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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

☐ **Yes** ☑ **No**

4. Consultation

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

If yes, which groups have you consulted with?	
Who else have you consulted with?	owner is their neighbour

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

5. Applicant Details

Name/s: Emily and Leighton Scott

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: E and L Scott

Email: [redacted]

Phone number:

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

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

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

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

Name/s: E and L Scott

Property Address/ Location:
92 Hautapu Road
Moerewa

Postcode 0211

8. Application Site Details

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

Name/s: E and L Scott

Site Address/ Location: 86 Hautapu Road

Postcode 0211

Legal Description: lot 2 DP 600745 **Val Number:** 1169726

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.

Ring Emily Scott 0212368085

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.

Resourse consent for an additional Minor Dwelling to a major dwelling and garage as per approced EBC 2025-394

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** EBC 2025-394/0
- ◯ **Regional Council Consent (ref # if known)** Ref # here (if known)
- ◯ **National Environmental Standard consent** Consent here (if known)
- ◯ **Other (please specify)** Resource consent to subdivide RMA 2240077

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full) E and L Scott

Email: [redacted]

Phone number:

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

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

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

Name: (please write in full)

Signature:
(signature of bill payer)

Date

MANDATORY

15. Important Information:

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

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

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

15. Important information continued...

Declaration

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

Name: **(please write in full)**

Signature:

Date

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.

FAR NORTH DISTRICT COUNCIL

FAR NORTH OPERATIVE DISTRICT PLAN

APPLICATION UNDER SECTION 139 RESOURCE MANAGEMENT ACT 1991 FOR

RESOURCE CONSENT

FOR LAND USE ACTIVITY.

APPLICANT: Emily Louise Scott and Leighton Scott
92 Hautapu Road
Moerewa

Subject Site Details

Zone: RURAL PRODUCTION

Address: 86 Hautapu Road, Moerewa

Legal Description: Lo2 1 DP600745

Certificate of Title: 1169726

Area of Site : 4,8214 Ha

Description of Proposed Activity

To use the land to build in a Minor dwelling along with permitted larger dwelling and 2 car garage.

LAND USE CONSENTS

The responsibility of Northland Regional Council for land use consents is generally restricted to the physical effects of activities (such as earth moving) which can affect water quality and soil. The Far North District Council deals with all other effects of land uses, including effects on adjoining sites. Generally speaking, an activity will require a land use consent unless it is an existing activity, a permitted activity or a designation in this Plan.
The rules which apply to activities for which a land use consent is sought are set out in ***Part 2 -***

Environment Provisions (***Chapters 7-11***), and ***Part 3 - District Wide Provisions*** (***Chapters 12-18***) The rules in ***Part 2*** are different in each zone. It is necessary to look at the particular zone to find the rules which apply to any activity.

CLASSES OF ACTIVITY

A resource consent application for a controlled activity must be assessed and conditions may be imposed in respect of those matters which the Council has specified and over which it has reserved control in the Plan. A controlled activity application cannot be refused unless it is an application for a subdivision to which s406 applies, and the circumstances described in s106 ands406 of the Act exist

INFORMATION REQUIRED

A resource consent application must include adequate supporting information, in the form of written material and plans. The level of detail and scope of the information must be appropriate to the particular application and must be sufficient to enable those who might wish to make a submission on the application to be able to assess its likely effects on the environment.

4.3.1.1 WRITTEN DETAILS

All resource consent applications must be accompanied by an Assessment of Environmental Effects. For controlled and restricted discretionary activities, the assessment of environmental

effects need only address those matters specified in the plan over which the Council has restricted its discretion. Any assessment of environmental effects should be of sufficient detail appropriate to the scale and significance of the actual or potential effects that the activity may have on the environment and must be prepared in accordance with the Fourth Schedule of the Act.

In complying with the above requirement, some or all of the following information at a detail sufficient for the nature and scale of the proposed application may be required to be submitted with any application for resource consent:

(a) **A description of the site including:**

(i) existing uses; Farm land used for grazing

(ii) buildings; There are no existing buildings on this site

(iii) topography; sloping 5-8 degrees towards the south (see Wilton Joubert site investigation report)

(iv) water bodies ; there are no water bodies other than existing overland flow paths as identified in reports

(v) existing; there are no existing trees or vegetation to the area to be built upon. There are conditions of subdivision that protect existing vegetation further down the slope of the parcel.

(vi) presence of threatened or rare indigenous flora and fauna; ground coverage of build site is predominately grass

(vii) a brief description of any significant habitats of indigenous fauna (e.g. bush areas); these areas are protected under consent conditions attached as part of application

(viii) natural hazards, including information on the extent and nature of any fill on-site, and any indication of any previous or potential earth movement; Wilton Joubert Geotechnical Report covers this aspect and buildings have been placed within the designated suggested areas

(ix) soil type, including its suitability for effluent disposal (if proposed); Effluent disposal plan and reports covering effluent and stormwater have been included in submission along with mitigation proposals.

(x) any hazardous substances proposed to be located or used on-site including any past contamination; None identified as it has been grazing lock for many years

(xi) any heritage resources, including known archaeological sites and/or historic buildings and objects; Not indicated on heritage listings but all due care will be undertaken to report any historical finds

(xii) any physical effect on the locality including any outstanding landscape or natural features as noted in *Appendices 1A* and *1B* of this Plan; Currently site is being used for grazing with proposed works affecting storm water which has been addressed within attached reports. This site has been protected by coditions of Resource consent and the proposals do not affect or encroach on those areas.

(xiii) a description of the existing and proposed access provision. Consent has been obtained for culvert crossing. This has been designed and installed within council regulations and sign off as part of the subdivision C223 requirements.

(b) A description of the activity for which consent is sought.
Application is sought for the construction of a major dwelling with 93.5m2 floor are and an additional dwelling with 2.5m2 floor area and garage 43m2. This proposal reflects the Governments desire to allow more development on a large property. Also council has indicated that the council stormwater engineer studies the Wilson Joubert information supplied to ensure that storm water mitigations are designed suitabily for this particular site.

(c) A statement specifying all other resource consents that the applicant may require from any consent authority in respect of the activity to which the application relates, and whether or not the applicant has applied for such consents.
Please find attached correspondence from council requesting a resource consent: Water capacity has been discussed and an extra tank will be installed for the minor dwelling to the satisfaction of the fire department.

Hi Emily and Leighton

Thank you for your email, sorry I have not responded to your email earlier, but I have been on leave.

I have assessed the information provided and advise that the Form 4 remains as Consent Notices 11363549.2 ii. and 12996315.2 e) have not been satisfied as the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509 requires 45,000 Litres per dwelling and although one of the dwellings is a Minor Residential Unit it remains a dwelling.
Attached Fire fighting consent with tanks as shown

The Consent Notice 12311221.2 (ii) refers to impermeable surfaces therefore the roof area is to be considered not the floor area, none the less, Council approval of the report is required therefore this will need RC Engineer approval which can be obtained through the RC process or an Engineering Plan Approval process.
See Stormwater engineering attachment

The Residential Intensity Rule in the Operative District Plan remains applicable therefore a Resource Consent remains to be required.

(d) An assessment of any actual or potential effects that the activity may have on the environment and the ways in which those effects may be avoided, remedied or mitigated. This assessment is required by the Fourth Schedule of the Act. In addition to the other matters listed here, the Fourth Schedule requires an identification of those persons interested in or affected by the proposal, the consultation undertaken, any response to the views of those consulted, a description of the mitigation measures proposed, a description of any discharges proposed and the sensitivity of the receiving environment, a description of alternative locations or methods for undertaking the activity, the monitoring which is proposed, and the assessment of any risks to the environment where hazardous substances or installations are proposed.

Consultation with neighbours has not taken place as the owner of the property next door is the applicant. They project is in keeping with development within the area of the site. Each of the 2 houses will have in excess of 3,000m2 of outdoor space and then a further 40,000m2 of joint land. There is no intention in subdividing this lot in

the future. The effects on surrounding properties is minimal as the new houses are below those existing and face the other way. There are no hazardous substance on the site and none proposed. The site was selected by Wilton Joubert as the best area in which to place the proposed dwellings.

(e) An assessment of the degree to which the activity conforms with the Strategic Drainage Plan and any relevant drainage or stormwater management plan.
Storm water and effluent systems have been carefully designed by registered Engineers and form the basis of this application.

(f) Where appropriate, an indication of how electricity and telecommunications are to be provided or, if electricity or telecommunications are not to be provided at present, an indication of where electricity and telecommunication services could be installed should there be a need in the future.
Electrical and Telecommunications are at the road side with the owners already upgraded the electrical transformer to be capable of servicing the property

(g) A current copy of the Certificate(s) of Title for the subject site(s).
As attached
(h) All other information as required on the resource consent application form.
As attached
(i) Any other information referred to in the relevant rules.
Conditions of resource consent to subdivide ,

(j) Any information required to enable a full assessment of the proposal in terms of the relevant assessment criteria.
All reports attached

(k) An activity which may have significant adverse effects on the environment may need to be accompanied by one or more reports prepared by suitably qualified persons.
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Chapter 4 – STANDARD PROVISIONS

(l) Any engineering report submitted with the application shall include a performance statement (a written declaration by a person responsible for an activity/product/process, setting out the performance requirements, how these are to be met and the measures required to assess their effectiveness).
All reports prepared by registered engineers

4.3.1.2 DRAWINGS
In addition to the above information, any application for resource consent shall include a set of drawings illustrating the proposal. Two copies to scale, of each drawing are required, and one copy reduced to A4 size.
The drawings may include the details set out in paragraphs (a), (b), (c) and (d) below, as applicable:

(a) A drawing showing the location of the site, with road name, legal description and north point.
Attached as per approved BC application EBC 2025-394

(b) A site plan of the property drawn to a recognised metric scale appropriate for displaying, where applicable, the following information:
Attached as per approved BC application EBC 2025-394

(i) Site boundary lengths and other dimensions in metres including proposed and partially completed subdivisions where the Certificate of Title has not been issued.
Attached as per approved BC application EBC 2025-394

(ii) location with distances to site boundaries, of all existing buildings, and all proposed buildings and structures (including where applicable, eaves, balconies, courts and verandas) and all impervious surfaces;
Attached as per approved BC application EBC 2025-394

(iii) proposed use of each building;
Attached as per approved BC application EBC 2025-394

(iv) position of any easement over the site;
As per reports

(v) position, location and dimensions of every parking and loading space (headroom dimensions are also required where parking or loading is within or under a building) and the proposed access and manoeuvring areas including the location and width of footpath crossings necessary to serve such a space;
Attached as per approved BC application EBC 2025-394

(vi) kerb lines adjacent to the site and position of any street trees;
Not applicable

(vii) levels on the site boundaries and around any buildings and, except in cases where the site is less than 1000 m² or has a uniform grade of less than 1 in 10, contours of the site at 1m intervals;
As attached

(viii) proposed retaining walls, excavations and landfill (including depths of any proposed cut or fill);
As attached and included in Engineering report

(ix) proposed landscaping (particularly where this is a requirement of the zone rules). Dimensioned areas of the landscaping should be shown together with all existing and proposed sealed areas, a list of species and planting plan;
Not applicable as area around dwelling to be used for grazing.

(x) where relevant, appropriate shadow diagrams or models showing overshadowing envelopes on adjacent properties;
Not applicable as the size and locations are in excess of 10m from boundaries

(xi) waterbodies (including the coastal marine area) and drainage and sewer pipes within and adjacent to the site;
Not applicable see wastewater engineering report

(xii) the means proposed to deal with all stormwater and sanitary drainage;
As per engineering report attached

(xiii) location and extent of existing uses;
Shown on site plans

(xiv) location of existing vegetation and any proposed changes to vegetation (e.g. clearance, tree planting);
in conditions of subdivision

(xv) location of any indigenous vegetation and habitats of indigenous fauna (e.g. bush areas, wetlands and streams);
In conditions of subdivision

(xvi) extent and nature of natural hazards including any fill on-site, and any previous or potential earth movement;
In attached geotechnical report

(xvii) location of soil types if these differ across the site;
In attached geotechnical report

(xviii) location and extent of any hazardous substances or any past contamination;
Not applicable

(xix) location and extent of any heritage resources (as listed in *Appendices 1D, 1E, 1F* and *1G* in *Part 4)*, including known archaeological sites. If the site contains any notable trees listed in *Appendix 1D*, the extent of the natural dripline shall be shown, together with the trunk diameter and the height of the tree in metres. Any notable tree located on adjacent land, where the dripline extends onto the site, shall also be indicated on the drawing;
none. Existing bush located in restricted area by conditions of resource consent

(**xx) location and extent of any landscape features or natural features as listed in *Appendices 1A* and *1B* in *Part 4*;**
None
(xxi) location of ridgelines;
Location is down slope of Hautapu Road and not anywhere near ridge lines

(**xxii) the location of the existing and future access provisions.**
As shown on site plans

Chapter 4 - STANDARD PROVISIONS

(b) A floor plan of each building (at a scale of not less than 1:100) showing:

(i) use of all parts of the building, including basements, parking, lift towers, storage or service areas;
(ii) room layout of the building, if this is known, and a clear identification of the use of different rooms or parts of a floor.
Where several floors are of the same area and use, a standard floor plan may be shown.
(d) Elevations of each building (at a scale not less than 1:100) showing:
(i) external appearance of the building including doors and windows and materials to be used;
(ii) number of floors and their proposed usage;
(iii) building heights and height in relation to any boundary;
(iv) relative height of new buildings fixed in terms of a datum;
(v) maximum permitted height marked;
(vi) additional height requested;
(vii) original ground levels along boundaries at 1m intervals in relation to the datum used.
(e) Any other information referred to in the relevant rules.
(f) Any information required to enable a full assessment of the proposal in terms of the relevant assessment criteria.

As attached as per approved Building consent EBC 2025-394

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	**1169726**
Land Registration District	**North Auckland**
Date Issued	17 May 2024

Prior References
1015943

Estate	Fee Simple
Area	4.8214 hectares more or less
Legal Description	Lot 2 Deposited Plan 600745
Registered Owners	

Leighton Innes Scott and Emily-Louise Scott

Interests

Appurtenant hereto is a right to convey electricity & water created by Easement Instrument 9291167.4 - 6.3.2013 at 2:40 pm

11139416.3 Mortgage to ASB Bank Limited - 25.6.2018 at 2:16 pm

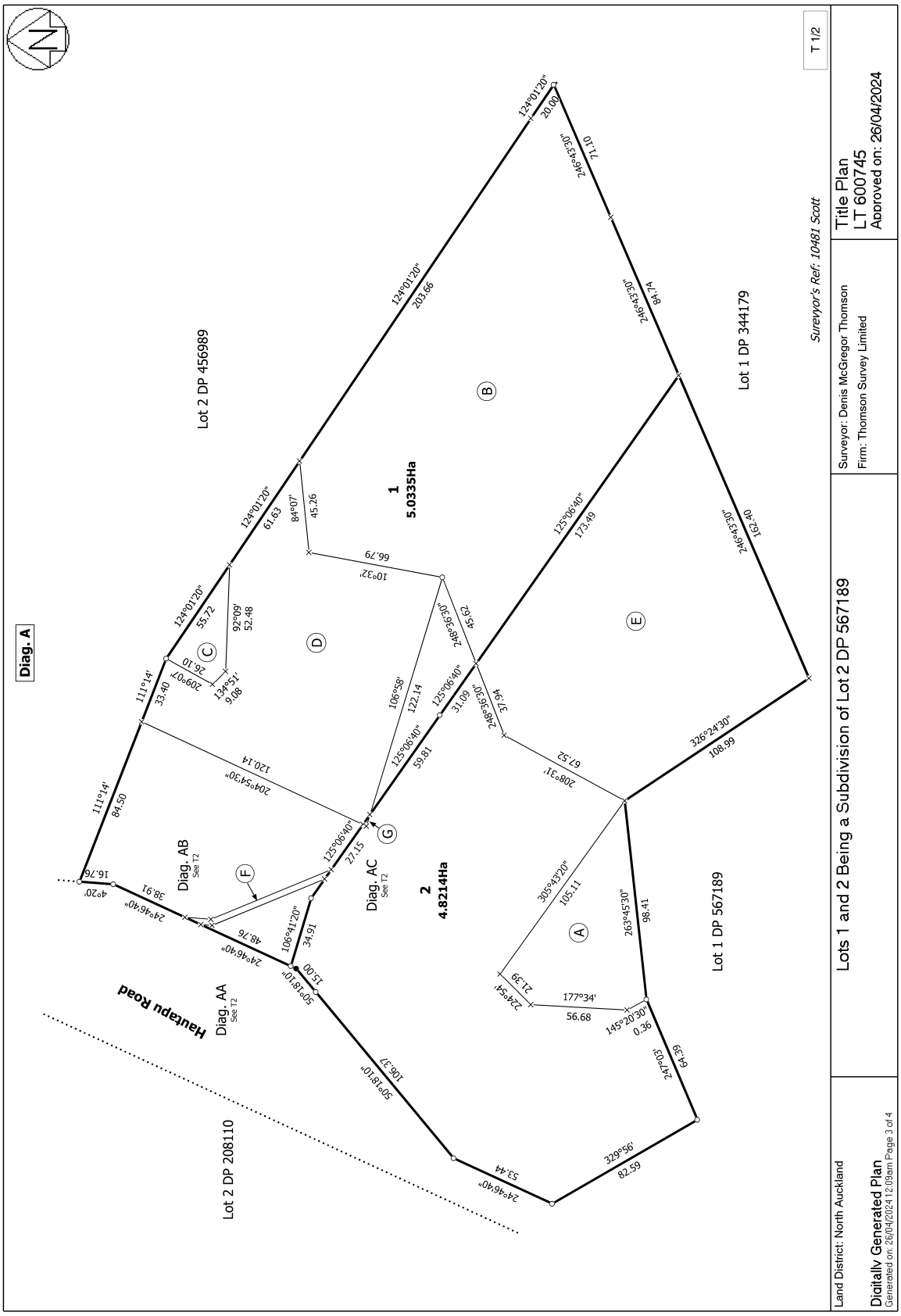
11363549.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.2.2019 at 2:15 pm

12311221.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 13.1.2022 at 9:51 am

12996315.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 17.5.2024 at 4:13 pm

Appurtenant hereto is a right to convey electricity and telecommunications created by Easement Instrument 12996315.3 - 17.5.2024 at 4:13 pm

13064904.1 Variation of Mortgage 11139416.3 - 22.7.2024 at 9:08 am


Lot 2 DP 456989
Lot 1 DP 344179
Lot 1 DP 567189
Lot 2 DP 208110
Hautapu Road
Diag. A
Diag. AA
See T2
Diag. AB
See T2
Diag. AC
See T2
1
5.0335Ha
2
4.8214Ha
A
B
C
D
E
F
G
124°01'20"
203.66
20.00
71.10
246°43'30"
84.74
162.40
125°06'40"
173.49
61.63
84°07'
45.26
66.79
10°32'
45.62
248°36'30"
37.94
31.09
59.81
122.14
106°58'
55.72
92°60'
52.48
26.10
209°07'
134°51'
9.08
33.40
111°14'
84.50
120.14
204°54'30"
27.15
106°41'20"
34.91
48.76
24°46'40"
38.91
16.76
40°20'
15.00
50°18'10"
106.37
53.44
82.59
329°
64.39
247°03'
145°20'30"
0.36
177°34'
56.68
21.39
224°54'
105.11
305°43'20"
98.41
263°45'30"
67.52
208°31'
108.99
326°24'30"
Surveyor's Ref: 10481 Scott
T 1/2
Lots 1 and 2 Being a Subdivision of Lot 2 DP 567189
Land District: North Auckland
Digitally Generated Plan
Generated on: 26/04/2024 12:09am Page 3 of 4
Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited
Title Plan
LT 600745
Approved on: 26/04/2024

Property Solutions Building Surveys Ltd

Accredited Building Surveyor

Residential & Commercial Building Inspections

0212 611 375
info@propertysolutionsinspections.co.nz
www.propertysolutionsinspections.co.nz

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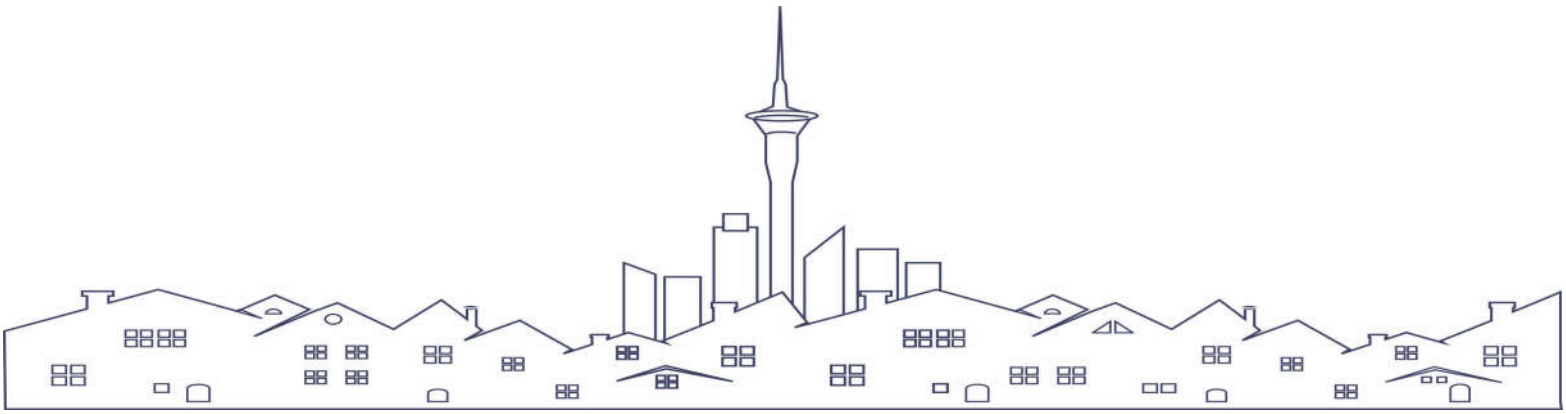


Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

To Whom It May Concern:

Please find enclosed your Independent Building Report.

We trust the information will be of assistance to you, if we can be of any further assistance please do not hesitate to contact our office.

Kind regards,

The Inspections Team
Property Solutions Building Surveys Ltd
www.propertysolutionsinspections.co.nz

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

INDEPENDENT BUILDING INSPECTION
SECOND HAND RELOCATION REPORT
34 Lavery Place Sunnynook

This report has been conducted and prepared exclusively for Leighton & Emily Scott

Date of inspection: 04/09/2024

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Following our recent inspection of the above-mentioned property we submit our report and findings and confirm the following.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Dear Leighton & Emily,

Property Solutions Building Surveys Ltd (PSBS Ltd) services has been engaged to carry out an Independent Second Hand Building Inspection of the building located at 34 Lavery Place Sunnynook

Please take note of the following Terms and Conditions, and that acceptance of this report constitutes an acceptance of the following conditions.

Any Independent Building Inspection/Structural Report **("Report")** prepared by PSBS Ltd ("we", "us" or "our") shall be deemed to include these Terms and Conditions. PSBS Ltd will not issue any reports except on their terms and conditions.

Scope of this Report

This Report

a. This report has been prepared on the basis of a visual inspection of the building work using normal readily available access and without testing of components for the assessment of the overall structural condition of the building work and associated items, and without recourse to the construction drawings. It is confirmed that no detailed geotechnical investigation has been included in the brief. An investigation of the condition and location of underground drainage and services and of electrical, gas and plumbing (except as otherwise described in this report) is not included in the brief. No warranty can be given to any other defects not apparent to visual inspection at the time i.e. inside linings or cavities. Please note that we do not remove or uplift any fixtures, i.e. panels or carpets and we are unable to assess any hidden membranes or waterproofing below finished ground level.

   Although Property Solutions Inspections reports reference plumbing, drainage, and electrical components, it is advised that we are not Registered Drain layers or Qualified Electricians. No warranty or guarantee is expressed or issued for these components.

   The conclusions and recommendations given do not necessarily meant that the items of building work will meet the requirements of the current Building Code. The reliance by other parties on the information or opinions contained in this report shall, without our prior review and agreement in writing, be at such party's sole risk.

b. This is a preliminary non-invasive investigation for visible Defects, if any visible Defect is detected, this may be followed up at the **election of the customer** with further invasive or non-invasive investigations carried out by certified contractors. A non-invasive moisture reading is not a conclusive indication that moisture is present, in some cases hidden metals or chemical preservatives may affect a non-invasive capacitance moisture meter. The non-invasive moisture meter will only read moisture content up to 24mm to the wall, therefore some moisture in the wall could be missed if not within the vicinity of 24mm of the interior walls. Weather conditions could also affect the outcome of readings taken.

c. The inspection is restricted to areas that have available access and will not include the removal of wall linings, building paper or insulation or any other covering or lining material. It cannot include **CONCEALED** plumbing, piping, drainage, and electrical items. Flint coat waterproofing or underground sealants commonly used in basement developments and associated drainage below ground cannot be accurately assessed.

d. If ready access was not possible into the ceiling cavity or subfloor areas, this will be identified and excluded from the report.

e. This report does not provide any guarantee whatsoever that items surveyed i.e. structures, services, fittings fixed or otherwise will not fail at some later date and information herein pertains strictly to observations on the day of inspection and accessibility.

f. This report does not purport to certify the soil stability or conditions of underground services including underground protective coatings, which are not able to be included. It assumes compliance in all aspects with Territorial Authority Ordinances / The Building Act 1991 and does not certify that all building improvements lie within the title boundaries. Furthermore, this report assumes that a Territorial Authority Land Information Memorandum (LIM) / Project Information Memorandum (PIM) would not reveal any non-complying features and/or requisitions.

g. The positioning of the building or improvements in relation to the site boundaries are excluded.

h. Electrical and plumbing to pools and spas are not included in this report and we suggest independent professional advice be sought.

i. We are unable to carry out any probe or destructive testing, nor move any furnishings or appliances in a visual inspection.

j. The inspection and report are not intended to be technically exhaustive, or to imply that every component was inspected, or that every possible defect was discovered. No disassembly of equipment, opening of walls, moving of furniture, appliances or stored items, or excavation will be performed. All components and conditions, which by nature of their location are concealed, camouflaged, or difficult to inspect, are excluded from this report.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

k. Systems and conditions which are not within the scope of the building inspection include, but are not limited to: formaldehyde, lead paint, asbestos, toxic or flammable materials, and other environmental hazards pest infestation, playground equipment efficiency measurements of insulation or heating and cooling equipment, internal or underground drainage or plumbing, any systems which are shut down or otherwise secured; water wells (water quality and quantity), zoning ordinances; intercom; security systems; heat sensors; cosmetics or building code conformity. Any general comments about these systems and conditions are informational only and do not represent an inspection.

Limits of this Report

This Report

a. Is only for the benefit of the customer who instructed Property Solutions Inspections to prepare the Report and may not be relied upon by any other party.

b. Is not designed or intended to identify potential problems or issues within the Area other than the Defects and, without limitation, will not:

   i. Identify the presence or absences of dry/wet rot or any hazardous substance including, without limitation, mould toxins, carcinogens, noise or other contaminants;
   ii. Identity the presence or absences of any pests including, without limitation, wood damaging organisms, rodents or insects;
   iii. Determine the effectiveness of any equipment, utility, component or system installed to control leaks, moisture, heat loss, dry rot or hazardous substances;
   iv. Determine the life expectancy or future condition of any equipment, utility component or system; and
   v. Determine compliance or non-compliance with any statutory or regulatory requirement, code, bylaw, ordinance or other restriction; and

c. Does not contain any advice, and cannot be relied on for any advice, relating to;

   i. Any methods, materials or cost of the repair of any Defect;
   ii. The suitability of the building for any specialised use;
   iii. The market value or marketability of the building; and
   iv. The advisability or inadvisability of the sale or purchase of the building.

Limits to our Obligations

In conducting our inspection, the customer acknowledges and agrees that we will not be required to:

a. Disturb or move any insulation, panels, furniture, personal items, equipment, vegetation or other items or materials that obstruct access or visibility to the thermal inspection; and

b. Operate any equipment, utility, component, or system that is shut down, inoperable or that does not respond to normal operating controls.

Exclusion of Implied Conditions and Warranties and Limitation of Liability

1. Where the customer is engaging our services for business purposes, the Consumer Guarantees Act 1993 (the "Act") will not apply.
2. If the customer is a consumer under the Act, to the extent that the customer's rights under the Act have not been excluded in clause 4 above, nothing in these terms and conditions will affect the rights of the customer under the Act.
3. Subject to clause 5:
   a. The customer relies upon their own knowledge, skill or judgement in relation to the particular use or suitability of this Report for the customer's purpose: and
   b. All warranties, descriptions, representations, or conditions; whether implied by the Sale of Goods Act 1908 or otherwise are expressly excluded to the fullest extent permitted by law.
4. Save as expressly provided otherwise in this Report or these Terms and Conditions, we shall not be liable, and none of our employees or contractors shall be liable to any customer, the customer's agents or employees or any other person for any direct, indirect, incidental or consequential damage or loss of any nature how so ever caused, (whether based on tort (including negligence), contract or otherwise), including but not limited to loss of profits, loss of sales opportunity, damage to equipment or property (including any

cost or loss relating to any invasive inspection) or any other claim whatsoever arising directly or indirectly or in any way attributable to the performance or non-performance of our services or other obligations.

5. If, for any reason we are found to be liable to the customer or any other person in connection with this Report and/or the performance or non-performance of our services and we are unable to rely on the exclusions of liability set out in these Terms and Conditions, our liability shall in all cases be limited to the price paid or payable by the customer for such Report or services.

Moisture Meters and Weather tightness

This report cannot give any waterproofing guarantee, as it is not readily possible nor required to create simulated conditions to induce moisture ingress. However, signs of moisture ingress are looked for and spot checking is carried out predominantly around windows, doors and identified risk areas with a moisture meter.

The moisture meter used during this inspection is a TROTEC T660, which is calibrated in accordance with the manufacturer's specifications. This device is used in its non-invasive mode and while this mode is deemed non-conclusive, it can be a good indicator of the presence of moisture. However, the condition and treatment type of any internal timbers is not known.

The manufacturer stipulates that the moisture meters in their non-invasive mode should not be used to provide percentage readings. In fact, the only time percentages can be provided with any certainty is when invasive probe testing is undertaken.

Definition of terms used for indications of moisture readings: These are guidelines only, determined by the manufacturer of the TROTEC T660.
"Normal" generally indicates digital moisture readings up to approximately 40
"Slightly high" generally indicates digital moisture readings between 40 - 60
"Higher" generally indicates digital moisture readings between 60 – 80
"Very high" generally indicates digital moisture readings of 80 and above

Accurate moisture readings can only be obtained by intrusive means, which is not carried out during this inspection. However, where slightly high or greater moisture readings are indicated during the inspection, further investigation would be required to determine the source of the reading.
Where moisture readings exceed 60, the risk of timber decay is high.

Moisture meters are a useful tool to assist our Surveyors in their assessment of a property, in relation to the possibility of moisture issues or ingress. It is for this reason all Property Solutions Building Surveys Ltd Surveyors are well trained in the correct use of the moisture meter and have a good understanding of its scope and limitations.”.

It is important to be aware that the lack of moisture indicators does not confirm that a property does not have moisture issues. Because water accumulates and travels immediately behind the external cladding, the external cladding is ideally what should be tested. However, this is not practical, nor possible with some claddings and weather conditions, therefore the meters are predominantly used from the interior of the home.

A visual inspection and non-invasive testing may provide no initial evidence of leaking; knowledge of known weathertight risk details and/or signs to look for become more critical. Further investigation will be recommended when there is sufficient evidence and concern that there may be signs of severe moisture penetration, and it would require permission from vendor/property owner(s) before further action is taken.

Property Solutions Building Surveys Ltd

Contents

Introduction

The subject structure comprises a single level timber framed dwelling with fibre cement weatherboard cladding, concrete tile roof and timber particle board floor.

Councils will require a building assessment to identify any defects or issues that may be pertinent to the structure's weathertightness and its desirability for its proposed new site.

The purpose of this report is to identify any ageing or defective items that would not be acceptable on the proposed relocation site or neighbourhood / community. The primary focus will be upon visible defects or items that may require remedial work following relocation in order to comply or receive approval from the tertiary authorities control area. Ideally Councils would require the building to meet certain criteria and standards and any defective items, particularly those relating to weathertightness, or the aesthetics of the building may require upgrading following relocation.

LBP is the acronym for 'Licensed Building Practitioner'. Refer to www.building.govt.nz for more information on LBPs.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Building Details

Type of building	Dwelling
Approximate age of building:	1970's
Brief Description:	Single storey timber framed dwelling with fibre cement weatherboard cladding, concrete tile roof and timber particle board floor.
Proposed site address:	86 Hautapu Road, Moerewa
Site address where the building is currently located:	34 Lavery Place Sunnynook
Proposed Use of Building	Dwelling
Previous Use of the Building	Dwelling
Is the building being split for transportation?	No
Will the split affect wall cladding?	N/A
Will the split affect roof claddings?	N/A
Inspection Dates & Weather:	04/09/2024 Overcast.
Inspection by:	Dalton Dean – Property Solutions Building Surveys Ltd.
Other persons present:	Tenant
Building Consent Status	Building Consent documentation/status unknown

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

BRIEF OVERVIEW

1	**TYPE OF BUILDING -**	Dwelling
2	**PRESENT LOCATION -**	34 Lavery Place Sunnynook
3	**PROPOSED USE -**	Dwelling
4	**CHANGE OF USE -**	No

DESCRIPTION

A. EXTERIOR CONSTRUCTION

- FOUNDATION -	Timber
- CLADDING -	Fibre cement weatherboard
- JOINERY -	Aluminium and glass. Flashing Materials, Galvanised steel
- SPOUTING -	PVC
- ROOFING -	Concrete tiles.
- ROOF TYPE -	Hip and valley design

B. INTERIOR CONSTRUCTION

- FRAMING -	Timber framed
- LINING -	Plasterboard.
- CEILINGS -	Plasterboard
- ROOF SUPPORT -	Timber truss design

C. EXTERIOR APPEARANCE

- ROOF -	Remove lichen
- WALLS -	In satisfactory condition
- JOINERY -	In satisfactory condition

D. INTERIOR APPEARANCE

- WALLS -	In satisfactory condition
- CEILINGS -	In satisfactory condition
- DOORS -	In satisfactory condition

E. PLUMBING & DRAINAGE

- ALL WET AREAS	STANDARD UNDER-BENCH PLUMBING WITH NO LEAKS
- WATER CYLINDER	Rinnai Gas infinity

WILL THE STRUCTURE REQUIRE CUTTING TO ENABLE TRANSPORTATION – NO

MOVING CONTRACTOR - Forde Brothers House Removals

Consenting Process

A building consent is required to relocate a building from one site to another. Before applying for a building consent, the applicant will need to engage a third party to inspect the building(s). The third party will need to provide a written report confirming whether the building(s) are suitable for relocation. Where building consent applications are received for house lifts or house relocations, the following information must be supplied.

The report should include information about:

- the structural integrity of the building
- the condition of the building
- how the building will be relocated i.e. will the building be cut to enable it to be transported
- whether any remedial works are required upon relocation i.e. re-instating any cuts made for transportation, repairs to rotten or damaged framing timber, painting, decoration, reroofing, re-cladding, plumbing fixtures, etc.
- whether fumigation is required.

The report must be accompanied by:

- floor plan showing the existing layout of the building; and
- photographs of each elevation of the building.

All applications for building consent must be submitted using the appropriate application form and lodgment checklist.

An application for relocation of a second-hand building must be accompanied by:-

- the report, identified above
- plans drawn to scale, including:-
  - site plan (must include location and type of any trees and other buildings on site)
  - floor plan
  - elevations
  - foundation layout and subfloor framing plan
  - subfloor bracing calculations, (note subfloor must be upgraded to comply with the New Zealand Building Code)
  - details of any new work being undertaken (plumbing, drainage, means of access into the buildings, etc.)
- a schedule outlining all works being undertaken as part of the relocation

- where houses have been cut into sections and require re-joining, building consent documentation must detail all structural elements to be re-joined, which includes, but is not limited to bearers, joists, lintels, wall and roof framing
- structural engineer's calculations and fixing details may be required for re-joining structural elements.

In addition to the above, for house lifting, the following additional information is required:

- a schedule outlining the lifting methodology
- plans and specifications detailing method of temporary support (sty's, bearers, etc.) of the building, bracing of temporary support/s, location of temporary bearer lines to accommodate joist spans
- where the height of sty's exceed three times the minimum width or 3m in height, a producer statement from a structural engineer is required for the temporary support, including bracing and bearing capacity of ground for supports
- buildings on temporary supports shall not be occupied during building operations unless specifically consented to (all utilities must be fully operational i.e. foul water disposal, storm water disposal, potable water supply, electricity, etc.)
- buildings must not be supported on steel drums.

New foundations:

- Where cast in-situ piles or piles embedded in concrete are used, they shall not be fully loaded with the dead weight of the building until the concrete is 24 hours old
- the concrete shall not have a slump exceeding 60mm at the time of placing and the ambient temperature shall not fall below 10 degrees Celsius throughout the 24 hours
- where such conditions are not met, the waiting period shall be extended to 48 hours.

Alterations

Where a relocated building is to be altered, enlarged or modified from its original configuration, the requirements of section 112 of the Building Act 2004 must be assessed.

Change of Use

Where the use of the building changes from its original use, (i.e. hall to offices, dwelling to childcare, etc.) the requirements of section 115 of the Building Act 2004 must be assessed.

Site Inspections

Where buildings are to be removed from site, the sewage system shall be sealed off between 300 - 1000mm from the network utility connection and/ or property boundary.

Other Considerations

Many older buildings purchased for relocation do not contain insulation. The New Zealand Building Code requires all new habitable buildings to be insulated to a minimum thermal resistance; this requirement does not apply to existing relocated buildings. However, during relocation or recladding, an opportunity exists to install or upgrade insulation while there is easy access, which has long-term benefits for the occupiers.

References

New Zealand Building Act 2004
New Zealand Building Code
· B1 Structure
· G13 Foul water
· E1 Surface water
NZS3604:2011 Timber framed buildings section 6.4.5.7
Labour Department Code of Practice
AC1810 Moving or relocating a building (guidance information)

PROPERTY SOLUTIONS Inspections

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Report Summary

Client Name:	Leighton & Emily Scott
Client Address:	
Client Phone Number:	0212368085
Date of inspection:	September 4, 2024
Inspection address:	34 Lavery Place Sunnynook.
Scope of inspection:	The scope of the inspection is as set out in our Terms and Conditions and is limited to a visual Second Hand Relocation Building inspection and report that accompanies Building Consent Application documents for the dwelling in this report
Report number:	2057

This summary is not intended to replace the entire inspection report. There could be other items noted in this report that may be considered significant. Please read the entire report carefully.

Overall condition

Overall, the dwelling is in average condition for its age. Providing the issues we have listed throughout the report are rectified, then the dwelling is considered to be in Safe and Sanitary condition and will be suitable for relocation.

We have listed below the matters we believe to be significant defects, urgent maintenance or require further investigation. Most of these will be identified in **Red type** in the main body of the report in the area where it occurs.

Items that are identified in **Green type** in the report, require considered attention, however do not appear to be significant. The majority are the result of normal wear and tear and can be addressed as redecoration or annual maintenance is undertaken.

Attention required

Each of these items will likely require further evaluation and repair by suitably qualified tradespeople or specialists. Obtain competitive estimates for these items.

Services

Meter Board:

The board can be reinstated by a Registered Electrician upon re-siting.

Systems

Plumbing

The visible plumbing appears to be in working order. All plumbing should be tested by a licensed plumber when connected to the new approved plumbing and drainage system upon re-siting.

Hot Water System

It can be assessed by a Licensed Plumber upon connection to the new approved plumbing and drainage system.

Plumbing System

Plumbing/Drainage:

Some underfloor plumbing may be required to be replaced upon re-siting.

Dalton Dean **(AMBOINZ)**
Accredited Building Surveyor, Level 1&2,
Building Officials Institute of New Zealand (BOINZ)
Property Solutions Building Surveys Ltd

Client information

Client and Site Information:

File number:

2057.

Record Number:

2057.

Date of Inspection:

September 4, 2024.

Time of Inspection:

1:00 PM.

Scope of the Inspection:

The scope of the inspection is as set out in our Terms and Conditions and is limited to a visual Second Hand Relocation Building inspection and report that accompanies Building Consent Application documents for the dwelling in this report.

Client Name:

Leighton & Emily Scott.

Client's mailing address:

Client's contact Numbers:

0212368085.

Client e-mail address:

thescottsandpaws@hotmail.com.

Address of Property Inspected:

34 Lavery Place Sunnynook.

Weather Conditions:

Weather:

Overcast.

Soil Conditions:

Wet.

Building Characteristics:

Orientation of Living Space:

Refer to new site plan for 86 Hautapu Road, Moerewa.

Site Exposure:

Very High Wind Exposure. (BRANZ Maps), at Relocation address 86 Hautapu Road, Moerewa.

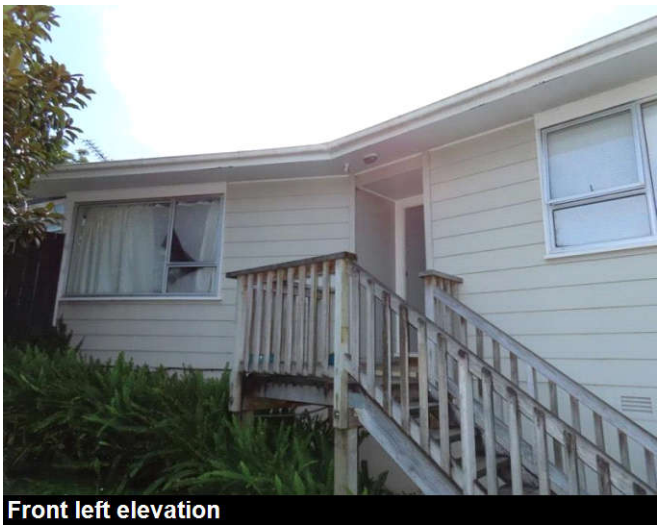
Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Estimated Age of Building:

1970's.

Building Type: Will be referred to as house or home through report.

Elevations.



Front left elevation

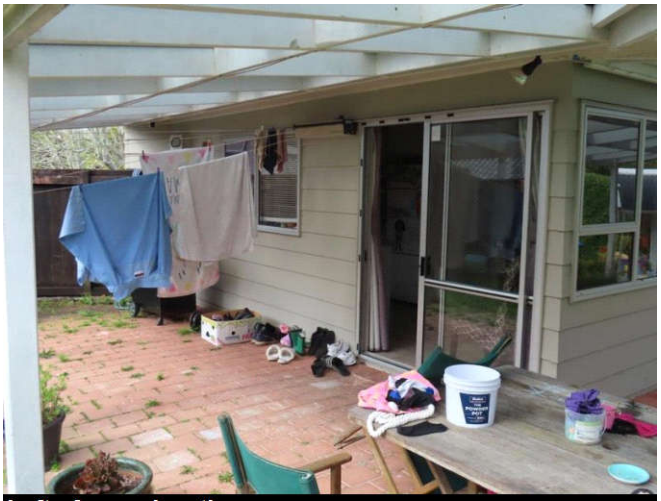
Front right elevation

Right elevation

Right of rear elevation

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**


Centre of rear elevation


Left of rear elevation


Left elevation

Levels:

1

Services:

Meter Board:

Back of home. The board can be reinstated by a Registered Electrician upon re-siting.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Other Information:

House Occupied?

This property was furnished at the time of inspection, which can obstruct the view of some areas. We strongly recommend that when the property is vacant, a final inspection is carried out prior to settlement, and areas hidden by furnishings, stored items and appliances be checked for any defects or moisture ingress.

Client Present?

No.

Other People Present:

Tenant.

Inspector Information:

Dalton Dean (AMBOINZ)
Accredited Building Surveyor, Level 1&2, BOINZ
dalton@propertysolutionsinspections.co.nz.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Kitchen

It is beyond the scope of this report to operate, and comment on the performance of the appliances, however we recommend you test the appliances yourself to ensure they are operational. We also recommend the appliances are regularly serviced to ensure they are in safe, operational order.

Room Location:

Back. Left.

Ceilings:

Plasterboard.

Walls:

Plasterboard.

Floors:

Ceramic Tiles.

Windows:

Aluminium. Reveals, material type. Timber.

Glass Type:

Standard.

Cabinetry:

Melamine.

Bench Top:

Formica.

Sink:

Stainless steel.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Stove:

Electric, not tested.

Hobbs:

Gas, not tested.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Rangehood:

The rangehood vents to the exterior.

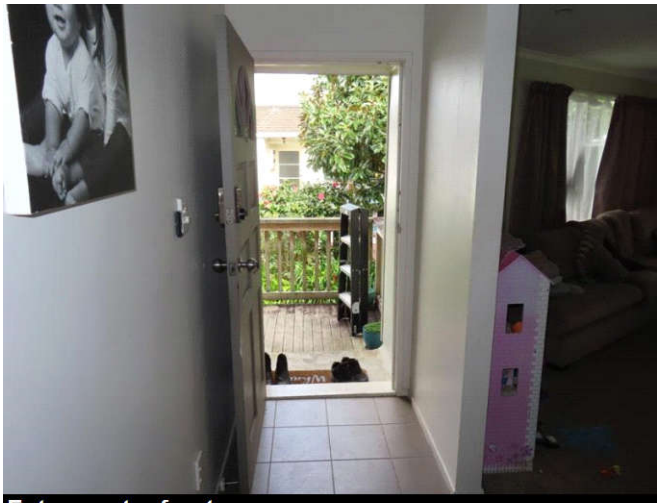
Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Interior Rooms

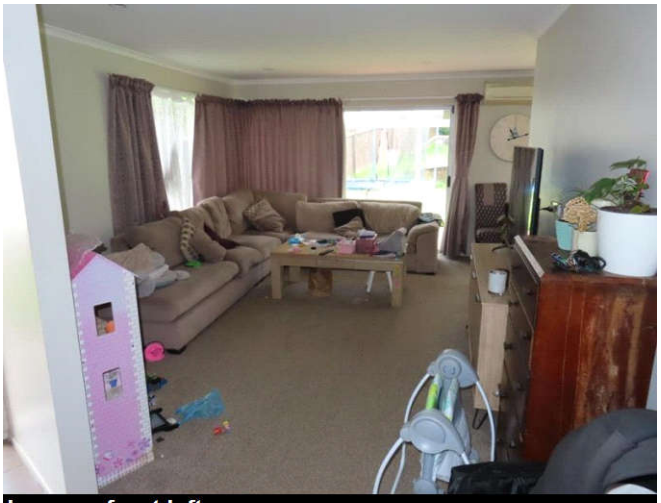
The condition of walls behind wall coverings, panelling and furnishings cannot be judged. Only the general condition of visible portions of floors is included in this inspection. As a general rule, cosmetic deficiencies are considered normal wear and tear and are not reported. Determining the source of odours or like conditions is not a part of this inspection. Floor covering damage or stains may be hidden by furniture. The condition of floors underlying floor coverings is not inspected

Front entry, Lounge, Dining area, Hallway and 4 Bedrooms.

Room Location:

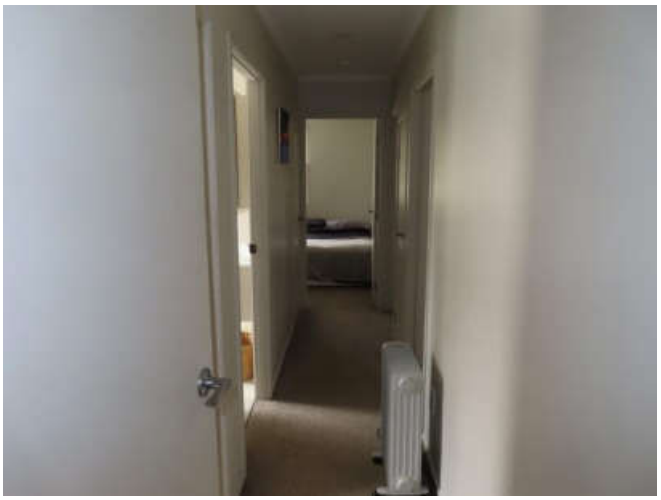


Entry. centre front

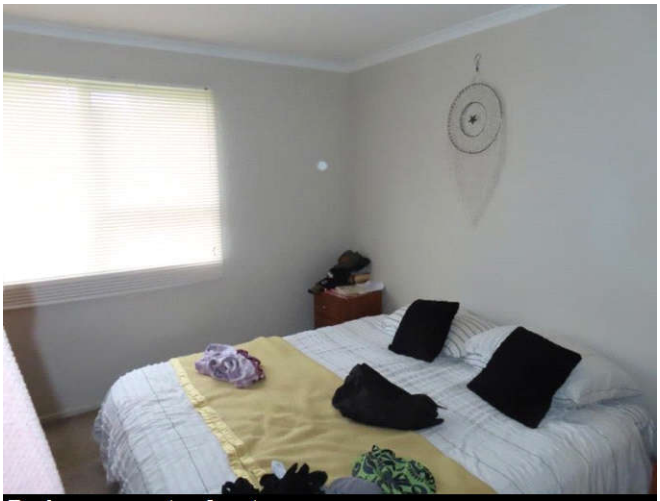


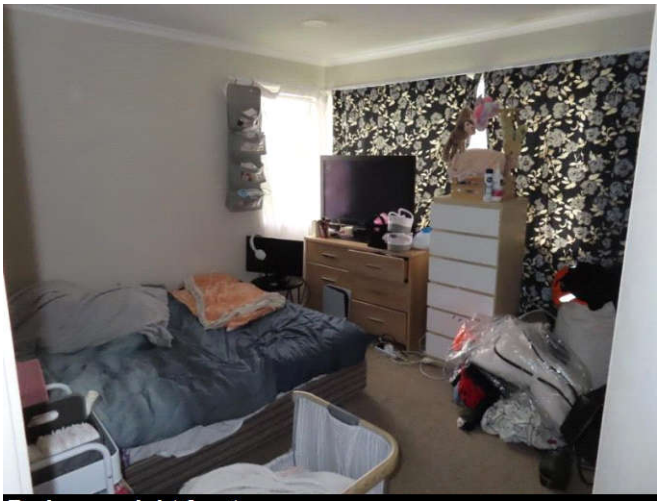
Lounge, front left

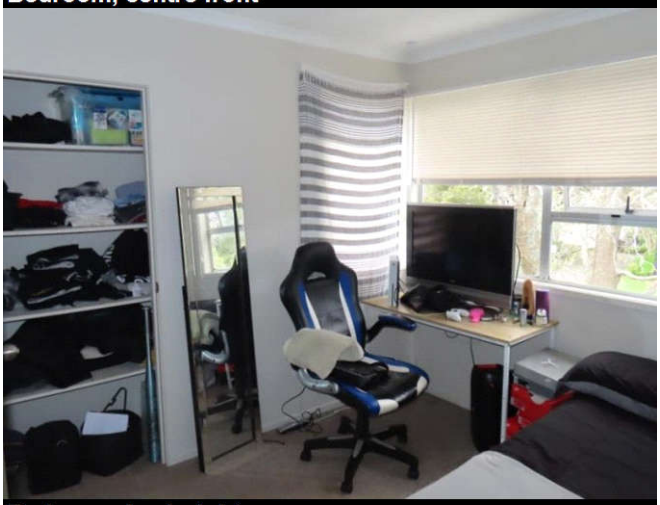
Dining area, back left

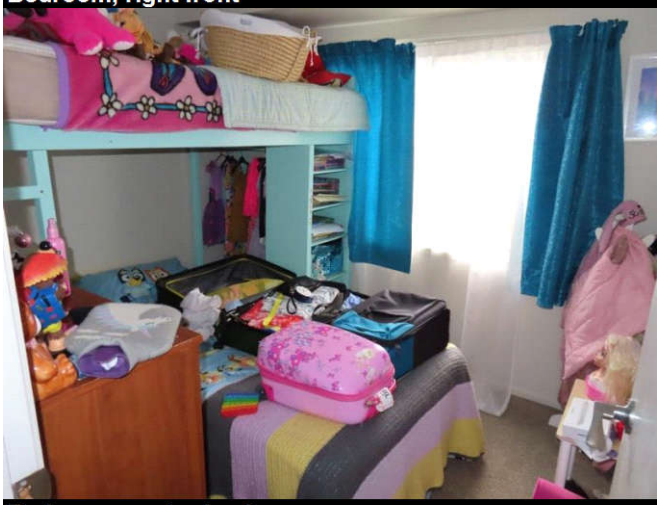


Inspection: 2057 **Address: 34 Lavery Place Sunnynook**


Bedroom, centre front


Bedroom, right front


Bedroom, back right


Bedroom, centre back

Ceilings:

Plasterboard.

Walls:

Hardboard.

Floors:

Carpet. Ceramic Tiles.

Windows:

Aluminium. Reveals, material type. Timber. The rubber window seals have shrunk and will need to be pushed back in place, or replaced with new seals.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Glass Type:

Standard.

Doors (Internal):

Hollow core. Frames, material type. Timber.

Doors (External):

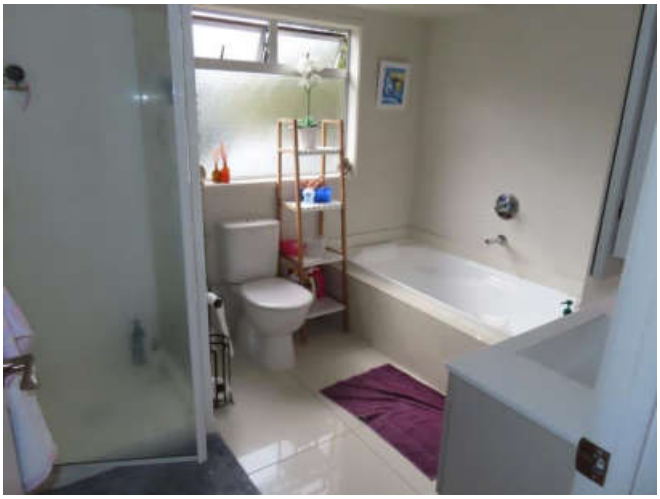
Timber and glass. Aluminium and glass. Reveals, material type. Timber.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Bathroom

Room Location:

Centre. Right. Back.



Ceilings:

Plasterboard.

Walls:

Plasterboard.

Floors:

Ceramic Tiles.

Windows:

Aluminium. Reveals, material type.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Glass Type:

Standard.

Doors (Internal):

Hollow core. Frames, material type. Timber.

Vanity:

Melamine.

Basin:

Vanity mounted. Resin.

Bath:

Plastic.

Toilet:

Toilet type. Floor mounted. "S" bend, Capacity. Not determined. Dual flush.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Shower Taps/Mixer and Rose:

Not tested.

Shower Linings:

Plastic.

Shower Tray:

Fibreglass.

Shower Screen/Doors:

Safety Glass.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Laundry

Room Location:

Centre. Back. Left.

Ceilings:

Plasterboard.

Walls:

Plasterboard.

Floors:

Ceramic Tiles.

Cabinetry:

Metal.

Tub:

Stainless steel.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Washing machine stand pipe:

Yes - not tested.

Roof Cavity

There is generally limited space in roof cavities, particularly to the lower or outer portions of the home. This does restrict access and in most instances prevents an inspection of the outer or lower areas, including any roof to wall framing connections.

Location of Manhole Access:

Bedroom wardrobe.

Manhole Accessibility:

Stored items prevented the man hole from being accessed.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

House Exterior

The exterior cladding of the property can only be inspected where visible and in the Inspector's clear line of sight. Some limitations may occur due to the height of the property in some areas and any vegetation growing up or near the cladding.

Exterior Components

Construction type:

Timber framed.

Cladding Type:

Fibre cement weatherboard.




Cladding Flashings;

Flashing Materials, Galvanised steel corner soakers and jointers.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Joinery (Windows and Doors):

Aluminium and glass. Flashing Materials, Galvanised steel.




Fascias and Barge Boards:

Timber.

Soffit / Eaves:

Fibre cement.

Downpipes and Spouting:

PVC.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Roof Exterior

Exterior of Roof

Roof Mounted:

The roof was not mounted and the inspection was limited to what could be viewed from a ladder at the perimeter.

Roofing Material:

Concrete tiles.




Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Vents:

To be replaced upon re-siting.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Foundations

Accessibility:

We were unable to access the foundations due to stored items. Photos were taken from the opening.

Foundation Type:

Timber.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Visible Flooring Material:

A detailed inspection of the flooring was not possible due to the insulation.

Insulation:

Type: Polyester. Thickness: The insulation is approximately 75 Coverage: 100%, more or less. mm in thickness.

Framing and Bracing:

Appears to be sufficient for time of construction.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Systems

The testing and commenting on the product, installation, or performance of any System within this dwelling is outside the scope of this inspection. Any inspection or comments made about any systems relates only to the visible components and is the opinion of the Inspector, who is not a qualified Plumber, Electrician, or serviceman. To fully comment on the operation, installation, and performance of any of the systems would require a specialist report from a qualified service personnel. Any system should be serviced as per the manufacturers specification, and we recommend you obtain all service records and specification from the homes' owner, if they are available.

Electrical

Summary:

This report should not be seen as an Electrical inspection or Certification that the electrics of the home comply with any standards or regulations.

Plumbing

Summary:

The visible plumbing appears to be in working order. All plumbing should be tested by a licensed plumber when connected to the new approved plumbing and drainage system upon re-siting.

Hot Water System

Location:

Exterior.

Make and Type:

Rinnai. Gas.

Capacity:

Infinite.

Plumbing:

Copper.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Summary:

It can be assessed by a Licensed Plumber upon connection to the new approved plumbing and drainage system.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Plumbing System

Plumbing and Wastes:

KITCHEN. Braided wire. Plastic. PVC wastes. No signs of any current leaks at the time of the inspection.

TOILET. Braided wire. No signs of any current leaks at the time of the inspection.

LAUNDRY. Braided wire. Plastic. PVC wastes. No signs of any current leaks at the time of the inspection.

Basin Plumbing and Wastes:

Braided wire. PVC wastes. No signs of any current leaks at the time of the inspection.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Plumbing/Drainage:

Some underfloor plumbing may be required to be replaced upon re-siting.

Electrical System

Visible Electrical Wiring Type:

TPS cable.

Inspection: 2057 **Address: 34 Lavery Place Sunnynook**

Pest and Insect Infestation

Pest and insect infestation:

There were no signs of any pest or insect infestation found.

Property Solutions Building Surveys Ltd

Accredited Building Surveyor

Residential & Commercial Building Inspections

0212 611 375
info@propertysolutionsinspections.co.nz
www.propertysolutionsinspections.co.nz

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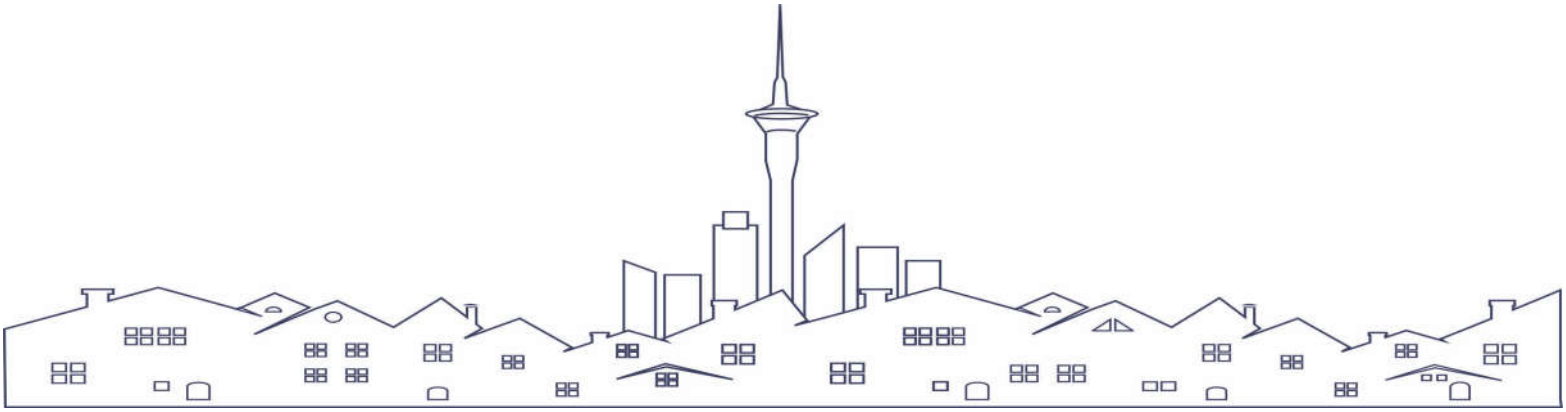


Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

To Whom It May Concern:

Please find enclosed your Independent Building Report.

We trust the information will be of assistance to you, if we can be of any further assistance please do not hesitate to contact our office.

Kind regards,

The Inspections Team
Property Solutions Building Surveys Ltd
www.propertysolutionsinspections.co.nz

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

INDEPENDENT BUILDING INSPECTION
SECOND HAND RELOCATION REPORT
69a Walworth Avenue Pakuranga

This report has been conducted and prepared exclusively for Leighton & Emily Scott

Date of inspection: 16/09/2024

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Following our recent inspection of the above-mentioned property we submit our report and findings and confirm the following.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Dear Leighton & Emily,

Property Solutions Building Surveys Ltd (PSBS Ltd) services has been engaged to carry out an Independent Second Hand Building Inspection of the building located at 69a Walworth Avenue Pakuranga

Please take note of the following Terms and Conditions, and that acceptance of this report constitutes an acceptance of the following conditions.

Any Independent Building Inspection/Structural Report **("Report")** prepared by PSBS Ltd ("we", "us" or "our") shall be deemed to include these Terms and Conditions. PSBS Ltd will not issue any reports except on their terms and conditions.

Scope of this Report

This Report

a. This report has been prepared on the basis of a visual inspection of the building work using normal readily available access and without testing of components for the assessment of the overall structural condition of the building work and associated items, and without recourse to the construction drawings. It is confirmed that no detailed geotechnical investigation has been included in the brief. An investigation of the condition and location of underground drainage and services and of electrical, gas and plumbing (except as otherwise described in this report) is not included in the brief. No warranty can be given to any other defects not apparent to visual inspection at the time i.e. inside linings or cavities. Please note that we do not remove or uplift any fixtures, i.e. panels or carpets and we are unable to assess any hidden membranes or waterproofing below finished ground level.

   Although Property Solutions Inspections reports reference plumbing, drainage, and electrical components, it is advised that we are not Registered Drain layers or Qualified Electricians. No warranty or guarantee is expressed or issued for these components.

   The conclusions and recommendations given do not necessarily meant that the items of building work will meet the requirements of the current Building Code. The reliance by other parties on the information or opinions contained in this report shall, without our prior review and agreement in writing, be at such party's sole risk.

b. This is a preliminary non-invasive investigation for visible Defects, if any visible Defect is detected, this may be followed up at the **election of the customer** with further invasive or non-invasive investigations carried out by certified contractors. A non-invasive moisture reading is not a conclusive indication that moisture is present, in some cases hidden metals or chemical preservatives may affect a non-invasive capacitance moisture meter. The non-invasive moisture meter will only read moisture content up to 24mm to the wall, therefore some moisture in the wall could be missed if not within the vicinity of 24mm of the interior walls. Weather conditions could also affect the outcome of readings taken.

c. The inspection is restricted to areas that have available access and will not include the removal of wall linings, building paper or insulation or any other covering or lining material. It cannot include **CONCEALED** plumbing, piping, drainage, and electrical items. Flint coat waterproofing or underground sealants commonly used in basement developments and associated drainage below ground cannot be accurately assessed.

d. If ready access was not possible into the ceiling cavity or subfloor areas, this will be identified and excluded from the report.

e. This report does not provide any guarantee whatsoever that items surveyed i.e. structures, services, fittings fixed or otherwise will not fail at some later date and information herein pertains strictly to observations on the day of inspection and accessibility.

f. This report does not purport to certify the soil stability or conditions of underground services including underground protective coatings, which are not able to be included. It assumes compliance in all aspects with Territorial Authority Ordinances / The Building Act 1991 and does not certify that all building improvements lie within the title boundaries. Furthermore, this report assumes that a Territorial Authority Land Information Memorandum (LIM) / Project Information Memorandum (PIM) would not reveal any non-complying features and/or requisitions.

g. The positioning of the building or improvements in relation to the site boundaries are excluded.

h. Electrical and plumbing to pools and spas are not included in this report and we suggest independent professional advice be sought.

i. We are unable to carry out any probe or destructive testing, nor move any furnishings or appliances in a visual inspection.

j. The inspection and report are not intended to be technically exhaustive, or to imply that every component was inspected, or that every possible defect was discovered. No disassembly of equipment, opening of walls, moving of furniture, appliances or stored items, or excavation will be performed. All components and conditions, which by nature of their location are concealed, camouflaged, or difficult to inspect, are excluded from this report.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

k. Systems and conditions which are not within the scope of the building inspection include, but are not limited to: formaldehyde, lead paint, asbestos, toxic or flammable materials, and other environmental hazards pest infestation, playground equipment efficiency measurements of insulation or heating and cooling equipment, internal or underground drainage or plumbing, any systems which are shut down or otherwise secured; water wells (water quality and quantity), zoning ordinances; intercom; security systems; heat sensors; cosmetics or building code conformity. Any general comments about these systems and conditions are informational only and do not represent an inspection.

Limits of this Report

This Report

a. Is only for the benefit of the customer who instructed Property Solutions Inspections to prepare the Report and may not be relied upon by any other party.

b. Is not designed or intended to identify potential problems or issues within the Area other than the Defects and, without limitation, will not:

   i. Identify the presence or absences of dry/wet rot or any hazardous substance including, without limitation, mould toxins, carcinogens, noise or other contaminants;
   ii. Identity the presence or absences of any pests including, without limitation, wood damaging organisms, rodents or insects;
   iii. Determine the effectiveness of any equipment, utility, component or system installed to control leaks, moisture, heat loss, dry rot or hazardous substances;
   iv. Determine the life expectancy or future condition of any equipment, utility component or system; and
   v. Determine compliance or non-compliance with any statutory or regulatory requirement, code, bylaw, ordinance or other restriction; and

c. Does not contain any advice, and cannot be relied on for any advice, relating to;

   i. Any methods, materials or cost of the repair of any Defect;
   ii. The suitability of the building for any specialised use;
   iii. The market value or marketability of the building; and
   iv. The advisability or inadvisability of the sale or purchase of the building.

Limits to our Obligations

In conducting our inspection, the customer acknowledges and agrees that we will not be required to:

a. Disturb or move any insulation, panels, furniture, personal items, equipment, vegetation or other items or materials that obstruct access or visibility to the thermal inspection; and

b. Operate any equipment, utility, component, or system that is shut down, inoperable or that does not respond to normal operating controls.

Exclusion of Implied Conditions and Warranties and Limitation of Liability

1. Where the customer is engaging our services for business purposes, the Consumer Guarantees Act 1993 (the "Act") will not apply.
2. If the customer is a consumer under the Act, to the extent that the customer's rights under the Act have not been excluded in clause 4 above, nothing in these terms and conditions will affect the rights of the customer under the Act.
3. Subject to clause 5:
   a. The customer relies upon their own knowledge, skill or judgement in relation to the particular use or suitability of this Report for the customer's purpose: and
   b. All warranties, descriptions, representations, or conditions; whether implied by the Sale of Goods Act 1908 or otherwise are expressly excluded to the fullest extent permitted by law.
4. Save as expressly provided otherwise in this Report or these Terms and Conditions, we shall not be liable, and none of our employees or contractors shall be liable to any customer, the customer's agents or employees or any other person for any direct, indirect, incidental or consequential damage or loss of any nature how so ever caused, (whether based on tort (including negligence), contract or otherwise), including but not limited to loss of profits, loss of sales opportunity, damage to equipment or property (including any

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

cost or loss relating to any invasive inspection) or any other claim whatsoever arising directly or indirectly or in any way attributable to the performance or non-performance of our services or other obligations.

5. If, for any reason we are found to be liable to the customer or any other person in connection with this Report and/or the performance or non-performance of our services and we are unable to rely on the exclusions of liability set out in these Terms and Conditions, our liability shall in all cases be limited to the price paid or payable by the customer for such Report or services.

Moisture Meters and Weather tightness

This report cannot give any waterproofing guarantee, as it is not readily possible nor required to create simulated conditions to induce moisture ingress. However, signs of moisture ingress are looked for and spot checking is carried out predominantly around windows, doors and identified risk areas with a moisture meter.

The moisture meter used during this inspection is a TROTEC T660, which is calibrated in accordance with the manufacturer's specifications. This device is used in its non-invasive mode and while this mode is deemed non-conclusive, it can be a good indicator of the presence of moisture. However, the condition and treatment type of any internal timbers is not known.

The manufacturer stipulates that the moisture meters in their non-invasive mode should not be used to provide percentage readings. In fact, the only time percentages can be provided with any certainty is when invasive probe testing is undertaken.

Definition of terms used for indications of moisture readings: These are guidelines only, determined by the manufacturer of the TROTEC T660.
"Normal" generally indicates digital moisture readings up to approximately 40
"Slightly high" generally indicates digital moisture readings between 40 - 60
"Higher" generally indicates digital moisture readings between 60 – 80
"Very high" generally indicates digital moisture readings of 80 and above

Accurate moisture readings can only be obtained by intrusive means, which is not carried out during this inspection. However, where slightly high or greater moisture readings are indicated during the inspection, further investigation would be required to determine the source of the reading.
Where moisture readings exceed 60, the risk of timber decay is high.

Moisture meters are a useful tool to assist our Surveyors in their assessment of a property, in relation to the possibility of moisture issues or ingress. It is for this reason all Property Solutions Building Surveys Ltd Surveyors are well trained in the correct use of the moisture meter and have a good understanding of its scope and limitations.”.

It is important to be aware that the lack of moisture indicators does not confirm that a property does not have moisture issues. Because water accumulates and travels immediately behind the external cladding, the external cladding is ideally what should be tested. However, this is not practical, nor possible with some claddings and weather conditions, therefore the meters are predominantly used from the interior of the home.

A visual inspection and non-invasive testing may provide no initial evidence of leaking; knowledge of known weathertight risk details and/or signs to look for become more critical. Further investigation will be recommended when there is sufficient evidence and concern that there may be signs of severe moisture penetration, and it would require permission from vendor/property owner(s) before further action is taken.

Property Solutions Building Surveys Ltd

PROPERTY SOLUTIONS
Inspections

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Contents

Introduction

The subject structure comprises a single level timber framed dwelling with fibre cement weatherboard cladding, pressed steel tile roof and timber particle board floor.

Councils will require a building assessment to identify any defects or issues that may be pertinent to the structure's weathertightness and its desirability for its proposed new site.

The purpose of this report is to identify any ageing or defective items that would not be acceptable on the proposed relocation site or neighbourhood / community. The primary focus will be upon visible defects or items that may require remedial work following relocation in order to comply or receive approval from the tertiary authorities control area. Ideally Councils would require the building to meet certain criteria and standards and any defective items, particularly those relating to weathertightness, or the aesthetics of the building may require upgrading following relocation.

LBP is the acronym for 'Licensed Building Practitioner'. Refer to www.building.govt.nz for more information on LBPs.

Building Details

Type of building	Dwelling
Approximate age of building:	1990s
Brief Description:	Single storey timber framed dwelling with fibre cement weatherboard cladding, Pressed steel tile roof and timber particle board floor.
Proposed site address:	86 Hautapu Road, Pakaraka
Site address where the building is currently located:	69a Walworth Avenue Pakuranga
Proposed Use of Building	Dwelling
Previous Use of the Building	Dwelling
Is the building being split for transportation?	No
Will the split affect wall cladding?	N/A
Will the split affect roof claddings?	N/A
Inspection Dates & Weather:	16/09/2024 Dry.
Inspection by:	Dalton Dean – Property Solutions Building Surveys Ltd.
Other persons present:	Tenant
Building Consent Status	Building Consent documentation/status unknown

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

BRIEF OVERVIEW

1	**TYPE OF BUILDING -**	Dwelling
2	**PRESENT LOCATION -**	69a Walworth Avenue Pakuranga
3	**PROPOSED USE -**	Dwelling
4	**CHANGE OF USE -**	No

DESCRIPTION

A. EXTERIOR CONSTRUCTION

- FOUNDATION -	Timber. 190 x 45mm floor joists @ 500mm centres. 190 x 45mm timber beams doubled up to make 190 x 90mm bearers
- CLADDING -	Fibre cement weatherboard
- JOINERY -	Aluminium and glass.
- SPOUTING -	PVC
- ROOFING -	Pressed Metal Tiles.
- ROOF TYPE -	Hip Design

B. INTERIOR CONSTRUCTION

- FRAMING -	Timber framed
- LINING -	Plasterboard.
- CEILINGS -	Fibre ceiling tiles
- ROOF SUPPORT -	Not visible at time of inspection

C. EXTERIOR APPEARANCE

- ROOF -	In satisfactory condition
- WALLS -	Repair minor damage and repaint
- JOINERY -	In satisfactory condition

D. INTERIOR APPEARANCE

- WALLS -	In satisfactory condition
- CEILINGS -	In satisfactory condition
- DOORS -	In satisfactory condition

E. PLUMBING & DRAINAGE

- ALL WET AREAS	STANDARD UNDER-BENCH PLUMBING WITH NO LEAKS
- WATER CYLINDER	Rinnai Infinity gas

WILL THE STRUCTURE REQUIRE CUTTING TO ENABLE TRANSPORTATION – NO

MOVING CONTRACTOR - Forde Brothers House Removals

Consenting Process

A building consent is required to relocate a building from one site to another. Before applying for a building consent, the applicant will need to engage a third party to inspect the building(s). The third party will need to provide a written report confirming whether the building(s) are suitable for relocation. Where building consent applications are received for house lifts or house relocations, the following information must be supplied.

The report should include information about:

- the structural integrity of the building
- the condition of the building
- how the building will be relocated i.e. will the building be cut to enable it to be transported
- whether any remedial works are required upon relocation i.e. re-instating any cuts made for transportation, repairs to rotten or damaged framing timber, painting, decoration, reroofing, re-cladding, plumbing fixtures, etc.
- whether fumigation is required.

The report must be accompanied by:

- floor plan showing the existing layout of the building; and
- photographs of each elevation of the building.

All applications for building consent must be submitted using the appropriate application form and lodgement checklist.

An application for relocation of a second-hand building must be accompanied by:-

- the report, identified above
- plans drawn to scale, including:-
  - site plan (must include location and type of any trees and other buildings on site)
  - floor plan
  - elevations
  - foundation layout and subfloor framing plan
  - subfloor bracing calculations, (note subfloor must be upgraded to comply with the New Zealand Building Code)
  - details of any new work being undertaken (plumbing, drainage, means of access into the buildings, etc.)
- a schedule outlining all works being undertaken as part of the relocation

- where houses have been cut into sections and require re-joining, building consent documentation must detail all structural elements to be re-joined, which includes, but is not limited to bearers, joists, lintels, wall and roof framing
- structural engineer's calculations and fixing details may be required for re-joining structural elements.

In addition to the above, for house lifting, the following additional information is required:

- a schedule outlining the lifting methodology
- plans and specifications detailing method of temporary support (sty's, bearers, etc.) of the building, bracing of temporary support/s, location of temporary bearer lines to accommodate joist spans
- where the height of sty's exceed three times the minimum width or 3m in height, a producer statement from a structural engineer is required for the temporary support, including bracing and bearing capacity of ground for supports
- buildings on temporary supports shall not be occupied during building operations unless specifically consented to (all utilities must be fully operational i.e. foul water disposal, storm water disposal, potable water supply, electricity, etc.)
- buildings must not be supported on steel drums.

New foundations:

- Where cast in-situ piles or piles embedded in concrete are used, they shall not be fully loaded with the dead weight of the building until the concrete is 24 hours old
- the concrete shall not have a slump exceeding 60mm at the time of placing and the ambient temperature shall not fall below 10 degrees Celsius throughout the 24 hours
- where such conditions are not met, the waiting period shall be extended to 48 hours.

Alterations

Where a relocated building is to be altered, enlarged or modified from its original configuration, the requirements of section 112 of the Building Act 2004 must be assessed.

Change of Use

Where the use of the building changes from its original use, (i.e. hall to offices, dwelling to childcare, etc.) the requirements of section 115 of the Building Act 2004 must be assessed.

Site Inspections

Where buildings are to be removed from site, the sewage system shall be sealed off between 300 - 1000mm from the network utility connection and/ or property boundary.

Other Considerations

Many older buildings purchased for relocation do not contain insulation. The New Zealand Building Code requires all new habitable buildings to be insulated to a minimum thermal resistance; this requirement does not apply to existing relocated buildings. However, during relocation or recladding, an opportunity exists to install or upgrade insulation while there is easy access, which has long-term benefits for the occupiers.

References

New Zealand Building Act 2004
New Zealand Building Code
· B1 Structure
· G13 Foul water
· E1 Surface water
NZS3604:2011 Timber framed buildings section 6.4.5.7
Labour Department Code of Practice
AC1810 Moving or relocating a building (guidance information)

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Report Summary

Client Name:	Leighton & Emily Scott
Client Address:	Po Box 669, Kerikeri
Client Phone Number:	0212368085
Date of inspection:	September 16, 2024
Inspection address:	69a Walworth Avenue Pakuranga.
Scope of inspection:	The scope of the inspection is as set out in our Terms and Conditions and is limited to a visual Second Hand Relocation Building inspection and report that accompanies Building Consent Application documents for the dwelling in this report
Report number:	2066

This summary is not intended to replace the entire inspection report. There could be other items noted in this report that may be considered significant. Please read the entire report carefully.

Overall condition

Overall, the dwelling is in average condition for its age. Providing the issues we have listed throughout the report are rectified, then the dwelling is considered to be in Safe and Sanitary condition and will be suitable for relocation.

We have listed below the matters we believe to be significant defects, urgent maintenance or require further investigation. Most of these will be identified in **Red type** in the main body of the report in the area where it occurs.

Items that are identified in **Green type** in the report, require considered attention, however do not appear to be significant. The majority are the result of normal wear and tear and can be addressed as redecoration or annual maintenance is undertaken.

Attention required

Each of these items will likely require further evaluation and repair by suitably qualified tradespeople or specialists. Obtain competitive estimates for these items.

Services

Meter Board:

The board can be reinstated by a Registered Electrician upon re-siting.

House Exterior

There is minor damage to some cladding that requires repair, or replacement.

Roof Exterior

To be re-instated upon re-siting.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Systems

Electrical

All circuits, switches sockets, meter and distribution board are to be tested and brought up to current standards requirement when connected to the new power supply by a Registered Electrician

Plumbing

The visible plumbing appears to be in working order. All plumbing should be tested by a licensed plumber when connected to the new approved plumbing and drainage system upon re-siting.

Hot Water System

It can be assessed by a Licensed Plumber upon connection to the new approved plumbing and drainage system.

Plumbing System

Plumbing/Drainage:

Some underfloor plumbing may be required to be replaced upon re-siting.

Dalton Dean (AMBOINZ)
Accredited Building Surveyor, Level 1&2,
Building Officials Institute of New Zealand (BOINZ)
Property Solutions Building Surveys Ltd

Client information

Client and Site Information:

File number:

2066.

Record Number:

2066.

Date of Inspection:

September 16, 2024.

Time of Inspection:

11:00 AM.

Scope of the Inspection:

The scope of the inspection is as set out in our Terms and Conditions and is limited to a visual Second Hand Relocation Building inspection and report that accompanies Building Consent Application documents for the dwelling in this report.

Client Name:

Leighton & Emily Scott.

Client's mailing address:

Po Box 669, Kerikeri.

Client's contact Numbers:

0212368085.

Client e-mail address:

thescottsandpaws@hotmail.com.

Address of Property Inspected:

69a Walworth Avenue Pakuranga.

Weather Conditions:

Weather:

Dry.

Soil Conditions:

Dry.

Building Characteristics:

Orientation of Living Space:

Refer to new site plan for 86 Hautapu Road, Pakaraka.

Site Exposure:

Very High Wind Exposure. (BRANZ Maps), at Relocation address 86 Hautapu Road, Pakaraka.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Estimated Age of Building:

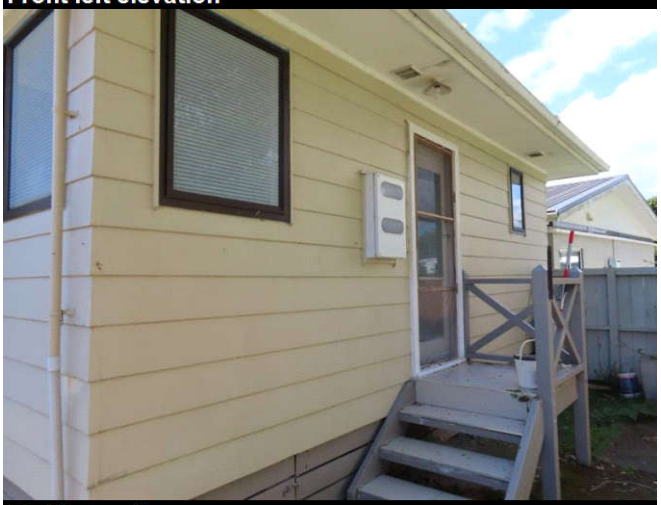
1990s.

Building Type: Will be referred to as house or home through report.

Front left and left elevation

Front left elevation

Right of front elevation



Right elevation

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**


Right of rear elevation


Left of rear elevation

Levels:

1

Services:

Meter Board:

Right side of home. The board can be reinstated by a Registered Electrician upon re-siting.

Fuse Board:

Inside the home.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Other Information:

House Occupied?

This property was furnished at the time of inspection, which can obstruct the view of some areas. We strongly recommend that when the property is vacant, a final inspection is carried out prior to settlement, and areas hidden by furnishings, stored items and appliances be checked for any defects or moisture ingress.

Client Present?

No.

Other People Present:

Tenant.

Inspector Information:

Dalton Dean (AMBOINZ)
Accredited Building Surveyor, Level 1&2, BOINZ
dalton@propertysolutionsinspections.co.nz.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Kitchen

It is beyond the scope of this report to operate, and comment on the performance of the appliances, however we recommend you test the appliances yourself to ensure they are operational. We also recommend the appliances are regularly serviced to ensure they are in safe, operational order.

Room Location:

Front. Right.

Ceilings:

Fibre ceiling tiles.

Walls:

Plasterboard.

Floors:

Ceramic Tiles.

Windows:

Aluminium. Reveals, material type. Timber.

Glass Type:

Standard.

Cabinetry:

Melamine.

Bench Top:

Granite.

Sink:

Stainless steel.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Stove:

Electric, not tested.

Hobbs:

Electric, not tested.

Rangehood:

The rangehood vents to the exterior.

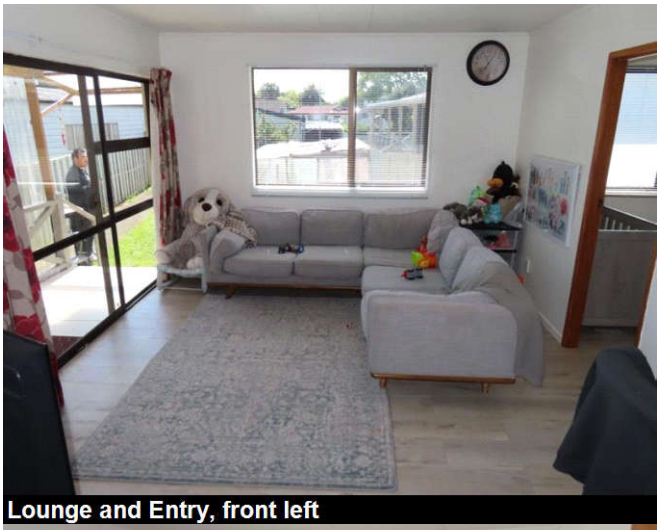
Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

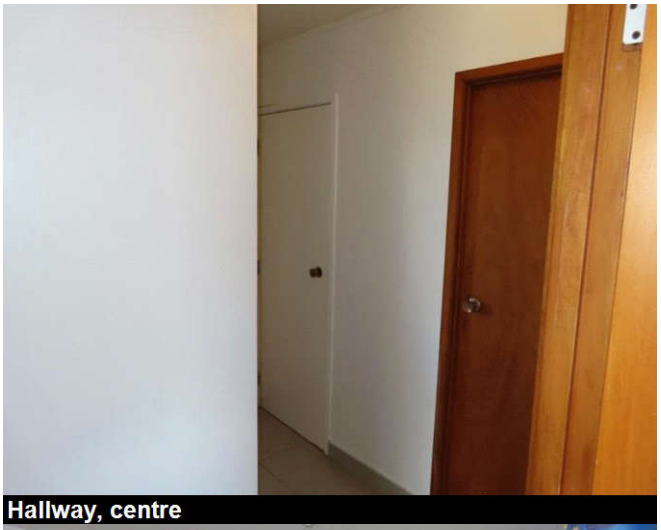
Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

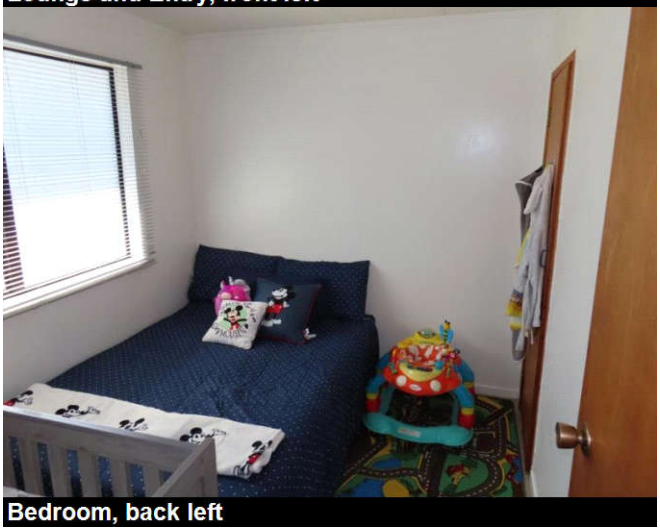
Interior Rooms

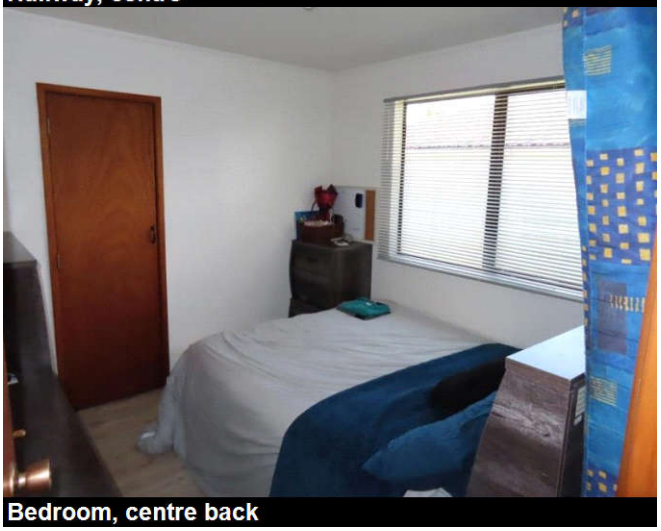
The condition of walls behind wall coverings, panelling and furnishings cannot be judged. Only the general condition of visible portions of floors is included in this inspection. As a general rule, cosmetic deficiencies are considered normal wear and tear and are not reported. Determining the source of odours or like conditions is not a part of this inspection. Floor covering damage or stains may be hidden by furniture. The condition of floors underlying floor coverings is not inspected

Room Location:


Lounge and Entry, front left


Hallway, centre


Bedroom, back left


Bedroom, centre back

Ceilings:

Fibre ceiling tiles.

Walls:

Plasterboard.

Floors:

Vinyl.

Windows:

Aluminium. Reveals, material type. Timber.

Glass Type:

Standard.

Doors (Internal):

Hollow core. Frames, material type. Timber.

Doors (External):

Aluminium and glass. Reveals, material type. Timber.

Glass Type:

Safety.

Cupboards:

Single.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Bathroom

Room Location:

Back. Right.

Ceilings:

Plasterboard

Walls:

Ceramic Tiles.

Floors:

Ceramic Tiles.

Windows:

Aluminium. Reveals, material type. Timber.

Glass Type:

Standard.

Doors (Internal):

Hollow core. Frames, material type. Timber.

Glass Type:

Standard.

Vanity:

Melamine.

Basin:

Vanity mounted. Porcelain.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Toilet:

Toilet type. Floor mounted. Back to wall. Capacity. Not determined. Dual flush.

Shower Taps/Mixer and Rose:

Not tested.

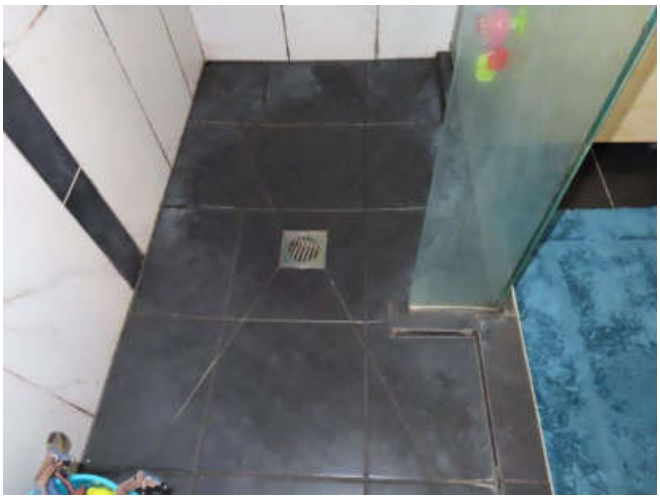
Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Shower Linings:

Ceramic tiles.

Shower Tray:

Tiles.



Shower Screen/Doors:

Safety Glass.

Ventilation:

Type of vent. Mechanical. Point of discharge. Exterior.

PROPERTY SOLUTIONS Inspections

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Laundry

Room Location:

Right. Centre.

Ceilings:

Fibre ceiling tiles.

Walls:

Plasterboard. Ceramic Tiles.

Floors:

Ceramic Tiles.

Doors (Internal):

Hollow core. Frames, material type. Timber.

Doors (External):

Timber and glass. Reveals, material type. Timber.

Glass Type:

Standard. While it may not have been a requirement at the time of installation, we recommend safety glass is installed for safety reasons.

Cabinetry:

Metal.

Tub:

Stainless steel.

Washing machine stand pipe:

Yes - not tested.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Roof Cavity

There is generally limited space in roof cavities, particularly to the lower or outer portions of the home. This does restrict access and in most instances prevents an inspection of the outer or lower areas, including any roof to wall framing connections.

Manhole Accessibility:

Fittings and stored items prevented the man hole from being accessed.

PROPERTY SOLUTIONS
Inspections

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

House Exterior

The exterior cladding of the property can only be inspected where visible and in the Inspector's clear line of sight. Some limitations may occur due to the height of the property in some areas and any vegetation growing up or near the cladding.

Exterior Components

Construction type:

Timber framed.

Cladding Type:

Fibre cement weatherboard. There is minor damage to some cladding that requires repair, or replacement.

Cladding Flashings;

Flashing Materials, Galvanised steel corner soakers.

PROPERTY SOLUTIONS
Inspections

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**


Joinery (Windows and Doors):

Aluminium and glass.



Fascias and Barge Boards:

Timber.

Soffit / Eaves:

Fibre cement.

Downpipes and Spouting:

PVC.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Roof Exterior

Exterior of Roof

Roofing Material:

Pressed Metal Tiles.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Flashings:

Metal.

Vents:

To be re-instated upon re-siting.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Foundations

Foundation Type:

Timber. 190 x 45mm floor joists @ 500mm centres. 190 x 45mm timber beams doubled up to make 190 x 90mm bearers.

Visible Flooring Material:

Tongue and groove.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Insulation:

Type: Fibreglass. A detailed inspection of the flooring was not possible due to the insulation. Thickness: 100mm. Coverage: 100%, more or less.

Framing and Bracing:

Appears to be sufficient for time of construction.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Systems

The testing and commenting on the product, installation, or performance of any System within this dwelling is outside the scope of this inspection. Any inspection or comments made about any systems relates only to the visible components and is the opinion of the Inspector, who is not a qualified Plumber, Electrician, or serviceman. To fully comment on the operation, installation, and performance of any of the systems would require a specialist report from a qualified service personnel. Any system should be serviced as per the manufacturers specification, and we recommend you obtain all service records and specification from the homes' owner, if they are available.

Electrical

Summary:

This report should not be seen as an Electrical inspection or Certification that the electrics of the home comply with any standards or regulations. All circuits, switches sockets, meter and distribution board are to be tested and brought up to current standards requirement when connected to the new power supply by a Registered Electrician

Plumbing

Summary:

The visible plumbing appears to be in working order. All plumbing should be tested by a licensed plumber when connected to the new approved plumbing and drainage system upon re-siting.

Hot Water System

Location:

Exterior.

Make and Type:

Rinnai. Gas.

Capacity:

Infinite.

PROPERTY SOLUTIONS
Inspections

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Summary:

It can be assessed by a Licensed Plumber upon connection to the new approved plumbing and drainage system.

Inspection: 2066 **Address: 69a Walworth Avenue Pakuranga**

Plumbing System

Plumbing and Wastes:

KITCHEN. Braided wire. Plastic. PVC wastes. No signs of any current leaks at the time of the inspection.

TOILET. The plumbing and wastes are not visible.

LAUNDRY. Braided wire. Plastic. PVC wastes.

Basin Plumbing and Wastes:

Braided wire. PVC wastes. No signs of any current leaks at the time of the inspection.

Plumbing/Drainage:

Some underfloor plumbing may be required to be replaced upon re-siting.

Electrical System

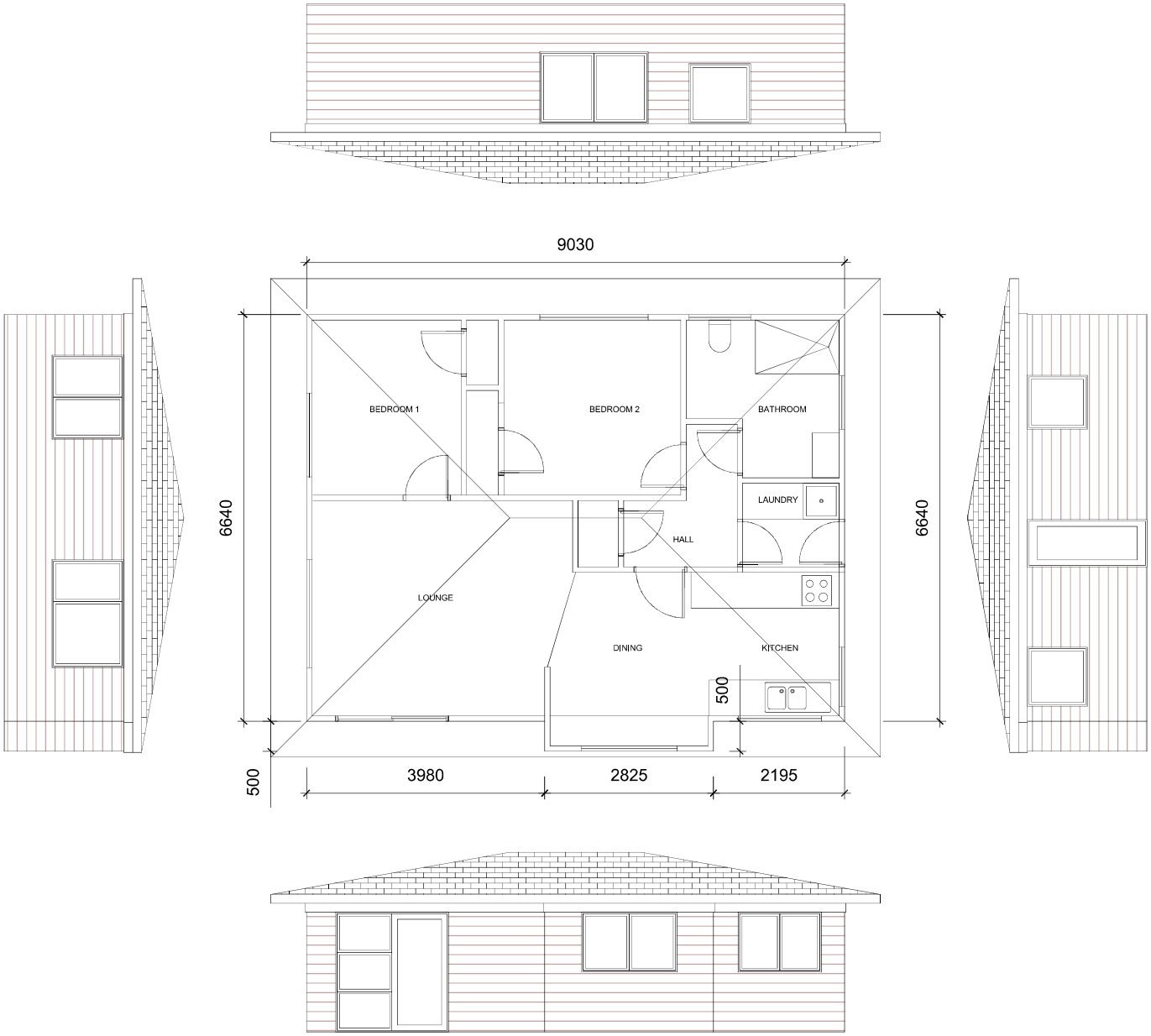
Visible Electrical Wiring Type:

TPS cable.

Pest and Insect Infestation

Pest and insect infestation:

There were no signs of any pest or insect infestation found.



Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

LIVING ARCHITECTURE

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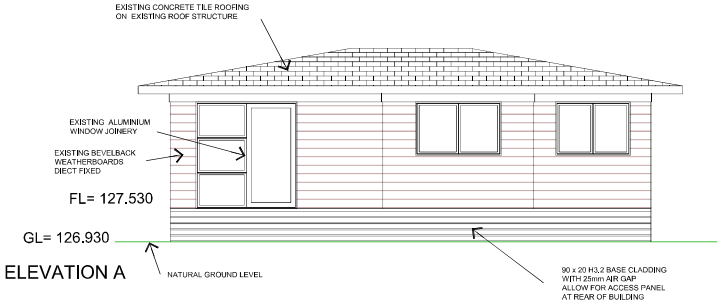
Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
ELEVATIONS MINOR DWELLING

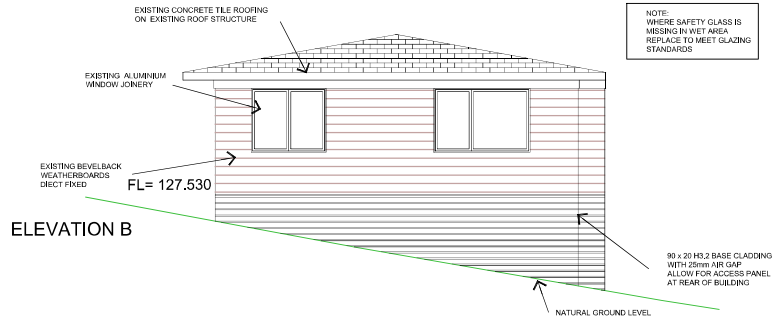
CAD Ref	Scale (A1 Original)
100977	1:75@ A3

Project No	Sheet	Revision
100977	A10-01	A



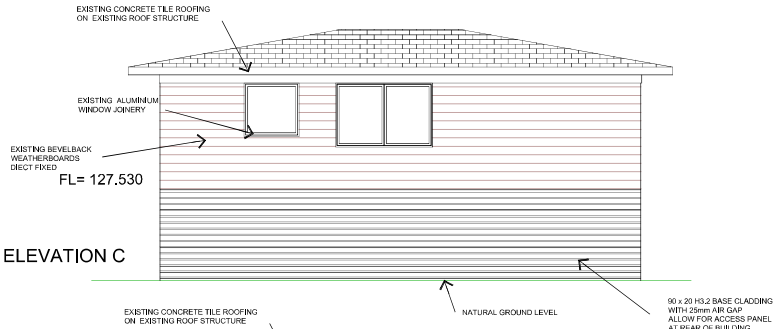
ELEVATION A

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION A					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



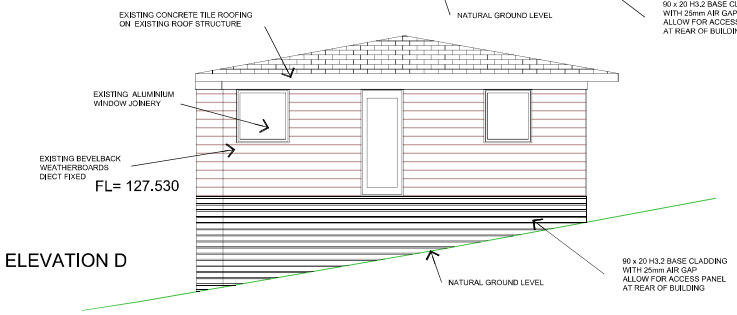
ELEVATION B

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION B					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



ELEVATION C

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION C					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



ELEVATION D

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION D					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					

Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

LIVING ARCHITECTURE
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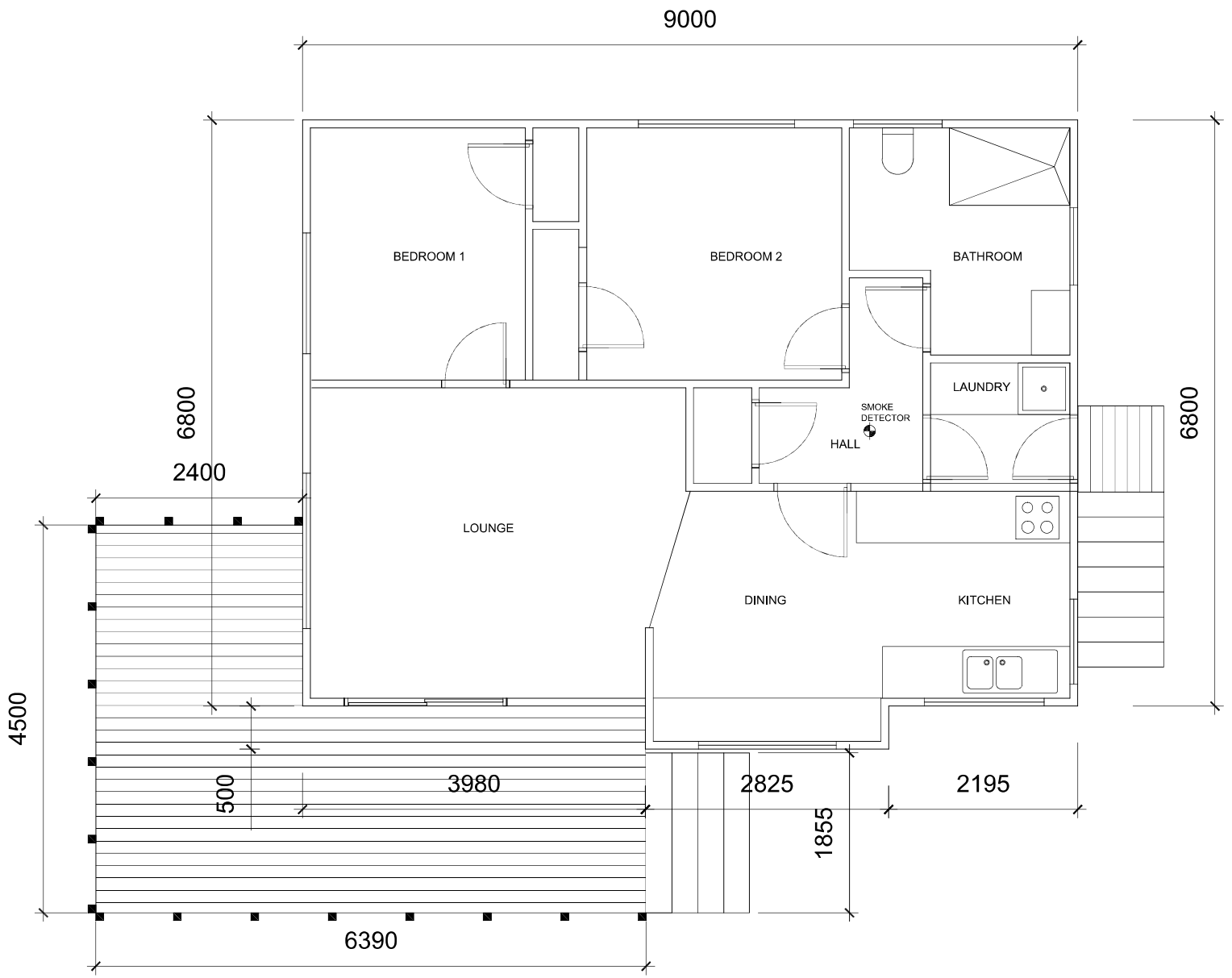
ELEVATIONS MINOR DWELLING

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet	Revision
100977	A10-02	A



Revision	By	Date
Designed	BVV	29-08-24
Drawn	BVV	29-08-24
Reviewed		
Approved		

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Verify all dimensions on site before commencing work. Refer to figured dimensions. Refer all discrepancies to the drawing office.

Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
PLAN
MINOR DWELLING

CAD Ref	Scale (A1 Original)
100977	1:50@ A3

Project No	Sheet	Revision
100977	A11-01	A

Wilton Joubert Limited
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PO BOX 11-381
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SITE	**86 Hautapu Road, Moerewa**
LEGAL DESCRIPTION	**Lot 2 DP 600745**
PROJECT	**2x Relocatable Residential Dwellings**
CLIENT	**Leighton & Emily Scott**
REFERENCE NO.	**136541**
DOCUMENT	**Stormwater Report**
STATUS/REVISION NO.	**A**
DATE OF ISSUE	**11 October 2024**

Report Prepared For	Email
Leighton & Emily Scott	thescottsandpaws@hotmail.com

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1. EXECUTIVE SUMMARY

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

Legal Description:	Lot 2 DP 600745
Site Area:	4.8250 ha
Development Type:	Proposed Main Residential Dwelling & Minor Dwelling
Development Proposals Supplied:	Yes – preliminary/schematic plans supplied
Associated Documents:	Wilton Joubert Ltd. Geotechnical Report, Job Number: 136540 Wilton Joubert Ltd. Wastewater Report, Job Number: 136542
District Plan Zone:	Rural Production Zone
Permitted Activity Coverage:	15%
Impermeable Coverage:	Post-Development Impermeable Areas Total Roof Area ~257m² Total Hardstand/Driveway ~1,160m² Total impermeable area = 1,417m² or 2.9% of the site area
Activity Status:	Permitted Activity
Roof Mitigation:	Stormwater runoff resulting from the proposed roof areas is to be directed to potable water tanks. Potable water tanks to direct overflow to proposed stormwater dispersal device.
Driveway Mitigation:	Driveway drainage to be managed with swales, scruffy dome inlets and a catchpit as described in Section 6 of the report. The driveway should not be shaped to shed to the lower lying grassed areas.
Point of Discharge:	Two 6m long surface mounted spreader bars are proposed to manage stormwater from the driveway and roof areas.

2. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by Leighton & Emily Scott to undertake a stormwater management design at the above site, where we understand, it is proposed to re-site two relocatable residential dwellings as well as a garage.

At the time of preparation of this report, the following documents were referred to for details of the proposed development:

- Draft architectural drawings of the main dwelling, titled; '*92 Hautapu Road, Moerewa*', prepared by Living Architecture (ref: 100977, numerous plan dates), and
- Draft architectural drawings of the minor dwelling, titled; '*92 Hautapu Road, Moerewa*', prepared by Living Architecture (ref: 100977, numerous plan dates).

The drawing sets respectively contain 12 and 13 sheets each, including Site, Excavation, Elevation, Subfloor, and Section Plans.

Any revision of drawings and/or development proposals with implications on the stormwater design should be referred back to WJL for review.

3. SITE DESCRIPTION

The subject ~4.82ha Rural Production zoned, vacant block is located off the eastern side of Hautapu Road, accessed 850m north of the State Highway 1 intersection, on the north-western outskirts of the Moerewa township. The Lot is to be accessed at the northern boundary corner via a newly formed driveway that trends towards the southeast.

The property is situated towards the crest of a south facing flank of the local ridgeline. The investigated development area is situated on gently to moderately sloping terrain, as part of a greater slope, down towards Otiria Stream to the southeast, with a drop in elevation of around 100m across the property.

The north and northwestern side of the site is predominantly covered in pasture, with areas of dense vegetation and bush located in the lower, steeper gullies to the south and southeast. The terrain slopes gently southeast at an incline of 8-12° near the proposed building platforms and effluent field with steeper grades further downslope.

Figure 1: Aerial Image of the site marked in red with contours of 10m interval indicated (FNDC Maps)

The FNDC on-line GIS Water Services Map indicates that reticulated wastewater, stormwater, and potable water connections are not available to the property.

4. DEVELOPMENT PROPOSALS

Based on our review of the two sets of supplied draft architectural drawings, it is our understanding that the client proposes to re-site two relocatable residential dwellings, one being the main dwelling and the other a minor dwelling. A separate garage is also proposed.

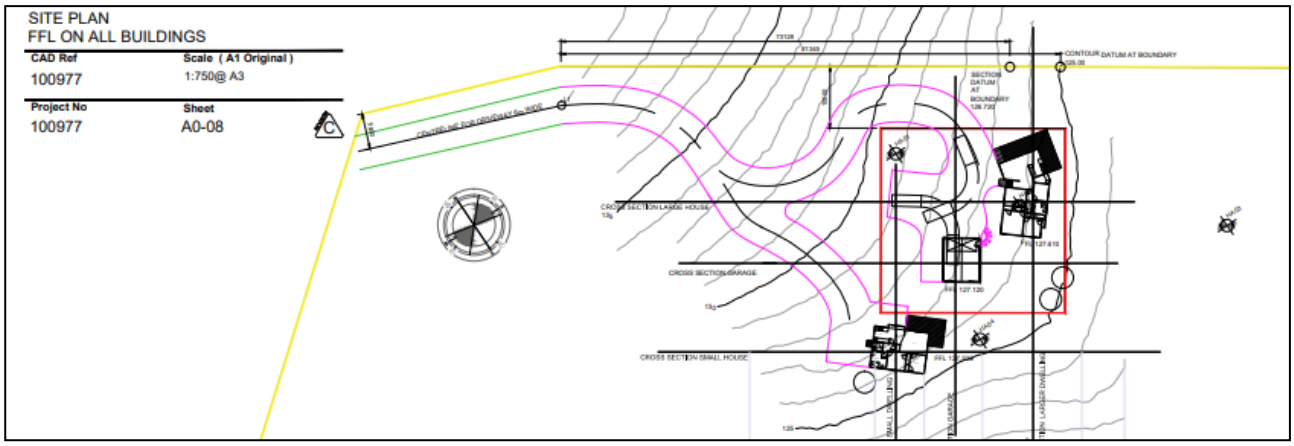


Figure 2: Snip of Proposed Site Plan Provided by Living Architecture (Project No: 100977, dated: 28-9-24).

Figure 3: Site photograph of the main dwelling building site (northeast direction).

Figure 4: Site photograph of the minor dwelling building site (southwest direction).

The principal objective of this assessment is to provide an indicative stormwater disposal design which will manage runoff generated from the proposed impermeable areas resulting from the proposed development.

5. ASSESSMENT CRITERIA

Impermeable Areas

The calculations for the stormwater system for the development are based on a gross site area of 4.8250 ha (48,250m^2) and the below areas *extracted from the supplied plans*:

	Pre-Development	Post-Development	Total Change
Total Roof Area	**0 m²**	**257 m²**	257 m²
Proposed Main Dwelling	0 m²	125 m²	
Proposed Minor Dwelling	0 m²	82 m²	
Proposed Garage	0 m²	~50 m²	
Total Hardstand	**0 m²**	**1,160 m²**	1,160 m²
Proposed Metal Driveway	0 m²	1,160 m²	
Pervious	48,250 m²	46,833 m²	-1,417 m²

The total amount of impermeable area on site, post-development, equates to 1,417m² or 2.9% of the site area. Should any changes be made to the current proposal, the on-site stormwater mitigation design must be reviewed.

District Plan Rules

The site falls within the area zoned as Rural Production. The following rules apply under the FNDC District Plan:

8.6.5.1.3 – **Permitted Activities – Stormwater Management** - The maximum proportion or amount of the gross site area which may be covered by buildings and other impermeable surfaces shall be 15%.

8.6.5.2.1 – **Controlled Activities – Stormwater Management** - The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.

The total proposed impermeable areas do not exceed 15% of the site area and complies with the Permitted Activity Rule (8.6.5.1.3). As such, no attenuation measurements are required; however, stormwater management is required to ensure not long-term erosion or stability issues arise.

The Geotech Report notes that "*uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect slope stability or foundation conditions.*

Overland flows and similar runoff such as from any higher ground should be intercepted by means of shallow surface drains and/or small bunds and be directed away from both building sites to protect the building platforms from both saturation and erosion. Water collected in interceptor drains should be discharged to a stable disposal point that is not directly downslope of both building sites. All stormwater runoff from roofs and paved areas should be collected in sealed pipes and discharged in accordance with the above.

Under no circumstances should concentrated overflows from any source discharge into or onto the ground in an uncontrolled fashion."

Design Requirements

The stormwater design has been completed in accordance with the following documents:

- The Far North District Council Engineering Standards 2023
- The operative Far North District Council District Plan

The Type IA storm profile was utilised for stormwater management calculations in accordance with TR-55. HydroCAD® software has been utilised in design for a 1% AEP rainfall value of 245mm with a 24-hour duration. Rainfall data was obtained from HIRDS and increased by 20% to account for climate change resulting in a climate-change-adjusted rainfall value of 294mm.

Provided that the recommendations within this report are adhered to, the effects of stormwater runoff resulting from the proposed impermeable areas are considered to have less than minor effects on the receiving environment.

6. STORMWATER MITIGATION ASSESSMENT

Potable Water Supply

It is recommended that rainwater tanks are utilised to provide the proposed dwelling with a potable water supply. The tank type is at the discretion of the client. A proprietary guttering system is required to collect roof runoff from the proposed roof areas. A first flush diverter and/or leaf filters may be installed in-line between the gutters and the tank inlet. The tank inlet level should be at least 600mm below the gutter inlet and any in-line filters. Any filters will require regular inspection and cleaning to ensure the effective operation of the system. The frequency of cleaning will depend on current and future plantings around the proposed roof areas. Provision should be made by the homeowner for top-up of the tanks via water tankers in periods of low rainfall.

All potable tanks must be constructed level and fitted with balancing pipes at the top and near the base of each tank to connect all potable water tanks to each other. Due to inadequate water quality concerns, runoff from hardstand areas should not be allowed to drain to the potable water tanks.

One of the tanks is to be fitted with a 100mmØ overflow outlet directing overflow to the proposed stormwater dispersal device to the southwest of the proposed dwellings via sealed pipes. Refer to the appended Site Plan (136541-C300) and Tank Detail (136541-C201). The 100mmØ pipe must be upsized to 150mmØ where it joins with the driveway drainage setup described below.

The tank must be installed in accordance with the tank suppliers' details and specifications. Levels are to be confirmed by the contractor on-site prior to construction. Adequate fall (minimum 1% grade) from the tank's outlet to the discharge point is required. If this is not achievable, WJL must be contacted for review of the design.

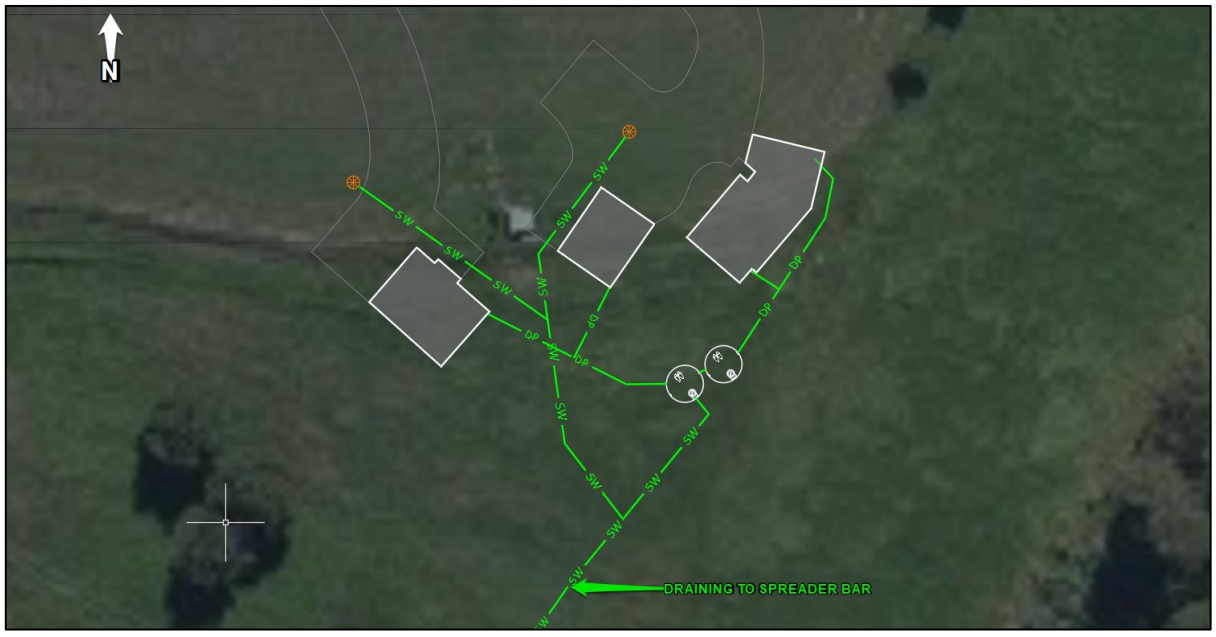


Figure 5: Drainage lines for structures and driveway draining to spreader bar to the southwest.

Metal Driveway

The proposed metal driveway was split into 3 zones for drainage purposes as shown in the Figure 6. These zones with their respective stormwater management requirements are discussed below:

Figure 6: Driveway Zones marked for Stormwater Management.

Metal Driveway – Zone A1

Zone A1 is generally the driveway section to the north of the units, including the shared section. It is recommended that this metal driveway is shaped to shed stormwater to a newly formed swale along its north-western edge. Three sections of the driveway were identified with each different minimum swale requirements.

A1 must drain to a 400mmW x 150mmD grassed v-channel, lined with 6-inch riprap spaced at intervals no greater than 10m. Where this driveway splits, we expect less steep slopes. Where the slopes decrease to 4-6% (A2) we recommend the swale to be widened to 500mmW x 150mmD, lined with grass. Downslope of this where the grades increase to over 6% (A3) the swale must be increased to a minimum of 600mmW x 200mmD, lined with 6-inch riprap at intervals no greater than 3m.

The lower end of the swale must drain into a scruffy dome inlet downslope of the wastewater field. The scruffy dome must have a bunded area formed around it for ponding with 6-inch riprap placed inside the ponding area to allow stormwater build up and draining into the scruffy dome chamber. Stormwater is to be directed from the scruffy dome to a surface mounted spreader bar (southeast) via 150mmØ outlet pipe.

Metal Driveway – Zone A2

Zone A2 covers the section of driveway servicing the minor dwelling. It is recommended that this metal driveway is shaped to shed stormwater to a newly formed swale along the western side. This swale must be at least 400mmW x 150mmD, grass lined with 6-inch riprap placed at 10m intervals or less.

The lower end of the swale must drain into a scruffy dome inlet with a bunded area formed around it for ponding with 6-inch riprap placed inside the ponding area to allow stormwater build up and draining into the scruffy dome chamber. Stormwater is to be directed from the scruffy dome to a surface mounted spreader

bar (southwest), downslope of the potable water tanks. It is recommended to install a 100mmØ outlet pipe from the scruffy dome and upsize it to 150mmØ where it joins with the drainage line from Zone A3.

Metal Driveway – Zone A3

Zone A3 covers the section of driveway servicing the main dwelling not able to drain to the swale to the northeastern side. This section is recommended to be shaped to drain to a suitably sized catchpit, with a sump for sediment control.

The catchpit is to direct stormwater to a surface mounted spreader bar (southwest), downslope of the potable water tanks. It is recommended to install a 100mmØ outlet pipe from the catchpit and upsize it to 150mmØ where it joins with the drainage line from Zone A2.

Future Concrete Driveways

The swales have been designed to accommodate for any additional flows arising from future concrete surfacing for Zones A2 and A3. Future concrete surfaces must crossfall to the proposed swales and catchpit as per the above recommendations for the stormwater management system to operate as intended.

Dispersal Device – Southwest

It is recommended that discharge from the potable water / detention tanks and the driveway Zones B and C described above be directed via sealed pipes to a 6m long above ground dispersal device, southwest of the proposed development, as shown on the appended Site Plan (136541-C200) and Dispersal Device Detail (136541-C211), with the following specifications:

- Minimum 6m dispersal bar length and 100mm bar diameter,
- Dispersal bar to be installed parallel to property's topography,
- The dispersal bar is to be installed well clear and downslope of wastewater effluent fields,
- Dispersal bar installed maximum 150mm above ground level via waratah standards & wire ties,
- 15mmØ outlet holes drilled at 150mm centres along the bar,
- Screw caps installed on dispersal bar ends for maintenance/cleaning access,
- Spreader bar to be placed downslope at start of dense vegetation.

We recommend planting the areas around and downslope of the dispersal device to protect against erosion.

Dispersal Device - Southeast

It is recommended that discharge from the driveway Zone A described above be directed via a sealed pipe to a 6m long above ground dispersal device, southeast of the proposed development, as shown on the appended Site Plan (136541-C200) and Dispersal Device Detail (136541-C211), with the following specifications:

- Minimum 6m dispersal bar length and 100mm bar diameter,
- Dispersal bar to be installed parallel to property's topography,
- The dispersal bar is to be installed well clear and downslope of wastewater effluent fields,
- Dispersal bar installed maximum 150mm above ground level via waratah standards & wire ties,
- 15mmØ outlet holes drilled at 150mm centres along the bar,
- Screw caps installed on dispersal bar ends for maintenance/cleaning access,
- Spreader bar to be placed within the existing vegetation, or upslope on pasture if planted out.

7. NOTES

If any of the design specifications mentioned in the previous sections are altered or found to be different than what is described in this report, Wilton Joubert Ltd will be required to review this report. Indicative system details have been provided in the appendices of this report (136541-C200, 136541-C210 & 136541-C211).

Care should be taken when constructing the discharge point to avoid any siphon or backflow effect within the stormwater system.

Subsequent to construction, a programme of regular inspection / maintenance of the system should be initiated by the Owner to ensure the continuance of effective function, and if necessary, the instigation of any maintenance required.

Wilton Joubert Ltd recommends that all contractors keep a photographic record of their work.

8. LIMITATIONS

The recommendations and opinions contained in this report are based on information received and available from the client at the time of report writing.

This assignment only considers the primary stormwater system. The secondary stormwater system, Overland Flow Paths (OLFP), vehicular access and the consideration of road/street water flooding is all assumed to be undertaken by a third party.

All drainage design is up to the connection point for each building face of any new structures/slabs; no internal building plumbing or layouts have been undertaken.

During construction, an engineer competent to judge whether the conditions are compatible with the assumptions made in this report should examine the site. In all circumstances, if variations occur which differ from that described or that are assumed to exist, then the matter should be referred to a suitably qualified and experienced engineer.

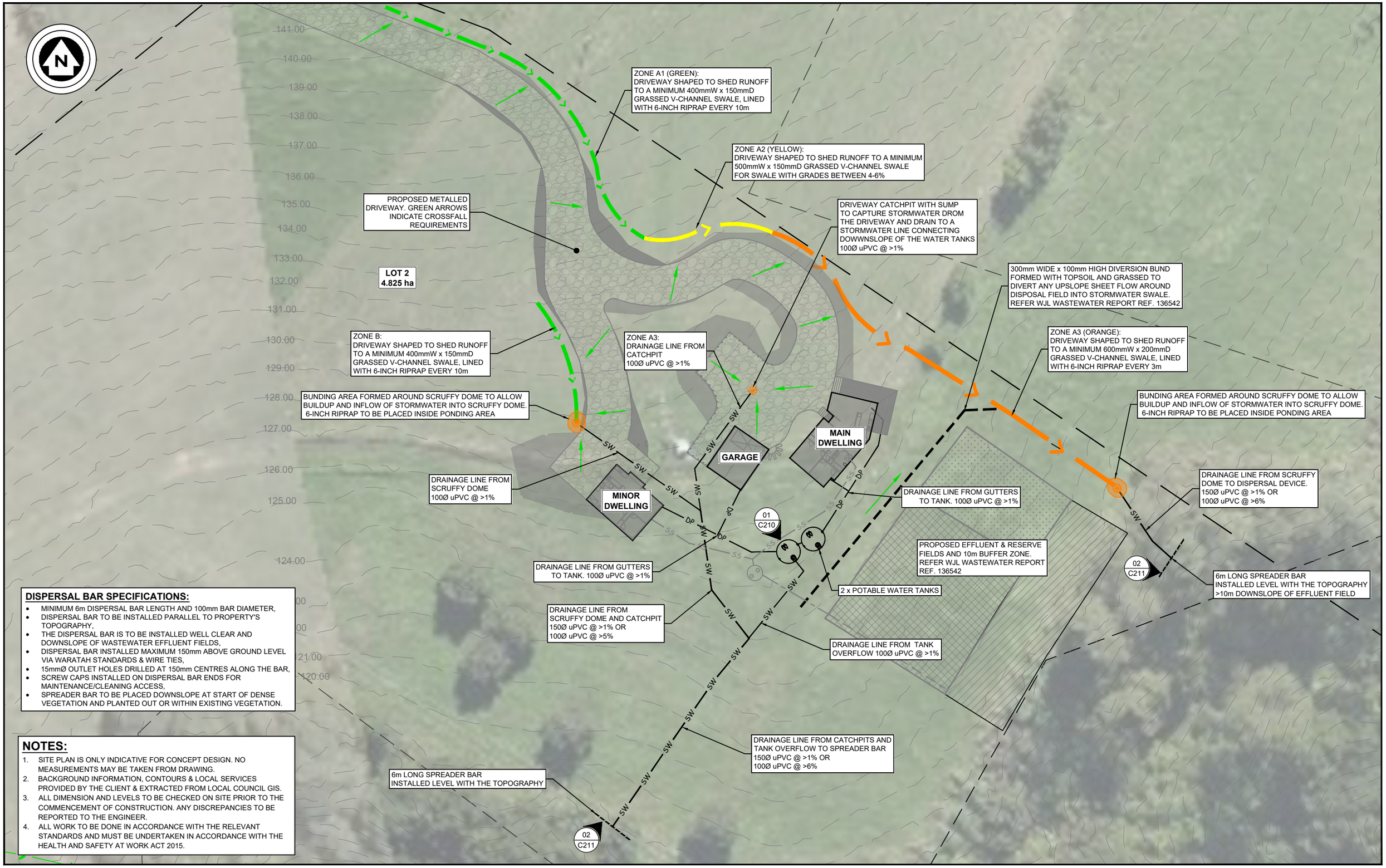
The performance behaviour outlined by this report is dependent on the construction activity and actions of the builder/contractor. Inappropriate actions during the construction phase may cause behaviour outside the limits given in this report.

This report has been prepared for the particular project described to us and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Wilton Joubert Ltd.

REPORT ATTACHMENTS

- Site Plan - C200 (1 sheet)
- Tank Detail – C210 (1 sheet)
- Spreader Bar Detail – C211 (1 sheet)



DISPERSAL BAR SPECIFICATIONS:

- MINIMUM 6m DISPERSAL BAR LENGTH AND 100mm BAR DIAMETER,
- DISPERSAL BAR TO BE INSTALLED PARALLEL TO PROPERTY'S TOPOGRAPHY,
- THE DISPERSAL BAR IS TO BE INSTALLED WELL CLEAR AND DOWNSLOPE OF WASTEWATER EFFLUENT FIELDS,
- DISPERSAL BAR INSTALLED MAXIMUM 150mm ABOVE GROUND LEVEL VIA WARATAH STANDARDS & WIRE TIES,
- 15mmØ OUTLET HOLES DRILLED AT 150mm CENTRES ALONG THE BAR,
- SCREW CAPS INSTALLED ON DISPERSAL BAR ENDS FOR MAINTENANCE/CLEANING ACCESS,
- SPREADER BAR TO BE PLACED DOWNSLOPE AT START OF DENSE VEGETATION AND PLANTED OUT OR WITHIN EXISTING VEGETATION.

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
3. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.

WILTON JOUBERT
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Auckland: 09 527 0196
Christchurch: 021 824 063
Wanaka: 03 443 6209
www.wiltonjoubert.co.nz

ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	OCT '24	BGS	STORMWATER REPORT

DESIGNED BY: BGS
DRAWN BY: BGS
CHECKED BY: PM
SURVEYED BY:

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

BUILDING CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **STORMWATER REPORT**

PROJECT TITLE:
LOT 2 DP 600745
86 HAUTAPU ROAD
MOEREWA
NORTHLAND

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **1:750**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **136541-C200**
ISSUE: **A**

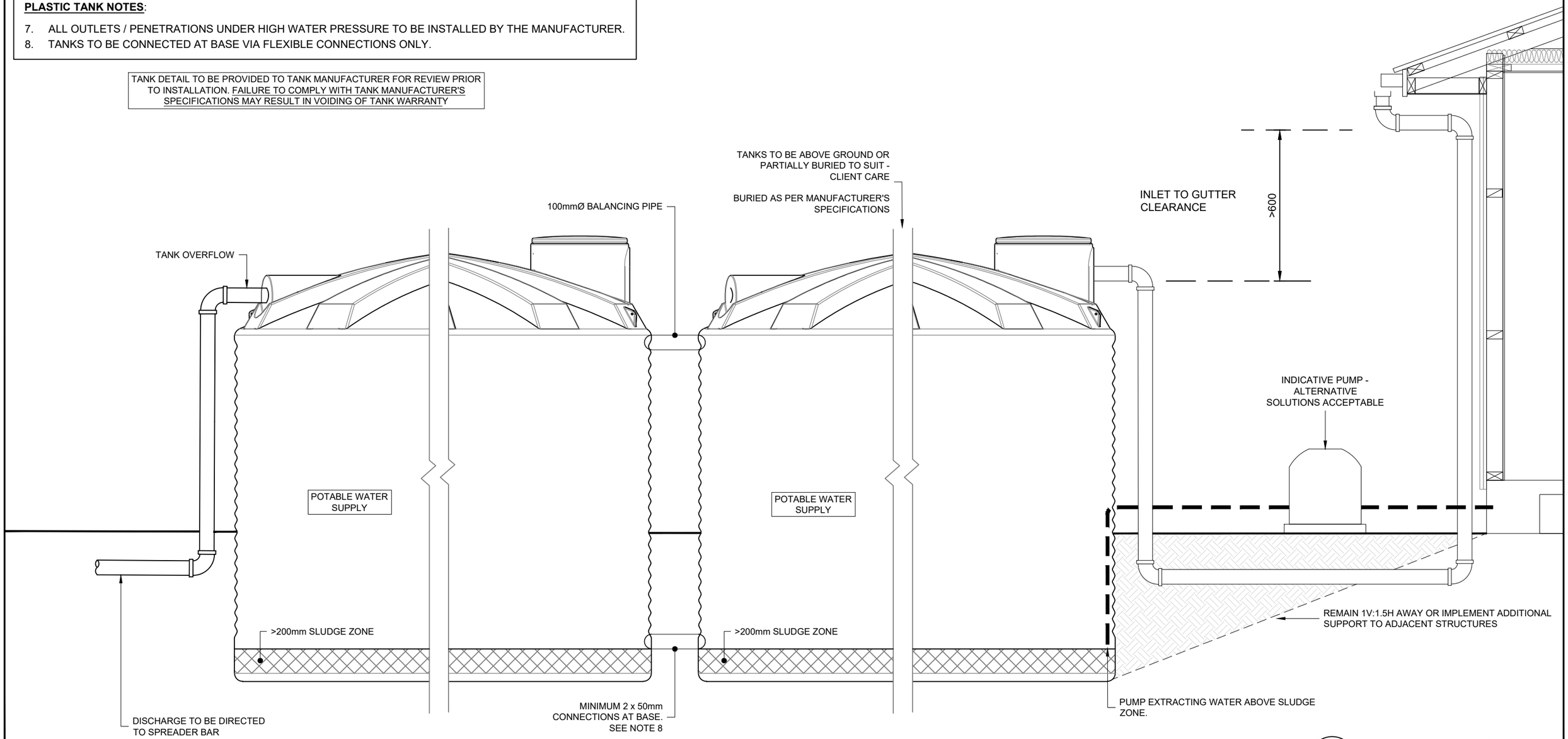
NOTES:

1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. ALL ORIFICE OUTLETS TO BE COVERED WITH STAINLESS STEEL OR NYLON MESH.
6. ASSUMED USE OF 2 x 25,000 LITRE PLASTIC WATER TANK OR SIMILARLY APPROVED.

PLASTIC TANK NOTES:

7. ALL OUTLETS / PENETRATIONS UNDER HIGH WATER PRESSURE TO BE INSTALLED BY THE MANUFACTURER.
8. TANKS TO BE CONNECTED AT BASE VIA FLEXIBLE CONNECTIONS ONLY.

TANK DETAIL TO BE PROVIDED TO TANK MANUFACTURER FOR REVIEW PRIOR TO INSTALLATION. FAILURE TO COMPLY WITH TANK MANUFACTURER'S SPECIFICATIONS MAY RESULT IN VOIDING OF TANK WARRANTY



01 / C200 **TANK DETAIL**
N.T.S

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No.	DATE	BY	DESCRIPTION
A	OCT '24	BGS	STORMWATER REPORT

DESIGNED BY: BGS
DRAWN BY: BGS
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SERVICES NOTE
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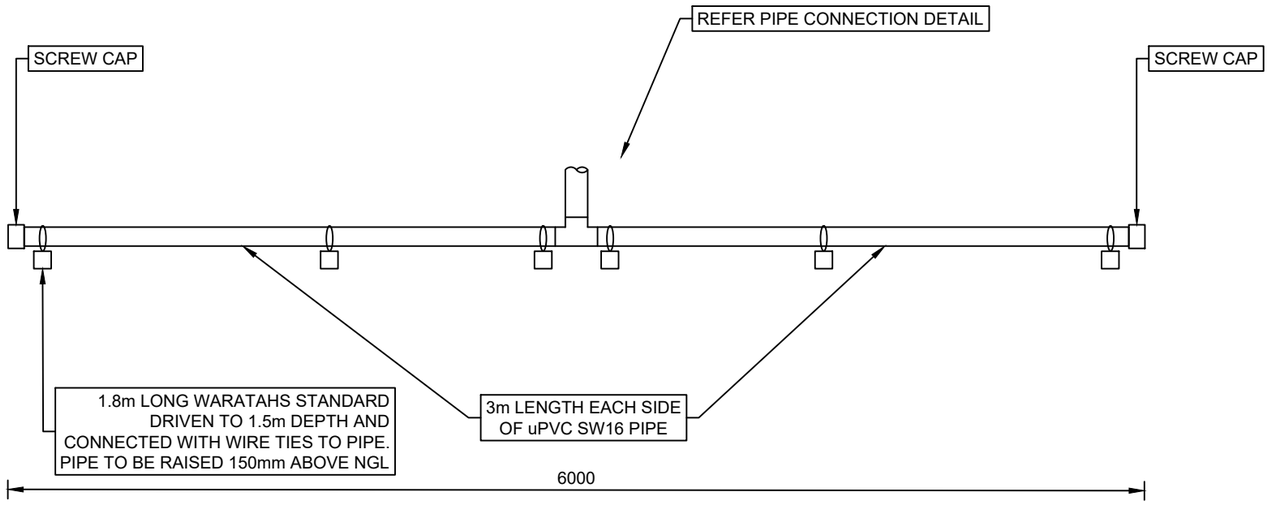
BUILDING CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

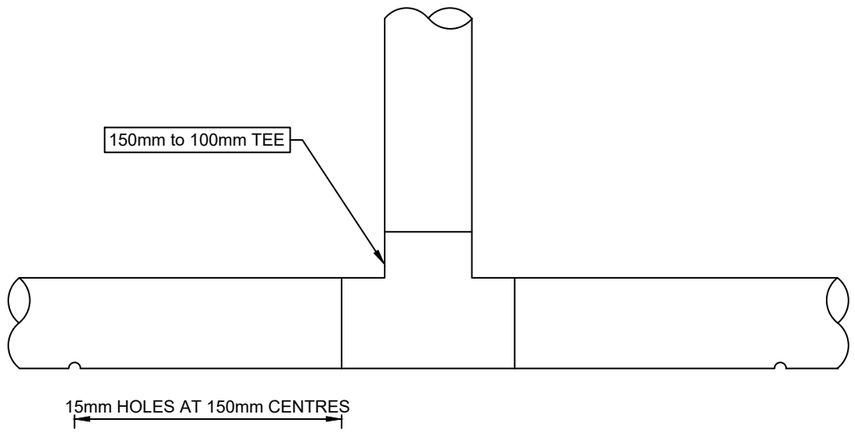
DRAWING TITLE: **TANK DETAIL**
PROJECT DESCRIPTION: **STORMWATER REPORT**

PROJECT TITLE:
LOT 2 DP 600745
86 HAUTAPU ROAD
MOEREWA
NORTHLAND

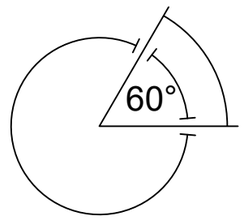
ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **NTS**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **136541-C210**
ISSUE: **A**

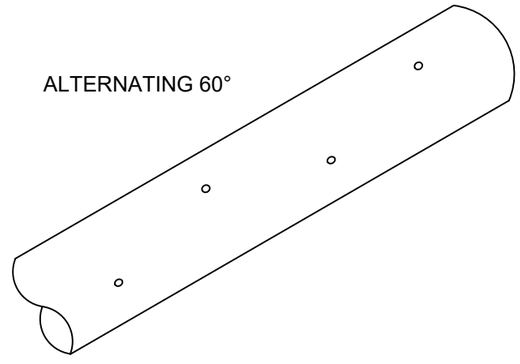


PLAN



PIPE CONNECTION DETAIL





PIPE OUTLET HOLE ARRANGEMENT DETAIL

02 / C200 **DISPERSAL DEVICE DETAIL**

N.T.S

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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	OCT '24	BGS	STORMWATER REPORT

DESIGNED BY: BGS
DRAWN BY: BGS
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BUILDING CONSENT

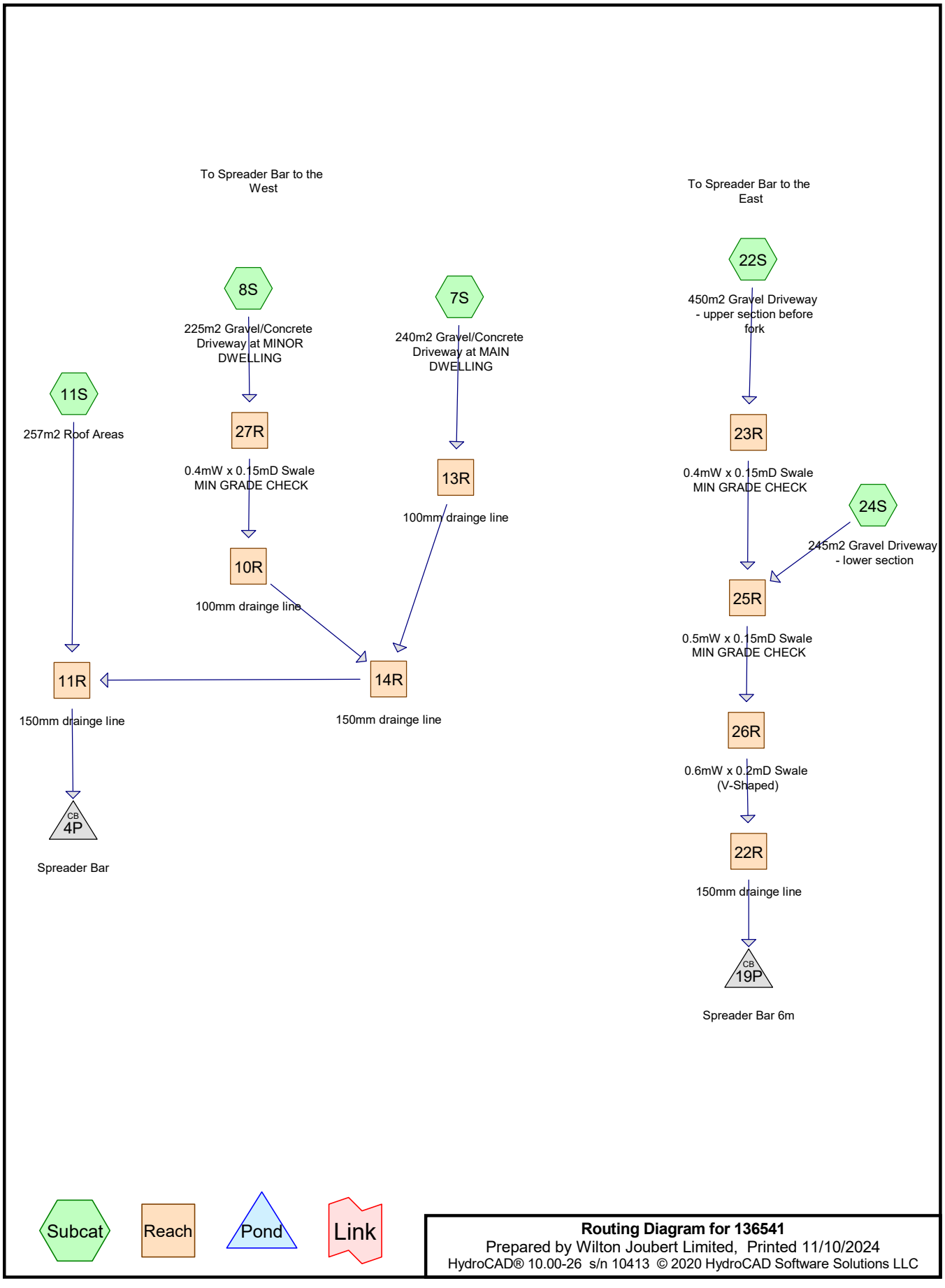
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SPREADER BAR DETAIL**

PROJECT DESCRIPTION: **STORMWATER REPORT**

PROJECT TITLE: **LOT 2 DP 600745 86 HAUTAPU ROAD MOEREWA NORTHLAND**

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **NTS**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **136541-C211**
ISSUE: **A**



Routing Diagram for 136541
Prepared by Wilton Joubert Limited, Printed 11/10/2024

Summary for Subcatchment 7S: 240m2 Gravel/Concrete Driveway at MAIN DWELLING

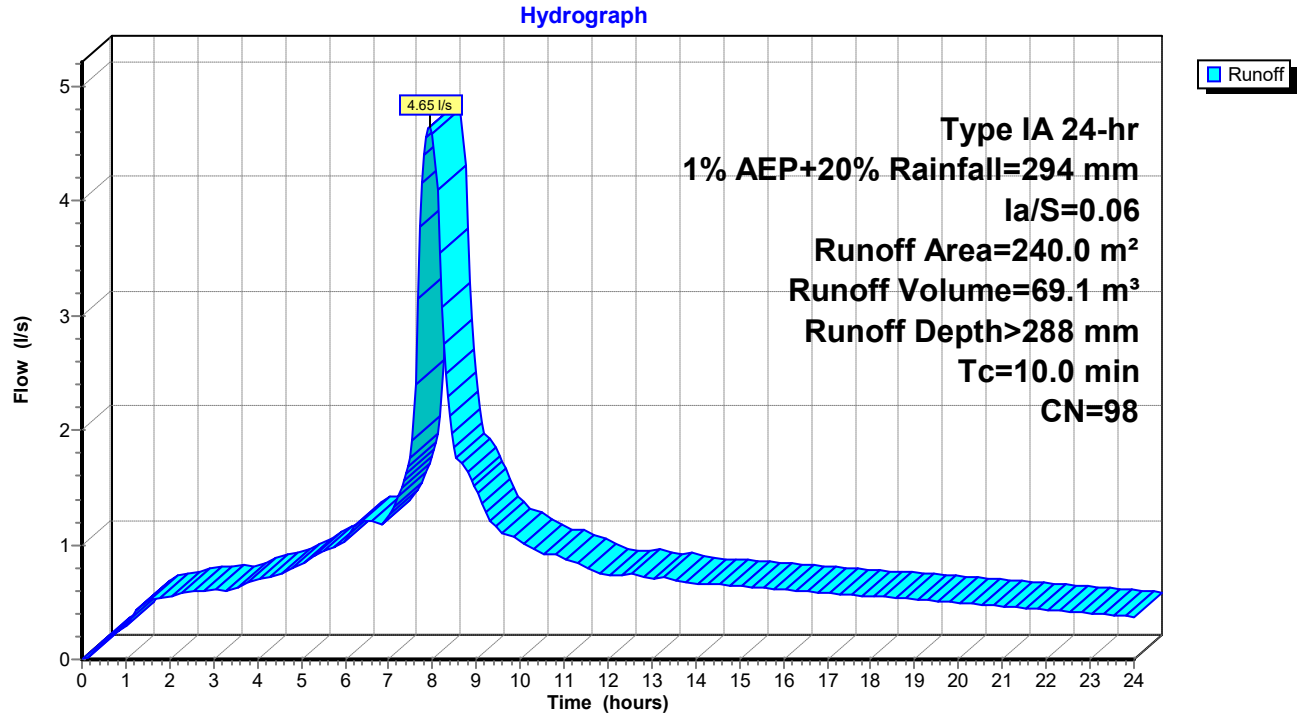
Runoff = 4.65 l/s @ 7.94 hrs, Volume= 69.1 m³, Depth> 288 mm

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=294 mm, Ia/S=0.06

	Area (m²)	CN	Description
*	240.0	98	
	240.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 7S: 240m2 Gravel/Concrete Driveway at MAIN DWELLING



Summary for Subcatchment 8S: 225m2 Gravel/Concrete Driveway at MINOR DWELLING

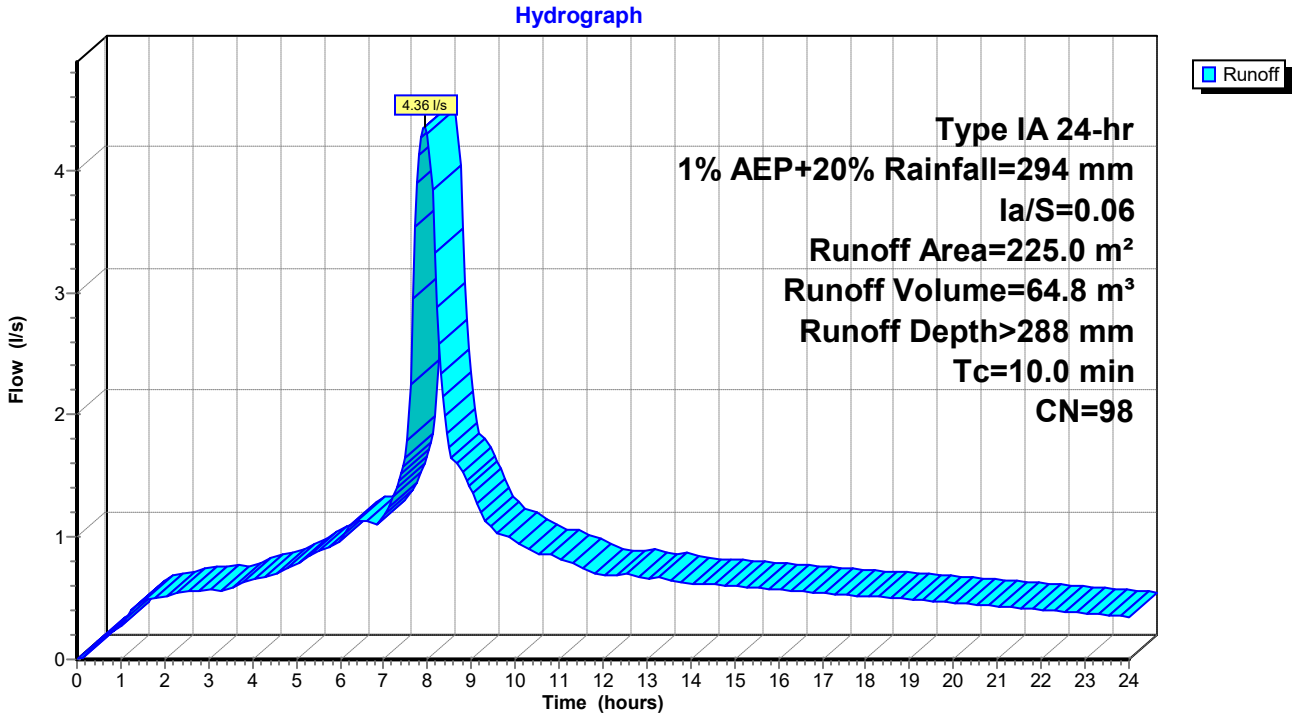
Runoff = 4.36 l/s @ 7.94 hrs, Volume= 64.8 m³, Depth> 288 mm

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=294 mm, Ia/S=0.06

	Area (m²)	CN	Description
*	225.0	98	
	225.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 8S: 225m2 Gravel/Concrete Driveway at MINOR DWELLING



Summary for Subcatchment 11S: 257m2 Roof Areas

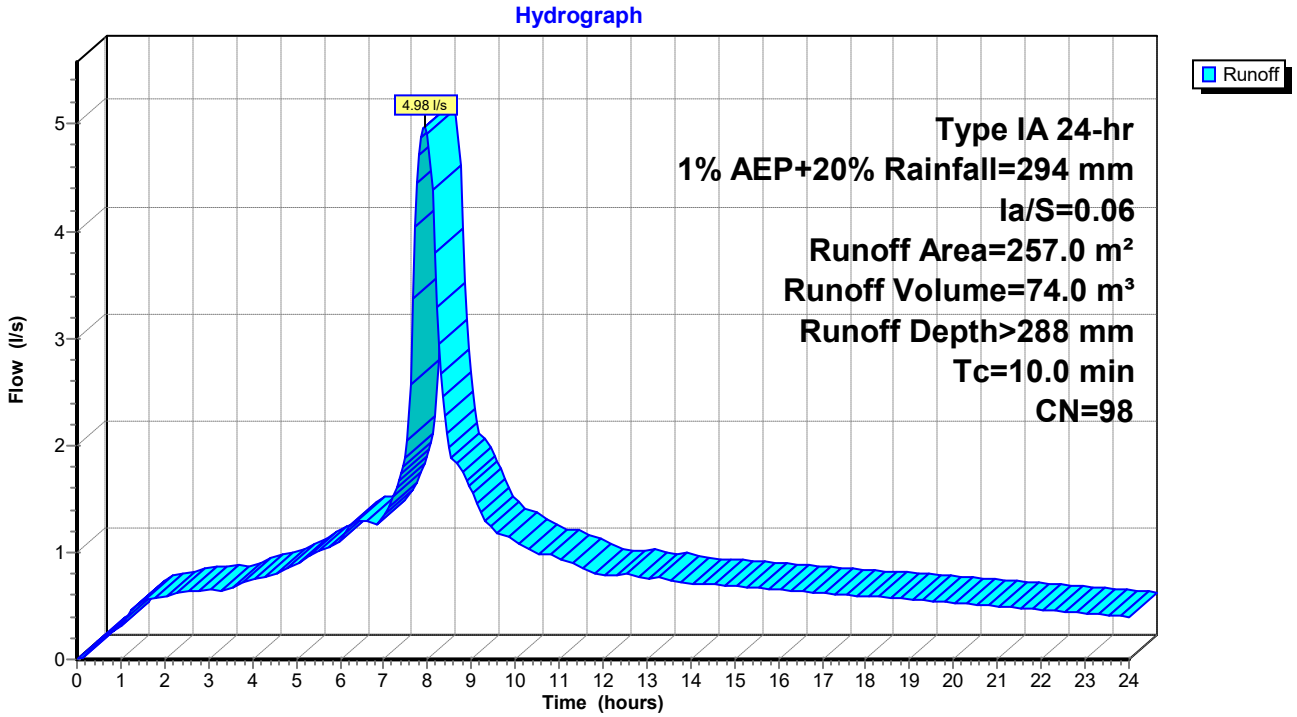
Runoff = 4.98 l/s @ 7.94 hrs, Volume= 74.0 m³, Depth> 288 mm

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=294 mm, Ia/S=0.06

	Area (m²)	CN	Description
*	257.0	98	
	257.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 11S: 257m2 Roof Areas



Summary for Subcatchment 22S: 450m2 Gravel Driveway - upper section before fork

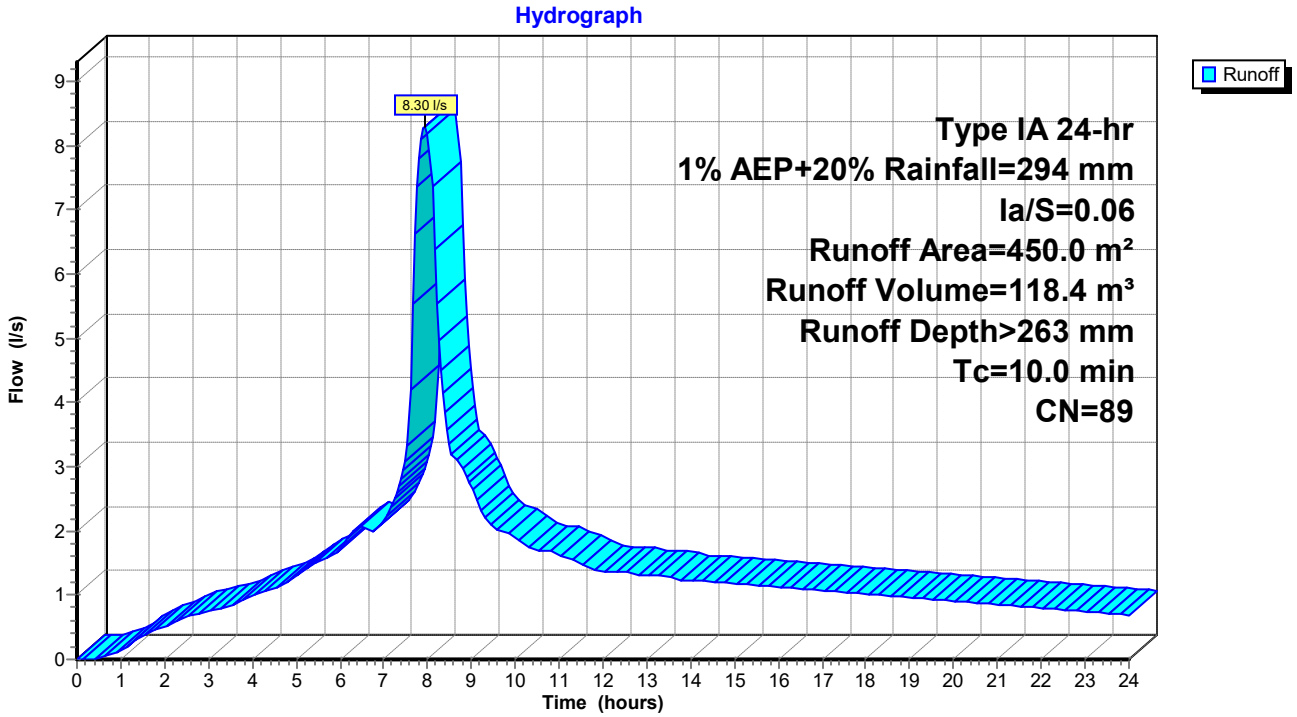
Runoff = 8.30 l/s @ 7.95 hrs, Volume= 118.4 m³, Depth> 263 mm

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=294 mm, Ia/S=0.06

	Area (m²)	CN	Description
*	450.0	89	
	450.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 22S: 450m2 Gravel Driveway - upper section before fork



Summary for Subcatchment 24S: 245m2 Gravel Driveway - lower section

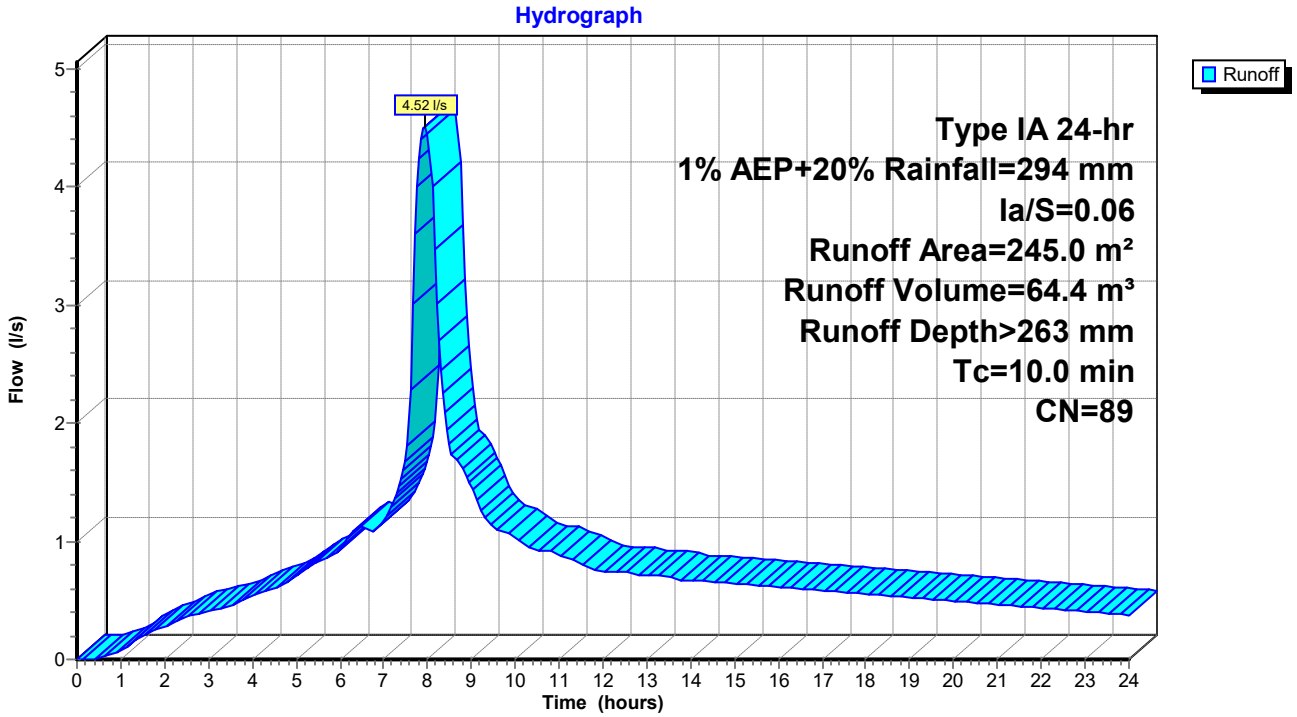
Runoff = 4.52 l/s @ 7.95 hrs, Volume= 64.4 m³, Depth> 263 mm

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=294 mm, Ia/S=0.06

	Area (m²)	CN	Description
*	245.0	89	
	245.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
10.0					**Direct Entry,**

Subcatchment 24S: 245m2 Gravel Driveway - lower section



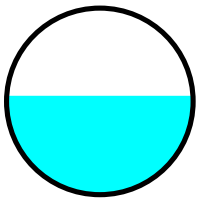
Summary for Reach 10R: 100mm drainge line

Inflow Area = 225.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 4.36 l/s @ 7.94 hrs, Volume= 64.8 m³
Outflow = 4.36 l/s @ 7.95 hrs, Volume= 64.7 m³, Atten= 0%, Lag= 0.4 min

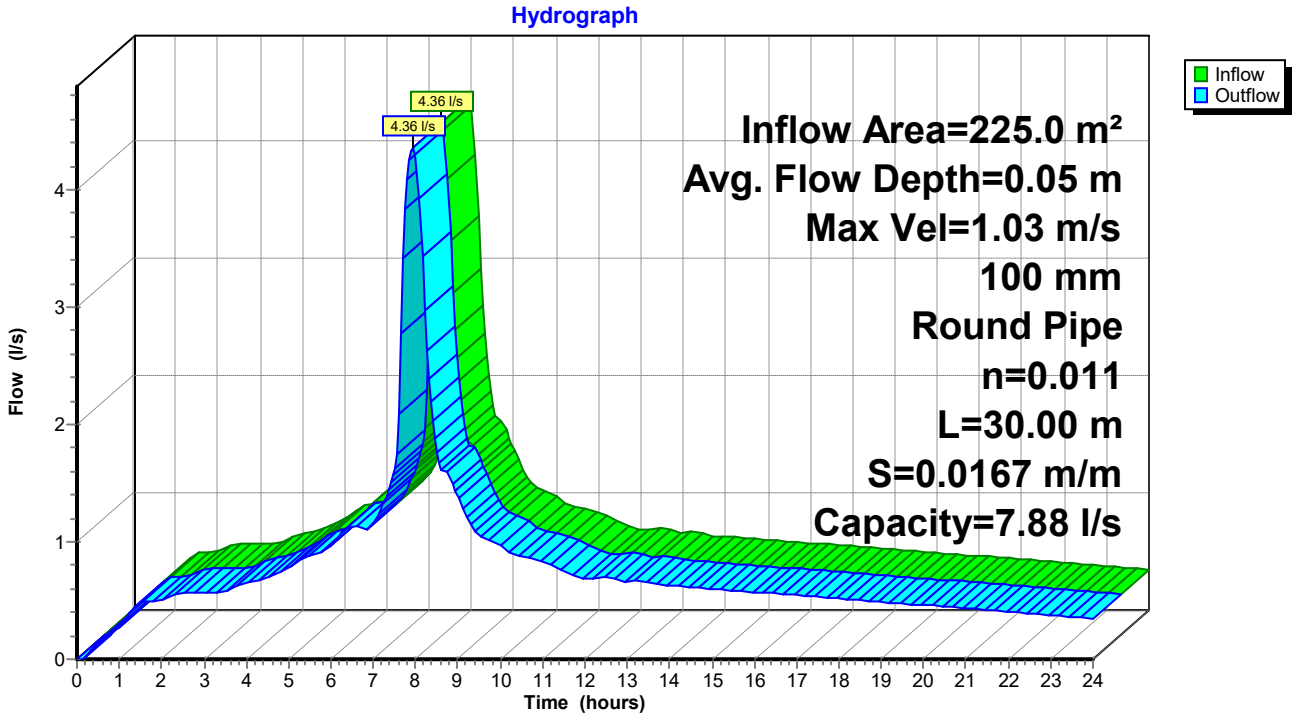
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.03 m/s, Min. Travel Time= 0.5 min
Avg. Velocity = 0.61 m/s, Avg. Travel Time= 0.8 min

Peak Storage= 0.1 m³ @ 7.95 hrs
Average Depth at Peak Storage= 0.05 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 7.88 l/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 30.00 m Slope= 0.0167 m/m
Inlet Invert= 126.500 m, Outlet Invert= 126.000 m



Reach 10R: 100mm drainge line



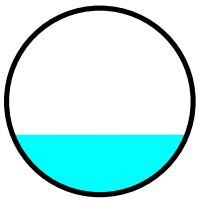
Summary for Reach 11R: 150mm drainge line

Inflow Area = 722.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 13.99 l/s @ 7.94 hrs, Volume= 207.8 m³
Outflow = 13.99 l/s @ 7.95 hrs, Volume= 207.7 m³, Atten= 0%, Lag= 0.2 min

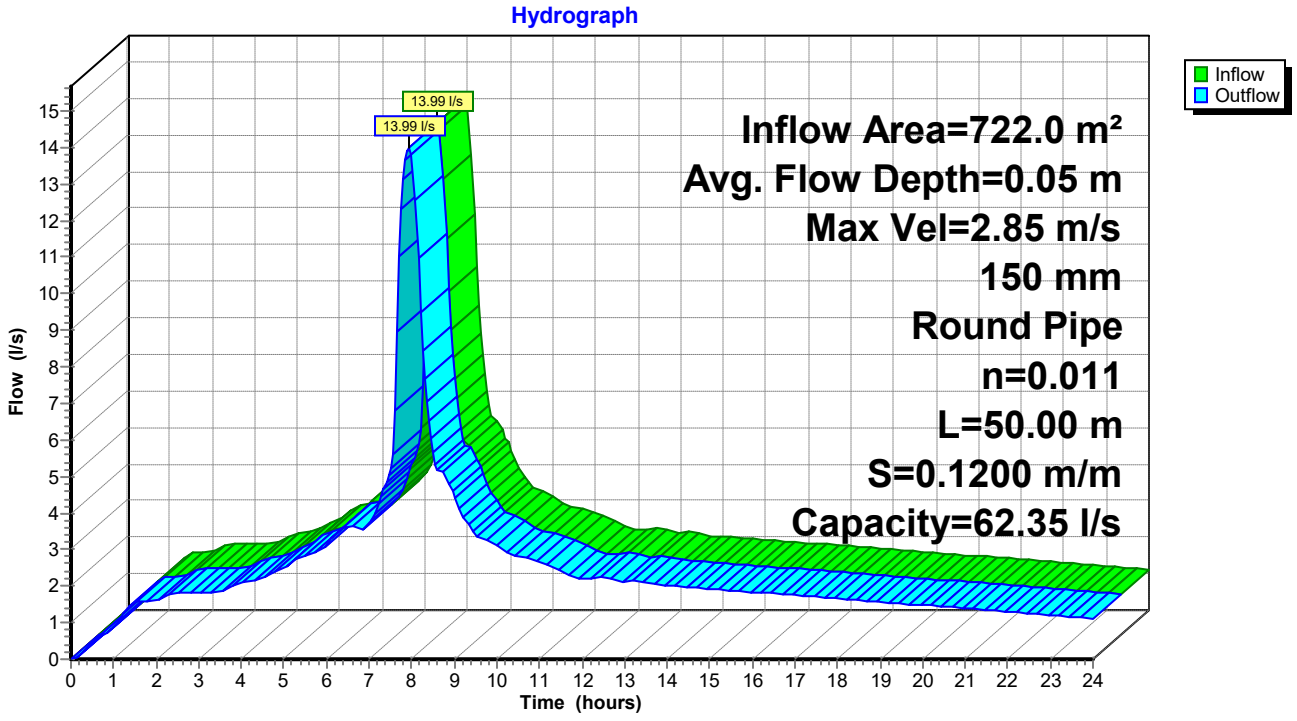
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.85 m/s, Min. Travel Time= 0.3 min
Avg. Velocity = 1.64 m/s, Avg. Travel Time= 0.5 min

Peak Storage= 0.2 m³ @ 7.95 hrs
Average Depth at Peak Storage= 0.05 m
Bank-Full Depth= 0.15 m Flow Area= 0.02 m², Capacity= 62.35 l/s

150 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 50.00 m Slope= 0.1200 m/m
Inlet Invert= 125.000 m, Outlet Invert= 119.000 m



Reach 11R: 150mm drainge line



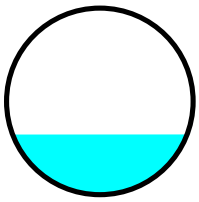
Summary for Reach 13R: 100mm drainge line

Inflow Area = 240.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 4.65 l/s @ 7.94 hrs, Volume= 69.1 m³
Outflow = 4.65 l/s @ 7.94 hrs, Volume= 69.1 m³, Atten= 0%, Lag= 0.1 min

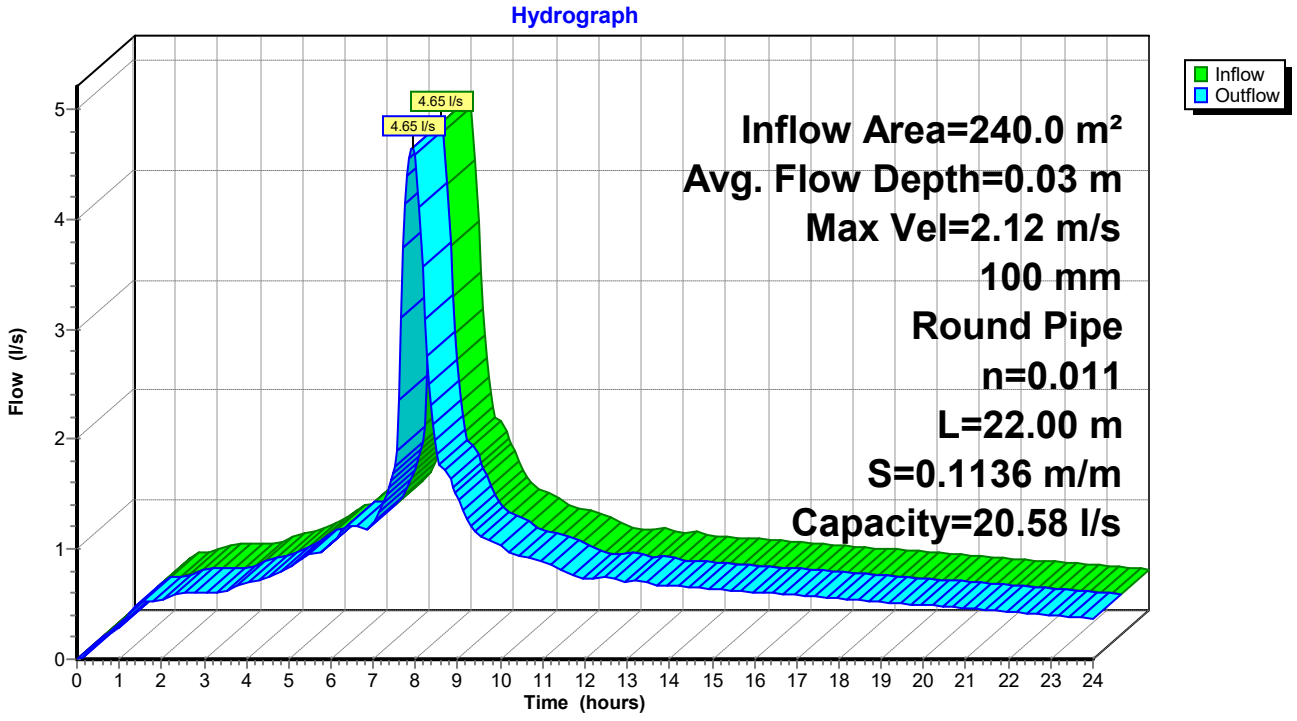
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.12 m/s, Min. Travel Time= 0.2 min
Avg. Velocity = 1.22 m/s, Avg. Travel Time= 0.3 min

Peak Storage= 0.0 m³ @ 7.94 hrs
Average Depth at Peak Storage= 0.03 m
Bank-Full Depth= 0.10 m Flow Area= 0.01 m², Capacity= 20.58 l/s

100 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 22.00 m Slope= 0.1136 m/m
Inlet Invert= 128.500 m, Outlet Invert= 126.000 m



Reach 13R: 100mm drainge line



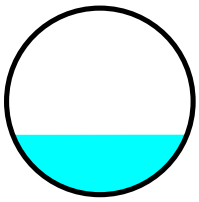
Summary for Reach 14R: 150mm drainge line

Inflow Area = 465.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 9.01 l/s @ 7.94 hrs, Volume= 133.8 m³
Outflow = 9.01 l/s @ 7.95 hrs, Volume= 133.8 m³, Atten= 0%, Lag= 0.1 min

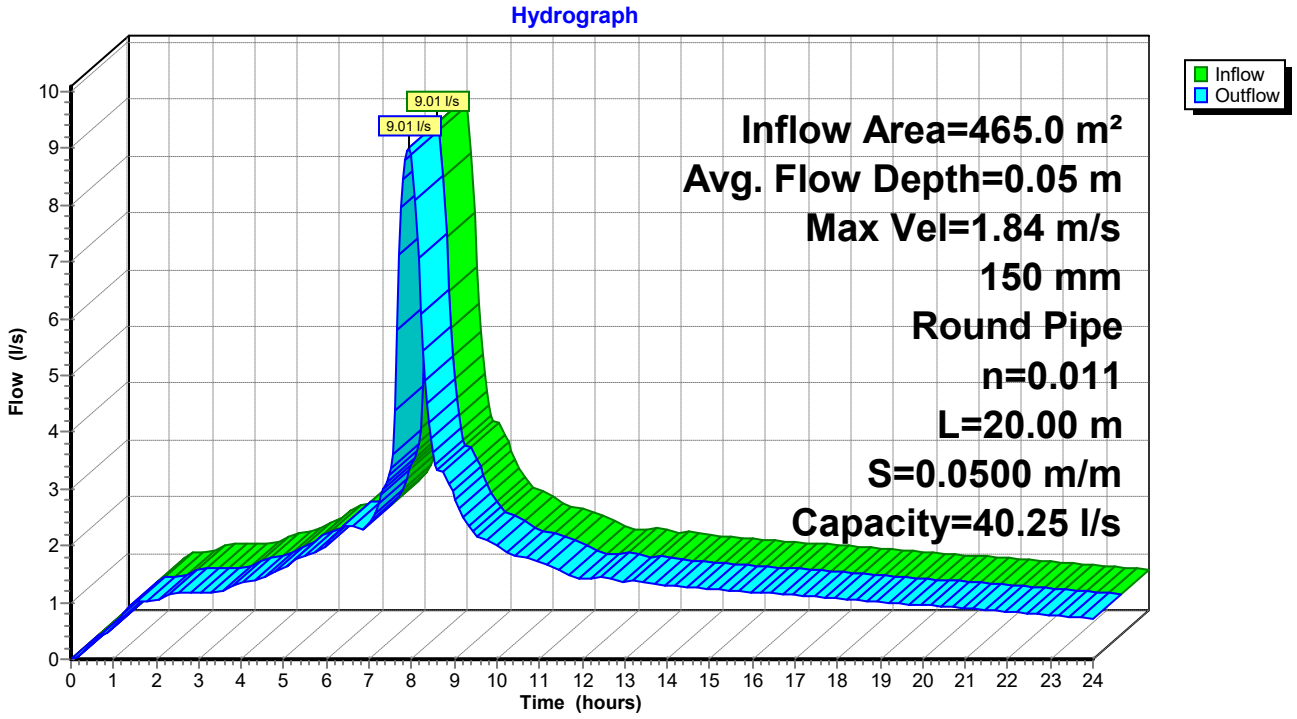
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.84 m/s, Min. Travel Time= 0.2 min
Avg. Velocity = 1.06 m/s, Avg. Travel Time= 0.3 min

Peak Storage= 0.1 m³ @ 7.95 hrs
Average Depth at Peak Storage= 0.05 m
Bank-Full Depth= 0.15 m Flow Area= 0.02 m², Capacity= 40.25 l/s

150 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 20.00 m Slope= 0.0500 m/m
Inlet Invert= 126.000 m, Outlet Invert= 125.000 m



Reach 14R: 150mm drainge line



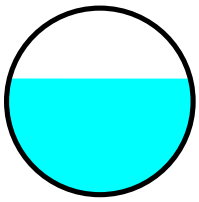
Summary for Reach 22R: 150mm drainge line

Inflow Area = 695.0 m², 0.00% Impervious, Inflow Depth > 263 mm for 1% AEP+20% event
Inflow = 12.81 l/s @ 7.97 hrs, Volume= 182.6 m³
Outflow = 12.81 l/s @ 7.98 hrs, Volume= 182.5 m³, Atten= 0%, Lag= 0.5 min

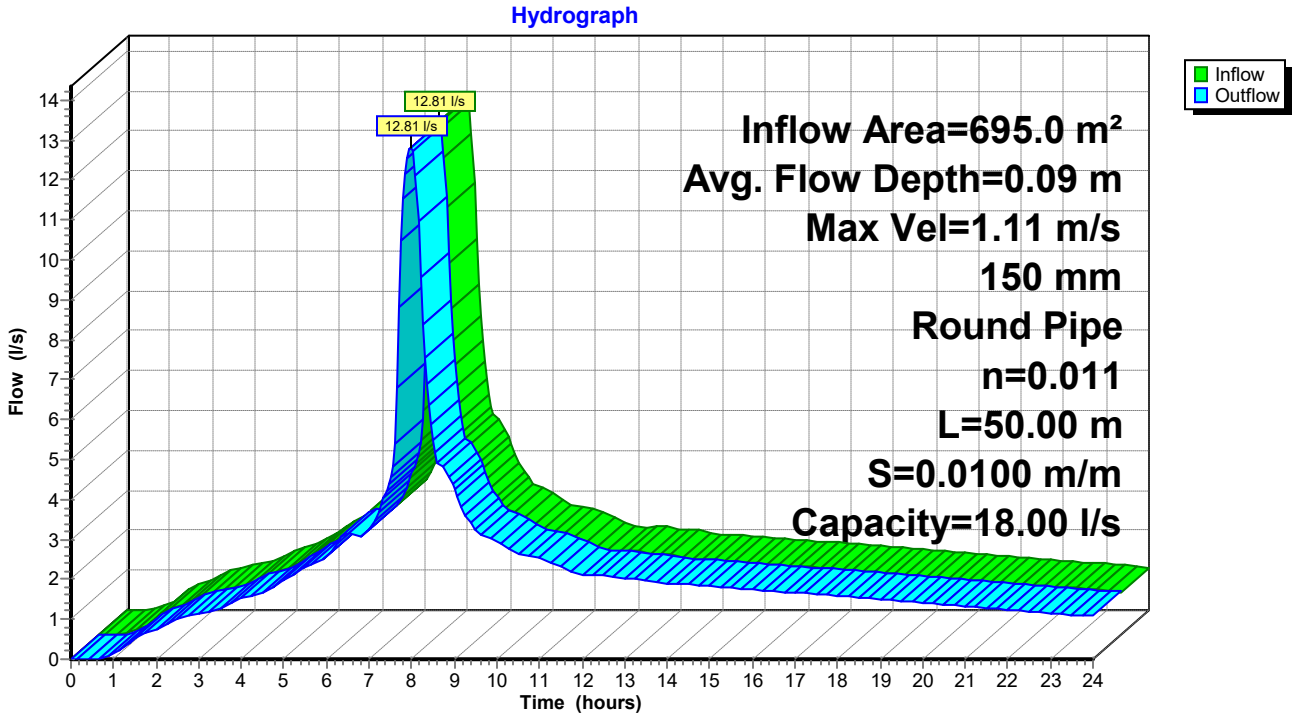
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.11 m/s, Min. Travel Time= 0.8 min
Avg. Velocity = 0.66 m/s, Avg. Travel Time= 1.3 min

Peak Storage= 0.6 m³ @ 7.98 hrs
Average Depth at Peak Storage= 0.09 m
Bank-Full Depth= 0.15 m Flow Area= 0.02 m², Capacity= 18.00 l/s

150 mm Round Pipe
n= 0.011 PVC, smooth interior
Length= 50.00 m Slope= 0.0100 m/m
Inlet Invert= 100.000 m, Outlet Invert= 99.500 m



Reach 22R: 150mm drainge line



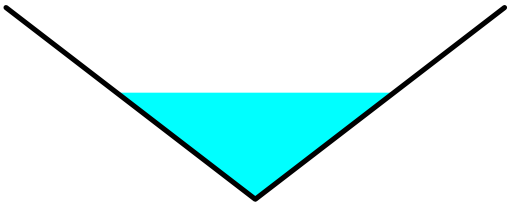
Summary for Reach 23R: 0.4mW x 0.15mD Swale MIN GRADE CHECK

Inflow Area = 450.0 m², 0.00% Impervious, Inflow Depth > 263 mm for 1% AEP+20% event
Inflow = 8.30 l/s @ 7.95 hrs, Volume= 118.4 m³
Outflow = 8.29 l/s @ 7.96 hrs, Volume= 118.3 m³, Atten= 0%, Lag= 1.0 min

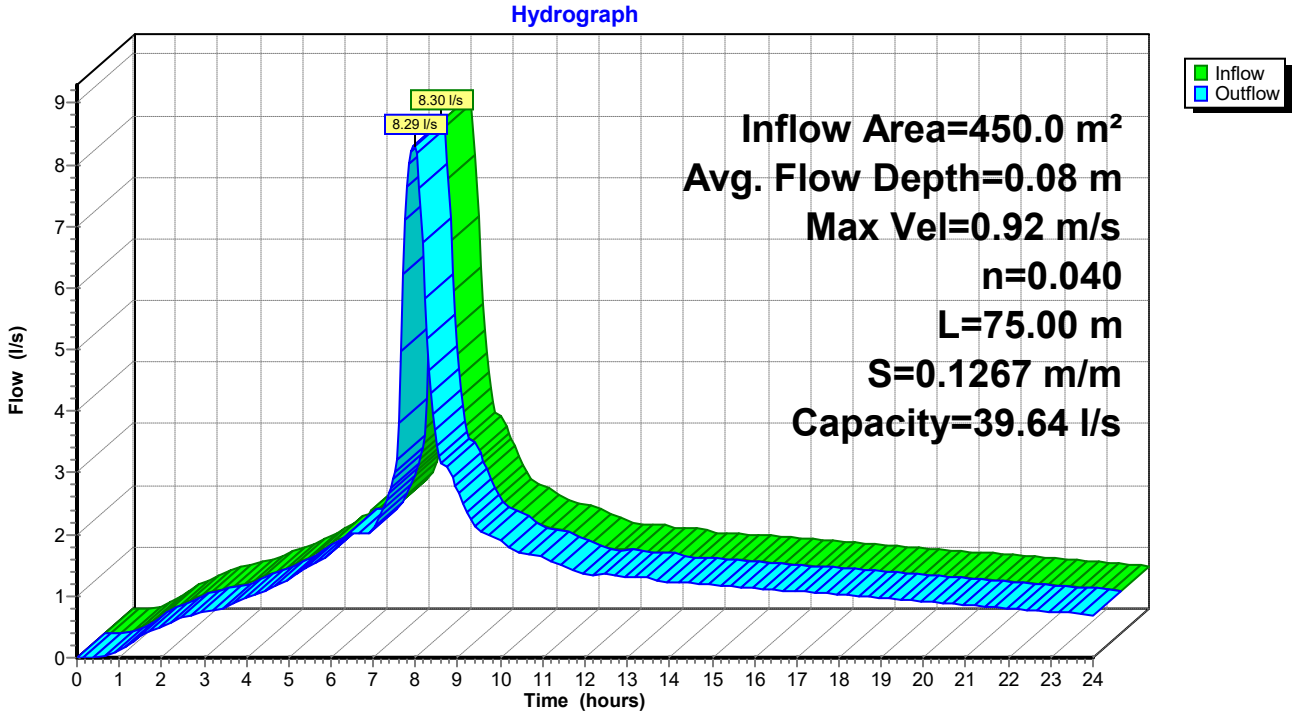
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.92 m/s, Min. Travel Time= 1.4 min
Avg. Velocity = 0.56 m/s, Avg. Travel Time= 2.2 min

Peak Storage= 0.7 m³ @ 7.96 hrs
Average Depth at Peak Storage= 0.08 m
Bank-Full Depth= 0.15 m Flow Area= 0.03 m², Capacity= 39.64 l/s

0.00 m x 0.15 m deep channel, n= 0.040
Side Slope Z-value= 1.3 m/m Top Width= 0.39 m
Length= 75.00 m Slope= 0.1267 m/m
Inlet Invert= 142.500 m, Outlet Invert= 133.000 m



Reach 23R: 0.4mW x 0.15mD Swale MIN GRADE CHECK



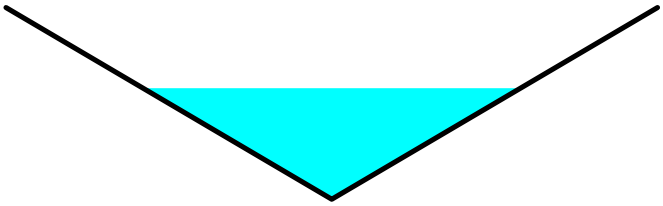
Summary for Reach 25R: 0.5mW x 0.15mD Swale MIN GRADE CHECK

Inflow Area = 695.0 m², 0.00% Impervious, Inflow Depth > 263 mm for 1% AEP+20% event
Inflow = 12.81 l/s @ 7.96 hrs, Volume= 182.7 m³
Outflow = 12.81 l/s @ 7.96 hrs, Volume= 182.7 m³, Atten= 0%, Lag= 0.1 min

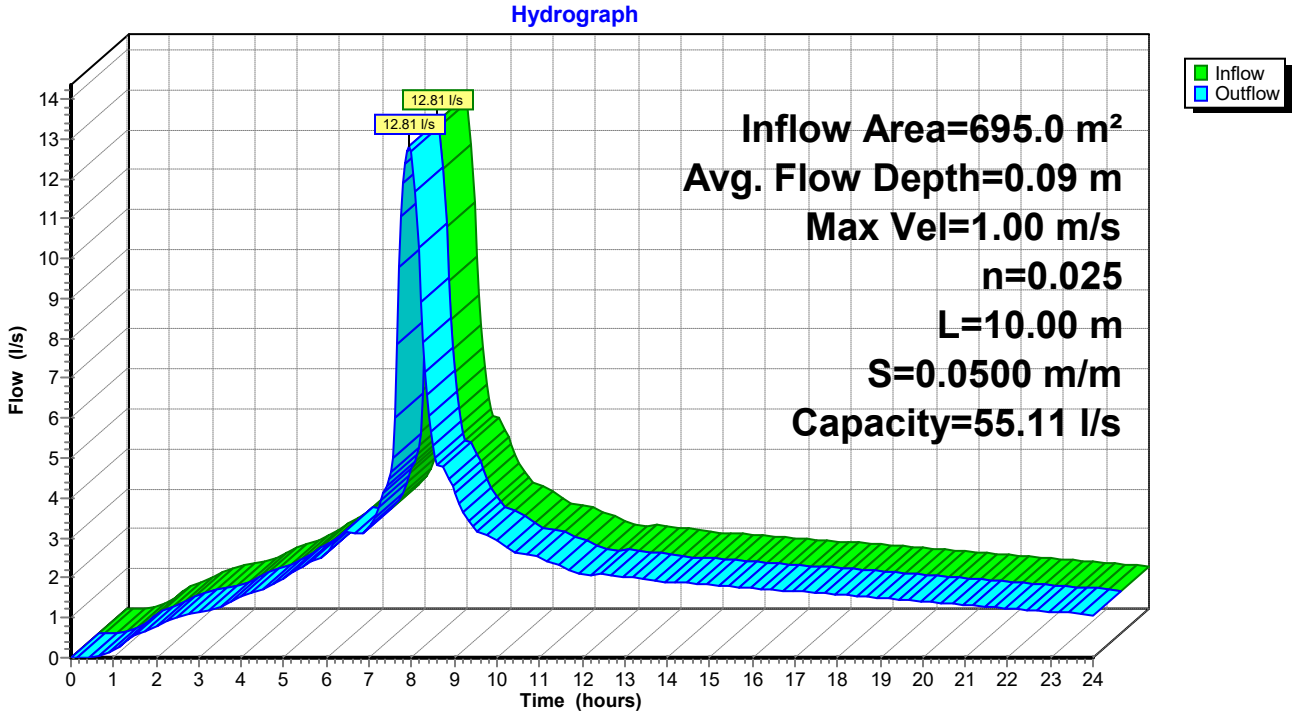
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.00 m/s, Min. Travel Time= 0.2 min
Avg. Velocity = 0.62 m/s, Avg. Travel Time= 0.3 min

Peak Storage= 0.1 m³ @ 7.96 hrs
Average Depth at Peak Storage= 0.09 m
Bank-Full Depth= 0.15 m Flow Area= 0.04 m², Capacity= 55.11 l/s

0.00 m x 0.15 m deep channel, n= 0.025
Side Slope Z-value= 1.7 m/m Top Width= 0.51 m
Length= 10.00 m Slope= 0.0500 m/m
Inlet Invert= 132.500 m, Outlet Invert= 132.000 m



Reach 25R: 0.5mW x 0.15mD Swale MIN GRADE CHECK



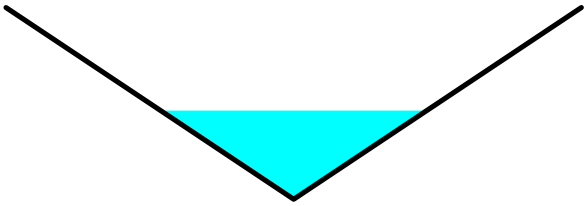
Summary for Reach 26R: 0.6mW x 0.2mD Swale (V-Shaped)

Inflow Area = 695.0 m², 0.00% Impervious, Inflow Depth > 263 mm for 1% AEP+20% event
Inflow = 12.81 l/s @ 7.96 hrs, Volume= 182.7 m³
Outflow = 12.81 l/s @ 7.97 hrs, Volume= 182.6 m³, Atten= 0%, Lag= 0.8 min

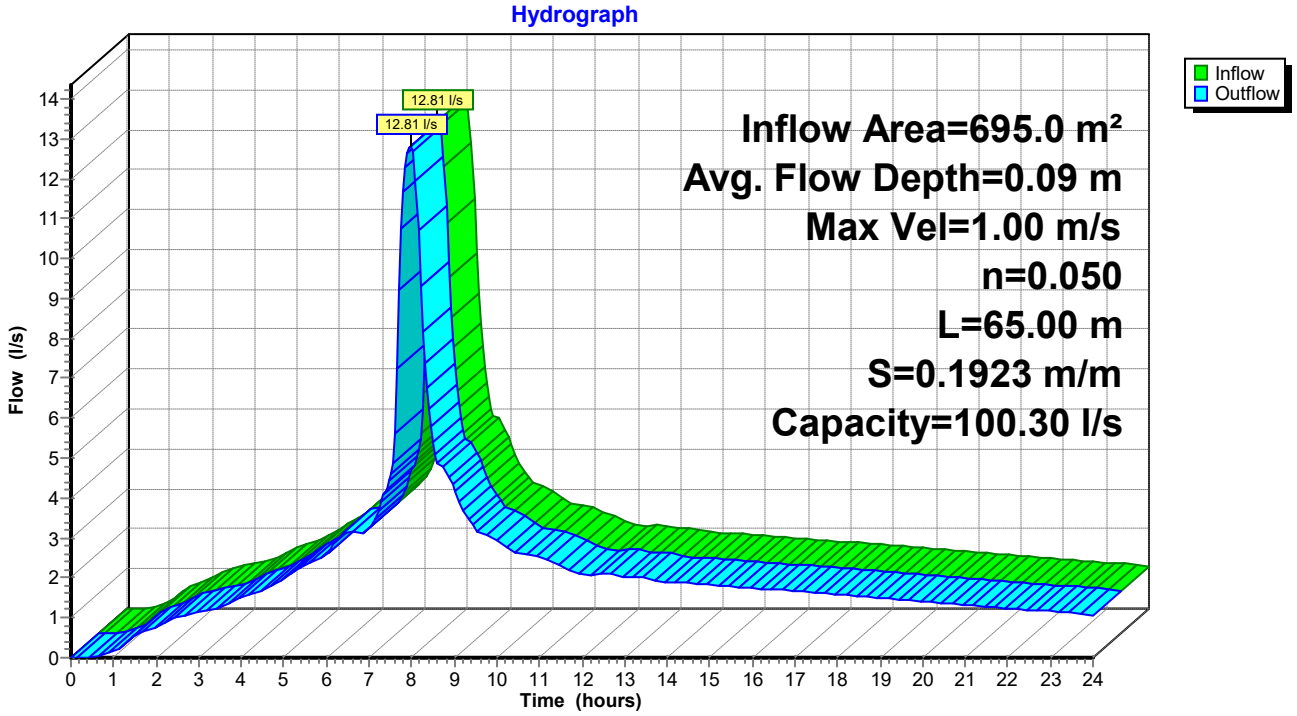
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.00 m/s, Min. Travel Time= 1.1 min
Avg. Velocity = 0.62 m/s, Avg. Travel Time= 1.8 min

Peak Storage= 0.8 m³ @ 7.97 hrs
Average Depth at Peak Storage= 0.09 m
Bank-Full Depth= 0.20 m Flow Area= 0.06 m², Capacity= 100.30 l/s

0.00 m x 0.20 m deep channel, n= 0.050
Side Slope Z-value= 1.5 m/m Top Width= 0.60 m
Length= 65.00 m Slope= 0.1923 m/m
Inlet Invert= 131.500 m, Outlet Invert= 119.000 m



Reach 26R: 0.6mW x 0.2mD Swale (V-Shaped)



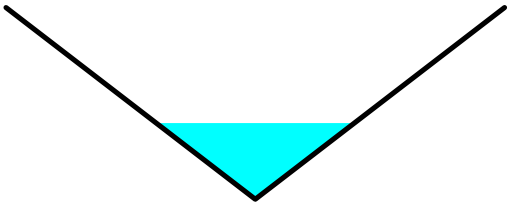
Summary for Reach 27R: 0.4mW x 0.15mD Swale MIN GRADE CHECK

Inflow Area = 225.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 4.36 l/s @ 7.94 hrs, Volume= 64.8 m³
Outflow = 4.36 l/s @ 7.94 hrs, Volume= 64.8 m³, Atten= 0%, Lag= 0.3 min

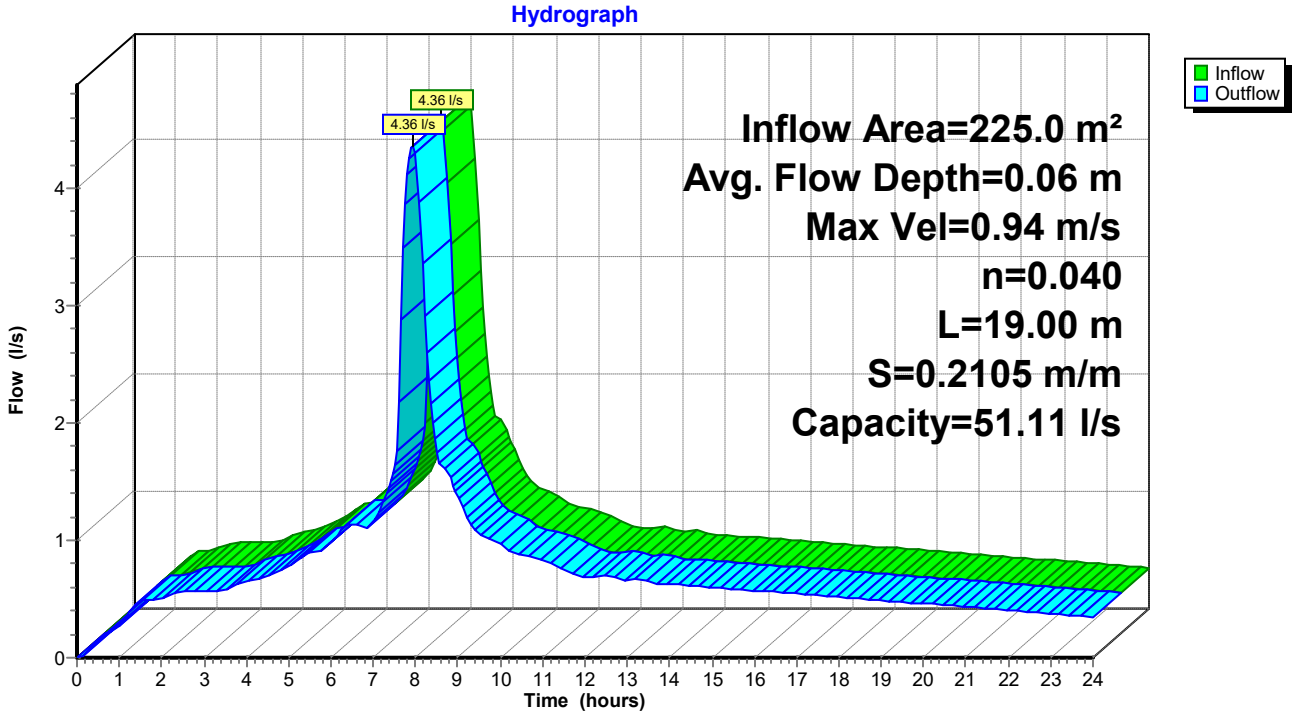
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.94 m/s, Min. Travel Time= 0.3 min
Avg. Velocity = 0.59 m/s, Avg. Travel Time= 0.5 min

Peak Storage= 0.1 m³ @ 7.94 hrs
Average Depth at Peak Storage= 0.06 m
Bank-Full Depth= 0.15 m Flow Area= 0.03 m², Capacity= 51.11 l/s

0.00 m x 0.15 m deep channel, n= 0.040
Side Slope Z-value= 1.3 m/m Top Width= 0.39 m
Length= 19.00 m Slope= 0.2105 m/m
Inlet Invert= 132.000 m, Outlet Invert= 128.000 m



Reach 27R: 0.4mW x 0.15mD Swale MIN GRADE CHECK



Summary for Pond 4P: Spreader Bar

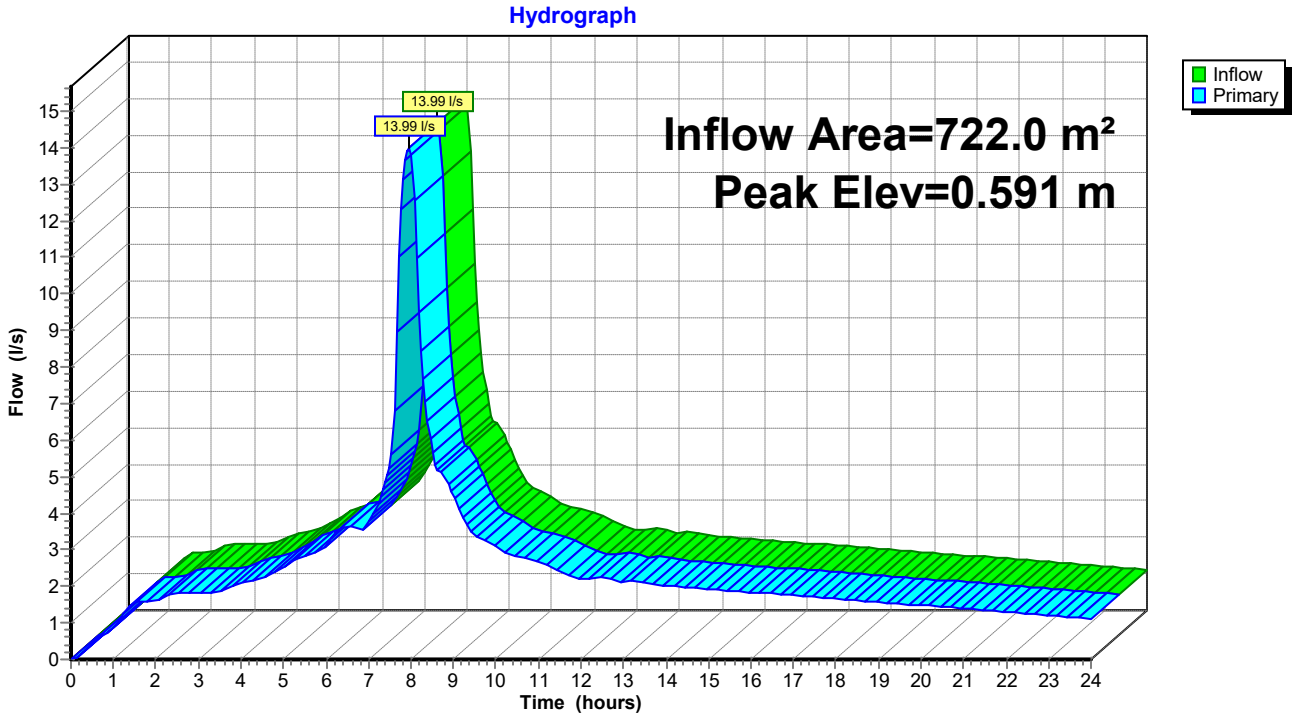
Inflow Area = 722.0 m²,100.00% Impervious, Inflow Depth > 288 mm for 1% AEP+20% event
Inflow = 13.99 l/s @ 7.95 hrs, Volume= 207.7 m³
Outflow = 13.99 l/s @ 7.95 hrs, Volume= 207.7 m³, Atten= 0%, Lag= 0.0 min
Primary = 13.99 l/s @ 7.95 hrs, Volume= 207.7 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.591 m @ 7.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	**15 mm Vert. Orifice/Grate X 39.00** C= 0.600

Primary OutFlow Max=13.99 l/s @ 7.95 hrs HW=0.591 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 13.99 l/s @ 2.03 m/s)

Pond 4P: Spreader Bar



Summary for Pond 19P: Spreader Bar 6m

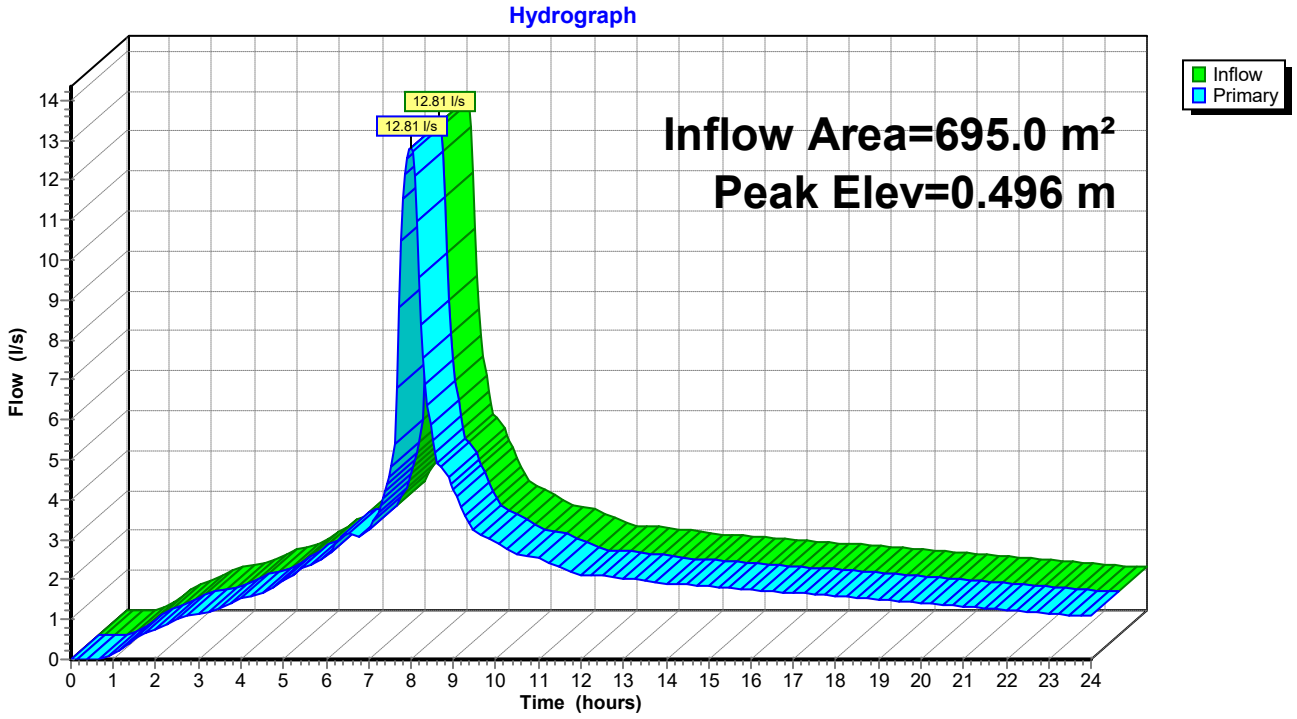
Inflow Area = 695.0 m², 0.00% Impervious, Inflow Depth > 263 mm for 1% AEP+20% event
Inflow = 12.81 l/s @ 7.98 hrs, Volume= 182.5 m³
Outflow = 12.81 l/s @ 7.98 hrs, Volume= 182.5 m³, Atten= 0%, Lag= 0.0 min
Primary = 12.81 l/s @ 7.98 hrs, Volume= 182.5 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.496 m @ 7.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	**15 mm Vert. Orifice/Grate X 39.00** C= 0.600

Primary OutFlow Max=12.78 l/s @ 7.98 hrs HW=0.495 m (Free Discharge)
1=Orifice/Grate (Orifice Controls 12.78 l/s @ 1.85 m/s)

Pond 19P: Spreader Bar 6m



Wilton Joubert Limited
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PO BOX 11-381
Ellerslie
Auckland 1524

SITE	**86 Hautapu Road, Moerewa**
LEGAL DESCRIPTION	**Lot 2 DP 600745**
PROJECT	**2x Relocatable Residential Dwellings**
CLIENT	**Leighton & Emily Scott**
REFERENCE NO.	**136542**
DOCUMENT	**On-site Wastewater Treatment and Disposal Design**
STATUS/REVISION NO.	**A**
DATE OF ISSUE	**11 October 2024**

Report Prepared For	Email
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1. EXECUTIVE SUMMARY

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

Legal Description:	Lot 2 DP 600745
Site Area:	4.8250 ha
Development Type:	Main Residential Dwelling (4-bedroom) & Minor Dwelling (2-bedroom)
Development Proposals Supplied:	Yes – Architectural Plan Set supplied.
Associated Documents:	Wilton Joubert Ltd. Geotechnical Report, Job Number: 136540 Wilton Joubert Ltd. Civil Site Suitability Report, Job Number: 136541
Fill Encountered in Disposal Area:	No
Overall Site Gradient within Disposal Area:	Gentle to moderately sloping ground 10-12°
Site Stability Risk:	Overall Low Risk of Global Instability.
Geology Encountered:	Waipapa Group
Site Soil Category (TP58):	Category 5
Daily Application Rate:	4mm/day
Number of Bedrooms:	6
Max Dwelling Occupancy:	6 + 4 = 10
Water Source:	Rainwater Collection Tanks (180ℓ per person, per day)
Daily Wastewater Production:	1,800 ℓ/day
Disposal Area:	450m²
Reserve Area:	225m² (50%)
Application Method:	Surface Laid Pressure Compensating Drip Irrigation Lines
Effluent Treatment Level:	Secondary Treatment Plant (<BOD5 20 mg/L, TSS 30 mg/L)

2. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by Leighton & Emily Scott to undertake a wastewater investigation at the above site, where we understand, it is proposed to re-site two relocatable residential dwellings, one being a 4-bedroom main dwelling and the other a 2-bedroom minor dwelling.

At the time of preparation of this report, the following documents were referred to for details of the proposed development:

- Draft architectural drawings of the main dwelling, titled; '*92 Hautapu Road, Moerewa*', prepared by Living Architecture (ref: 100977, numerous plan dates), and
- Draft architectural drawings of the minor dwelling, titled; '*92 Hautapu Road, Moerewa*', prepared by Living Architecture (ref: 100977, numerous plan dates).

The drawing sets respectively contain 12 and 13 sheets each, including Site, Excavation, Elevation, Subfloor, and Section Plans.

Any revision of drawings and/or development proposals with implications on the wastewater design should be referred back to WJL for review.

3. SITE DESCRIPTION

The subject ~4.82ha Rural Production zoned, vacant block is located off the eastern side of Hautapu Road, accessed 850m north of the State Highway 1 intersection, on the north-western outskirts of the Moerewa township. The Lot is to be accessed at the northern boundary corner via a newly formed driveway that trends towards the southeast.

The property is situated towards the crest of a south facing flank of the local ridgeline. The investigated development area is situated on gently to moderately sloping terrain, as part of a greater slope, down towards Otiria Stream to the southeast, with a drop in elevation of around 100m across the property.

The north and northwestern side of the site is predominantly covered in pasture, with areas of dense vegetation and bush located in the lower, steeper gullies to the south and southeast. The terrain slopes gently southeast at an incline of 8-12° near the proposed building platforms and effluent field with steeper grades further downslope.

Figure 1: Aerial Image of the site marked in red with contours of 10m interval indicated (FNDC Maps)

The FNDC on-line GIS Water Services Map indicates that reticulated wastewater, stormwater, and potable water connections are not available to the property.

4. MAPPED GEOLOGY & SOIL ASSESSMENT

Local geology across the northern arcuate feature at the proposed development is noted on the New Zealand Geology Web Map, Scale 1:250,000, as; **Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group)**. These deposits are approximately 32 to 49 million years in age and described as; "*Slightly calcareous, glauconitic, muddy, fine-grained sandstone*" (refer: GNS Science Website).

Referring to the above mapping source, local geology across the southern gully feature is noted as; **Waipapa Group Sandstone and Siltstone (Waipapa Composite Terrane)**. These deposits are approximately 154 to 270 million years in age and described as; "*Massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert, and siliceous argillite.*"

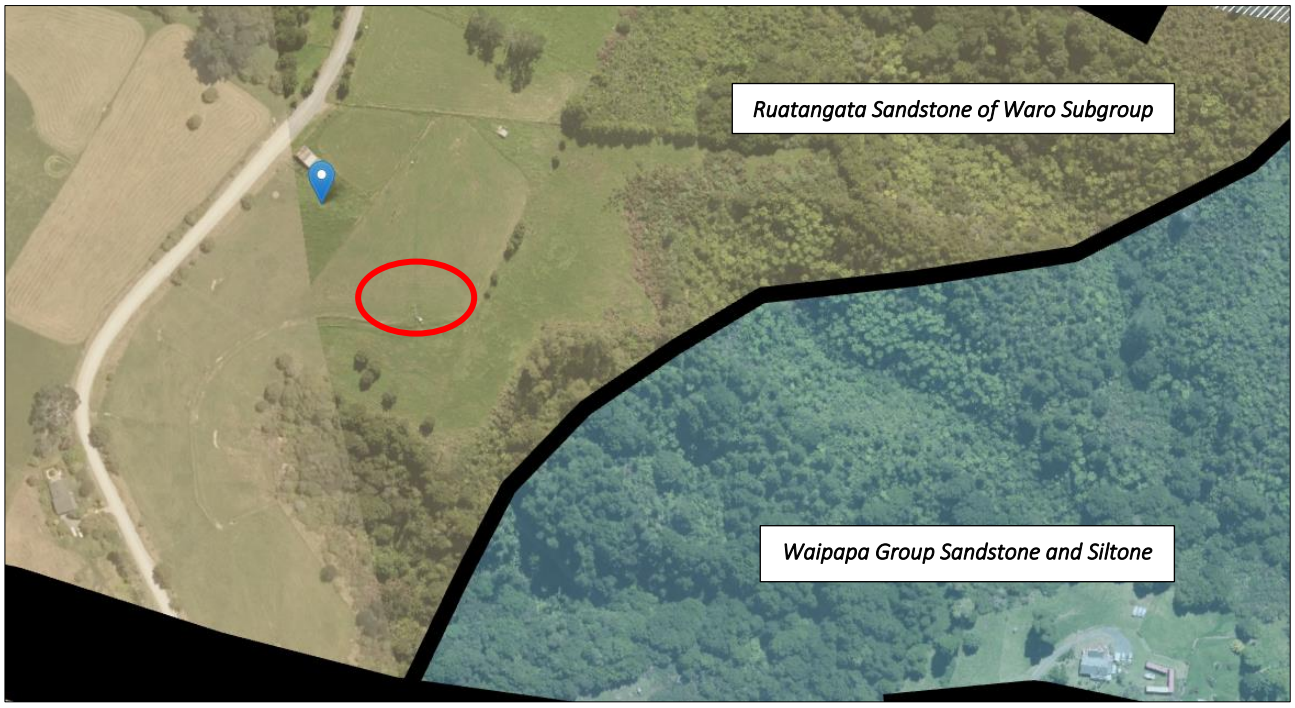

Figure 2: Screenshot aerial view of the subject site from the New Zealand Geology Web Map. Red circle depicts development location.

In addition, a Geotechnical Assessment (Job number 136540) was carried out by Wilton Joubert Ltd in September 2024. The assessment should be read in conjunction with this report.

With reference to the Civil Site Suitability Report for Resource Consent compiled by Wilton Joubert Ltd in June 2023, Job number 127295, as well as the above-mentioned report, the subsoils encountered, generally consisted predominantly of Clayey SILT and Gravelly SILT. Approximately 150mm-500mm of TOPSOIL was encountered overlying the investigated area, with 200mm overlying the proposed effluent field location.

Given the above, the site's soils have been classified as **Category 5** in accordance with TP58. Based on our investigation, and provided that all report recommendations are followed, WJL considers that there should be no wastewater disposal stability problems associated with the site.

5. DEVELOPMENT PROPOSALS

Based on our review of the two sets of supplied draft architectural drawings, it is our understanding that the client proposes to re-site two relocatable residential dwellings, one being the main dwelling and the other a minor dwelling. A separate garage is also proposed.

Figure 3: Site photograph of the main dwelling building site (northeast direction).

Figure 4: Site photograph of the minor dwelling building site (southwest direction).

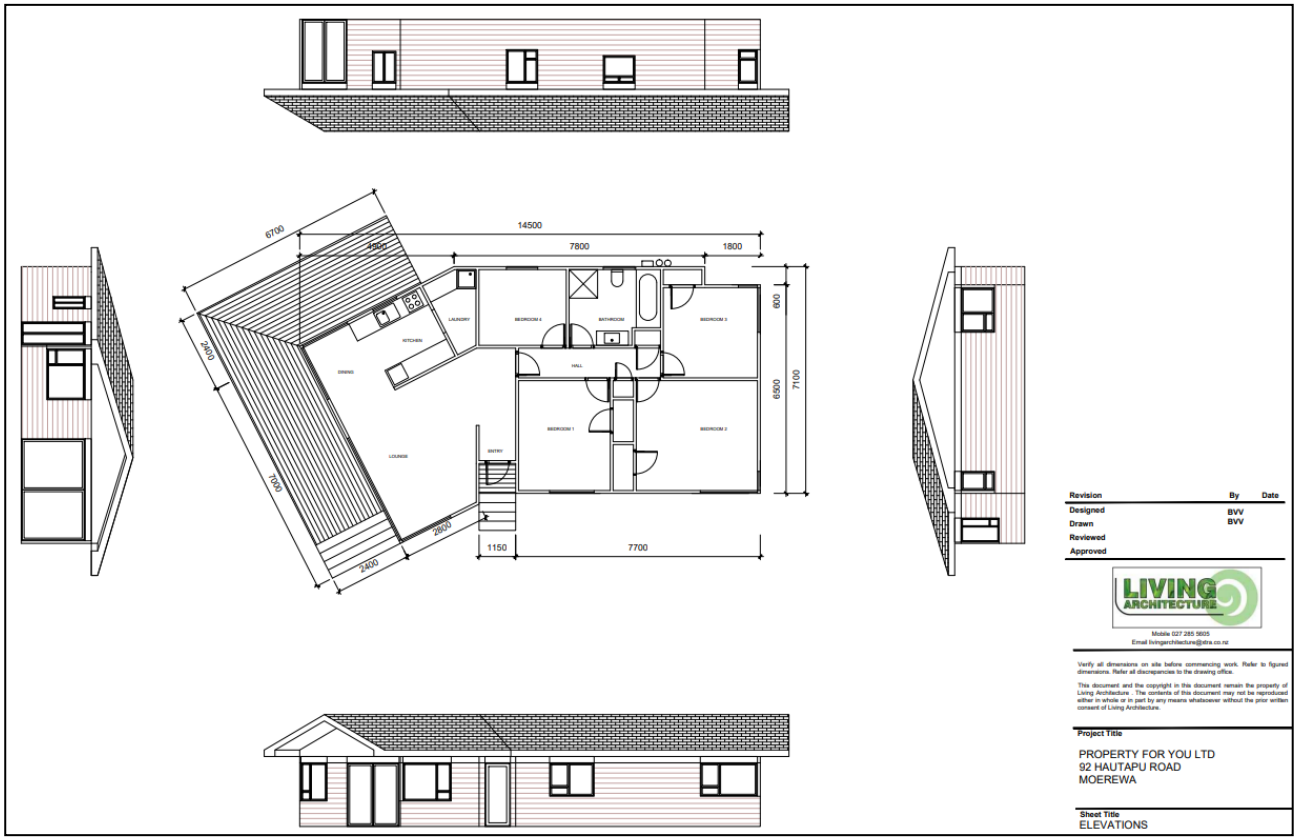

Figure 5: Proposed Floor Plan for Main Dwelling, received from Living Architecture.

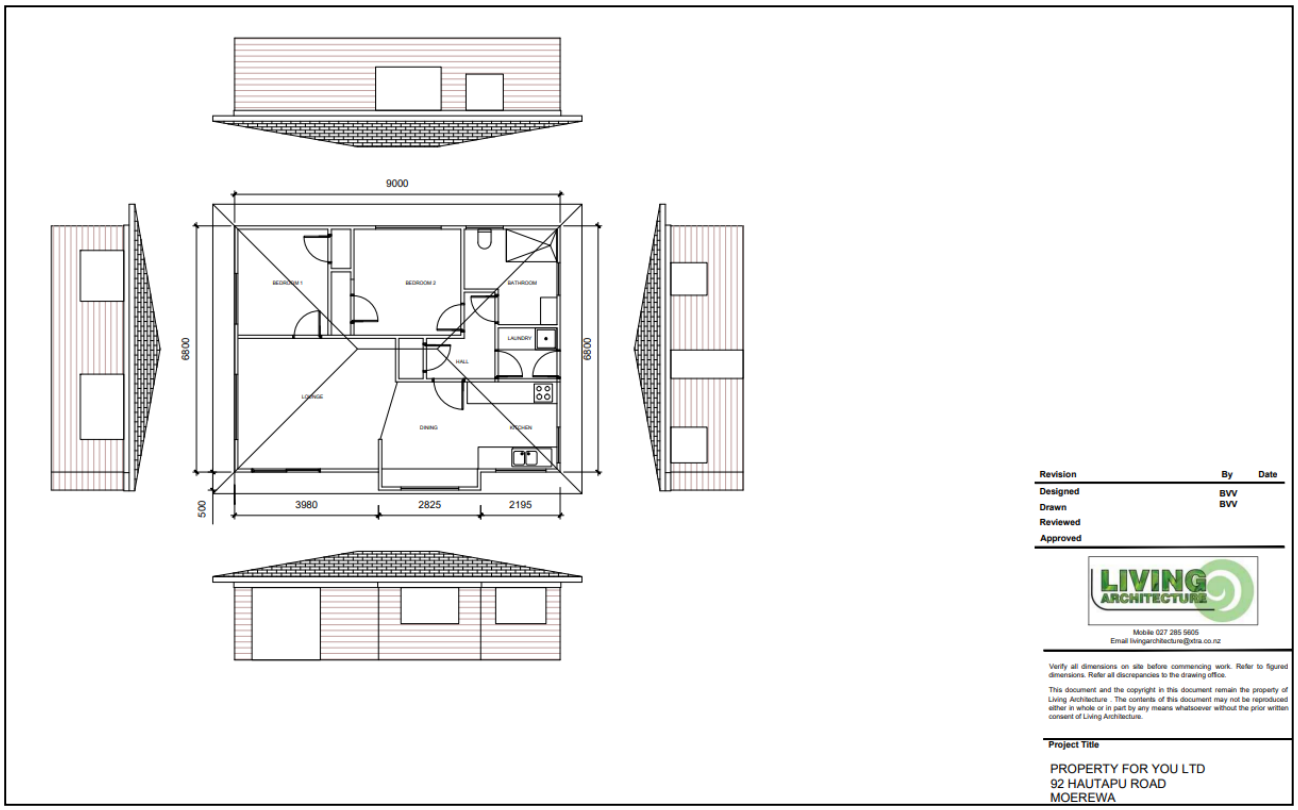

Figure 6: Proposed Floor Plan for Minor Dwelling, received from Living Architecture.

The principal objectives of our investigation were to investigate the soil profile, variability, relative density, and strength of soils together with any observed groundwater levels, other water sources and potential short-circuiting pathways within the proposed effluent disposal area.

6. ASSESSMENT CRITERIA

Table 1: Compliance with Section C.6.1.3 of the PRPN

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity			
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:			
#	Rule	✓/x	Explanation
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012) and	~	Design has been carried out in accordance with TP58 and cross referenced with AS/NZS 1547:2012
2	The volume of wastewater discharged does not exceed two cubic metres per day, and	✓	Total proposed discharge = 1,800L
3	The discharge is not via a spray irrigation system or deep soakage system, and	✓	Pressure compensated drip irrigation lines proposed
4	The slope of the disposal area is not greater than 25 degrees, and	✓	Disposal area slope = 10-12°
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012); or is via an irrigation line system that is:	✓	Secondary Treatment and Pressure compensated drip irrigation lines proposed
	a) dose loaded, and	✓	Dose loading proposed
	b) covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and	✓	Drip lines to be surface laid and recovered with 100mm bark or mulch.
6	For the discharge of wastewater onto the surface of slopes greater than 10 degrees:	✓	Slopes 10-12°
	a) the wastewater, excluding greywater, has received at least secondary treatment, and	✓	Secondary Treatment proposed
	b) the irrigation lines are firmly attached to the disposal area, and	✓	Drip lines must be securely pinned to the ground's surface
	c) where there is an up-slope catchment that generates stormwater runoff, a diversion system is installed and maintained to divert surface water runoff from the up-slope catchment away from the disposal area, and	✓	Bund required - refer to the appended Site Plan (136542-C300)
	d) a minimum 10 metre buffer area down-slope of the lowest irrigation line is included as part of the disposal area, and	✓	Required – refer to the appended Site Plan (136542-C300)
	e) the disposal area is located within existing established vegetation that has at least 80 percent canopy cover, or	n.a	n.a
	f) the irrigation lines are covered by a minimum of 100 millimetres of topsoil, mulch, or bark, and	✓	Drip lines to be surface laid and recovered with 100mm bark or mulch.
7	the disposal area and reserve disposal area are situated outside the relevant exclusion areas and	✓	From on-site investigation the field positions comply with Table 9

	setbacks in Table 9: Exclusion areas and setback distances for on-site domestic wastewater systems, and		
8	for septic tank treatment systems, a filter that retains solids greater than 3.5 millimetres in size is fitted on the outlet, and	n.a	
9	the following reserve disposal areas are available at all times:		
	a) 100 percent of the existing effluent disposal area where the wastewater has received primary treatment or is only comprised of greywater, or	n.a	
	b) 30 percent of the existing effluent disposal area where the wastewater has received secondary treatment or tertiary treatment, and	✓	50% reserve area provided as per Suitability Report's recommendations.
10	the on-site system is maintained so that it operates effectively at all times and maintenance is undertaken in accordance with the manufacturer's specifications, and	✓	Maintenance as outlined within section 12 of this report.
11	the discharge does not contaminate any groundwater water supply or surface water, and	✓	Groundwater not encountered in hand augers to a maximum depth of 2.9m below ground level. Appropriate offsets supplied to all sources to avoid adverse effects on water sources.
12	there is no surface runoff or ponding of wastewater, and	✓	Appropriate application rates applied for subsoil permeation capabilities/site conditions.
13	there is no offensive or objectionable odour beyond the property boundary.	✓	WJL anticipates compliance as long as all recommendations within this report are adhered to.

7. REQUIRED SETBACK DISTANCES

As per Point 7 above, the disposal and reserve areas must be situated outside the relevant exclusion areas and setbacks described within Table 9 of the PRPN: Exclusion areas and setback distances for on-site domestic wastewater systems:

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

Figure 7: Table 9 of the PRPN (Proposed Regional Plan for Northland)

- The disposal area and treatment plant resided outside of any floodplain,
- The proposed disposal and reserve area are not in proximity to a coastal marine area,
- Ground water bore sources were not identified within the property or anticipated to exist within close proximity to the property's boundaries given a review of NRC bore location maps,
- Groundwater was not encountered in any of the boreholes that reached maximum depths of 2.9m.

The disposal area is proposed to be situated southeast of the proposed development area along the eastern boundary of the site with an appropriate offset of >1.5m from the boundary and >3.0m from the proposed dwelling.

8. DISCHARGE DETAILS

Water supply for the proposed dwelling will be sourced from on-site domestic tank supply. A per capita flow allowance of 180 litres/person/day was used in the calculations as outlined in Table 2 below.

Table 2: Design flows for proposed dwellings

Development	4-bedroom main dwelling + 2-bedroom minor dwelling
Combined Occupancy Allowance	6 + 4 = 10-person peak occupancy
Water Reduction	*Standard Water Saving Fixtures*
Daily Flow Allowances	180ℓ / person / day
Design Flow Rate	1,800L / day
Water Meter	None required.
Other Notes	*No garbage grinder*

9. WASTEWATER TREATMENT

Wilton Joubert Ltd. recommends the installation of an approved Secondary Level Treatment Plant to service the proposed dwellings. We recommend a Duracrete Clean Stream TXR or similar system. Discharge from this system is required to be directed to a new disposal field consisting of pressure compensated drip irrigation lines. The basic system requirements are summarised in Table 3 below.

Table 3: Secondary Treatment Requirements

Emergency Storage Capacity	Minimum 1,800L
Telemetry Alarm System	Visual and Audible alarm located at plant.
Location	Please refer to Site Plan. More than 3.0m clear of habitable buildings; 1.5m clear of boundaries
Discharge Quality	Secondary Level BOD^5 <= 20g/m³, TSS <= 30g/m³

10. DESIGN VOLUMES

Maximum Daily Wastewater Discharge = Maximum Occupancy x Flow Allowance (litres/ person/ day). This calculation results in a total wastewater flow rate of 1,800 litres per day. Since the daily flow does not exceed 2,000 litres, the output complies with the PRPN as a Permitted Activity and a Resource Consent is not required.

The ratio of lot area to design flow = Gross Lot Area (48,250m²) / 1,800 Max Daily Flow (litres/day). This calculation provides an A:V Ratio of approximately 26.81 m²/litre/day.

11. LAND DISPOSAL METHOD

Surface Laid Lines

The dripper lines are recommended to be surface laid with a daily application rate of 4mm/day. A required disposal field area of 450m² amounts.

The drip lines must be securely pinned to the ground's surface and installed in a regular 'grid' pattern as far as practicable, with row spacings of no more than 1.0m. The grid should consist of a minimum of 450 linear metres of drip line split into individual rows not exceeding 65m, with a manual flushing valve at the end of each line. The manual flushing valves must be located within flush boxes for inspection and maintenance purposes. End-feeding the drip lines will lower the cost of installation, with each drip line only requiring one manual flushing valve. 65m long drip lines should be easily flushed by the pump supplied with the system.

The disposal field area requires re-covering with 100mm of bark or mulch and planted out at a density of at least 1 plant per m², to assist in evapotranspiration and nutrient removal. A summary of the system is provided below.

Table 4: Land Disposal System

LAND DISPOSAL SYSTEM	PCDI drip irrigation (Ref: Soil Assessment)
Type	Surface laid, pressure compensating dripper irrigation lines
Soil Category	Category 5
Buffer Zone	Required – refer to appended Site Plan (136542-C300)
Cut-off Drain	Required – refer to appended Site Plan (136542-C300)
Loading Rate	4mm/day
Loading Method	Pump
Pump	High water level alarm is installed in pump chamber – audible/visual alarm Design head is subject to supplier specs. Pump Chamber Volume is integral to the treatment system Required Emergency Storage volume - >1,800 Litres
Primary Disposal Area	450m² at 1.0m centres – surface laid
Reserve Disposal Area	225m² (50% reserve area)

12. ASSESSMENT OF ENVIRONMENTAL EFFECTS

This report serves as a full AEE. Each section displays compliance with the relevant council standards while providing explanations on how the proposed design of an on-site effluent treatment system will prevent adverse effects on the surrounding environment.

In conclusion:

The system has been designed in accordance with TP58 and cross referenced with AS/NZS 1547:2012 and complies with the setbacks stipulated in the *P*RPN.

It is anticipated that the proposed secondary treatment system and PCDI disposal system for the site will have a less than minor effect on the environment. The irrigation field area will be surface laid and recovered with mulch or bark, with introduced grass plantings to facilitate evapotranspiration and nutrient removal.

Separation distances shall be maintained from the property's boundary and existing vegetation will assist with the retention, breakdown and uptake of effluent at the site and prevent effluent from being washed off-site. A diversion bund is proposed around the upslope side of the disposal field, to be constructed with topsoil and grassed, to divert runoff around the disposal field. Given the appropriate separation distances to water sources, a reserve area of 50% and the discharge of secondary level of effluent treatment, the proposed wastewater disposal is considered to be suitable to protect the environment and the effects are deemed less than minor.

Additionally:

- To protect against any possible failure of the disposal area, the reserve area should remain undeveloped and should be maintained with a grassed/vegetated surface ready for the possible installation of additional drip lines into it.

- To protect the integrity of the disposal area from unwanted damage from vehicles, persons or animals we recommend that the disposal area be fenced off or clearly marked. Vehicular traffic over the disposal area is not permitted.

- To protect the physical treatment plant from misuse or neglect the manufacturer of the treatment plant will supply a detailed maintenance schedule that must be adhered to. It is imperative that the operator of the system both schedule and undertake regular maintenance of the system to ensure its effectiveness.

Based on our site assessment and calculations, we consider that the site is able to provide for the sustainable treatment and land application of domestic effluent generated from the proposed residential dwellings.

Since the discharge volume does not exceed: three cubic metres per day, averaged over the month of greatest discharge, and six cubic metres per day over any 24-hour period, the application falls under a Permitted Activity and Resource Consent is not required.

13. LIMITATIONS

The recommendations and opinions contained in this report are based on our visual reconnaissance of the site, information from geological maps, data from the field investigation as well as the results of in-situ testing of soil carried out by Wilton Joubert Ltd. Inferences are made about the nature and continuity of sub soils away from and beyond the exploratory holes but cannot be guaranteed. The descriptions detailed on the exploratory borehole logs are based on the field descriptions of the soils encountered.

This assignment only considers the design of a secondary on-site effluent treatment system and all drainage designs are up to the connection point for each building face of any new structures/slabs; no internal building plumbing or layouts have been done.

During construction, a person competent to judge whether the conditions are compatible with the assumption made in this report should examine the site. In all circumstances, should variations in the subsoil occur which differ from that described or assumed to exist, the matter should be referred back to Wilton Joubert Ltd.

The performance behaviour outlined by this report is dependent on the construction activity and actions of the builder/contractor. Inappropriate actions during the construction phase may cause behaviour outside the limits given in this report.

This report has been prepared for the particular project described to us and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Yours faithfully,

Wilton Joubert Ltd.

REPORT ATTACHMENTS

- Site Plan (1 sheet)
- Floor Plan (2 sheet)
- HA Log (10 sheets)
- Duracrete Spec Sheet (3 sheets)
- FNDC TP58 PS1 (1 sheet)

NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.
4. HA1 & HA2 = BOREHOLE POSITION

DESIGN PARAMETERS

- SITE AREA: 4.825ha
- TANK WATER SUPPLY
- 4 BEDROOM SINGLE STOREY DWELLING + 2 BEDROOM MINOR UNIT
- 6 + 4 = 10 PERSON MAXIMUM OCCUPANCY
- 180L PP/PD = 1800L/D TOTAL WW PRODUCTION
- DISPOSAL AREA 450m²
  - -- DRIPPER LINES INSTALLED IN GRID @ 1.0m c/c
  - -- 450m DRIP LINE IN ROWS NOT EXCEEDING 1.0m
- RESERVE AREA 225m² (50% OF DISPOSAL AREA)

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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	OCT '24	BGS	WASTEWATER DESIGN

DESIGNED BY: GB
DRAWN BY: GB
CHECKED BY: BGS
SURVEYED BY:

SERVICES NOTE

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

BUILDING CONSENT

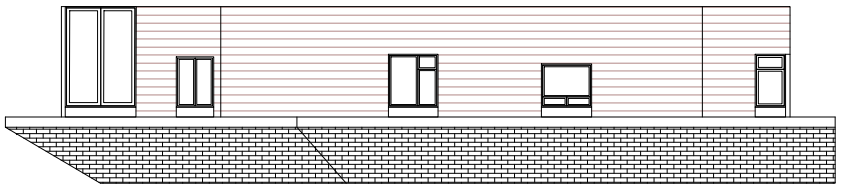
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

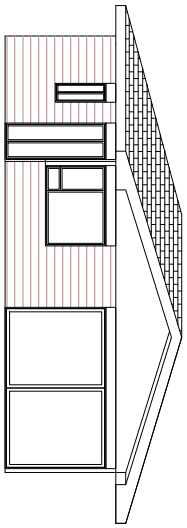
DRAWING TITLE: **SITE PLAN**

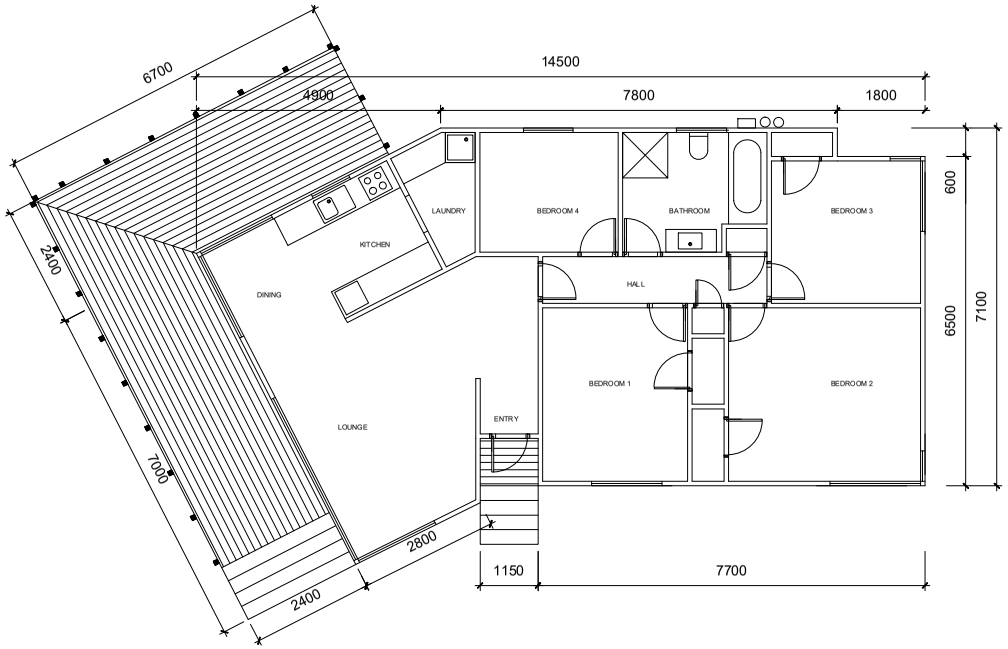
PROJECT DESCRIPTION: **WASTEWATER REPORT**

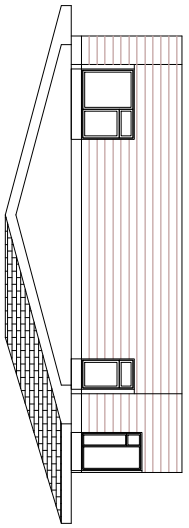
PROJECT TITLE: **LOT 2 DP 600745 92 HAUTAPU ROAD MOEREWA NORTHLAND**

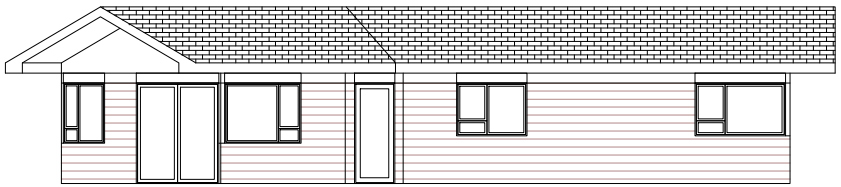
ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **1:500**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **136542-C300**
ISSUE: **A**











Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

LIVING ARCHITECTURE

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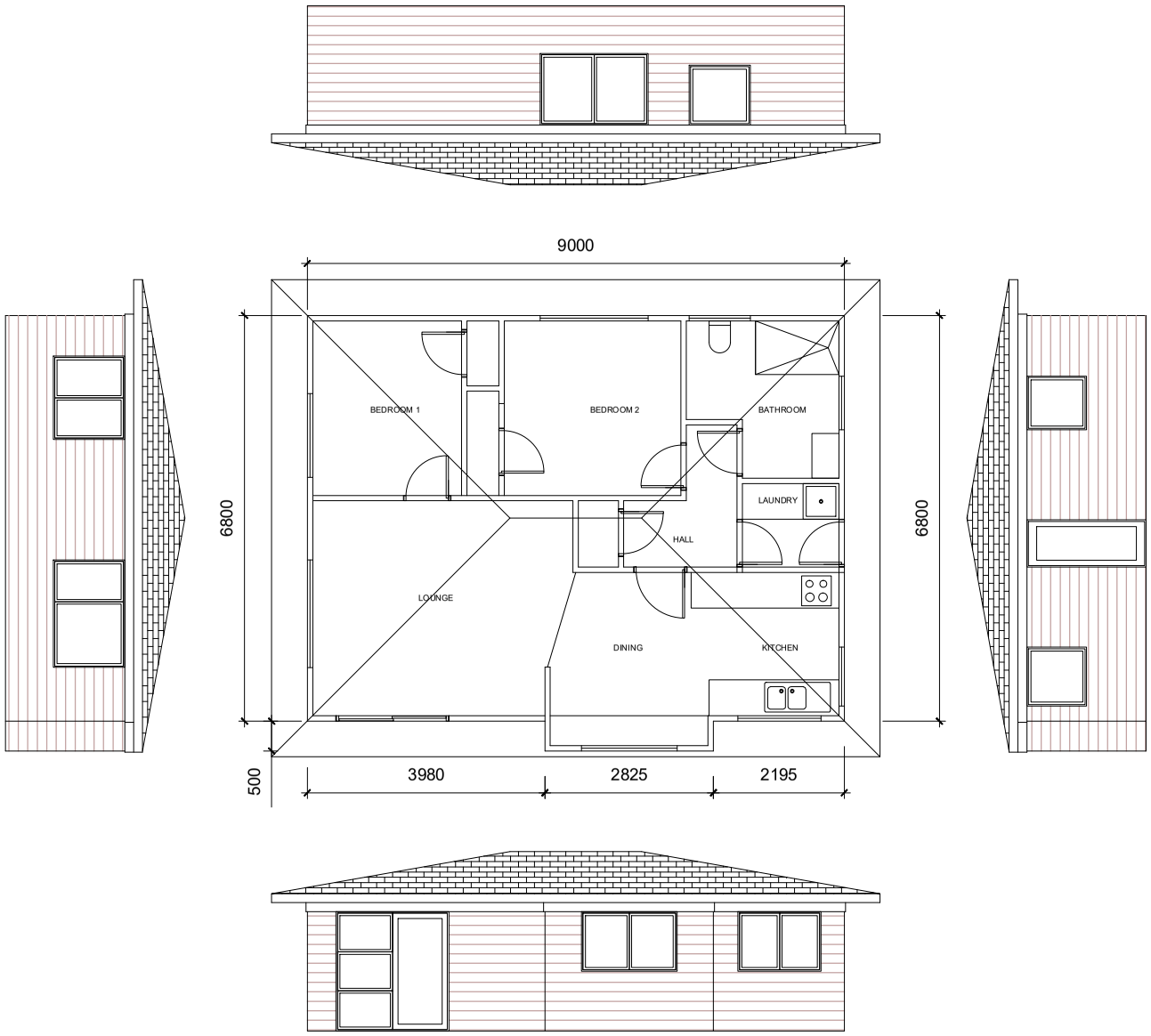
Project Title

PROPERTY FOR YOU LTD
92 HAUTAPU ROAD
MOEREWA

Sheet Title
ELEVATIONS

CAD Ref	Scale (A1 Original)
100976	1:100@ A3

Project No	Sheet
100976	A1-01



Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

LIVING ARCHITECTURE
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Project Title

PROPERTY FOR YOU LTD
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MOEREWA

Sheet Title
ELEVATIONS MINOR DWELLING

CAD Ref	Scale (A1 Original)
100976	1:75@ A3

Project No	Sheet
100976	A1-01

HAND AUGER : HA01

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.4 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low plasticity.		0.4		196+	-	-		
	Slightly Clayey SILT, yellowish brown, very stiff, moist, low plasticity, frequent fine to coarse gravel and clast inclusions, friable.		0.6						
			0.8		196+	-	-		
	EOH: 1.00m - Too Hard To Auger		1.0		UTP	-	-	9	
			1.2					10	
			1.4					12	
			1.6					20+	
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						

REMARKS

End of borehole @ 1.00m (Target Depth: 5.00m)

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

LOGGED BY: JEM

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA02

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** DR4802 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.57 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low plasticity.		0.4		185	75	2.5		
			0.6						
			0.8						
	SILT, yellowish brown, very stiff, dry to moist, non to low plasticity, frequent fine to coarse gravel and clast inclusions, friable.		1.0		195	69	2.8		
			1.2						
	EOH: 1.20m - Too Hard To Auger				UTP	-	-	12	
			1.4					20	
								30+	
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						

REMARKS

End of borehole @ 1.20m (Target Depth: 5.00m)

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

LOGGED BY: NPN

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.4 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS	0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low to medium plasticity.		0.4		196+	-	-		
	SILT, yellowiish brown, very stiff, moist, non to low plasticity, frequent fine to coarse gravel and clast inclusions, friable.		0.6						
			0.8		174	70	2.5		
			1.0						
			1.2		UTP	-	-		
			1.4						
			1.6						
	EOH: 1.60m - Too Hard To Auger				UTP	-	-	16	
			1.8					12	
								10	
			2.0					20+	
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						

REMARKS

End of borehole @ 1.60m (Target Depth: 5.00m)

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

LOGGED BY: JEM

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA04

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** 1994 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.4 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist.	TS							
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low plasticity.		0.2	Groundwater Not Encountered					
			0.4		171	78	2.2		
			0.6						
			0.8		143	76	1.9		
	Slightly Clayey SILT, yellow/orange/white, very stiff, moist, low plasticity.		1.0						
			1.2		UTP	-	-		
	SILT, yellow and white, very stiff, moist, non plasticity, frequent fine to coarse gravel and clast inclusions, friable.		1.4						
			1.6		134	53	2.5		
	Clayey SILT, yellow and white, very stiff, moist to wet, low plasticity.		1.8						
			2.0		126	50	2.5		
			2.2						
	SILT, yellow/orange/white, very stiff, moist, non to low plasticity, frequent fine to coarse gravel and clast inclusions, friable.		2.4		UTP	-	-		
			2.6						
			2.8		UTP	-	-		
	EOH: 2.90m - Too Hard To Auger		3.0					16	
								15	
			3.2					20+	
			3.4						

REMARKS

End of borehole @ 2.90m (Target Depth: 5.00m)

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

LOGGED BY: JEM

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA05

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** DR4802 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.57 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, moist, dark brown	TS	0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Slightly Clayey SILT, yellowish brown, very stiff, moist, low plasticity.		0.4		176	69	2.6		
			0.6						
			0.8		166	50	3.3		
			1.0						
			1.2						
	SILT, yellowish brown with orange and grey streaks, very stiff, dry to moist, low plasticity.		1.4		201	63	3.2		
	1.5m: 100mm lense of SILT, white and grey, very stiff, dry, non plasticity.		1.6		173	60	2.9		
			1.8						
			2.0		UTP	-	-		
			2.2						
			2.4		UTP	-	-	12	
	EOH: 2.40m - Too Hard To Auger		2.6					14	
								15	
			2.8					20+	
			3.0						
			3.2						
			3.4						

REMARKS

End of borehole @ 2.40m (Target Depth: 5.00m)

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

LOGGED BY: NPN

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA06

JOB NO.: 136540 **SHEET:** 1 OF 1

START DATE: 24/09/2024 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Investigation for 2x Relocatable Dwellings **SV DIAL:** DR4802 **ELEVATION:** Ground

SITE LOCATION: 86 Hautapu Road, Moerewa **FACTOR:** 1.57 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Waipapa Group	TOPSOIL, dark brown, moist.	TS	0.2	Groundwater Not Encountered					
	NATURAL: Slightly Clayey SILT, yellowish brown, very stiff, moist, low plasticity.		0.4		160	60	2.7		
	0.5m: Becoming gravelly (sub-angular).		0.6		UTP	-	-	15	
	EOH: 0.65m - Too Hard To Auger		0.8					20+	
			1.0						
			1.2						
			1.4						
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						

TOPSOIL FILL CLAY SILT SAND GRAVEL PEAT ROCK

REMARKS

End of borehole @ 0.65m (Target Depth: 5.00m)

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

LOGGED BY: NPN

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA01

JOB NO.: 127295 **SHEET:** 1 OF 4

START DATE: 20/06/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Wastewater Assessment **SV DIAL:** **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL; clayey SILT, dark grey, wet, low- to high-plasticity. Organic odour. (Cattle trampled TOPSOIL)	TS	0.2	Groundwater Not Encountered					
			0.4						
Waipapa Group	Clayey SILT, yellowish brown, moist, high-plasticity, very stiff.		0.6						
			0.8						
			1.0						
			1.2						
	EOH: 1.20m - Target Depth		1.4						
			1.6						
			1.8						
			2.0						

TOPSOIL CLAY SAND PEAT
FILL SILT GRAVEL ROCK

REMARKS

End of borehole @ 1.20m (Target Depth: 1.20m)

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

LOGGED BY: NxA

CHECKED BY: BGS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA02

CLIENT: Leighton & Emily Scott
PROJECT: Wastewater Assessment
SITE LOCATION: 92 Hautapu Road, Moerewa

JOB NO.: 127295 **SHEET:** 2 OF 4
START DATE: 20/06/2023 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: **ELEVATION:** Ground
FACTOR: **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark grey, organic odour, wet	TS	0.0	Groundwater Not Encountered					
Waipapa Group	Clayey SILT, yellowish brown, moist, high-plasticity, very stiff.		0.2						
	0.7m - 0.8m: pocket of friable SILT, orangish brown		0.4						
			0.6						
			0.8						
			1.0						
	EOH: 1.20m - Target Depth		1.2						
			1.4						
			1.6						
			1.8						
			2.0						

TOPSOIL FILL CLAY SILT SAND GRAVEL PEAT ROCK

REMARKS
End of borehole @ 1.20m (Target Depth: 1.20m)

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

LOGGED BY: NxA
CHECKED BY: BGS

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA03

CLIENT: Leighton & Emily Scott
PROJECT: Wastewater Assessment
SITE LOCATION: 92 Hautapu Road, Moerewa

JOB NO.: 127295 **SHEET:** 3 OF 4
START DATE: 20/06/2023 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: **ELEVATION:** Ground
FACTOR: **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark grey, wet, organic odour		0.2	Groundwater Not Encountered					
Waipapa Group	Clayey SILT, yellowish brown, moist to wet, high-plasticity, very stiff		0.4, 0.6, 0.8, 1.0, 1.2						
	EOH: 1.20m - Target Depth		1.4, 1.6, 1.8, 2.0						

TOPSOIL FILL CLAY SILT SAND GRAVEL PEAT ROCK

REMARKS
End of borehole @ 1.20m (Target Depth: 1.20m)

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

LOGGED BY: JEM
CHECKED BY: BGS

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA04

JOB NO.: 127295 **SHEET:** 4 OF 4

START DATE: 20/06/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Wastewater Assessment **SV DIAL:** **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark grey, wet, organic odour	TS	0.2	Groundwater Not Encountered					
Waipapa Group	Clayey SILT, yellowish brown, dry, low-plasticity, very stiff. Pockets friable silt. Occasional fine to medium gravel clasts		0.4						
Te Kuiti Group	Gravelly SILT, yellowish brown and grey, dry, friable/non-plastic, very stiff. Gravel is fine to coarse, sub-angular to sub-rounded of clasts and limestone.		0.6						
			0.8						
			1.0						
			1.2						
			1.4						
	EOH: 1.50m - Refusal - Gravel Obstruction		1.6						
			1.8						
			2.0						

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

REMARKS

End of borehole @ 1.50m (Target Depth: 2.00m)

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

LOGGED BY: JEM

CHECKED BY: BGS

▼ Standing groundwater level

▽ GW while drilling

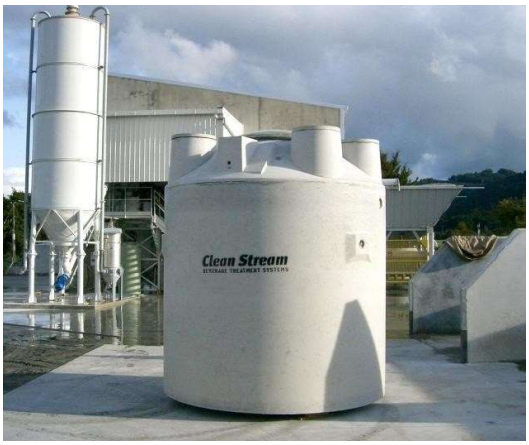
WILTON JOUBERT Consulting Engineers

185 Waipapa Road, Kerikeri 0295
Phone: 09-945 4188
Email: jobs@wjl.co.nz
Website: www.wiltonjoubert.co.nz

TECHNICAL INFORMATION – CLEANSTREAM TXR-1

The Cleanstream TXR-1 is a complete, one tank textile media treatment system. Its multi-chambered design consists of 2 septic stages, a textile filter stage and irrigation and recirculation stages.

- 8400 litre total capacity
- Emergency storage (without cross contamination - 3500 litres)
- Alarm system (to notify the homeowner of any faults)
- Comprehensive maintenance by Duracrete



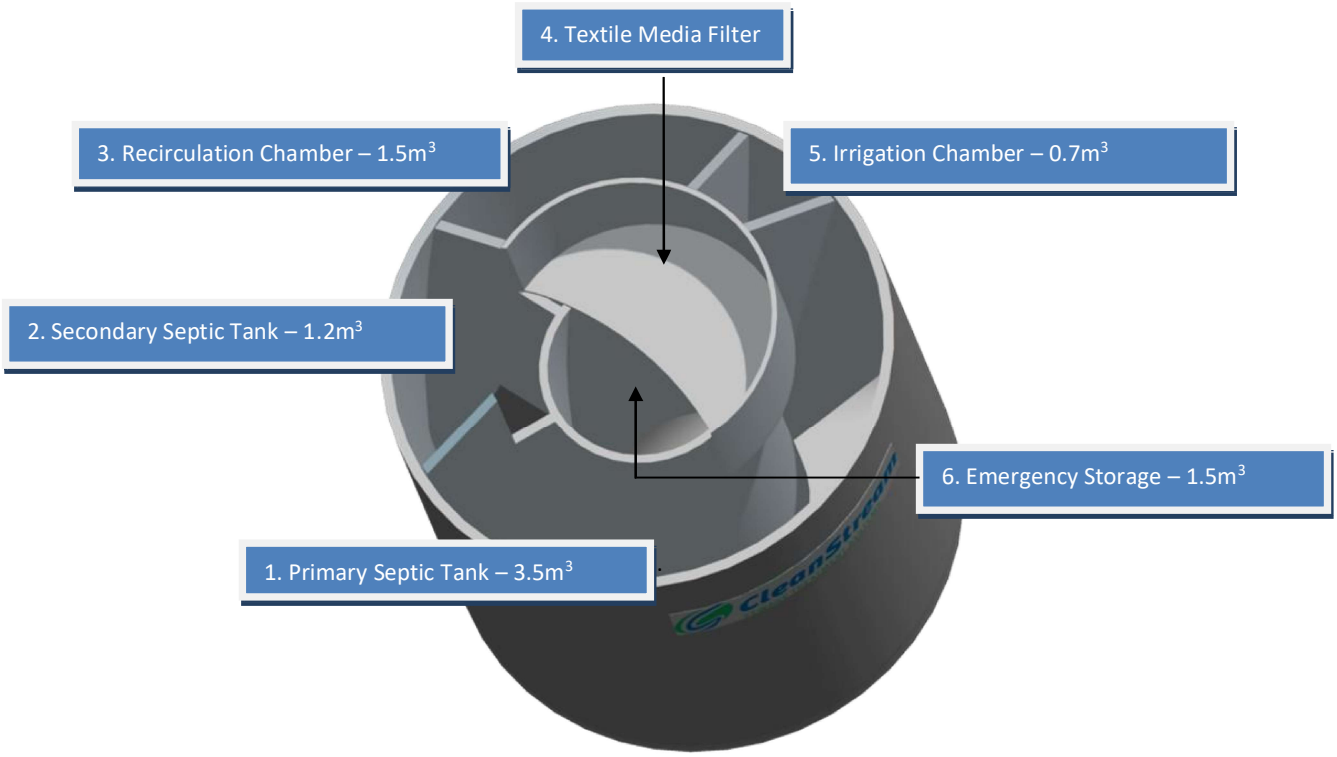
- The TXR-1 tank, roof and walls are constructed from galvanised, steel reinforced concrete (70MPA at 28 days) and come with a manufacturer's warranty of 10 years from the day they leave the factory. The mechanical components of the system (pumps) also come with a 2 year warranty from the date of commission. Electrical components come with a 1 year manufacturers warranty.
- The textile filter and recirculation stages are designed so that effluent is filtered multiple times through the textile media leading to much higher effluent quality than conventional aerobic systems.
- Separate septic stages mean there is always a working septic tank even after periods of non use, this allows the system to stay in a relatively active state.
- The system comes fully constructed, making installation a plug and play operation which provides for a faster turnaround while minimizing installation problems.
- Large emergency storage reduces problems during pump or power failure. The system has approximately 2.5 days of emergency capacity without cross contamination (based on typical flow through 1200L/day)

TREATMENT PERFORMANCE

12 monthly servicing is required to maintain efficient and effective treatment of household waste. This service must be performed by suitably trained personnel.

Expected treatment for medium size homes with daily flows up to 1500L is BOD5 10 mg/L, TSS 10 mg/L. However the system can treat up to 2000L per day whilst still complying with ARC TP58 effluent quality of BOD <15mg and TSS<15 mg/L for Advanced Secondary Treatment Systems – Packed Bed Reactors. Provision for 6 monthly service is required to achieve these larger daily flows.

TREATMENT OVERVIEW



1. The primary septic tank receives the wastewater. It acts like a conventional septic tank and reduces BOD and suspended solids. Effluent then passes through a particulates filter designed to stop large objects from inhibiting the treatment process further on.

2. The secondary septic provides an anoxic environment which aids in nitrate removal converting ammonia into nitrate, while reducing BOD and suspended solids. At the completion of this stage effluent passes through an attached growth filter, which provides an environment for denitrifying bacteria to flourish.

3. The Recirculation Chamber contains a large amount of emergency capacity and is a storage place for effluent before it passes through the textile filter.

4. From the Recirculation chamber treated wastewater is pumped onto the textile filter, this effectively aerates the effluent. Organic Nitrogen is converted to Ammonia by nitrifying bacteria. This process increases effluent quality as it passes through the textile media in the textile filter. The effluent then flows back into the secondary septic tank, unless there is sufficient forward flow to warrant irrigation in which case it drains into the irrigation chamber. Recirculation generally happens multiple times before irrigation is needed.

5. From the irrigation chamber the effluent is passed through a 130 micron Arkal Filter and then dispersed through self compensating drip irrigation.

6. In the event of pump failure emergency storage is provided in the central and recirculation chambers.

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

PERFORMANCE CERTIFICATE
CleanStream TXR-1 On-site Domestic Wastewater Treatment System,
OSET NTP Trial 9, 2013/2014

System Tested
The **CleanStream TXR-1 system** is a packed bed recirculating textile filter wastewater treatment unit. The manufacturer's rated design capacity is 1,200 litres/day. Total liquid volume is 7,400 litres (primary treatment 2 tanks each with an effluent filter 3,700 and 1,200 litres; secondary treatment with packed bed 900 litres; recirculation tank 1,100 litres; pump chamber 700 litres). Emergency storage is 1,500 litres. No tertiary treatment (such as UV disinfection) is incorporated. The manufacturer's stated service frequency is annual.

Test Flow Rate
The **CleanStream TXR-1 system** was tested at 1,000 litres/day (equivalent to servicing a 3-bedroom 5 to 6 person household) over an 8 month (35 week) period November 2013 to July 2014 followed by a 1 month (4 week) high load effects test involving 5 days at 2,000 litres per day then 1,000 litres/day over the following 3 weeks.

Testing and Evaluation Procedures
A total of 37 treated effluent samples of organic matter (BOD_5) and suspended solids (TSS) at generally six day intervals during weeks 9 to 35 were tested and evaluated against the secondary effluent quality requirements of the joint Australia/NZ standard AS/NZS 1547:2012.
A total of 16 treated effluent samples of organic matter (BOD_5), total suspended solids (TSS), total nitrogen (TN), ammonia nitrogen (NH_4-N), total phosphorus (TP) and faecal coliforms (FC) at generally six day intervals during weeks 23 through 35 were tested and the results benchmarked and rated on their median values. In addition, the energy used by the treatment system was assessed on the mean of consumption levels over the benchmark period.

AS/NZS 1547:2012 Secondary Effluent Quality Requirements
These requirements are that 90% of all test samples must achieve a BOD_5 of $\leq$ 20 g/m^3 and TSS of $\leq$ 30 g/m^3 with no one result for BOD_5 being >30 g/m^3 and no one result for TSS being >45 g/m^3. The **CleanStream TXR-1 system achieved** a performance level of **100%** for BOD_5 and **100%** for TSS based on the full set of 37 test results in weeks 9 to 35, with no results exceeding the maximums. The **CleanStream TXR-1 system** thus **meets** the secondary effluent quality requirements of AS/NZS 1547:2012.

Benchmark Ratings
The **CleanStream TXR-1 system achieved** the following effluent quality ratings for the sixteen benchmarking results in weeks 20 to 35.

Indicator Parameters	Median	Std Dev	Rating	Rating System				
				A+	*A*	*B*	*C*	*D*
BOD (mg/L)	*2*	*1*	A+	*<5*	*<10*	*<20*	*<30*	*≥30*
TSS (mg/L)	*3*	*1*	A+	*<5*	*<10*	*<20*	*<30*	*≥30*
Total Nitrogen (mg/L)	*37.1*	*5*	D	*<5*	*<15*	*<25*	*<30*	*≥30*
NH_4- Nitrogen (mg/L)	*1.9*	*4*	A	*<1*	*<5*	*<10*	*<20*	*≥20*
Total phosphorus (mg/L)	*4.4*	*0.5*	B	*<1*	*<2*	*<5*	*<7*	*≥7*
Faecal Coliforms (cfu/100mL)	*65,000*	*100,000*	C	*<10*	*<200*	*<10,000*	*<100,000*	*≥100,000*
Energy (kWh/d) (mean)	*0.98*	*0.12*	A	*0*	*<1*	*<2*	*<5*	*≥5*

This Performance Certificate is specific to the **CleanStream TXR-1** model as specified above when operated at a flow rate of 1,000 litres/day. The initial Performance Certificate was issued on 20 February 2015 with a 5 year validity to 20 February 2020. For the full OSET NTP report on the performance of the **CleanStream TXR-1 system** contact **Duracrete Products Ltd**, Kamo, Whangarei, Ph: 0800 387 227 Email:ric@duracrete.co.nz.
On 21 November 2019 Duracrete Products Ltd applied to retest their **CleanStream TXR-1** plant in the 2021 OSET-NTP Trial 16 and applied for an extension to the above certificate through to the end of Trial 16. They provided a signed and legally witnessed statement confirming that there has been no change made whatsoever to the plant as tested in 2014. Hence OSET-NTP confirm that the validity of the Performance Certificate of 20 February 2015 as detailed above can be extended to 5 March 2022.

Authorised By:

Ray Hedgland, Technical Manager, OSET NTP
28 February 2020

On-site Effluent Treatment National Testing Programme, c/- Technical Manager, 10 Tide Close, Mt Wellington, AUCKLAND 1060 Mob: 021 626 772 E-mail: ray@hedgland.co.nz

PRODUCER STATEMENT

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

ISSUED BY: Ben Steenkamp on behalf of Wilton Joubert Ltd (approved qualified design professional)

TO: Leighton & Emily Scott (owner)

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

PROPERTY LOCATION: 86 Hautapu Road, Moerewa

LOT…2 ……DP……600745…VALUATION NUMBER……

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

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

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

(1) The site verification of the soil types.
(2) All proprietary products met the performance requirements.

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

……(Signature of approved design professional)

CPEng, BEng (Civil), BSc (Geology), CMEngNZ (Professional qualifications)

2001008 (Licence Number or professional Registration number)

Address 196 Centreway Road, Orewa, Auckland

Phone Number 09 527 0196 Fax Number …… Cell Phone 0272792392

Date 11.10.2024

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

On-site Wastewater Disposal Site Evaluation Investigation Checklist

WILTON JOUBERT
Consulting Engineers

NORTHLAND
Po Box 8130
Kensington
Whangarei 0145
T: +64 9 945 4188

AUCKLAND
WAIKATO
Po Box 11381
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Auckland 1542
T: +64 9 527 0196

SOUTHERN LAKES
Po Box 169
Wanaka 9343
T: +64 3 443 6209

CANTERBURY
T: +64 21 824 063

Structural Design Calculations for:

Lot 2, DP: 567189
86 Hautapu Road

Moerewa

Northland

Job #: 137043

October 2024

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Wall Bracing Calculations

WILTON JOUBERT
Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	Summary of main dwelling

Roof apex to ground height	5.6	m			
Roof height above eaves:	1.2	m	Roof weight:	Heavy	
Single/Upper floor height	2.4	m	Wall Cladding Weight		
Lower floor height (if 2 storey)	0.0	m	Upper/single:	Light	
Subfloor height	2.0	m	Lower (if 2 storey):	N/A	
			Sub-Floor:	Light	
Roof pitch:	15.0	degrees			
Roof type:	Standard				
			Foundation type	Single storey subfloor framing	
Wind zone:	Very High		Soil Type:	C (Shallow)	Based on Geotech Report
Design wind speed	50	m/s	Hazard factor (Z)	0.2	
Wind Zone Factor:	1.3		Earthquake Zone:	1	

BUs required for Wind

Upper/Single Storey - Across:	46.1	BUs/m
Upper/Single Storey - Along:	51.8	BUs/m
Lower Storey - Across:		BUs/m
Lower Storey - Along:		BUs/m
Sub-Floor Across:	109.4	BUs/m
Sub-Floor Along:	115.2	BUs/m

BUs required for Earthquake

Upper Storey - E:	N/A	BUs/m^2
Lower Storey - E:	N/A	BUs/m^2
Single Storey - E:	4.5	BUs/m^2
Sub-Floor - E:	6.8	BUs/m^2

Upper and Lower Storey Bracing Demands

Windage Lengths

Upper/Single	Across:	14.5	m
	Along:	9.0	m
Lower	Across:		m
	Along:		m
Subfloor	Across:	14.5	
	Along:	9.0	

Floor Area

Upper		m^2
Lower:		m^2
Single storey	130.5	m^2
Substorey:	130.5	m^2

Wind Bracing Demand

Upper/Single	Across:	668	BUs
	Along:	467	BUs
Lower	Across:	0	BUs
	Along:	0	BUs
Subfloor	Across:	1587	BUs
	Along:	1037	BUs

Earthquake Bracing Demand

Upper (both directions):		BUs
Lower (both directions):		BUs
Single storey (both directions)	591	BUs
Subfloor (both directions):	889	BUs

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Wall Bracing Calculations

WILTON JOUBERT
Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	Summary of minor dwelling

Roof apex to ground height	5.6	m			
Roof height above eaves:	1.2	m	Roof weight:	Heavy	
Single/Upper floor height	2.4	m	Wall Cladding Weight		
Lower floor height (if 2 storey)	0.0	m	Upper/single:	Light	
Subfloor height	2.0	m	Lower (if 2 storey):	N/A	
			Sub-Floor:	Light	
Roof pitch:	10.0	degrees			
Roof type:	Standard				
			Foundation type	Single storey subfloor framing	
Wind zone:	Very High		Soil Type:	C (Shallow)	Based on Geotech Report
Design wind speed	50	m/s	Hazard factor (Z)	0.2	
Wind Zone Factor:	1.3		Earthquake Zone:	1	

BUs required for Wind

Upper/Single Storey - Across:	46.1	BUs/m
Upper/Single Storey - Along:	51.8	BUs/m
Lower Storey - Across:		BUs/m
Lower Storey - Along:		BUs/m
Sub-Floor Across:	109.4	BUs/m
Sub-Floor Along:	115.2	BUs/m

BUs required for Earthquake

Upper Storey - E:	N/A	BUs/m^2
Lower Storey - E:	N/A	BUs/m^2
Single Storey - E:	4.5	BUs/m^2
Sub-Floor - E:	6.8	BUs/m^2

Upper and Lower Storey Bracing Demands

Windage Lengths

Upper/Single	Across:	9.0	m
	Along:	6.8	m
Lower	Across:		m
	Along:		m
Subfloor	Across:	9.0	
	Along:	6.8	

Floor Area

Upper		m^2
Lower:		m^2
Single storey	61.2	m^2
Substorey:	61.2	m^2

Wind Bracing Demand

Upper/Single	Across:	415	BUs
	Along:	353	BUs
Lower	Across:	0	BUs
	Along:	0	BUs
Subfloor	Across:	985	BUs
	Along:	783	BUs

Earthquake Bracing Demand

Upper (both directions):		BUs
Lower (both directions):		BUs
Single storey (both directions)	274	BUs
Subfloor (both directions):	414	BUs

WILTON JOUBERT
Consulting Engineers

ADDRESS:

JOB No:
DATE:
INIT:
CHKR:

DECK SLOPE BRACING DEMANDS:

$6\ BU/m^2 \times 0.5 = 3\ BU/m^2$

FOR MAJOR DWELLING

TOTAL

$3\ BU/m^2 \times 33 m^2 = 100\ BU$

FOR MINOR DWELLING

$3\ BU/m^2 \times 23 m^2 = 69\ BU$

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	major dwelling house bearers

Beam Loadings - Primary Beam :

roof span:		m	Beam Span:	1.65	m
roof weight:		kPa	floor A span:	2.50	m
roof live load (Q):		kPa	floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa	floor A live load:	1.50	kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:	0.08	kN/m

Beam Loadings - Secondary Beam (PL A) :

roof span:		m	Beam Span:		m
roof weight:		kPa	floor A span:		m
roof live load (Q):		kPa	floor A weight:		kPa
roof uplift wind load (Wu):		kPa	floor A live load:		kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :			**Point Load C (PL C) :**		
G:		kN	G:		kN
Q:		kN	Q:		kN
Wu		kN	Wu		kN
Su		kN	Su		kN

Loadings Summary

UDL G :	1.08	kN/m	Point Load, G :	0.00	kN
Q :	3.75	kN/m	Q :	0.00	kN
Wu :	0.00	kN/m	Wu :	0.00	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:	6.92	kN/m						
Sec Beam Point Load:	0.00	kN	at		m from support 1			
Additional Point Load (PL b):	0.00	kN	at		m from support 1			
Additional Point Load (PL c):	0.00	kN	at		m from support 1			

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	5.69 kN	0.39 kN	1.89 kN	0.51 kN
Support 2	5.69 kN	0.39 kN	1.89 kN	0.51 kN

Beam end support condition: simply supported

Try: **2/140x45 SG8**

Beam Type: timber

for timber & flitched beams	b =	90	mm	
	d =	140	mm	
	I =	2.06E+07	mm⁴	
for other beams	I =		mm⁴	
	E =	6700	MPa	

M* =	**2.36**	**kNm**	
V* =	**5.71**	**kN**	
support 1 reaction:	5.71	kN	
support 2 reaction:	5.71	kN	
k2 =	2.0		
max. long term deflection:	**3.61**	**mm**	
max. short term deflection:	**2.59**	**mm**	
allowable defn (functionality), L/400 =	4.13	mm	
	OK		

Beam Design

shear stress =	2.4	MPa	
bending stress =	11.7	MPa	
Z =	2.94E+05	mm3	

ϕ =	0.8		
k1 =	1.0		
lay/b =	100		
k8 =	1.0		
ϕ M =	**2.8**	**kNm**	**OK**
ϕ V =	**16.1**	**kN**	**OK**

Beam Analysis

WILTON JOUBERT Consulting Engineers

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043
Site Address :	Lot 2, 86 Hautapu Road
Description :	major dwelling house pile

Beam Loadings - Primary Beam :

roof span:		m	Beam Span:	1.65	m
roof weight:		kPa	floor A span:	2.50	m
roof live load (Q):		kPa	floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa	floor A live load:	1.50	kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:	0.08	kN/m

Beam Loadings - Secondary Beam (PL A) : roof/wall weight from middle load bearingwall

roof span:	3.65	m	Beam Span:	2.50	m
roof weight:	0.84	kPa	floor A span:		m
roof live load (Q):	0.25	kPa	floor A weight:		kPa
roof uplift wind load (Wu):	-1.51	kPa	floor A live load:		kPa
roof snow load (Su):	0.00	kPa			
wall A height:	2.45	m	floor B span:		m
wall A mass:	30.00	kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.08	kN/m	Point Load, G :	4.73	kN
Q :	3.75	kN/m	Q :	1.14	kN
Wu :	0.00	kN/m	Wu :	-6.89	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo : 1.2 G | 1.5 Q | Wu | Su

UDL:	6.92	kN/m		
Sec Beam Point Load:	7.39	kN	at 0.00	m from support 1
Additional Point Load (PL b):	0.00	kN	at	m from support 1
Additional Point Load (PL c):	0.00	kN	at	m from support 1

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	13.70 kN	-1.71 kN	8.99 kN	7.28 kN
Support 2	5.71 kN	0.80 kN	2.31 kN	1.07 kN

Beam end support condition: simply supported

Try: **2/140x45 SG8**

Beam Type: timber

for timber & flitched beams	b =	90	mm
	d =	140	mm
	I =	2.06E+07	mm⁴
for other beams	I =		mm⁴
	E =	6700	MPa

M* =	**2.36**	**kNm**
V* =	**13.10**	**kN**
support 1 reaction:	13.10	kN
support 2 reaction:	5.71	kN

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT
Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	major dwelling house pile (2)

Beam Loadings - Primary Beam :

roof span:		m	Beam Span:	1.65	m
roof weight:		kPa	floor A span:	2.50	m
roof live load (Q):		kPa	floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa	floor A live load:	1.50	kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:	0.08	kN/m

Beam Loadings - Secondary Beam (PL A) : roof/wall weight from middle load bearingwall

roof span:	1.85	m	Beam Span:	2.50	m
roof weight:	0.84	kPa	floor A span:		m
roof live load (Q):	0.25	kPa	floor A weight:		kPa
roof uplift wind load (Wu):	-1.51	kPa	floor A live load:		kPa
roof snow load (Su):	0.00	kPa			
wall A height:	2.45	m	floor B span:		m
wall A mass:	38.00	kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.08	kN/m	Point Load, G :	3.08	kN
Q :	3.75	kN/m	Q :	0.58	kN
Wu :	0.00	kN/m	Wu :	-3.49	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:	6.92	kN/m						
Sec Beam Point Load:	4.57	kN	at	0.00	m from support 1			
Additional Point Load (PL b):	0.00	kN	at		m from support 1			
Additional Point Load (PL c):	0.00	kN	at		m from support 1			

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	10.28 kN	0.09 kN	6.24 kN	4.77 kN
Support 2	5.71 kN	0.80 kN	2.31 kN	1.07 kN

Beam end support condition: simply supported

Try: **2/140x45 SG8**

Beam Type: timber

for timber & flitched beams	b =	90	mm
	d =	140	mm
	I =	2.06E+07	mm⁴
for other beams	I =		mm⁴
	E =	6700	MPa

M* =	**2.36**	**kNm**
V* =	**10.28**	**kN**
support 1 reaction:	10.28	kN
support 2 reaction:	5.71	kN

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	major dwelling deck pile

Beam Loadings - Primary Beam :

roof span:		m		Beam Span:	1.65	m
roof weight:		kPa		floor A span:	2.40	m
roof live load (Q):		kPa		floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa		floor A live load:	2.00	kPa
roof snow load (Su):		kPa				
wall A height:	1.20	m	balustrade	floor B span:		m
wall A mass:	50.00	kg/m²		floor B weight:		kPa
wall B height:		m		floor B live load:		kPa
wall B mass:		kg/m²		self weight:		kN/m

Beam Loadings - Secondary Beam (PL A) :

roof span:		m	Beam Span:		m
roof weight:		kPa	floor A span:		m
roof live load (Q):		kPa	floor A weight:		kPa
roof uplift wind load (Wu):		kPa	floor A live load:		kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.55	kN/m	Point Load, G :	0.00	kN
Q :	4.80	kN/m	Q :	0.00	kN
Wu :	0.00	kN/m	Wu :	0.00	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:			9.06	kN/m				
Sec Beam Point Load:			0.00	kN	at		m from support 1	
Additional Point Load (PL b):			0.00	kN	at		m from support 1	
Additional Point Load (PL c):			0.00	kN	at		m from support 1	

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	7.47 kN	1.15 kN	3.12 kN	1.53 kN
Support 2	7.47 kN	1.15 kN	3.12 kN	1.53 kN

Beam end support condition: simply supported

Try: **2/190x45 SG8**

timber

M* =	**3.08 kNm**
V* =	**7.47 kN**
support 1 reaction:	7.47 kN
support 2 reaction:	7.47 kN

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	minor dwelling house bearer

Beam Loadings - Primary Beam :

roof span:		m	Beam Span:	1.55	m
roof weight:		kPa	floor A span:	3.30	m
roof live load (Q):		kPa	floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa	floor A live load:	1.50	kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m^2	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m^2	self weight:	0.08	kN/m

Beam Loadings - Secondary Beam (PL A) :

roof span:		m	Beam Span:		m
roof weight:		kPa	floor A span:		m
roof live load (Q):		kPa	floor A weight:		kPa
roof uplift wind load (Wu):		kPa	floor A live load:		kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m^2	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m^2	self weight:		kN/m

Point Load B (PL B) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.40	kN/m	Point Load, G :	0.00	kN
Q :	4.95	kN/m	Q :	0.00	kN
Wu :	0.00	kN/m	Wu :	0.00	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:	9.11	kN/m						
Sec Beam Point Load:	0.00	kN	at		m from support 1			
Additional Point Load (PL b):	0.00	kN	at		m from support 1			
Additional Point Load (PL c):	0.00	kN	at		m from support 1			

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	5.69 kN	0.39 kN	1.89 kN	0.51 kN
Support 2	5.69 kN	0.39 kN	1.89 kN	0.51 kN

Beam end support condition: simply supported

Try: **2/140x45 SG8**

Beam Type: timber

for timber & flitched beams	b =	90	mm	
	d =	140	mm	
	I =	2.06E+07	mm^4	
for other beams	I =		mm^4	
	E =	6700	MPa	

M* =	**2.74**	**kNm**
V* =	**7.06**	**kN**
support 1 reaction:	7.06	kN
support 2 reaction:	7.06	kN
k2 =	2.0	
max. long term deflection:	**3.69**	**mm**
max. short term deflection:	**2.65**	**mm**
allowable defn (functionality), L/400 =	3.88	mm
	OK	

Beam Design

ϕ =	0.8	shear stress =	2.4 MPa
k1 =	1.0	bending stress =	11.7 MPa
lay/b =	100	Z =	2.94E+05 mm3
k8 =	1.0		

ϕ M =	**2.8**	**kNm**	**OK**
ϕ V =	**16.1**	**kN**	**OK**

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT
Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	minor dwelling house pile

Beam Loadings - Primary Beam :

roof span:		m	Beam Span:	1.55	m
roof weight:		kPa	floor A span:	3.30	m
roof live load (Q):		kPa	floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa	floor A live load:	1.50	kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:	0.08	kN/m

Beam Loadings - Secondary Beam (PL A) : roof/wall weight from middle load bearingwall

roof span:	3.45	m	Beam Span:	2.50	m
roof weight:	0.84	kPa	floor A span:		m
roof live load (Q):	0.25	kPa	floor A weight:		kPa
roof uplift wind load (Wu):	-1.51	kPa	floor A live load:		kPa
roof snow load (Su):	0.00	kPa			
wall A height:	2.45	m	floor B span:		m
wall A mass:	30.00	kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :		
G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.40	kN/m	Point Load, G :	4.52	kN
Q :	4.95	kN/m	Q :	1.08	kN
Wu :	0.00	kN/m	Wu :	-6.51	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:	9.11	kN/m						
Sec Beam Point Load:	7.05	kN	at	0.00	m from support 1			
Additional Point Load (PL b):	0.00	kN	at		m from support 1			
Additional Point Load (PL c):	0.00	kN	at		m from support 1			

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	14.10 kN	-1.46 kN	8.70 kN	6.73 kN
Support 2	7.06 kN	0.98 kN	2.84 kN	1.30 kN

Beam end support condition: simply supported

Try: **2/140x45 SG8**

Beam Type: timber

for timber & flitched beams	b =	90	mm
	d =	140	mm
	I =	2.06E+07	mm⁴
for other beams	I =		mm⁴
	E =	6700	MPa

M* =	**2.74**	**kNm**
V* =	**14.10**	**kN**
support 1 reaction:	14.10	kN
support 2 reaction:	7.06	kN

Date :	29/10/2024
Designer :	KX
Checker :	DL
Job Number :	137043

Beam Analysis

WILTON JOUBERT
Consulting Engineers

Site Address :	Lot 2, 86 Hautapu Road
Description :	minor dwelling deck pile

Beam Loadings - Primary Beam :

roof span:		m		Beam Span:	1.55	m
roof weight:		kPa		floor A span:	2.40	m
roof live load (Q):		kPa		floor A weight:	0.40	kPa
roof uplift wind load (Wu):		kPa		floor A live load:	2.00	kPa
roof snow load (Su):		kPa				
wall A height:	1.20	m	balustrade	floor B span:		m
wall A mass:	50.00	kg/m²		floor B weight:		kPa
wall B height:		m		floor B live load:		kPa
wall B mass:		kg/m²		self weight:		kN/m

Beam Loadings - Secondary Beam (PL A) :

roof span:		m	Beam Span:		m
roof weight:		kPa	floor A span:		m
roof live load (Q):		kPa	floor A weight:		kPa
roof uplift wind load (Wu):		kPa	floor A live load:		kPa
roof snow load (Su):		kPa			
wall A height:		m	floor B span:		m
wall A mass:		kg/m²	floor B weight:		kPa
wall B height:		m	floor B live load:		kPa
wall B mass:		kg/m²	self weight:		kN/m

Point Load B (PL B) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Point Load C (PL C) :

G:		kN
Q:		kN
Wu		kN
Su		kN

Loadings Summary

UDL G :	1.55	kN/m	Point Load, G :	0.00	kN
Q :	4.80	kN/m	Q :	0.00	kN
Wu :	0.00	kN/m	Wu :	0.00	kN
Su :	0.00	kN/m	Su :	0.00	kN

Load Combo :	1.2	G	1.5	Q		Wu		Su
UDL:			9.06	kN/m				
Sec Beam Point Load:			0.00	kN	at			m from support 1
Additional Point Load (PL b):			0.00	kN	at			m from support 1
Additional Point Load (PL c):			0.00	kN	at			m from support 1

	ULS	Wind Uplift	Snow (& mid-floor Q)	Snow (& roof only)
Load Cases	1.2G + 1.5Q	0.9G + Wu	1.2G + 0.4Q + Su	1.2 G + 0.0Q + Su
Support 1	7.02 kN	1.08 kN	2.93 kN	1.44 kN
Support 2	7.02 kN	1.08 kN	2.93 kN	1.44 kN

Beam end support condition: simply supported

Try: **2/190x45 SG8**

timber

M* =	**2.72 kNm**
V* =	**7.02 kN**
support 1 reaction:	7.02 kN
support 2 reaction:	7.02 kN

PILE LOADING

<Job No.>:	137043	Date:	29/10/2024
<Job Title>:	Lot 2, 86 Hautapu Road	Designer:	**KX**
<Description>:	**ordinary pile floor load only**	Checker:	**DL**

Line load from spreadsheet (ULS loads)	=		kN/m
Pile spacing	=		m
Point load	=	15	kN

fV_u = **$V_s + V_p$ = f(A(9c_u + q) + c_a C L)**

V_s =	load applied to the top of the pile by the structure	=	15	kN
D =	approximate total length of pile	=	0.9	m
V_p =	total mass of pile	=	2.66	kN
A =	area of pile at base or tip	=	0.13	m^2
c_u =	assumed immediate undrained shear strength obtained from field	=	33.333	kPa
c_a =	assumed adhesion between the soil and the pile obtained by suitable laboratory or field measurements, with a minimum value equal to the average remoulded undrained shear strength.	=	0	kPa
L =	length of pile effective in skin friction	=	0	m
D_p =	average diameter of pile	=	0.4	m
f =	strength reduction factor	=	0.5	
q =	total overburden pressure defined by the expression q = gD where g is saturated density of the clay.	=	16.2	kPa
	g =	=	18	kN/m^3

fV_u = **19.87 kN** **OK!**

PILE LOADING

<Job No.>:	137043	Date:	29/10/2024
<Job Title>:	Lot 2, 86 Hautapu Road	Designer:	**KX**
<Description>:	**ordinary pile with LBW on**	Checker:	**DL**

Line load from spreadsheet (ULS loads)	=		kN/m
Pile spacing	=		m
Point load	=	28.2	kN

fV_u = **$V_s + V_p$ = f(A(9c_u + q) + c_a C L)**

V_s =	load applied to the top of the pile by the structure	=	28.2	kN
D =	approximate total length of pile	=	0.9	m
V_p =	total mass of pile	=	5.03	kN
A =	area of pile at base or tip	=	0.24	m^2
c_u =	assumed immediate undrained shear strength obtained from field	=	33.333	kPa
c_a =	assumed adhesion between the soil and the pile obtained by suitable laboratory or field measurements, with a minimum value equal to the average remoulded undrained shear strength.	=	0	kPa
L =	length of pile effective in skin friction	=	0	m
D_p =	average diameter of pile	=	0.55	m
f =	strength reduction factor	=	0.5	
q =	total overburden pressure defined by the expression q = gD where g is saturated density of the clay.	=	16.2	kPa
	g =	=	18	kN/m^3

fV_u = **37.56 kN** **OK!**

PILE LOADING

<Job No.>:	137043	Date:	29/10/2024
<Job Title>:	Lot 2, 86 Hautapu Road	Designer:	**KX**
<Description>:	**bracing pile**	Checker:	**DL**

Line load from spreadsheet (ULS loads)	=		kN/m
Pile spacing	=		m
Point load	=	28.2	kN

fV_u = **$V_s + V_p$ = f(A(9c_u + q) + c_a C L)**

V_s =	load applied to the top of the pile by the structure	=	28.2	kN
D =	approximate total length of pile	=	1.5	m
V_p =	total mass of pile	=	8.39	kN
A =	area of pile at base or tip	=	0.24	m^2
c_u =	assumed immediate undrained shear strength obtained from field	=	33.333	kPa
c_a =	assumed adhesion between the soil and the pile obtained by suitable laboratory or field measurements, with a minimum value equal to the average remoulded undrained shear strength.	=	0	kPa
L =	length of pile effective in skin friction	=	0	m
D_p =	average diameter of pile	=	0.55	m
f =	strength reduction factor	=	0.5	
q =	total overburden pressure defined by the expression q = gD where g is saturated density of the clay.	=	27	kPa
	g =	=	18	kN/m^3

fV_u = **38.84 kN** **OK!**

Date : 29/10/2024
Designer : KX
Checker : DL
Job Number : 137043

Lateral Loading on Piles in Cohesive Soils

WILTON JOUBERT Consulting Engineers

Site Address : Lot 2, 86 Hautapu Road
Description : Braced pile option

Pile type: cast in auger

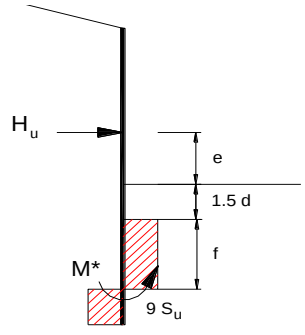
Retained height, H =		m	Undrained soil strength, c_u =	60	kPa
Surcharge =		kPa	Soil density, g =	18	kN/m^3
f =		degrees	Safety factor, SF =	2	
Backslope =		degrees	Reduced S_u = r *c_u / SF =	22.5	kPa
K_a =			Load factor =	1	
			Reduction factor for		
Pile parameters			Closely spaced piles, r =	0.75	
Auger diameter, d =	550	mm	Strength reduction factor =	0.50	
Pile spacing =	1.65	m			

Use Brom's method for analysis of loadings on piles

'Long pile' analysis

Lateral load, H_u = 9 S_u d f = 8.00 kN
f = 0.07 m
e = 0.30 m

Or enter custom load & height, e

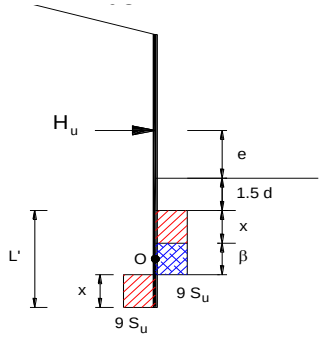


Taking moments about point of maximum moment and simplifying gives:

In ground, M* = H_u (e + 1.5d + H_u/18 S_u d)
= 9.3 kNm
Critical section, M* = 2.4 kNm

'Short pile' analysis

e' = e + 1.5d = 1.13 m
b = Hu / 9 Su d = 0.07 m



Taking moments about point O and simplifying gives:

L' = b [1 + sqrt(2 (1 + (2 e' / b))]
= 0.65 m

Pile depth, L = L' + 1.5d = 1.47 m

Pile strength

Design strength =	f k1 k4 k8 k20 k21 fb Zx		Ssmall end diameter =	150	mm
k1 =	1		fb =	38	MPa
k4 =	1		Diameter (pole thickening), toe =	150	mm
lay/b =	0		Ze =	331339.8502	mm3
k8 =	1		Diameter (pole thickening), ground =	157.1746352	mm
k20 x k21 =	0.765		Ze =	381195.0722	mm3
f M, toe =	**7.705639556**	**kNm**	**OK**		
Shear stress =	**0.970087272**	**MPa**	**OK**		
f M, ground =	**8.8650726**	**kNm**	**OK**		

WILTON JOUBERT

LATERAL LOADING ON PILES IN COHESIVE SOILS

Timber Retaining Wall #1

Project:	Lot 2, 86 Hautapu Road	**Date:**	29/10/2024
Job # :	137043	**Designer:**	KX
Description:	Timber Retaining Wall #1	**Checker:**	DL

surcharge =	0	kPa	load factor =	1.6	
backslope =	18.5	degrees	ϕ =	28	degrees
front slope =	0	degrees	soil density, γ =	18	kN/m^3
			undrained soil strength, c_u =	60	kPa

Summary of Retaining Wall

Max height, H (m)	Pole spacing (mm)	SED, Pole diameter (mm)	Auger depth, D (m)	Auger diameter (mm)	Rails	
0.6	1000	150 ND	0.90	300	150x50	**OK**
0.9	1000	150 ND	1.00	300	150x50	**OK**
1.2	1000	150 ND	1.30	300	150x50	**OK**

Notes: Quality of poles shall conform to the requirement of NZS 3605.

'ND' Poles are normal density with min. outer zone density of 350kg/m3.

'HD' Poles are high density with min. outer zone density of 450kg/m3.

Confirm site conditions matches design details prior to construction.

Note: Retaining wall designed to backslope/surcharge shown by details. No other loads have been allowed for (eg. existing retaining wall, structure etc). If conditions are contrary to specifications, Wilton Joubert Ltd. shall be contacted prior to any excavation/work.

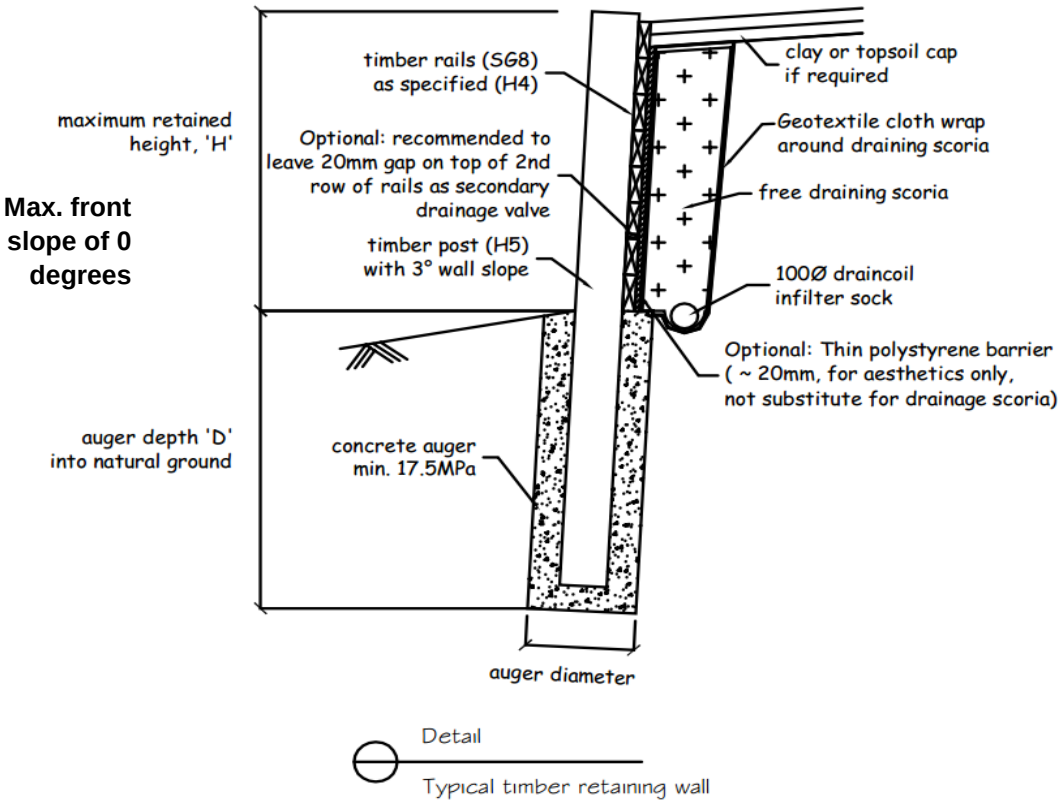
WILTON JOUBERT

LATERAL LOADING ON PILES IN COHESIVE SOILS

Project:	Lot 2, 86 Hautapu Road	**Date:**	29/10/2024
Job # :	137043	**Designer:**	KX
Description:	Timber Retaining Wall #1	**Checker:**	DL

Note: Retaining wall designed to backslope/surcharge specified below. No other loads have been allowed for (eg. existing retaining wall, structure etc). If conditions are contrary to specifications, Wilton Joubert Ltd. shall be contacted prior to any excavation/work.

Max. backslope of 18.5 degrees &
max. surcharge of 0 kPa

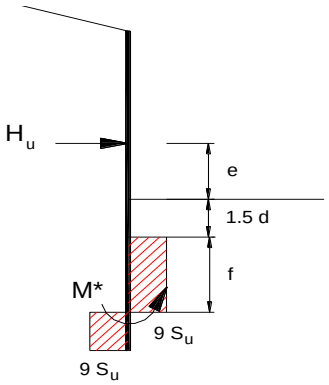


LATERAL LOADING ON PILES IN COHESIVE SOILS

Project:	Lot 2, 86 Hautapu Road	Date:	29/10/2024
Job # :	137043	Designer:	KX
Description:	0.6 m - Timber Retaining Wall #1	Checker:	DL

Retained height =	0.6	m			
front slope =	0	degrees			
Effective Retained height, H =	0.60	m	undrained soil strength, c_u =	60	kPa
surcharge =	0	kPa	soil density, γ =	18	kN/m^3
ϕ =	28	degrees	safety factor, SF =	2	
backslope =	18.5	degrees	reduced S_u = r*c_u / SF =	25.0	kPa
K_a =	0.41		load factor =	1.6	
Pile parameters			reduction factor for		
auger diameter, d =	300	mm	closely spaced piles, r =	0.833	
pile spacing =	1	m	strength reduction factor =	0.5	

Use Brom's method for analysis of loadings on piles.



'Long pile' analysis

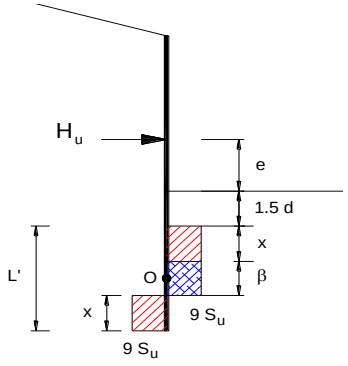
lateral load, H_u = 9 S_u d f = 2.13 kN
f = 0.03 m
e = 0.20 m

Taking moments about point of maximum moment and simplifying gives:

$M^*_{ground} = H_u (e + 1.5d + H_u/18\ S_u\ d)$
= 1.4 kNm
M^*_{toe} = 0.43 kNm

'Short pile' analysis

e' = e + 1.5d = 0.65 m
β = Hu / 9 Su d = 0.03 m



Taking moments about point O and simplifying gives:

L' = β [1 + sqrt(2 (1 + (2 e' / β))]
= 0.32 m

pile depth =L' + 1.5d + front slope =
0.77 m

WILTON JOUBERT

LATERAL LOADING ON PILES IN COHESIVE SOILS

Pile strength

			small end diameter =	150	mm	
design strength =	$\phi\ k_1\ k_4\ k_8\ k_{20}\ k_{21}\ f_b\ Z_x$		f_b =	38	MPa	
k_1 =	0.6		diameter (pole thickening), toe =	155	mm	
k_4 =	1		Z_e =	364177.2	mm^3	
l_{ay}/b =	0		diameter (pole thickening), ground =	159	mm	
k_8 =	1		Z_e =	392045	mm^3	
k_{20} x k_{21} =	0.7					
ϕ M, toe =	**4.80**	**kNm**	**OK**	**Use 150 SED pole**		
shear stress =	**0.24**	**MPa**	**OK**			
ϕ M, ground =	**5.17**	**kNm**	**OK**	**Use 150 SED pole**		

Rail design:

Line load at base of wall:	7.1	kN/m2	at top of rail:	5.3	kN/m2
distributed load along rail:	0.9	kN/m			
bending moment:	**0.12**	**kNm**			

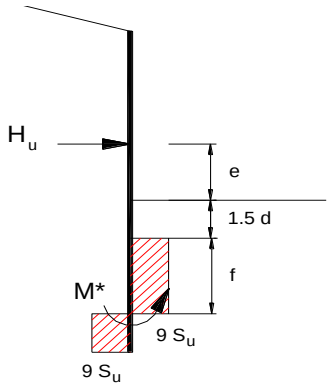
design strength =	$0.8\ k_1\ k_4\ k_8\ f_b\ Z_x$		f_b =	11.7	MPa
			d =	50	mm
k_1 =	0.6		b =	150	mm
k_4 =	1		Rail type:	Single rail	
l_{ay}/b =	4.2		Z_x =	62500	mm^3
therefore k_8 =	1				
design strength =	**0.35**	**kNm**	**OK**		
shear stress =	**0.089**	**MPa**	**OK**		

LATERAL LOADING ON PILES IN COHESIVE SOILS

Project:	Lot 2, 86 Hautapu Road	Date:	29/10/2024
Job # :	137043	Designer:	KX
Description:	0.9 m - Timber Retaining Wall #1	Checker:	DL

Retained height =	0.9	m			
front slope =	0	degrees			
Effective Retained height, H =	0.90	m	undrained soil strength, c_u =	60	kPa
surcharge =	0	kPa	soil density, γ =	18	kN/m^3
ϕ =	28	degrees	safety factor, SF =	2	
backslope =	18.5	degrees	reduced S_u = r*c_u / SF =	25.0	kPa
K_a =	0.41		load factor =	1.6	
Pile parameters			reduction factor for		
auger diameter, d =	300	mm	closely spaced piles, r =	0.833	
pile spacing =	1	m	strength reduction factor =	0.5	

Use Brom's method for analysis of loadings on piles.



'Long pile' analysis

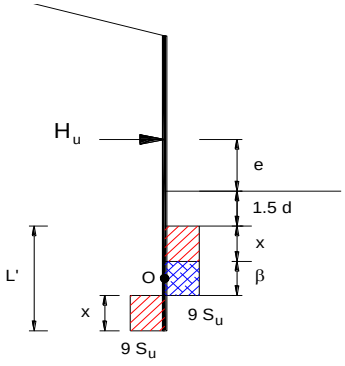
lateral load, H_u = 9 S_u d f = 4.78 kN
f = 0.07 m
e = 0.30 m

Taking moments about point of maximum moment and simplifying gives:

$M^*_{ground} = H_u (e + 1.5d + H_u/18\ S_u\ d)$
= 3.8 kNm
M^*_{toe} = 1.43 kNm

'Short pile' analysis

e' = e + 1.5d = 0.75 m
β = Hu / 9 Su d = 0.07 m



Taking moments about point O and simplifying gives:

L' = β [1 + sqrt(2 (1 + (2 e' / β))]
= 0.54 m

pile depth =L' + 1.5d + front slope =
0.99 m

WILTON JOUBERT

LATERAL LOADING ON PILES IN COHESIVE SOILS

Pile strength

			small end diameter =	150	mm	
design strength =	$\phi\ k_1\ k_4\ k_8\ k_{20}\ k_{21}\ f_b\ Z_x$		f_b =	38	MPa	
k_1 =	0.6		diameter (pole thickening), toe =	157	mm	
k_4 =	1		Z_e =	381379.7	mm^3	
l_{ay}/b =	0		diameter (pole thickening), ground =	161	mm	
k_8 =	1		Z_e =	412517.8	mm^3	
k_{20} x k_{21} =	0.7					
ϕ M, toe =	**5.03**	**kNm**	**OK**	**Use 150 SED pole**		
shear stress =	**0.53**	**MPa**	**OK**			
ϕ M, ground =	**5.44**	**kNm**	**OK**	**Use 150 SED pole**		

Rail design:

Line load at base of wall:	10.6	kN/m2	at top of rail:	8.9	kN/m2
distributed load along rail:	1.5	kN/m			
bending moment:	**0.18**	**kNm**			

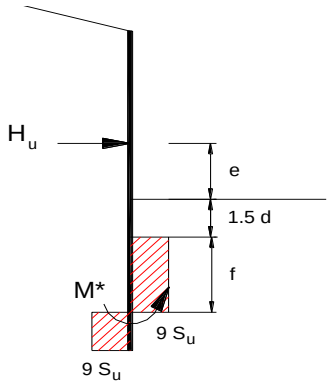
design strength =	$0.8\ k_1\ k_4\ k_8\ f_b\ Z_x$		f_b =	11.7	MPa
			d =	50	mm
k_1 =	0.6		b =	150	mm
k_4 =	1		Rail type:	Single rail	
l_{ay}/b =	4.2		Z_x =	62500	mm^3
therefore k_8 =	1				
design strength =	**0.35**	**kNm**	**OK**		
shear stress =	**0.139**	**MPa**	**OK**		

LATERAL LOADING ON PILES IN COHESIVE SOILS

Project:	Lot 2, 86 Hautapu Road	Date:	29/10/2024
Job # :	137043	Designer:	KX
Description:	1.2 m - Timber Retaining Wall #1	Checker:	DL

Retained height =	1.2	m			
front slope =	0	degrees			
Effective Retained height, H =	1.20	m	undrained soil strength, c_u =	60	kPa
surcharge =	0	kPa	soil density, γ =	18	kN/m^3
ϕ =	28	degrees	safety factor, SF =	2	
backslope =	18.5	degrees	reduced S_u = r*c_u / SF =	25.0	kPa
K_a =	0.41		load factor =	1.6	
Pile parameters			reduction factor for		
auger diameter, d =	300	mm	closely spaced piles, r =	0.833	
pile spacing =	1	m	strength reduction factor =	0.5	

Use Brom's method for analysis of loadings on piles.

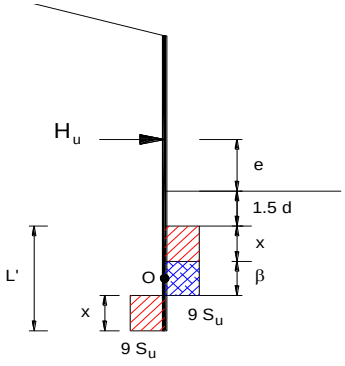


'Long pile' analysis

lateral load, H_u = 9 S_u d f = 8.50 kN
f = 0.13 m
e = 0.40 m

Taking moments about point of maximum moment and simplifying gives:

$M^*_{ground} = H_u (e + 1.5d + H_u/18\ S_u\ d)$
= 7.8 kNm
M^*_{toe} = 3.40 kNm



'Short pile' analysis

e' = e + 1.5d = 0.85 m
β = Hu / 9 Su d = 0.13 m

Taking moments about point O and simplifying gives:

L' = β [1 + sqrt(2 (1 + (2 e' / β)))]
= 0.80 m

pile depth =L' + 1.5d + front slope =
1.25 m

WILTON JOUBERT

LATERAL LOADING ON PILES IN COHESIVE SOILS

Pile strength

			small end diameter =	150	mm	
design strength =	$\phi\ k_1\ k_4\ k_8\ k_{20}\ k_{21}\ f_b\ Z_x$		f_b =	38	MPa	
k_1 =	0.6		diameter (pole thickening), toe =	160	mm	
k_4 =	1		Z_e =	399115.5	mm^3	
l_{ay}/b =	0		diameter (pole thickening), ground =	164	mm	
k_8 =	1		Z_e =	434690.8	mm^3	
k_{20} x k_{21} =	0.7					
ϕ M, toe =	**5.26**	**kNm**	**OK**	**Use 150 SED pole**		
shear stress =	**0.91**	**MPa**	**OK**			
ϕ M, ground =	**5.73**	**kNm**	**OK**	**Use 150 SED pole**		

Rail design:

Line load at base of wall:	14.2	kN/m2	at top of rail:	12.4	kN/m2	
distributed load along rail:	2.0	kN/m				
bending moment:	**0.25**	**kNm**				
design strength =	$0.8\ k_1\ k_4\ k_8\ f_b\ Z_x$		f_b =	11.7	MPa	
			d =	50	mm	
k_1 =	0.6		b =	150	mm	
k_4 =	1		Rail type:	Single rail		
l_{ay}/b =	4.2		Z_x =	62500	mm^3	
therefore k_8 =	1					
design strength =	**0.35**	**kNm**	**OK**			
shear stress =	**0.190**	**MPa**	**OK**			

● ●
←

OR

● ⊡
←

Braced Piles:
1) Red coloured pile:
550Ø bored concrete pile set min. 1.5m below FGL or min. 0.3m into competent natural ground, whichever is deeper
150mm SED pile fully cast in with 100mm bottom cover

2) Uncoloured pile and Blue coloured pile as per Ordinary Pile

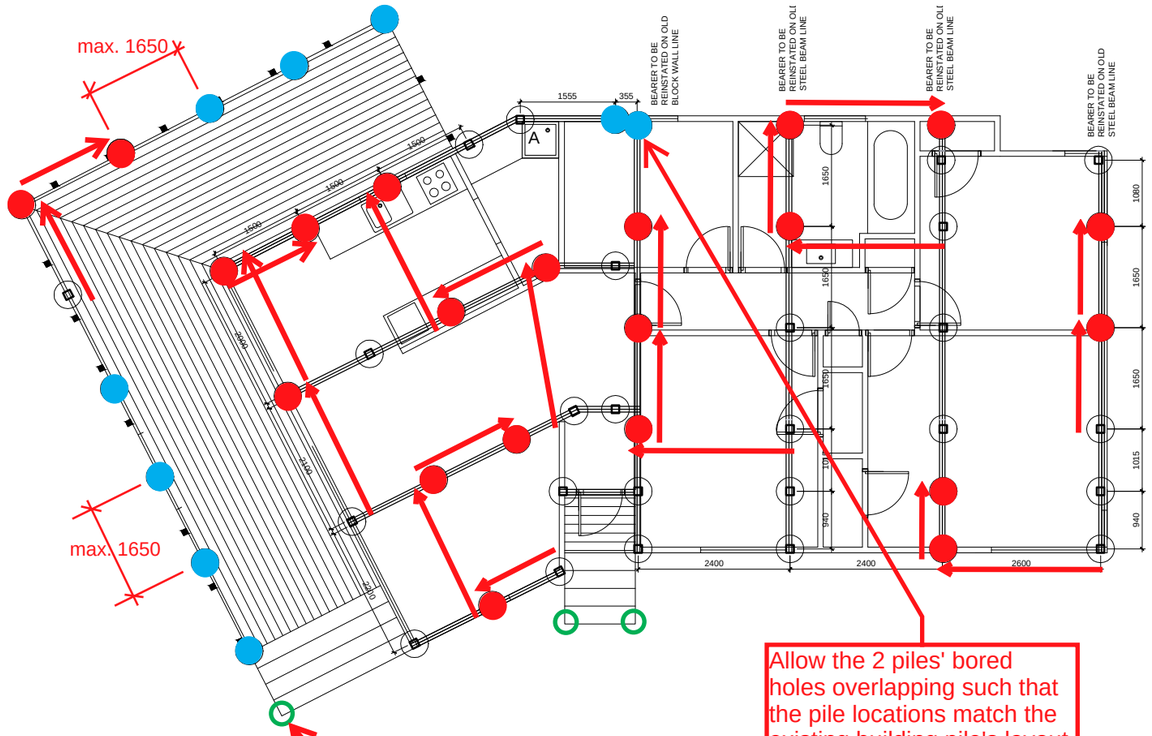
Arrow head depicts **bottom** of brace.
NZS3604:2011 braced pile top fixing shall be used.

⊡

Ordinary Pile: (uncoloured)
550Ø bored concrete pile set min. 0.9m below FGL or min. 0.3m into into competent natural ground, whichever is deeper
125mm Senton Pile or 125mm SED pile fully cast in with 100mm bottom cover
NZS3604:2011 ordinary pile top fixing shall be used.

●

Ordinary Pile: (Blue coloured)
400Ø bored concrete pile set min. 0.9m below FGL or min. 0.3m into into competent natural ground, whichever is deeper
125mm Senton Pile or 125mm SED pile fully cast in with 100mm bottom cover
NZS3604:2011 ordinary pile top fixing shall be used.



Allow the 2 piles' bored holes overlapping such that the pile locations match the existing building pile's layout.

400Ø bored concrete pile under stair stringers. (Green coloured) total 3.
set min. 0.9m below FGL or min. 0.3m into competent natural ground, whichever is deeper.
2/D12 vertical bars. 75mm cover all around

Wilton Joubert Ltd
Job #: 137043
Address: Lot 2, 86 Hautapu Road, Moerewa, Northland
Date: 29/10/2024

Major Dwelling Pile Markup

General Note:
1. These mark-ups are to be read in conjunction with the architectural drawings and all other related documents. Refer to architectural drawings for dimensions. Contact the architect/engineer if any discrepancies are found.
2. Unspecified subfloor / deck framing by others. Unless otherwise specified, refer to NZS3604:2011 for details.
3. Pile design based on report By: Wilton Joubert Ltd. Ref: 136540 Dated: 11/10/2024
- soil unit weight of 18kN/m3
- 300kPa ultimate bearing capacity
- ultimate undrained shear strength, Cu, of 60kPa.
4. Concrete strength of bored concrete pile shall be min. 20MPa.
5. All timber piles shall be H5 treated.
6. Max, pile spacing along bearers shall be 1650mm. Ensure piles being placed under the existing bearer joints and evenly placed between the existing bearer joists.
7. The existing bearer section is 2/140x45 SG8 as per provided information, to be confirmed on site. Contact the architect/engineer if any discrepancies are found.

Note: For specific items as defined in Producer Statement - Design

signed by: David B.N. Lau
B.E. (Hons), Ph.D., MIPENZ, CPEng

WILTON JOUBERT
Consulting Engineers

Revision	By	Date
Designed	BVV	29-08-24
Drawn	BVV	29-08-24
Reviewed		
Approved		

LIVING ARCHITECTURE

Mobile 027 285 5605
Email livingarchitecture@xtra.co.nz

Verify all dimensions on site before commencing work. Refer to figured dimensions. Refer all discrepancies to the drawing office.

Project Title
PROPERTY FOR YOU LTD
92 HAUTAPU ROAD
MOEREWA

Sheet Title
SUBFLOOR BIG HOUSE DRAFT

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet
100977	A2-01A

REVISION A

OR

Braced Piles:
1) Red coloured pile:
550Ø bored concrete pile set min. 1.5m below FGL or min. 0.3m into competent natural ground, whichever is deeper
150mm SED pile fully cast in with 100mm bottom cover

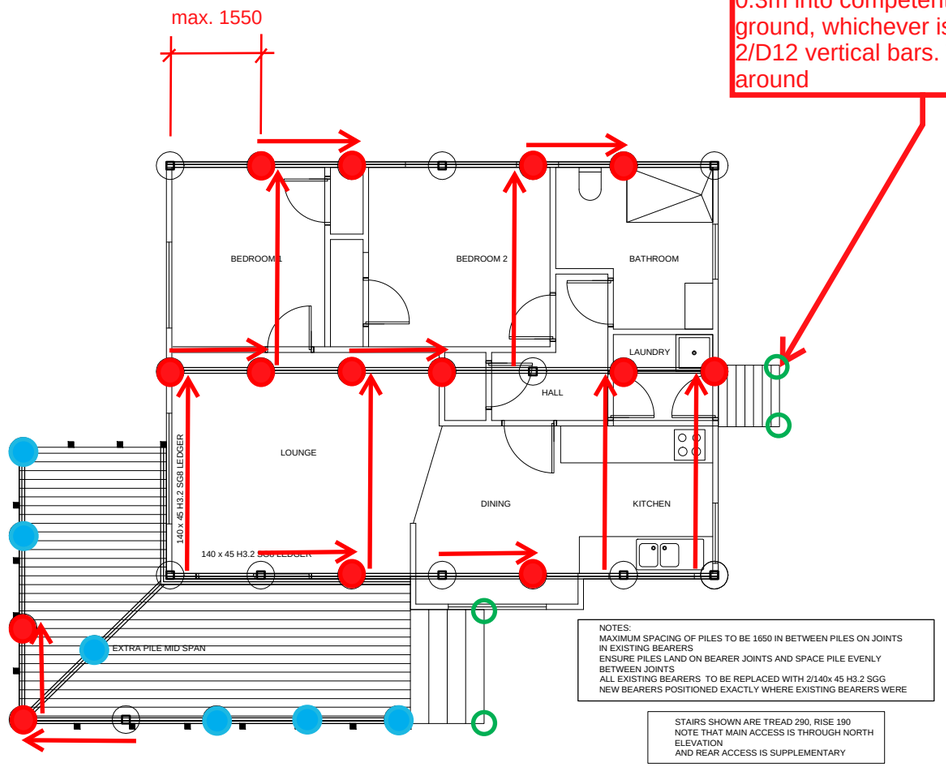
2) Uncoloured pile and Blue coloured pile as per Ordinary Pile

Arrow head depicts **bottom** of brace.
NZS3604:2011 braced pile top fixing shall be used.

Ordinary Pile: (uncoloured)
550Ø bored concrete pile set min. 0.9m below FGL or min. 0.3m into into competent natural ground, whichever is deeper
125mm Senton Pile or 125mm SED pile fully cast in with 100mm bottom cover
NZS3604:2011 ordinary pile top fixing shall be used.

Ordinary Pile: (Blue coloured)
400Ø bored concrete pile set min. 0.9m below FGL or min. 0.3m into into competent natural ground, whichever is deeper
125mm Senton Pile or 125mm SED pile fully cast in with 100mm bottom cover
NZS3604:2011 ordinary pile top fixing shall be used.

400Ø bored concrete pile under stair stringers. (Green coloured) total 4.
set min. 0.9m below FGL or min. 0.3m into competent natural ground, whichever is deeper.
2/D12 vertical bars. 75mm cover all around



Wilton Joubert Ltd
Job #: 137043
Address: Lot 2, 86 Hautapu Road, Moerewa, Northland
Date: 29/10/2024

Minor Dwelling Pile Markup

General Note:
1. These mark-ups are to be read in conjunction with the architectural drawings and all other related documents. Refer to architectural drawings for dimensions. Contact the architect/engineer if any discrepancies are found.
2. Unspecified subfloor / deck framing by others. Unless otherwise specified, refer to NZS3604:2011 for details.
3. Pile design based on report By: Wilton Joubert Ltd. Ref: 136540 Dated: 11/10/2024
- soil unit weight of 18kN/m3
- 300kPa ultimate bearing capacity
- ultimate undrained shear strength, Cu, of 60kPa.
4. Concrete strength of bored concrete pile shall be min. 20MPa.
5. All timber piles shall be H5 treated.
6. Max, pile spacing along bearers shall be 1550mm. Ensure piles being placed under the existing bearer joints and evenly placed between the existing bearer joists.
7. The existing bearers to be replaced with new 2/140x45 SG8 bearers by architect, all pile locations shall match bearer's joints. Contact the architect/engineer if any discrepancies are found.

Note: For specific items as defined in Producer Statement - Design

signed by: David B.N. Lau
B.E. (Hons), Ph.D., MIPENZ, CPEng

WILTON JOUBERT
Consulting Engineers

Revision	By	Date
Designed	BVV	29-08-24
Drawn	BVV	29-08-24
Reviewed		
Approved		

LIVING ARCHITECTURE
Mobile 027 285 5605
Email livingarchitecture@xtra.co.nz

Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SUBFLOOR BIG HOUSE DRAFT

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet
100977	A2-01B

A

PRODUCER STATEMENT – PS1
DESIGN

BUILDING CODE CLAUSE(S): B1 **JOB NUMBER:** 137043
ISSUED BY: Wilton Joubert Ltd.
(Engineering Design Firm)
TO: Leighton & Emily Scott
(Owner/Developer)
TO BE SUPPLIED TO: Far North District Council
(Building Consent Authority)
IN RESPECT OF: structural design services
(Description of Building Work)
AT: Lot 2, 86 Hautapu Road, Moerewa, Northland
(Address, Town/City)
LEGAL DESCRIPTION: Lot 2, DP: 567189 **N/A** ☐

We have been engaged by the owner/developer referred to above to provide *(Extent of Engagement)*:
Pile foundation, subfloor/deck bracing design, timber retaining wall
in respect of the requirements of the Clause(s) of the Building Code specified above for Part only , as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☑ Compliance documents issued by the Ministry of Business, Innovation & Employment *(Verification method/acceptable solution)* B1/VM1,VM4 and/or;
- ☐ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: report by: Wilton Joubert Limited Ref: 136540 Date: 11/10/2024.
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 2 level of **construction monitoring**.

I, *(Name of Engineering Design Professional)* David Lau , am:

- ☑ CPEng number 221906

and hold the following qualifications BE(Hons),PhD,CMEngNZ,CPEng,IntPE

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than $200,000
The Engineering Design Firm is not a member of ACE New Zealand.

SIGNED BY *(Name of Engineering Design Professional)*: David Lau
(Signature below):

ON BEHALF OF *(Engineering Design Firm)*: Wilton Joubert Ltd. Date: 29/10/2024

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of $200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

SCHEDULE to PS1

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

Layout A2-01A, A2-01B, A0-04, W1

Recommended Site Inspections / Construction Review

WJ Job #: 137043

Site Address: Lot 2, 86 Hautapu Road, Moerewa, Northland

Important Notes:

- Check building consent conditions for any inspections that are required by the Building Consent Authority.

- In order to issue Producer Statement – Construction Review (PS4) for specific item(s) as per the building consent conditions, Wilton Joubert needs to carry out the inspection for the item(s) specified.
  NO INSPECTION = NO PS4.

- It is the building consent applicant's (or authorised agent) responsibility to ensure that Wilton Joubert is notified in advance of the required inspection. Bookings should be made 48 hours prior to the intended time of inspection.

Ultimately, it is up to the building consent authority to determine which step of the construction process requires an engineer's review. Please check your eventual building consent conditions thoroughly for these. In support of your application for building consent, the following inspections / construction reviews are suggested:

- Bored hole soil properties inspection
- Pile prepour inspection
- Retaining wall pole prepour inspection
- .....
- .....
- .....
- .....
- .....
- .....

For bookings call: (09) 527 0196

Site address: Lot 2, 86 Hautapu Road, Moerewa, Northland

Re: B2 (Durability) Compliance

To whom it may concern,

We have provided a Producer Statement for Design (PS1) for clause B1 of the Building Act - Structure. Our PS1 does not cover clause B2 of the Building Act – Durability because there is no effective means of compliance for structural durability in the Building Code. However, we can confirm that the structural elements shown in our documentation have been treated as noted below:

Timber

The timber has been specified in accordance with NZS3640:2003. The quality of timber treatment is dependent on the QA systems of manufacturers, suppliers and the onsite contractors and sub-contractors. Refer to the contractor's PS3 and QA records where available.

Concrete

Compliance with cover and concrete quality requirements for B2/AS1 are in accordance with NZS3101:2006 Section 3.

Reinforced Concrete Masonry

Compliance with cover and concrete quality requirements for B2/AS1 are in accordance with NZS4230:2004 Section 4.

Mild Steel

Protective coatings as specified in building consent documentation (may be by others) in accordance with AS/NZS 2312:2014 and SNZ TS 3404:2018 on a life to first major maintenance basis.

The quality of mild steel protective coatings is dependent on:

- Steel preparation
- Quality and production consistency of the coating products
- QA of the application and curing
- QA of the handling, protection and repair

Refer to:

- Contractor's and sub-contractor's PS3s and QA records where available
- Third-party inspection and test results

On-going maintenance plan (attached)

Yours faithfully

David Lau, Wilton Joubert Ltd.

Dated: 29/10/2024

STRUCTURAL MAINTENANCE SCHEDULE

This schedule of ongoing inspection and maintenance of structural elements shall be included with the O&M manuals and provided to the Owner/Body Corporate and building managers.

Inspection/Maintenance timeframe and item	
(a) Half-yearly	Wash down all exposed steelwork that is not in a fully interior environment including: • Veranda steelwork • Steel carpark structure (beams, columns, braces etc) • Deck and balcony steelwork • Exposed façade steelwork, both primary and secondary structure • Sub-ground floor mild-steel structures such as beams.
(b) 5-yearly	Inspect and repair sealant that encloses structural mild-steel components and/or timber with mild-steel fixings.
(c) 10-yearly	Check exposed timber fixings for corrosion, repair as required.
	Inspect/replace sealant that encloses structural mild-steel components and/or timber with mild-steel fixings. This will typically include sealants around the perimeter of precast panels. **Note that 10 years is the expected useful life for many sealants.**
	Check all exposed steelwork that is not in a fully interior environment for signs of corrosion. Repair protective coatings as required.
(d) 25-yearly	Inspect samples of structural steel that is hidden from view but not enclosed within a vapour barrier, and repair protective coatings as necessary. A typical example is a veranda with built-in steelwork (Such steelwork should typically have duplex protective coatings). Inspection may typically require removal of claddings and/or the drilling of holes for borescope access. Repair as required.
	Inspect all exposed, external timber. Repair as required.
	Inspect all exposed, external reinforced concrete for signs of spalling. Repair as required.
Following seismic shaking > SLS1 event	Inspections and repair as per b), c) and d) above.

WILTON JOUBERT
Consulting Engineers

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T +64 3 443 5322

PRODUCER STATEMENTS – Advisory Note

Producer Statements shall be submitted to territorial authorities or building consent authority in order for Code of Compliance Certificates to be issued. The requirement for consultants to issue the related Producer Statements may appear as a condition under the building consent documents or as a separate letter from the territorial authority or building certifier. **It is the owner's (or consent applicant) responsibility to check the building consent documentation and notify Wilton Joubert Ltd. in relation to the requirement for construction inspections required (and the subsequent PS4: Producer Statement for Construction Review) as stated on the consent documents. Please note, we cannot issue PS4 if we did not carry out the inspection.**

In order to secure our inspection services, it is strongly recommended that Wilton Joubert Ltd. be given at least 48 hours notice prior to time of inspection. Our inspections are limited to items that have been designed and detailed by us. We are also unable to inspect non-consented or unauthorised work. Building consented, stamped plans with consent numbers (or legible copy of the same) including amendments where applicable shall be made available on site during inspections.

In some cases due to the distance of the job from our offices, it may be more practical and cost effective to contact a local professional engineer to carry out the inspection, who may contact us with any questions that may arise. The engineer who carried out the inspection would subsequently be responsible for the issue of the producer statement for construction review.

The costs associated with site inspections and issuing of Producer Statements are separate from any previous work that we have been engaged for, such as engineering design of works. The costs for carrying out the inspections and related work are based on time spent travelling to site, time on site and other associated costs. Please contact us for an estimate of costs. Our assumptions are that the person(s) who arranged the inspection is responsible for payment of the fees, unless otherwise stated at time of engagement.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website
https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

PS1 DESIGN Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 DESIGN REVIEW Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 CONSTRUCTION Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011[2]

PS4 CONSTRUCTION REVIEW Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

Competence of Engineering Professional
This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

Professional Indemnity Insurance
As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

Professional Services during Construction Phase
There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers[3]). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4
Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Refer Also:

1. Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
2. NZIA Standard Conditions of Contract SCC 2011
3. Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
4. PN01 Guidelines on Producer Statements

www.acenz.org.nz
www.engineeringnz.org

Form 2A:
Memorandum from licensed building practitioner (certificate of design work)

SECTION 30C OR 45, BUILDING ACT 2004

The building

Street address of building: Lot 2, 86 Hautapu Road, Moerewa, Northland

The owner

Full name: Leighton & Emily Scott

Mailing address: MOEREWA 0472

Telephone number: 021 125 5946

Email address: thescottsandpaws@hotmail.com

Identification of design work that is restricted building work

I carried out/supervised the following design work that is restricted building work:

Design work that is restricted building work ✓	**Building work** *(If appropriate, provide details of the restricted building work)*	**Carried out/supervised** *(Specify whether you carried out this design work or supervised someone else carrying out this design work)*	**Reference to plans and specifications** *(If appropriate, specify references)*
Primary structure			
☑ Foundations and subfloor framing	SED Foundations	Supervised	Layout A2-01A, A2-01B
☐ Walls	N/A	N/A	N/A
☐ Roof	N/A	N/A	N/A
☐ Columns and beams	N/A	N/A	N/A
☐ Bracing	N/A	N/A	N/A
☑ Other	SED timber retaining wall	Supervised	Layout A0-04, W1

External moisture management systems			
☐ Damp proofing	N/A	N/A	N/A
☐ Roof cladding or roof cladding system	N/A	N/A	N/A
☐ Ventilation system (for example, subfloor or cavity)	N/A	N/A	N/A
☐ Wall cladding or wall cladding system	N/A	N/A	N/A
☐ Waterproofing	N/A	N/A	N/A
☐ Other	N/A	N/A	N/A
Fire safety systems			
☐ Emergency warning systems, evacuation and fire service operation systems, suppression or control systems, or other	N/A	N/A	N/A

Note:

1. *The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.*
2. *Continue on another page if necessary.*

Are waivers or modifications of the building code required?: ☐ Yes ☑ No

If yes, provide details of the waivers or modifications below:

Clause *(List relevant numbers of building code)*	**Waiver/modification required** *(Specify nature of waiver or modification of building code)*

Note:

Continue on another page if necessary.

Issued by

David Lau

(Name of licensed building practitioner who is licensed to carry out or supervise design work that is restricted building work)

Licensed building practitioner number: N/A

(if applicable)

Registered architect number: N/A

(if applicable)

Chartered professional engineer number: 221906

(if applicable)

Mailing address: PO Box 11381 Ellerslie, Auckland 1542

Street address/registered office: 108 Lunn Avenue, Mt. Wellington, Auckland 1072

Telephone number: 09 527 0196 Mobile number: ----

Facsimile: ----

Email address: david@wjl.co.nz

Website: www.wiltonjoubert.co.nz

(if applicable)

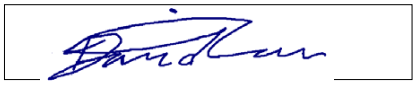
Declaration

I, David Lau

(name of licensed building practitioner), certify that the design work that is restricted building work recorded on this form:

☑ (a) complies with the building code; or

☐ ~~(b) complies with the building code subject to any waiver or modification of the building code recorded on this form.~~

Signature: 

Date: 29 (DAY) 10 (MONTH) 2024 (YEAR)

NOTE:
1. Check the BUILDING CONSENT CONDITIONS for any inspections that are required by the Building Consent Authority (BCA).

2. It is increasingly common for building consent authorities to require a "PS4" for specifically designed structures. If BCA requires PS4 to be issued for inspections, a local engineer may be engaged to carry out such inspections and issue a PS4 accordingly.

3. Design based on report
By: Wilton Joubert Limited Ref: 136540 Dated: 11/10/2024
- Assumed soil friction angle of 28°
- Assumed soil unit weight of 18kN/m3
- Assumed ultimate undrained shear strength of 60kPa, subject to engineers confirmation.

4. Location and depth of all public pipes shall be confirmed on site prior to construction. Pile holes shall be outside pipe influence line, unless specifically designed to do so.

5. Highly recommended NOT to carry out earthworks during wet conditions or with impending wet weather.

6. No existing structure is to be within 1V:1.8H influence line from the base of the retaining walls. It is essential this is checked prior to cut. If this is the case, please contact WJL to review the design, further site investigation may be required to assess the situation and safety measures.

7. All retaining wall loading conditions (eg. retained heights boundary conditions, surcharges, backslope, frontslope, etc.) shall be checked prior to any construction. Wilton Joubert Ltd. shall be contacted if there are any discrepancies/ deviations from the design.

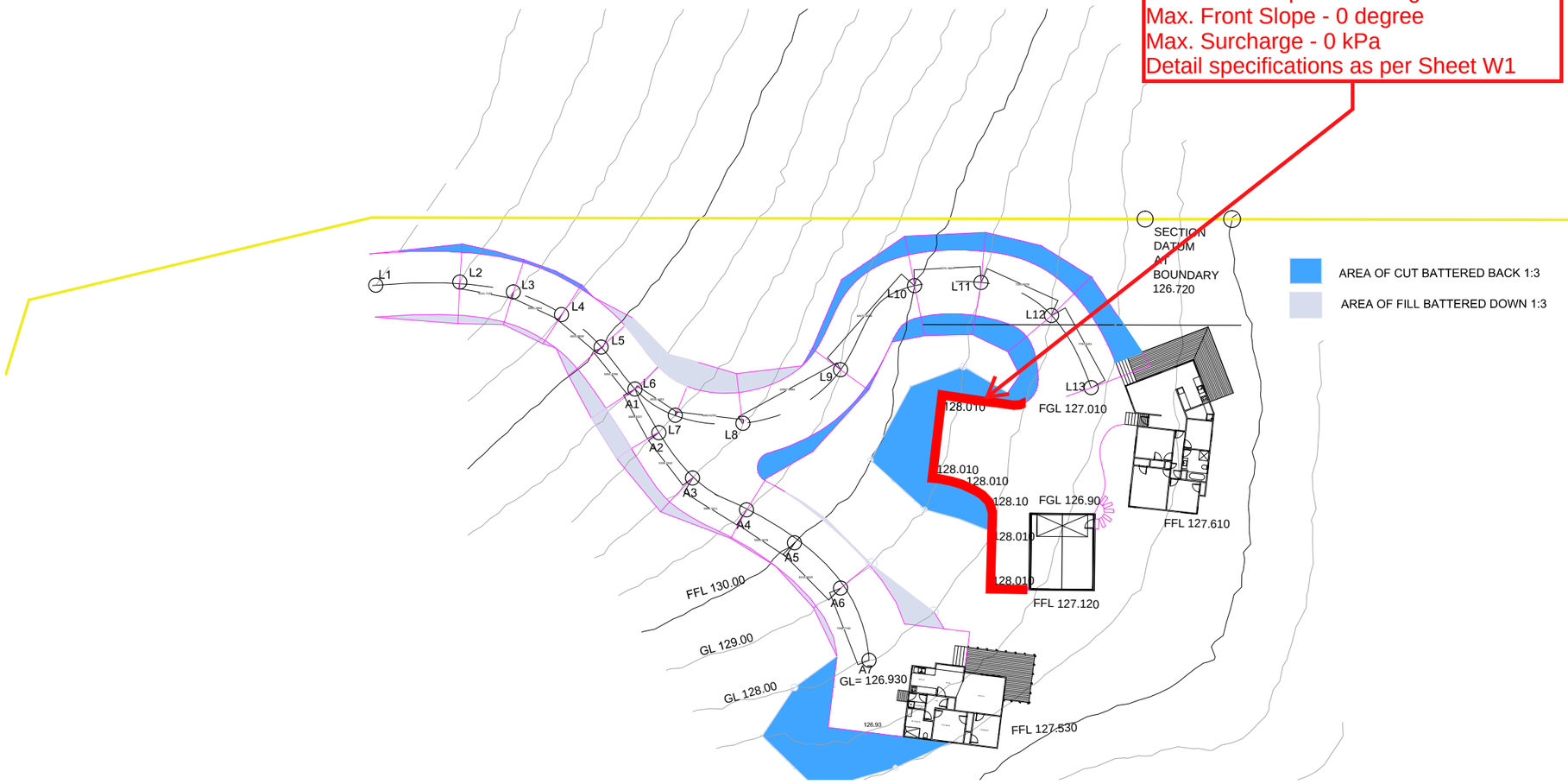
Note: For specific items as defined in Producer Statement - Design

signed by: David B.N. Lau
B.E. (Hons), Ph.D., MIPENZ, CPEng

WILTON JOUBERT
Consulting Engineers

Timber Retaining Wall #1 (Red coloured)

Max. Height - 1.0m
Max. Back Slope - 18.5 degrees
Max. Front Slope - 0 degree
Max. Surcharge - 0 kPa
Detail specifications as per Sheet W1



Retaining Wall Markup
Wilton Joubert Ltd.
Job#: 137043
Address: Lot 2, 86 Hautapu Road, Moerewa, Northland
Date: 29/10/2024

LIVING ARCHITECTURE
Mobile 027 285 5605
Email livingarchitecture@xtra.co.nz

Project Title

92 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
EXCAVATION

CAD Ref	Scale (A1 Original)
100977	1:500@ A3

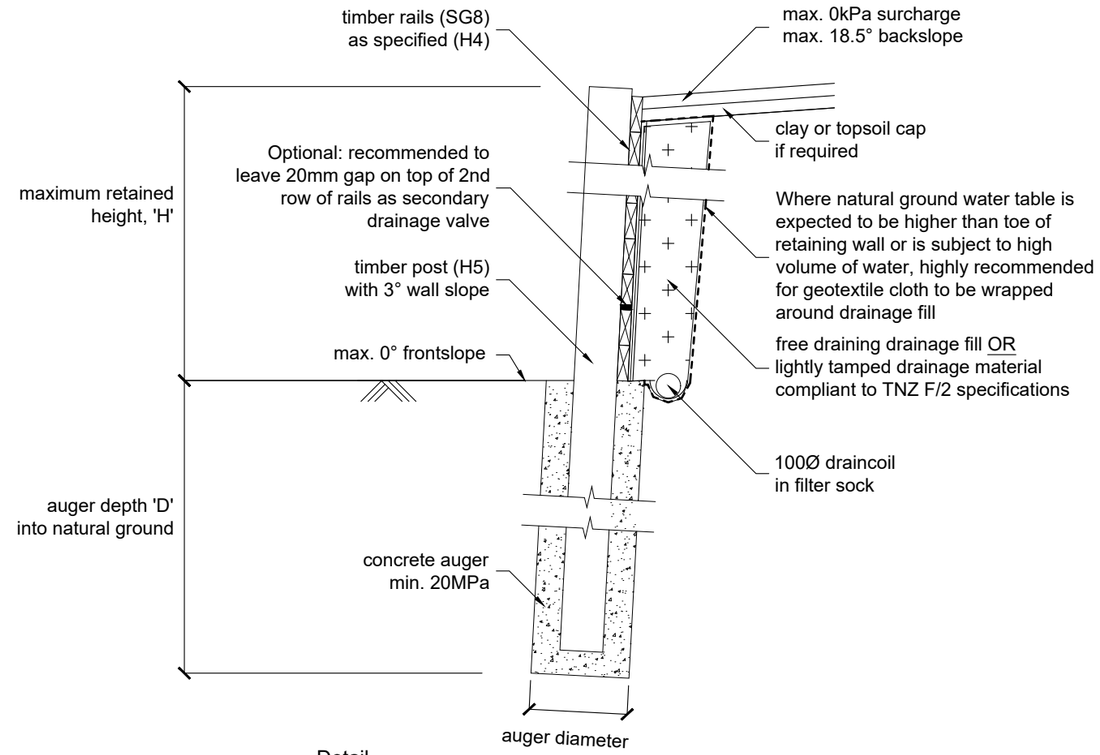
Project No	Sheet	Revision
100977	A0-04	A

Timber Retaining Wall #1

Notes:
Quality of poles shall conform to the requirements of NZS3605.
'ND' Poles are normal density with min. outer zone density of 350kg/m3.
'HD' Poles are high density with min. outer zone density of 450kg/m3.

Confirm site conditions matches design details prior to construction.

H, max. retained height (m)	Post spacing (mm)	SED Post diameter (mm)	D, auger depth (mm)	auger diameter (mm)	Rails
0.6	1000	150ND	900	300	150x50 SG8
0.9	1000	150ND	1000	300	150x50 SG8
1.2	1000	150ND	1300	300	150x50 SG8



Detail

Typical timber retaining wall

NOTES:
1. Contact the architect/engineer if any discrepancies are found.
2. Check the BUILDING CONSENT CONDITIONS for any inspections that are required by the Building Consent Authority (BCA).
3. It is increasingly common for building consent authorities to require a "PS4" for specifically designed structures. For Wilton Joubert to issue this, we need to carry out inspections as per the building consent requirements. Ring Wilton Joubert local office to arrange a booking. NO INSPECTION EQUALS NO PS4 ISSUED. Where Wilton Joubert is unable to conduct inspection due to geographical reason, a local engineer may be engaged to carry out such inspections and issue a PS4 accordingly.
4. Location of all public pipes shall be confirmed on site.
5. All retaining wall loading conditions (eg. retained heights, boundary conditions, surcharges, backslope, frontslope, etc.) shall be check prior to any construction. Wilton Joubert shall be contacted if there are any discrepancies/deviations from the design.

No.	DESCRIPTION	DATE

REVISION

WILTON JOUBERT

Northland: 09 945 4188 Christchurch: 021 824 063
Auckland: 09 527 0196 Wanaka: 03 443 6209

www.wiltonjoubert.co.nz

SITE ADDRESS:

Proposed Residence:
Lot 2
86 Hautapu Road
Moerewa
Northland

SHEET TITLE:

Retaining Wall

DESIGNED BY: KX	DRAWN BY: KX
CHECKED BY: DL	APPROVED BY: Wilton Joubert Ltd
DATE: 29-10-2024	OFFICE: Lunn Avenue
DRAWING SCALE: N.T.S	ORIGINAL DRAWING SIZE: A3
Original Job #: **Job # 137043**	Sheet #: **W1**
Revision Job #:	

TA Approvals

Territorial Authority	Far North District Council TA Certification Division	**TA Reference**	2240077
Survey Number	LT 600745	**Survey Purpose**	LT Subdivision
Surveyor Reference	10481 Scott	**Land District**	North Auckland
Surveyor	Denis McGregor Thomson		
Surveyor Firm	Thomson Survey Limited		
Dataset Description	Lots 1 and 2 Being a Subdivision of Lot 2 DP 567189		

TA Certificates

I hereby certify that plan LT 600745 was approved by the Far North District Council pursuant to section 223 of the Resource Management Act 1991 on the 11 day of March 2024. ☑

Signature

Signed by Tianxu Huang, Authorised Officer, on 11/03/2024 04:34 PM

Receipt Information

Transaction Receipt Number	16711194
Signing Certificate (Distinguished Name)	Huang, Tianxu
Signing Certificate (Serial Number)	-561664349
Signature Date	11/03/2024

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

TA Approvals

Territorial Authority	Far North District Council TA Certification Division	**TA Reference**	2240077
Survey Number	LT 600745	**Survey Purpose**	LT Subdivision
Surveyor Reference	10481 Scott	**Land District**	North Auckland
Surveyor	Denis McGregor Thomson		
Surveyor Firm	Thomson Survey Limited		
Dataset Description	Lots 1 and 2 Being a Subdivision of Lot 2 DP 567189		

TA Certificates

Pursuant to Section 224(c) Resource Management Act 1991 I hereby certify that some of the conditions of the subdivision consent have been complied with to the satisfaction of the Far North District Council and that a consent notice has been issued in respect of those conditions that have not been complied with. Dated this 25th day of March 2024. ☑

Signature

Signed by Patricia Wynsome Routley, Authorised Officer, on 25/03/2024 06:53 PM

Receipt Information

Transaction Receipt Number	16747102
Signing Certificate (Distinguished Name)	Routley, Patricia Wynsome
Signing Certificate (Serial Number)	778905042
Signature Date	25/03/2024

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

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

HE ARA TĀMATA
CREATING GREAT PLACES
Supporting our people

Private Bag 752, Kaikohe 0440, New Zealand
ask.us@fndc.govt.nz
0800 920 029
fndc.govt.nz

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **RC-2240077-RMASUB**
Being the Subdivision of Lot 2 DP 567189
North Auckland Registry

PURSUANT to Section 221 and for the purpose of Section 224 (c) (ii) of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and these are to be registered on the titles of the allotments specified below.

SCHEDULE

Lots 1 & 2 DP 600745

a) The site is identified as being within a kiwi present zone. All dogs should be under effective control at all times – any cats and/or dogs kept onsite must be kept inside and/or tied up at night and contained during the day when not being directly interacted with to reduce the risk of predation of North Island brown kiwi by domestic cats and dogs.

Lot 2 DP 600745

b) In conjunction with a building consent application for any residential dwelling, the lot owners shall provide a geotechnical assessment, prepared by a suitably qualified chartered professional engineer. The report shall take into consideration the recommendations of the Wilton Joubert '*Geotechnical Site Suitability Report*', Final revision, referenced 127296 and dated 24th October 2023.

c) At the time of building consent, a wastewater treatment system capable of treating the domestic wastewater generated by the dwelling to at least a secondary standard shall be designed and installed. The design shall consider the recommendations of the Wilton Joubert '*Civil Site Suitability Report'*, referenced 127295, dated 29th June 2023.

The design shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 30% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary.

Private Bag 752, Kaikohe 0440, New Zealand
ask.us@fndc.govt.nz
0800 920 029
fndc.govt.nz

d) For on-site wastewater disposal system:

(i). The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.

(ii). Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria.

e) In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of a tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.

f) Future lot owners are advised, electricity supply is not a condition of this consent and power has not been reticulated to the boundary of the lot. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner.

g) Any developed surfaces that generate stormwater runoff shall incorporate low impact design principles, including, but not limited to, those detailed in the Wilton Joubert '*Civil Site Suitability Report'*, referenced 127295, dated 29th June 2023.

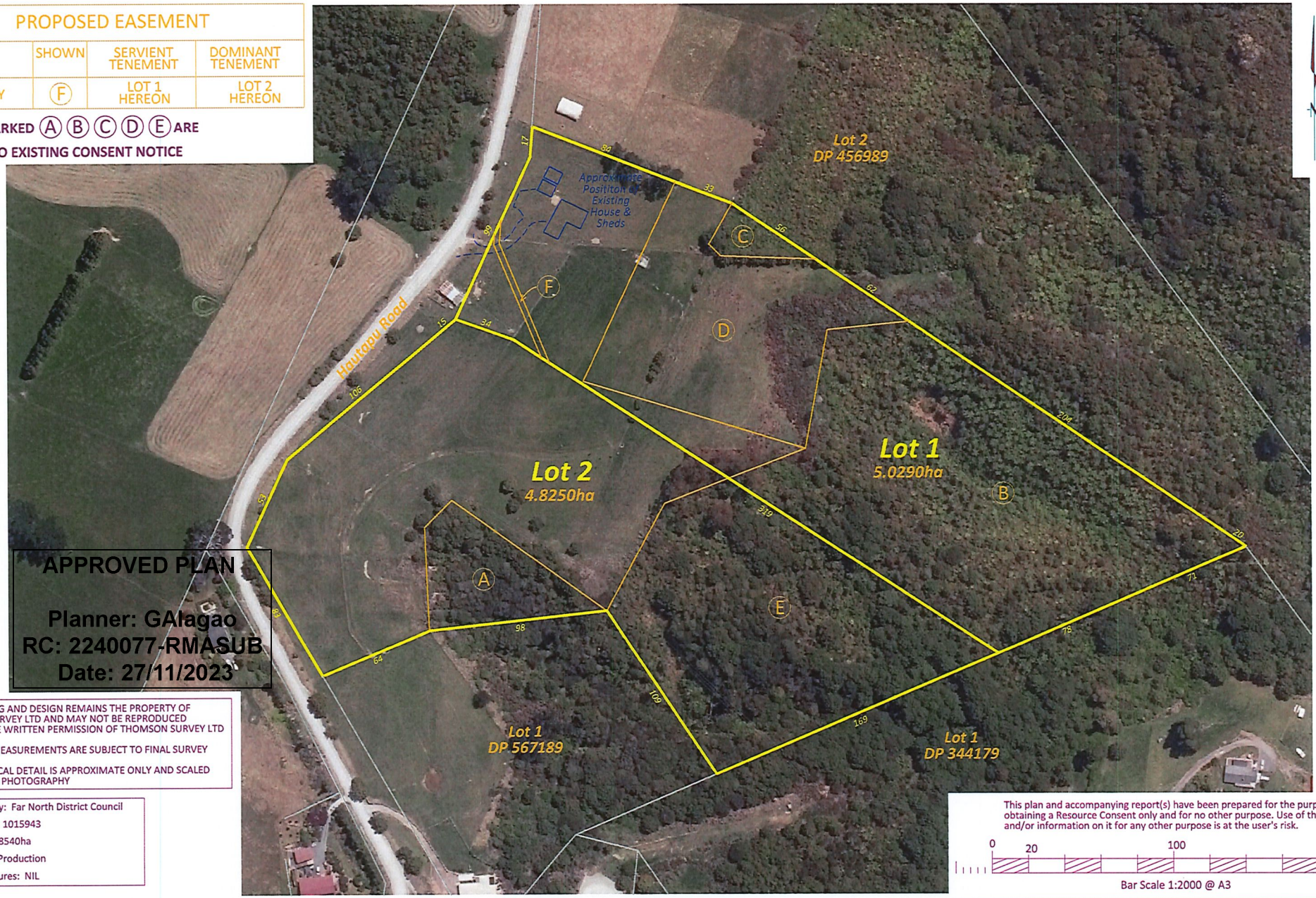
SIGNED:

Ms Patricia (Trish) Routley - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
MANAGER– RESOURCE CONSENTS

DATED at **KERIKERI** this 25th day of March 2024

PROPOSED EASEMENT			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
ELECTRICITY	(F)	LOT 1 HEREON	LOT 2 HEREON

AREAS MARKED (A) (B) (C) (D) (E) ARE SUBJECT TO EXISTING CONSENT NOTICE



APPROVED PLAN

Planner: GAlagao
RC: 2240077-RMASUB
Date: 27/11/2023

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 1015943
Total Area: 9.8540ha
Zoning: Rural Production
Resource features: NIL

0 20 100 200m

Bar Scale 1:2000 @ A3

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360
www.tsurvey.co.nz
Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED SUBDIVISION OF LOT 2 DP 567189

92 HAUTAPU ROAD, MOEREWA

PREPARED FOR: L. SCOTT

	Name	Date
Survey		
Design		
Drawn	KY	20.03.23
Approved		
Rev	KY	12.10.23

10481 Scheme 20231012

ORIGINAL
SCALE 1:2000
SHEET SIZE A3

Surveyors Ref. No: 10481

Sheet 1 of 1

DECISION ON SUBDIVISION CONSENT APPLICATION

UNDER THE RESOURCE MANAGEMENT ACT 1991

Decision

Pursuant to section 34(1) and sections 104, 104B, 106 and Part 2 of the Resource Management Act 1991 (the Act), the Far North District Council **grants** resource consent for a Non-Complying subdivision activity, subject to the conditions listed below to:

Applicant:	Leighton Innes Scott and Emily-Louise Scott
Council Reference:	2240077-RMASUB
Property Address:	92 Hautapu Road, Pakaraka
Legal Description:	Lot 2 DP 567189

The activity to which this consent relates is:
To subdivide in the Rural Production zone creating one additional lot.

Conditions

Pursuant to sections 108 and 220 of the Act, this consent is granted subject to the following conditions:

1. The subdivision shall be carried out in accordance with the approved plan of subdivision prepared by Thomson Survey, referenced "*PROPOSED SUBDIVISION OF LOT 2 DP 567189 92 HAUTAPU ROAD, MOEREWA*", revised 12/10/2023, surveyors reference number 10481, and attached to this consent with the Council's "Approved Stamp" affixed to it.

Survey plan approval (s223) conditions

2. The survey plan, submitted for approval pursuant to Section 223 of the Act shall show:

    a. All easements in the memorandum to be duly granted or reserved.

Section 224(c) compliance conditions

3. Prior to the issuing of a certificate pursuant to section 224(c) of the Act, the consent holder shall:
    a. Provide a formed and metalled vehicle crossing to Lot 2 which complies with the Council's Engineering Standard 2023 drawings sheet 21 type 1A, sheets 22-23 and section 3.2.27.4. The crossing is to be constructed in a way that allows for surface water to pass through the existing shallow roadside drain OR alternatively include a 300mmø RCRRJ class 4 culvert required to direct and control stormwater runoff to the satisfaction of Council's duly delegated officer. The crossing shall be graded and shaped to ensure that minimum site distances of 85m are achieved.

    b. Provide evidence that a Traffic Management Plan (TMP) has been approved by Council's Corridor Access Engineer and a Corridor Access Request (CAR) obtained prior to vehicle crossings being constructed.

c. The consent holder will be responsible for the repair and reinstatement of the public road carriageway, if damaged as a result of the construction of the vehicle access crossing.

d. The consent holder shall provide suitable evidence by way of as-built plans and/or producer statement from a Suitably Qualified Engineer, an Independent Qualified Person (IQP) or FNDC Development Engineer or an authorised representative, to illustrate that the vehicle crossing for Lot 2 has been completed to the satisfaction of Council's duly delegated officer.

4. Secure the conditions below by way of a Consent Notice issued under section 221 of the Act, to be registered against the titles of the affected allotment. The costs of preparing, checking and executing the Notice shall be met by the consent holder:

a. The site is identified as being within a kiwi present zone. All dogs should be under effective control at all times – any cats and/or dogs kept onsite must be kept inside and/or tied up at night and contained during the day when not being directly interacted with to reduce the risk of predation of North Island brown kiwi by domestic cats and dogs.

[Lots 1 & 2]

b. In conjunction with a building consent application for any residential dwelling, the lot owners shall provide a geotechnical assessment, prepared by a suitably qualified chartered professional engineer. The report shall take into consideration the recommendations of the Wilton Joubert '*Geotechnical Site Suitability Report*', Final revision, referenced 127296 and dated 24th October 2023.

[Lot 2]

c. At the time of building consent, a wastewater treatment system capable of treating the domestic wastewater generated by the dwelling to at least a secondary standard shall be designed and installed. The design shall consider the recommendations of the Wilton Joubert '*Civil Site Suitability Report'*, referenced 127295, dated 29th June 2023.

The design shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 30% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary.

[Lot 2]

d. For on-site wastewater disposal system:
   i. The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.
   ii. Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria.

[Lot 2]

e. In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of a tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.

[Lot 2]

f. Future lot owners are advised, electricity supply is not a condition of this consent and power has not been reticulated to the boundary of the lot. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner.

[Lot 2]

g. Any developed surfaces that generate stormwater runoff shall incorporate low impact design principles, including, but not limited to, those detailed in the Wilton Joubert '*Civil Site Suitability Report'*, referenced 127295, dated 29th June 2023.

[Lot 2]

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) A survey plan is submitted to Council for approval under section 223 of the RMA before the lapse date, and that plan is deposited within three years of the date of approval of the survey plan in accordance with section 224(h) of the RMA; 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. This consent has been granted on the basis of all the documents and information provided by the consent holder, demonstrating that the new lot(s) can be appropriately serviced (infrastructure and access).

5. The site is accessed off an unsealed road. Unsealed roads have been shown to create a dust nuisance from vehicle usage. It is advised that the dwelling is either located as far as possible or at least 80m from the road, and/or boundary planting within the site is utilised to assist with this nuisance. Alternatively, the consent holder may consider sealing their road frontage to remove the issue.

6. The consent holder is advised that the activity is required to comply with consent notice conditions of 11363549.2 Consent Notice and 12311221.2 registered on the Computer Freehold Register (1015943) except where the wording of the consent notice has been amended by a decision of the Far North District Council in accordance with section 221(3) of the Resource Management Act 1991.

7. Council considers that as there is no development as a result of the proposed subdivision the NESFR does not apply, however at development stage the future Lot owner may need to apply for a further resource consent from Northland Regional Council as there appears to be a freshwater body on site. Lot 2.

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 Non-Complying resource consent:

Rule Number and Name	Non-Compliance Aspect	Activity Status
Table 13.7.2.1 Minimum Lot Sizes (i) Rural Production Zone	The subdivision of the site did not exist at or prior to 28 April 2000. The proposal will result in lots that are less than 12ha but greater than 4ha.	Discretionary
Table 13.7.2.1 Minimum Lot Sizes (xix) Outstanding Landscape, Outstanding Landscape Features and Outstanding Natural Features	The site is located within an Outstanding Landscape overlay; the proposed lot sizes are less than 20ha; and the proposed subdivision will not be carried out via a management plan.	Non-Complying

3. In regard to section 104(1)(a) of the Act the actual and potential effects of the proposal will be acceptable as:

   a. Safe and suitable access can be demonstrated.
   b. Lot 1 already has access to water supply. Sufficient water supply can be made available on Lot 2 for potable water and firefighting purposes.

c. Lot 1 already has access to its own wastewater system. Lot 2 has a large availability of land to accommodate an on-site wastewater system for future development.
d. The availability of energy supply and telecommunication services to all the lots is not required.
e. There are no requirements for esplanade reserves.
f. The creation of one additional lifestyle lot is not anticipated to cause reverse sensitivity issues.
g. The site does not contain Ngā Whenua Rāhui Protected Areas nor any Department of Conservation (DoC) public conservation land.
h. Effects on areas of significant indigenous flora and significant habitats of indigenous fauna, will be less than minor, as the large areas of indigenous vegetation on both Lots which are protected by way of Consent Notice 11363549.2. These areas are shown on the scheme plan as areas 'A', 'B', 'C' and 'E'.
i. There is also a Consent Notice 11363549.2 which restricts cats and dogs in the covenanted areas.
j. Effects on transportation and access will be less than minor subject to the required upgrades of accessway to 2. Sight distances from the site have good visibility, therefore promoting safe and efficient movement of vehicles. The development will not impact traffic intensity.
k. The subdivision activity will not exacerbate any natural or other hazards on site as there are no identified HAIL sites, or natural hazards located in the local area or surrounding properties. Given the above, no mitigation of natural hazards is required, and the subdivision will not increase risks to people or property.

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. National Policy Statement for Highly Productive Land 2022
   b. Northland Regional Policy Statement 2016,
   c. Operative Far North District Plan 2009,
   d. Proposed Far North District Plan 2022

National Policy Statement for Highly Productive Land (NPS-HPL)

The NPS-HPL definition of Highly Productive Land (HPL) is for LUC 1, 2 or 3 land which is located in a general rural or rural production zone and forms a large and geographically cohesive area. Therefore, this development which is located on LUC 4 land does not meet the definition of HPL under the NPS-HPL. Under clause 3.4 (3), regional councils can map land in the general rural or the rural production zone, which is not LUC 1, 2 or 3 as highly productive land if they decide the land is or has the potential to be highly productive land. Northland Regional Council has not currently given effect to this clause by providing highly productive land mapping. Therefore, this land is not currently considered HPL land, although, it is possible this may change in the future.

Operative Far North District Plan

The activity is consistent with this document, which is generally as set out in pages 8 to 19 of the s92 Response document submitted to Council on 27/10/2023 for RC 2240077-RMASUB. In particular:

Subdivision:

Objective	Assessment
13.3.1	The application site has an area of less than 10ha, which is currently utilised for residential and limited pastoral grazing. The subdivision will be halving the existing site into two separate lots, each over 4ha in area. Both lots have no land that fall within the definition of HPL and provides ongoing protection of existing indigenous vegetation on the lots, accounting for nearly 50% of the area of each lot.
13.3.2	The subdivision activity is appropriate for the site, creating less than minor adverse effects. Lot 2 can support residential use without creating or accelerating natural hazards. Further, reverse sensitivity effects are not anticipated as the existing site's current use is residential/pastoral grazing. The southern adjacent property is also residential in nature and have a smaller lot size. As such, the creation of an additional lot will not create more than minor effects.
13.3.3	This objective is aimed at outstanding landscapes and features 'in the coastal environment'. The site is not in the coastal environment. In any event, the subdivision does not jeopardise the protection of outstanding landscapes as mapped on the site.
13.3.4	There are no scheduled heritage resources on-site or in the vicinity.
13.3.5	Lot 1 already contains an existing development, which has on-site water storage and appropriate stormwater management. The balance lot (Lot 2) can be similarly self-sufficient. In addition, there is an existing consent notice that addresses the firefighting, water supply, on-site wastewater and stormwater management.
13.3.6	This objective is likely intended to encourage Management Plan applications, which this application is not.
13.3.7	The site is not known to contain any sites of cultural significance to Māori, or wāhi tapu. Lot 2 contains a minor portion of a waterbody in the south-eastern portion of the site; however, this will not be affected by the activity. Any areas of indigenous vegetation or habitat on the site are already protected. Council accepts that the activity does not adversely impact on the ability of Māori to maintain their relationship with ancestral lands, water, sites, wāhi tapu and other taonga.
13.3.8	Power and telecommunication supply are not a requirement in subdivisions within the Rural Production zone.
13.3.9	Lot 1 already supports an existing dwelling at its high point, making good use of orientation to maximise access to sunlight. Both Lots 1 and 2 have south-facing slopes. Whilst having a view to the south, a dwelling on proposed Lot 2 can nonetheless be located such that it has adequate access to sunlight.
13.3.10	The subdivision adjoins a Council road and is reasonably close to the Moerewa and Kawakawa townships and their amenities, and to the state highway network.
13.3.11	Not applicable as there is no National Grid on or near the subject site.

Policy	Assessment
13.4.1	The subject site is not within the coastal environment. Regardless, the character will be maintained. The Outstanding Landscape/indigenous vegetation or habitat on the site are already protected, which occupies nearly 50% of the site will be protected. The southern adjacent lot is also a rural residential lot, which is smaller in size than Lots 1 and 2. As such, the subdivision will not be setting a precedent. Further, as discussed previously, there are no scheduled heritage resources on-site or in the vicinity nor is the activity anticipated to adversely impact on the ability of Māori to maintain their relationship with ancestral lands, water, sites, wāhi tapu and other taonga. As such, effects on the ecological, landscape, amenity, cultural, and heritage values, as well as existing land uses will be less than minor.
13.4.2 & 13.4.5	Access to Lot 1 is existing, while access for Lot 2 can be readily available. The location selected for Lot 2's vehicle crossing is generally flat and there are no issues foreseen by the Resource Consents Engineer regarding the construction of a new vehicle crossing in accordance with the FNDC engineering standards. They advised that upstream catchment and flow through the shallow roadside drain is minimal and is deemed suitable for the crossing to pass through the drain. Overall, it is considered that the adverse effects in relation to the provision of access is less than minor. Further, minimal earthworks are required and what is required can occur with no indigenous vegetation removal and with appropriate sediment and erosion control measures in place during site works.
13.4.3	The site is not mapped as being subject to any hazard. Despite this, a geotechnical assessment has been carried and this confirms the site is suitable for development.
13.4.4	Any utilities can be in-ground, therefore have no visual impact effect.
13.4.6	The site is not known to contain any heritage resources. It does contain areas of indigenous vegetation, some of which may be significant, but all of which is protected in any event. The site is not in the coastal environment. The site is partially mapped as having outstanding landscape; however, it is important to note that this notation/mapping has not been confirmed in the Regional Policy Statement for Northland. The area of Outstanding Landscape is no longer extending into the application site, nor is it shown to affect the site in the Proposed District Plan mapping. Therefore, in Council's assessment, this diminishes the Outstanding Landscape's significance and values and calls into question, therefore, the need for protection or preservation of the Outstanding Landscape instead. Notwithstanding that, the proposal continues the protection of areas within the site that are mapped as Outstanding Landscape.
13.4.7	Not applicable as no esplanade reserve is required.
13.4.8	Lot 1 contains an existing development that already has on-site water storage. On-site water storage can be made readily available for Lot 2.
13.4.9	Development bonus donor and recipient areas are not required nor necessitated by this application as the area covered by Outstanding Landscape is already protected. Further, only one additional lot is to be created, retaining the covenant protection for Outstanding Landscape on the lot.
13.4.10	Not applicable as the subject site is not within the Conservation zone.
13.4.11	As discussed above, there are no scheduled heritage resources on-site or in the vicinity nor is the activity anticipated to adversely impact on the ability of Māori to maintain their relationship with ancestral lands, water, sites, wāhi tapu and

	other taonga.
13.4.12	Not applicable as the application is not lodged as a Management Plan subdivision.
13.4.13	The activity is consistent with this Policy for the following reasons: (a) The subdivision is low density, with Lot 1 supporting existing consented built development and Lot 2 capable of supporting future development that would likely comply with the permitted activity rules. (b) The activity is in an area mapped as Outstanding Landscape in the ODP, but not displaying, outstanding natural values. Additionally, the site is not in the vicinity of the coastal marine area. Further, development already exists on Lot 1 (at the highest point of the lot) as well as the southern adjacent property. Development on Lot 2 will not be inconsistent with the environment; hence, any adverse visual impacts will be less than minor. (c) Areas of indigenous vegetation within the site are already subject to existing consent notice protection. (d) The activity is not anticipated to adversely impact on the ability of Māori to maintain their relationship with ancestral lands, water, sites, wāhi tapu and other taonga. (e) The indigenous vegetation on-site is already protected by way of consent notice. (f) The site is not known to contain any heritage resources. (g) The revised geotechnical report confirms that Lot 2 can accommodate a suitable building site and that the house site and access were feasible and not subject to hazard, nor exacerbate any hazard. The investigations and assessment conclude that there is overall low risk of deep-seated global stability and negligible risk of liquefaction.
13.4.14	An assessment of the Objectives and Policies of the Rural Production zone and Landscapes and Natural Features is provided below. In essence, the activity is taken into consideration when considering the subdivision.
13.4.15	The site is centrally located within the district, with easy access to road network. A dwelling on the vacant lot can be located and orientated to have adequate access to sunlight. Alternative off grid and renewable electricity generation is possible on the lots.
13.4.16	Not applicable as there is no National Grid on or near the subject site.

Rural Production Zone:

Objective	Assessment
8.6.3.1	The activity includes the creation of one additional lot, with the continued protection of indigenous vegetation on the subject site. Safe access can also be provided for, as well as acceptable site distances. A suitable building site can be accommodated on Lot 2, along with house site and access determined to be feasible and not subject to hazard, nor exacerbate any hazard.
8.6.3.2	The subdivision site is in close vicinity of the Moerewa township, which enables future owner of Lot 2 to readily provide for their social, spiritual and health and safety wellbeing. The subdivision of the site will enable the consent holder to provide for their economic needs.
8.6.3.3	Amenity values can be maintained, as the subdivided lots remain consistent with the existing character of the area.
8.6.3.4	The subdivision and development on the subject site ensure the protection of

	significant natural values in the Rural Production Zone. With nearly 50% of each lot dedicated to the protection of existing indigenous vegetation, the proposal promotes the conservation of local flora and fauna.
8.6.3.5	The subdivision site does not have a frontage to Kerikeri Road nor is it in the urban edge of Kerikeri.
8.6.3.6	Given the site's location and existing land uses around it, and the fact that there will be minor change to the existing land use pattern, that reverse sensitivity effects are unlikely. The subdivided lots remain consistent with the existing character of the area.
8.6.3.7	The zone anticipates a wide range of activities that promote rural productivity, and also makes it clear that the underlying goal is to avoid any actual and potential adverse effects of conflicting land use activities. As established previously, the creation of an additional lot is not likely to create reverse sensitivity issues due to similar existing land use activities in the vicinity.
8.6.3.8	The activity enables the efficient establishment and operation of rural residential activities that are compatible with rural environments. The creation of the two lots will be consistent with the existing use of neighbouring lots, especially the southern adjacent property, which is used for residential purposes.
8.6.3.9	The development supports rural production activities within the zone by dividing the existing lot into two parcels, each suitable for residential use as well as for pastoral purposes. Each subdivided lot will be cable of undertaking rural production activities while supporting compatible residential development.
Policy	**Assessment**
8.6.4.1	The activity ensures that adverse effects on the environment, including reverse sensitivity effects, are avoided, remedied, or mitigated without detriment to rural productivity. The subdivision respects this policy by creating two lots that are capable to provide for both residential use and pastoral purposes while maintaining a similar land use pattern in the vicinity, thus minimizing the potential for reverse sensitivity effects.
8.6.4.2	The standards imposed for the activity ensure that off-site effects are avoided, remedied, or mitigated – for example, the inclusion of vehicle crossing conditions that ensure the safe and efficient access onto Lot 2.
8.6.4.3	The development encourages land management practices that avoid, remedy, or mitigate adverse effects on natural and physical resources, as nearly 50% of each subdivided lot is dedicated to the protection of existing indigenous vegetation.
8.6.4.4	The activity adheres to maintaining and enhancing amenity values within the Rural Production Zone and promotes conservation by dedicating nearly 50% of each lot to protect indigenous vegetation. In addition, the resulting lots can still provide for the productive intent of the zone.
8.6.4.5	The creation of two lots have taken into account the efficient use and development of physical and natural resources as it continues to protect the covenanted areas, as well as ensure that development on Lot 2 can be provided for.
8.6.4.6	The development falls outside the frontage area specified by this policy.
8.6.4.7	The proposed subdivision supports rural productivity, with no adverse effects on conflicting land use activities expected due to similar existing land uses in the

	vicinity.
8.6.4.8	The development does not anticipate any adverse reverse sensitivity effects. The creation of an additional lot is not expected to lead to unmanageable reverse sensitivity effects
8.6.4.9	The activity does not compromise the continued operation of existing activities in the Rural Production Zone and neighbouring zones. It ensures compatibility with the existing character and is capable of supporting both residential and rural production use. Further, the creation of an additional lot is not anticipated to generate adverse effects that would compromise other activities.

Landscapes and Natural Features:

Objective	**Assessment**
12.1.3.1	As assessed above, the area labelled Outstanding Landscapes in the Operative District Plan mapping is protected via consent notice.
12.1.3.2	This objective aims to protect the scientific and amenity values of outstanding natural features. However, the subject site does not contain any outstanding natural features. Nevertheless, the proposed subdivision is suitable for the location. The absence of outstanding natural features on the site ensures that the adverse effects on such features are avoided, as there are none to protect. Therefore, the objective is met.
12.1.3.3	The indigenous vegetation on-site is protected from inappropriate use and development.
12.1.3.4	The area identified as Outstanding Landscapes in the Operative District Plan mapping is protected via consent notice. Since there are no outstanding natural features on the site, the proposed subdivision does not generate adverse effects on these features. Further, the site is not known to contain any sites of cultural significance to Māori, or wāhi tapu.
Policy	**Assessment**
12.1.4.1	There are no outstanding natural features on the site, the proposed subdivision does not generate adverse effects on these features.
12.1.4.2	There are no outstanding natural features on the site, there are no such effects to mitigate or avoid. The area identified as Outstanding Landscapes in the Operative District Plan mapping is protected via consent notice. Further, the site is not known to contain any sites of cultural significance to Māori, or wāhi tapu.
12.1.4.3	The proposal will result in an additional dwelling, but this can and will be located outside the Outstanding Landscape, just as the existing dwelling is. The values of the Outstanding Landscape are associated with indigenous vegetation coverage, which is unaffected by the proposal.
12.1.4.4	Not applicable as there are no Outstanding Landscape Features on the site
12.1.4.5	The existing consented development on Lot 1 is located on the highest point of the lot. Lot 2 generally has lower contours, with the identified building site in the submitted geotechnical report identifying a suitable building site that is on a relatively lower topography, being below the ridgeline. Any visual effects are anticipated to be less than minor.
12.1.4.6	Not applicable as there are no Outstanding Landscape Features on the site
12.1.4.7	As assessed previously, the higher order Regional Policy Statement does not

	map the application site as containing any Outstanding Landscape, and neither does the Proposed District Plan. This suggests that the area within the application site did not meet the criteria (including diversity) to warrant inclusion. Notwithstanding this, the values associated with the Outstanding Landscape, as mapped in the Operative District Plan, are protected through consent notice.
12.1.4.8	Not applicable as no restoration or enhancement is required as the indigenous vegetation on-site is already protected via consent notice.
12.1.4.9	Not applicable as the indigenous vegetation on-site is already protected via consent notice.
12.1.4.10	As assessed previously, the higher order Regional Policy Statement does not map the application site as containing any Outstanding Landscape, and neither does the Proposed District Plan. This suggests that the area within the application site did not meet the criteria (including diversity) to warrant inclusion. Notwithstanding this, the values associated with the Outstanding Landscape, as mapped in the Operative District Plan, are protected through covenant.

Proposed Far North District Plan

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

Subdivision:

Objective	Assessment
SUB-O1	The subdivision respects this policy by creating two lots that are capable to provide for both residential use and pastoral purposes while maintaining a similar land use pattern in the vicinity, thus minimizing the potential for reverse sensitivity effects. The southern adjacent property is also residential in nature and have a smaller lot size than either one of the new lots. Further, the activity does not compromise the continued operation of existing activities in the neighbouring lots. It ensures compatibility with the existing rural living character and is capable of supporting both residential and rural production use.
SUB-O2	The site is not known to contain any heritage resources nor is the site known to contain any sites of cultural significance to Māori, or wāhi tapu. It does contain areas of indigenous vegetation, some of which may be significant, but all of which is protected in any event. The site is not in the coastal environment. The site is partially mapped as having outstanding landscape in the Operative District Plan; however, this notation/mapping has not been confirmed in the Regional Policy Statement for Northland. The area of Outstanding Landscape is no longer extending into the application site, nor is it shown to affect the site in the Proposed District Plan mapping. Therefore, in Council's assessment, this diminishes the Outstanding Landscape's significance and values and calls into question, therefore, the need for protection or preservation of the Outstanding Landscape instead. Notwithstanding that, the proposal continues the protection of areas within the site that are mapped as Outstanding Landscape. In terms of highly productive land (HPL), the subject site has a Land Use Capability (LUC) class 4, which is considered HPL as per the Proposed District Plan (PDP) definitions. As the activity pertains to the subdivision of the subject site, creating an additional lot, the site would thereby provide for additional residential activity to occur. Consequently, this decreases the available area of HPL. As such, this objective is not met.
SUB-O3	Lot 1 currently supports an existing development with existing on-site servicing. Lot 2 is also capable of providing for on-site servicing. Safe and efficient access

	for Lot 2 onto Hautapu Road can also be provided for.
SUB-O4	Not applicable as no public open space or esplanade reserve is required.
Policy	**Assessment**
SUB-P1	Not applicable as the activity is not a boundary adjustment.
SUB-P2	Not relevant as the activity does not involve or require public works, infrastructure, access or reserves.
SUB-P3	The subject site is consistent with the purpose, characteristics and qualities of the zone – the lots are of an appropriate shape and size to contain building platforms and have legal and physical access.
SUB-P4	The site is not known to contain any heritage resources nor is the site known to contain any sites of cultural significance to Māori, or wāhi tapu. It does contain areas of indigenous vegetation, some of which may be significant, but all of which is protected in any event. The site is not in the coastal environment. The site is partially mapped as having outstanding landscape in the Operative District Plan; however, this notation/mapping has not been confirmed in the Regional Policy Statement for Northland. The area of Outstanding Landscape is no longer extending into the application site, nor is it shown to affect the site in the Proposed District Plan mapping. Therefore, in Council's assessment, this diminishes the Outstanding Landscape's significance and values and calls into question, therefore, the need for protection or preservation of the Outstanding Landscape instead. Notwithstanding that, the proposal continues the protection of areas within the site that are mapped as Outstanding Landscape. In terms of risk, the submitted geotechnical/site suitability assessment report as part of s92 response has discussed stability and geotechnical constraints, providing preliminary recommendations for earthworks, retaining and foundation design, concluding that Lot 2 is generally suitable for development, provided that any future land modification complies with the recommendations of the report, thereby, satisfying s106 of the Act in regard to risk from natural hazards.
SUB-P5	Not relevant as the subject site is not within the General Residential, Mixed Use or Settlement zone.
SUB-P6	The site is reliant on on-site servicing, with supporting information confirming that this is achievable. Lot 1 has direct access to Hautapu Road. Lot 2 can also have direct access to Hautapu Road.
SUB-P7	There are no qualifying water bodies.
SUB-P8	The areas of indigenous vegetation on both Lots 1 and 2 are already protected by consent notice. In addition, the subject site has a Land Use Capability (LUC) class 4, which is considered HPL as per the Proposed District Plan (PDP) definitions. Hence, the subdivision of the subject site resulting in two allotments would enable residential activities to occur, thereby, a reduction/loss of versatile soils for primary production activities. As such, the activity does not meet this policy as this policy suggests that this rural lifestyle subdivision should be avoided.
SUB-P9	The subdivision will result in the creation of two lots in the Rural Production zone that are over 4ha in area, thereby, creating two rural lifestyle lots. This policy demands to avoid rural lifestyle subdivision in the Rural Production zone unless the development achieves the environmental outcomes required in the management plan subdivision rule. The application is not a management plan. Thereby, the activity does not meet this policy as this policy suggests that this

	rural lifestyle subdivision should be avoided.
SUB-P10	Not relevant as the activity does not involve minor residential units.
SUB-P11	The site is not known to contain any heritage resources nor is the site known to contain any sites of cultural significance to Māori, or wāhi tapu. It does contain areas of indigenous vegetation, some of which may be significant, but all of which is protected in any event. As previously discussed above, the subdivided lots are consistent with the scale, density, and character of the environment. The building site for Lot 2 will be located at an appropriate location on-site, mitigating the possible risks involved. The same as Lot 1, Lot 2 will have on-site servicing.

For this resource consent application, the relevant provisions of both an operative and any proposed plan must be considered. Weighting is relevant if different outcomes arise from assessments of objectives and policies under both the operative and proposed plans.

As assessed above the outcomes sought are different under the operative and proposed plan frameworks. Therefore, it is necessary to consider the weight to be given to each framework and which outcome should prevail.

Although, the subject site has an LUC 4 classification, which is considered HPL in the PDP, the PDP has only been recently notified and as such there is potential for change as the plan goes through the statutory process. In addition, looking into the Higher Policy Document – NPS-HPL, LUC class 4 land does not meet the definition of HPL. As such, in terms of the assessment of HPL, Council gives more weight to NPS-HPL.

Also, although the activity involves the creation of rural lifestyle lots, which the PDP suggests to be avoided, little weight is given to these provisions. The ODP provisions, which support the granting of consent, prevail over the PDP as Lots 1 and 2 will adjoin other rural lifestyle allotments that are of similar to smaller size, thereby, remaining consistent with the character of the area. In addition, the subdivision will not restrict neighbouring rural production activities to occur, and still allows for small scale farming activities to be undertaken on the lifestyle allotments. Further, vegetation on the Lots will be protected by a covenant.

6. In regard to section 104(1)(c) of the Act there are no other non-statutory documents considered relevant in making this decision.

7. Other matters considered relevant in making this decision:

Precedent:

Case Law has established that the precedent of granting resource consent is a relevant factor for a consent authority in considering whether to grant Non-Complying resource consent. A precedent effect is likely to arise in situation where consent is granted to a Non-Complying activity that lacks the evident unique, unusual or distinguished qualities that serve to take the application out the of the generality of cases or similar sites in the vicinity. In other words, if an activity is sufficiently unusual and sufficiently outside the run of foreseeable other proposals it avoids any precedent effect and can be approved.

The application will subdivide the subject site into two lots and generate one additional development right. There are other lots in the vicinity that are much smaller in size, ranging from 0.3ha to 2.1ha. Lot 1 is to be approximately 5.02ha, whilst Lot 2 is to be 4.8ha – both of which are significantly larger than the smaller lots in the vicinity. As such, the application will not be setting a precedent.

8. In regard to section 104D of the Act the activity meets one of the tests as any adverse effects arising from this proposed activity will not be more than minor, and the activity will not be contrary to the objectives and policies of the Operative District Plan. Therefore, consent can be granted for this non-complying activity.

9. In terms of s106 of the RMA the proposal is not considered to give rise to a significant risk from natural hazards, and sufficient provision has been made for legal and physical access to the proposed allotments. Accordingly, council is able to grant this subdivision consent subject to the conditions above.

10. 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.

11. 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 Gio Alagao, Resource 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.

[Signature]

Name: William (Bill) Smith Date: 27 November 2023

Title: Independent Hearings Commissioner

Revision	By	Date
Designed	BVV	28-9-24
Drawn	BVV	28-9-24
Reviewed		
Approved		

LIVING ARCHITECTURE

Mobile 027 285 5605
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Project Title

92 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
SEDIMENTATION CONTROL PLAN

CAD Ref	Scale (A1 Original)
00977	1:750@ A3

Project No	Sheet
00977	A0-10

REVISION B

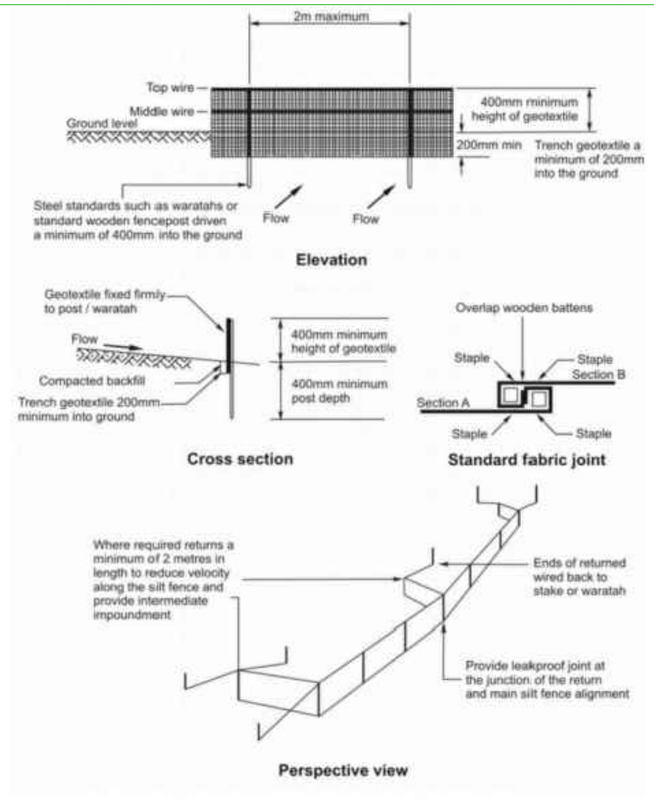


Figure 83 Silt fence design - image courtesy of Auckland Regional Council 1999.

Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 7:54 am, Dec 05, 2024

Jason Goffin- Advisor Risk Reduction

PROPOSED LOW RETAINING WALL AS PER WILTON JOUBERT DESIGN

300mm WIDE x 100mm HIGH DIVERSION BUND FORMED WITH TOPSOIL AND GRASSED TO DIVERT ANY UPSLOPE SHEET FLOW AROUND DISPOSAL FIELD INTO STORMWATER SWALE

PROPOSED OVERFLOW OUTLET AS PER WILTON JOUBERT DESIGN

PROPOSED SILT FENCE AS SEDIMENTATION CONTROL WORKS

CONTROLLED OUTLET USING STRAW BALES AS PER DIAGRAM

135
130
125
127.50
FFL 127.610
FFL 127.120
FFL 127.530
HA 02
HA 03
HA 04
HA 05

Non-Reticulated Firefighting Water Supplies, Vehicular Access & Vegetation Risk Reduction Application for New and Existing Residential Dwellings and Sub-Divisions

Applicant Information

Applicants Information	
Name:	Leighton and Emily Scott
Address:	92 Hautapu Road Moerewa
Contact Details:	0211255946
Return Email Address:	thescottsandpaws@hotmail.com + info@leightonelectrical.nz

Property Details

Property Details	
Address of Property:	86 Hautapu Road
Lot Number/s:	Click or tap here to enter text.
Dwelling Size: (Area = Length & Width)	62.5m2 2 bed Minor Dwelling and 4 bed main dwelling 95m2,
Number of levels: (Single / Multiple)	Both single level dwellings

Contents

Firefighting Water Supplies and Vegetation Risk Reduction Waiver

"Fire and Emergency New Zealand strongly recommends the installation of automatic fire detection system devices such as smoke alarms for early warning of a fire and fire suppression systems such as sprinklers in buildings (irrespective of the water supply) to provide maximum protection to life and property".

Waiver Explanation Intent

Fire and Emergency New Zealand [FENZ] use the New Zealand Fire Service [NZFS] Code of Practice for firefighting water supplies (SNZ PAS 5409:2008) (The Code) as a tool to establish the quantity of water required for firefighting purposes in relation to a specific hazard (Dwelling, Building) based on its fire hazard classification regardless if they are located within urban fire districts with a reticulated water supply or a non-reticulated water supply in rural areas. The code has been adopted by the Territorial Authorities and Water Supply Authorities. The code can be used by developers and property owners to assess the adequacy of the firefighting water supply for new or existing buildings.

The Community Risk Manager under the delegated authority of the Fire Region Manager and District Manager is responsible for approving applications in relation to firefighting water supplies. The Community Risk Manager may accept a variation or reduction in the amount of water required for firefighting for example; a single level dwelling measuring 200^{m2} requires 45,000L of firefighter water under the code, however the Community Risk Manager in Northland will except a reduction to 10,000L.

This application form is used for the assessment of proposed water supplies for firefighting in non-reticulated areas only and is referenced from (Appendix B – Alternative Firefighting Water Sources) of the code. This application also provides fire risk reduction guidance in relation to vegetation and the 20-metre dripline rule under the Territorial Authority's District Plan. Fire and Emergency New Zealand are not a consenting authority and the final determination rests with the Territorial Authority.

For more information in relation to the code of practice for Firefighting Water supplies, Emergency Vehicle Access requirements, Home Fire Safety advice and Vegetation Risk Reduction Strategies visit www.fireandemergency.nz

1. Fire Appliance Access to alternative firefighting water sources - Expected Parking Place & Turning circle

Fire and Emergency have specific requirements for fire appliance access to buildings and the firefighting water supply. This area is termed the hard stand. The roading gradient should not exceed 16%. The roading surface should be sealed, able to take the weight of a 14 to 20-tonne truck and trafficable at all times. The minimum roading width should not be less than 4 m and the property entrance no less 3.5 metres wide. The height clearance along access ways must exceed 4 metres with no obstructions for example; trees, hanging cables, and overhanging eaves.

1 (a) Fire Appliance Access / Right of Way	
Is there at least 4 metres clearance overhead free from obstructions?	☒YES ☐NO
Is the access at least 4 metres wide?	☒YES ☐NO
Is the surface designed to support a 20-tonne truck?	☒YES ☐NO
Are the gradients less than 16%	☒YES ☐NO
Fire Appliance parking distance from the proposed water supply is Approx 15m metres	

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

If access to the proposed firefighting water supply is not achievable using a fire appliance, firefighters will need to use portable fire pumps. Firefighters will require at least a one-metre wide clear path / walkway to carry equipment to the water supply, and a working area of two metres by two metres for firefighting equipment to be set up and operated.

1 (b) Restricted access to firefighting water supply, portable pumps required
Has suitable access been provided? ☐YES ☒ NO
Comments: Accessible from fire fighting trucks to tanks directly

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

2. Firefighting Water Supplies (FFWS)

What are you proposing to use as your firefighting water supply?

2 (a) Water Supply Single Dwelling	
Tank	☐ Concrete Tank ☒ Plastic Tank ☒ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500 mm above ground) ☐ Fully Buried (access through filler spout) Volume of dedicated firefighting water 10,000litres

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

2 (b) Water Supply Multi-Title Subdivision Lots / Communal Supply	
Tank Farm	☐ Concrete Tank ☐ Plastic Tank ☐ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500mm above ground) ☐ Fully Buried (access through filler spout) Number of tanks provided Click or tap here to enter text. Number of Tank Farms provided Click or tap here to enter text. Water volume at each Tank Farm Click or tap here to enter text. Litres Volume of dedicated firefighting water Click or tap here to enter text. litres

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

2 (c) Alternative Water Supply	
Pond:	Volume of water: Click or tap here to enter text.
Pool:	Volume of water: Click or tap here to enter text.
Other:	Specify: Stock Tank up top of section
	Volume of water: 25,000

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

3. Water Supply Location

The code requires the available water supply to be at least 6 metres from a building for firefighter safety, with a maximum distance of 90 metres from any building. This is the same for a single dwelling or a Multi-Lot residential subdivision. Is the proposed water supply within these requirements?

3 (a) Water Supply Location	
Minimum Distance:	*Is your water supply at least 6 metres from the building?* ☒YES ☐ NO
Maximum Distance	*Is your water supply no more than 90 metres from the building?* ☒YES ☐ NO

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

3 (b) Visibility
How will the water supply be readily identifiable to responding firefighters? E.g.: tank is visible to arriving firefighters or, there are signs / markers posts visible from the parking place directing them to the tank etc.
Comments: tank is visible to arriving firefighters

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

3 (c) Security
How will the FFWS be reasonably protected from tampering? E.g.: light chain and padlock or, cable tie on the valve etc.
Explain how this will be achieved: Lock on Fire connection kit

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

4. Adequacy of Supply

The volume of storage that is reserved for firefighting purposes must not be used for normal operational requirements. Additional storage must be provided to balance diurnal peak demand, seasonal peak demand and normal system failures, for instance power outages. The intent is that there should always be sufficient volumes of water available for firefighting, except during Civil Défense emergencies or by prior arrangement with the Fire Region Manager.

4 (a) Adequacy of Water supply
Note: *The owner must maintain the firefighting water supply all year round. How will the usable capacity proposed be reliably maintained? E.g. automatically keep the tank topped up, drip feed, rain water, ballcock system, or manual refilling after use etc.*
Comments: Manual refilling to a min 10,000 litres and rain water from main dwelling. Indicator on the level shaft.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

5. Alternative Method using Appendix's H & J

If Table 1 + 2 from the Code of Practice is not being used for the calculation of the Firefighting Water Supply, a competent person using appendix H and J from the Code of Practice can propose an alternative method to determine firefighting water supply adequacy.

Appendix H describes a method for determining the maximum fire size in a structure. Appendix J describes a method for assessing the adequacy of the firefighting water supply to the premises.

5 (a) Alternative Method Appendix H & J	
If an alternative method of determining the FFWS has been proposed, who proposed it? Name: Click or tap here to enter text.	
Contact Details: Click or tap here to enter text.	
Proposed volume of storage?	Litres: Click or tap here to enter text.
Comments: Click or tap here to enter text. ** Please provide a copy of the calculations for consideration.*	

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

6. Diagram

Please provide a diagram identifying the location of the dwelling/s, the proposed firefighting water supply and the attendance point of the fire appliance to support your application.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

7. Vegetation Risk Reduction - Fire + Fuel = Why Homes Burn

Properties that are residential, industrial or agricultural, are on the urban–rural interface if they are next to vegetation, whether it is forest, scrubland, or in a rural setting. Properties in these areas are at greater risk of wildfire due to the increased presence of nearby vegetation.

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

I. *Fire safe construction*

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

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

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

II. *Establish Safety Zones around your home.*

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

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

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

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

IV. *Choose Fire Resistant Plants*

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

For more information please go to https://www.fireandemergency.nz/at-home/the-threat-of-rural-fire/

If your building or dwelling is next to vegetation, whether it is forest, scrubland, or in a rural setting, please detail below what Risk Reduction measures you will take to mitigate the risk of fire development and spread involving vegetation?

7 (a) Vegetation Risk Reduction Strategy
We are not building next to forest, it is approx 50m away. See photo attached

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

8. Applicant

Checklist	
☒	Site plan (scale drawing) – including; where to park a fire appliance, water supply, any other relevant information.
☒	Any other supporting documentation (diagrams, consent).

I submit this proposal for assessment.

Name: Leighton Scott Dated: 4/12/2024

Contact No.: 0211255946

Email: thescottsandpaws@hotmail.com

Signature: LSCOTT

9. Approval

In reviewing the information that you have provided in relation to your application being approximately a 62.5m2 + 95m2 *square metre, Single Level dwelling/sub division, and non-sprinkler protected.*

The Community Risk Manager of Fire and Emergency New Zealand under delegated authority from the Fire Region Manager, Te Hiku, and the District Manager has assessed the proposal in relation to firefighting water supplies and the vegetation risk strategy. The Community Risk Manager Choose an item. *agree with the proposed alternate method of Fire Fighting Water Supplies. Furthermore, the Community Risk Manager agrees with the Vegetation Risk Reduction strategies proposed by the applicant.*

Name: Click or tap here to enter text.

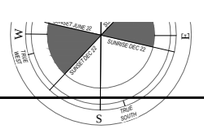
Signature: Click or tap here to enter text. Dated: Click or tap to enter a date.

P.P on behalf of the Community Risk Manager Northland Mitchell Brown

Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 7:58 am, Dec 05, 2024

Jason Goffin- Advisor Risk Reduction



Revision	By	Date
Designed	BVV	28-9-24
Drawn	BVV	28-9-24
Reviewed		
Approved		

Mobile 027 285 5605
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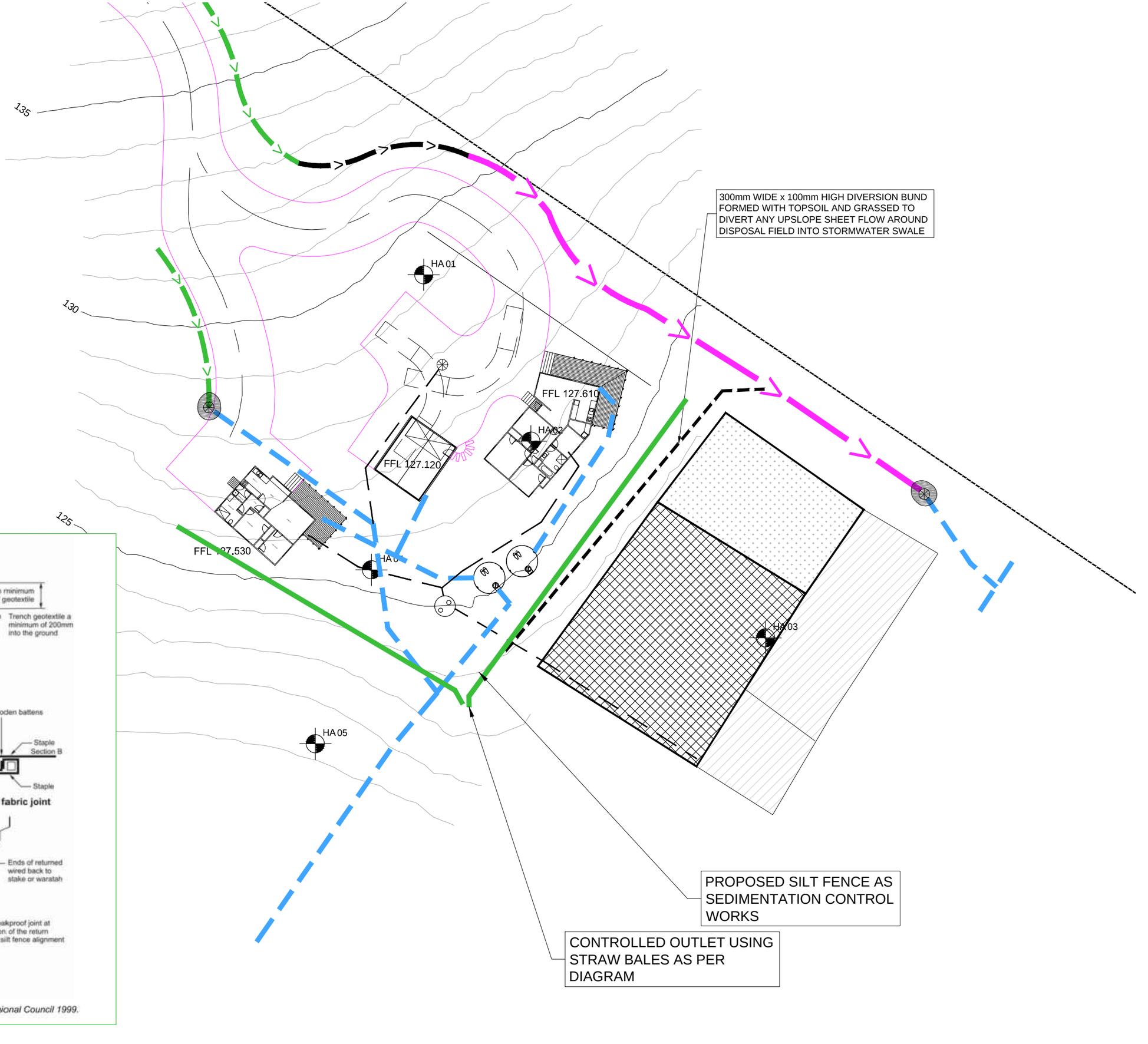
Project Title

92 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
SEDIMENTATION CONTROL PLAN

CAD Ref	Scale (A1 Original)
100977	1:750@ A3

Project No	Sheet	Issue
100977	A0-10	B



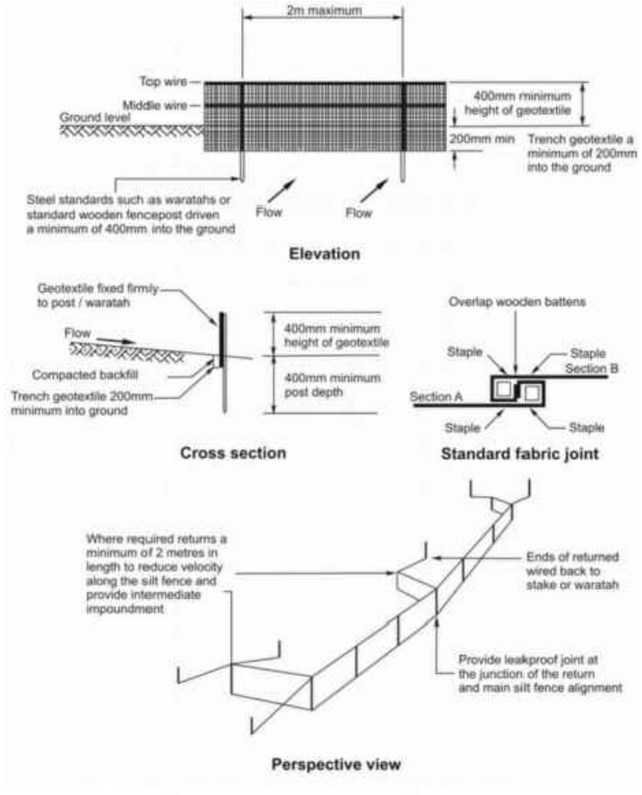
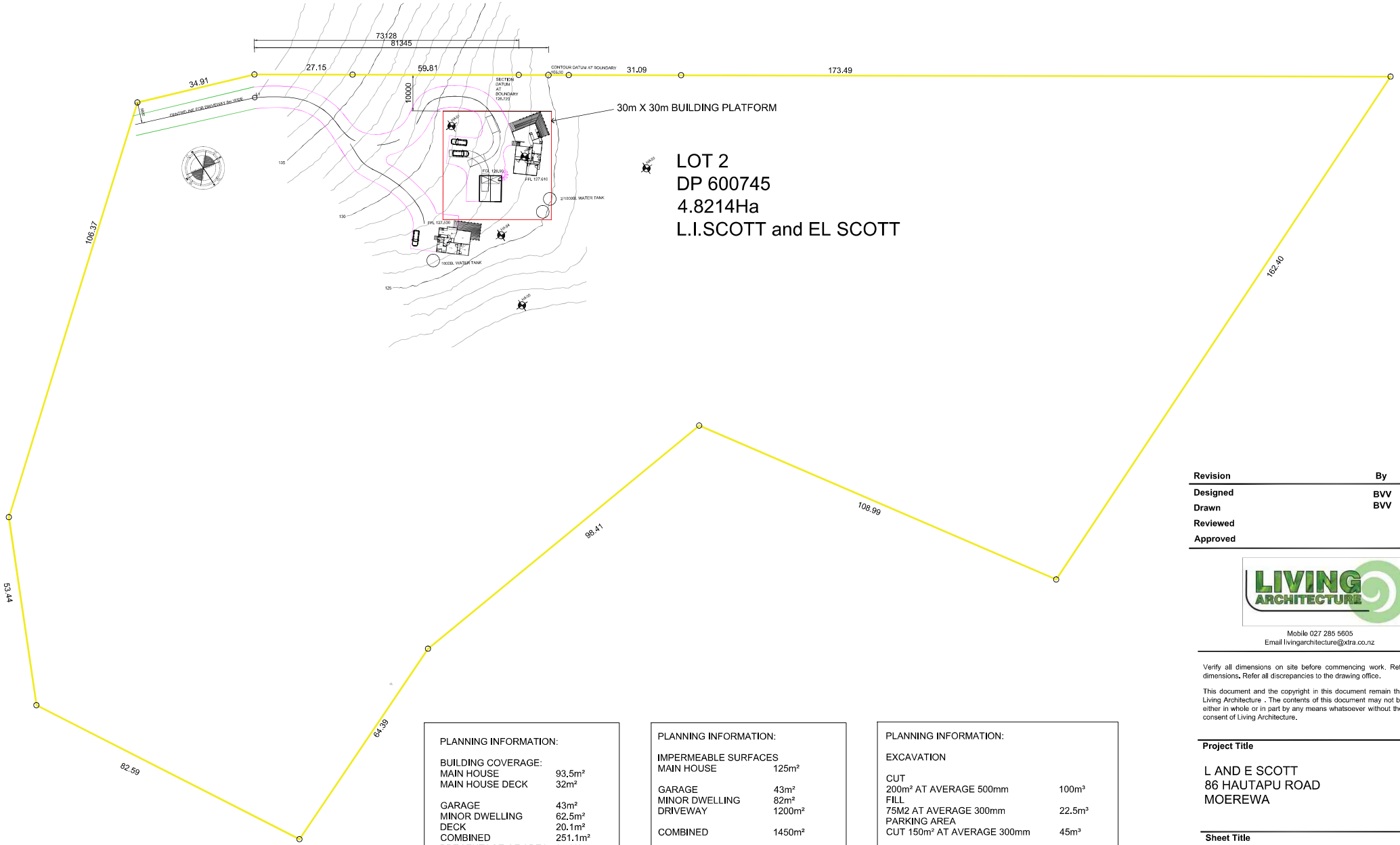


Figure 83 Silt fence design - image courtesy of Auckland Regional Council 1999.



PLANNING INFORMATION:

BUILDING COVERAGE:

MAIN HOUSE	93.5m²
MAIN HOUSE DECK	32m²
GARAGE	43m²
MINOR DWELLING	62.5m²
DECK	20.1m²
COMBINED	251.1m²
PRECENTAGE OF AREA	0.52%

PLANNING INFORMATION:

IMPERMEABLE SURFACES

MAIN HOUSE	125m²
GARAGE	43m²
MINOR DWELLING	82m²
DRIVEWAY	1200m²
COMBINED	1450m²
PRECENTAGE OF AREA	3%

PLANNING INFORMATION:

EXCAVATION

CUT	
200m² AT AVERAGE 500mm	100m³
FILL	
75M2 AT AVERAGE 300mm	22.5m³
PARKING AREA	
CUT 150m² AT AVERAGE 300mm	45m³
COMBINED EARTH TO BE MOVED	167.5m³

NOTE REGARDING EXCAVATIONS
ROADWAY TO PLATFORM HAS BEEN FORMED PREVIOUSLY AS PART OF FARM TRACKS TO MOVE STOCK

Revision	By	Date
Designed	BVV	17-8-24
Drawn	BVV	17-8-24
Reviewed		
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Project Title

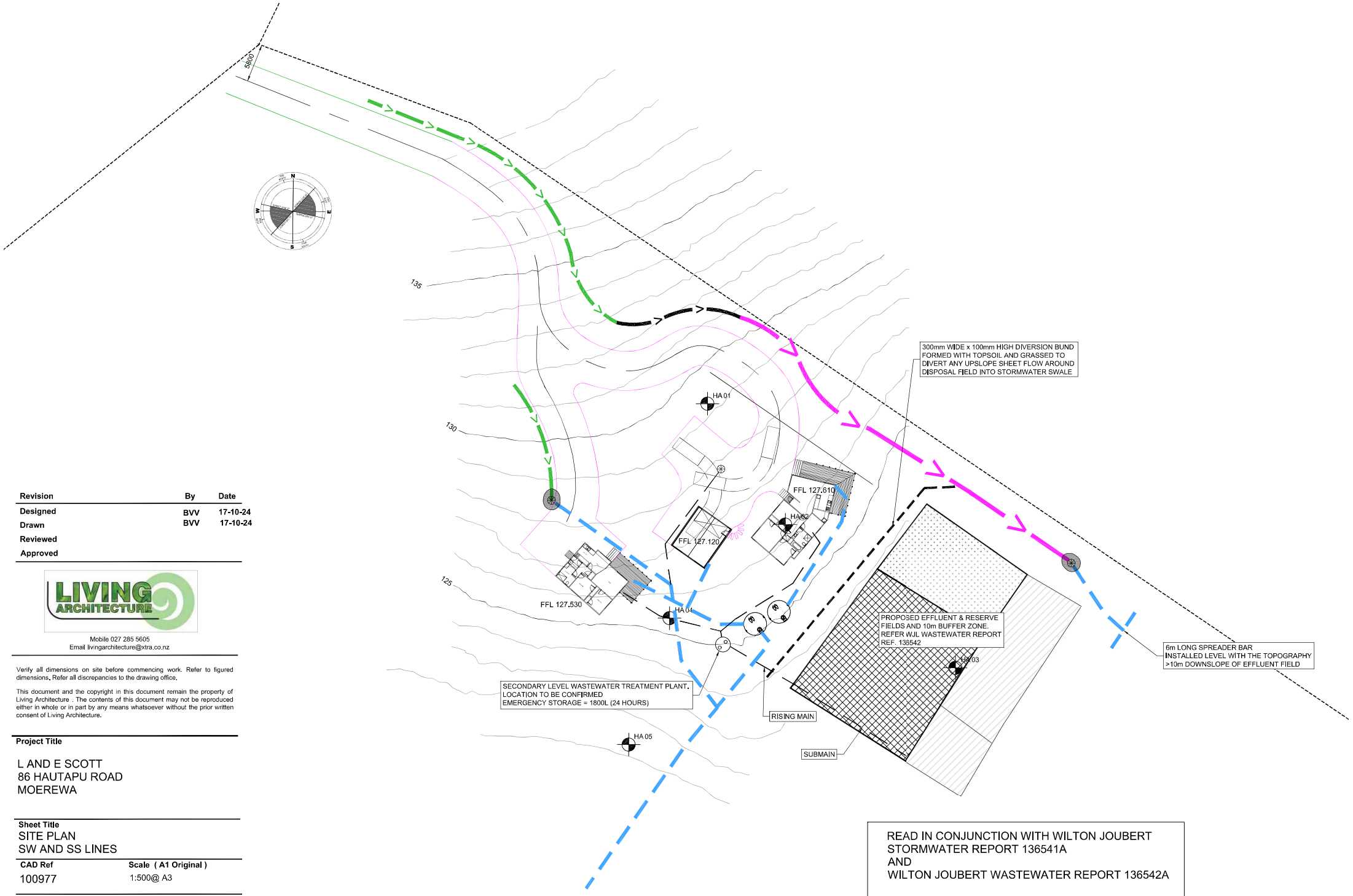
L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
EXCAVATION

CAD Ref	Scale (A1 Original)
100977	1:1000@ A3

Project No	Sheet
100977	A0-01

A



Revision	By	Date
Designed	BVV	17-10-24
Drawn	BVV	17-10-24
Reviewed		
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Project Title

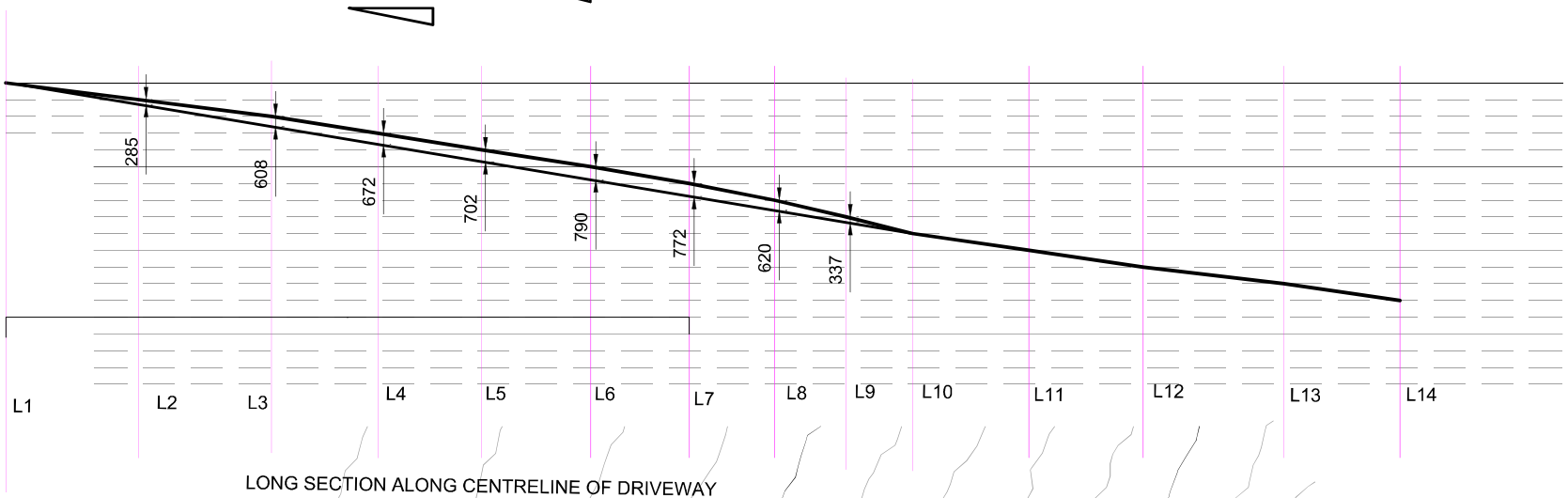
L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
SW AND SS LINES

CAD Ref	Scale (A1 Original)
100977	1:500@ A3

Project No	Sheet	
100977	A0-02	C

READ IN CONJUNCTION WITH WILTON JOUBERT STORMWATER REPORT 136541A
AND
WILTON JOUBERT WASTEWATER REPORT 136542A



LONG SECTION ALONG CENTRELINE OF DRIVEWAY

Revision	By	Date
Designed	BVV	17-8-24
Drawn	BVV	17-8-24
Reviewed		
Approved		

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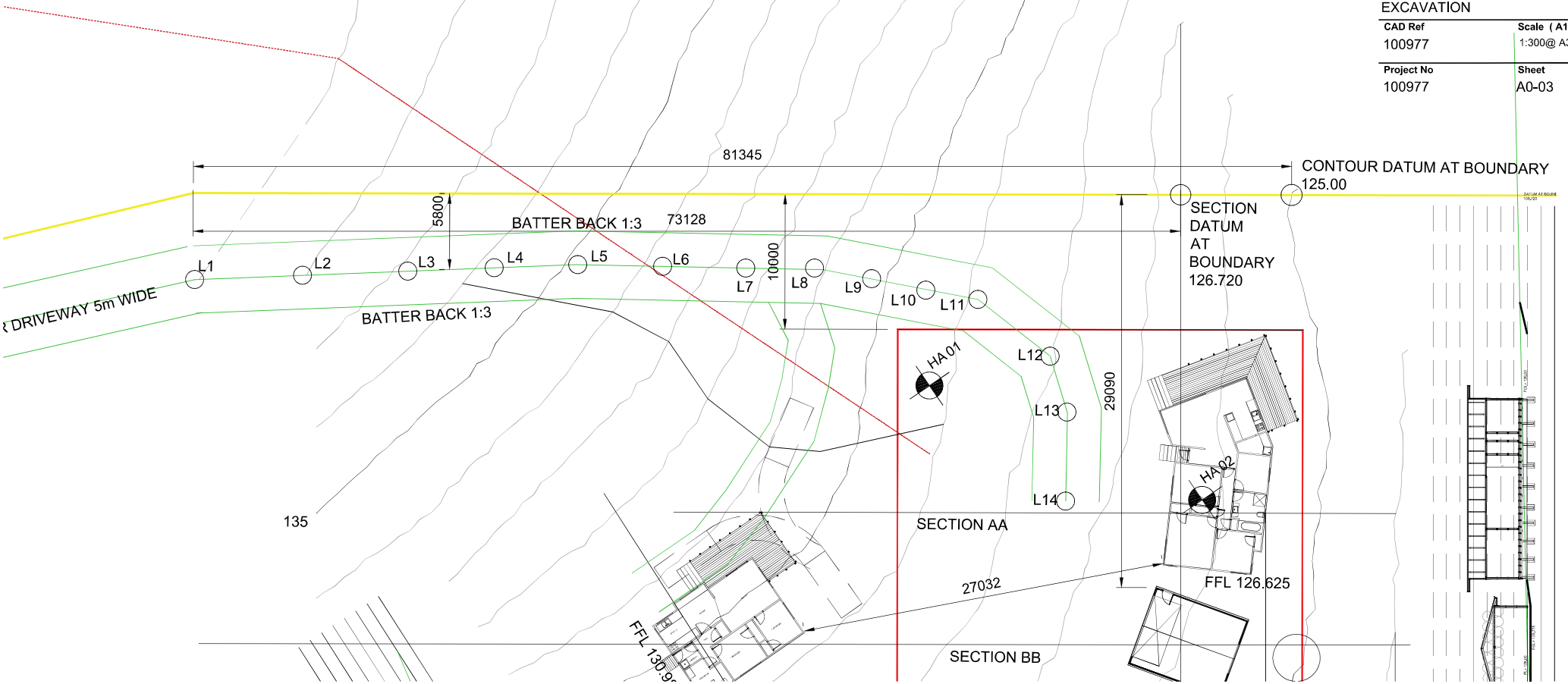
Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
EXCAVATION

CAD Ref	Scale (A1 Original)
100977	1:300@ A3

Project No	Sheet	Revision
100977	A0-03	A



Revision	By	Date
Designed	BVV	28-9-24
Drawn	BVV	28-9-24
Reviewed		
Approved		

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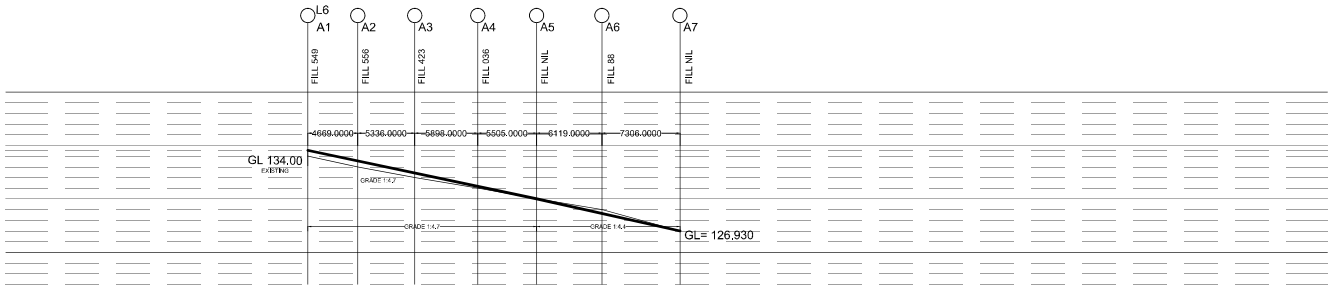
Project Title

92 HAUTAPU ROAD
MOEREWA

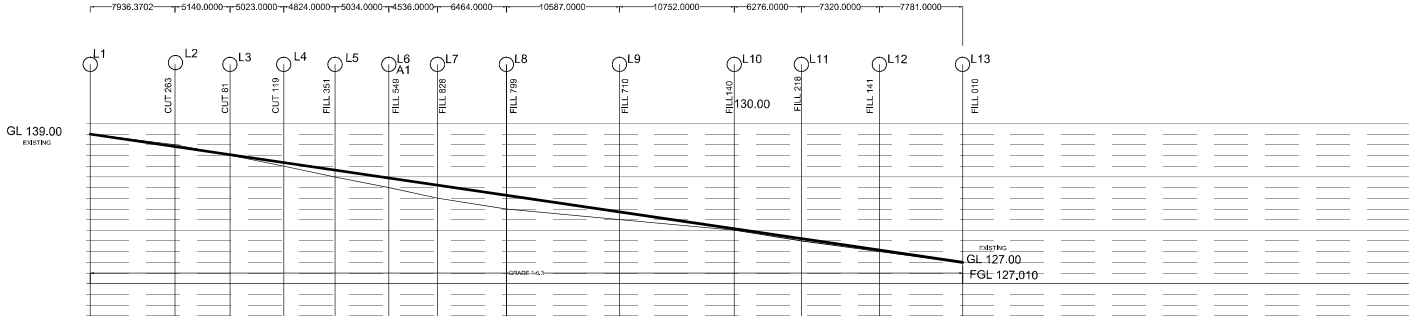
Sheet Title
SITE PLAN
FFL ON ALL BUILDINGS

CAD Ref	Scale (A1 Original)
100977	1:750@ A3

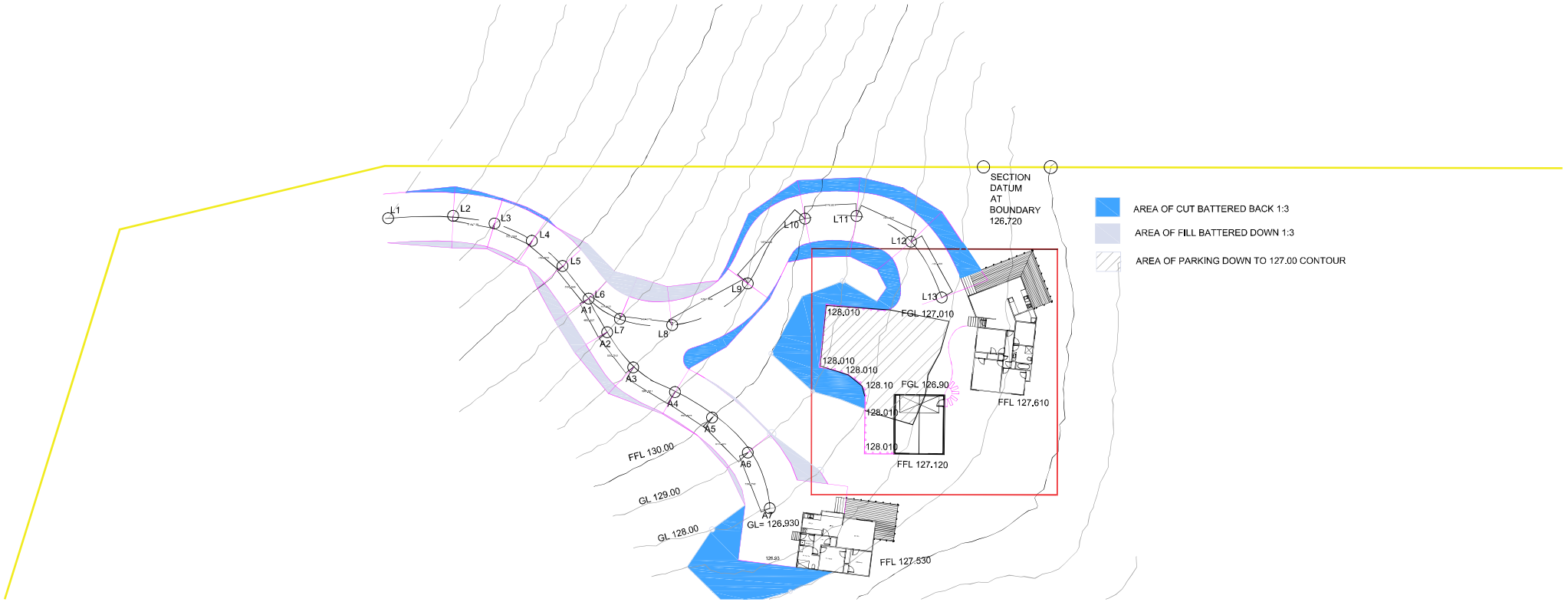
Project No	Sheet	Revision
100977	A0-05	B

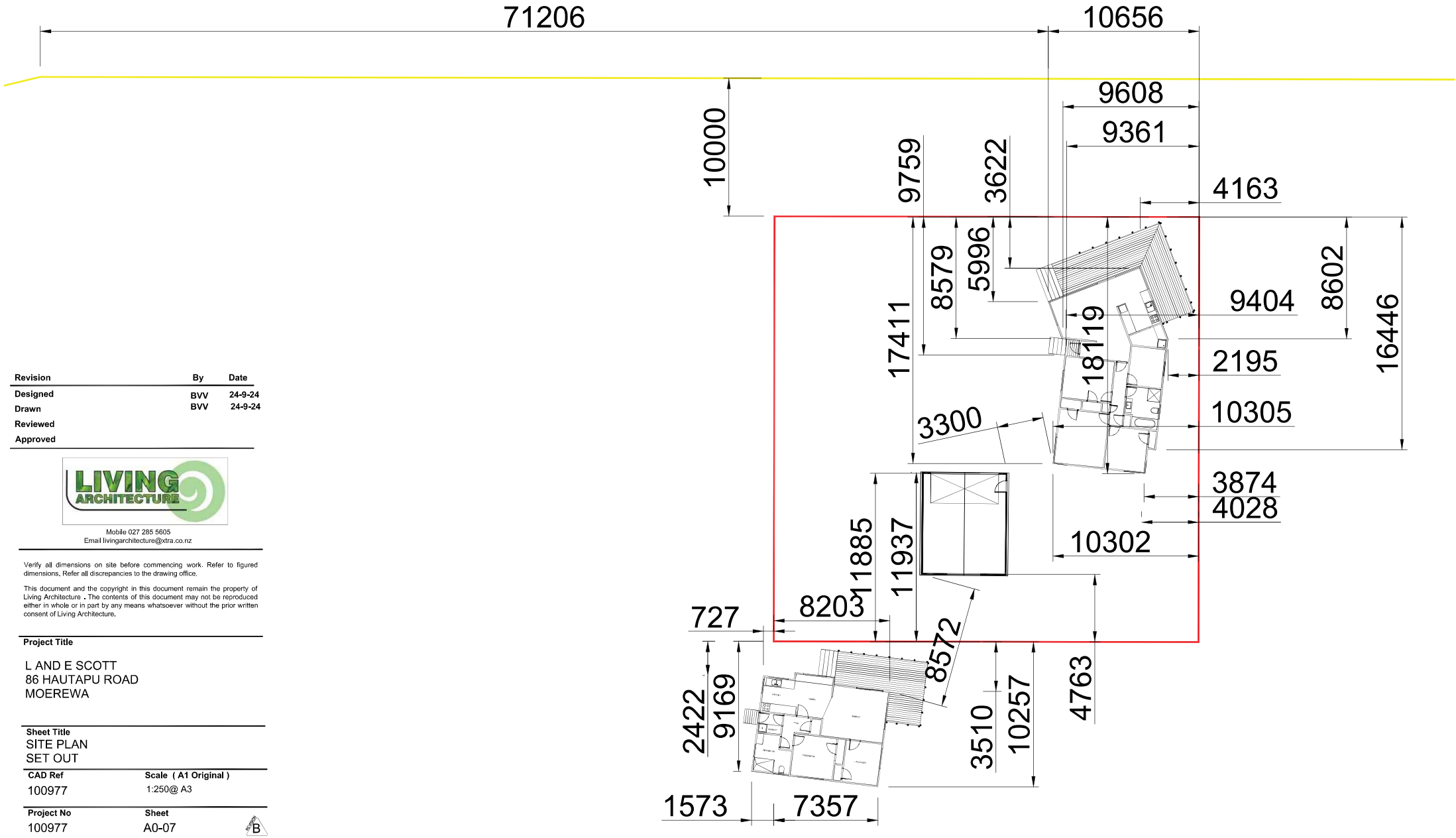


LONG SECTION JOINER ROAD TO SMALL DWELLING



LONG SECTION FEEDER ROAD TO LARGER DWELLING





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Designed	BVV	24-9-24
Drawn	BVV	24-9-24
Reviewed		
Approved		

LIVING ARCHITECTURE

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Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SITE PLAN
SET OUT

CAD Ref	Scale (A1 Original)
100977	1:250@ A3

Project No	Sheet
100977	A0-07

B

Revision	By	Date
Designed	BVV	28-9-24
Drawn	BVV	28-9-24
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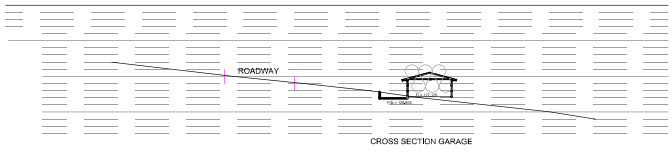
Project Title

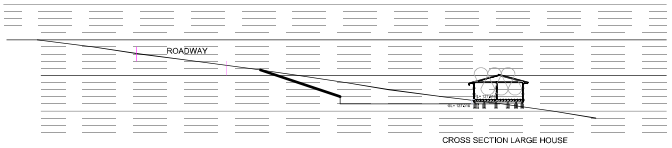
L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

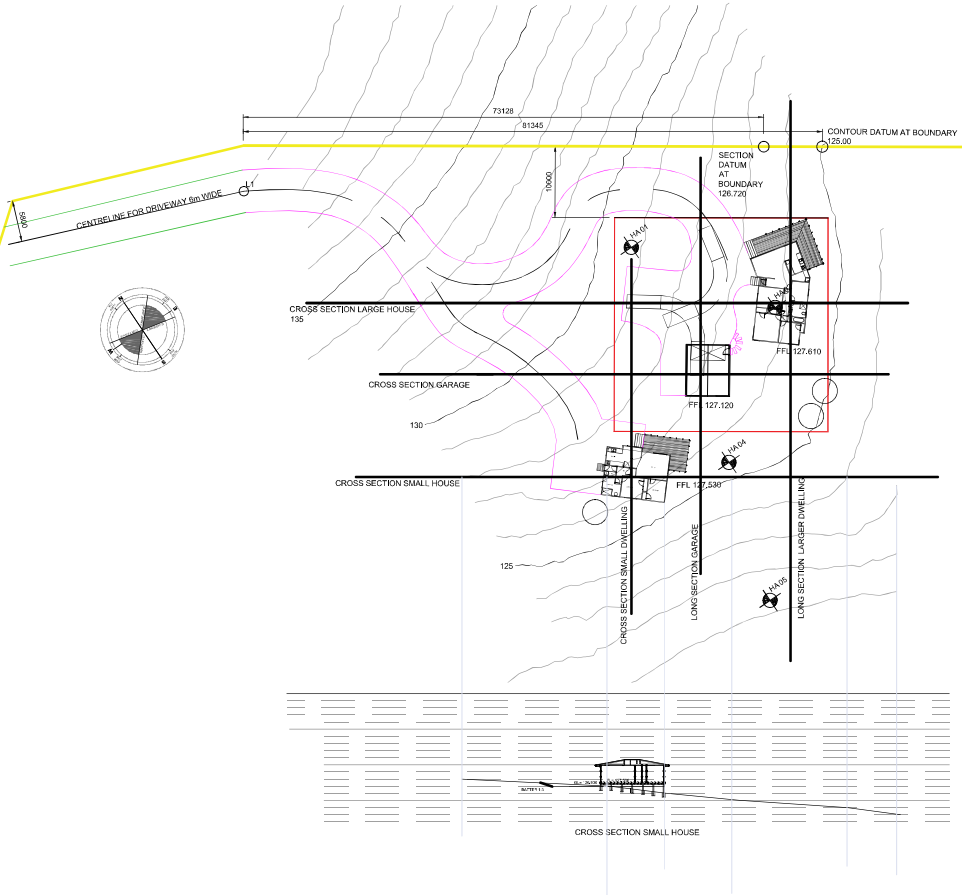
Sheet Title
SITE PLAN
FFL ON ALL BUILDINGS

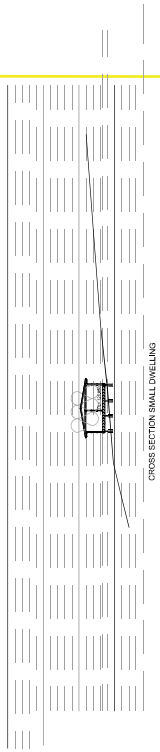
CAD Ref	Scale (A1 Original)
100977	1:750@ A3

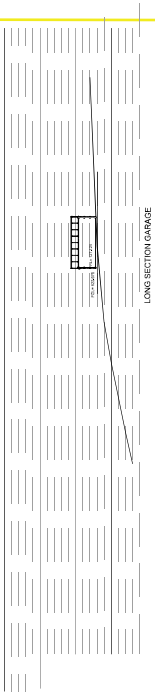
Project No	Sheet	Revision
100977	A0-08	C

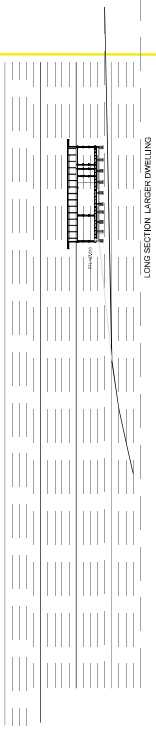


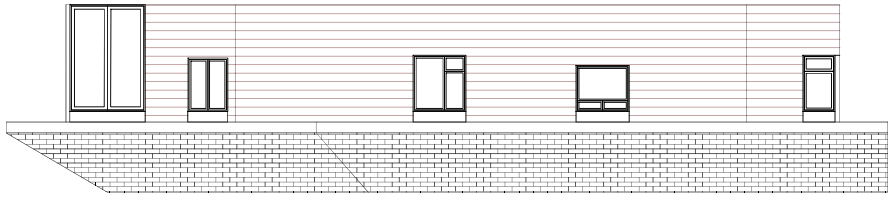


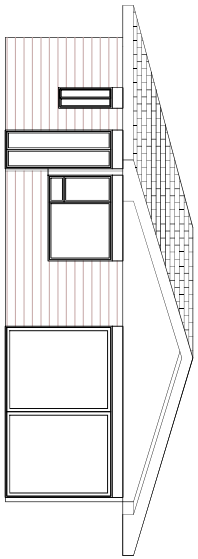


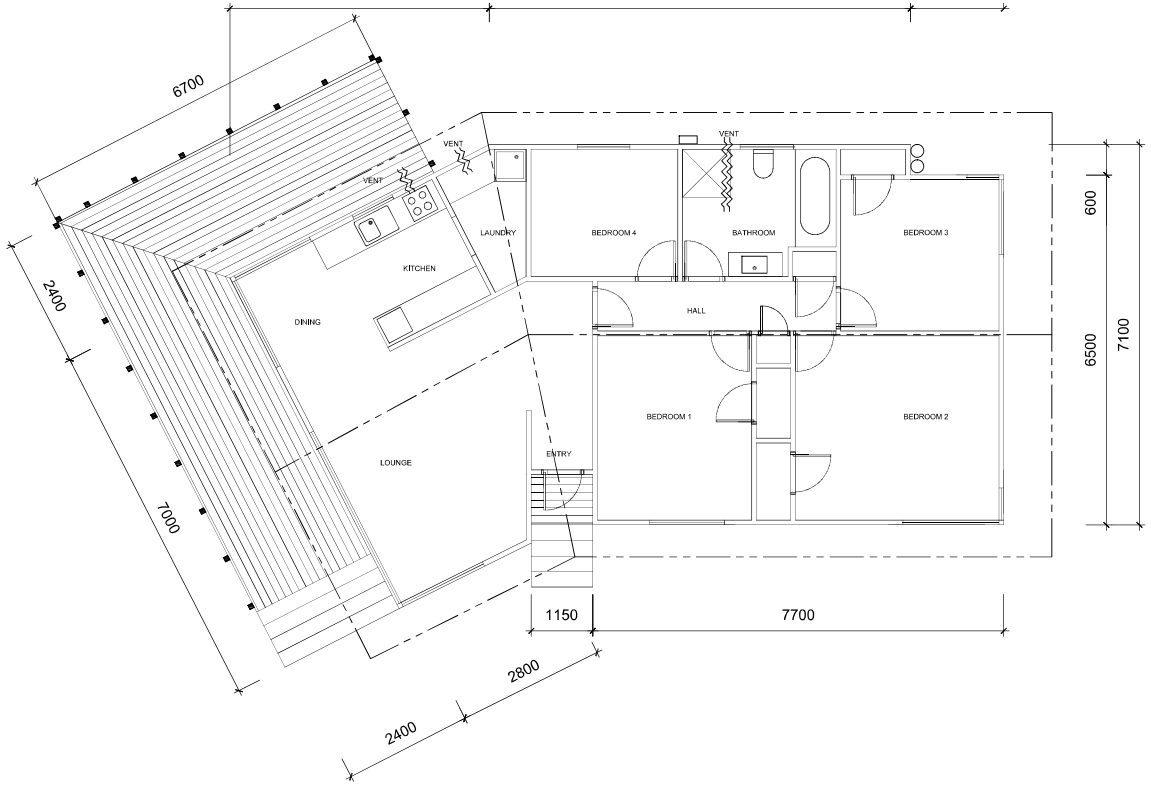


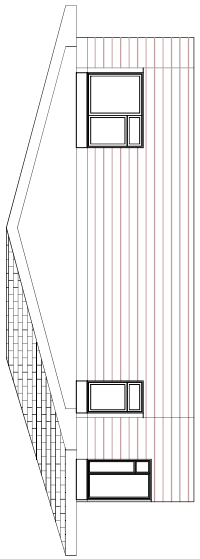


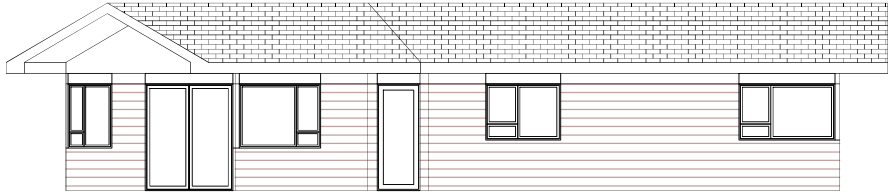












Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

LIVING ARCHITECTURE

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Project Title

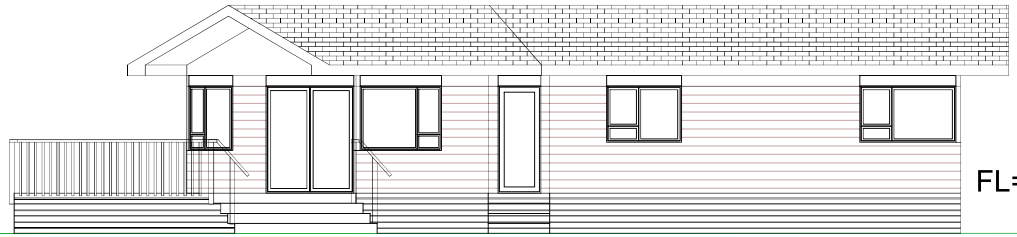
L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
PLAN AND ELEVATION
LARGE HOUSE

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet	Revision
100977	A1-01	A

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION A					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



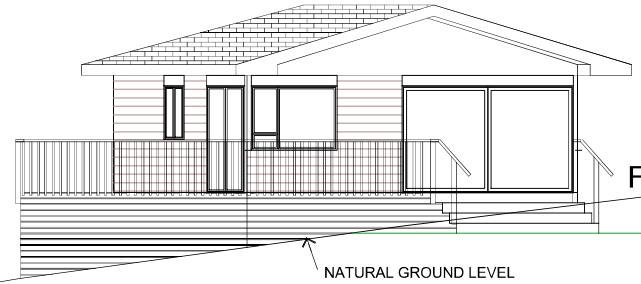
FL= 126.610

GL= 126.010

NATURAL GROUND LEVEL

ELEVATION A

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION B					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
					4
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



FL= 126.610

GL= 126.010

NATURAL GROUND LEVEL

ELEVATION B

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION C					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
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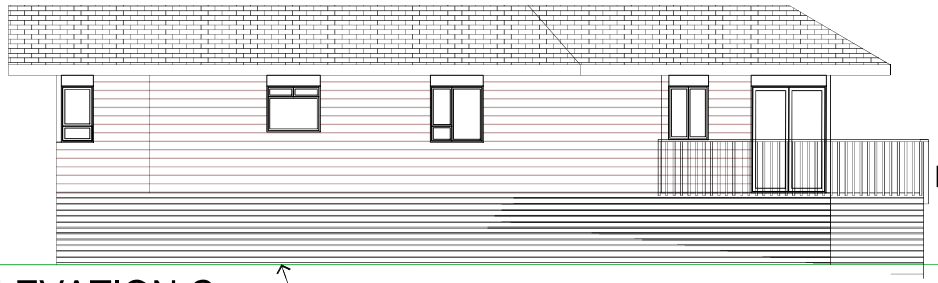
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



FL= 126.610

NATURAL GROUND LEVEL

ELEVATION C

RISK MATRIX ASSESSMENT					
Risk Factor:	Low	Medium	High	Very High	Score
ELEVATION D					
A. Wind Zone	0	0	1	2	2
B. Number of Storeys	0	1	2	4	0
C. Roof / Wall Intersection Design	0	1	3	5	1
D. Eave Width	0	1	2	5	1
E. Envelope Complexity	0	1	3	6	0
F. Deck Design	0	2	4	6	0
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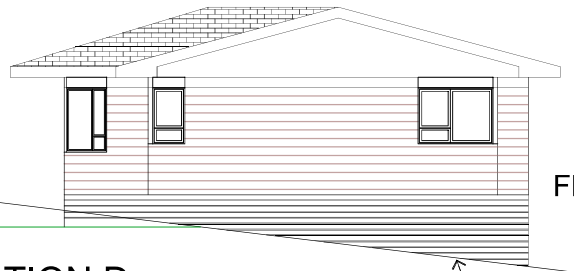
Cladding Types: EXISTING WEATHERBOARD CLADDING DIRECT FIXED					



FL= 126.610

NATURAL GROUND LEVEL

ELEVATION D

Revision	By	Date
Designed	BVV	
Drawn	BVV	
Reviewed		
Approved		

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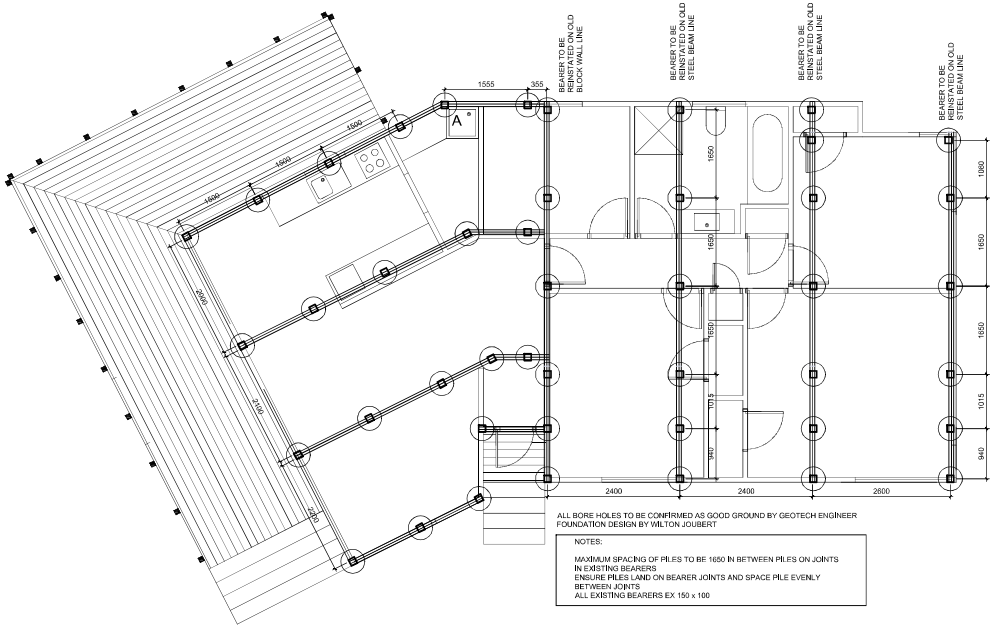
Project Title

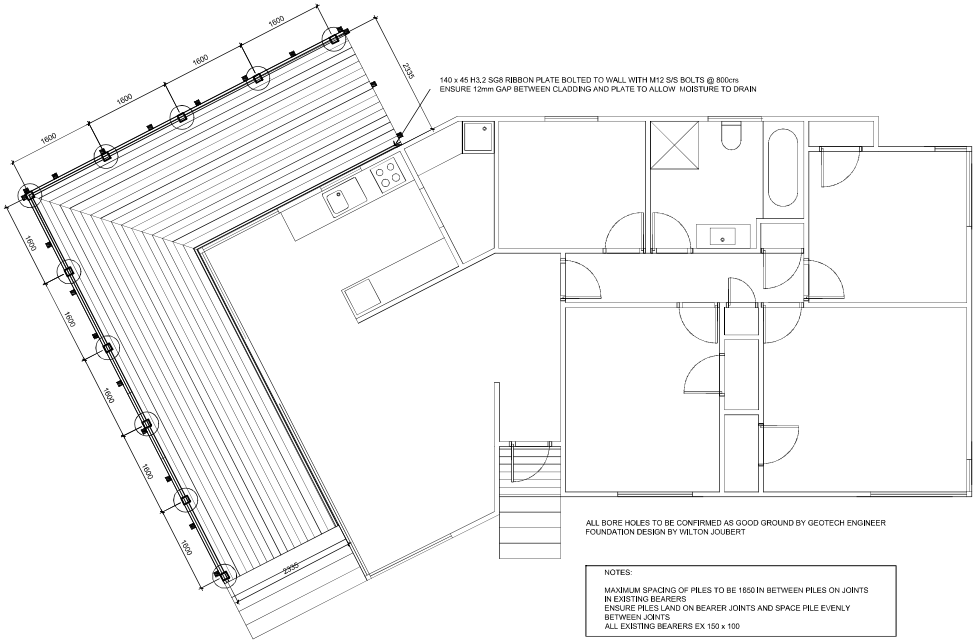
L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
ELEVATIONS
LARGE HOUSE

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet	Revision
100977	A1-02	A





Revision	By	Date
Designed	BVV	29-08-24
Drawn	BVV	29-08-24
Reviewed		
Approved		

LIVING ARCHITECTURE

Mobile 027 285 5605
Email livingarchitecture@xtra.co.nz

Project Title

L AND E SCOTT
86 HAUTAPU ROAD
MOEREWA

Sheet Title
SUBFLOOR
LARGE HOUSE

CAD Ref	Scale (A1 Original)
100977	1:100@ A3

Project No	Sheet	Revision
100977	A2-01	A

M.A.J. Clapshaw Holdings Ltd
Trading as: Versatile Bay of Islands
311 Waipapa Road, Kerikeri, Northland
P.O. Box 31, Waipapa, Northland, 0246, New Zealand
Phone: 09 407 9861
Fax: 09 407 9871
Email: waipapa@versatile.co.nz

07 March 2024

Leighton Scott
92 Hautapu Road
Pakaraka, New Zealand, 1

Dear Leighton,

Thank you for the opportunity to provide this proposal for your new Versatile Building constructed at 92 Hautapu Road .

Your choice of Versatile Building

The following quote covers every aspect of your selected project, which includes a detailed breakdown of the materials you have chosen and the building process. This is one of the ways we ensure you have full control over the project, and can work with us to get exactly the right building for your needs.

The materials we will supply are selected for their quality and durability from local suppliers of timber, steel and construction materials and precisely engineered for your project. Each building we design is also developed specifically for local conditions, with particular attention to local wind zones, moisture control and structural strength.

As we discussed, we will take care of every element of the building process, from planning and working with the Council, to the construction. Once the project is completed we will also go through the building with you, to ensure you are happy with every aspect of your new Versatile Building

We also provide comprehensive guarantees for your finished building, as a commitment to the quality of the materials we use and the professionalism of our team. This will include a written 25-year structural guarantee and a 5-year warranty on workmanship and materials.

The Versatile way to build

You'll be working with our expert building team throughout the process, and they'll keep you in touch with progress along the way, but if you need anything as we work through the project, please get in touch with me directly.

Our aim is to make every part of the building process as simple and hassle-free as possible. We pride ourselves on our standard of service and commitment to quality - so if there's anything we can do to help, or if you need any further information, please let me know.

Yours sincerely

Mike Clapshaw
Sales Consultant
Versatile Bay of Islands

E mikeclapshaw@versatile.co.nz
P 09 407 9861 or M 027 492 8691

BUILDING SPECIFICATIONS(Project Reference: 2089941)

Building Model:	Constructed Versatile 600 Series Garage
Building Size:	7.2m long x 6m wide, with 2.42m stud height
Importance:	Non Habitable (Importance Level 1)
Foundation:	Concrete
Earthquake Zone:	Designed and braced for Zone 1 as per New Zealand Standard 3604.
Wind Zone:	Designed and braced for High wind zone as per New Zealand Standard 3604.
Snow Loading:	Not applicable
Exposure Zone:	Zone C
Roof Type:	Gable Pitch
Roof Details:	15 Degree Pitch, 6 Rib 0.35mm Profile
Gable Cladding:	Board And Batten
Wall Cladding:	Superclad
Max Wall Clad Length:	4840 mm
Gutter Type:	Rollformed Steel
Bottom Plate:	H3.2 treated
Downpipes:	Round PVC 65mm Diameter
Trusses:	90mm x 45mm kiln dried, stress graded timber, H1.2 treated
Wall Framing:	90mm x 45mm kiln dried, stress graded timber, H1.2 treated

COLOURS

Wall:	TBC
Roof:	TBC
Gutter and Barge:	TBC
PA Door:	TBC
Main Door:	TBC

OPENING DETAILS

PA Door:	1 x 1925mm high x 900mm wide PA Door Open In
Garage Window:	1 x 750mm high x 2400mm wide 4 Pane Window 1 x 750mm high x 1800mm wide 3 Pane Window
Sectional Door:	1 x 2075mm high x 4800mm wide Futura - Woodgrain fitted with standard gear and Dominator Select / DSO-1 opener

CONCRETE FLOOR AND FOUNDATIONS

Design:	Engineered Floor
Hold Down:	Anchor Plate
Concrete Strength:	20 MPa (Exposure Zone B & C) as per New Zealand Standard 3604
Foundation:	Minimum 100mm thick floor slab on Garage foundation, being a minimum of 150mm above ground level. Foundations as per engineer's design drawing and producer statement

QUOTE OPTIONS

Stormwater connections:	Client is responsible for the storm water connection before the final code of compliance inspection
Site works:	Not included
Delivery to site included:	Yes
Concrete floor details:	Finished floor height 150mm above ground level Expansion joint cuts included to the floor 668 mesh to the slab with bar chairs 20 mpa concrete D12 steel rod to the foundations Polythene to stop moisture
Building paper options:	Building paper and roofing twine to roof

The price includes for Versatile to provide edge protection and fall through to meet with health and saftey requirements:	YES

PAYMENT SCHEDULE

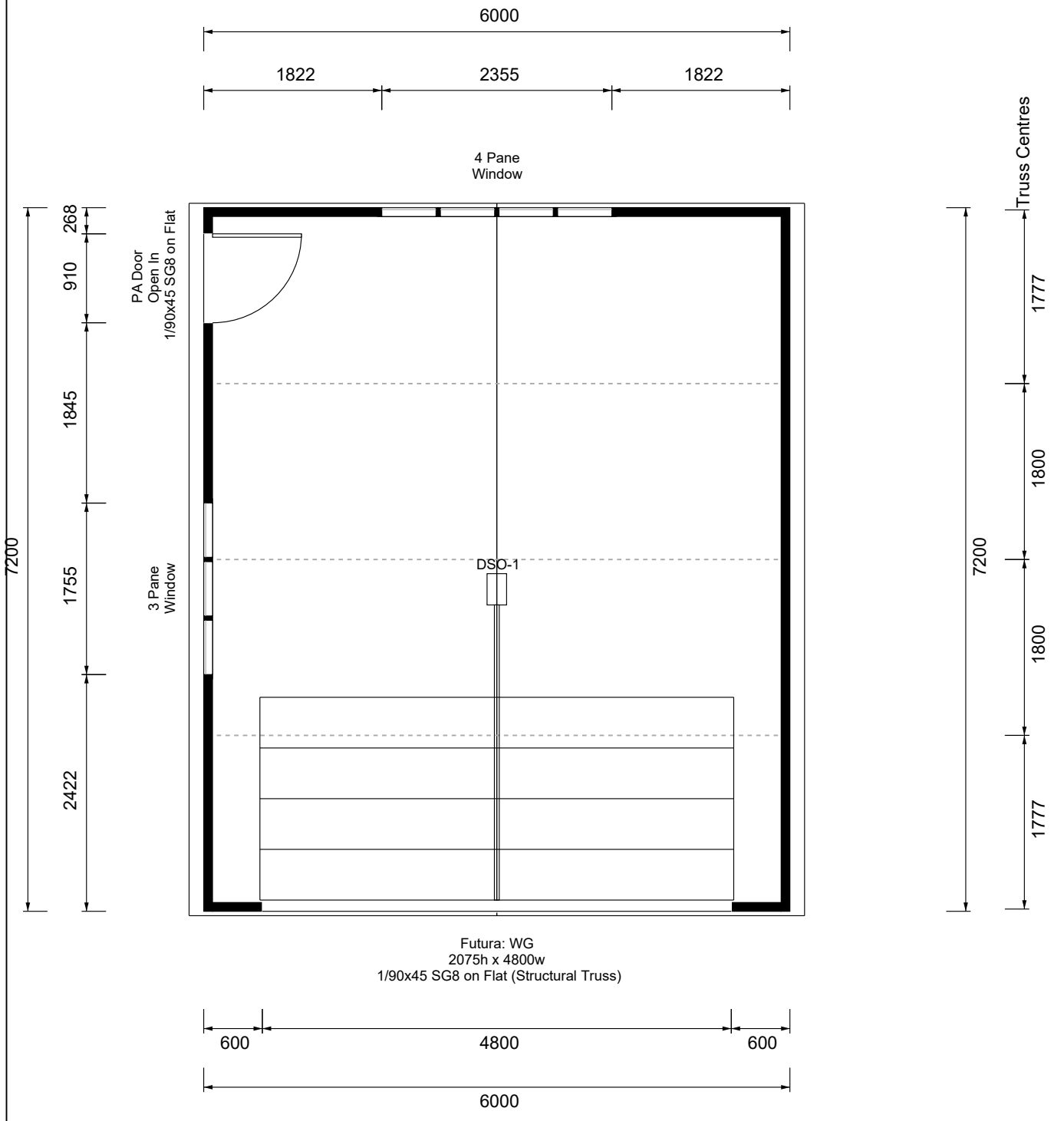
As outlined, our payments are spread throughout the project, with a $3,500.00 deposit, a 40% payment to be paid prior to ordering kitset, a 40% payment to be paid upon completion of slab/footings, and balance to be paid within 7 days of completion.

1st Payment:	Deposit to be paid upon contract acceptance		$3,500.00
2nd Payment:	to be paid prior to ordering kitset		$14,000.00
3rd Payment:	to be paid upon completion of slab/footings		$14,000.00
Balance:	to be paid within 7 days of completion		$3,500.00
		Sub Total:	**$30,434.78**
		G.S.T.(15%):	**$4,565.22**
		Total Investment:	**$35,000.00**

Keys available on full settlement.

The price does not include for the set up of the gravel or sand for under the concrete floor.

NB: This quotation remains available for acceptance for 14 days from its date by signing contract documentation including terms and conditions with Versatile Buildings agent.



3
4 2
1

Project No.: 2089-2089941J1.0

Versatile® 40 YEARS of Building Better for NZ

Versatile Bay of Islands
P.O. Box 31
Waipapa, Northland
0246
09 407 9861
waipapa@versatile.co.nz

For: Leighton Scott
92 Hautapu Road

Pakaraka

1

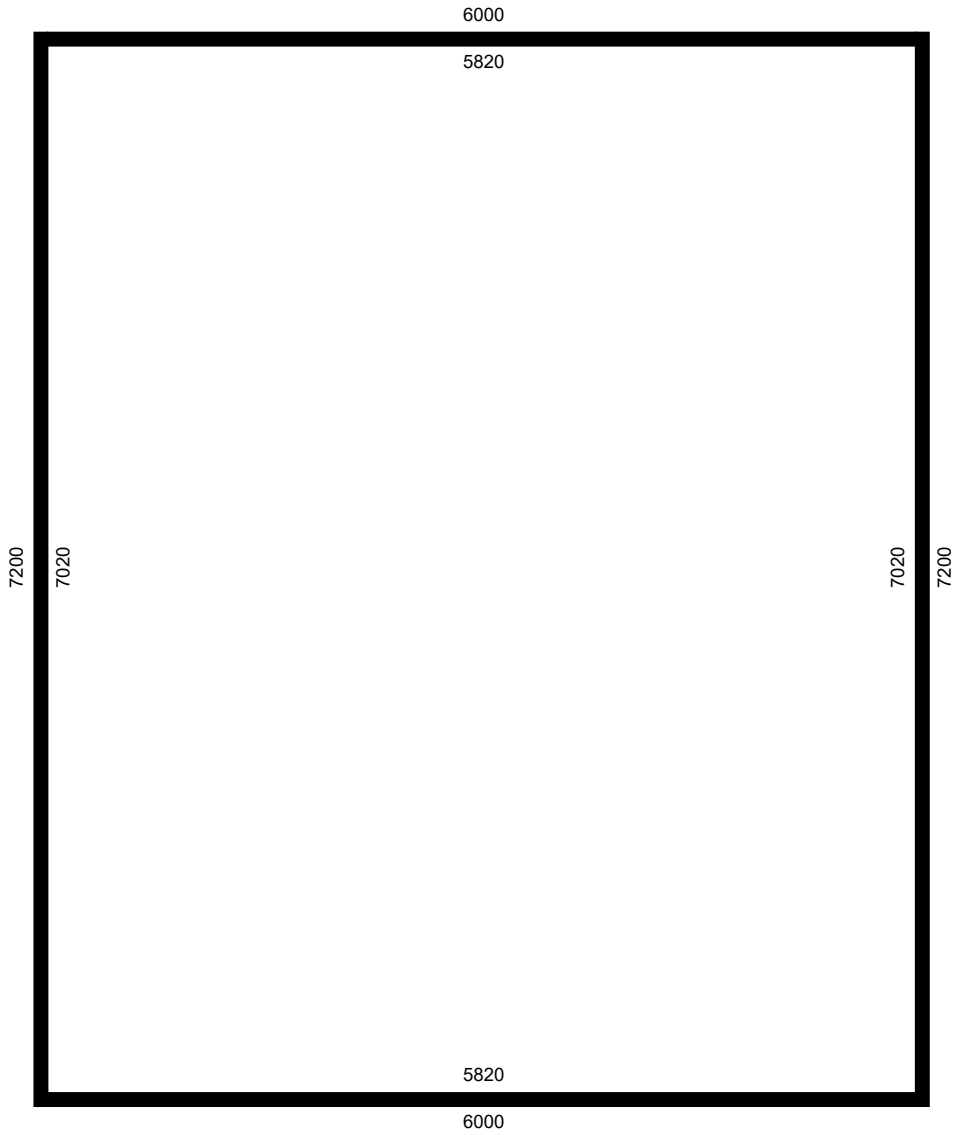
SCALE NTS

Plan

Date

All dimensions are over framing and excludes any gib.

LEGEND	
Sectional Door	
WG	Woodgrain Finish
DSO1	DSO-1 Auto Opener



3
4 2
1

Project No.: 2089-2089941J1.0

Versatile Bay of Islands
P.O. Box 31
Waipapa, Northland
0246
09 407 9861
waipapa@versatile.co.nz

For: Leighton Scott
92 Hautapu Road

Pakaraka

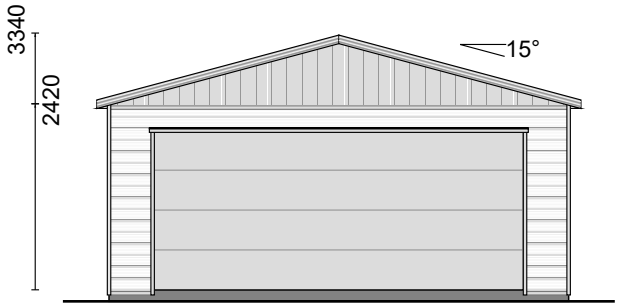
1

SCALE NTS

Room Dimension Plan

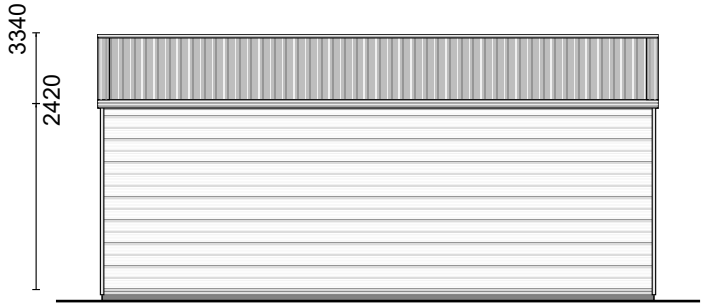
Date

VIEW 1

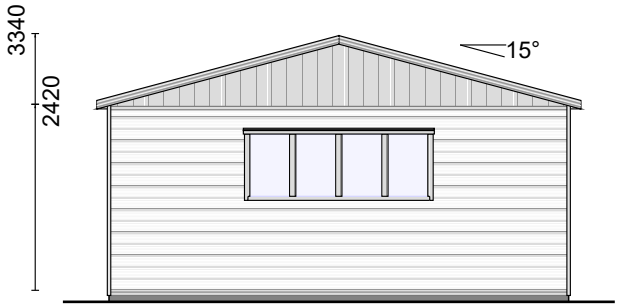


Futura: WG
2075h x 4800w

VIEW 2

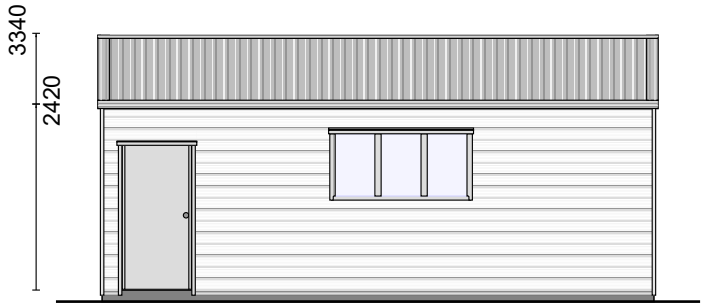


VIEW 3



4 Pane
Window

VIEW 4



PA Door
Open In

3 Pane
Window

Project No.: 2089-2089941J1.0

Versatile® 40 YEARS of Building Better for NZ

Versatile Bay of Islands
P.O. Box 31
Waipapa, Northland
0246
09 407 9861
waipapa@versatile.co.nz

For: Leighton Scott
92 Hautapu Road

Pakaraka

1

SCALE NTS

Elevation

Date

PRODUCER STATEMENT – PS4A CONSTRUCTION REVIEW

[NOT TO BE USED IN CONJUNCTION WITH A BUILDING CONSENT CODE COMPLIANCE APPLICATION]

JOB NUMBER:	132211
ISSUED BY: *(Construction Monitoring Firm)*	Wilton Joubert Limited
TO: *(Client)*	Leighton & Emily Scott
TO BE SUPPLIED TO: *(Regulatory Authority)*	Far North District Council
IN RESPECT OF: *(Description of Works to be constructed/carried out)*	New Vehicle Crossing (the "Works") as per Subdivision Consent No. 2240077-RMASUB Item 3a.
AT: *(Address))*	92 Hautapu Road, Moerewa
LEGAL DESCRIPTION	Lot 2 DP 567189

Wilton Joubert Limited has been engaged by Leighton & Emily Scott to provide construction monitoring services in respect of specific elements within the Works, to the following level:

CM2

The construction monitoring that has been carried out relates to elements of the Works referred to in the Subdivision Consent Conditions (2240077RMASUB) issued prior to commencement of the Works. The construction monitoring also relates to the authorisedinstructions / variation(s) provided or listed in the attached Schedule, that were issued during the course of the Works.

On the basis of this construction monitoring together with information supplied by the contractor during the course of the Works and on behalf of Wilton Joubert Limited, I believe on reasonable grounds that these elements of the Works have been completed in accordance with the relevant requirements of the design standards and those additionally referred to in the attached Schedule.

I also believe on reasonable grounds that the persons who have undertaken this construction monitoring have the necessary competency to do so.

I, Ben Steenkamp am:

- CPEng number 2001008
- and hold the following qualifications: BEng Civil; BSc Geology

Wilton Joubert Limited holds a current policy of Professional Indemnity Insurance no less than $200,000.

Wilton Joubert Limited is not a member of ACE New Zealand.

SIGNED BY: Ben Steenkamp

(Signature):  Date: 04.03.2024

Job Number: 132211
Job Address: 92 Hautapu Road, Moerewa
Compilation Date and Time: 04 March 2024 at 10:49 am

ON BEHALF OF: Wilton Joubert Limited

Note: This statement has been prepared solely for Far North District above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to Wilton Joubert Limited only. As a condition of reliance on this statement, Far North District accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to Far North District in relation to the Works, whether in tort or otherwise, is limited to the sum of $200,000.

SCHEDULE TO PS4A

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

Limited Scope of Monitoring

The engagement is in respect of the monitoring of the following parts of the Works:

Construction of Vehicle Crossing

SITE INSPECTION RECORD

66163

WILTON JOUBERT
Consulting Engineers

TYPE OF INSPECTION	Box Cut Inspection		
WJL JOB NO. & REV.			
CIVIL ☑		CONSENT No.	240077 - RMA
GEOTECH ☐		DATE & TIME	28/2/2460 8am
STRUCTURAL ☐		INSPECTOR	J. Mitchell
ADDRESS	92 Hautapu Rd, Moerewa		
H & S 'Take 5'	✓	JSA No.	3
Initials	JM		

* Subgrade clegg values are >10 ~ average 12.
  ↳ CBR is >7.
* 85m min line of sight established.
  ↳ Next inspection final walkover / Clegg test
* No swale present - Culvert not required.

SITE CONTACT	Leighton	COUNCIL INSPECTOR	
PASS ☑			
PENDING ☐			
FAIL ☐			

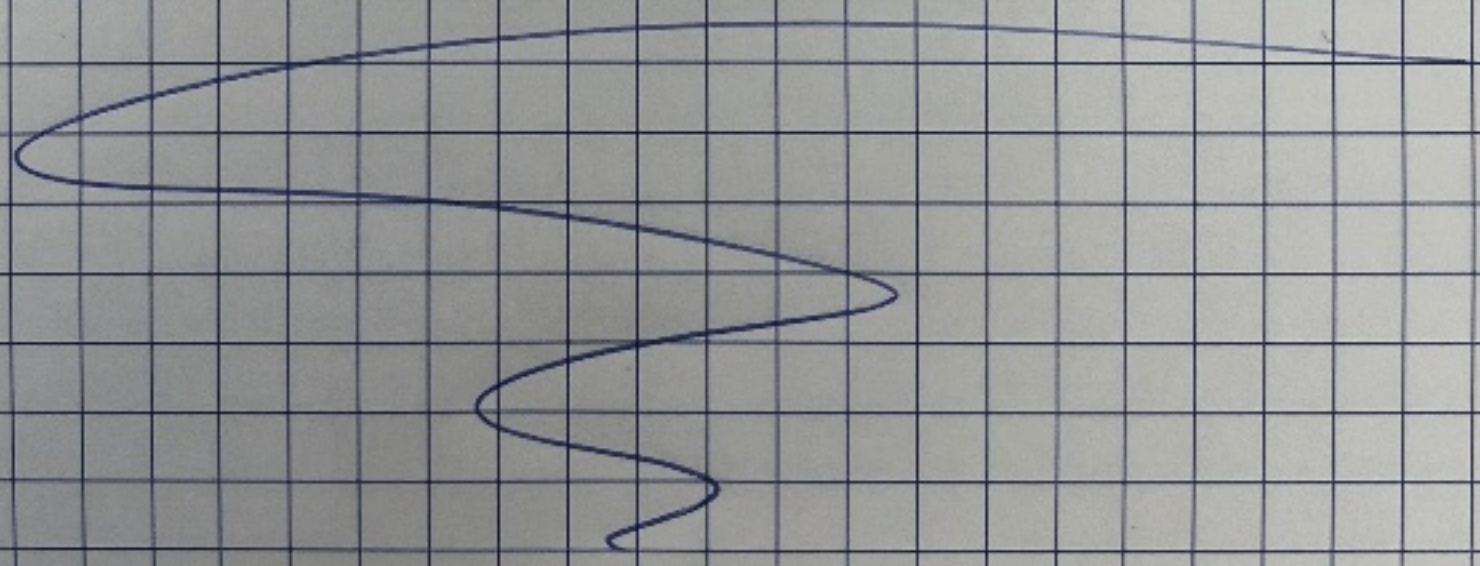
SITE INSPECTION RECORD

66166

WILTON JOUBERT
Consulting Engineers

TYPE OF INSPECTION	Final Walkover - Rural Crossing.		
WJL JOB NO. & REV.			
CIVIL ☑		CONSENT No.	RC - 2240077
GEOTECH ☐		DATE & TIME	29/2/24 @ 2pm
STRUCTURAL ☐		INSPECTOR	J. Mitchell
ADDRESS	92 Hautapu Rd, Moerewa		
H & S 'Take 5'	✓	JSA No.	16
Initials	JM		

* Clegg Values are < 30.
* 5m Radius checked ✓
* Line of sights checked ✓
* Gap 40 cap to min 200mm layer confirmed.



SITE CONTACT	Leighton	COUNCIL INSPECTOR	
PASS ☑			
PENDING ☐			
FAIL ☐			


Box-cut


Subgrade Testing
Geo-Impact Tester
www.geotechnics.co.nz


FINAL SURFACING


BASE TESTING
30
eo-Impact Tester
www.geotechnics.co.nz
Made in New Zealand

T8 Traffic Control	**TMP Reference**	T8W 24-036	**RCA consent and/or RCA contract reference**		**1. TMP PLANNI FORM**

TMP Form Framework

1. TMP Planning Form
This part is to provide background and supplementary information for approvers and reviewers

2. TMP General Form
This part provides overall general information for the TMP and is for use by onsite personnel

3. TMD Form
Repeated for each TMD (phase/stage/operation)

Multiple TMD forms may be present. One for each layout

1. TMP Planning Form

This form is used to provide supplementary information to approvers and reviewers as well as other impacted PCBUs. Any information provided in this TMP Planning Form must be consistent (and read in conjunction) with the associated General TMP form and TMD form/s.

1.1. Risk Assessment Information

1.1.1. Supplementary Risk Assessment Documentation	
Is there a supplementary risk assessment associated with this TMP (and attached)* **If yes, move on to section 1.2*	☐

If Option 1.1.1 (a supplementary attached risk assessment) is not selected, table 1.1.2 must be compiled

1.1.2. Identified Risks and Controls		
Risk	**Associated Control**	**Commentary on Selection** *(in accordance with Hierarchy of Controls)*
TTM Installation and removal	Minimization: Shadow vehicle	Reduces the risk of TTM staff or vehicles being struck during the installation and removal of TTM equipment
Work plant	Minimization: Shoulder Closure	Reduces the risk of road users coming into conflict with an active work plant
Excavations	Minimization: Shoulder closure	Reduces the risk of conflict between road users and excavation work being done when active and inactive sites.

1.2. Authorisations

Complete all sections which are applicable (and align with the Transport Aspects Affected portion of the TMP General Form)

1.2.1. Authorised Parking	
Alterations to controlled street parking have been approved and evidence is attached	**Not Required**
No authorized parking affected	

1.2.2. Permanent Traffic Signals	
Impacts on permanent traffic signals has been approved and evidence is attached	**Not Required**
No permanent traffic signals affected	

1.2.3. Road Closure Authorisation	
Where all vehicular traffic to a road is prohibited advertising and/or notification requirements are attached	**Not Required**
No road closure authorization required	

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Fraser Hoani
Far North District Council
16 February 2024

1.2.4. Public Transport Impacts	
Public transport impacts have been approved and evidence is attached	**Not Required**
No public transport operations affected	

1.2.5. Portable Traffic Signals	
Proposed make/model is Waka Kotahi approved for use	**Not Required**
No portable traffic signals affected	

1.2.6. Over Dimensional Route Impact	
Evidence of notification for OD route (such as RCA and/or Heavy Haulage association)	**Not Required**
No over dimensional route impacted	

1.2.7. Rail Corridor Impact	
Evidence of rail corridor interface approval is attached	**Not Required**
No rail corridor impacted	

1.2.8. Temporary Road Safety Barrier Systems	
Evidence of installation designer* qualifications attached	**Not Required**
Evidence of independent reviewer** experience attached	**Not Required**
**Installation Designer role is defined in AS/NZS 3845 Part 1:2015 section 1.5.1 (e). "Qualified" indicates Waka Kotahi Temporary Barrier Design Qualification (or ASHTAS equivalent)* ***Independent Reviewer may be a qualified Installation Designer or other suitably qualified person*	

1.2.9. Additional Supporting Information
List any further supporting information or attachments included as part of this TMP planning form
-

1.3. Delay Calculation Information

Provide supplementary delay calculation information or logic to support outputs described in the Onsite Form

No delay expected.

1.4. RCA Notification prior to occupying worksite

Work start notification via submitica

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Far North District Council
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1.5. Associated TMP Forms

Provide details of the number and titles of associated TMD forms with this planning form

TMD Number	TMD Title	No. of Diagram Sheets
D1	Shoulder closure	1
D2	Stop/Stop	1

1.6. TMP Returned for Correction

If TMP is not approved, utilise this section to provide comments regarding non-approval or endorsement (either risk reviewer or approver)

Name	*Date*	*Signature*	*ID no.*

1.6.1. Returned Comments
-

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Far North District Council
16 February 2024

TMP Form Framework

1. TMP Planning Form
This part is to provide background and supplementary information for approvers and reviewers

2. TMP General Form
This part provides overall general information for the TMP and is for use by onsite personnel

3. TMD Form
Repeated for each TMD (phase/stage/operation)

Multiple TMD forms may be present. One for each layout

2. TMP General Form

The general form is for the Site Traffic Management Supervisor (STMS). It contains all general information that applies to all TMDs associated with this TMP. The TMP General Form must be held onsite at all times (along with whichever TMD Form (TMD) is installed at that time). Any sections that are not applicable to the TMP can be removed leaving only the heading crossed out.

2.1. Organisations / TMP Reference

2.1.1. TMP reference: T8W 24-036	**2.1.2. Activity Lead Contractor:** ventia	**2.1.3. Contracting PCBU** *(Client)*: ventia
2.1.4. Attached TMD Forms 2	**2.1.5. Contractor (TTM):** T8 Traffic Control	**2.1.6. RCA(s):** Far North District Council

2.2. Location Details and Road Characteristics

Road names	Suburb	Start / finish	Road level and category	Permanent speed	AADT
Hatapu Road	Moerewa		CAT B L1	2	**154 (est) 30/06/2023 10% heavy**

2.2.1. Additional Traffic Details *(main route)*
Unsealed Road low Volume Environment

2.3. Overall Programme

Start Date	19/02/2024	**End Date**	31/05/2024
TTM commencement time	0000	**TTM removal complete time**	2359
Activity Start Time	0600	**Activity End Time**	1800

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Far North District Council
16 February 2024

2.4. Overall Activity Description

Vehicle Crossing construction for 86 Hatapu Road, Moerewa.

Vehicles on site:
Digger,
Tip Truck,
Ute,
Concrete Truck.

2.5. Overall Staging/Phasing Description

Vehicle construction will take place from within the boundary working into the property, under D1 – Shoulder Closure
D2 – has been added as a contingency for truck movements and concreting tasks if required.

2.6. General Activity Risks

*Any risks that are isolated to specific TMDs can be outlined within the **3. TMD Form** for those TMDs*

TTM installation and Removal	Risk of TTM staff or vehicles being struck during the installation and removal of TTM equipment
Work plant	Risk of Road users coming into conflict with an active work plant
Excavations	Risk of Road users coming into conflict with attended and unattended excavation work taking place within the road corridor

2.7. General Environment Risks

*Any risks that are isolated to specific TMDs can be outlined within the **3. TMD Form** for those TMDs*

Low speed low volume road	Extended sign spacing when environment dictates
Unsealed road environment	No centre lines used due to the road widths.

2.8. Transport Aspects Affected

*Check all that apply. For each item affected, evidence of how these affects are managed must be included **in each TMD Form** (where those affects are present). **Items that are not applicable can be struck through in the table.***

2.8.1. Aspect Affected	TMDs with these impacts
2.8.1.1. Pedestrian users?	No Pedestrians affected
2.8.1.2. Cyclist users?	No cyclists affected
2.8.1.3. Property access?	No property access affected
2.8.1.4. Controlled street parking?	No controlled street parking affected
2.8.1.5. Permanent traffic signals?	No permanent traffic signals affected
2.8.1.6. Public transport operations?	No public transport operations affected
2.8.1.7. Interface with rail corridor?	No interface with rail corridor

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16 February 2024

2.8.1.8. Over dimensional route?	No over dimensional route required
2.8.1.9. Traffic lanes?	D1, D2

2.9. Proposed Temporary Speed Limit(s) (TSL(s))

Temporary Speed Limits are in terms of Section 7 of Land Transport Rule: Setting of Speed Limits 2022. This information must be retained for 12 months. Additional rows may be added if required. Attended and/or unattended rows may be removed if not applicable.

	TSL details as required *(additional rows may be added if required)*	**Times** *(from and to)*	**Dates** *(start and finish)*	**TMD Reference**
Active Site TSLs	A temporary maximum speed limit of **30**km/h is hereby fixed for motor vehicles travelling over the length of **390**m situated between **1.040** and **0.640** on **Hatapu Road**	0500 - 1900	19/02/2024 - 31/05/2024	D2
Inactive Site TSLs	No Inactive TSLs required	-	-	-

2.10. Traffic Control Devices and Road Safety Hardware

2.10.1. Temporary Road Barrier System	No temporary road barrier systems required
2.10.2. Temporary Traffic Signals or Manual Traffic Control Systems	No temporary traffic signals or MTC systems required

2.11. Public Notification

No public notification required

2.12. General Contingency Plans

These contingency plans apply to all TMDs. Specific contingency plans (related to individual TMDs) are included within those TMD forms.

Positive Traffic Management is any additional measure/s that safely reduces traffic speed to the TSL. It does so by exerting a natural and acceptable restriction on traffic and highlights the reason for the need to slow down from the perspective off the driver.

If Queuing or unforeseen disruption occurs, additional advanced signage may be used a further sign spacing (or more) outside the required advanced warning signage to promote awareness further from the site boundary.

Police assistance may be sought if excess speed is a significant issue and presents and real and immediate danger to the activity or the public. Work may be suspended if the driver's behavior at any time presents excess risk

2.13. Practice Note Alignment

No specific alignment to any practice notes.

2.14. Other Information

-

2.15. Traffic Management Diagrams (TMDs)

2.15.1. Installation, Maintenance and Removal TMDs

*Installation, maintenance and removal diagrams may be used in conjunction with any other stages, phases or operations and **do not require** overarching **3. TMD Form** documents*

Number	Title
F4.4.1	Mobile Operation

2.15.2. General TMDs

*Each of the following listed TMDs represented by a series of sheets depicting one phase, stage or separate TTM operation. Each **must have** a covering **3. TMD Form** document providing all specific information related to that TMD.*

Diagram Number	Title	No. of Sheets
D1	Shoulder Closure	1
D2	Stop/Stop	1

2.16. Contact Information

	Name *(Full name and email address)*	24/7 contact number	Qualification	Qualification ID	Expiry date
Contracting PCBU	Leighton Electrical Leighton and Emily Scott	021 125 5946	-	-	-
Corridor Manager	Far North District Council Fraser Hoani	027 295 1323	CAT AB-P	96607	24/11/2024
Lead Contractor	Ventia Francois Muller	021 847 627	-	-	-
TTM Contractor/ Provider	Ventia Francois Muller (TTM Company to be confirmed)	021 847 627	-	-	-

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Far North District Council
16 February 2024

2.17. TMP Preparation

This TMP has been prepared to provide, as far as reasonably practicable, a safe and fit for purpose TTM system					
Preparation	Ethan Hyde	03/06/2023		STMS CAT AB NP TTMP	30/09/2025 09/09/9999
	Name	*Date*	*Signature*	*STMS Qual.*	*Expiry date*
	Ethan.hyde@t8.co.nz	027 276 2733		145626	☑
	Contact email	*Contact number*		*CoPTTM ID no.*	*TTMD Qualified*

2.18. TMP Approval

[FOR APPROVER USE ONLY]

This TMP is approved on the following basis:

1. To the best of the reviewer's judgment this TMP conforms to the requirements of the NZGTTM and all associated legislation, rules, regulations, and standards.
2. The TMP provides so far as is reasonably practicable, a safe and fit for purpose TTM system.
3. The STMS for the activity is reminded that it is the STMS's duty to ensure that risks associated with the activity onsite must be, so far as reasonably practicable, eliminated or if not, minimised.

TMP Approved					
Name	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*
		Number of **3. TMD Form** attachments at the time of approval			

2.19. Road Controlling Authority Acceptance

[FOR ROAD CONTROLLING AUTHORITY USE ONLY]

Acceptance of this TMP authorises:

1. The use of all traffic signs included in the TMP or attached traffic management diagrams.
2. The installation of any prohibition of vehicular traffic operation included in the TMP and attached traffic management diagrams
3. The installation of any temporary speed limit(s) included in the TMP and attached traffic management diagrams
4. This plan is approved on the basis that the activity, the location, and the road environment have been correctly represented by the TTM Designer. Any inaccuracy in the portrayal of this information is the responsibility of the TTM Designer.

Name	*Date*	*Signature*	*ID no.*	*Qualification*	*Expiry date*
		Number of **3. TMD Form** attachments at the time of acceptance			

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Far North District Council
16 February 2024

Work site risk assessment prompter

Certain activities are exempted, though must be subject to a robust risk assessment process.

Detailed below are some prompters to assist when making your assessment of on-site risks before commencing work.

Look at the road

- Are there awkward or complex intersections where you will establish your work site?
- How much visibility do approaching road users have? – eg consider bends, crests of hills, trees and bushes, parked vehicles.
- Are there any railway level crossings or rail that may impact your work site?
- Are there any overhead or underground services within your work site or working space?
- Are there any other works going on, or other traffic management measures in place, nearby?

Look at the traffic

- Is the intended mobile closure appropriate for the prevailing traffic flow?
- What is the permanent speed limit of the road, and does a significant amount of traffic appear to be travelling faster than the permanent speed limit?
- What is the type or makeup of the traffic? – eg cars, heavy or large vehicles?
- Is there a cycle lane? Are there many cyclists using the route?
- Will bus routes or bus stops be affected?

Look at the local area

- Are there likely to be frequent deliveries to shops or premises within your work site? – eg delivery vehicles may park in a way that blocks signs etc. or reduces road width.
- Will the works restrict access to premises that have a lot of traffic entering or leaving? – eg schools, large stores, car parks, fast-food stores – particularly consider right turning traffic.
- What are the needs of the emergency services? – eg are there nearby police, ambulance or fire stations?
- Are there facilities for people with mobility issues? – eg parking bays, and can these be avoided?

Look at pedestrians

- Is there a high level of pedestrian traffic? – consider users of pushchairs, wheelchairs and mobility scooters.
- Consider both safe routes and the standards of fencing/barriers needed to protect pedestrians from risks from inside the work site.
- Are there significant numbers of people with reduced mobility or walking difficulties (who may have problems with steps, cable protectors, or uneven surfaces), or blind and partially sighted people? – consider any nearby hospitals, surgeries, residential homes etc.
- Are there children around? – consider nearby schools, parks, playgrounds etc.
- Will pedestrian crossings or school crossing points be affected?
- Are there other pedestrian risks, such as people leaving pubs/clubs, sports matches or events?

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16 February 2024

Look at what might change

Estimate how long the works may be in place, then think about how traffic volumes and any of the above issues might change within that time, for example:

- rush-hour traffic flows
- closures to other roads on the network or local diversions
- school run parking
- match days at sports grounds
- one-off events, concerts, etc
- street lighting levels
- weather and surface conditions
- visitor and deliveries to the work zone.

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Risk Assessment Matrix

Step 1: Determine Likelihood (L)
What is the possibility that the effect will occur?

	Criteria	Description
Almost certain (5)	Expected in most circumstances.	Effect is a common result
Likely (4)	Will probably occur in most circumstances	Effect is known to have occurred at this site or it has happened
Possible (3)	Might occur at some time	Effect could occur at the site or I've heard of it happening
Unlikely (2)	Could occur at some time	Effect is not likely to occur at the site or I have not heard of it happening
Rare (1)	May occur only in exceptional circumstances	Effect is practically impossible

Step 2: Determine Consequence (C)
What will be the expected effect?

Level of Effect:	Example of each level:
Catastrophic (5)	Multiple Permanent Total Disability injuries; multiple deaths
Major (4)	Hospital admittance; extensive injuries; lost time injury > 7 days; Permanent Total Disability injury; death
Moderate (3)	Medical treatment; serious injuries, temporary partial disability; lost time injury < 7 days
Minor (2)	First Aid treatment only; no lost time injury
Insignificant (1)	No effect – or so minor that effect is acceptable

Step 3 Determine the risk score

RISK = L x C	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost certain (5)	M (5)	M (10)	H (15)	VH (20)	VH (25)
Likely (4)	L (4)	M (8)	H (12)	H (16)	VH (20)
Possible (3)	L (3)	M (6)	M (9)	H (12)	H (15)
Unlikely (2)	VL (2)	L (4)	M (6)	M (8)	M (10)
Rare (1)	VL (1)	VL (2)	L (3)	L (4)	M (5)

Step 4 Record risk score on worksheet (**Note** – Risk scores have no absolute value and should only be used for comparison and to engender discussion.)

SCORE	ACTION
VH - Very High	**DO NOT PROCCED.** Requires immediate attention. Introduce further high level controls to lower the risk level. Consult management if unable to lower the risk level.
H - High	**DO NOT PROCCED.** Requires immediate attention. Introduce further high level controls to lower the risk level. Re-assess before proceeding.
M - Medium	**Review before commencing**. Introduce new controls and/or maintain high level controls to lower the risk level. Monitor frequently to ensure controls are working.
L - Low	**Maintain control measures.** Proceed with work. Monitor and review regularly, and if any equipment/people/materials/work processes or procedures change.
VL – Very Low	**Record and monitor**. Proceed with work. Review regularly, and if any equipment/people/materials/work processes or procedures change.

Scoring reminders:

Likelihood: 1 = Rare, 2 = Unlikely, 3 = Possible, 4 = Likely, 5 = Almost certain.

Consequence: 1 = Insignificant (No effect), 2 = Minor (First aid, no time lost), 3 = Moderate (time loss injury < 7 days), 4 = Major (Lost time injury > 7 days, 5 = Catastrophic (Permanent disability, Death)

Risk factor. This is obtained by multiplying the numbers in columns 'Likelihood' and 'Consequence' and is categorised into 5 factors: Very Low, Low, Medium, High and Very High (**Hazard** x **risk** = **risk factor)**. The number arrived at should be recorded in the right column (1 to 2= Very Low, 3 to 4= Low, 4 to 10=Medium, 10 to 16= High, 20 to 25= Very high).

Overall risk rating. This is the overall risk rating for the task being assessed. If all the risk factors identified are low, then the overall risk rating is low. If any of the risk factors identified are high and/or medium the overall risk rating is high/medium.

STOP

Is there a critical risk onsite? YES / NO

- High/Critical chance of falling from height (no harness onsite)
- High/Critical chance of entrapment or lack of escape route
- High/Critical chance of there being a safety zone/live lane breach.

Manager Called/Time

Outcome? Continue with controls or stop work

If answer yes:

Contact Management prior to start work. Ensure a mitigation plan is in place

COMBINED LEVEL LV & LEVEL 1 LAYOUT DISTANCES TABLE

Permanent speed limit or RCA-designated operating speed (km/h)		≤50	60	70	80	90	100
Traffic signs							
A	Sign visibility distance (m)	50	60	70	80	90	100
B	Warning distance (m)	50 or 30*	80	105	120	135	150
C	Sign spacing (m)	25 or 15*	40	50	60	70	75
Safety zones							
D	Longitudinal (m)+	10 or 5*	15	30	45	55	60
E	Lateral (m)+	1	1	1	1	1	1
	Lateral behind barrier installation	As specified by the Installation Designer					
Tapers							
G	Taper length (m)#	30	50	70	80	90	100
G	LV roads taper length (m)#	25	30	35	40	45	50
K	Distance between tapers (m)	40	50	70	80	90	100
Delineation devices							
Cone spacing in taper (m)		2.5	2.5	5	5	5	5
Cone spacing: Working space (m)##		5	5	10	10	10	10

* Larger minimum distances apply on all state highways and also on all multi-lane roads. The smaller minimum distances may be applied on other roads to accommodate road environment constraints.

\+ On LV roads the longitudinal and lateral safety zones may be reduced, or eliminated, in order to retain a single lane width. Positive traffic management and an appropriate TSL must be used.

\# 1. On non-state highways with speeds 50km/h or less, a **10m taper** (with cones at 1m centres) may be used when there are road environment constraints (eg intersections and commercial accesses).

2. On all roads where the shoulder width is less than 2.5m and the activity does not affect the live lane, a **10m shoulder taper** is permitted (with at least 5 cones at no greater than 2.5m centres).
3. A **taper of 30m** (with cones at 2.5m centres) **must** be used where manual traffic control (stop/go), portable traffic signals or priority give way are employed.

\## LV roads: double the cone spacing alongside working space (eg 5 = 10, 10 = 20).

Lane widths (based on permanent speed or TSL if applied)

Speed (km/h)		30	40	50	60	70	80	90	100
F	Lane width (m)	2.75	2.75	3.0	3.0	3.25	3.25	3.5	3.5

Except for delineation device spacings, which are maximum values, the distances specified in the above tables are minimum values.

LV/low-risk roads (less than 250vpd - less than 20 vehicles per hour)

When on the shoulder:

- *If CSD **not** available*: Advance warning sign and base to be installed with sign visibility distance and warning distance in place
- *If CSD available:* Advance warning sign may be attached to the rear of a work vehicle which has an amber flashing beacon(s) and is visible to approaching road users from the rear.

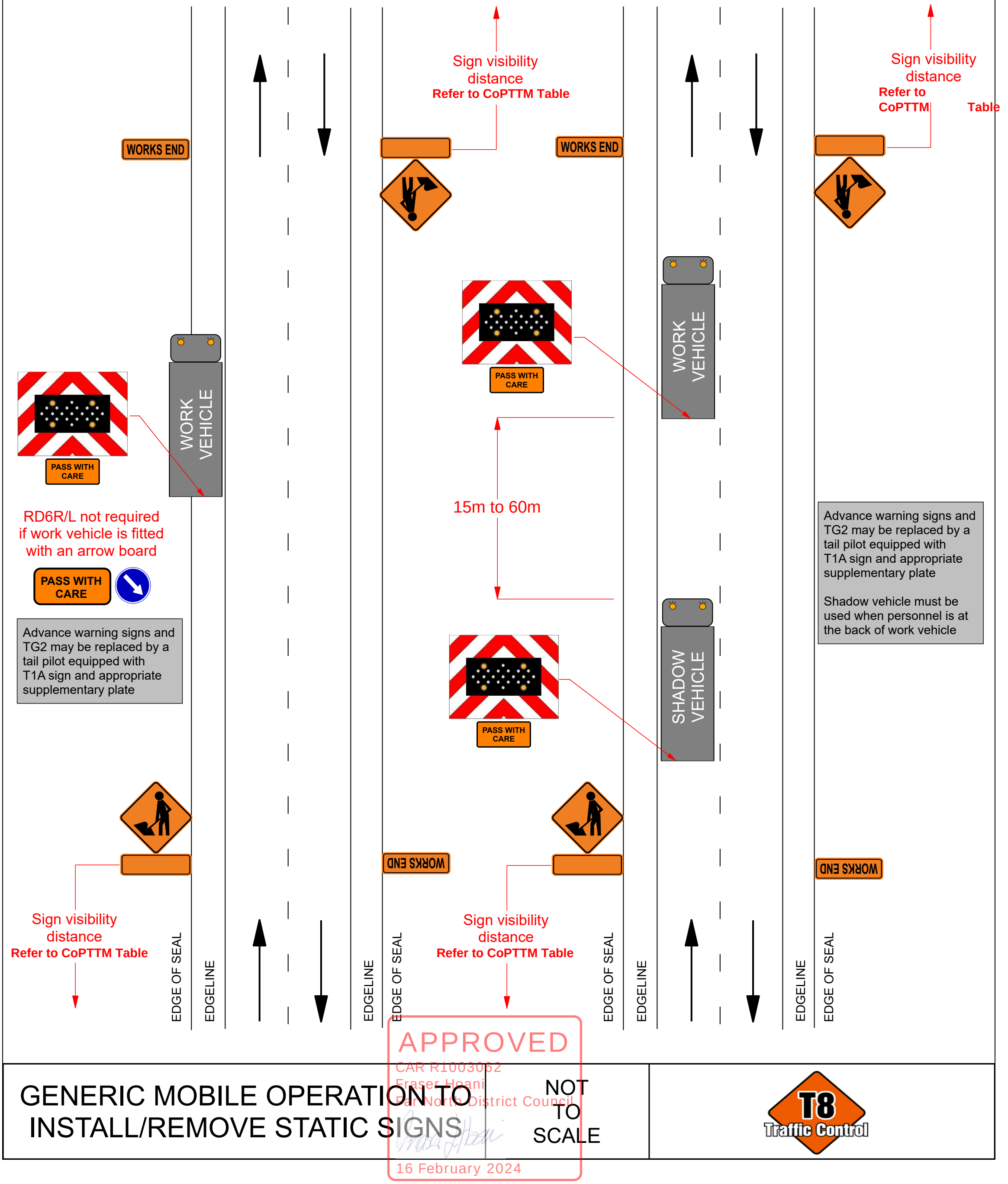
When the activity encroaches onto a live lane consider alternating flow controls.

If the above requirements cannot be achieved, the operation must be modified to comply with the appropriate level LV or level 1 requirements.

F4.4.1 Mobile Operation

WORK VEHICLE ON LIVE LANE
ALL PERMANENT SPEEDS

NOTE: This is used to install and remove static closures. Signs and cones are to be installed from work vehicle.



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16 February 2024

GENERIC MOBILE OPERATION TO INSTALL/REMOVE STATIC SIGNS

NOT TO SCALE

T8 Traffic Control

T8 Traffic Control	TMP Reference	T8W 24-036	RCA consent and/or RCA contract reference		3. TMD FORM
	TMD Reference	D1			

TMP Form Framework

1. TMP Planning Form
This part is to provide background and supplementary information for approvers and reviewers

2. TMP General Form
This part provides overall general information for the TMP and is for use by onsite personnel

3. TMD Form
Repeated for each TMD (phase/stage/operation)

Multiple TMD forms may be present. One for each layout

3. TMD Form

*This **TMD Form** must be replicated for each Traffic Management Diagram (TMD) that is covered with this TMP. Each TMD may represent a specific phase or stage and represents one TTM layout (a series of sheets depicting one TTM operation). This **TMD Form** must be kept, complete with its associated diagrams, onsite at all times it is in use.*

3.1. TMD Description and Information

*Provide the specific TMD information that this **TMD Form** information relates to. This must correspond to the information held in the **TMP General Form**.*

TMD Number	TMD Title	Attended / Unattended / Both	No. of Diagram Sheets
D1	Shoulder Closure	Both	1

Enter the specific permitted and time constraints for this TMD below

TTM commencement time	0000	**TTM removal complete time**	2359
Activity Start Time	0600	**Activity End Time**	1800

3.2. TMD Specific Risks

*Provide any risks that are specific to this TMD (not already outlined in the general risks in the **General TMD Form**)*

TTM Installation and removal	Risk of TTM Staff being struck during installation and removal

3.3. Delay Information

No delay Expected, access is maintained

3.4. TTM Installation

3.4.1. Installation TMDs	TMD Numbers
Which TMD numbers are applicable for the installation phase of this TMD? *These Installation TMDs do not need to be attached multiple times if there are multiple TMD Forms, only attached once*	F4.4.1

3.4.2. Installation Controls	
Control	**Hierarchy of Controls Position**
Shadow Vehicle	**Minimization: Reduces the risk of TTM staff or vehicles being struck during installation of TTM equipment.**

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Far North District Council
16 February 2024

3.4.3. Installation Methodology *Use bullet points where possible to structure information*	
3.4.3.1. Methodology	Level 1 Traffic Truck with arrow board will be used for setting up sites. Prior to installation the STMS is to carry out the following at a pre-arranged meeting point: Signs should be erected by travelling around the network in a clockwise direction taking in each side road as they are passed. a. The First sign erected must be the advanced warning sign, traffic truck to park within the shoulder or hard against kern, signs to be installed from left side of the truck. b. Remaining signs are placed in order from the advanced warning sign until the works end is reached. c. Delineation devices must only be placed once all signs have been installed. d. Before any construction equipment or material are brough into site a drive through check of the worksite must be made in all directions including all side roads. This check must confirm that the worksite is: - Safe and any issues are recorded - To the minimum standard shown in the TMP and that *Additional hazards have been identified and plans have been put in place to mitigate them *the signs and delineation devices give clear messages to road users *The signs and Delineation Devices are securely erected and will remain in their correct position under the expected traffic volume and weather conditions. Once the workplace instructs the working space contractor to enter when happy with the operation layout When Entering or Exiting the work site Beacons on and indication Left/Right to enter site and turning off beacons lights and indicator once entered site, Hazard lights to be used while moving within the worksite. **STMS/TC on site will be spotting the vehicles while coming in/out of the closure**

3.5. Site TTM

3.5.1. Site TTM Controls	
Control	**Hierarchy of Controls Position**
Shoulder Closure	**Minimization: reduces the risk of road users coming into conflict with work taking place**
	Minimization: Reduces the risk of Road users coming into conflict with an active work plant.

3.5.2. Site TTM Methodology and Monitoring *Use bullet points where possible to structure information*	
3.5.2.1. Methodology	- TTM Crew to install D1. - STMS to decide safest loop points during installation and removal. - When site is set STMS to radio Contractor for entry to the work site, TTM Staff to allow access to the work area.
3.5.2.2. Monitoring	Attended: - Site to conduct Two-Hourly site checks to ensure site remains safe and compliant. - Site checks to be recorded on CoPTTM On-site Records Unattended: - Site to be checked at least once per 24 hour period to ensure site remains safe and compliant.

3.6. TTM Removal

3.6.1. Removal TMDs	TMD Numbers
Which TMD numbers are applicable for the removal phase of this TMD? *These Removal TMDs do not need to be attached multiple times if there are multiple TMD Forms, only attached once*	F4.4.1

3.6.2. Removal Controls	
Control	**Hierarchy of Controls Position**
Shadow Vehicle	**Minimization: Reduces the risk of TTM staff or vehicles being struck during Removal of TTM equipment.**

3.6.3. Removal Methodology *Use bullet points where possible to structure information*	
3.6.4. Methodology	Level 1 Traffic truck with arrow board will be used for the removal of the worksite. 2-person crew to be used Staff working on the deck must be at least TTM Worker qualified. Shadow vehicle required when staff working on the deck. Refer to site safety measures for PPE requirements and expectations of working on vehicles. The Advanced warning signage must be lifted last to give advance warning of the disestablishment process. Removal procedure: 1.Complete Toolbox for site removal 2.Remove Cone along working space. Loop 3.Remove left hand signs. Loop 4.Remove right hand signs. Loop 5.Signs on side street will be picked along while taking loop **Once the Removal of the worksite is completed, the STMS will undertake a final drive through to confirm all TTM has been Removed. The Final Check will be documented on the CoPTTM on-site record.**

Created By
T8 Traffic Control

Description of Works
vehicle Crossing upgrade

Closure Type / Title
D1
-
Shoulder Closure

Location
86 Hatapu Road, Moerewa

TMP
T8W 24-036

Plan
3 of 3

Legend
- Cone
- Safety Zone
- Work Area

Client
ventia

Leighton Electrical
Principal

RCA
Far North District Council

RCA
Far North District Council

Plan Scale @ A4
1 : 1207 (1cm = 12m)

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CAR R1003062
Fraser Hoard
Far North District Council
16 February 2024

Manifest

34 x	Cone
1 x	T138 ROAD WORKERS SHOULDER CLOSED
1 x	TG2 WORKS END

TMP Form Framework

1. TMP Planning Form
This part is to provide background and supplementary information for approvers and reviewers

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3. TMD Form
Repeated for each TMD (phase/stage/operation)

Multiple TMD forms may be present. One for each layout

3. TMD Form

*This **TMD Form** must be replicated for each Traffic Management Diagram (TMD) that is covered with this TMP. Each TMD may represent a specific phase or stage and represents one TTM layout (a series of sheets depicting one TTM operation). This **TMD Form** must be kept, complete with its associated diagrams, onsite at all times it is in use.*

3.1. TMD Description and Information

*Provide the specific TMD information that this **TMD Form** information relates to. This must correspond to the information held in the **TMP General Form**.*

TMD Number	TMD Title	Attended / Unattended / Both	No. of Diagram Sheets
D2	Stop/Stop	Attended	1

Enter the specific permitted and time constraints for this TMD below

TTM commencement time	0500	**TTM removal complete time**	1900
Activity Start Time	0600	**Activity End Time**	1800

3.2. TMD Specific Risks

*Provide any risks that are specific to this TMD (not already outlined in the general risks in the **General TMD Form**)*

TTM Installation and removal	Risk of TTM Staff being struck during installation and removal

3.3. Delay Information

Minimial Delays expected, max hold 5 mins for this location.

3.4. TTM Installation

3.4.1. Installation TMDs	TMD Numbers
Which TMD numbers are applicable for the installation phase of this TMD? *These Installation TMDs do not need to be attached multiple times if there are multiple TMD Forms, only attached once*	F4.4.1

3.4.2. Installation Controls	
Control	**Hierarchy of Controls Position**
Shadow Vehicle	**Minimization: Reduces the risk of TTM staff or vehicles being struck during installation of TTM equipment.**

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3.5. Site TTM

3.5.1. Site TTM Controls	
Control	**Hierarchy of Controls Position**
Stop/Stop	**Minimization: reduces the risk of road users coming into conflict with work taking place**
	Minimization: Reduces the risk of Road users coming into conflict with an active work plant.

3.5.2. Site TTM Methodology and Monitoring *Use bullet points where possible to structure information*	
3.5.2.1. Methodology	- TTM Crew to install D1. - STMS to decide safest loop points during installation and removal. - When site is set STMS to radio Contractor for entry to the work site, TTM Staff to allow access to the work area.
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3.6. TTM Removal

3.6.1. Removal TMDs	TMD Numbers
Which TMD numbers are applicable for the removal phase of this TMD? *These Removal TMDs do not need to be attached multiple times if there are multiple TMD Forms, only attached once*	F4.4.1

3.6.2. Removal Controls	
Control	**Hierarchy of Controls Position**
Shadow Vehicle	**Minimization: Reduces the risk of TTM staff or vehicles being struck during Removal of TTM equipment.**

3.6.3. Removal Methodology *Use bullet points where possible to structure information*	
3.6.4. Methodology	Level 1 Traffic truck with arrow board will be used for the removal of the worksite. 2-person crew to be used Staff working on the deck must be at least TTM Worker qualified. Shadow vehicle required when staff working on the deck. Refer to site safety measures for PPE requirements and expectations of working on vehicles. The Advanced warning signage must be lifted last to give advance warning of the disestablishment process. Removal procedure: 1.Complete Toolbox for site removal 2.Remove Cone along working space. Loop 3.Remove left hand signs. Loop 4.Remove right hand signs. Loop 5.Signs on side street will be picked along while taking loop **Once the Removal of the worksite is completed, the STMS will undertake a final drive through to confirm all TTM has been Removed. The Final Check will be documented on the CoPTTM on-site record.**

Legend

- Cone
- Safety Zone
- Work Area

Client

Leighton Electrical

Principal

[Insert Logo Here]

RCA

RCA

Plan Scale @ A4

1 : 1160 (1cm = 12m)

M

45 x	Cone
4 x	RS1B (100) DIAMOND
4 x	RSTB (30) TEMPORAR
2 x	T144 (30) ROAD WOR
2 x	TA21 PLEASE STOP C
2 x	TC Orange Vest With S
2 x	TG2 WORKS END

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Created By
T8 Traffic Control

Description of Works
vehicle Crossing upgrade

Closure Type / Title
D1
-
Shoulder Closure

Location
86 Hatapu Road, Moerewa

TMP
T8W 24-036

Plan
2 of 3

Legend

- Cone
- Safety Zone
- Work Area

Client
ventia

Leighton Electrical
Principal

RCA
Far North District Council

RCA
Far North District Council

Plan Scale @ A4
1 : 1160 (1cm = 12m)

Manifest

45 x	Cone
4 x	RS1B (100) DIAMOND SPEEED LIMIT 100
4 x	RSTB (30) TEMPORARY SPEED LIMIT 30 DIAMOND
2 x	T144 (30) ROAD WORKERS SPEED LIMIT AHEAD 30 km/h
2 x	TA21 PLEASE STOP ON REQUEST
2 x	TC Orange Vest With Stop Go Paddle
2 x	TG2 WORKS END

Works Access Permit

Registration Number: **R1003062**

Utility Reference: **N/A**

Far North District Council

1. Details of Proposed Work

Activity: Vehicle Crossing
Address: 92 Hautapu Road, Moerewa, Bay of Islands-Whangaroa Community, 0211
Location in road: Carriageway, Berm
WAP valid period: 22 February 2024 to 31 May 2024

2. The Parties

Far North District Council being a body corporate in accordance with the Local Government Act 2002 ('the Corridor Manager;')

VENTIA NZ LIMITED being an approved Utility Operator in accordance with Local Government Act 2002 submitting a request for access in accordance with that act;

T8 TRAFFIC CONTROL LIMITED being the agent of the Utility Operator submitting this request on behalf of the Utility Operator and in accordance with the Utility Operator's statutory rights ('the Applicant').

3. Attachments

Attachment 1 being the Schedule of Reasonable Conditions.

Attachment 2 being plan TMP showing the agreed service location.

4. Background

(a) The Utility Operator wishes to carry out the works stated on CAR Number R1003062 and thereafter maintain the utility services established in the corridor;

(b) The Corridor Manager is required to provide a written consent in accordance with its governing legislation and to provide a schedule of reasonable conditions, if required, by the utility legislation under which the request for access has been made; and

(c) In accordance with the Code: Utilities' Access to the Transport Corridors and on behalf of the Corridor Manager, I give my written consent for access to the corridor at the agreed location and attach my schedule of reasonable conditions:

(d) In the case of State highways this Works Access Permit serves as the approvals required under sections 51 and 78 of the Government Roading Powers Act.

Signed **Date** 16/02/2024

Fraser Hoani acting pursuant to delegated authority.

FOR Corridor Manager APPROVAL USE ONLY

Time Spent Processing:

☐	Approved Contractor	☐	Route Plan Submitted	☑	TMP Submitted	☐	Stockpiling Arrangements

APPROVED
CAR R1003062
Fraser Hoani
Far North District Council
16 February 2024

Wilton Joubert Limited
09 527 0196
185 Waipapa Road
Kerikeri 0295

SITE	**Lot 2 DP 567189, 92 Hautapu Road, Moerewa**
PROJECT	**Proposed 1-into-2 Lot Subdivision**
CLIENT	**Leighton and Emily Scott**
REFERENCE NO.	**127296**
DOCUMENT	**Geotechnical Site Suitability Report**
STATUS/REVISION NO.	**FINAL – Resource Consent**
DATE OF ISSUE	**24 October 2023**

Report Prepared For	Attention	Email
Leighton and Emily Scott	Lynley Newport	lynley@tsurvey.co.nz thescottsandpaws@hotmail.com

Authored by	**N. Anson** *BE(Civil), MEngNZ*	Geotechnical Engineer	nick@wjl.co.nz	
Reviewed by	**S. Page**	Engineering Technician	shaun@wjl.co.nz	
Approved by	**D. Soric** *BE, CPEng, CMEngNZ*	Senior Geotechnical Engineer	damir@wjl.co.nz	

1 EXECUTIVE SUMMARY

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

Development Type:	Subdividing 1 Lot into 2
District Plan Zone:	Rural Production
Development Proposals Supplied:	Scheme Plan Supplied by TS Survey, titled; Proposed Subdivision of Lot 2 DP 567189 92 Hautapu Road, Moerewa, Ref No: 10481, dated 01.05.23 No development drawings supplied.
Lot Sizes:	Proposed Lot 1 – 5.0290 ha (existing dwelling) Proposed Lot 2 – 4.8250 ha
NZS3604 Type Structure/s:	Inferred
Geology Encountered:	Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group).
Fill Encountered:	Not encountered
Overall Site Gradient in Proximity to Development:	Gently to moderately sloping across the building platform, with gradients 8-10° within the nominated platform. Gradients up slope steepen, to an average of around 13° with isolated slopes of up to 24°. Gradients down slope are >14° for up to 35m to the east and 40m to the south before the land drops away into a gully that extends beyond the property boundaries.
Natural Hazards:	Stability: Overall Low Risk of deep-seated global instability within the nominated building platform and access driveway provided recommendations are adhered to – refer to Section 8.2 for specific detail. Liquefaction: Negligible risk of liquefaction susceptibility and damage – refer to Section 8.3.
Suitable Shallow Foundation Type(s):	Subject to appropriate landform modifications and expansive soil considerations, we expect that new residential dwellings designed in general accordance with NZS3604 can be built on proposed Lot 2, making use of, but not limited to, various of the following foundation options: • Shallow Pile Type Foundations supporting a timber subfloor, or • Reinforced Concrete Stiffened Raft Type Floor System, or • Conventional Reinforced Concrete Slab, with deepened perimeter reinforced Concrete Foundations on Ground / Masonry Block Foundation Walls, both designed for expansive soils which will require specific engineering design.
Shallow Soil Bearing Capacity:	Yes – Natural Soils & Engineered Fill Only Geotechnical Ultimate Bearing Capacity = 300 kPa
NZBC B1 Expansive Soil Classification:	Class H – Highly Expansive (ys = 78mm)

NZS1170.5:2004 Site Subsoil Class:	Class C – Shallow Soil stratigraphy
Earthworks:	It is envisioned that earthworks operations will be carried out on site to form level building platforms. It is not clear at this early stage what the final proposals for land modification may involve. Considering the gradients across the nominated building platform, it is expected that cut/fill earthworks with associated retaining will be undertaken to form level building platforms. Once available, the implications of the future earthworks are to be confirmed at building consent stage during Site Specific Geotechnical Assessment. Placement of fill in excess of 1.0m depth on the southern slopes below the house platform are not recommended. Any cuts will need to be supported with SED retaining walls to support upslope surcharges and divert water around any cut platforms. Please refer to text of report for further detail.
Access Driveway:	A recommended location of a new access driveway is shown on our Site Plan that is optimal from the slope stability perspective.
Request for Further Information Reply:	1) Geotechnical/natural hazard assessment – See Section 9 2) Future private access within the property boundaries - See Section 11 3) Further assessment required – See Section 12 - Erosion and Sediment Control recommendations have been supplied as a part reply to this RFI point.

2 INTRODUCTION

2.1 SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by the client, **Leighton and Emily Scott**, to undertake a geotechnical site suitability assessment of ground conditions at the above site, in supporting a 1-into-2 Lot rural-residential subdivision of Lot 2 DP 567189, as depicted to us on the supplied subdivision scheme plan prepared by Thomson Survey Ltd, titled; "*Proposed Subdivision of Lot 2 DP 567189 92 Hautapu Road, Moerewa*", reference No. 10481 B; dated 01.05.23. Refer Figure 1 below.

The following report provides preliminary site suitability recommendations, with respect to stability and geotechnical constraints, where an indicative development area has been assessed for proposed Lot 2. proposed Lot 1 contains the existing dwelling and is excluded from any geotechnical conclusions and/or recommendations provided herein.

No development plans have been provided for the proposed construction of a future dwelling at proposed Lot 2 however, a nominated 30m x 30m building platform has been marked within the proposed Lot boundaries, and hence, we have assessed the suitability of the site subsoils as per our site plan below in Figure 2 (also attached within the appendices of this report) not only in terms of bearing capacity, but also for differential foundation movement due to soil expansivity and/or soil creep.

Furthermore, our scope does not include any environmental assessment of site soils or groundwater.

This report it not intended to support a Building Consent application for Proposed Lot 2 and any revision of the supplied drawings and/or development proposals including those for Building Consent, and which might rely on geotechnical assessments herein, should be referred to us for review.

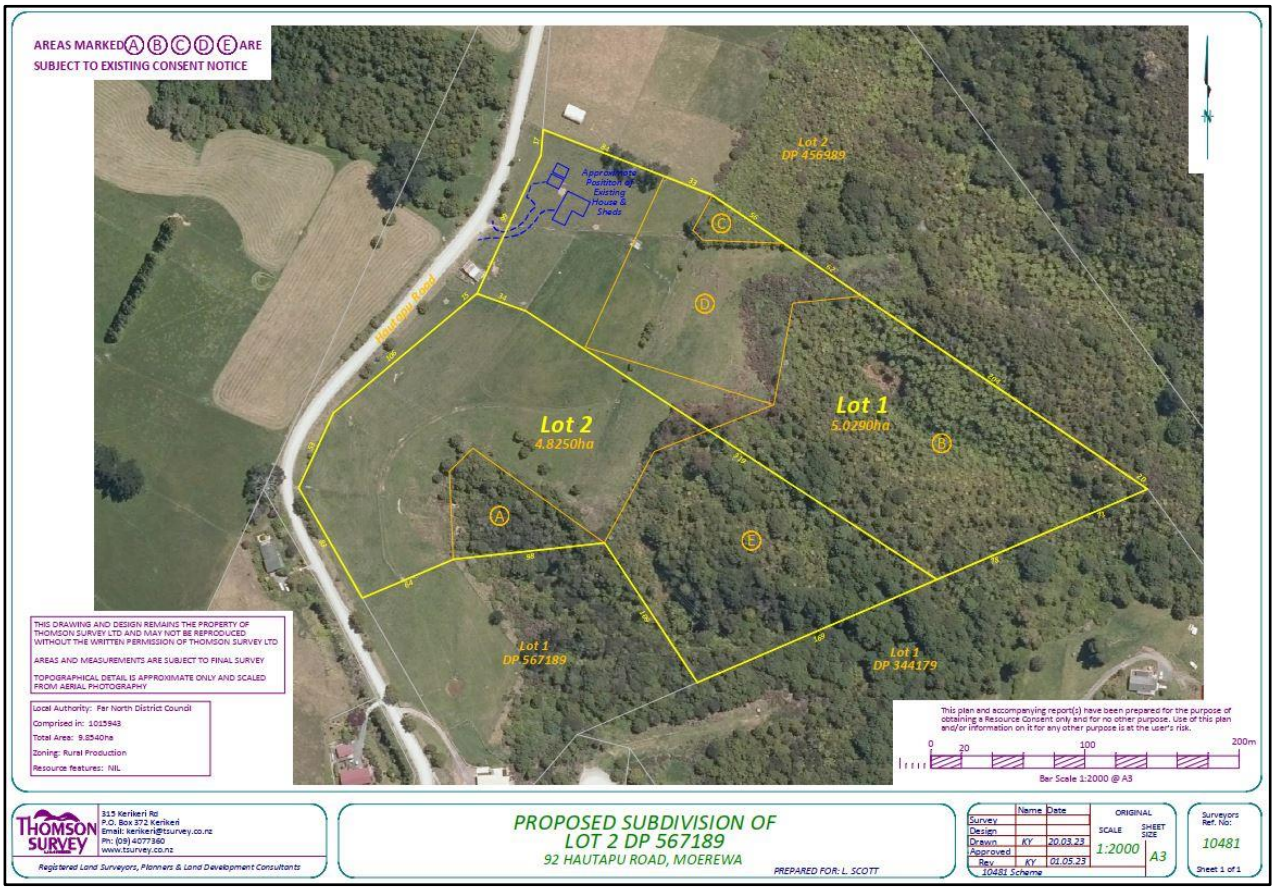

Figure 1 –Subdivision Scheme Plan Prepared by Thomson Survey Ltd.

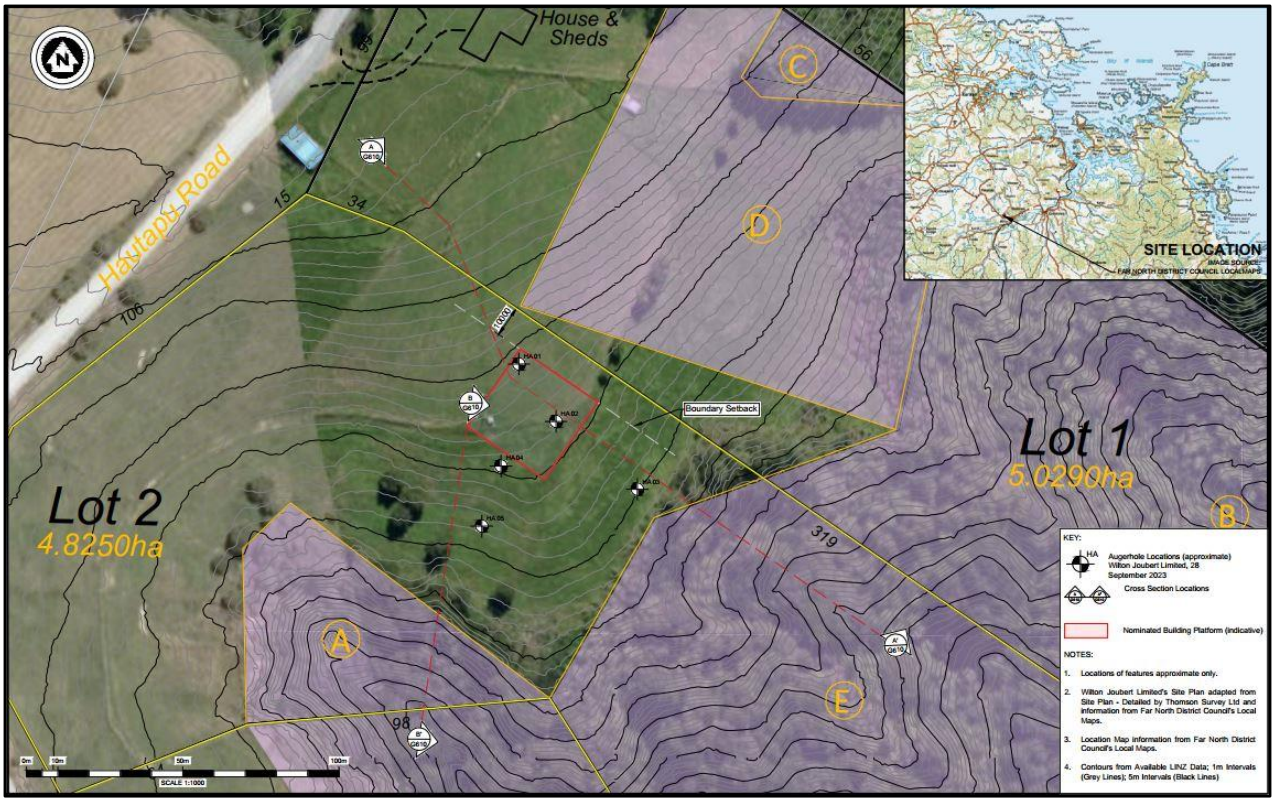

Figure 2 – Excerpt of the WJL Site Plan Overlain with Scheme Plan Supplied by Thomson Survey Ltd as well as LINZ Contour Information (Grey = 1m Intervals; Black = 5m Intervals).

3 SITE DESCRIPTION

The subject site proposed for subdivision, being Lot 2 DP 567189, is located on Hautapu Road, approximately 260m north of the intersection between Hautapu Road and State Highway 1. Hautapu Road forms the western and northern boundaries of the 'parent Lot' as well as the two new 'proposed Lots.'

The 'parent Lot' is being split into 2 Lots of which, proposed Lot 2 is the subject of this geotechnical assessment, while proposed Lot 1 contains the existing dwelling, and is excluded from geotechnical consideration and recommendations within this report.

Proposed Lot 2 will encompass 4.8250ha and proposed Lot 1 will be 5.0290ha in area. The investigated building platform for proposed Lot 2 is situated on gently to moderately sloping terrain, as part of a greater slope descending from Hautapu Road in the northeast, down towards Otiria Stream to the southeast, with a drop in elevation of around 100m across the subject property. Land use of the surrounding properties is predominantly rural residential and rural production. The parent Lot is situated towards the crest of a south-facing flank of the local ridgeline.

Land use of the surrounding properties are predominantly rural farming production and rural residential lifestyle, with similar landform features within the neighbouring blocks consisting of moderate slopes, hummocky ground on steeper slopes and some small to moderate size gully formations.

The majority of proposed Lot 2 is situated around what could be described as a broad, arcuate feature that wraps around the head of a nearby gully formation. Water shedding from the immediate surrounding land and bordering sections of Hautapu Road appears to trend towards this gully feature. This is further evidenced by the small ephemeral drainage channels that have formed and the saturated surficial soils towards the eastern end of the site. It is noted that adjacent to the nominated building platform, the ground was found to be firm and without excess water within the surficial layers.

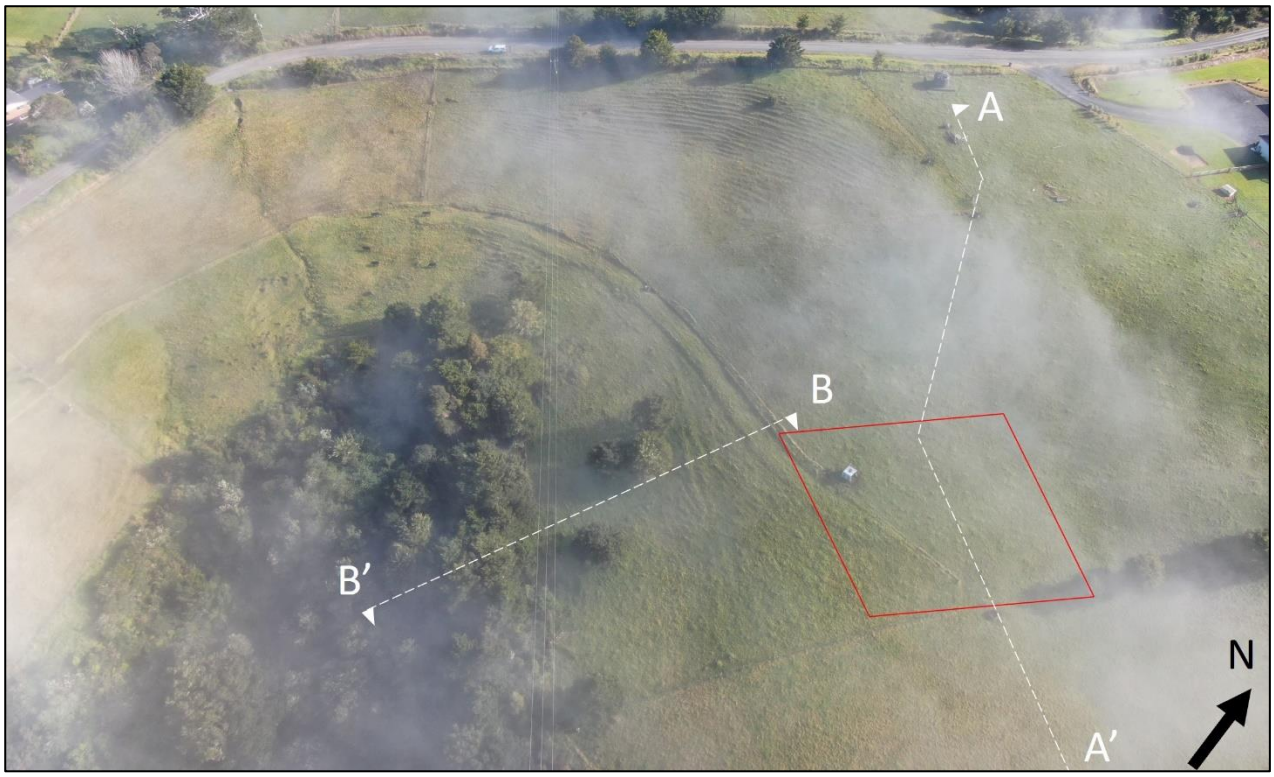

Figure 3: Drone Photo – Facing Northwest from Above the Southwest Boundary towards the Nominated Building Platform on Proposed Lot 2. Nominated Building Platform shown Approximately in Red. Approximate Locations of Cross-Sections A-A' and B-B' are shown in White.

The nominated building platform is set across gently to moderately sloping land, with gradients 8-10° within the nominated platform. Gradients up slope steepen, to an average of around 13° with isolated slopes of up to 24°. Gradients down slope are <14° for up to 35m to the east and 40m to the south before the land drops away into a gully that extends beyond the property boundaries.

The ground surface within the arcuate gully head feature was observed to be hummocky and terracettes have formed on slopes above gradients of around 18-20°. Within proximity of the nominated building platform, slope gradients are less than elsewhere on the proposed Lot and water does not appear to be as prevalent, which has resulted in what appears to be more stable surficial soils and low prevalence towards shallow surface creep and the associated terracette formation and hummocky ground. There were no apparent signs of soil cracking within the immediate vicinity of the nominated building platform during our on-site investigation.

Reeds were noted growing within the nearby arcuate feature heading the nearby gully formation, on land that is dipping downwards into this feature. Although it is noted that outside of the arcuate head of the gully that reeds are not widely observed.

Figure 4: Site Photo – Facing North towards the Nominated Building Platform. Orange Cones indicated Field Testing Locations.

Figure 5: Site Photo – Facing East towards the Nominated Building Platform. Orange Cones indicated Field Testing Locations.

Figure 6: Site Photo – Facing Northeast Across the Slope to the East of the Nominated Building Platform. Orange Cones indicated Field Testing Locations.

Figure 7: Site Photo – Facing West Across the Slope to the Southwest of the Nominated Building Platform. Orange Cones indicated Field Testing Locations.

At the time of preparing this report, we note that the Far North District Council (FNDC) GIS Waters Map indicates that reticulated stormwater, wastewater, and potable water connections are not available to either proposed Lot.

4 PUBLISHED GEOLOGY

Local geology across the property and greater surrounding area is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group). These deposits are described as; "Slightly calcareous, glauconitic, muddy, fine-grained sandstone" (refer: GNS Science Website).

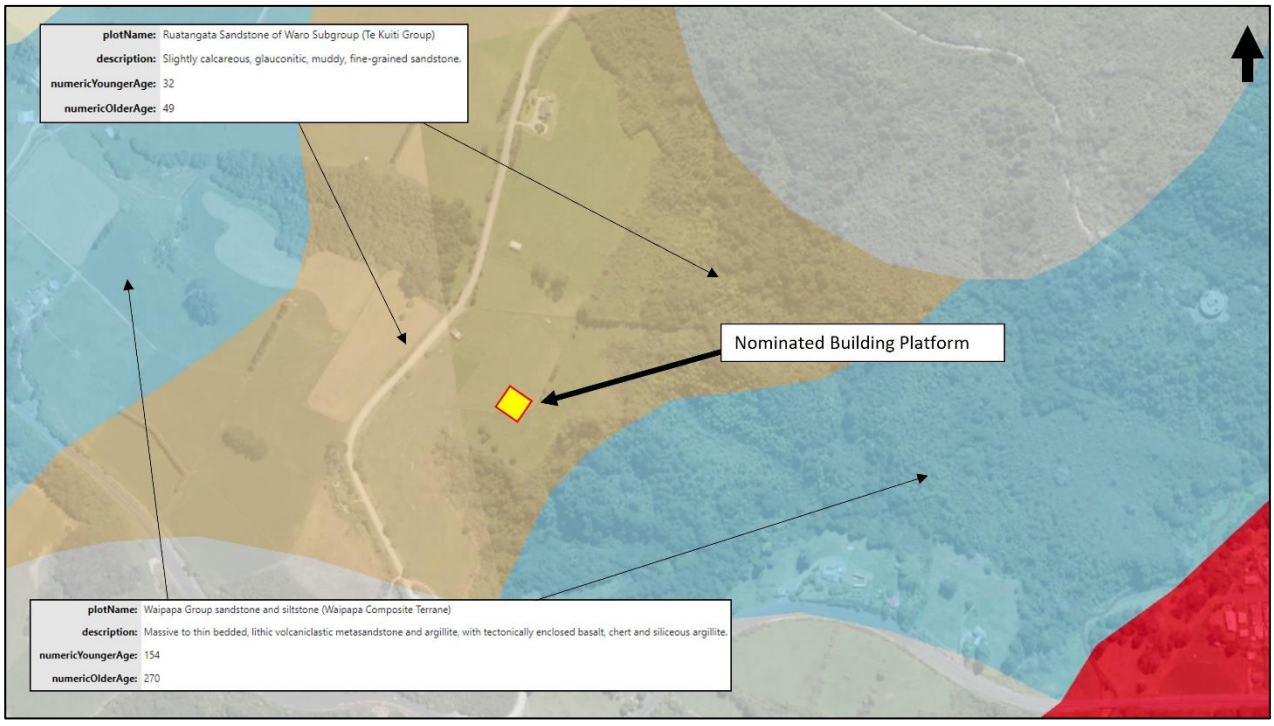

Figure 8 - Screenshot from New Zealand Geology Web Map hosted by GNS Science.

5 NATURAL HAZARDS

The Northland Regional Council Hazard Maps does not indicate any flood prone land within the boundaries of the 'parent Lot' (Lot 2 DP 567189). It is noted that some land prone to river flooding is situated to the east of the property, along the periphery of the nearby Otiria Stream which is at an elevation of around 100m below the nominated building platform. These flood prone areas are expected to have no impact on the future development within the nominated building platform on proposed Lot 2.

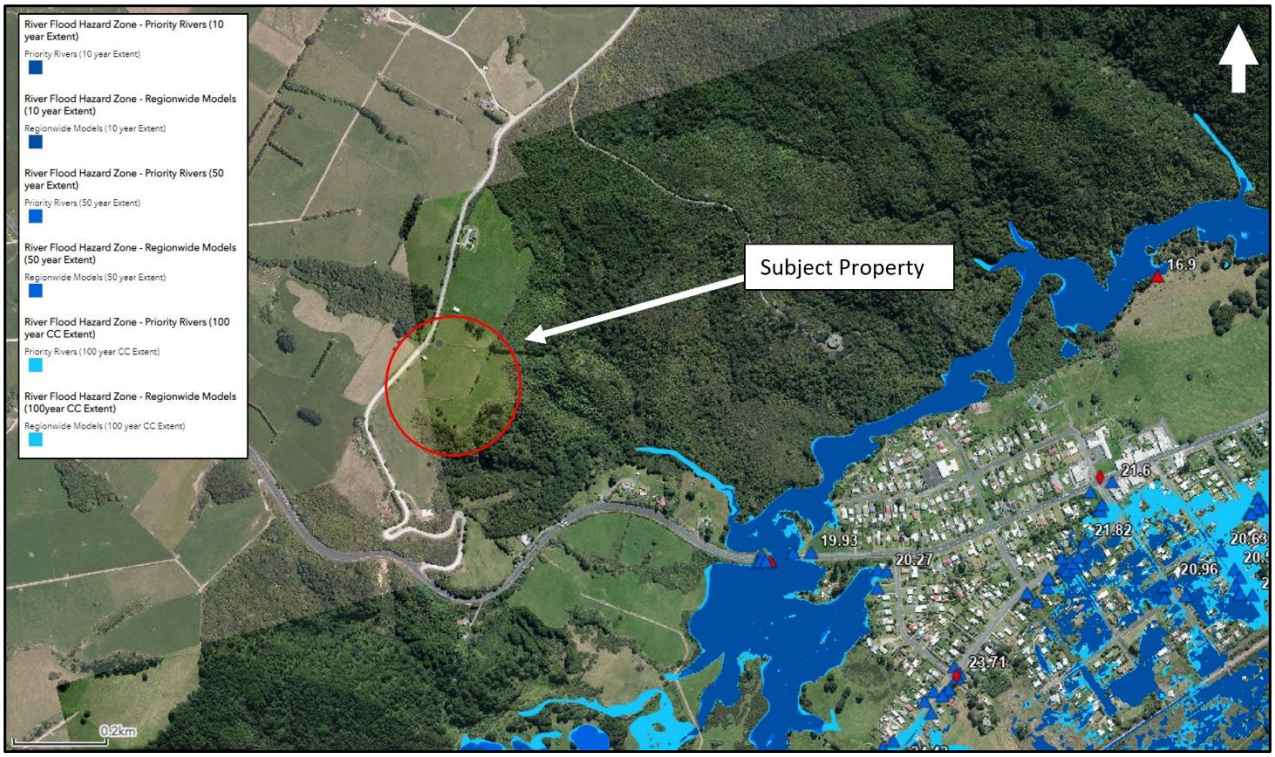

Figure 9 – Screenshot from Northland Regional Council (NRC) Online GIS Showing Modelled River Flooding Extent.

6 GEOTECHNICAL INVESTIGATION

WJL carried out a shallow ground investigation on 28 September 2023. Our subsoil testing of the proposed development involved the excavation of five hand auger boreholes (HA) of 50mm diameter, drilled to a maximum depth of 2.7m below ground level (mbgl).

The approximate locations of the HAs are shown on the appended site plan. The soil sample arisings from the boreholes were logged in accordance with the "Field Description of Soil and Rock", NZGS, December 2005.

In-situ undrained shear vane tests were measured at intervals of depth and then adjusted in accordance with the New Zealand Geotechnical Society (NZGS); Guidelines for Handheld Shear Vane Testing, August 2001, with strengths classified in accordance with the NZGS Field Classification Guidelines; Table 2.10, December 2005. The materials identified are described in detail on the appended records, together with the results of the various tests undertaken, plus the groundwater conditions as determined during time on site.

7 GEOTECHNICAL FINDINGS

The following is a summary of the ground conditions encountered in our investigation. Please refer to the appended logs for greater detail.

7.1 TOPSOIL

Topsoil was encountered in the on-site HA boreholes between the depths of 0.1m – 0.2mbgl. It is noted that topsoil inclusions were found to a depth of around 0.4mbgl, likely from the presence of cattle during soft/wet conditions.

7.2 FILLED GROUND

Fill was not encountered within any of the investigated boreholes.

7.3 NATURAL GROUND

The underlying natural deposits encountered on-site were consistent with our expectations of Ruatangata Sandstone material, comprising predominantly very stiff to hard silty CLAY, clayey SILT and gravelly SILT. Shallow refusal was encountered in each borehole above what is inferred to be highly weathered rock, which was recovered as gravel of mudstone, and is likely a transition zone above less weathered Ruatangata Sandstone.

Measured in-situ, BS1377 adjusted peak shear strengths in the natural soils ranged from 119 kPa (64 kPa remoulded) to 211 kPa and/or Unable to Penetrate (UTP) averaging in excess of 176 kPa. Sensitivities to disturbance, where able to be determined, were typically moderately sensitive.

Figure 10 – Arisings from HA01.

Figure 11 – Arisings from HA02.

Figure 12 – Arisings from HA03

Figure 13 – Arisings from HA04

Figure 14 – Arisings from HA05

7.4 DCP-SCALA PENETROMETER TESTING

DCP – Scala penetrometer testing was carried out at the base of each HA borehole where very stiff to hard materials were encountered, in proving refusal of the HA apparatus. In general, the material tested at the base of each HA borehole was found to be very dense/very stiff to hard, and with each DCP test encountering refusal not too far below the refusal depth of each HA borehole.

7.5 GROUNDWATER

Groundwater was not encountered in any of the five HA boreholes excavated during the field investigation.

7.6 SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling.

Table 1: Stratigraphic Summary Table; NE=Not Encountered, UTP=Unable to Penetrate

Investigation Hole ID	Topsoil	Ruatangata Sandstone of Waro Subgroup Materials	Ground Water Level Encountered During Drilling / Upon Completion	Reason for Borehole Termination
HA01 (1.85m drill depth)	0.0m – 0.1m	0.1m – 1.85m	NE/NE	Too Stiff to Auger
HA02 (2.7m drill depth)	0.0m – 0.15m	0.15m – 2.7m	NE/NE	Too Stiff to Auger
HA03 (1.5m drill depth)	0.0m – 0.2m	0.2m – 1.5m	NE/NE	Too Stiff to Auger
HA04 (0.5m drill depth)	0.0m – 0.1m	0.1m – 0.5m	NE/NE	Too Stiff to Auger
HA04 (1.5m drill depth)	0.0m – 0.2m	0.2m – 1.5m	NE/NE	Gravel Obstruction
Minimum Cu (kPa)	-	119 kPa	-	-
Average Cu (kPa)	-	>170 kPa	-	-
Maximum Cu (kPa)	-	211 kPa and/or UTP	-	-

8 GEOTECHNICAL ASSESSMENT

8.1 SHALLOW SOIL EXPANSIVITY

Absent of finalised earthworks proposals and targeted site-specific testing, we provide a conservative preliminary soil expansivity classification of Class H (Highly) expansive soils as defined in clause 7.5.13.1.2, as introduced to NZS3604 by Amendment 19 of NZBC Structure B1/AS1.

- NZBC B1 Expansive Soil Class H
- Upper Limit of Characteristic surface movement (ys) 78mm

Foundation design recommendations are given in the appropriate Conclusions and Recommendations section below.

Given that the soils are not considered to lie within the definition of "good ground" as per NZS3604, the design of shallow foundations are no longer covered by that standard, and care must be taken to mitigate against the potential seasonal shrinkage and swelling effects of expansive foundation soils on both superstructures and floors. We therefore recommend specific engineering design should be undertaken by a qualified engineer for the design of the proposed foundations.

8.2 SITE STABILITY

8.2.1 Historic Aerial Image Review

A review of the historic aerial images available online through RetroLens, show the existing landform to be largely similar to the conditions present on site as far back as around 1957, albeit with some change in surface foliage coverage and also likely surficial drainage channels.

Due to image quality, it is difficult to identify terracettes in the historic aerial images, although these are expected to be present at similar gradients to those currently visible today, considering similar topographical, soil and moisture conditions.

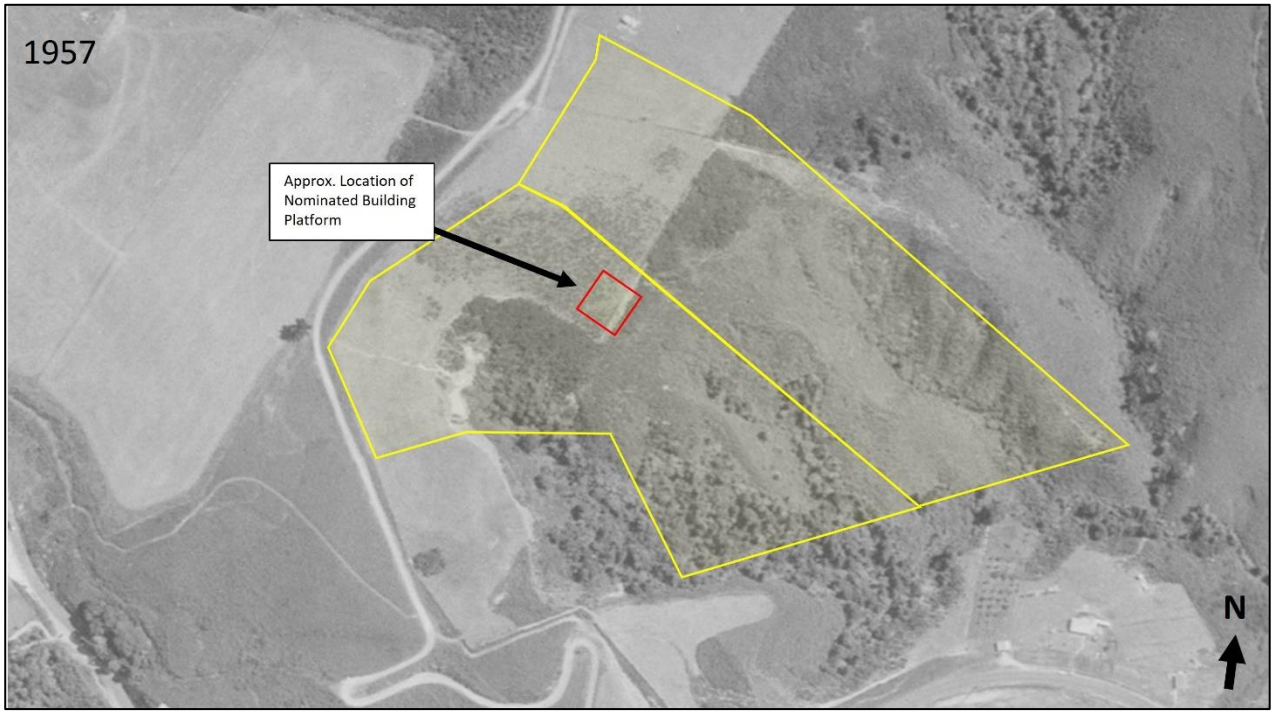

Figure 15 – Annotated Historical Aerial Image; 1957 from RetroLens®

Figure 16 – Annotated Historical Aerial Image; 1961 from RetroLens®

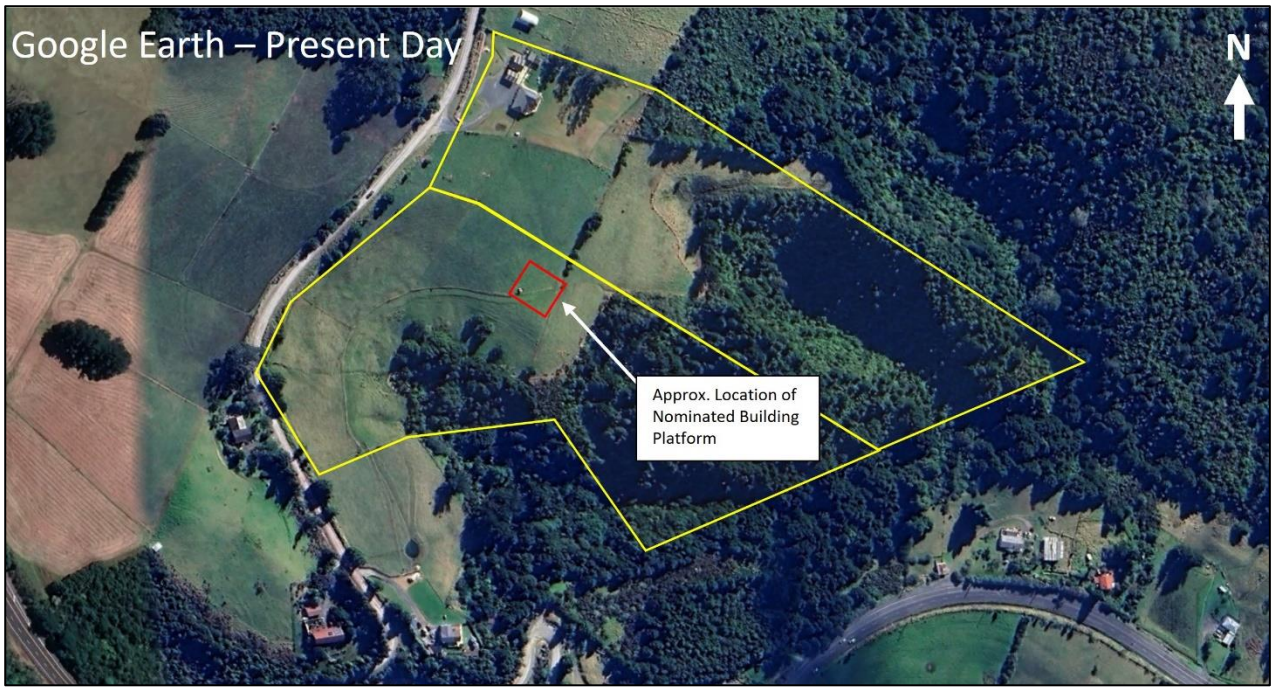

Figure 17 – Annotated Aerial Image; circa 2023 from Google Earth®

8.2.2 Stability Assessment

Our site investigation was carried out within proximity of the nominated building platform of Proposed Lot 2, where ground topography is generally gently to moderately sloping down towards the southeast, with gradients 8-10° within the platform. Gradients up slope steepen, to an average of around 13° with isolated slopes of up to 24°. Gradients down slope are >14° for up to 35m to the east and 40m to the south before the land drops away into a gully that extends beyond the property boundaries.

Soil strengths of the very stiff to hard natural soils within the nominated building platform were found to average around 170kPa. Additionally, all HA boreholes experienced shallow refusal between depths of 0.5-2.7mbgl, above what is inferred to be a transition layer of completely to highly weathered rock between the surficial soils and the underlying rock.

Hummocky ground generally appears to be confined to the steeper, more wetter slopes above the gully feature to the west of the site. Terracettes appear to be confined to slopes of gradients greater than 18-20°. These features of surficial instability/soil creep are not observed within proximity of the nominated building platform.

Generally speaking, soil creep becomes mobilised on slopes steeper than 1V:4H (14°) largely as a cyclical phenomenon arising out of seasonal variations in moisture content of surficial soils, generally resulting in soil shrinkage during the dry summer months and swelling during wet winter months. It is generally considered that in the dry seasons, the soils shrink, and tension cracks are formed, sometimes with some minor down slope movement. When it rains, those cracks fill with water, which not only softens the adjacent soils, but also exerts hydrostatic lateral pressures on the sides of the cracks. As the desiccated soils absorb this free water, they swell, and exert further lateral pressures on the adjacent block of soil. This cyclic action leads to the formation of “minor slump terracettes”.

Cross Section A-A’ and B-B’ were developed using the available 1m contours from LINZ, to represent the topography of the site and surrounding area as shown on the appended Site Plan and Cross Sections (Drawing No 127296-G600, 127296-G610 and 127296-G611).

Considering the nominated building platform is setback between 35-40m from slopes exceeding 14°, a future dwelling and associated ancillary structures can foreseeable be constructed within this area with due regard for expansive soils, but not requiring excess inground protection from the migration of soils downslope. It is

noted however, that this does not preclude the requirement to retain site cuts where minimum batters (<18°) cannot be achieved.

Further to the above, our assessment has considered the following:

- Very stiff to hard weathered soils of the Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group) encountered during our investigation with shallow refusal depths,
- Groundwater was not present within any of the hand auger boreholes which were drilled during the winter period of the year, to depths of up to 2.7mbgl,
- There are no known active faults that traverse through or close to the site, and
- The only visual signs of ground instability were observed in the form of shallow soil creep across the western half of proposed Lot 2 on steeper slopes, as well as at the head of the nearby gully feature. The nominated building platform on Lot 2 is set back from all of the observed shallow soil creep features.

Overland stormwater flows from directly above any future dwelling will need to be diverted away from any proposed foundations, as well as from any ancillary structures, such as sheds (existing and/or proposed), wastewater disposal fields etc.

For any planned construction beyond the initially marked nominated building platform, geotechnical review and consideration is required to ensure that the assessment and recommendations contained within this report are applicable to both the area and the proposed landform modifications once they have been determined.

Further to the above, it is recommended that:

- No fill (in excess of 1.0m) be placed on slopes to the east and south of the nominated building platform without further geotechnical assessment,
- No wastewater discharge on slopes to the southwest of the nominated building platform,
- All stormwater run-off, both pre- and post-development works, be appropriately managed and controlled on-site, and discharged to a stable disposal point. At no stage should run-off be directed to the slopes to the southeast or southwest of the nominated building platform.

In the long-term, provided that all of the recommendations within this report, or subsequent revisions, are adhered to, then we do not anticipate any significant risk of instability either within, or immediately beyond, the proposed building site.

8.3 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction is a natural phenomenon where a loss of strength of sand-like soils is experienced following cyclic induced stress, which is typically a result of prolonged seismic shaking and the resultant increase in pore water pressure of saturated soils.

Cyclic loading during prolonged seismic shaking induces an increase in pore water pressure, which in turn decreases the effective stress of a sand-like deposit of soil. Excess pore water pressure (EPWP) can build to such an extent that the effective stress of the underlying soils is reduced to near zero, whereby the soils no longer carry shear strength and behave as a semi solid/fluid. In such a scenario, excess pore water pressures will follow the path of least resistance to eventual dissipation, which can lead to the manifestation of liquefied soils towards the surface, or laterally towards a free-face (edge of slope, riverbank, etc.) or layers that have not yet undergone liquefaction.

A screening procedure based on geological criteria was adopted to examine whether the proposed development might be susceptible to liquefaction, with observations as follows:

- There are no known active faults traversing through the site,
- There is no historical evidence of liquefaction at this location,

- The underlying natural soil deposits predominantly comprise very stiff to hard Silty CLAYs and Clayey SILTs (i.e., cohesive soils), which are not generally considered susceptible to liquefaction, and
- The subsoils at the building site are part of Ruatangata Sandstone of Waro Subgroup, being some 49-32 million years of age, allowing for adequate consolidation in comparison to Holocene age material (10,000 years), this corroborates with the high shear vane and DCP readings recorded during our investigation.

Furthermore, the FNDC GIS maps show an "Unlikely" Liquefaction Vulnerability classification for this site.

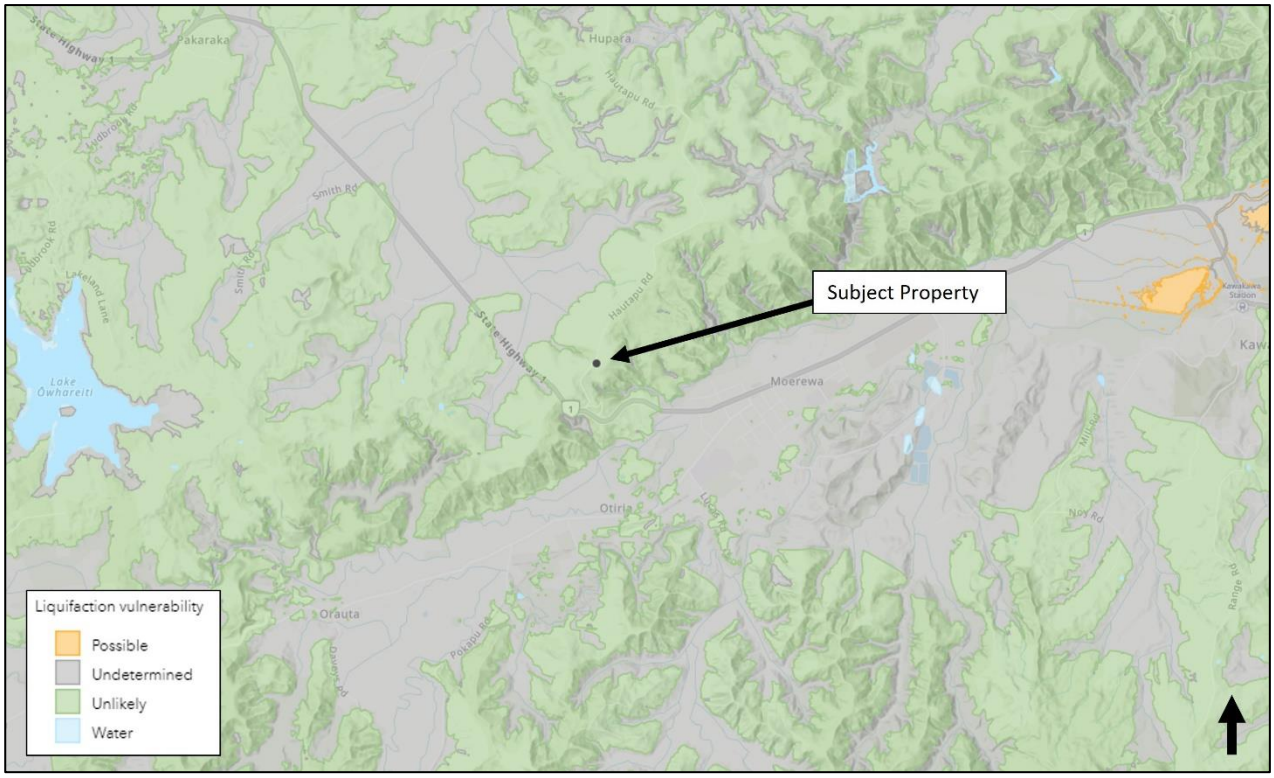

Figure 18 – Screenshot of the FNDC GIS Liquefaction Vulnerability Map

Based on the above, we conclude that the soils at the development site have a negligible risk of liquefaction susceptibility and liquefaction damage is therefore unlikely.

9 CONCLUSIONS AND RECOMMENDATIONS

Based on our fieldwork investigation, subsoil testing results, walkover inspection and stability commentary as described above, we consider on reasonable grounds that this report can be submitted to the Territorial Authority in support of a Resource Consent application for subdividing the subject site, substantiating that in terms of section 106 of the Resource Management Act and its current amendments, either

a) No land in respect of which the consent is sought, nor any structure on that land, is, nor is likely to be subject to material damage by erosion, falling debris, subsidence, slippage, or inundation from any source;
or

b) No subsequent use that is likely to be made of the land is likely to accelerate, worsen, or result in material damage to that land, other land, or structure, by erosion, falling debris, subsidence, slippage, or inundation from any source-

unless the Territorial Authority is satisfied that sufficient provision has been made or will be made in accordance with section 106(2).

Under section 106(2), the Territorial Authority may grant a subdivision consent if it is satisfied that the effects described above will be avoided, remedied, or mitigated by one or more of the following:

(a) Rules in the district plan:

(b) Conditions of a resource consent, either generally or pursuant to section 220(1)(d):

(c) Other matters, including works.

And we are therefore satisfied that the Proposed Lot 2 should be generally suitable for building development in terms of NZS3604:2011, provided that a site-specific geotechnical assessment be undertaken to support a future Building Consent Application for Proposed Lot 2 once final land modification proposals have been devised, adhering to the following recommendations of this report, unless over-ridden by said site-specific geotechnical assessment.

9.1 FOUNDATION DESIGN

The natural surficial cohesive soils within the site have been assessed as being expansive to differing degrees depending on their depth within the ground profile, and therefore will need to be specifically assessed in accordance with NZBC B1 – Structure once land modification profiles have been formulated.

Due to the presence of expansive soils identified beneath the nominated building platforms, any proposed foundations are expected to require SED as the soil conditions are considered to fall outside the NZS3604 definition of 'Good Ground'. All foundations will need to be designed to account for expansive soils as specifically assessed at the site by a suitably qualified engineer, according to how the future building platform is modified. For interim design processes, we recommend the assumption of a Class H expansive soil rating.

A new residential dwelling should be able to utilise various foundation type options which may include, but not be limited to, the following:

- Bored, concrete-encased tanalised timber piles supporting a suspended timber subfloor,
- Reinforced concrete stiffened raft type floor system, or
- Conventional reinforced concrete slab-on-grade with deepened perimeter footings on ground / masonry block foundation walls, both designed for expansive soils which will require SED.

Any NZ3604 style isolated footings require a minimum embedment of 0.90m below final cleared ground level and into stiff virgin/natural material.

9.1.1 SHALLOW FOUNDATION BEARING CAPACITY

The following bearing capacity values are considered to be appropriate for the design of shallow foundations, subject to founding directly on or within competent engineered fill and/or natural ground, for which careful Geo-Professional inspections of the subgrade should be undertaken to check that underlying ground conditions are in keeping with our expectations:

Table 2: Bearing Capacity Values

Geotechnical Ultimate Bearing Capacity	300 kPa
ULS Dependable Bearing Capacity (Φ=0.5)	150 kPa

When finalising the development proposals, it should be checked that all foundations lie outside 45° envelopes rising up from:

- 0.5 metres below the invert of service trenches and/or
- the toe of adjacent retaining walls,

unless such foundation details are found by specific design, to be satisfactory. Deeper foundation embedment with piles may be required for any non-complying foundations.

During inspections post-obtaining Building Consent, it is important to exercise caution to verify that the natural ground meets the recommended bearing capacity mentioned in this report and any sub-sequent

geotechnical report specifically addressing the future development within the nominated building platform. This is crucial for preserving stability and structural integrity.

9.2 NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

We consider the nominated building platform to be underlain with a Class C – Shallow Soil Site.

9.3 SITE PREPARATION & EARTHWORKS

Although no earthworks proposals have been supplied, it is envisioned that localised cut/fill earthworks operations will be undertaken to form level building platform in Proposed Lots 2. Any topsoil and/or other organic material is deemed unsuitable for any future foundations, hence will need to be removed or bypassed during the commencement of foundation construction.

All earthworks should be undertaken in accordance with the following standards:

- NZS4431:1989 "Code of Practice for Earth Fill Residential Development",
- Section 2 "Earthworks & Geotechnical Requirements" of NZS4404:2010 "Land Development and Subdivision Infrastructure", and
- Chapter 2 "Site Development Suitability (Geotechnical and Natural Hazards" of the Far North District Council Engineering Standards, (Version 0.6 issued May 2023).

9.3.1 SITE CLEARANCE & PREPARATION

Competency of the exposed subgrade underlying all future foundations and structures should be confirmed by a Geo-Professional. In this regard, we recommend the stripping of all vegetation, topsoil as well as any non-engineered fill deposits prior to requesting Geo-Professional inspection(s) of the stripped ground to confirm that the underlying natural subgrade conditions are in keeping with the expectations of this report.

Without such inspections being undertaken, a Chartered Professional Geotechnical Engineer is unable to issue a Producer Statement - PS4 – Design Review which could result in the failure to meet Building Consent requirements as set by Council as conditions of consent.

Additionally, it is recommended that topsoil and any organic material deemed to be unsuitable for any future foundations be stripped first from any areas beyond the cut platform prior to the placement of landscaping fill.

9.3.2 SUBGRADE PROTECTION

The subgrade, where exposed, should not be exposed for any prolonged period but should be covered with as a minimum, a 100mm thick layer of granular fill such as GAP40 basecourse, as soon as possible.

Likewise, pile/pier inverts should be poured as soon as possible once inspected by a Geo-Professional or covered with a protective layer of site concrete.

9.3.3 TEMPORARY & LONG-TERM EARTHWORKS

We recommend that earthworks only be undertaken during periods of fine weather.

During times of inclement weather, the earthworks site should be shaped to assist in stormwater run-off. Any batter excavations should be protected with a geotextile fabric with the toe of the excavations shaped so as to avoid ponded water, as saturating site soils could result in a reduction of bearing capacities. Temporary stormwater diversion must be constructed around the upslope perimeter of the bulk excavation to direct overland flows away from the excavation. This could take the form of a soil bund or other measures as deemed appropriate by the supervising Geo-Professional.

All temporary cuts not exceeding 1.5 metres should be battered back at no steeper than 1V:0.5H. We do not recommend leaving any cuts and fills that exceed a vertical height of 0.6 metres height unsupported without review and approval from a suitably qualified Geo-Professional. Finally, all exposed batters should be covered with topsoil or geotextile before being re-grassed and/or planted as soon as practicable to aid in stabilising the slopes.

9.3.4 CUT/FILL LIMITATIONS

Generally speaking, fills greater than 0.6 metres depth which have not been reviewed and approved herein, should be considered as being outside the constraints of NZS3604, and hence should not be undertaken on this site unless reviewed and approved by a Geo-Professional familiar with the report contents herein. Filling in excess of this magnitude may, in certain circumstances, disturb existing stability conditions such as by overloading slopes and/or retaining walls, or inducing consolidation settlements of adjacent structures.

In a like fashion, cuts that could remove the support from slopes and/or adjacent structures (be they existing or future proposed), should also be restricted unless specifically reviewed and approved.

For the reasons stated above, any future retaining walls supporting cut and/or fills in excess of these magnitudes will likely require specific assessment and, if considered appropriate, be subject to specific engineering design.

9.3.5 GENERAL SITE WORKS

We stress that any and all works should be undertaken in a careful and safe manner so that Health & Safety is not compromised, and that suitable Erosion & Sediment control measures should be put in place. Any stockpiles placed should be done so in an appropriate manner so that land stability and/or adjacent structures are not compromised.

Furthermore:

- All works must be undertaken in accordance with the Health and Safety at Work Act 2015.
- Any open excavations should be fenced off or covered, and/or access restricted as appropriate.
- The location of all services should be verified at the site prior to the commencement of construction.
- The Contractor is responsible at all times for ensuring that all necessary precautions are taken to protect all aspects of the works, as well as adjacent properties, buildings and services.
- Should the contractor require any site-specific assistance with safe construction methodologies, please contact WJL for further assistance.

9.4 STORMWATER & SURFACE WATER CONTROL

Uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect slope stability or foundation conditions.

Overland flows and similar runoff such as from any higher ground should be intercepted by means of shallow surface drains and/or small bunds and be directed away from the building footprint to protect the building platform from both saturation and erosion. Water collected in interceptor drains should be diverted away from the building site to an appropriate disposal point. All stormwater runoff from roofs and paved areas, should be collected in sealed pipes and be discharged to a Council approved stormwater reticulation system.

Under no circumstances should concentrated overflows from any source discharge into or onto the ground in an uncontrolled fashion.

10 UNDERGROUND SERVICES

Although Far North District Council (FNDC) GIS Maps do not indicate any underground services (i.e., stormwater, wastewater lines) to be present across the site and beyond site boundaries, other underground services, public or private, mapped, or unmapped, of any type could be present. It is recommended to stay on the side of caution during the commencement of any future works within the proposed development area.

11 ACCESS

A recommended location of a new access driveway is shown on our Site Plan that is optimal from the slope stability perspective. In this location, no supporting structures are considered necessary to form the driveway.

12 EROSION AND SEDIMENT CONTROL

12.1 GENERAL

We strongly recommend that all earthworks are not undertaken during wet weather and that exposed cuts are not left open for extended periods of time. Undertaking the earthworks phase of this development in the summer months/dry periods will help to minimise adverse effects of sedimentation to the receiving environment. We recommended that any cut soils be covered with a layer of compacted hardfill as soon as is practically possible or re-vegetated. Where practical, ground cover vegetation should consist of a hardy grass species. Re-planting will also aid in batter stabilisation. If wet weather conditions are encountered during earthworks, it is recommended that any exposed soils be temporarily covered with damp proof membrane (or other measures as appropriate) for the duration of the rainfall event to prevent sediment from being entrained in the stormwater runoff.

Furthermore:

- All works must be undertaken in accordance with the Health and Safety at Work Act 2015.
- Any open excavations should be fenced off or covered, and/or access restricted as appropriate.
- The location of all services should be verified at the site prior to the commencement of construction.
- The Contractor is responsible at all times for ensuring that all necessary precautions are taken to protect all aspects of the temporary and permanent works, adjacent buildings and services.
- Should the contractor require any site-specific assistance with safe construction methodologies, please contact Wilton Joubert Ltd for further assistance.

12.2 EARTHWORKS METHODOLOGY

The proposed methodology is as follows:

1) Create site access and move earthworks machinery onto the site,
2) Set out design levels for cuts and batters,
3) Install erosion and sediment control apparatus (silt fences),
4) Commence site cut, clearing all deleterious material as instructed by an inspecting engineer,
5) Stockpile deleterious material behind sediment control apparatus or remove from site,
6) Carry out any granular filling as necessary,
7) Reinstate vegetation and landscaping measures,
8) Remove erosion and sediment control measures post-construction.

12.3 MACHINERY

We anticipate the use of the following items (but not limited to):

1) Mechanical Excavator
2) Loading truck
3) Plate compactor
4) Drum roller

12.4 SITE WORK OPERATION HOURS & NOISE CONTROL

We anticipate site works to be carried out from Monday to Friday from 7:00am to 6:00pm. On occasion, work may extend through to Saturdays from 8:00am to 4:00pm. Noise must be managed in accordance with the District Plan Rules. It is not expected that noise will exceed the permitted limits. The district plan provides guidance that "Construction noise shall meet the limits recommended in, and shall be measured and assessed in accordance with, NZS 6803P:1984 "The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work"."

12.5 HEALTH AND SAFETY

We stress that any and all works should be undertaken in a careful and safe manner so that Health & Safety is not compromised, and that suitable Erosion & Sediment control measures should be put in place. Any

stockpiles should be placed in an appropriate manner so that land stability and/or adjacent structures are not compromised.

12.6 SILT FENCE

A silt fence is required to be installed prior to the commencement of any earthworks. The silt fence must be buried a minimum of 200mm into the ground and supported by metal waratahs at maximum centres of 2.0m. Additional guidance is provided below.

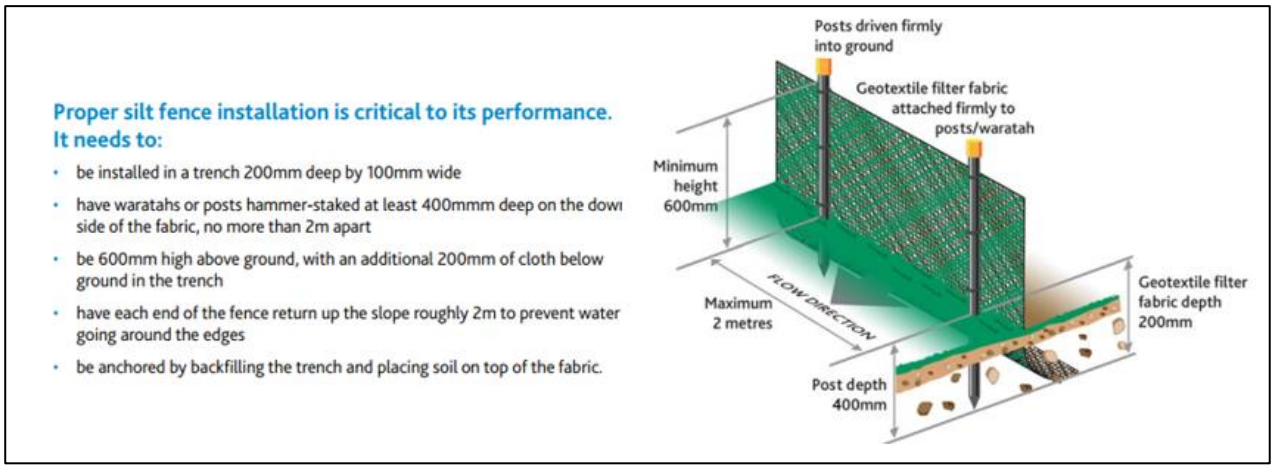

Figure 19 - Extract of correct sit fence installation from Auckland Councils' "Building on small sites - Doing it right (BC5850)".

12.7 FRESH WATER DIVERSION

New fresh water cut off drains can be installed upslope of the development, as necessary, to divert surface water around the site while earthworks are being carried out.

12.8 DUST CONTROL

Due to the cohesive nature of the soils on-site, and the adequate natural water content of the soil, dust nuisance is not considered likely. However, running water should be made available to the site, to wet material, should prolonged periods of dry weather be encountered during earthworks operations.

12.9 MONITORING

Wilton Joubert Ltd can be contacted to inspect the above measures, if deemed necessary by FNDC Council. Alternately, an FNDC representative may visit the site to confirm the correct installation of the erosion and sediment control measures. The above sediment and erosion control measures should be monitored by the sites Project Manager to ensure the items are performing as required. Silt fences should be inspected weekly, or more frequently if heavy rainfall eventuates during site works.

13 LIMITATIONS

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

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

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with Wilton Joubert Limited, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other geotechnical aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

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

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

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Site Plan (1 sheet)
- Cross-Section A-A' and B-B' (2 sheets)
- Hand Auger Borehole Records (5 sheets)
- 'Foundation Maintenance & Footing Performance' sheet BTF18: A Homeowner's Guide, published by CSIRO (4 sheets)

House & Sheds

Hautapu Road

Approx. Location of Driveway Access

Boundary Setback

300mm WIDE x 100mm HIGH DIVERSION BUND FORMED WITH TOPSOIL AND GRASSED TO DIVERT ANY UPSLOPE SHEET FLOW AROUND DISPOSAL FIELD

INDICATIVE DISPOSAL AREA 270m²

INDICATIVE RESERVE AREA 135m²

10m BUFFER

HA 01
HA 02
HA 03
HA 04
HA 05

A G610
B G610
A' G610
B' G610

Lot 1
5.0290ha

Lot 2
4.8250ha

A
B
C
D
E

56
69
75
34
106
319
98

10000

>1.5m

10m

0m 10m 50m 100m

SCALE 1:1000

SITE LOCATION
IMAGE SOURCE
FAR NORTH DISTRICT COUNCIL LOCALMAPS

KEY:

HA — Augerhole Locations (approximate) Wilton Joubert Limited, 28 September 2023

Cross Section Locations

Nominated Building Platform (indicative)

NOTES:

1. Locations of features approximate only.
2. Wilton Joubert Limited's Site Plan adapted from Site Plan - Detailed by Thomson Survey Ltd and information from Far North District Council's Local Maps.
3. Location Map information from Far North District Council's Local Maps.
4. Contours from Available LINZ Data; 1m Intervals (Grey Lines); 5m Intervals (Black Lines)

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	OCT '23	NxA	ISSUED WITH GEOTECHNICAL SUITABILITY REPORT

DESIGNED BY:
DRAWN BY: NxA
CHECKED BY: DxS
SURVEYED BY:

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

GEOTECHNICAL
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **GEOTECHNICAL SUITABILITY ASSESSMENT FOR PROPOSED SUBDIVISION**

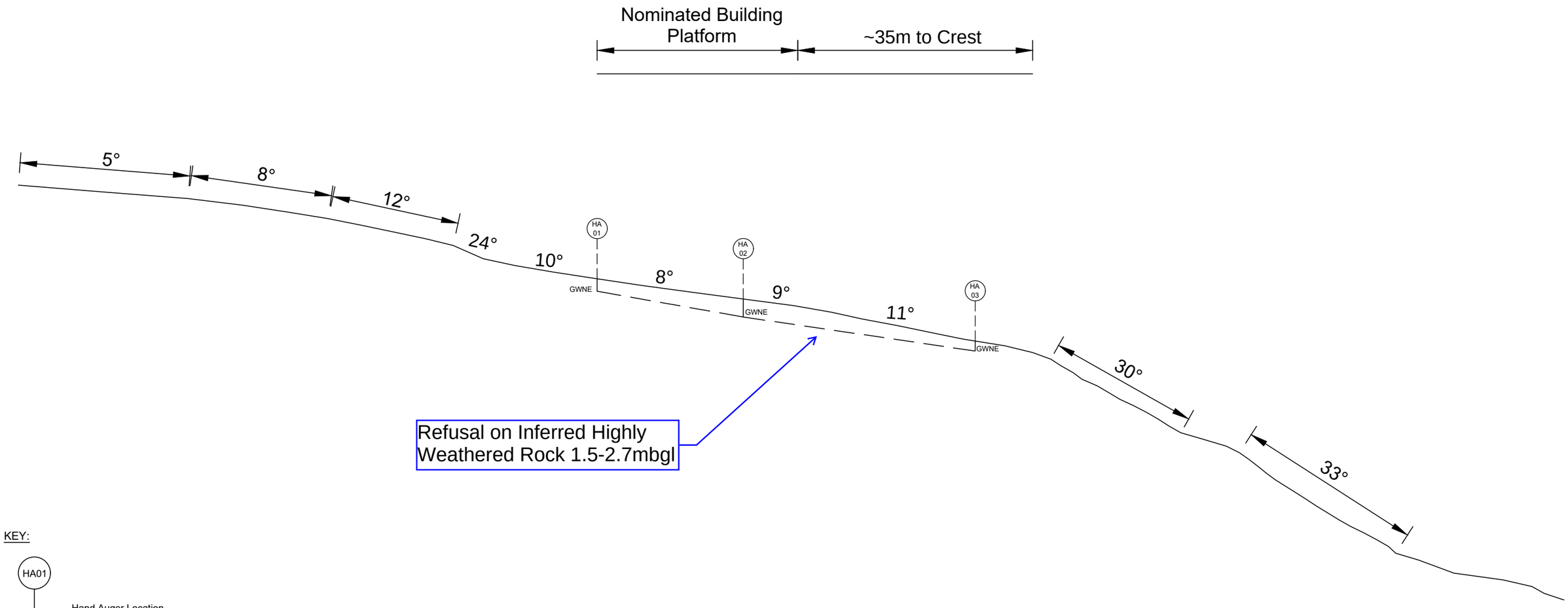
PROJECT TITLE: **LOT 2 DP 567189 92 HAUTAPU ROAD MOEREWA NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	KERIKERI
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:1000	NOT COORDINATED

DRAWING NUMBER: 127296-G600
ISSUE: A

A
Northwest

A'
Southeast



KEY:

HA01 — Hand Auger Location

Groundwater

GWNE — No groundwater

NOTES:

1. Cross Sections Developed from Available LINZ Contours.

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	OCT '23	NxA	ISSUED WITH GEOTECHNICAL SUITABILITY REPORT

DESIGNED BY:
DRAWN BY: NxA
CHECKED BY: DxS
SURVEYED BY:

GEOTECHNICAL

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **CROSS SECTION A-A'**

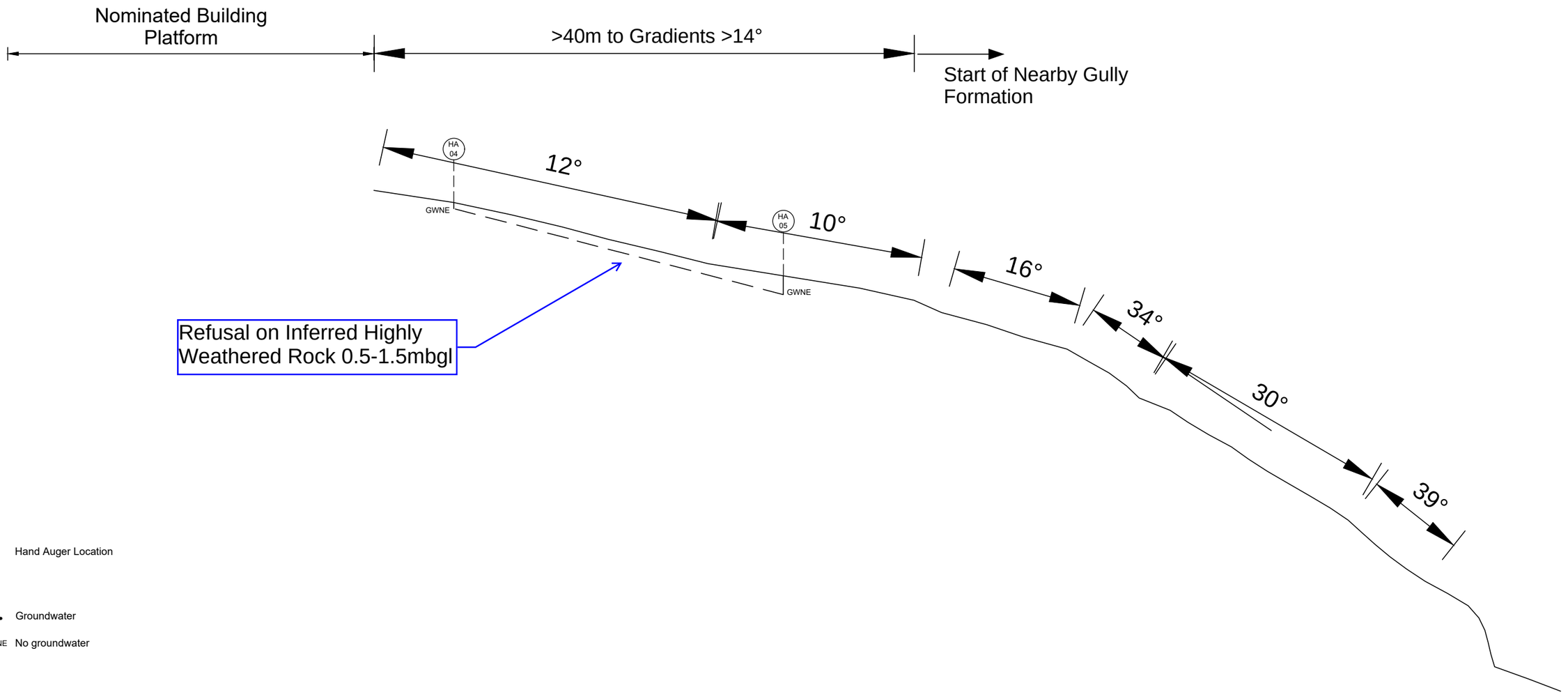
PROJECT DESCRIPTION: **GEOTECHNICAL SUITABILITY ASSESSMENT FOR PROPOSED SUBDIVISION**

PROJECT TITLE: **LOT 2 DP 567189 92 HAUTAPU ROAD MOEREWA NORTHLAND**

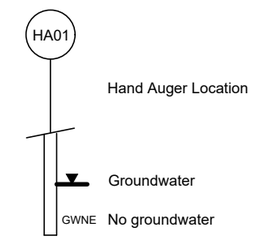
ORIGINAL DRAWING SIZE:	OFFICE:
A3	KERIKERI
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:600	NOT COORDINATED
DRAWING NUMBER:	ISSUE:
127296-G610	A

B
North

B'
South



KEY:



NOTES:

1. Cross Sections Developed from Available LINZ Contours.

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	OCT '23	NxA	ISSUED WITH GEOTECHNICAL SUITABILITY REPORT

DESIGNED BY:
DRAWN BY: NxA
CHECKED BY: DxS
SURVEYED BY:

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GEOTECHNICAL
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: CROSS SECTION B-B'

PROJECT DESCRIPTION: GEOTECHNICAL SUITABILITY ASSESSMENT FOR PROPOSED SUBDIVISION

PROJECT TITLE: LOT 2 DP 567189
92 HAUTAPU ROAD
MOEREWA
NORTHLAND

ORIGINAL DRAWING SIZE:	OFFICE:
A3	KERIKERI
DRAWING SCALE:	CO-ORDINATE SYSTEM:
1:350	NOT COORDINATED
DRAWING NUMBER:	ISSUE:
127296-G611	A

HAND AUGER : HA01

JOB NO.: 127296 **SHEET:** 1 OF 5

START DATE: 28/09/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Suitability Assessment for 1-to-2 Lot Subdivision **SV DIAL:** DR4830 **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** 1.49 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil		TS							
Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group)	Silty CLAY, light brown, very stiff, moist, low- to high-plasticity. Occasional buried roots, frequent topsoil inclusions.		0.2	Groundwater Not Encountered					
	0.4m: topsoil inclusions cease		0.4		194	77	2.5		
			0.6						
	Slightly clayey SILT, orangish brown and whitish grey, very stiff, moist, non-plastic.		0.8		164	66	2.5		
			1.0						
			1.2		167	74	2.3		
			1.4						
			1.6		209+	-	-		
			1.8		UTP	-	-	20	
	EOH: 1.85m - Too Stiff to Auger		2.0						
			2.2						
			2.4						
			2.6						
			2.8						

REMARKS

End of borehole @ 1.85m (Target Depth: 5.00m)

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

LOGGED BY: NxA

CHECKED BY: DxS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA02

JOB NO.: 127296 **SHEET:** 2 OF 5

START DATE: 28/09/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Suitability Assessment for 1-to-2 Lot Subdivision **SV DIAL:** 772 **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** 1.606 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist	TS	0.0	Groundwater Not Encountered					
Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group)	NATURAL: Silty CLAY, light brown occasionally streaked orange, very stiff, moist, moderate plasticity		0.2						
			0.4		190	93	2.0		
			0.6						
	Slightly Silty CLAY, orangey brown streaked orange/grey, very stiff, moist, high plasticity, occasional dark orange clast inclusions		0.8		161	90	1.8		
	1.2m: Becoming orange brown/grey, occasional orange silt inclusions		1.0						
			1.2		138	77	1.8		
			1.4						
			1.6		125	80	1.6		
	Clayey SILT, orangey brown/grey, very stiff, moist, low to moderate plasticity, frequent orange silt inclusions		1.8						
			2.0		119	64	1.9		
	SILT, trace clay, grey/orange/red, very stiff to hard, moist, no plasticity		2.2						
			2.4		UTP	-	-		
			2.6						
	EOH: 2.70m - Too Stiff to Auger		2.8		UTP	-	-	17	
								17	
								20	

REMARKS

End of borehole @ 2.70m (Target Depth: 5.00m)

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

LOGGED BY: SJP

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA03

JOB NO.: 127296 **SHEET:** 3 OF 5

START DATE: 28/09/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Suitability Assessment for 1-to-2 Lot Subdivision **SV DIAL:** 772 **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** 1.606 **DATUM:**

SOIL DESCRIPTION

TOPSOIL | CLAY | SAND | PEAT | FILL | SILT | GRAVEL | ROCK

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist	TS	0.0	Groundwater Not Encountered					
Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group)	NATURAL: Silty CLAY, light brown occasionally streaked orange, very stiff, moist, moderate plasticity		0.2						
			0.4		170	73	2.3		
	Slightly Silty CLAY, orangey brown streaked grey, very stiff, moist, high plasticity		0.6						
			0.8		211	96	2.2		
	Clayey SILT, orangey brown/grey, very stiff, moist, low to moderate plasticity		1.0						
	SILT, trace clay, orangey brown/grey, very stiff to hard, moist, no plasticity		1.2		UTP				
			1.4						
	EOH: 1.50m - Too Stiff to Auger		1.6		UTP			20	
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						

REMARKS

End of borehole @ 1.50m (Target Depth: 5.00m)

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

LOGGED BY: SJP

CHECKED BY: DXS

▼ Standing groundwater level

▽ GW while drilling

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HAND AUGER : HA04

CLIENT: Leighton & Emily Scott
PROJECT: Geotechnical Suitability Assessment for 1-to-2 Lot Subdivision
SITE LOCATION: 92 Hautapu Road, Moerewa

JOB NO.: 127296 **SHEET:** 4 OF 5
START DATE: 28/09/2023 **NORTHING:** **GRID:**
DIAMETER: 50mm **EASTING:**
SV DIAL: DR4830 **ELEVATION:** Ground
FACTOR: 1.49 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE PEAK STRENGTH (kPa)	SHEAR VANE REMOULD STRENGTH (kPa)	SHEAR VANE SENSITIVITY	DCP - SCALA (Blows / 100mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark brown, moist	TS	0.0	Groundwater Not Encountered					
Te Kuiti Group	Clayey SILT, orangish brown and whitish grey, very stiff, moist, low-plasticity.		0.2						
			0.4		209+	-	-	25	
	Clayey SILT and GRAVEL, light brown and whitish grey, hard, dry to moist, non-plastic. Gravel is angular to subangular of MUDSTONE							20	
	EOH: 0.50m - Too Stiff to Auger		0.6					25	
			0.8						
			1.0						
			1.2						
			1.4						
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						

REMARKS
End of borehole @ 0.50m (Target Depth: 5.00m)

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

LOGGED BY: NxA
CHECKED BY: DxS

▼ Standing groundwater level
▽ GW while drilling

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HAND AUGER : HA05

JOB NO.: 127295 **SHEET:** 5 OF 5

START DATE: 28/09/2023 **NORTHING:** **GRID:**

CLIENT: Leighton & Emily Scott **DIAMETER:** 50mm **EASTING:**

PROJECT: Geotechnical Suitability Assessment for 1-to-2 Lot Subdivision **SV DIAL:** DR4830 **ELEVATION:** Ground

SITE LOCATION: 92 Hautapu Road, Moerewa **FACTOR:** 1.49 **DATUM:**

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE: PEAK STRENGTH (kPa)	SHEAR VANE: REMOULD STRENGTH (kPa)	SHEAR VANE: SENSITIVITY	DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
Topsoil	TOPSOIL, dark grey, wet, organic odour	TS	0.2	Groundwater Not Encountered					
Ruatangata Sandstone of Waro Subgroup (Te Kuiti Group)	Clayey SILT, yellowish brown, dry, low-plasticity, very stiff. Pockets friable silt. Occasional fine to medium gravel clasts		0.4		209+				
	Gravelly SILT, yellowish brown and grey, dry, friable/non-plastic, very stiff. Gravel is fine to coarse, sub-angular to sub-rounded of MUDSTONE.		0.6						
			0.8		209+				
			1.0						
			1.2		UTP				
			1.4						
	EOH: 1.50m - Refusal - Gravel Obstruction		1.6					20	
								20	
			1.8					25	
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						

REMARKS

End of borehole @ 1.50m (Target Depth: 2.00m)

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

LOGGED BY: JEM

CHECKED BY: BGS

▼ Standing groundwater level

▽ GW while drilling

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Foundation Maintenance and Footing Performance:
A Homeowner's Guide

PUBLISHING

BTF 18-2011 replaces Information Sheet 10/91

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the homeowner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement.

This Building Technology File is designed to identify causes of soil-related building movement, and to suggest methods of prevention of resultant cracking in buildings.

Soil Types

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups – granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

Classifications for a given area can generally be obtained by application to the local authority, but these are sometimes unreliable and if there is doubt, a geotechnical report should be commissioned. As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. The table below is Table 2.1 from AS 2870-2011, the Residential Slab and Footing Code.

Causes of Movement

Settlement due to construction

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take place because of the expulsion of moisture from the soil or because of the soil's lack of resistance to local compressive or shear stresses. This will usually take place during the first few months after construction, but has been known to take many years in exceptional cases.

These problems are the province of the builder and should be taken into consideration as part of the preparation of the site for construction. Building Technology File 19 (BTF 19) deals with these problems.

Erosion

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

Saturation

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume, particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

Seasonal swelling and shrinkage of soil

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

Shear failure

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.

In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

GENERAL DEFINITIONS OF SITE CLASSES

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes

Notes

1. Where controlled fill has been used, the site may be classified A to E according to the type of fill used.
2. Filled sites. Class P is used for sites which include soft fills, such as clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soil subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.
3. Where deep-seated moisture changes exist on sites at depths of 3 m or greater, further classification is needed for Classes M to E (M-D, H1-D, H2-D and E-D).

Tree root growth
Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.
- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

Unevenness of Movement

The types of ground movement described above usually occur unevenly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Swelling gradually reaches the interior soil as absorption continues. Shrinkage usually begins where the sun's heat is greatest.

Effects of Uneven Soil Movement on Structures

Erosion and saturation
Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

Seasonal swelling/shrinkage in clay
Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

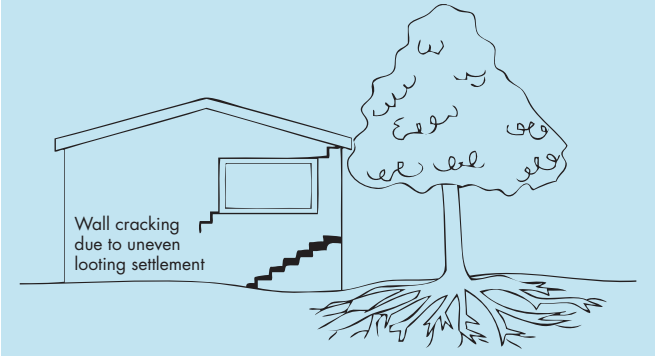
The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

Trees can cause shrinkage and damage



Movement caused by tree roots
In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

Complications caused by the structure itself
Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

Effects on full masonry structures
Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

Effects on framed structures
Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation causes a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

Effects on brick veneer structures
Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

Water Service and Drainage

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem. Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.
- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

Seriousness of Cracking

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. The table below is a reproduction of Table C1 of AS 2870-2011.

AS 2870-2011 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

Prevention/Cure

Plumbing
Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible, and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them, with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

Ground drainage
In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject is referred to in BTF 19 and may properly be regarded as an area for an expert consultant.

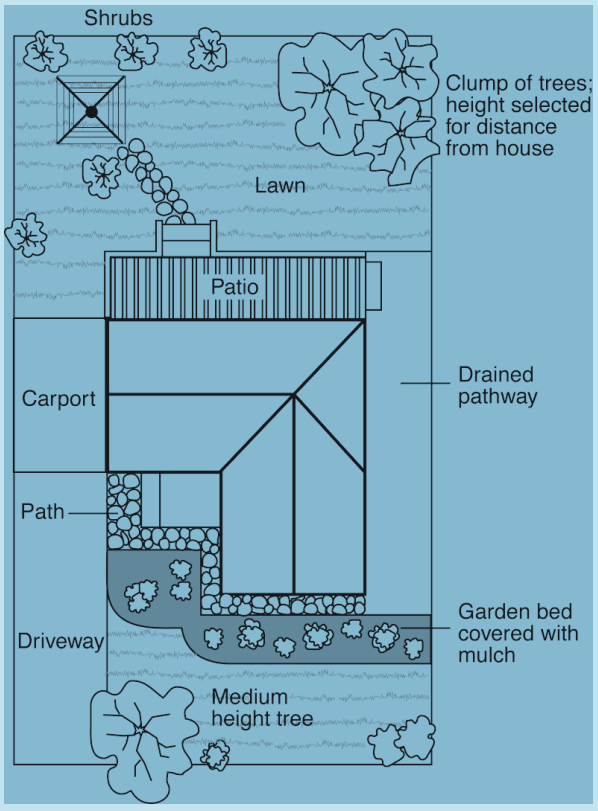
Protection of the building perimeter
It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should

CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS

Description of typical damage and required repair	Approximate crack width limit (see Note 3)	Damage category
Hairline cracks	<0.1 mm	0
Fine cracks which do not need repair	<1 mm	1
Cracks noticeable but easily filled. Doors and windows stick slightly.	<5 mm	2
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired.	5–15 mm (or a number of cracks 3 mm or more in one group)	3
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted.	15–25 mm but also depends on number of cracks	4

Gardens for a reactive site



extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill from it (see BTF 19).

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

Condensation

In buildings with a subfloor void such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

Warning: Although this Building Technology File deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

The garden

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

Existing trees

Where a tree is causing a problem of soil drying or there is the existence or threat of upheaval of footings, if the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. If it is not possible to remove the relevant roots without damage to the tree, an application to remove the tree should be made to the local authority. A prudent plan is to transplant likely offenders before they become a problem.

Information on trees, plants and shrubs

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information. For information on plant roots and drains, see Building Technology File 17.

Excavation

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

Remediation

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the homeowner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.

This BTF was prepared by John Lewer FAIB, MIAMA, Partner, Construction Diagnosis.

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

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

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

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

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

○ **Yes** ✔ **No**

4. Consultation

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

If yes, which groups have you consulted with?	
Who else have you consulted with?	owner is their neighbour

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

5. Applicant Details

Name/s: Emily and Leighton Scott

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: E and L Scott

Email: [redacted]

Phone number:

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

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

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

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

Name/s: E and L Scott

Property Address/ Location: 92 Hautapu Road
Moerewa

Postcode 0211

8. Application Site Details

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

Name/s: E and L Scott

Site Address/ Location: 86 Hautapu Road

Postcode 0211

Legal Description: lot 2 DP 600745 ***Val Number:*** 1169726

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.

Ring Emily Scott 0212368085

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.

Resourse consent for an additional Minor Dwelling to a major dwelling and garage as per approced EBC 2025-394

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** EBC 2025-394/0
- ◯ **Regional Council Consent (ref # if known)** Ref # here (if known)
- ◯ **National Environmental Standard consent** Consent here (if known)
- ◯ **Other (please specify)** Resource consent to subdivide RMA 2240077

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

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

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

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

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

13. Assessment of Environmental Effects:

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

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

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full) E and L Scott

Email: [redacted]

Phone number: [redacted]

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

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

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

Name: (please write in full) [redacted]

Signature:
(signature of bill payer) [redacted] MANDATORY

Date 5/12/24

15. Important Information:

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

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

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

15. Important information continued...

Declaration

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

Name: (please write in full) Leighton Scott

Signature: [redacted] Date 5/12/24

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.