                                                    | 100                                          | 0.010 | 5.9 | 8.2 | 11  | 13  | 18  | 30 | 43  | 46  | 55  | 66  | 71  | 70   |
| 2.3.0                                                                                                              | ©2017 NIWA and New Zealand Regional Councils |       |     |     |     |     |     |    |     |     |     |     |     |      |
| 250                                                                                                                | 0.004                                        | 8.0   | 11  | 16  | 19  | 26  | 44  | 60 | 57  | 67  | 81  | 88  | 87  |      |
| Terms and Conditions ( <a href="https://www.niwa.co.nz/privacy-policy">https://www.niwa.co.nz/privacy-policy</a> ) |                                              |       |     |     |     |     |     |    |     |     |     |     |     |      |

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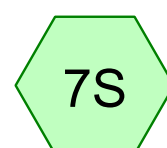




Pre-development



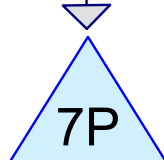
Dwelling Roofs



Driveway



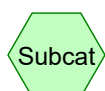
80% Flows



Tank



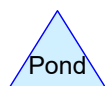
Total post dev



Subcat



Reach



Pond



Link

**Routing Diagram for 19780 Stormwater - 44 Te Kemara**  
Prepared by {enter your company name here}, Printed 12/09/2025  
HydroCAD® 10.00-15 s/n 06482 © 2015 HydroCAD Software Solutions LLC

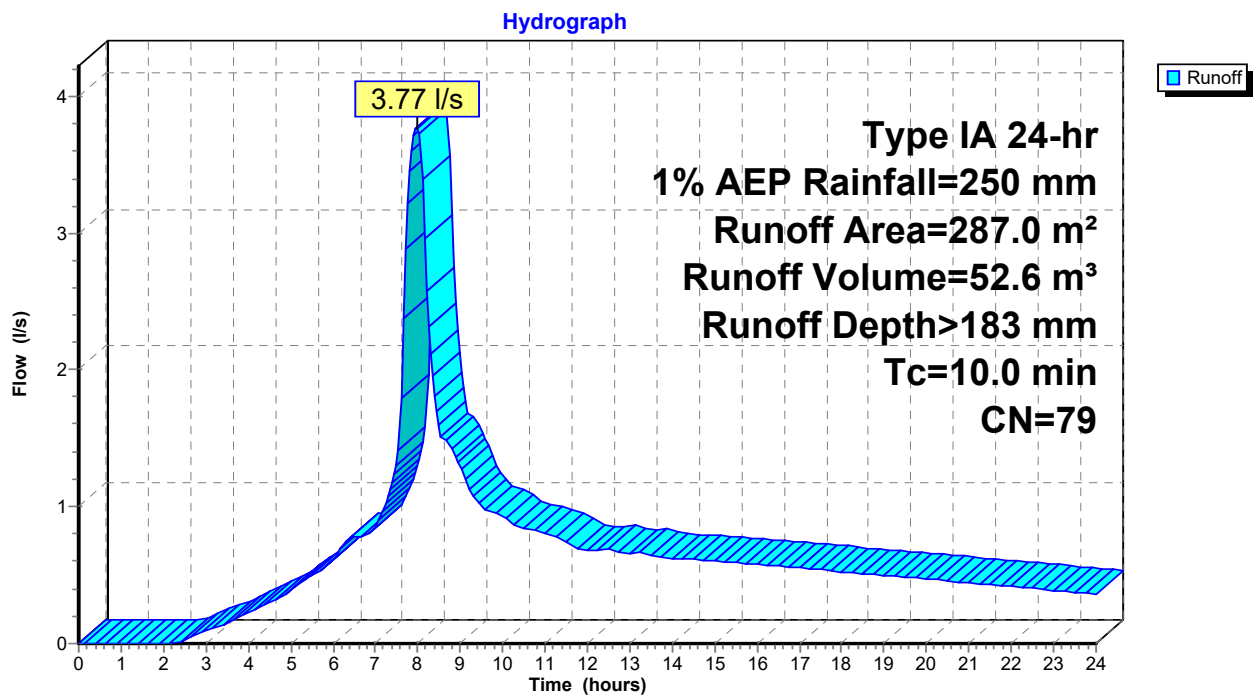
**Summary for Subcatchment 9S: Pre-development**

Runoff = 3.77 l/s @ 7.98 hrs, Volume= 52.6 m<sup>3</sup>, Depth> 183 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP Rainfall=250 mm

| Area (m <sup>2</sup> ) | CN | Description                   |
|------------------------|----|-------------------------------|
| 287.0                  | 79 | <50% Grass cover, Poor, HSG B |
| 287.0                  |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(meters) | Slope<br>(m/m) | Velocity<br>(m/sec) | Capacity<br>(m <sup>3</sup> /s) | Description   |
|-------------|--------------------|----------------|---------------------|---------------------------------|---------------|
| 10.0        |                    |                |                     |                                 | Direct Entry, |

**Subcatchment 9S: Pre-development**

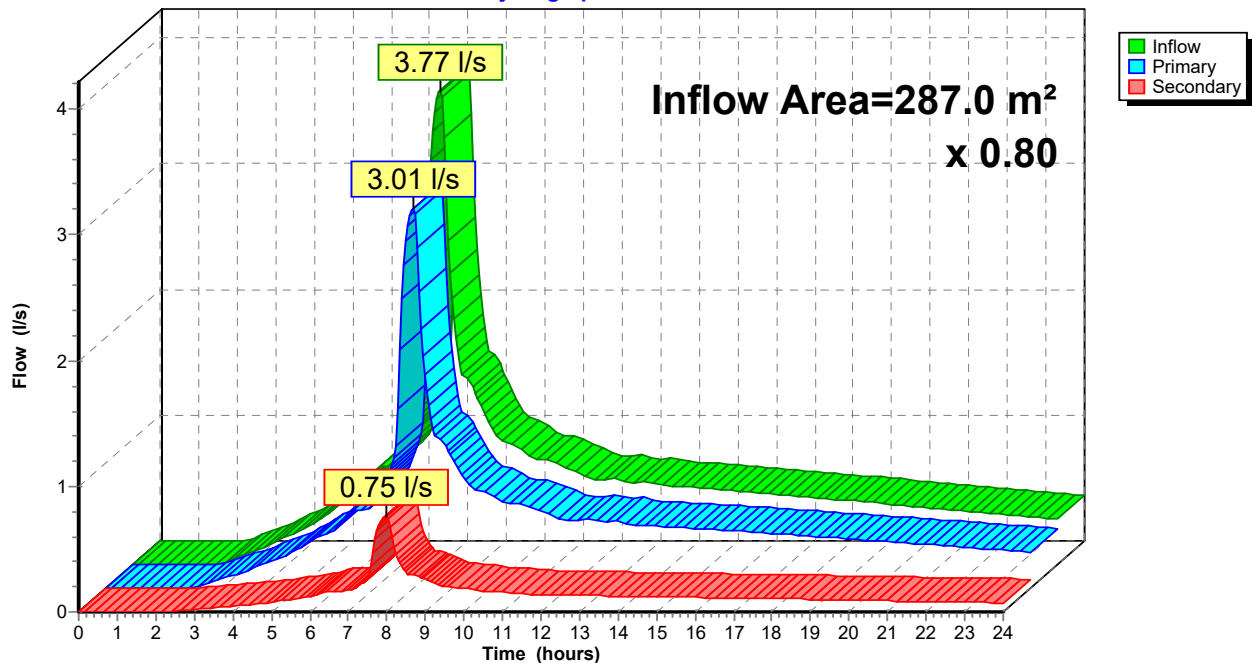
### Summary for Link 4L: 80% Flows

Inflow Area = 287.0 m<sup>2</sup>, 0.00% Impervious, Inflow Depth > 183 mm for 1% AEP event  
 Inflow = 3.77 l/s @ 7.98 hrs, Volume= 52.6 m<sup>3</sup>  
 Primary = 3.01 l/s @ 7.98 hrs, Volume= 42.1 m<sup>3</sup>, Atten= 20%, Lag= 0.0 min  
 Secondary = 0.75 l/s @ 7.98 hrs, Volume= 10.5 m<sup>3</sup>

Primary outflow = Inflow x 0.80, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

### Link 4L: 80% Flows

Hydrograph



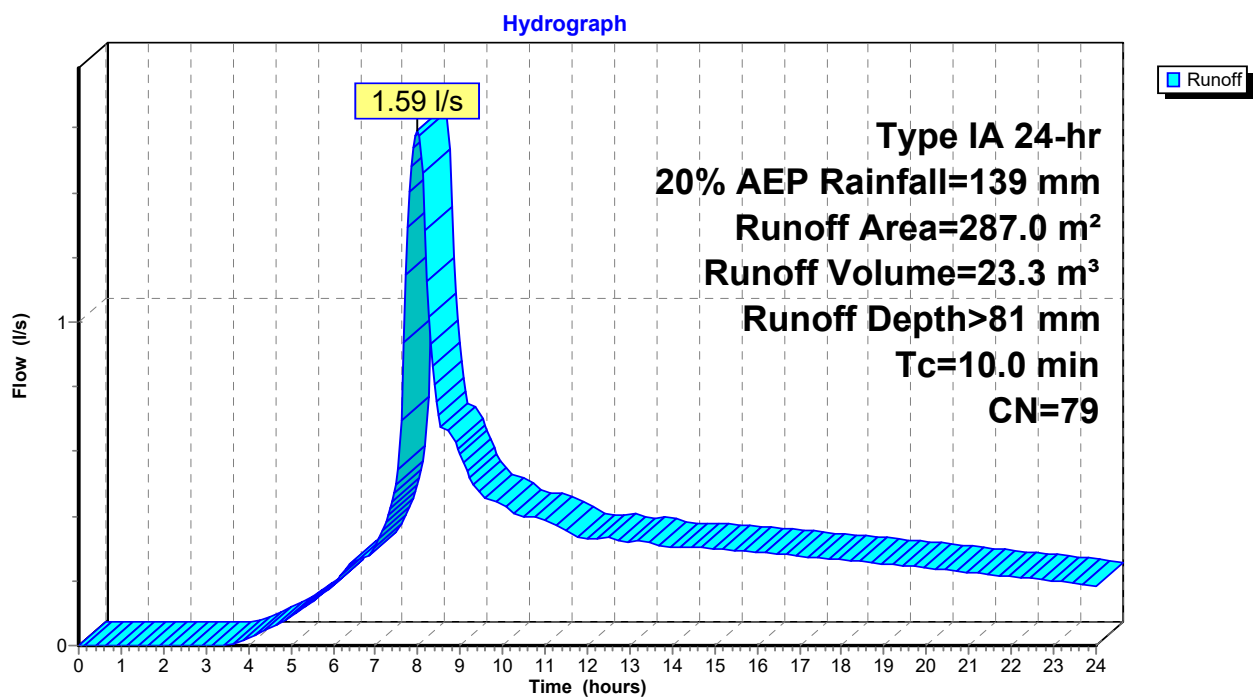
**Summary for Subcatchment 9S: Pre-development**

Runoff = 1.59 l/s @ 8.00 hrs, Volume= 23.3 m<sup>3</sup>, Depth> 81 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP Rainfall=139 mm

| Area (m <sup>2</sup> ) | CN | Description                   |
|------------------------|----|-------------------------------|
| 287.0                  | 79 | <50% Grass cover, Poor, HSG B |
| 287.0                  |    | 100.00% Pervious Area         |

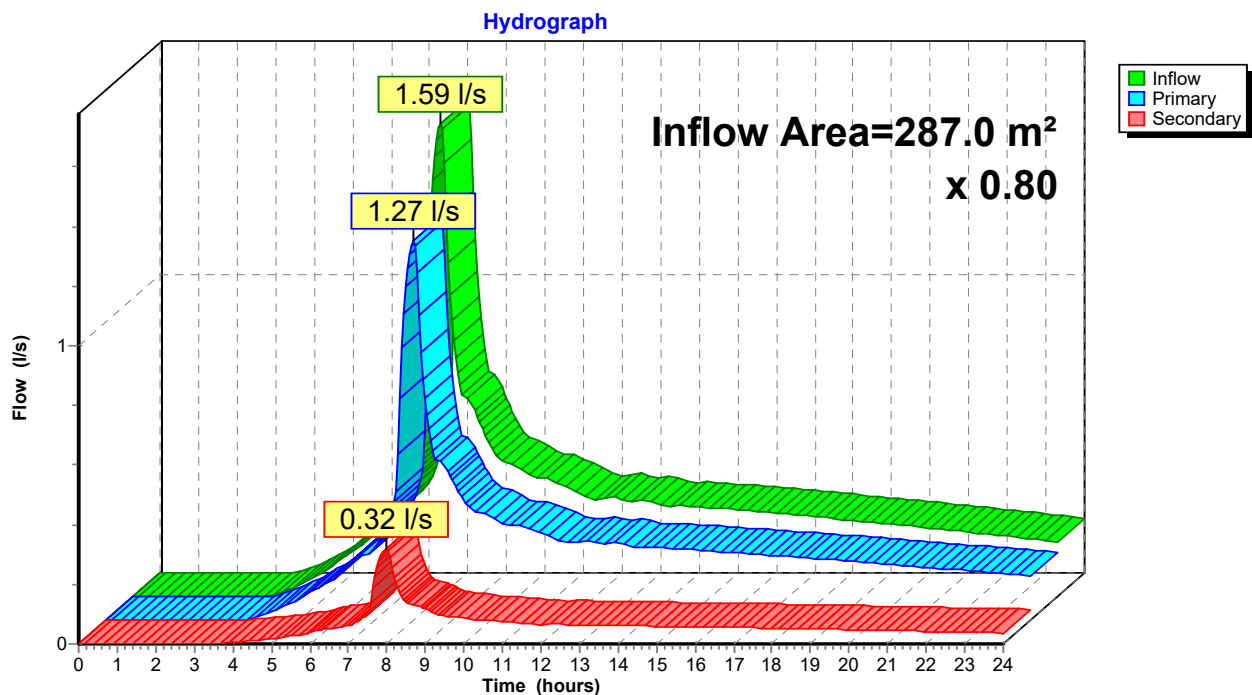
| Tc<br>(min) | Length<br>(meters) | Slope<br>(m/m) | Velocity<br>(m/sec) | Capacity<br>(m <sup>3</sup> /s) | Description   |
|-------------|--------------------|----------------|---------------------|---------------------------------|---------------|
| 10.0        |                    |                |                     |                                 | Direct Entry, |

**Subcatchment 9S: Pre-development**

**Summary for Link 4L: 80% Flows**

Inflow Area = 287.0 m<sup>2</sup>, 0.00% Impervious, Inflow Depth > 81 mm for 20% AEP event  
Inflow = 1.59 l/s @ 8.00 hrs, Volume= 23.3 m<sup>3</sup>  
Primary = 1.27 l/s @ 8.00 hrs, Volume= 18.7 m<sup>3</sup>, Atten= 20%, Lag= 0.0 min  
Secondary = 0.32 l/s @ 8.00 hrs, Volume= 4.7 m<sup>3</sup>

Primary outflow = Inflow x 0.80, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Link 4L: 80% Flows**



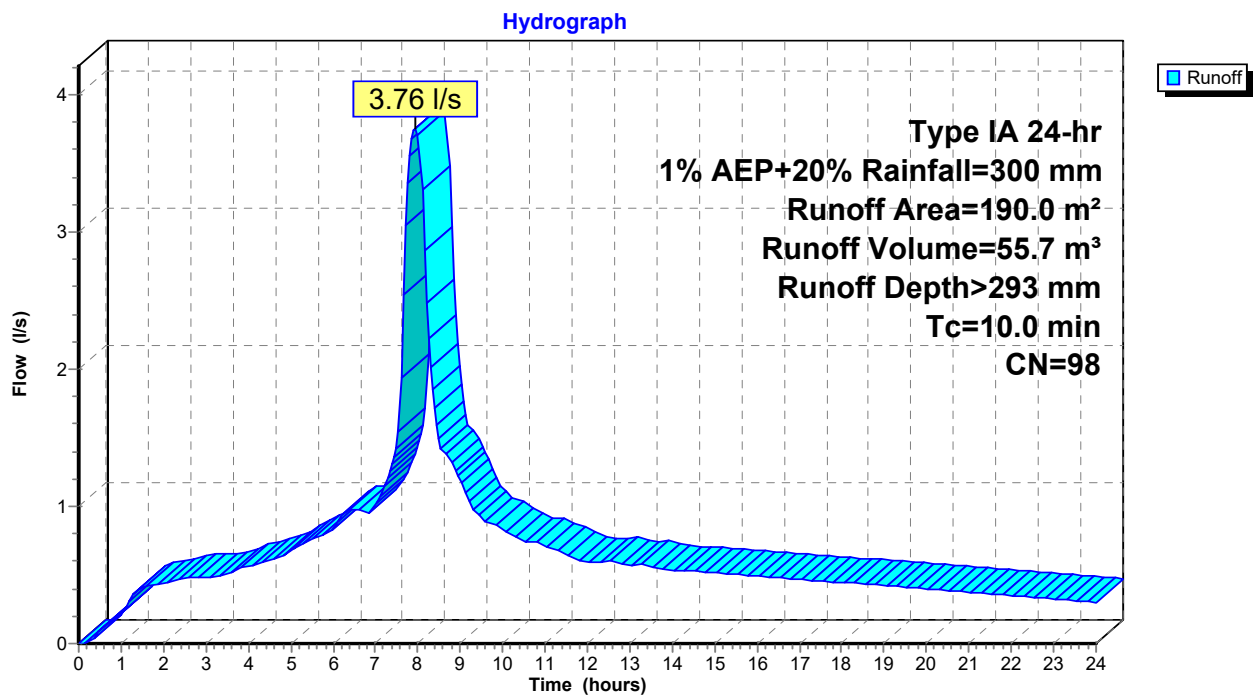
**Summary for Subcatchment 2S: Dwelling Roofs**

Runoff = 3.76 l/s @ 7.94 hrs, Volume= 55.7 m<sup>3</sup>, Depth> 293 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP+20% Rainfall=300 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 190.0                | 98 | House roof              |
| 190.0                  |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

**Subcatchment 2S: Dwelling Roofs**

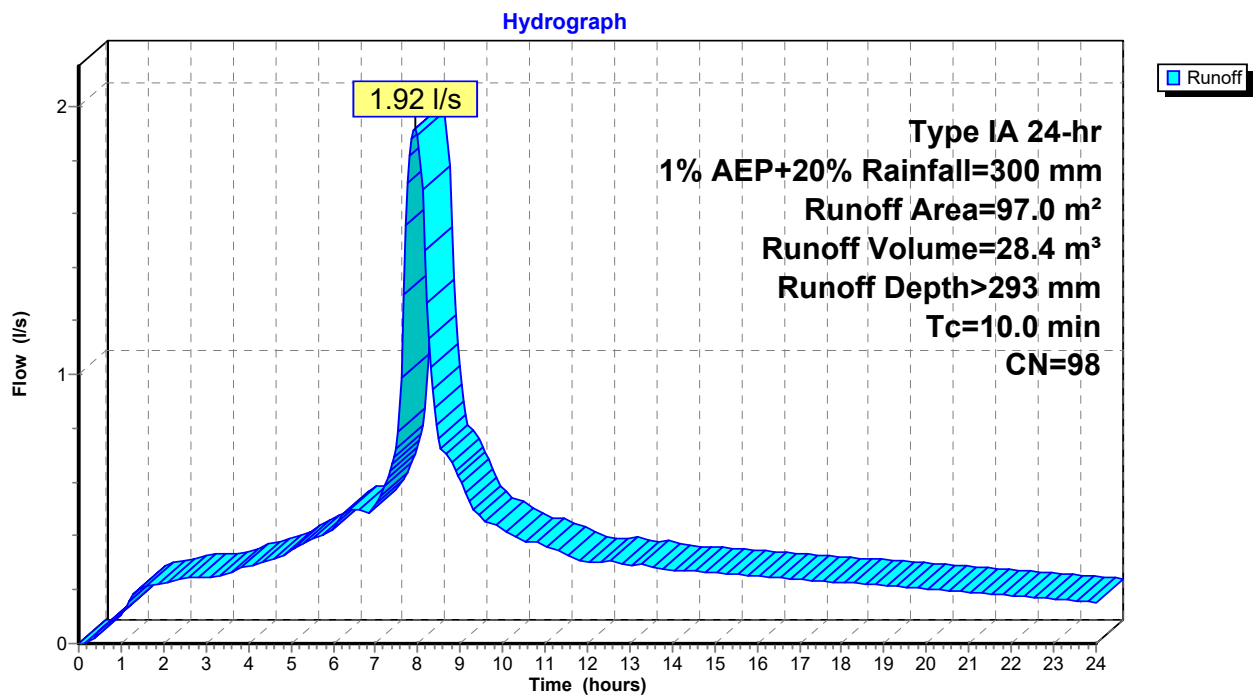
**Summary for Subcatchment 7S: Driveway**

Runoff = 1.92 l/s @ 7.94 hrs, Volume= 28.4 m<sup>3</sup>, Depth> 293 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 1% AEP+20% Rainfall=300 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 97.0                 | 98 | House roof              |
| 97.0                   |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

**Subcatchment 7S: Driveway**

### Summary for Pond 7P: Tank

Inflow Area = 190.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 293 mm for 1% AEP+20% event  
 Inflow = 3.76 l/s @ 7.94 hrs, Volume= 55.7 m<sup>3</sup>  
 Outflow = 1.42 l/s @ 8.56 hrs, Volume= 40.2 m<sup>3</sup>, Atten= 62%, Lag= 37.2 min  
 Primary = 1.42 l/s @ 8.56 hrs, Volume= 40.2 m<sup>3</sup>

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 1.977 m @ 8.56 hrs Surf.Area= 9.6 m<sup>2</sup> Storage= 19.0 m<sup>3</sup>

Plug-Flow detention time= 317.4 min calculated for 40.2 m<sup>3</sup> (72% of inflow)  
 Center-of-Mass det. time= 140.1 min ( 784.3 - 644.2 )

| Volume | Invert  | Avail.Storage       | Storage Description                      |
|--------|---------|---------------------|------------------------------------------|
| #1     | 0.000 m | 24.1 m <sup>3</sup> | 3.50 mD x 2.50 mH Vertical Cone/Cylinder |

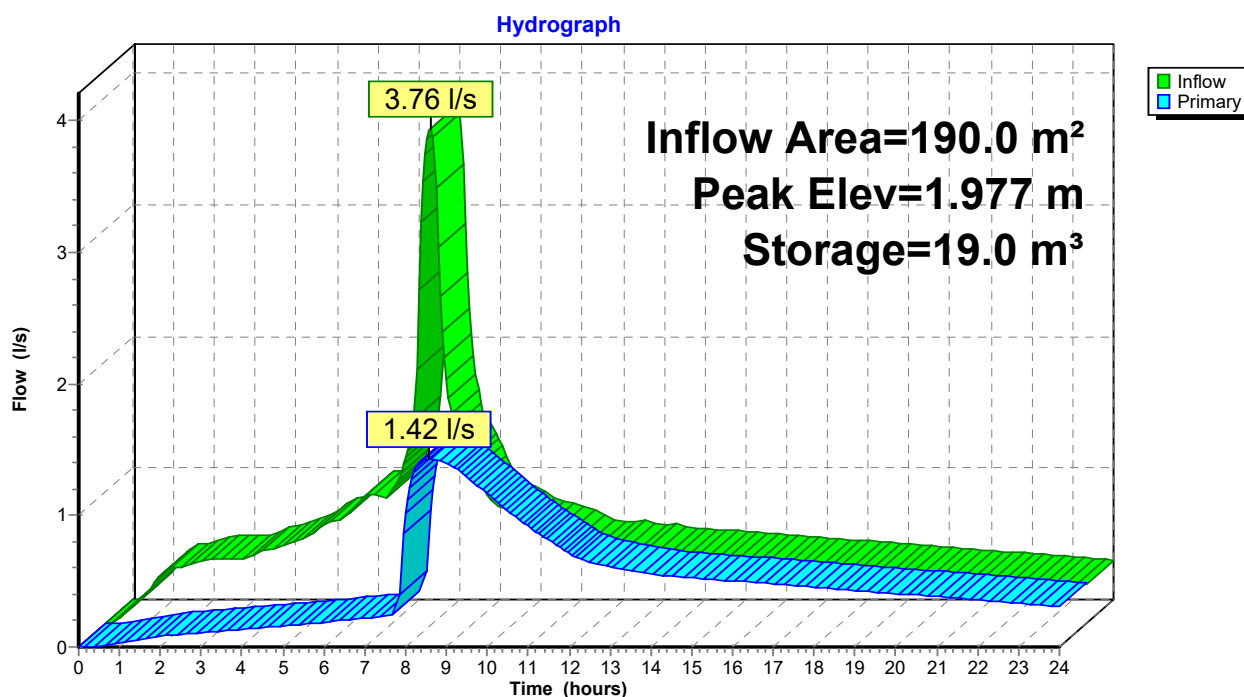
| Device | Routing | Invert  | Outlet Devices                     |
|--------|---------|---------|------------------------------------|
| #1     | Primary | 0.000 m | 10 mm Vert. Orifice/Grate C= 0.600 |
| #2     | Primary | 1.600 m | 30 mm Vert. Orifice/Grate C= 0.600 |

Primary OutFlow Max=1.42 l/s @ 8.56 hrs HW=1.977 m (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.29 l/s @ 3.73 m/s)

2=Orifice/Grate (Orifice Controls 1.13 l/s @ 1.60 m/s)

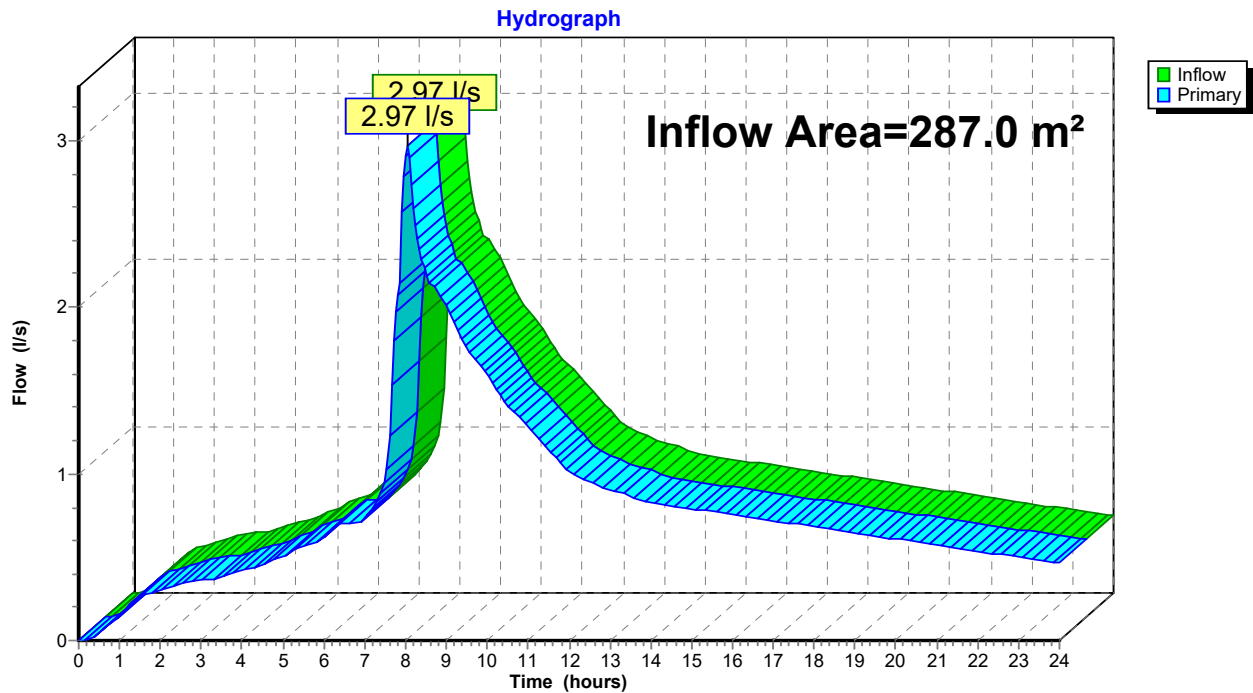
### Pond 7P: Tank



**Summary for Link 6L: Total post dev**

Inflow Area = 287.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 239 mm for 1% AEP+20% event  
Inflow = 2.97 l/s @ 8.05 hrs, Volume= 68.7 m<sup>3</sup>  
Primary = 2.97 l/s @ 8.05 hrs, Volume= 68.7 m<sup>3</sup>, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Link 6L: Total post dev**

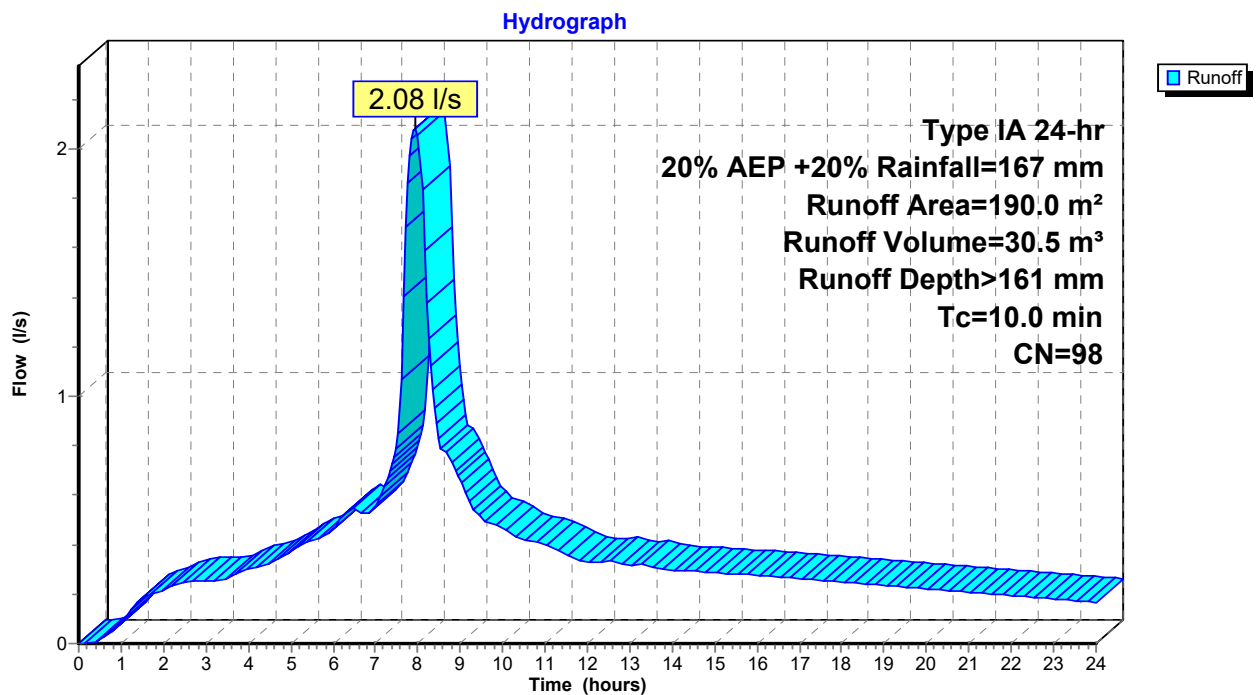
**Summary for Subcatchment 2S: Dwelling Roofs**

Runoff = 2.08 l/s @ 7.94 hrs, Volume= 30.5 m<sup>3</sup>, Depth> 161 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP +20% Rainfall=167 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 190.0                | 98 | House roof              |
| 190.0                  |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

**Subcatchment 2S: Dwelling Roofs**



### Summary for Subcatchment 7S: Driveway

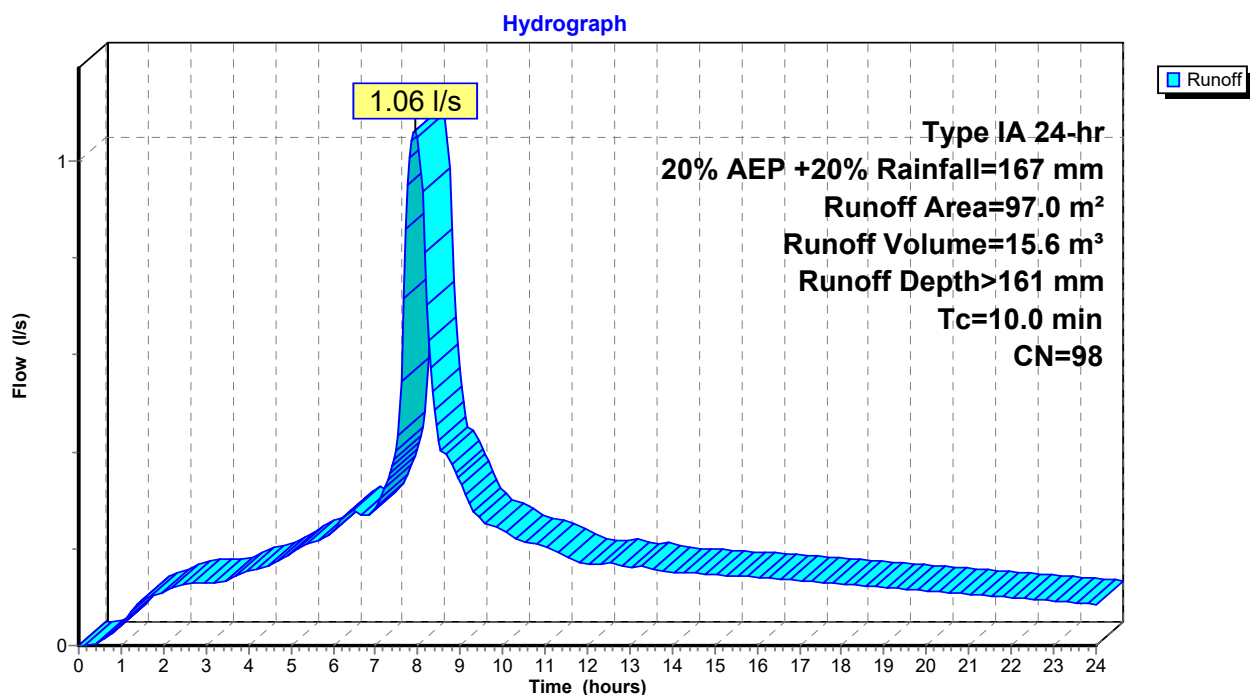
Runoff = 1.06 l/s @ 7.94 hrs, Volume= 15.6 m<sup>3</sup>, Depth> 161 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type IA 24-hr 20% AEP +20% Rainfall=167 mm

| Area (m <sup>2</sup> ) | CN | Description             |
|------------------------|----|-------------------------|
| * 97.0                 | 98 | House roof              |
| 97.0                   |    | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m <sup>3</sup> /s) | Description   |
|----------|-----------------|-------------|------------------|------------------------------|---------------|
| 10.0     |                 |             |                  |                              | Direct Entry, |

### Subcatchment 7S: Driveway



## Summary for Pond 7P: Tank

Inflow Area = 190.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 161 mm for 20% AEP +20% event  
 Inflow = 2.08 l/s @ 7.94 hrs, Volume= 30.5 m<sup>3</sup>  
 Outflow = 0.26 l/s @ 17.36 hrs, Volume= 16.9 m<sup>3</sup>, Atten= 88%, Lag= 565.3 min  
 Primary = 0.26 l/s @ 17.36 hrs, Volume= 16.9 m<sup>3</sup>

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 1.514 m @ 17.36 hrs Surf.Area= 9.6 m<sup>2</sup> Storage= 14.6 m<sup>3</sup>

Plug-Flow detention time= 466.6 min calculated for 16.9 m<sup>3</sup> (56% of inflow)  
 Center-of-Mass det. time= 218.7 min ( 870.4 - 651.7 )

| Volume | Invert  | Avail.Storage       | Storage Description                             |
|--------|---------|---------------------|-------------------------------------------------|
| #1     | 0.000 m | 24.1 m <sup>3</sup> | <b>3.50 mD x 2.50 mH Vertical Cone/Cylinder</b> |

| Device | Routing | Invert  | Outlet Devices                            |
|--------|---------|---------|-------------------------------------------|
| #1     | Primary | 0.000 m | <b>10 mm Vert. Orifice/Grate</b> C= 0.600 |
| #2     | Primary | 1.600 m | <b>30 mm Vert. Orifice/Grate</b> C= 0.600 |

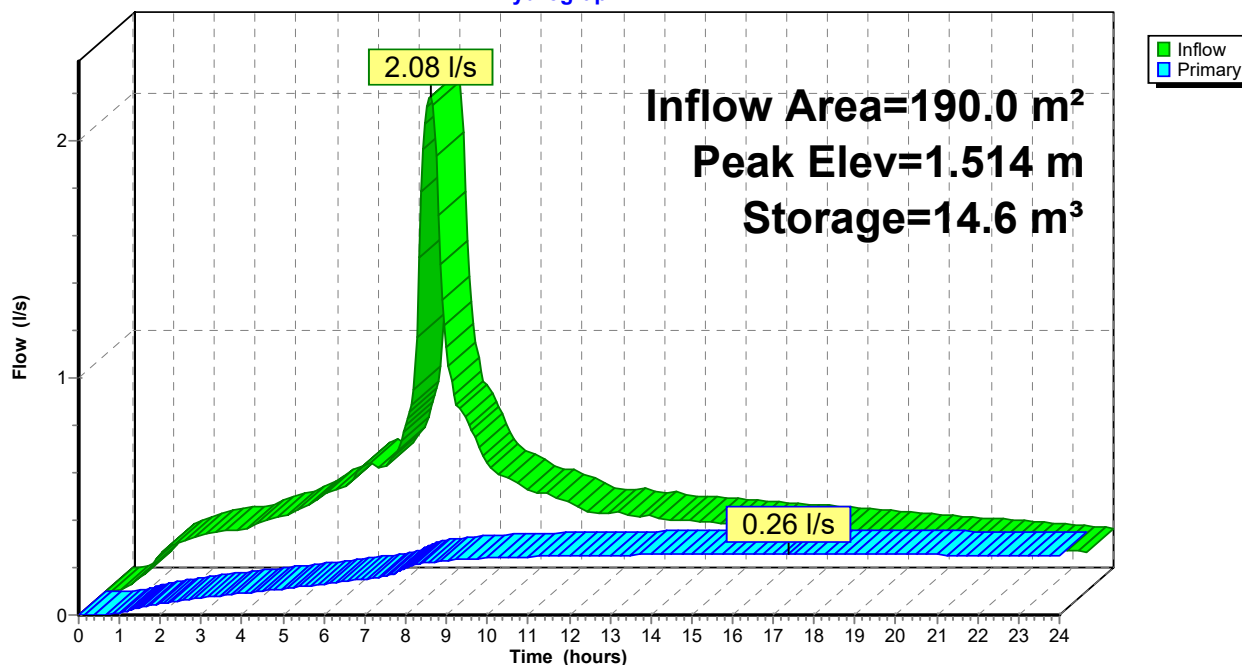
**Primary OutFlow** Max=0.26 l/s @ 17.36 hrs HW=1.514 m (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.26 l/s @ 3.26 m/s)

2=Orifice/Grate ( Controls 0.00 l/s)

## Pond 7P: Tank

Hydrograph



**Summary for Link 6L: Total post dev**

Inflow Area = 287.0 m<sup>2</sup>, 100.00% Impervious, Inflow Depth > 113 mm for 20% AEP +20% event  
Inflow = 1.26 l/s @ 7.95 hrs, Volume= 32.5 m<sup>3</sup>  
Primary = 1.26 l/s @ 7.95 hrs, Volume= 32.5 m<sup>3</sup>, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

**Link 6L: Total post dev**