

Application for resource consent or fast-track resource consent

Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of [Form 9](#)). Prior to, and during, completion of this application form, please refer to [Resource Consent Guidance Notes](#) and [Schedule of Fees and Charges](#) — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement?

☐ Yes ☒ No

2. Type of consent being applied for

(more than one circle can be ticked):

☒ Land Use

☐ Fast Track Land Use*

☒ Change of Consent Notice (s.221(3))

☐ Certificate of Compliance (s.139)

☐ Extension of time (s.125)

☐ Other (please specify)

☐ Discharge: Total volume = m³

Note; volumes >3m³ requires NRC Consent.

☐ Subdivision

☐ Existing Use Certificate (s.139A)

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

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

3. Would you like to opt out of the fast track process?

☒ Yes ☐ No

4. Consultation

Have you consulted with Iwi/Hapū? ☐ Yes ☒ No

If yes, which groups have you consulted with?

Who else have you consulted with?

For any questions or information regarding iwi/hapū consultation, please contact:
The Resource Consents Planning Technicians, planning_technicians@fndc.govt.nz

5. Applicant details

Name/s:

Anita Hollerer-Squire and Jason David Squire

Email:

Phone number:

Postal address:

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

Have you been the subject of abatement notices, enforcement orders, infringement notices and/or convictions under the Resource Management Act 1991? ☐ Yes ☒ No

If yes, please provide details.

6. Address for correspondence

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

Name/s:

Anita Hollerer-Squire and Jason David Squire

Email:

Phone number:

Postal address:

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

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

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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:

Anita Hollerer-Squire and Jason David Squire

Property address/
location:

8. Application site details

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

Name/s:

Anita Hollerer-Squire and Jason David Squire

Site address/
location:

93 Olive View Heights Drive

Taipa

Postcode 0481

Legal description:

Val Number:

Certificate of title:

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

Site visit requirements:

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

Is there a dog on the property? ☐ Yes ☒ No

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

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.

Land use consent to construct a single residential dwelling in the Coastal Living Zone and the Rural Lifestyle Zone,
To vary/cancel Consent Notice 5678508.2. of RC 2000273 as it applies to Lot 9

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.

The proposal has been prepared in accordance with the following version of the FNDC Engineering Standards:

☐ 2009 ☒ 2023

10. Would you like to request public notification?

☐ Yes ☐ No

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

(more than one circle can be ticked):

☒ Building Consent

☐ Regional Council Consent (ref # if known)

☐ National Environmental Standard Consent

☐ Other (please specify)

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

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

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

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

☐ Subdividing land

☐ Disturbing, removing or sampling soil

☐ Changing the use of a piece of land

☐ Removing or replacing a fuel storage system

13. Natural hazards (National Policy Statement for Natural Hazards 2025)

Is the site subject to known or potential natural hazards (for example, flooding, coastal inundation, erosion, or unstable land), as contemplated by the National Policy Statement for Natural Hazards 2025? ☐ Yes ☐ No

If yes, please identify the relevant natural hazard(s) by ticking the applicable box(es) below:

☐ Flooding

☐ Active Faults

☒ Landslips

☐ Liquefaction

☐ Coastal Erosion

☐ Tsunami

☐ Coastal Inundation

Please ensure all relevant technical reports are submitted with the application.

14. 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

15. Draft conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ☒ Yes ☐ No

If yes, please be advised that the timeframe will be suspended for 5 working days as per s107G of the RMA to enable consideration for the draft conditions.

16. 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)

Anita Hollerer-Squire Jason David Squire

Email:

Phone number:

Postal address:

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

Postcode

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)

Anita Hollerer-Squire Jason David Squire

Signature:

(signature of bill payer)

Date 09-Sep-2026

17. 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.

18. Declaration

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

Name (please write in full)

Anita Hollerer-Squire, Jason David Squire

Signature

Date 09-Sep-2026

See overleaf for a checklist of your information...

Checklist of your information

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.*

**RESOURCE CONSENT FOR JASON SQUIRE AND ANITA
HOLLERER AT 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA 0420**

93 Olive View Heights Drive,

Taipa

Lot 9 DP 207759



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RESOURCE CONSENT FOR JASON SQUIRE AND ANITA HOLLERER AT 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA 0420

Assessment of Environmental Effects

Jason David Squire and Anita Hollerer

1. The Proposal

The proposal is to construct a single storey residential dwelling on the subject site, together with the servicing and slope stabilisation works required to support it, and to cancel one condition of the consent notice registered against the title and vary another, so that the dwelling can be built in the location the geotechnical investigation supports.

The dwelling has a gross floor area of 158.3m² and is of steel framed construction on a specifically engineered bored and poured timber pile foundation system. It is clad in Colorsteel Trimrib vertical trapezoidal metal cladding over a 20mm vented cavity, with a Colorsteel Trimrib trapezoidal roof pitched at 5 degrees. Finished floor level is RL 64.200 and the top plate is RL 66.600, giving a wall height of 2.4m. The dwelling contains three bedrooms.

The geotechnical investigation by LDE Ltd identified an existing shear surface at approximately 3.0m depth beneath the proposed building platform. The dwelling is therefore supported by a bored timber pole in ground palisade shear wall, specifically engineered to mitigate a potential loss of support in the upper 3.3m of the soil profile. Pile foundations upslope of the wall are designed to accommodate soil creep in the upper 1.5m.

Water supply is by roof water collection to two 25,000 litre Promax XPRESS retention tanks, with overflow to a 15,000 litre Promax XPRESS detention tank fitted with orifice outlets and an overflow, discharging through an above ground level spreader. A UV filter is provided for potable supply.

Access is via the existing formed metal driveway to the east of the building platform. No new access is proposed. The existing 27m² garage on the site is retained. No vegetation clearance is proposed.

1.1 Plan status

The Far North Proposed District Plan, Appeals Version, took legal effect on 19 August 2026, superseding the 30 June 2026 Decisions Version. Its rules must be complied with from that date. The Operative District Plan also continues to apply until the Proposed Plan becomes operative. The proposal therefore requires assessment against both plans, consent is required under both, and the overall activity status is the most restrictive status arising under either. Under s104(1)(b)(vi) regard must be had to the objectives and policies of both, with the weight given to the Proposed Plan reflecting the advanced stage it has reached.

Under the Operative District Plan the site is zoned Coastal Living. Under the Proposed District Plan it is zoned Rural Lifestyle.

1.2 Rules not complied with

Proposed District Plan, Appeals Version

Rule or standard	Matter
EW-R1	Earthworks, volume to be confirmed. Erosion and sediment control is not an information item; it is secured by standard condition, see section 6.7.

The Rural Lifestyle zone standards for maximum height (RLZ-S1), height in relation to boundary (RLZ-S2), setback (RLZ-S3) and building coverage (RLZ-S4) are complied with. Impermeable surface coverage (RLZ-R2) is now also confirmed as complying, at 762.9m² against the 1,264m² threshold: see section 5.2. There is no equivalent in the Proposed Plan of the 50m² visual amenity threshold in the Operative Plan, so the Proposed Plan is the more permissive of the two on the principal matter.

Standard NH-R5 is complied with in full. PER-2, the wildfire dripline setback, is met: drawing A.1.01 REV D dimensions a 20.0m setback from the dripline with the dwelling positioned outside it. PER-1, the firefighting water supply, is met by way of a standard condition of consent. See section 5.3.

Operative District Plan

Rule	Matter
10.7.5.1.1	Visual Amenity. New building gross floor area of 158.3m ² exceeds the 50m ² permitted
10.7.5.1.6	Stormwater Management. Impermeable surface coverage expected to exceed the 600m ² threshold

Rule 12.4.6.1.2, Fire Risk to Residential Units, is complied with: drawing A.1.01 REV D dimensions a 20.0m setback from the dripline with the dwelling positioned outside it. See section 5.3. The proposal also requires cancellation of condition 3, and a variation of condition 5, of Consent Notice 5678508.2.

Please refer to the accompanying plans and technical reports listed in the appendices.

2. Site Description

The subject site is at 93 Olive View Heights Drive, Taipa, and has an area of 1.0110 hectares. It is legally described as Lot 9 Deposited Plan 207759 and is contained in Record of Title NA135D/202. The registered owners are Jason David Squire and Anita Hollerer.

The site is one of 16 lots created by the subdivision shown on DP 207759, deposited in March 2000 under resource consent RC 2000273. It is similar in size and shape to the surrounding lots, most of which range between approximately 0.9 hectares and 2 hectares.

The site is currently vacant of any dwelling. It contains an existing garage of approximately 27m² and an existing formed metal driveway. The balance of the site is in grass and regenerating kanuka and manuka scrubland.

The land falls steeply to the west. Contours recorded on the LDE survey, derived from LINZ LiDAR 2024, range from approximately RL 42.5 to RL 87.5 across the property. The average elevation of the development area is approximately 62m above sea level.

The underlying geology is Punakitere Sandstone of the Northern Allochthon, overlain by residual soils. Groundwater was encountered only as a thin perched layer at the weathering interface.

Drawing A.1.01 REV C shows the existing vegetation as a green shaded mass covering the northern and eastern parts of the site, labelled EXISTING VEGETATION, together with individual tree canopies drawn along the existing metal drive and immediately to the north east of the proposed building platform.

The surrounding locality consists of rural residential development used for permanent residential occupation. Adjoining and nearby lots include Lot 8 DP 207759, Lots 3 and 4 DP 507948, and Lots 58, 59 and 60 DP 384236.

2.1 Drawings relied on

Sheet	Title	Revision and date
A.1.01	Site Plan, 1:500 at A3	REV D, 3 September 2026, RFI response set. Supersedes REV C.
A.1.02	Reference Plan (floor schedule)	REV B, 12 August 2026
A.1.03 to A.1.10	Drainage, pile set out, sub floor framing, roof plan	REV C, 12 August 2026
A.2.01, A.2.02	Elevations, north, east, south and west, 1:100	REV D, 3 September 2026, RFI response set. Supersedes REV C. Now carries dimensioned height and the recessive colour and light reflectance note.
A.3.01, A.3.02	Sections 1 and 2	REV C, 12 August 2026, unchanged in the RFI response set
C001, C101	In ground palisade wall plan view and cross section, LDE Ltd	Issue A, 14 July 2026
Untitled markup	Marked up site plan showing a 20m radius arc annotated "20000 from drip line", a pink shaded area and a green rectangle	15 August 2026, superseded for the dripline dimension by A.1.01 REV D, retained for file history at section 5.3

Received 7 September 2026, referred to throughout this revision of the assessment:

Document	Author and date
"93 Olive View Heights Drive-REV D- Planning RFI response Drawings-03.09.26.pdf", 7 sheets: cover and sheet list, A.1.01 REV D, A.1.02 REV B, A.2.01 REV D, A.2.02 REV D, A.3.01 REV C, A.3.02 REV C	GS Design (Greenstone), S. Ghaffari, plotted 3 September 2026
"29302-GEO-Letter Report-Review of Building Platform Location", Document ID 777590, Project 29302	LDE Ltd, Caleb Gasston and Conor Pullman, dated 7 September 2026

3. Background

3.1 Registered interests

Record of Title NA135D/202 records the following interests:

Instrument	Date registered
Consent Notice D083610.2 pursuant to s221(1) RMA	23 December 1996
Consent Notice D320507.3 pursuant to s221(1) RMA	14 October 1998
Consent Notice 5678508.2 pursuant to s221 RMA	1 August 2003
Land Covenant in Transfer 6348818.2	16 March 2005
Mortgage 6348818.3 to ASB Bank Limited	16 March 2005

3.2 Consent Notice 5678508.2

Consent Notice 5678508.2 was issued by the Far North District Council under s221 of the Resource Management Act 1991 in the matter of Plan 207759, signed by the Resource Consents Manager on 20 June 2003 and registered on 1 August 2003. It applies to Lots 1 to 15 DP 207759. Lot 9,

comprising 1.0110 hectares and contained in Certificate of Title Volume 135D Folio 202, is the ninth lot listed in the schedule of affected land.

The conditions of the consent notice are set out in full below.

Condition 1. No buildings shall be erected on the proposed lots 1 to 15 without the prior approval of the Council to specific designs for foundations, prepared by a Registered Engineer with geotechnical expertise.

Condition 2. No building which requires effluent disposal shall be erected on lot 1 to 15 without the prior approval of the Council to a report from a person with the appropriate expertise on such disposal in terms of the requirements of Auckland Regional Council technical publication 58, including an indication of compliance with the relevant Northland Regional Council Rules.

Condition 3. Any building constructed on lots 5 to 12 described hereunder is to be located entirely within the building envelope specified on the plan attached to this Consent Notice.

Condition 4. All indigenous vegetation (excluding gorse and other noxious plants) now located on lots 5 to 12 described hereunder outside the identified building envelopes and shown on the attached plan is to be preserved and shall not without the prior written consent of the Council and then only in strict compliance with any condition imposed by the Council, cut down, damage or destroy any of such trees or bush, or suffer or permit the cutting down, damaging or destruction of any such trees or bush. The owner shall be deemed not to be in breach of this prohibition if any such trees or bush shall die from natural causes not attributable to any act or default by or on behalf of the owner or for which the owner is responsible.

Condition 5. Any building to be constructed on lots 5 to 9 described hereunder is to be no higher than 6 metres above the average ground level within the specified building envelope, and is to be finished and from thereon maintained in recessive natural colours; such colours to be approved at the time of a building consent being lodged with the Council.

The plan attached to the consent notice is a scheme plan at 1:2000 titled "Proposed Subdivision of Pt Lot 1 DP 179766 and Pt Section 40 Block IV Mangonui Survey District", referenced RC 2000273. It shows a designated building platform on each of Lots 5 to 12 as a dashed rectangle, and indicative potential house sites as smaller squares. The plan carries a note that the contours shown are indicative only.

3.3 Position against each consent notice condition

Condition	Applies to Lot 9	Position
1. Foundation design approval	Yes	A geotechnical assessment report and specific engineering design for the pile foundations and in ground palisade wall have been prepared by LDE Ltd. Approval under this condition is a building consent stage matter and is addressed through that process, not this resource consent application.
2. Effluent disposal report approval	Yes	Approval under this condition is a building consent stage matter and is addressed through that process, not this resource consent application.
3. Building entirely within the building envelope	Yes	Not complied with. The proposed dwelling is outside the designated building platform shown on the attached plan. Cancellation of this condition is sought as Activity B , so that Lot 9 is no longer subject to a

Condition	Applies to Lot 9	Position
		building envelope location restriction under the consent notice.
4. Preservation of indigenous vegetation outside the building envelopes	Yes	The proposal does not involve the cutting down of any indigenous vegetation. This condition also constrains the options available for achieving the 20m fire risk separation, which is addressed in section 6.5.
5. Maximum 6m above average ground level within the specified building envelope, and recessive natural colours	Yes, Lot 9 is within lots 5 to 9	Not complied with in respect of height. The dwelling has a stated height of 7.5m. The colour requirement can be complied with. A change to the height element only is sought as Activity B.

3.4 The related building consent

Building consent EBC-2027-84/0 was lodged for the dwelling. On 12 August 2026 the Council issued a request for further information containing 21 items. On 14 August 2026 the Council issued a Project Information Memorandum with a certificate attached under s37 of the Building Act 2004, restricting the commencement of building work until resource consent is granted. This application responds to that certificate.

4. Consents Sought

This application seeks two consents, made together on one application form as permitted by s88 of the Act. They are described in this assessment as Activity A and Activity B.

Activity A: Land use consent

Land use consent to construct a residential dwelling and associated works at 93 Olive View Heights Drive, Taipa, being Lot 9 DP 207759, which does not comply with the permitted activity standards of the Coastal Living Zone under the Operative District Plan and the Rural Lifestyle Zone under the Proposed District Plan, Appeals Version.

Activity B: Cancellation and variation of consent notice conditions under s221(3)

An application under s221(3) in respect of Consent Notice 5678508.2 as it applies to Lot 9 DP 207759, as follows:

Condition 3. Cancellation of the condition in full, so that Lot 9 is no longer subject to a building envelope location restriction under the consent notice. The dwelling is sited on the position the LDE geotechnical assessment supports, and its location, height and setbacks continue to be controlled through the Rural Lifestyle zone standards and the restricted discretionary assessment of visual amenity at section 6.4.

Condition 5. To vary the maximum height from 6 metres to 7.5 metres above average ground level at the dwelling's location shown on the approved plans. The requirement that the building be finished and thereafter maintained in recessive natural colours, approved at the time a building consent is lodged, is retained and is not the subject of this application.

Section 221(3) of the Act provides that a territorial authority may, on the application of the subdividing owner or a subsequent owner, review, vary or cancel a condition specified in a consent

notice. The application is made and processed in accordance with the provisions of the Act relating to applications for resource consent

Conditions 1, 2 and 4 of the consent notice are not the subject of any change. Approval under conditions 1 and 2 is a building consent stage matter, addressed through that process rather than this resource consent application; see section 3.3.

5. Activity Status of the Proposal

The subject site is located within the Coastal Living Zone under the Operative District Plan and the Rural Lifestyle Zone under the Proposed District Plan, Appeals Version, which took legal effect on 19 August 2026. Both plans apply and the proposal is assessed against both.

Rule assessment

The Proposed District Plan, Appeals Version, took legal effect on 19 August 2026 and is assessed alongside the Operative Plan throughout this AEE; there is no notified-but-not-yet-decided rule in play for this site. Full assessment, including the reasoning behind each conclusion, is at sections 5.1 (Operative Plan) and 5.6 (Proposed Plan). Overall activity status is at section 5.7.

ODP — s9(3) Land use

Rule Number and Name	Non Compliance Aspect	Activity Status
10.7.5.1.1 Visual Amenity	Does not comply. GFA of 158.3m ² exceeds the 50m ² permitted	Restricted discretionary (Rule 10.7.5.3(a))
10.7.5.1.2 Residential Intensity	Complies	Permitted
10.7.5.1.3 Scale of Activities	Complies	Permitted
10.7.5.1.4 Building Height	Complies, dimensioned	Permitted
10.7.5.1.5 Sunlight	Complies	Permitted
10.7.5.1.6 Stormwater Management	Does not comply. 762.9m ² exceeds the 600m ² threshold	Restricted discretionary (Rule 10.7.5.3(a))
10.7.5.1.7 Setback from Boundaries	Complies	Permitted
10.7.5.1.8 Screening for Neighbours	Complies, not applicable	Permitted
10.7.5.1.9 Transportation	Complies	Permitted
10.7.5.1.10 Hours of Operation	Complies, not applicable	Permitted
10.7.5.1.11 Keeping of Animals	Complies	Permitted
10.7.5.1.12 Noise	Complies	Permitted

Rule Number and Name	Non Compliance Aspect	Activity Status
10.7.5.1.13 Helicopter Landing Area	Complies, not applicable	Permitted
12.3.6.1.2 Excavation and/or Filling	Complies. [to complete: volume and maximum cut/fill face height not yet stated by any document on file, see item 7]	Permitted, subject to item 7
12.4.6.1.2 Fire Risk to Residential Units	Complies. Drawing A.1.01 REV D dimensions a 20.0m setback from the dripline, with the dwelling positioned outside it. See section 5.3.	Permitted

PDP — s9(3) Land use

Rule Number and Name	Non Compliance Aspect	Activity Status
RLZ-R1 PER-1 Permitted/controlled/restricted discretionary activity	Complies	Permitted
RLZ-S1 Maximum height	Complies	Permitted
RLZ-S2 Height in relation to boundary	Complies	Permitted
RLZ-S3 Setback	Complies	Permitted
RLZ-S4 Building coverage	Complies	Permitted
RLZ-R2 Impermeable surface	Complies. 762.9m ² against the 1,264m ² threshold	Permitted
EW-R1, EW-S1 Maximum earthworks volume and area		To be confirmed; restricted discretionary if breached
EW-R1, EW-S2 Maximum depth of cut or height of fill	Complies	Permitted
EW-R1, EW-S5 Erosion and sediment control	Secured by standard condition; not an information item, see section 6.7	Permitted, condition secures compliance
EW-R1, EW-S6 Earthworks setback	Complies	Permitted
EW-R1, EW-S7 No instability beyond the property boundary	Complies, see section 6.6	Permitted
NH-R5 PER-1 Firefighting water supply	Complies. Secured by way of a standard condition of consent; see section 6.5.	Permitted, condition secures compliance
NH-R5 PER-2 20m dripline setback	Complies. Drawing A.1.01 REV D dimensions a 20.0m setback from the dripline, with the dwelling positioned outside it. See section 5.3.	Permitted

5.1 Assessment of the permitted Coastal Living Zone rules

Plan	Rule	Performance of Proposal
10.7.5.1.1	Visual Amenity	Does not comply. The gross floor area of the proposed dwelling is 158.3m ² , which exceeds the 50m ² permitted under this rule.
10.7.5.1.2	Residential Intensity	Complies. The rule does not limit the use of an existing site for a single residential unit for a single household.
10.7.5.1.3	Scale of Activities	Complies.
10.7.5.1.4	Building Height	Complies, now dimensioned. The maximum permitted height is 8m. Drawing A.2.01 REV D dimensions the height from finished floor level down to natural ground level as 5.673m at the uphill (north west) end of the dwelling and 7.363m at the downhill (south east) end, both measured to top plate. Both figures are under the 8m standard, with the least headroom, approximately 0.6m, at the downhill end.
10.7.5.1.5	Sunlight	Complies. The nearest boundary is 12.874m from the dwelling frame line, and the building is single storey with a 2.4m wall height, so no part projects beyond a 45 degree recession plane measured from 2m above ground level at any boundary.
10.7.5.1.6	Stormwater Management	Does not comply. The maximum impermeable surface coverage is 10 percent or 600m ² , whichever is the lesser, being 600m ² for this site. The s37 certificate records that the proposal appears to exceed that threshold. See section 5.2.
10.7.5.1.7	Setback from Boundaries	Complies. The minimum setback is 10m for a site over 5,000m ² . The dimension strings on drawing A.1.01 REV C give separations from the dwelling frame line to the site boundaries of 12.874m to the south east, 22.623m to the west, 26.926m to the north west and 24.616m to the east. The smallest of these, 12.874m, exceeds the 10m standard.
10.7.5.1.8	Screening for Neighbours, Non-residential Activities	Complies. Not applicable to a residential activity.
10.7.5.1.9	Transportation	Complies. Access is via the existing formed crossing and driveway.
10.7.5.1.10	Hours of Operation, Non-residential Activities	Complies. Not applicable.
10.7.5.1.11	Keeping of Animals	Complies.
10.7.5.1.12	Noise	Complies.
10.7.5.1.13	Helicopter Landing Area	Complies. Not applicable.
12.3.6.1.2	Excavation and/or Filling in the Coastal Living Zone	The LDE geotechnical report records at section 6.3 that earthworks will not be required to form the building platform. Ground disturbance is limited to bored pile holes, service

Plan	Rule	Performance of Proposal
		trenching and tank bases. Neither the total volume nor the maximum height of any cut or filled face has yet been stated.
12.4.6.1.2	Fire Risk to Residential Units	Complies. Drawing A.1.01 REV D dimensions a “20.0m Setback from Dripline” line along the western edge of the existing vegetation. The dwelling is positioned outside it. See section 5.3.

5.2 Impermeable surface coverage, Rule 10.7.5.1.6

Chapter 3 of the Operative District Plan defines Impermeable Surface as any building or surface on or over the land which creates a barrier to water penetration into the ground, and expressly includes:

- decks (including decks less than 1m in height above the ground) excluding open slatted decks where there are gaps between the boards;
- pools, but does not include pools designed to operate as a detention pond;
- any surfaced area used for parking, manoeuvring, access or loading of motor vehicles, including areas covered with aggregate;
- areas that are paved with concrete, asphalt, open jointed slabs, bricks, gobi or materials with similar properties to those listed;
- roof coverage area on plan; and excludes water storage tanks occupying up to a maximum cumulative area of 20m², and paths and paving less than 1m wide provided they are separated from other impermeable surfaces by a minimum of 1m.

Limb (c) puts the matter beyond argument: the existing metal driveway is an aggregate surfaced area used for vehicle access and counts toward the threshold. It is the largest single contributor and is the reason the s37 certificate records that the 600m² threshold appears to be exceeded.

Component	Area	Source
Proposed dwelling roof, including eaves	222.3m ²	Drawing A.1.01 REV D, impervious area table
Existing garage	27.0m ²	Drawing A.1.01 REV D, impervious area table
Existing metal driveway	410.0m ²	Drawing A.1.01 REV D, impervious area table. Matches the applicant’s earlier measurement (3.5m formed width for 60m, plus 10m formed width for 20m)
Proposed new driveway spur, existing driveway to house corner	95.0m ²	Drawing A.1.01 REV D, impervious area table. Now drawn on the site plan and measured rather than estimated
Water tanks, cumulative footprint less the 20m ² exclusion	8.6m ²	Drawing A.1.01 REV D, impervious area table
Total, per drawing A.1.01 REV D	762.9m² (7.5% of the site)	

The 158.3m² gross floor area used throughout this assessment for Rule 10.7.5.1.1 is confirmed by the floor schedule on the Reference Plan, A.1.02, as the Main Floor area (158.34m²). The 184.3m² figure previously queried in this section was the roof coverage area excluding eaves, now stated

directly on A.1.01 REV D as “Area of Prop. Dwelling Roof (Excl. eaves)”. The two figures measure different things, the enclosed floor area and the roof footprint including covered deck areas, and both are internally consistent with the 23.040m by 8.000m frame line dimension. No revision to the gross floor area, site coverage or stormwater roof area figures is required on this account.

The permitted threshold is 600m². The restricted discretionary threshold under Rule 10.7.5.3.8 is 15 percent or 1,500m², whichever is the lesser, being 1,500m² for this site.

On the figures now given on A.1.01 REV D, the 600m² permitted threshold is exceeded, at 762.9m². That confirms the s37 certificate’s position on Rule 10.7.5.1.6. The total remains well within the 1,500m² restricted discretionary threshold under Rule 10.7.5.3.8, with more than 700m² of headroom before that threshold is reached, so this breach does not escalate the activity status. Under the **Proposed District Plan**, the RLZ-R2 threshold of 1,264m² is now also confirmed as complied with, at 762.9m² (7.5%), well under both the 12.5 percent and the 2,500m² limbs of that rule.

It should be noted that the LDE Stormwater Neutrality Report models the 158.3m² of new roof area for peak flow attenuation, not the full 762.9m² of impervious surface. Rule 10.7.5.1.6 is an area cap, not a flow standard, so compliance with the rule is a separate matter from the adequacy of the attenuation design. The report records at section 4.4 that if impermeable areas differ from those analysed, the design requires revision.

5.3 Fire risk separation, Rule 12.4.6.1.2 and standard NH-R5

Operative District Plan, Rule 12.4.6.1.2, Fire Risk to Residential Units

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

Definitions. Neither “scrub or shrubland, woodlot or forest” nor “drip line” is defined in Chapter 3 of the Operative District Plan, so the terms take their ordinary meaning. The vegetation on site is regenerating kanuka and manuka, which falls within scrub or shrubland in the ordinary sense; the LDE report describes the site as being in bush.

Performance. Complies. Drawing A.1.01 REV D dimensions a “20.0m Setback from Dripline” line along the western edge of the existing vegetation. The dwelling is positioned outside that line.

Activity status. Rule 12.4.6.2 gives controlled status where Rule 12.4.6.1.2 is complied with. This rule does not drive the activity status of the application; see section 5.7.

Proposed District Plan, standard NH-R5

PER-1, firefighting water supply. The building must have access to a fire hydrant where reticulated water supply is available, or provide water storage for firefighting in accordance with the minimum specified in Table 2 of SNZ PAS 4509:2008. There is no reticulated supply at this site. **Complies.** 50,000 litres of retention storage and 15,000 litres of detention storage are provided, of which a minimum of 10,000 litres will be dedicated and reserved for firefighting use at all times, with the tanks positioned for safe fire appliance access off the existing formed metal drive and fitted with an outlet compatible with fire service equipment. Compliance is secured by way of a standard condition of consent; see section 6.5.

PER-2, dripline setback. A building used for a vulnerable activity, not located within an urban zone, is to be set back at least 20m from the dripline of any contiguous scrub or shrubland, woodlot or forestry. A residential activity is a vulnerable activity under the Proposed Plan definitions. **Complies.**

Drawing A.1.01 REV D dimensions a 20.0m setback from the dripline, with the dwelling positioned outside it.

Activity status. PER-1 and PER-2 of NH-R5 are both complied with. This standard does not drive the activity status of the application; see section 5.7.

5.4 Note on the wording of Rule 10.7.5.1.1

The wording of Rule 10.7.5.1.1 quoted in this assessment is taken from the current Operative District Plan text, which reads:

The following are permitted activities in the Coastal Living Zone: (a) any new building(s), provided that the gross floor area of any new building(s) permitted under this rule does not exceed 50m²; or (b) any alteration/addition to an existing building which does not exceed 30% of the gross floor area of the building which is being altered or added to, provided that any alteration/addition does not exceed the height of the existing building and that any alteration/addition is to a building that existed at 28 April 2000. (c) replacement of any building so long as the replacement does not exceed the building envelope occupied by the previous building; or (d) renovation or maintenance of any building.

A version of this rule containing a 25m² threshold for buildings for human habitation and a BS5252 colour and reflectance limb was quoted in the 2021 application for the neighbouring Lot 10 DP 207759 (RC 2300657). **[to confirm which version of the rule is operative at the date of lodgement.]**

5.5 Cascade under the Operative District Plan

Rule 10.7.5.2.2 makes a new building that does not meet Rule 10.7.5.1.1 a **controlled activity** where the building is located entirely within a building envelope that has been approved under a resource consent. The dwelling is not located within the building platform designated on the plan attached to Consent Notice 5678508.2, so controlled activity status is not available.

Rule 10.7.5.3.1 makes a new building that does not meet Rule 10.7.5.1.1, and which is located partially or entirely outside a building envelope approved under a resource consent, a **restricted discretionary activity**. Discretion is restricted to the twelve matters set out in that rule, which are assessed in section 6.4.

Rule 10.7.5.3(a) lists the standards a proposal may infringe while remaining a restricted discretionary activity. That list includes both Rule 10.7.5.1.1 Visual Amenity and Rule 10.7.5.1.6 Stormwater Management, so the stormwater non-compliance does not of itself escalate the status. Rule 10.7.5.3.8 sets the restricted discretionary threshold for impermeable surface coverage at 15 percent or 1,500m², whichever is the lesser, being 1,500m² for this site, and restricts discretion to twelve matters which are assessed in section 6.8.

Rule 10.7.5.3 requires that, to remain a restricted discretionary activity, the proposal must also comply with all other rules for permitted and controlled activities in the zone and with the relevant standards in Part 3 of the Plan, the District Wide Provisions.

Rule 12.4.6.3 makes an activity that does not comply with Rule 12.4.6.1.2 Fire Risk to Residential Units a **discretionary activity**. Controlled activity status under Rule 12.4.6.2 is not available because that rule requires compliance with Rule 12.4.6.1.2.

Rule 10.7.5.4(c) makes an activity that does not comply with one or more of the standards for permitted, controlled or restricted discretionary activities in the zone, or with the Part 3 District Wide Provisions, a **discretionary activity**.

5.6 Assessment of the Proposed District Plan, Appeals Version

Rule or Standard	Standard	Performance of Proposal
RLZ-R1 PER-1	The building accommodates a permitted, controlled or restricted discretionary activity	Complies. Residential activity is permitted under RLZ-R3, the site area exception applying to a single residential unit.
RLZ-S1	Maximum height 8m above ground level	Complies, now dimensioned. Drawing A.2.01 REV D dimensions height above natural ground level at 5.673m to 7.363m along the length of the dwelling. See section 5.1. [to confirm: verify against the source drawing before lodgement.]
RLZ-S2	Height in relation to boundary, 55 degrees north, 45 degrees east and west, 35 degrees south, from 2m above ground level	Complies. Setbacks exceed 20m.
RLZ-S3	Setback at least 10m from all site boundaries	Complies.
RLZ-S4	Building coverage no more than 12.5 percent	Complies. Building coverage is 185.3m ² , being 1.83 percent.
RLZ-R2	Impermeable surface coverage no more than 12.5 percent or 2,500m ² , whichever is lesser, being 1,264m ²	Complies. Drawing A.1.01 REV D records total impervious coverage of 762.9m ² (7.5%), against the 1,264m ² threshold. See section 5.2. The proposal complies with RLZ-R2 while breaching Rule 10.7.5.1.6 under the Operative Plan, which has the more restrictive 600m ² permitted threshold.
EW-R1, EW-S1	Maximum earthworks volume and area thresholds	[to complete]
EW-R1, EW-S2	Maximum depth of cut or height of fill 1.5m	Complies. No earthworks are required to form the building platform.
EW-R1, EW-S5	Erosion and sediment control in accordance with GD2016/005	Secured by standard condition requiring an erosion and sediment control plan before earthworks commence. Not required to be submitted at lodgement, consistent with Council's standard practice. See section 6.7.
EW-R1, EW-S6	Earthworks setback 1.5m from a boundary where supported by engineered retaining, otherwise 3m	Complies. The palisade wall is well inside the boundaries.
EW-R1, EW-S7	Earthworks must not result in instability of land at or beyond the property boundary	Complies. Substantially addressed by LDE's 7 September 2026 letter; not carried as an outstanding item. See section 6.6.
NH-R5 PER-1	Access to a fire hydrant where reticulated supply is available, or water supply for firefighting in accordance with Table 2 of SNZ PAS 4509:2008	Complies. No reticulated supply. 65,000 litres of tank storage is provided, of which a minimum of 10,000 litres will be dedicated for firefighting use, secured by way of a standard condition of consent. See section 5.3.

Rule or Standard	Standard	Performance of Proposal
NH-R5 PER-2	Building used for a vulnerable activity, not in an urban zone, set back at least 20m from the dripline of any contiguous scrub or shrubland, woodlot or forestry	Complies. Drawing A.1.01 REV D dimensions a 20.0m setback from the dripline, with the dwelling positioned outside it. See section 5.3.

NH-R5 is complied with in full and does not drive the Proposed Plan activity status. Where EW-R1 is not met, the Proposed District Plan gives the activity restricted discretionary status, with matters of discretion restricted to the matters of the infringed standard; this is addressed at section 5.7.

5.7 Overall activity status

Activity A is restricted discretionary.

- Rule 10.7.5.1.1, Visual Amenity: does not comply. Restricted discretionary under Rule 10.7.5.3.1, within the Rule 10.7.5.3(a) list.
- Rule 10.7.5.1.6, Stormwater Management: does not comply, at 762.9m² against the 600m² threshold. Within the Rule 10.7.5.3(a) list, and well under the 1,500m² restricted discretionary threshold in Rule 10.7.5.3.8.
- Overall Operative Plan status: restricted discretionary.

Under the **Proposed District Plan**, RLZ-R2 is confirmed complied with (section 5.6), and NH-R5, both PER-1 and PER-2, is complied with in full (section 5.3), PER-1 secured by way of a standard condition of consent. The Proposed Plan status is accordingly driven by EW-R1 alone, the earthworks volume and area standard, pending the earthworks statement at item 7.

Activity B is an application under s221(3) of the Act and does not carry an activity status under the District Plan.

The overall status of the application, taking the most restrictive component, is **Restricted Discretionary**, subject to confirmation of the Proposed Plan earthworks volume and area (item 7).

The Council assessed a different combination of breaches, including Rule 12.4.6.1.2, as a discretionary activity in the 2021 application for the neighbouring Lot 10 DP 207759 at 89 Olive View Heights Drive (RC 2300657), which recorded compliance with Rule 10.7.5.1.6. That precedent is not directly comparable to the current position on this file, in which the fire risk setback is complied with.

6. Assessment of Environmental Effects

This assessment is provided under s88(2)(b) and the Fourth Schedule of the Act, at a level of detail that corresponds to the scale and significance of the effects the activity may have on the environment.

6.1 Existing environment and permitted baseline

The existing environment comprises a vacant 1.0110 hectare lot within an established 16 lot rural residential subdivision, containing an existing 27m² garage and a formed metal driveway, with the balance in grass and regenerating kanuka and manuka.

Under Rule 10.7.5.1.1 a new building of up to 50m² gross floor area could be erected on the site as of right, at up to 8m in height under Rule 10.7.5.1.4, with impermeable surfaces up to 600m² under

Rule 10.7.5.1.6, and with no setback closer than 10m to any boundary under Rule 10.7.5.1.7. Residential use of the site for a single household is permitted under Rule 10.7.5.1.2.

The conditions of Consent Notice 5678508.2 restrict what could lawfully be built without a change to those conditions, and are not treated as part of the permitted baseline.

6.2 Effects of Activity B, cancellation and variation of the consent notice conditions

The change sought is assessed first, because the location and height of the dwelling follow from it.

Condition 3, the building envelope. The designated building platform for Lot 9 was fixed in 1999 on a scheme plan at 1:2000, on which the surveyor recorded that the contours shown were indicative only. The building envelope shown was a nominal 30m x 30m square, drawn by the surveyor to demonstrate that each lot could accommodate a building envelope, rather than a formal surveyed boundary; Council does not require it to be re-surveyed for this application, and the scheme plan comparison below is sufficient. No geotechnical investigation of individual building platforms had been undertaken at that time; condition 1 of the same consent notice required foundation design to be approved before any building was erected, which indicates that ground conditions were expected to be resolved lot by lot at building stage.

The geotechnical investigation subsequently undertaken by LDE Ltd identified geomorphological evidence of past instability across the slope, tension cracking at the top of the slope, an interpreted landslide deposit at the toe, and a shear surface at approximately 3.0m depth. LDE rated slope instability risk as HIGH before mitigation.

This has now been provided. LDE's letter of 7 September 2026 (Document ID 777590, "Review of Building Platform Location") reviews the RFI response drawing set and confirms that the dwelling location shown is consistent with the location assessed in their geotechnical report, and that, subject to the recommendations in that report being adopted in full, the building platform is suitable for the proposed development. The letter is confined to the location shown on the current drawings and confirms it is geotechnically supported; a comparison against the 1999 designated envelope is not required once that envelope condition is cancelled.

Activity B is confirmed as required. The applicant has confirmed the dwelling will not be located within the consent notice building envelope; it stays at the location shown on drawing A.1.01 REV C, being the position the LDE geotechnical assessment supports. The 15 August 2026 markup, showing a dwelling sized rectangle within the pink shaded envelope area with a 20m fire risk arc drawn around it, illustrates a compliant alternative rather than a decision to build within the envelope. Condition 3 is accordingly breached as the dwelling stands, and cancellation of condition 3 is sought under Activity B, together with the height variation sought under condition 5.

The purpose of condition 3 was to control where buildings sit on the slope so that the visual effect of development across Lots 5 to 12 is managed as a group. That purpose is now more reliably met by the Rural Lifestyle zone standards and the restricted discretionary assessment of visual amenity at section 6.4, which apply to Lot 9 in any event and are informed by site specific geotechnical advice, rather than by a nominal 1999 envelope that predates any geotechnical assessment of the lot. Cancelling condition 3 removes a restriction that current geotechnical practice does not support, without reducing the level of control over the visual effects of development on Lot 9.

The persons with an interest in the condition are the owners of Lots 5 to 12 DP 207759, who hold the benefit of a common envelope regime. The effects of Activity B on these owners are assessed as less than minor at section 9.2, on the basis of the works proposed rather than current ownership; neither identifying the current owners nor seeking their written approval is required.

Condition 5, the 6 metre height limit. The dwelling is single storey with a wall height of 2.4m from finished floor to top plate and a roof pitched at 5 degrees. Its stated overall height of 7.5m arises from the fall of the land and from the pile foundation system required by the geotechnical design, rather than from building bulk. The visual effect of a single storey dwelling elevated on piles is materially different from that of a building of the same overall height containing two occupied storeys.

The condition also requires recessive natural colours approved at building consent stage. That requirement is not the subject of this application and the applicant confirms it will be complied with. Drawings A.2.01 and A.2.02 REV D now nominate charcoal, or a similar colour, for cladding and joinery together, with a light reflectance value of 8.1, resolving the previously outstanding detail. See section 6.4(iii).

Height above natural ground level, the District Plan measure, is dimensioned on drawing A.2.01 REV D at 5.673m to 7.363m. **A dimensioned calculation of average ground level at the dwelling's location, to independently verify the 7.5m figure sought under Activity B, is not required before this application is lodged or granted.** The variation is granted on the basis of the height shown on the approved plans; compliance is confirmed through the building consent process, in the same way as any other numeric building parameter.

6.3 Effects of Activity B on the matters in s220

The change sought remains consistent with the purposes for which the original conditions were imposed under s220, being in this case the management of visual effects across the group of lots and the management of building location on a constrained slope. On the assessment above, the relief sought is consistent with both purposes: cancellation of condition 3 removes an envelope location restriction that current geotechnical practice does not support, while the visual effects the condition was designed to manage continue to be controlled through the Rural Lifestyle zone standards and the restricted discretionary assessment of visual amenity at section 6.4; and the height variation under condition 5 accommodates the geotechnically supported location without altering the colour control or the management of the slope.

6.4 Rule 10.7.5.3.1 Visual Amenity

The matters to which the Council will restrict its discretion under Rule 10.7.5.3.1 are addressed below.

(i) The location of the building. Drawing A.1.01 REV C places the dwelling on the western facing slope in the south western part of the site, served by the existing formed metal drive, with the three water tanks to its north east. The location has been selected on geotechnical advice, being the position that LDE's analysis supports with the in ground palisade wall in place.

(ii) The size, bulk and height of the building in relation to ridgelines and natural features. The dwelling is single storey, dimensioned 23.040m by 8.000m to the frame lines on drawing A.1.01 REV C, with a wall height of 2.4m from finished floor level RL 64.200 to top plate RL 66.600 on sheets A.2.01 and A.2.02, and a roof pitched at 5 degrees. It is not located on a ridgeline. The contours on A.1.01 REV C show the land continuing to rise above the platform from RL 64.5 through to the eastern boundary, so the dwelling is seen against the slope rather than against the sky from the west and from Olive View Heights Drive.

(iii) The colour and reflectivity of the building. A natural recessive colour scheme is proposed, consistent with condition 5 of the consent notice. Drawings A.2.01 and A.2.02 REV D now carry an express note: "As per Consent Notice 5678508.2: Building Envelope is to be finished and maintained in Recessive Natural colours. Charcoal, or a similar colour, to be used for cladding and joinery, with a

Light Reflectance Value of 8.1 (or sim.)". This nominates charcoal for cladding and joinery together, and a light reflectance value, resolving what was previously outstanding. An LRV of 8.1 is well under the 30 percent threshold anticipated in the condition below. It is anticipated that the following condition of consent will be imposed:

The dwelling is to be finished according to the approved colour scheme with a light reflectance value of 30 percent or less, or other colours approved by Council's Duly Delegated Officer. The approved colour scheme or similar shall be used in the finishing of the structures within 6 months of the structures being fully constructed on the site.

(iv) The extent to which planting can mitigate visual effects. Drawing A.1.01 REV C shows the existing vegetation mass over the northern and eastern parts of the site, with individual tree canopies along the metal drive and adjoining the building platform to the north east. That vegetation is protected by condition 4 of the consent notice and will be retained. The land immediately west and south of the dwelling, between it and Olive View Heights Drive, is shown as open contoured ground rather than vegetated, so screening from the road frontage is limited.

(v) Any earthworks and vegetation clearance associated with the building. Minimal. LDE confirm at section 6.3 of the geotechnical report that earthworks will not be required to form the building platform. Ground disturbance is limited to bored pile holes, service trenching and tank bases. No indigenous vegetation is to be cut down, consistent with condition 4 of the consent notice.

(vi) The location and design of associated vehicle access, manoeuvring and parking areas. Access to the subject site is from Olive View Heights Drive. Access to the building platform has already been formed as a metal driveway and leaves ample room for manoeuvring and parking. LDE confirm at section 6.2 of the geotechnical report that access is proposed via the existing site access. No new formation is proposed.

(vii) The extent to which the building will be visually obtrusive. The dwelling is single storey with a low pitched roof, is set more than 20m from every boundary, is screened by regenerating bush to the west, and will be finished in recessive natural colours. Other lots in the subdivision have been developed with dwellings of comparable or greater scale, and it is anticipated that the remaining vacant lots will also be developed with residential dwellings. The proposal is not considered to be objectionable or at odds with the surrounding environment.

(viii) The cumulative visual effects of all the buildings on the site. There are two buildings on the site, being the proposed 158.3m² dwelling and the existing 27m² garage, giving a total building coverage of 185.3m², or 1.83 percent of the site area.

(ix) The degree to which the landscape will retain the qualities that give it its naturalness, visual and amenity values. The regenerating kanuka and manuka that gives the locality its character is retained and is protected in perpetuity by condition 4 of the consent notice. Development of the lot with a single dwelling is the outcome anticipated by the 2000 subdivision. **Confirmed by Council GIS.** No part of the site is mapped as a significant natural area in the Proposed District Plan.

(x) The extent to which private open space can be provided for future uses. The site is 1.0110 hectares with a building coverage of 1.83 percent. There is more than adequate private open space for future uses.

(xi) The extent to which the siting, setback and design of buildings avoid visual dominance on landscapes, adjacent sites and the surrounding environment. Setbacks exceed 20m to every boundary against a standard of 10m. At that separation, and with a single storey form, the dwelling does not visually dominate any adjacent site.

(xii) The extent to which non-compliance affects the privacy, outlook and enjoyment of private open spaces on adjacent sites. The adjoining sites are separated from the dwelling by more than 20m and by regenerating kanuka and manuka scrubland. Given the sloping topography and the size of the lots, any effects on the privacy, outlook and enjoyment of private open space on adjacent sites are adequately mitigated.

On the matters above, the visual amenity effects of the proposal are assessed as **less than minor**.

6.5 Fire risk, Rule 12.4.6.1.2 and standard NH-R5

Rule 12.4.6.1.2 and standard NH-R5, both PER-1 and PER-2, are complied with; see section 5.3.

(i) The degree of fire risk to dwellings arising from the proximity of the woodlot or forest and vice versa. The site is Lot 9 of a 16 lot subdivision created in 2000. Since subdivision, the majority of the lots have been allowed to regenerate into kanuka and manuka shrubland, protected by condition 4 of Consent Notice 5678508.2. With the 20m separation achieved, the risk to the dwelling from that vegetation, and vice versa, is at the level the district plan treats as acceptable.

(ii) Mitigation measures.

- **Firefighting water supply.** The proposal provides 50,000 litres of retention storage and 15,000 litres of detention storage, of which a minimum of 10,000 litres will be dedicated and reserved for firefighting use at all times, positioned for safe fire appliance access off the existing metal drive and fitted with an outlet compatible with fire service equipment, in accordance with Table 2 of SNZ PAS 4509:2008. This satisfies standard NH-R5 PER-1 and is secured by the condition below.
- **Building materials and design.** The dwelling is steel framed with Colorsteel Trimrib roof and wall cladding over a cavity. Non combustible external cladding and roofing reduce the risk of ignition from radiant heat and ember attack.
- **FENZ written approval.** The applicant may seek Fire and Emergency New Zealand's written approval regarding the fire risk effect; this is not sought or referred by Council as part of processing the application. **(iii) The adequacy of the water supply, and (iv) the accessibility of the water supply to fire service vehicles.** Addressed above under NH-R5 PER-1. The existing formed metal drive provides vehicle access past the tank location to the building platform.

It is anticipated that the following condition of consent will be imposed:

A roof water collection system shall be provided with a minimum dedicated storage of 10,000 litres reserved for firefighting use at all times. The tanks shall be positioned so as to be safely accessible for firefighting purposes and shall be fitted with an outlet compatible with fire service equipment, in accordance with SNZ PAS 4509:2008.

Assessment. Fire risk effects, including firefighting water supply under NH-R5 PER-1, are assessed as **less than minor**.

6.6 Natural hazards and slope stability

The geotechnical assessment by LDE Ltd records geomorphological evidence of past instability, tension cracking at the top of the slope, an interpreted landslide deposit, and a shear surface encountered at approximately 3.0m depth. Slope instability risk is rated HIGH before mitigation and LOW after mitigation. Under existing groundwater conditions the surrounding slopes are generally stable with a factor of safety greater than 1.0, with shallow instability possible in significant rainfall events when surficial soils become saturated. Instability is predicted at approximately 3.0m depth under ULS seismic conditions, with ground movement of up to 78mm.

LDE conclude at section 5.6 that the site is suitable for development provided the recommendations in section 6 of their report are adopted.

The mitigation is the bored timber pole in ground palisade shear wall, designed to WALLAP 6.07 for an effective retained height of 3.3m and a seismic shear demand of 158kN per metre derived from the global stability output. Pile foundations upslope of the wall are specifically designed for soil creep in the upper 1.5m. Construction monitoring by a Chartered Professional Engineer is required.

The hazard is identified, quantified and engineered for. Importantly, the mitigation reduces risk both on and beyond the site, because the wall is designed to arrest a loss of support that would otherwise progress. No works are proposed that transfer hazard to an adjoining property.

Substantially addressed for resource consent purposes. LDE's letter of 7 September 2026 (Document ID 777590) confirms the dwelling location and building platform, as now shown on the RFI response drawings, are consistent with their investigation and suitable for the proposed development, subject to the recommendations in the geotechnical report being adhered to in full.

Subject to those confirmations, the effects of the proposal on natural hazard risk are assessed as **less than minor**, and the proposal has the positive effect of reducing an existing instability risk on the site.

Approval of the foundation design under condition 1 of Consent Notice 5678508.2 is a building consent stage matter, addressed through the building consent process on the basis of the LDE geotechnical assessment and specific engineering design. It is not a precondition to this resource consent application.

6.7 Earthworks and sediment

LDE record at section 6.3 that earthworks will not be required to form the building platform. Ground disturbance is limited to bored pile holes for the dwelling foundations and the palisade wall, service trenching, and tank bases.

It should be noted that the s37 schedule reasoned an earthworks breach from the wall's 3.3m effective retained height. The LDE Structural Calculation Report explains at section 4.2 that the 3.3m figure is the assumed depth of land loss in front of the wall in a slip scenario, used as a design input for a bored pole wall. It is not an excavated cut face. Rule 12.3.6.1.2(b) and standard EW-S2 are directed at the height of a cut or filled face.

Standard EW-S5 requires erosion and sediment control in accordance with GD2016/005. **Consistent with Council's standard practice, this is not sought as information at lodgement; it is secured by condition of consent, requiring the plan before earthworks commence.** LDE's recommendation that all disturbed surfaces be topsoiled to a minimum of 0.10m as soon as practicable should be incorporated into that plan. It is anticipated that the following condition of consent will be imposed:

An erosion and sediment control plan, prepared in accordance with Auckland Council GD2016/005 (or its Northland equivalent), shall be submitted to and certified by Council prior to any earthworks commencing on site. All disturbed surfaces shall be topsoiled to a minimum depth of 0.10m as soon as practicable following completion of works.

Subject to quantification of the earthworks volume, and subject to that condition, the effects of earthworks are assessed as **less than minor**.

6.8 Stormwater and impermeable surface coverage

Rule 10.7.5.1.6 is one of the standards the s37 certificate records as not complied with. Section 5.2 sets out the calculation and the definition of impermeable surface that governs it. This section assesses the effects, using the twelve matters to which discretion is restricted under Rule 10.7.5.3.8.

The starting point is that the rule is an area cap directed at catchment impermeability, while the LDE Stormwater Neutrality Report addresses peak flow. Both matter, and they are addressed together below.

(a) The extent to which building site coverage and impermeable surfaces contribute to total catchment impermeability, and the provisions of any catchment or drainage plan. Building coverage is 185.3m², being 1.83 percent of the 10,110m² site. The great majority of the site remains in grass and regenerating bush. Even at the restricted discretionary threshold of 1,500m², site impermeability would be under 15 percent, on a lot in a low density rural residential subdivision. No catchment or drainage plan applies to this catchment [to confirm].

(b) The extent to which Low Impact Design principles have been used to reduce site impermeability. Roof water is retained rather than discharged, with 50,000 litres of retention capacity before any overflow occurs. Overflow is detained and released through orifices, then dispersed by an above ground level spreader rather than a piped point discharge. Access uses the existing formed driveway rather than a new formation, which avoids adding impermeable area.

(c) Any cumulative effects on total catchment impermeability. Each lot in the subdivision is between approximately 0.9 and 2 hectares and the development of one dwelling per lot is the anticipated outcome. At 1.83 percent building coverage the contribution to catchment impermeability is small.

(d) The extent to which building site coverage and impermeable surfaces will alter the natural contour or drainage patterns of the site or disturb the ground and alter its ability to absorb water. No earthworks are required to form the building platform. The driveway is existing and no new formation is proposed. The natural contour is therefore substantially unaltered.

(e) The physical qualities of the soil type, and (f) any adverse effects on the life supporting capacity of soils. The soils are Hukerenui Sandy Loam, imperfectly to very poorly drained, and classified as Category 5 under AS/NZS 1547, being moderate to slow draining. LDE classify them as highly reactive. Slow draining reactive soils are the reason the retention and detention approach, rather than soakage, is appropriate on this site.

(g) The availability of land for the disposal of stormwater on the site without adverse effects on water quantity and quality or on adjacent sites. The site is 1.0110 hectares. Stormwater is retained and level spread within the site and does not leave the property.

(h) The extent to which paved, impermeable surfaces are necessary for the proposed activity. The only new impermeable surface is the 158.3m² roof and the entry deck. The driveway and garage already exist. No new paving is proposed.

(i) The extent to which landscaping and vegetation may reduce adverse effects of run-off. The site retains substantial regenerating kanuka and manuka downslope of the building platform, which is protected in perpetuity by condition 4 of Consent Notice 5678508.2. That vegetation intercepts and slows overland flow.

(j) Any recognised standards promulgated by industry groups. The attenuation design uses HEC-HMS modelling with NIWA HIRDS V4 rainfall depths, a 20 percent climate change factor applied to

the post development case, SCS runoff curve numbers of 74 pre development and 98 post development for Group C soils, and a time of concentration of 10 minutes.

(k) The means and effectiveness of mitigating stormwater runoff to that expected by the permitted activity threshold. This is the central matter. The design attenuates post development peak flows to 80 percent or less of the pre development rate across the 50 percent, 20 percent and 1 percent AEP events. Runoff from hardstand areas is not captured, but the report records that attenuation of those areas has been accounted for through oversizing of the tanks and the orifice configuration. The result is that peak discharge from the developed site is lower than from the undeveloped site, notwithstanding the increase in impermeable area.

(l) The extent to which the proposal has considered and provided for climate change. A 20 percent climate change factor has been applied to the post development rainfall depths.

Level spread discharge rather than a point discharge is the appropriate approach on a slope with the instability characteristics LDE identified, and is consistent with LDE's own recommendation that contouring avoid the concentration and discharge of surface water at point locations.

On the matters above, the effects of the proposal on stormwater are assessed as **less than minor**, and the attenuation design produces a positive effect on peak flows relative to both the existing situation and the permitted baseline. ### 6.9 Traffic and access

Access is via the existing formed metal driveway to the east of the building platform, which LDE confirm at section 6.2 is the proposed access. No new crossing, no new formation and no change to the vehicle access is proposed. A single dwelling generates in the order of 8 to 10 vehicle movements per day, which is the level of activity the subdivision was designed to accommodate. The effects on the roading network are **less than minor**.

6.10 Effects on tangata whenua and cultural values

The site's status against any statutory acknowledgement area **Confirmed**. The site is not subject to any statutory acknowledgement area under Schedule 11 of the Act. Sites of significance to tangata whenua and wāhi tapu **Confirmed by Council GIS**. The site is not within any mapped site of significance to tangata whenua or wāhi tapu. The New Zealand Archaeological Association ArchSite record and the Heritage New Zealand list checks remain outstanding. Iwi and hapū contact is only required if either of those checks returns a positive result. An accidental discovery protocol is required in any event by standard EW-S3 of the Proposed District Plan.

6.11 Positive effects

- The proposal provides a permanent dwelling for the owners on an existing residential lot in a subdivision created for that purpose.
- The in ground palisade shear wall reduces an existing slope instability risk on the site from HIGH to LOW. That risk exists whether or not the dwelling is built.
- The stormwater design attenuates post development peak flows to 80 percent or less of the pre development rate, which is an improvement on the existing situation for the receiving catchment.
- Cancellation of condition 3 removes a building envelope restriction that pre-dates any site specific geotechnical assessment, allowing the dwelling to be sited on ground that current geotechnical practice supports, without reducing the level of control over the visual effects of development on Lot 9. ### 6.12 Precedent effects

The proposal is the first residential development on the lot and is the outcome the subdivision anticipated. No precedent effect arises from granting the land use consent.

In relation to Activity B, the relief sought is specific to Lot 9 and is founded on a geotechnical investigation of that lot. It does not affect the operation of conditions 3 and 5 on Lots 5 to 8 or Lots 10 to 12, each of which will continue to be assessed on its own ground conditions. The Council has previously accepted a dwelling on Lot 10 within its designated envelope (RC 2300657), which indicates that the envelope regime remains workable on other lots.

6.13 Cumulative effects

Cumulative effects can arise over time through incremental changes created by activities. The site is one of 16 lots created by DP 207759, together with the adjoining subdivisions DP 384236 and DP 507948. Residential development of each lot is the anticipated outcome of those subdivisions. A single dwelling of 158.3m² occupying 1.56 percent of a 1.0110 hectare site does not generate cumulative effects beyond those already contemplated. Conditions 3, 4 and 5 of Consent Notice 5678508.2 remain the mechanism by which cumulative visual and vegetation effects across Lots 5 to 12 are managed. This application cancels condition 3 and varies condition 5 as they apply to Lot 9 alone; conditions 3, 4 and 5 continue to apply in full to Lots 5 to 8 and 10 to 12, and condition 4 continues to apply to Lot 9. The visual effects that condition 3 previously managed on Lot 9 continue to be managed through the Rural Lifestyle zone standards and the restricted discretionary assessment at section 6.4.

Overall it is considered that the potential cumulative effects of the proposal are **less than minor**.

6.14 Other Schedule 4 matters

The application does not include the use of hazardous installations.

The application does not include the discharge of a contaminant requiring assessment under this application.

The scale and significance of the activity's effects are such that monitoring of the palisade wall construction is appropriate, and a condition to that effect is anticipated.

The site is not subject to any protected customary right **[to confirm]**.

7. Conclusion of the Assessment of Effects

The dwelling is modest in scale and single storey, is set back at least 12.874m from every boundary against a 10m standard, is partly screened by regenerating vegetation protected in perpetuity, and will be finished in recessive natural colours. The slope instability that constrains the site is identified, quantified and engineered for, with the result that risk is reduced rather than increased. Stormwater is attenuated to below pre development peak flows notwithstanding the increase in impermeable area. The dwelling achieves the 20m separation from the dripline required by Rule 12.4.6.1.2 and standard NH-R5 PER-2, and firefighting water supply required by standard NH-R5 PER-1 is provided and secured by way of a standard condition of consent. On each of those matters the effects are assessed as **less than minor**.

The cancellation of condition 3, and the variation of condition 5, retain the purpose of the original conditions while allowing the dwelling to be built on ground that is geotechnically supported. The applicant has confirmed the dwelling will not be located within the designated building envelope, so this relief is required.

8. Statutory Assessment

8.1 Section 104(1)(a) of the Act

Section 104(1)(a) requires that, when considering an application for a resource consent, the consent authority must, subject to Part 2, have regard to any actual and potential effects on the environment of allowing the activity.

As set out in section 6, the proposal will have actual and potential effects that are acceptable. The proposal is modest in scale and is the development outcome the subdivision anticipated. It is considered that the proposal maintains the visual amenity of the site and the surrounding environment, and reduces an existing natural hazard risk.

8.2 Section 104(1)(ab) of the Act

Section 104(1)(ab) requires the consent authority to consider any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects that will or may result from allowing the activity.

The proposal is not of a scale or nature that would require specific offsetting or environmental compensation. The measures the applicant offers, being the palisade shear wall, the stormwater attenuation design and the recessive colour scheme, themselves generate positive effects consistent with the intent of the Coastal Living Zone.

8.3 Section 104(1)(b) of the Act

Section 104(1)(b) requires regard to be had to any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement, and a plan or proposed plan.

National Policy Statements

National Policy Statement for Highly Productive Land 2022, amended December 2025. Clause 3.5(1)(a) limits highly productive land to land in a general rural zone or a rural production zone. The site is zoned Coastal Living under the Operative District Plan and Rural Lifestyle under the Proposed District Plan. The NPS-HPL does not apply.

New Zealand Coastal Policy Statement 2010, amended 2025. The site is within the Coastal Living Zone of the Operative District Plan, which sits within the coastal environment chapter of that plan. Council mapping confirms the site is outside the coastal environment overlay of the Proposed District Plan, so Policies 13, 15 and 25 are not engaged.

National Policy Statement for Freshwater Management 2020. No natural inland wetland or watercourse has been identified on the site **[to confirm from Council GIS]**.

National Policy Statement for Indigenous Biodiversity 2023. Confirmed by Council GIS. No part of the site is mapped as a significant natural area. The regenerating kanuka and manuka is protected by condition 4 of Consent Notice 5678508.2 in any event.

National Environmental Standards

NES for Assessing and Managing Contaminants in Soil to Protect Human Health. The LDE geotechnical report records that no activity on the Hazardous Activities and Industries List was identified at the site. The site is not identified by either the District or the Regional Council as a HAIL site and the NES is not triggered **[to confirm]**.

NES for Freshwater 2020. Not triggered, subject to confirmation that no natural inland wetland is present.

NES for Detached Minor Residential Units 2025. Not applicable. No minor residential unit is proposed.

Northland Regional Policy Statement

The Regional Policy Statement for Northland should be considered, in particular the objectives and policies relevant to coastal living, natural hazards and water quality. The natural hazard provisions are directly engaged by the slope instability addressed at section 6.6, and the applicant should address them specifically rather than in general terms.

Operative Far North District Plan

The objectives and policies relevant to this proposal are those in Chapter 10 of the District Plan.

Objective 10.7.3.1 To provide for the well-being of people by enabling low density residential development to locate in coastal areas where any adverse effects on the environment of such development are able to be avoided, remedied or mitigated.

The subject site is 1.0110 hectares and the proposal is to construct a single residential dwelling. This will be the first dwelling on the site and the proposal is of low density, with building coverage of 1.83 percent. A natural recessive colour scheme is proposed and the existing regenerating vegetation is retained and protected. Adverse effects are avoided or mitigated to a level that is less than minor.

Objective 10.7.3.2 To preserve the overall natural character of the coastal environment by providing for an appropriate level of subdivision and development in this zone.

The site was created with the intention that a residential dwelling be located on the allotment. The proposal is not objectionable in the context of the surrounding development and will not have adverse effects on the natural character of the coastal environment that are more than minor.

Policy 10.7.4.3 requires that subdivision, use and development preserve and where possible enhance the character of the zone in regard to s6 matters, and avoid adverse effects as far as practicable, including by minimising the visual impact of buildings, development and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area.

This policy is directly engaged by the visual amenity breach. The proposal responds to it in four ways: the dwelling is single storey with a low pitched roof, minimising bulk; no earthworks are required to form the building platform and no vegetation clearance is proposed; the existing regenerating vegetation that screens the site from lower viewpoints is retained and protected by condition 4; and the dwelling will be finished in recessive natural colours. **[to complete: identify the public viewpoints from which the site is visible and describe the visibility of the dwelling from each.]**

Policies 10.4.2, 10.4.3, 10.4.9, 10.4.10 and 10.4.11 relating to consolidation of coastal development, ecological values, natural hazards, year round water supply and minimisation of erosion and sediment run-off are each addressed by the proposal. The development consolidates within an existing subdivision; the indigenous vegetation is protected; the natural hazard is identified and engineered for; 65,000 litres of on site water storage is provided; and no earthworks are required to form the platform.

Proposed Far North District Plan, Appeals Version

The Proposed District Plan, Appeals Version, took legal effect on 19 August 2026, superseding the 30 June 2026 Decisions Version. Its rules apply and its objectives and policies carry substantial weight, reflecting the advanced stage it has reached.

The objectives and policies of the following chapters, all under the Decisions Version, are addressed below. None of these provisions is changed by the Appeals Version.

Rural Lifestyle zone. Objectives RLZ-O1 to RLZ-O4 provide for low density residential and small scale farming activities that are compatible with the rural character and amenity of the zone, without compromising that character or the efficient operation of adjoining Rural Production land. The proposal is a single residential dwelling on a 1.0110 hectare lot within an established residential subdivision, consistent with the low density residential activity RLZ-O1 anticipates. Building coverage of 1.83 percent, retention of the regenerating kanuka and manuka, and the recessive colour scheme maintain the character and amenity values RLZ-O2 describes. The zone does not adjoin a Rural Production zone, so RLZ-O4 is not engaged.

Policy RLZ-P1 enables low density residential activities where their design, scale and intensity is appropriate to manage adverse effects in the zone. The dwelling is single storey, of modest scale, sited on geotechnical advice, and finished in recessive natural colours; the matters of discretion assessed at section 6.4 confirm its design and scale are appropriate to the zone. Policy RLZ-P2 avoids activities incompatible with the zone's character; a single residential dwelling is not such an activity. Policy RLZ-P4 lists matters relevant to assessing land use, including the scale and character of the environment, the siting and design of buildings, natural hazards, and effects on natural features and indigenous biodiversity, each of which is addressed in the assessment of effects at section 6: siting and visual amenity at sections 6.2 and 6.4, natural hazards at section 6.6, and indigenous biodiversity at section 6.4(ix). The proposal is consistent with the objectives and policies of the Rural Lifestyle zone chapter.

Natural Hazards. Objectives NH-O1 and NH-O2 require the risks from natural hazards to be managed and not increased, with existing risk reduced where practicable. The engineered palisade shear wall reduces the assessed slope instability risk on the site from HIGH to LOW, meeting both objectives directly; see section 6.6. Policy NH-P8 requires subdivision and land use to avoid land susceptible to instability or, where that is not practicable, to mitigate the risk: the building platform is sited on the position the LDE geotechnical assessment supports, and the palisade wall mitigates the instability that remains. Policy NH-P9 requires vulnerable activities susceptible to wildfire risk to be managed by setbacks from contiguous scrub or shrubland, access for emergency vehicles, and sufficient accessible water supply for firefighting; all three limbs are met, being the 20m dripline setback (section 5.3), the existing formed metal drive providing emergency vehicle access, and firefighting water supply secured by condition (section 6.5). The proposal is consistent with the objectives and policies of the Natural Hazards chapter.

Earthworks. Objectives EW-O1 to EW-O3 enable earthworks where required for development while managing effects on amenity, surrounding land, infrastructure and slope stability. LDE confirm at section 6.3 of their report that earthworks are not required to form the building platform; ground disturbance is limited to bored pile holes, service trenching and tank bases (section 6.7). Policy EW-P3 requires earthworks to be managed by controlling depth, height, volume and setbacks, and by controlling dust and sediment, and Policy EW-P8 lists the matters relevant to assessing earthworks effects, including stability and erosion and sediment control; erosion and sediment control is secured by standard condition, and the earthworks volume statement remains an outstanding item (item 7). Subject to that item, the proposal is consistent with the objectives and policies of the Earthworks chapter.

Natural Character and Ecosystems and Indigenous Biodiversity. The Natural Character chapter addresses only the natural character of wetland, lake and river margins; the natural character of the coastal environment is addressed separately in the Coastal Environment chapter. No wetland, lake or river has been identified on the site, and the site is confirmed outside the Coastal Environment overlay, so the Natural Character chapter does not apply. Objectives IB-O1 to IB-O5 protect areas of significant indigenous vegetation and significant habitats of indigenous fauna. **Confirmed by Council GIS,** no part of the site is mapped as a significant natural area. As the site is outside the coastal environment, Policy IB-P3 is the applicable provision, requiring adverse effects on threatened or at risk indigenous species and on areas of significant indigenous vegetation and habitat to be no more than minor: the regenerating kanuka and manuka on the site is retained and protected in perpetuity by condition 4 of Consent Notice 5678508.2, and no vegetation clearance is proposed, so no more than minor adverse effect arises. The proposal is consistent with the objectives and policies of the Ecosystems and Indigenous Biodiversity chapter.

8.4 Section 104(1)(c) of the Act

The three consent notices registered against the title and the land covenant are other matters relevant and reasonably necessary to determine the application. Consent Notice 5678508.2 is addressed throughout this assessment. Their registration is confirmed by the title search copy on file (NA135D/202, dated 25 February 2026); see section 3.1.

8.5 Sections 105 and 107 of the Act

Not applicable. The application does not include a discharge permit.

8.6 Section 220 and section 221(3) of the Act

Addressed at sections 6.2 and 6.3 in relation to Activity B.

8.7 Part 2 Matters

The application must be considered in relation to the purpose and principles of the Resource Management Act 1991, contained in sections 5 to 8.

Section 5. The proposal meets s5 in that it enables the applicants to provide for their social and economic wellbeing by constructing a dwelling on an existing residential lot created for that purpose, while safeguarding the life supporting capacity of soil and water through the stormwater design, and avoiding and mitigating the adverse effects of a natural hazard through the engineered slope stabilisation works.

Section 6. Section 6 sets out matters of national importance. Of these, s6(a) preservation of the natural character of the coastal environment, s6(c) protection of areas of significant indigenous vegetation, and s6(h) management of significant risks from natural hazards are potentially engaged. Natural character is addressed at section 6.4. Indigenous vegetation is retained and protected by condition 4 of the consent notice. Natural hazard risk is addressed at section 6.6 and is reduced by the proposal. **Confirmed by Council GIS.** The site is not within a mapped area of outstanding natural character, an outstanding natural landscape or feature, a significant natural area, or an area of significance to Māori.

Section 7. Section 7 identifies other matters to which particular regard is to be given, including the maintenance and enhancement of amenity values and the quality of the environment. The proposal maintains amenity values in the area, being in keeping with the existing character of the surrounding environment.

Section 8. Section 8 requires the principles of the Treaty of Waitangi to be taken into account.

Subject to the items marked for completion, the application is considered to be consistent with the relevant provisions of Part 2 of the Act as expressed through the objectives, policies and rules reviewed above.

9. Notification Assessment, Sections 95A to 95G of the Act

9.1 Public Notification Assessment

Step 1: Mandatory public notification in certain circumstances. The criteria in s95A(3) are that the applicant has requested public notification, that public notification is required under s95C, or that the application is made jointly with an application to exchange recreation reserve land under s15AA of the Reserves Act 1977. The applicant does not request public notification, no s95C requirement arises, and the application is not made jointly with a reserve land exchange. Step 1 does not apply and step 2 must be considered.

Step 2: Public notification precluded in certain circumstances. The criteria in s95A(5) are that each activity is subject to a rule or national environmental standard that precludes public notification, or that the application is for a controlled activity or a boundary activity only. The application is a restricted discretionary activity and is not a boundary activity. No preclusion applies. Step 3 must be considered.

Step 3: Public notification required in certain circumstances. The criteria in s95A(8) are that any activity is subject to a rule or national environmental standard requiring public notification, or that the consent authority decides in accordance with s95D that the activity will have or is likely to have adverse effects on the environment that are more than minor. No applicable rule or national environmental standard requires public notification **[to confirm]**. On the assessment in section 6, the adverse effects on the environment are less than minor. Step 4 must be considered.

Step 4: Public notification in special circumstances. No special circumstances exist that warrant public notification. The proposal is to construct a single residential dwelling on private land within an established residential subdivision, which is neither exceptional nor unusual, and is not considered to be controversial or of significant public interest.

Public notification summary. The application does not require public notification, and an assessment of limited notification is required.

9.2 Limited Notification Assessment

Step 1: Certain affected groups and affected persons must be notified. Section 95B(2) requires the identification of any affected protected customary rights group and any affected customary marine title group. **[to complete: this cannot be answered until the checks described at section 6.10 have been undertaken.]** Section 95B(3) requires a determination of whether the activity is on or adjacent to, or may affect, land subject to a statutory acknowledgement made in accordance with an Act specified in Schedule 11, and whether the person to whom the acknowledgement is made is an affected person under s95E. **Confirmed.** The site is not subject to any statutory acknowledgement area; this limb does not apply.

Step 2: Limited notification precluded in certain circumstances. The criteria in s95B(6) are that each activity is subject to a rule or national environmental standard that precludes limited notification, or that the application is for a controlled activity only that requires consent under a district plan. Neither applies. Step 3 must be considered.

Step 3: Certain other affected persons must be notified. The proposal is not a boundary activity. Under s95B(8) and s95E, a person is an affected person if the adverse effects of the activity on that

person are minor or more than minor, disregarding effects on a person who has given written approval.

The following persons should be considered:

Person	Consideration
Owners of adjoining lots, being Lot 8 DP 207759, Lots 3 and 4 DP 507948, and Lots 58, 59 and 60 DP 384236	Setbacks exceed 20m to every boundary against a 10m standard. The dwelling is single storey. No shading, dominance or privacy effect arises at that separation. Intervening regenerating vegetation provides screening. Stormwater is attenuated and level spread within the site. The slope stabilisation works reduce rather than increase risk to adjoining land.
Owners of Lots 5 to 12 DP 207759, who hold the benefit of conditions 3 and 4 of Consent Notice 5678508.2	These persons have an interest in Activity B. The relief sought is specific to Lot 9: it cancels condition 3 as it applies to Lot 9 alone, while conditions 3, 4 and 5 continue to apply in full to the other lots, and retains the vegetation protection in condition 4 and the colour requirement in condition 5 for Lot 9. On this basis, the adverse effects on these owners are assessed as less than minor, independent of current ownership. Written approval is not required.
Owners of Lots 5 to 9 DP 207759, who hold the benefit of condition 5	As above, in relation to the height element of Activity B.

Step 4: Further notification in special circumstances. No special circumstances are identified that would warrant notification to any other person.

Limited notification summary. On the effects assessment at section 6, no person is identified as being adversely affected to a minor or greater degree; limited notification is not required.

9.3 Notification Assessment Conclusion

Subject to the items marked for completion, it is submitted that the application can be determined without public or limited notification.

10. Conclusion

The proposed residential dwelling is suitable in the context of the site and the surrounding environment. It is single storey and modest in scale, is set well back from every boundary, and will be finished in recessive natural colours. The regenerating kanuka and manuka that gives the locality its character is retained and remains protected in perpetuity by condition 4 of Consent Notice 5678508.2.

The slope instability that constrains the site is identified, quantified and engineered for. The in ground palisade shear wall designed by LDE reduces the assessed instability risk from HIGH to LOW, and does so for the benefit of adjoining land as well as the subject site. Stormwater is attenuated to 80 percent or less of the pre development peak discharge.

The relief sought under conditions 3 and 5 of the consent notice is the minimum necessary to allow the dwelling to be built where the geotechnical evidence supports it. Condition 3 is cancelled as it applies to Lot 9, with the visual effects it was designed to manage continuing to be controlled through the Rural Lifestyle zone standards and the restricted discretionary assessment at section 6.4; the vegetation protection in condition 4 is untouched, and the recessive colour requirement in condition 5 is retained.

All effects of the activity are managed within the property boundaries. The development will result in no more than minor adverse effects on the coastal environment and the coastal landscape, and less than minor effects on any person.

The proposal is consistent with the relevant objectives and policies of the Operative District Plan, the Proposed District Plan and the Regional Policy Statement, and with Part 2 of the Resource Management Act 1991.

As a discretionary activity, the application has been assessed under sections 104 and 104B of the Act. The application to cancel and vary the consent notice conditions has been assessed under s221(3).

Consent is sought for Activities A and B on a non-notified basis.

Signed

Jason David Squire and Anita Hollerer

Dated : 9 September 2026

11. List of Appendices

- Appendix 1: Site Plan, drawing A.1.01 REV D
- Appendix 2: Record of Title NA135D/202
- Appendix 3: Consent Notice 5678508.2 and attached scheme plan RC 2000273
- Appendix 4: Elevations, drawings A.2.01 and A.2.02 REV D
- Appendix 5: Dimensioned cross section, height above natural ground level, drawing A.2.01 REV D
- Appendix 6: LDE Geotechnical Assessment Report, Document ID 659987
- Appendix 7: LDE Structural Calculation Report, In Ground Palisade Shear Wall, Document ID 753101, and drawings C001 and C101
- Appendix 8: LDE Stormwater Neutrality Report, Document ID 720986
- Appendix 8a: LDE Review of Building Platform Location, Document ID 777590, dated 7 September 2026
- Appendix 9: Section 37 Certificate dated 14 August 2026

GENERAL NOTES

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES TO BE RAISED WITH THE DESIGNER / ARCHITECT

All work shall comply with the NZBC, all relevant Local Authority bylaws, NZS 3604, and all relevant standards

All work to be carried out in accordance with drawings and specification provided

All work to be undertaken to be best trade practice for each respective trade. Any substandard work or building material defects shall be the Contractors responsibility to remove, repair or replace at no extra cost to the contract

The Contractor shall ensure that all rubbish is removed from site during and at the end of the contract works

The Contractor shall provide the appropriate temporary fencing, hoarding, guardrails and signage as necessary to protect the public and others during the contract works and to meet the requirements of the Local and Territorial Authorities

All timber shall be H1.2 treated graded SG-8 unless stated otherwise

Refer to the Roof Truss Manufacturers drawings and specification.



REAL DESCRIPTION

Allotment number Lot 9
Deposited Plan DP 207759
Area 1.0110 ha
Zone Rural Lifestyle Zone
Local Authority Far North District

SITE COVERAGE

Area of Prop. Dwelling Roof (Excl. eaves) 184.3m²
Area of Existing Shed 27.0m²
Area of Prop. Deck >1.0m high 68.6m²
Site coverage equals 279.9m² =2.8%

IMPERVIOUS AREA

Area of Prop. Dwelling Roof (Incl. eaves) 222.3m²
Area of Existing Shed 27.0m²
Area of Existing Driveway 410.0m²
Area of Proposed Driveway 95.0m²
Area of Water Tanks(less 20m² exclusion) 8.6m²
Impervious coverage equals 762.9m² =7.5%

Wind Zone Extra High
Earthquake Zone 1
Corrosion Zone C
Snow Load N0

Stormwater Disposal Note:
Refer to Stormwater Neutrality Report by LDE in Supporting Docs.

In ground Palisade Wall Note:
Refer to STR Design Features Report- Palisade Shear Wall by LDE in Supporting Docs.
Job No:29302, Dated 15.07.26 & Drawings dated:14.07.26.

PROPOSED DWELLING

In ground Palisade Wall as per SED



Wastewater Disposal Note:
Refer to On-Site Waste Water Disposal Report by Kerikeri Drainage Ltd. in Supporting Docs.

315m min. Dripperline Field laid in the bush with 1.0m min. centres & pinned to the ground.
Ensure Field & Reserve Area are setback 1.5m min. to Boundaries

100% Reserve Area

Existing Garage 27m² approx.

EXISTING VEGETATION

Promax Express 15,000L Detention Water Tank

2x Promax Express 25,000L Retention Water Tanks. Provide UV filter. Final location TBC on-site.

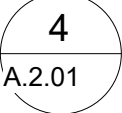
PROPOSED METAL DRIVE

Proposed Wastewater Treatment System

Above ground Flow dispersal spreader

20.0m Setback from Dripline

Olive View Heights Drive



Site Plan
1 : 500

BUILDING CONSENT



Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26
B	Building Consent Issue		21.07.26
C	EBC-2027-84/0 RFI Response		12.08.26
D	Section 37 Response		15.08.26

Henry French 0210780330
25 Ngaio Grove, Robinsons Bay, Duvauchelle
LBP 122967 - D2

Drawn	Approved	Date
S.Ghaffari	Approver	3/09/2026 3:40:52 pm
Project No.	Scale	
G0344	As indicated @A3	

Project
JASON SQUIRE & ANITA HOLLERER
93 OLIVE VIEW HEIGHTS DRIVE, TAIPA
PROPOSED DWELLING

Title	SITE PLAN
-------	-----------

Sheet No.	Revision
A.1.01	RD



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




R.W. Muir
Registrar-General
of Land

Identifier **NA135D/202**
Land Registration District **North Auckland**
Date Issued 01 August 2003

Prior References
NA121C/287

Estate Fee Simple
Area 1.0110 hectares more or less
Legal Description Lot 9 Deposited Plan 207759
Registered Owners
Jason David Squire and Anita Hollerer

Interests

Saving and excepting all minerals within the meaning of the Land Act 1924 on or under the land and reserving always to Her Majesty the Queen and all persons lawfully entitled to work the said minerals a right of ingress egress and regress over the said land

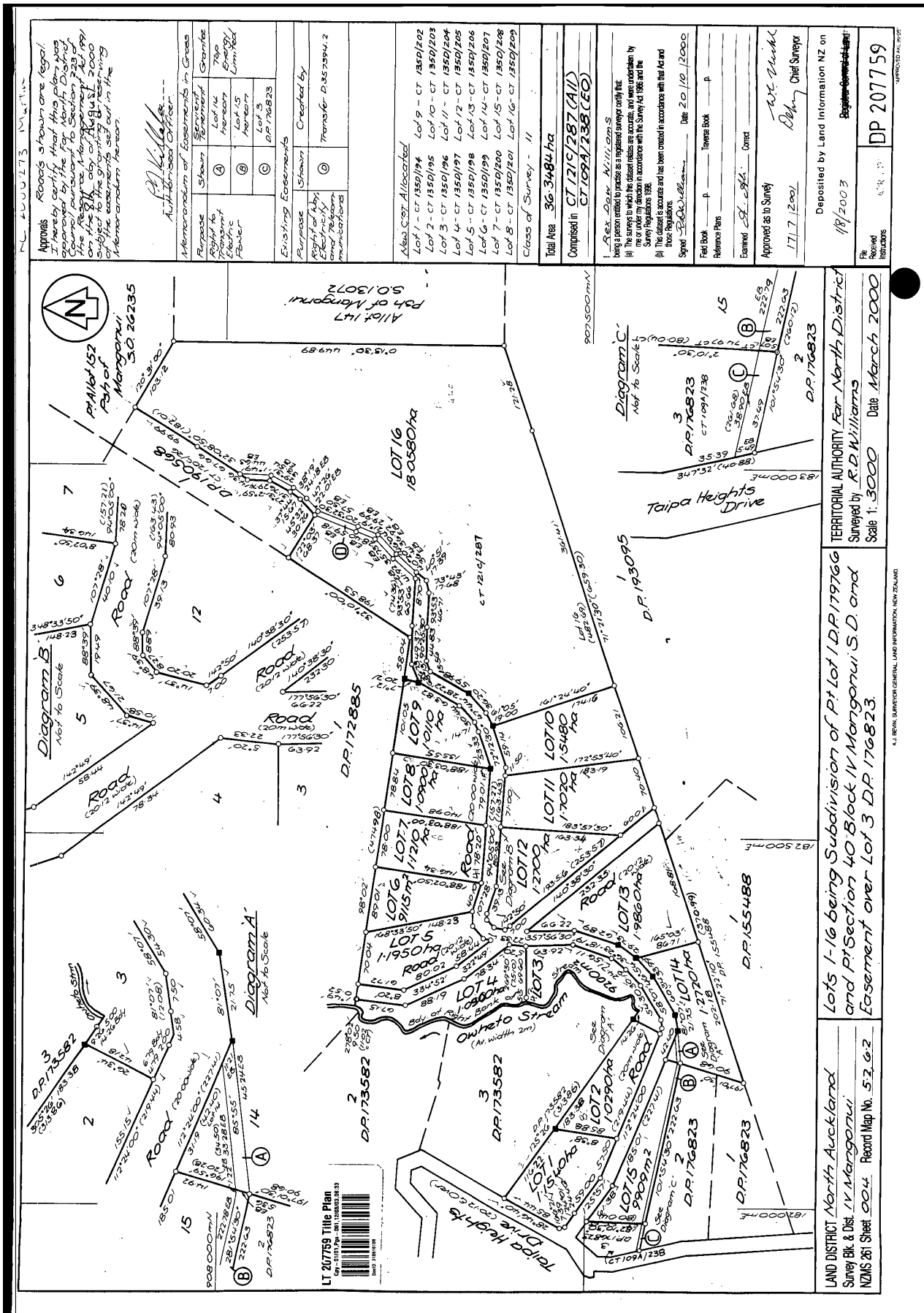
D083610.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 23.12.1996 at 2.21 pm

D320507.3 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 14.10.1998 at 3.05 pm

5678508.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.8.2003 at 9:00 am

Land Covenant in Transfer 6348818.2 - 16.3.2005 at 9:00 am

6348818.3 Mortgage to ASB Bank Limited - 16.3.2005 at 9:00 am





THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

IN THE MATTER of Plan 207759

PURSUANT to Section 221 and for the purposes of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by THE FAR NORTH DISTRICT COUNCIL to the effect that the conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and any subsequent owners after the deposit of the survey plan, and is to be registered on the appropriate titles.

SCHEDULE

1. No buildings shall be erected on the proposed lots 1-15 without the prior approval of the Council to specific designs for foundations, prepared by a Registered Engineer with geotechnical expertise.
2. No building which requires effluent disposal shall be erected on lot 1-15 without the prior approval of the Council to a report from a person with the appropriate expertise on such disposal in terms of the requirements of Auckland Regional Council technical publication 58, including an indication of compliance with the relevant Northland Regional Council Rules
3. Any building constructed on lots 5-12 described hereunder is to be located entirely within the building envelope specified on the plan attached to this Consent Notice.
4. All indigenous vegetation (excluding gorse and other noxious plants) now located on lots 5-12 described hereunder outside the identified building envelopes and shown on the attached plan is to be preserved and shall not without the prior written consent of the Council and then only in strict compliance with any condition imposed by the Council, cut down, damage or destroy any of such trees or bush, or suffer or permit the cutting down, damaging or destruction of any such trees or bush. The owner shall be deemed

not to be in breach of this prohibition if any such trees or bush shall die from natural causes not attributable to any act or default by or on behalf of the owner or for which the owner is responsible.

5. Any building to be constructed on lots 5-9 described hereunder is to be no higher than 6 metres above the average ground level within the specified building envelope, and is to be finished and from thereon maintained in recessive natural colours; such colours to be approved at the time of a building consent being lodged with the Council.

THE LAND EFFECTED BY THIS CONSENT NOTICE IS

- FIRST.** 1.1540 hectares more or less being Lot 1 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title Volume 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 194 (North Auckland Registry)
- SECONDLY.** 1.0290 hectares more or less being Lot 2 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 195 (North Auckland Registry)
- THIRDLY.** 9200m² more or less being Lot 3 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 196 (North Auckland Registry)

A handwritten signature in black ink, appearing to be 'JHM' followed by a stylized flourish.

- FOURTHLY. 1.0900 hectares more or less being Lot 4 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 197 (North Auckland Registry).
- FIFTHLY. 1.1950 hectares more or less being Lot 5 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 198 (North Auckland Registry).
- SIXTHLY 9115 m² more or less being Lot 6 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 199 (North Auckland Registry)
- SEVENTHLY. 1.1210 hectares more or less being Lot 7 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 200 (North Auckland Registry)
- EIGHTLY. 1.0900 hectares more or less being Lot 8 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and

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described in Certificate of Title Volume 135D Folio 201 (North Auckland Registry)

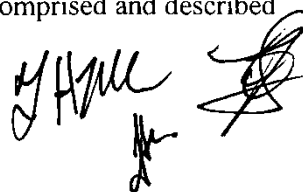
NINETHLY. 1.0110 hectares more or less being Lot 9 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 202 (North Auckland Registry)

TENTHLY. 1.5480 hectares more or less being Lot 10 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 203 (North Auckland Registry)

ELEVENTHLY. 1.7020 hectares more or less being Lot 11 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 204 (North Auckland Registry)

TWELTHLY. 1.2700 hectares more or less being Lot 12 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 205 (North Auckland Registry)

THIRTEENTHLY. 1.9860 hectares more or less being Lot 13 on Deposited Plan 207759 being part of the land formerly comprised and described

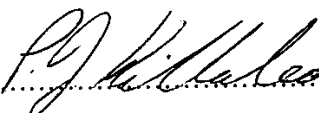
Handwritten signatures and initials in black ink, located at the bottom right of the page. There are three distinct marks: a large signature that appears to be 'J. Hume', a smaller signature below it, and a stylized initial or signature to the right.

in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 206 (North Auckland Registry)

FOURTEENTHLY. 1.2720 hectares more or less being Lot 14 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 207 (North Auckland Registry)

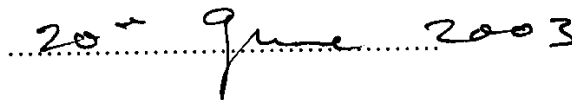
FIFTEENTHLY. 9909m² more or less being Lot 15 on Deposited Plan 207759 being part of the land formerly comprised and described in Certificate of Title 121C Folio 287 (North Auckland Registry) but now the whole of the land comprised and described in Certificate of Title Volume 135D Folio 208 (North Auckland Registry)

SIGNED:



Resource Consents Manager for the FAR NORTH DISTRICT COUNCIL

DATE:

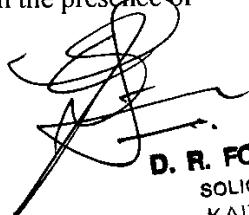


SIGNED by

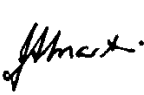
TREVOR HERBERT MARTIN and

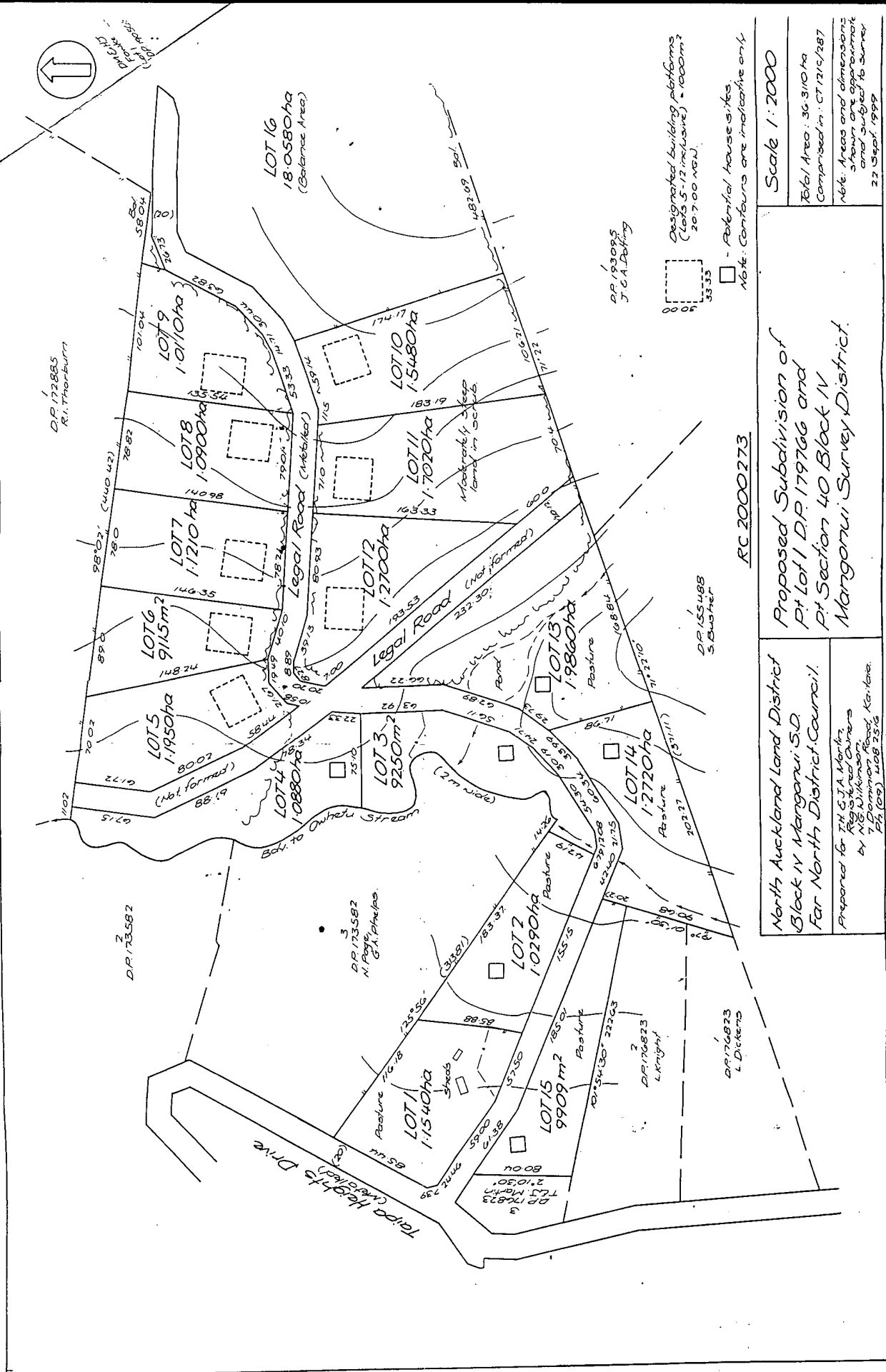
JOSEPHINE ANN MARTIN

in the presence of



D. R. FOUNTAIN
SOLICITOR
KAITIA

) 
) 
) 



North Auckland Land District
 Block IV Mangorui 50
 For North District Council

Proposed Subdivision of
 Pt Lot 1 D.P. 179766 and
 Pt Section 40 Block IV
 Mangorui Survey District.

Scale 1:2000

Total Area: 30.310 ha
 Comprised in: CT 1215/1287

Note: Areas and dimensions shown on this plan are indicative only and are subject to survey.

22 Sept. 1999

Prepared for: J.H. G.I.A. Martin
 Registered Owners
 by: N.G. Wilkinson
 7 Dominion Road, Kaitake.
 Ph: (09) 408 2336

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

(Deposited Plan 207759

North Auckland Registry)

12/10/2011

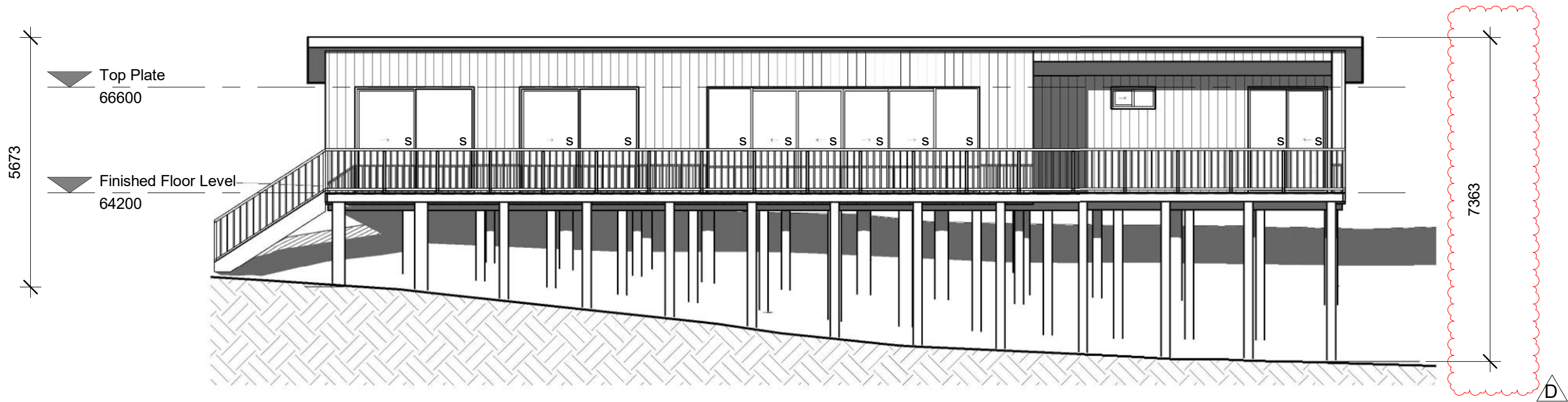
ROBIN FOUNTAIN

SOLICITOR

MANGONUI

2

Consent for -

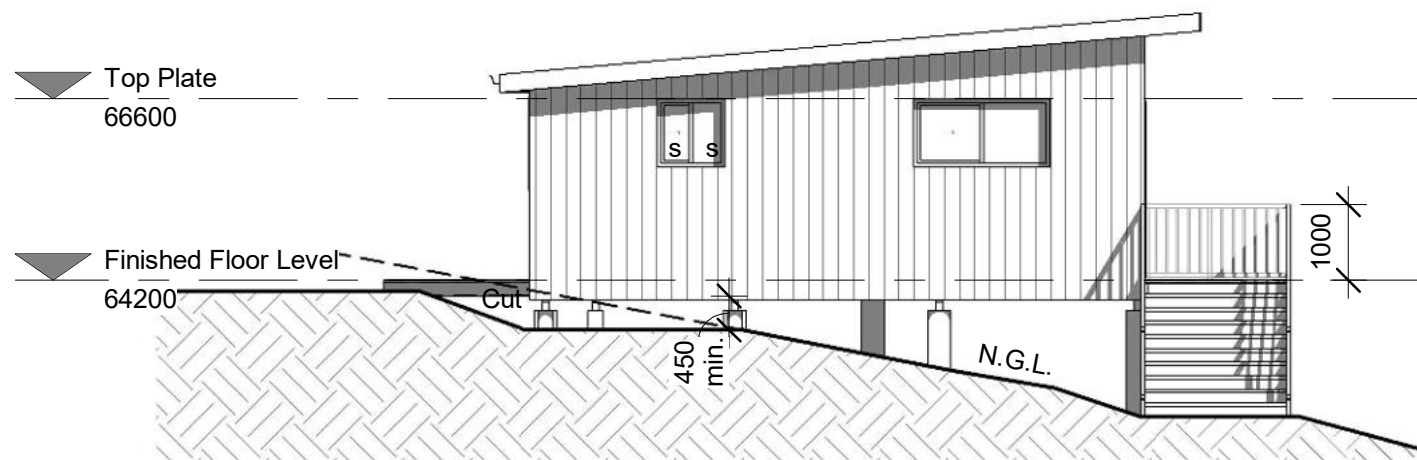


2 North Elevation
A.1.02 1 : 100

Cladding Legend:
Roof Colorsteel Trimrib™ Trapezoidal Roof Sheet
Walls Colorsteel Trimrib™ Vertical Trapezoidal Metal Cladding

NOTE:
As per Consent Notice 5678508.2:
Building Envelope is to be finished and maintained in Recessive Natural colours. Charcoal, or a similar colour, to be used for cladding and joinery, with a Light Reflectance Value of 8.1 (or sim.)

BUILDING ENVELOPE RISK MATRIX.			
A	Wind Zone	Ex. High Risk	2
B	No. Storeys	Low Risk	0
C	Roof/wall Design	Low Risk	0
D	Eaves	High Risk	2
E	Envelope Complexity	Low Risk	0
F	Deck Design	Low Risk	0
TOTAL RISK SCOPE			4



1 East Elevation
A.1.02 1 : 100

GENERAL NOTES

WINDOWS

All windows and door to be double glazed units as per NZBC H1/AS1 2007.
Install WANZ support bars to all exterior windows and door sills.
All windows and doors to be site measured before commencement of manufacture.
S - Denotes safety glass to be installed

EXTERIOR CLADDING

Vertical Colorsteel Trimrib™ Trapezoidal Cladding over 20mm vented cavity batten over N35 Eurotop FPS™ wall underlay over Thermal Break over Steel Frame.

ROOF

Colorsteel Trimrib™ Trapezoidal roof sheet pitched at 5° over battens over builders paper.

Miscallaneous.
Install Lumberloc Metal Roof Strap Bracing where shown.

imagine
KIT HOMES

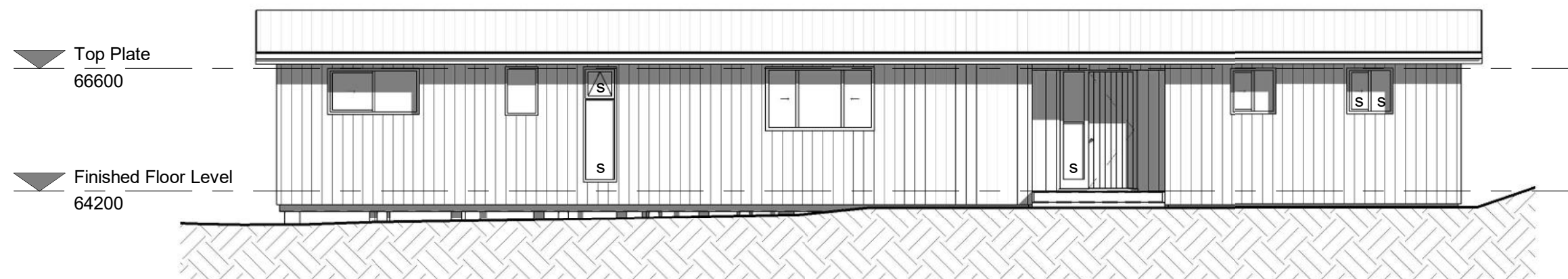
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D	Section 37 Response		15.08.26

		Henry French 0210780330 25 Ngaio Grove, Robinsons Bay, Duvauchelle LBP 122967 - D2
Drawn	Approved	Date
S.Ghaffari	Approver	3/09/2026 3:40:54 pm
Project No.	Scale	
G0344	As indicated @A3	
Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

ELEVATIONS

BUILDING CONSENT

Sheet No.	Revision
A.2.01	RD



1
A.1.02

South Elevation
1 : 100

Cladding Legend:

Roof  Colorsteel Trimrib™ Trapezoidal Roof Sheet
Walls  Colorsteel Trimrib™ Vertical Trapezoidal Metal Cladding

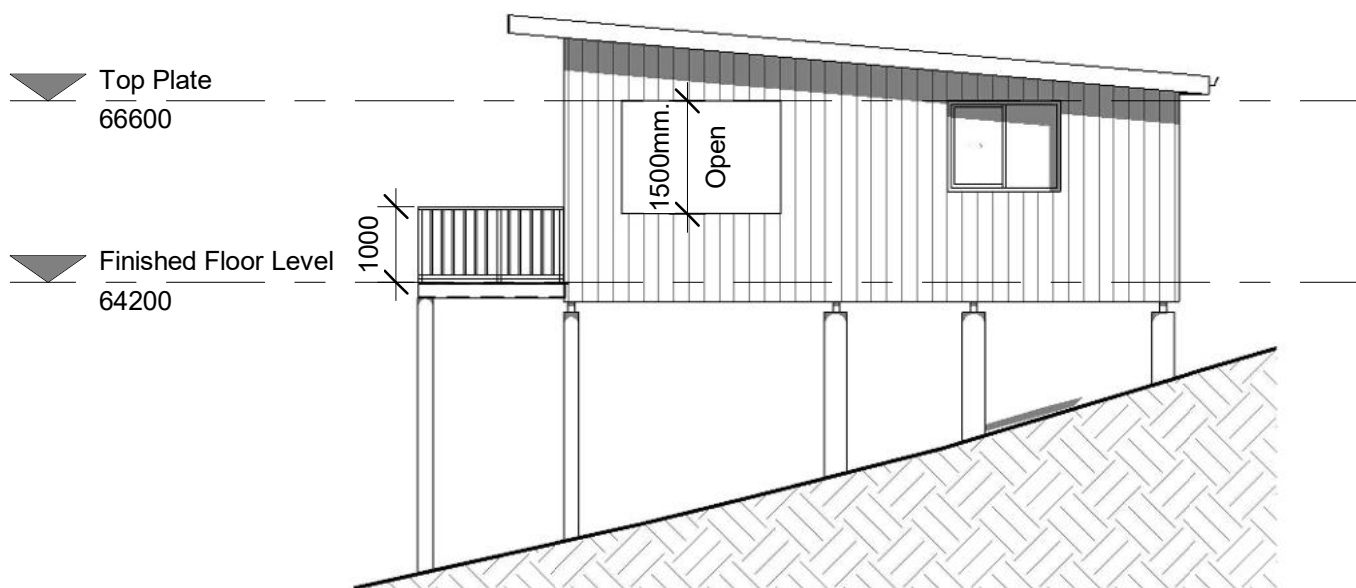
NOTE:

As per Consent Notice 5678508.2:
Building Envelope is to be finished and maintained in Recessive Natural colours. Charcoal, or a similar colour, to be used for cladding and joinery, with a Light Reflectance Value of 8.1 (or sim.)

D

BUILDING ENVELOPE RISK MATRIX.

A	Wind Zone	Ex. High Risk	2
B	No. Storeys	Low Risk	0
C	Roof/wall Design	Low Risk	0
D	Eaves	High Risk	2
E	Envelope Complexity	Low Risk	0
F	Deck Design	Low Risk	0
TOTAL RISK SCOPE			4



2
A.1.02

West Elevation
1 : 100

GENERAL NOTES

WINDOWS

All windows and door to be double glazed units as per NZBC H1/AS1 2007.
Install WANZ support bars to all exterior windows and door sills.
All windows and doors to be site measured before commencement of manufacture.
S - Denotes safety glass to be installed

EXTERIOR CLADDING

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ROOF

Colorsteel Trimrib™ Trapezoidal roof sheet pitched at 5° over battens over builders paper.

Miscellaneous.

Install Lumberloc Metal Roof Strap Bracing where shown.

imagine
KIT HOMES

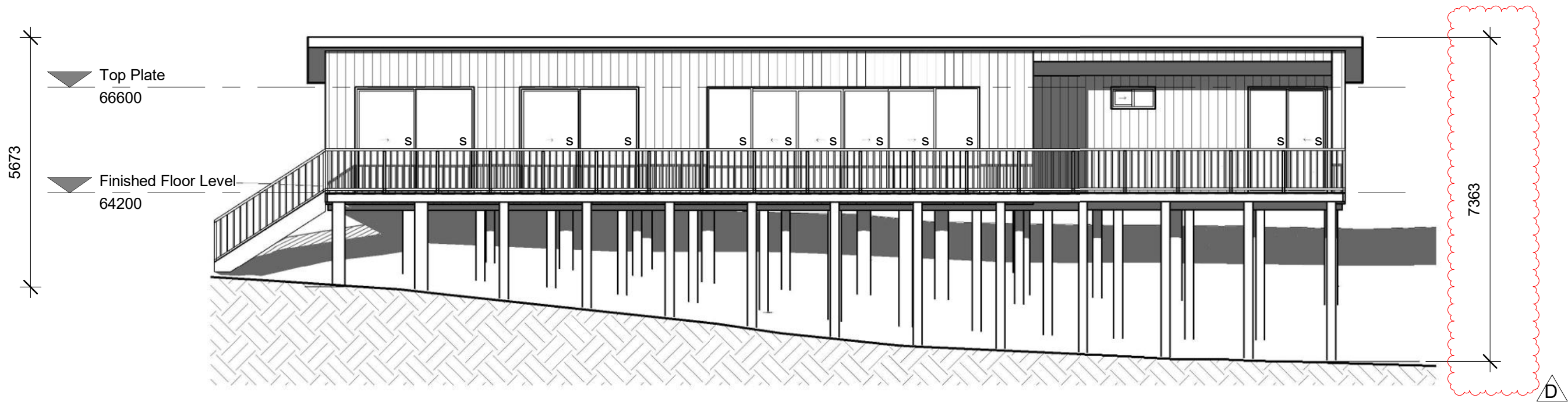
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Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

ELEVATIONS

BUILDING CONSENT

Sheet No.	Revision
A.2.02	RD

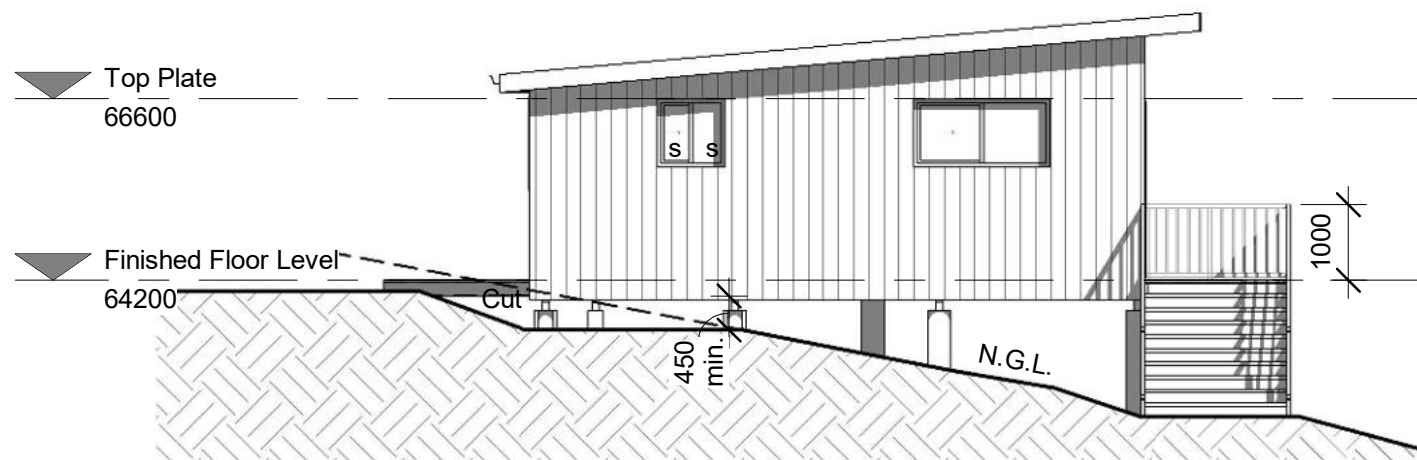


2 North Elevation
A.1.02 1 : 100

Cladding Legend:
Roof Colorsteel Trimrib™ Trapezoidal Roof Sheet
Walls Colorsteel Trimrib™ Vertical Trapezoidal Metal Cladding

NOTE:
As per Consent Notice 5678508.2:
Building Envelope is to be finished and maintained in Recessive Natural colours. Charcoal, or a similar colour, to be used for cladding and joinery, with a Light Reflectance Value of 8.1 (or sim.)

BUILDING ENVELOPE RISK MATRIX.			
A	Wind Zone	Ex. High Risk	2
B	No. Storeys	Low Risk	0
C	Roof/wall Design	Low Risk	0
D	Eaves	High Risk	2
E	Envelope Complexity	Low Risk	0
F	Deck Design	Low Risk	0
TOTAL RISK SCOPE			4



1 East Elevation
A.1.02 1 : 100

GENERAL NOTES

WINDOWS

All windows and door to be double glazed units as per NZBC H1/AS1 2007.
Install WANZ support bars to all exterior windows and door sills.

All windows and doors to be site measured before commencement of manufacture.

S - Denotes safety glass to be installed

EXTERIOR CLADDING

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ROOF

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Miscallaneous.

Install Lumberloc Metal Roof Strap Bracing where shown.

imagine
KIT HOMES

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Title		

ELEVATIONS

BUILDING CONSENT

Sheet No.	Revision
A.2.01	RD

Greenstone
architectural design company



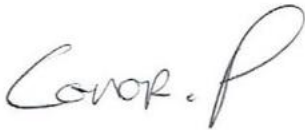
Anita Hollerer-Squire

**GEOTECHNICAL REPORT FOR NEW DWELLING – BUILDING
CONSENT**

93 Olive View Heights Drive, Taipa

DOCUMENT CONTROL

Version	Date	Issued For / Comments
A	01/07/2026	Issued for Design - Plan Review Required

Prepared By	Reviewed & Authorised By
 Caleb Gasston Senior Engineering Geologist/Geophysicist <i>PhD (Geology), MEngNZ</i>	 Conor Pullman Chartered Engineering Geologist <i>BSc, PGDipSci, CMEngNZ (PEngGeol)</i>

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APPENDIX A: ARCHITECTURAL PLANS

APPENDIX B: GEOTECHNICAL INVESTIGATION PLAN

APPENDIX C: GEOTECHNICAL INVESTIGATION DATA

APPENDIX D: STABILITY ANALYSES

1 EXECUTIVE SUMMARY

Based on the investigation and appraisal of the site reported herein, the proposed building development has been assessed as being potentially subject to the impacts of slope instability and expansive soils. As such, LDE recommend the development be supported by an in-ground/palisade wall, specifically designed to mitigate a loss of support in the upper 3.3 m of the soil profile. Additionally, all bored and poured timber pile foundations located east of and upslope of the in-ground wall are to be subject to specific engineering design, allowing for the effect of soil creep impacting on the upper 1.5 m of the soil profile.

All other geotechnical hazards at the site have been assessed as either not present or of acceptable risk provided that the various mitigation measures and good practice recommendations made in this report are adopted.

A summary Table outlining key considerations of this report is provided below. This summary table should not be relied on solely. The report and its appendices should be read in its entirety.

Table 1 – Key considerations of reporting

Key Consideration	Commentary
Mapped Hazards	<i>None</i>
Site Geology & Natural Soils	<i>Punakitere Sandstone (Northern Allochthon)</i>
Groundwater	<i>Thin perched layer at weathering interface, otherwise not encountered</i>
Seismic Site Class	<i>Class C- Shallow Soil</i>
Slope Stability	<i>Existing instability beneath proposed dwelling and potential for future instability</i>
Compressible Soils	<i>0.5 m depth of topsoil from surface.</i>
Expansive Soils	<i>Class H – Highly Expansive</i>
Foundations	<i>Specific Engineering Design</i>
Bearing Capacity	<i>GUBC of 300 kPa</i>
Retaining	<i>In-ground/Pallisade wall required – subject to Specific Engineering Design</i>
Drawing Review Prior To Consent Lodgement	<i>Required</i>
Building Act (Section 71)	<i>No geotechnical hazards were identified effecting the proposed development that cannot be reasonably addressed by typical engineering design and construction.</i>

2 INTRODUCTION

LDE Ltd (LDE) was engaged by Anita Hollerer-Squire to undertake a geotechnical investigation of a site located at 93 Olive View Heights Drive, Taipa (Lot 9 DP 207759) (Figure 1), where it is proposed to construct a new dwelling. The proposed development plan is shown in Appendix A.

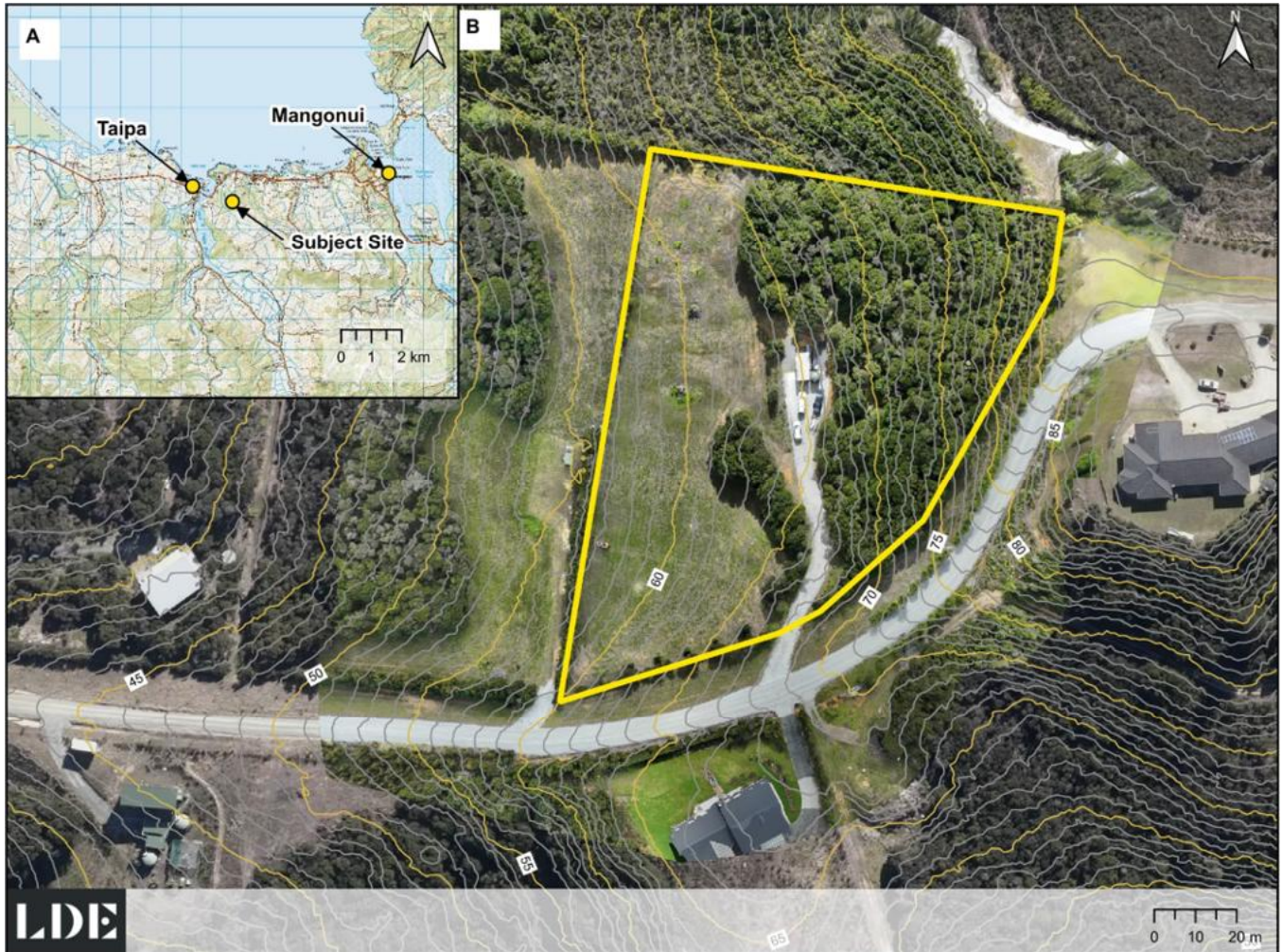


Figure 1: Site location.

The purpose of the investigation was to determine the geotechnical suitability of the site for the proposed development in accordance with Far North District Council (FNDC) Engineering Standards (2023). The scope of our assessment included consideration of any existing or potential geotechnical hazards at locations of the new buildings, consideration of engineering requirements for residential construction, and the servicing of buildings with respect to access, wastewater, and stormwater disposal.

2.1 Proposed Development

LDE understand it is intended to construct an approximately 234 m² dwelling at the site, the house is to be elevated on timber poles, with a maximum height above existing ground level of approximately 4 m. The dwelling includes a deck extending from the northern side of the building. The dwelling is to be of a generally lightweight construction. The currently proposed foundation system for the dwelling and the deck is timber piles. In accordance with NZS 1170.5 (Standards New Zealand- Paerewa Aotearoa, 2004) the dwelling is classified as an importance level 2 (IL2) structure.

3 DESKTOP STUDY

3.1 Description

The subject site is located in the rural township of Taipa, approximately 110 km north of Whangarei. The site and surrounding properties are zoned as Coastal Living under Far North District Council's operative district plan. The site is outside of the reticulated services boundary for wastewater, stormwater and water supply. Access to the site is via a vehicle crossing along the southern boundary.

3.2 Geomorphology

The topography of the local area consists of moderate to steep hillslopes (1V:5H to 1V:3H), with irregularly shaped ridgelines, broad, arcuate gully heads, and narrow, sinuous valleys. The site itself occupies the upper slopes and crest of an arcuate gully head. The morphology of the gully slopes are indicative of historic slope movement, with a steep, upper headscarp area, hummocky, moderately sloping mid slopes, and a lobe of material located on the lower slopes.

3.3 Published Geology

The 1:250,000 scale geological map of New Zealand (Heron, 2020) indicates the site as being underlain by three lithologies (Figure 2), including two lithologies of the Northern Allochthon (Punakitere Sandstone and Tangihua Complex volcanics) which are present beneath the lower slopes and headscarp, and Awhitu Group sandstone and mudstone which is located beneath the top of the ridge. A reverse fault is mapped as running through the site. Our assessment of the site found that the underlying bedrock mostly accorded with the mapped geology. Weathered mudstone/sandstone were encountered beneath the building platform, and residual soils consistent with weathered volcanics observed beneath the accessway.

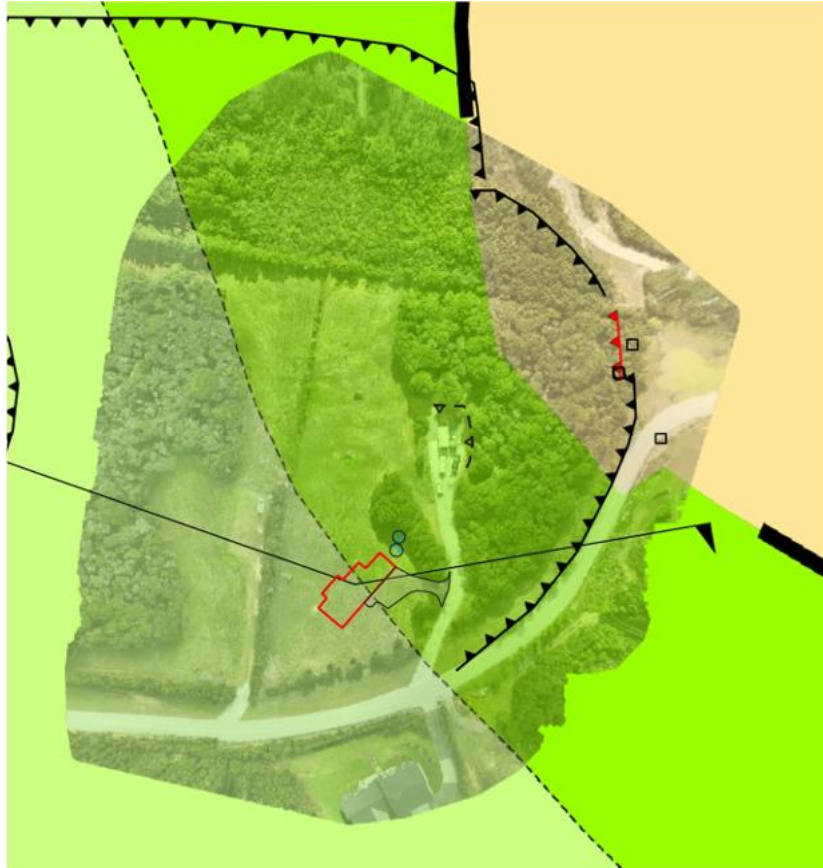


Figure 2: Geological map of the site, showing from left to right: Punakitere Sandstone, Tangihua Complex volcanics, and Awhitu Group mudstone and sandstone.

The nearest mapped active fault is Wairoa North Fault, fault located some several hundred kilometres to the south of the site (GNS Science: Te Pū Ao, 2023).

3.4 Historical Site Imagery

A review of available historical aerial and satellite imagery has shown that the site has predominantly been used for pastoral grazing purposes. The historic aerial photographs show evidence that the site and surrounding slopes have been subject to past instability, consistent with our geomorphological observations.

3.5 Council GIS

A review of Far North District Council and Northland Regional Council, (Te Kaunihera o Te Hiku o te Ika, 2025; Northland Regional Council, 2025) indicate the subject site is not mapped as being impacted by any of the natural hazards mapped or assessed by FNDC or NRC.

3.6 Contaminated Land

No hazardous activities and industries list (HAIL (Ministry for the Environment: Manatū Mō Te Taiao, 2011)) activity identified in historic aerals.

3.7 Archaeology

The subject site is not mapped as being a Historic Site by Far North District Council (Te Kaunihera o Te Hiku o te Ika, 2025). A review of the New Zealand Archaeological Association ArchSite (New Zealand Archaeological Association, 2023) indicates that no known sites of archaeological significance are associated with the site.

3.8 Connecting Services

A review of local service connections from FNDC Water Services (Te Kaunihera o Te Hiku o te Ika, 2025) and BeforeUDig responses indicate the site is outside of the reticulated service area for stormwater and wastewater. Power and communications services appear to be present to the site boundary.

4 GEOTECHNICAL INVESTIGATION

LDE undertook an initial suite of investigations at the site on the 18/08/2025, which included a site walkover by senior engineering geologist, and invasive site testing consisting of:

- 2no. 50mm diameter (Ø) hand-augered boreholes to 5.0 m target depth, or refusal. Strength testing was completed using a hand-held 19mm Ø shear vane to measure the in-situ undrained shear strength of cohesive soils encountered in the hand-augered boreholes or alternatively using a dynamic cone penetrometer (DCP) in the base of, or adjacent to, borehole test locations.
- 2no. electronic cone penetration tests (CPT) pushed to 20m target depth or refusal.
- 1x machine borehole (MBH) to refusal at 12.37m depth with SPT testing completed at nominal 1.5m spacings.

Following our initial investigation, we supervised the drilling of a rotary-cored borehole. Due to issues with the drill rig, the first borehole (BH1) was abandoned at 4.5 m, following repair of the rig, a second borehole (BH1A) was drilled to a depth of 12.37 m, 2 m from the original location. A geotechnical investigation plan is provided below (Figure 3) and in Appendix B, testing logs are provided in Appendix C.

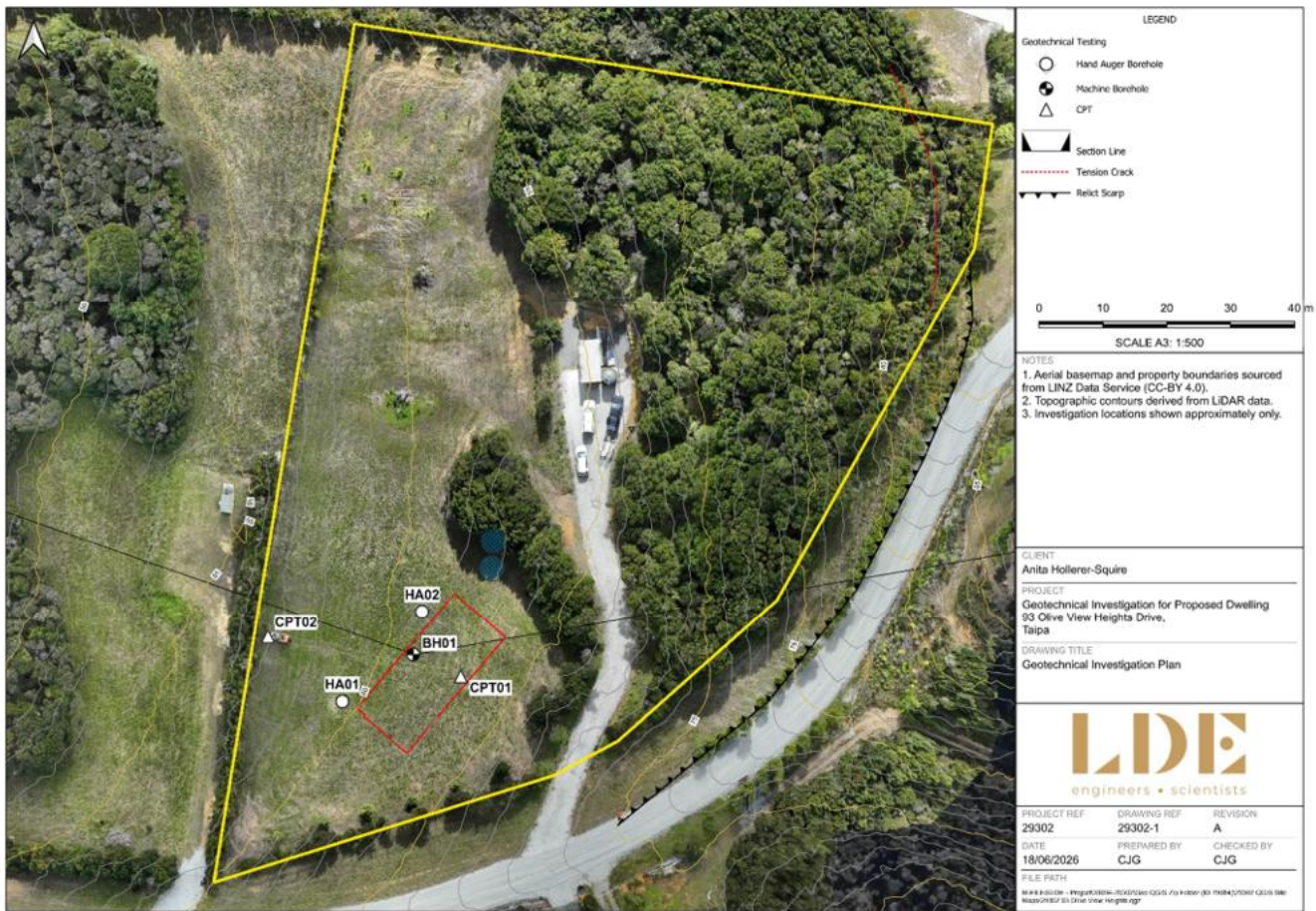


Figure 3: Geotechnical investigation plan.

4.1 Site Walkover

- The site occupies the upper reaches of a north facing hillslope with a moderate gradient. The geomorphology of the slope indicates likely past instability, including a steepened, concave upper headscarp area, moderately sloping, hummocky mid slopes, and a lobe of material on the lower slope (interpreted as a landslide deposit).
- Tension cracking was observed near the crest of the headscarp area. The cracks had a concave form, which followed the crest of the slope.
- Our hand testing encountered a 30 mm thick zone of very soft to soft, wet, highly plastic clay, along the interface between the residual soils and completely weathered materials. We interpret this to be a shear zone/historical slip plane.
- The geology of the site changes approximately between the location of the proposed dwelling (and our testing) and the site accessway. The materials encountered in our testing are consistent with residual soils and weathered mudstone and sandstone of the Northern Allochthon, while the materials exposed along the accessway are residual volcanic soils. The 1:250k geological map of New Zealand, shows a

mapped fault (Maungataniwha Thrust) running through the site, with mudstone/sandstone on the downslope side of the contact, and volcanics on the upslope side.

4.2 Subsurface Conditions

The site subsoils were found to consist of residual soils which underlay a 200-500 mm thick topsoil layer and extended down to completely weathered materials encountered at depths of 3.0-3.3 m. A shear surface was encountered between the residual materials and the completely weathered materials (described below). Based on the evidence at the site, we interpret that the overlying residual materials have been displaced along the shear surface and are therefore best classified as colluvium. A summary of our findings follows:

- The colluvial materials consisted of interbedded high plasticity silty CLAY and low plasticity clayey SILT, generally very stiff, with shear strengths in the range of 80-200+ kPa.
- Our hand testing encountered a 30 mm thick zone of very soft to soft, wet, highly plastic CLAY, along the interface between the residual soils and completely weathered materials. We interpret this to be a shear zone/historical slip plane.
- Both boreholes encountered a 30-40 mm thick zone of very soft to soft, highly plastic, wet, CLAY at depths of between 3.05 and 3.1 m, at the interface between residual and completely weathered materials. We interpret this to be the same shear zone/historical slip plane encountered in the hand testing.
- The rock encountered in the boreholes is completely to moderately weathered, extremely weak to weak, mudstone, siltstone and sandstone. Weathering grade generally decreases, and strength generally increases with depth.
- The rock is highly sheared, with multiple zones of shearing crushing observed within the retrieved core, this is consistent with weak mudstone and sandstone units within the northern allochthon and rock units within proximity to a fault.
- The shear fabric and most crush zones within the rock appear to have mostly re-lithified, we interpret these to most likely be of a tectonic origin, pre-dating the current slope processes.

4.3 Soil Moisture Profile and Groundwater Conditions

A thin, perched groundwater layer was encountered in testing above the completely weathered material (approx. 3.0 m deep) coinciding with the shear zone. The completely weathered material likely forms a partial aquiclude which allows for the accumulation of groundwater within the overlying residual/colluvial materials. The moisture content of the near surface soils is expected to be higher during the winter months or extended periods of wet weather resulting in their saturation at times. In particular pore-water pressure is expected to increase significantly about the completely weather interface as groundwater percolates to this depth during/following a rain event.

5 NATURAL HAZARDS

This section summarises our assessment of the natural hazards that might affect the site as defined in Section 71(3) of the Building Act (2004), including erosion (including coastal erosion, bank erosion, and sheet erosion), falling debris (including soil, rock, snow and ice), subsidence, inundation (including flooding, overland flow, storm surge, tidal effects and ponding), and slippage.

This section also includes our assessment of ground beneath the building site which is outside the definition of “Good Ground” as defined by the Compliance Document for the NZ Building Code, NZS3604 (Standards New Zealand- Paerewa Aotearoa, 2011) and NZS4229 (Standards New Zealand- Paerewa Aotearoa, 2013). The revised definition of ‘good ground’ no longer includes that which may be subject to liquefaction.

A summary of the hazards which may impact on the subject site is presented in Table 2. Hazards for which the anticipated risk to the site is moderate or higher are discussed in more detail in the sections that follow.

Table 2: Natural hazard summary for 93 Olive View Heights Drive, Taipa.

Hazard		Assessment Description	Pre-mitigation Risk	Post-mitigation Risk
Bearing Capacity		The surficial soils beneath the site, are typically very stiff and are anticipated to have a geotechnical ultimate bearing capacity (GUBC) of 300kPa from beneath topsoil.	LOW	LOW
Expansive Soils		The surficial soils beneath the eastern half of the dwelling exhibit characteristics of high plasticity at the field moisture content and are classified as ‘H’ – <i>Highly Expansive</i> . Expansive soils are discussed in detail in Section 5.5.	HIGH	LOW
Earthquake	Surface Fault Rupture	The GNS Active Faults Database (2020) does not show any faults passing beneath the site. There also does not appear to be any surface expressions which would indicate the presence of an active fault beneath or within proximity to the site.	LOW	LOW
	Seismicity	The national seismic hazard model for New Zealand shows that the area has low seismicity, further information on this hazard is detailed in Section 5.1.	LOW	LOW
	Liquefaction	The site is not mapped as being susceptible to liquefaction and the site subsoils are predominantly clay based. Additionally, significant groundwater was not encountered in the top 12 m of the soil profile. We duly consider the risk of liquefaction, including cyclic softening and lateral spreading, impacting the development to be low.	LOW	LOW
Tsunami		The development area has an average elevation of 62 m ASL and is not considered to be at risk of inundation due to a tsunami with return period less than 1/2500 years.	LOW	LOW
Slope Instability		The site is located on moderate slopes underlain by lithologies of the northern allochthon. Tension cracking was observed at the top of the slope, and a shear surface was encountered at a depth of 3.0 m in our testing. We anticipate the development will be at risk from the impacts of slope instability without sufficient mitigation measures.	HIGH	LOW

Hazard	Assessment Description	Pre-mitigation Risk	Post-mitigation Risk
Flooding and Erosion	The development area has an average elevation of 62 m ASL, well above the nearest stream/river channel or shoreline. The risk of flooding or erosion impacting on the site is therefore considered to be low.	LOW	LOW
Compressible Soils & Settlement	Topsoil and organic silts were identified in the upper 0.5 m of the soil profile. All foundations should be embedded sufficiently below this depth.	MODERATE	LOW
Notes - LDE risk matrixing index values are: insignificant, low, moderate, high, severe. - Multiple factors including, but not limited to, economic impact on development, life safety and frequency of occurrence have been considered in our assessment of the risk of each hazard. - Where the risk is determined to be moderate, high, or severe, further detail is provided in the sections below. - 'Good Ground' as defined in NZS3604 (2011).			

5.1 Seismic Hazard

5.1.1 Site Subsoil Class

Based on the published geological information for the region discussed in Section 3.3 and the obtained borehole data, we consider that the site classification of C- "Shallow Soil" Site is appropriate as defined by NZS1170.5 (2004).

5.1.2 Seismic Actions

In accordance with the NZ Building Code and NZS1170.5 (2004) a proposed residential dwelling is considered Importance Level Two (IL2) with a design working life of 50 years.

- The Serviceability Limit State (SLS) design earthquake has an annual exceedance probability of 1/25.
- The Ultimate Limit State (ULS) design earthquake has an annual exceedance probability of 1/500.
- An intermediate state event (ILS) has been considered in accordance with Module 1 recommendations (2021), for an annual exceedance probability of 1/100.

Ground motions adopted in accordance with Module 1 (2021) for geotechnical design are summarised in Table 3.

Table 3: Summary of adopted seismic parameters.

Seismic Parameters	SLS	ILS	ULS
Horizontal Peak Ground Accelerations (PGA), g	0.03	0.07	0.19
Effective magnitude, Mw	5.8	5.8	6.5

5.2 Slope Stability

Given the geomorphological expression of past instability, the presence of a likely shear zone at a depth of 3 m, and the presence of tension cracking at the crest of the headscarp, it was necessary to undertake a detailed, numerical assessment, to determine whether instability of the slope may impact on the proposed development.

One design cross-section was considered for the assessment of slope stability, the cross-section extends from the ridge at the slope of the slope, through the site and development area, and to the stream at the base of the slope. The topographic profiles for the cross-sections were derived from a 1 m digital elevation model (DEM) of the site, itself derived from the 2018-2020 Northland Regional LiDAR survey. The location of the cross-section is shown on the site plan in Appendix A. The analysis results are provided in Appendix E alongside the analysis results.

5.2.1 Methodology & Assumptions

The stability of the site has been assessed based on the geomorphology of the surrounding slopes, deep ground testing data, and numerical stability analyses carried out using specialist geotechnical software (Rocscience Inc. SLIDE 2 Modeler v. 9.008).

The numerical analyses included assessments of the slope stability under likely worst case groundwater conditions over the life of the structure (long term design conditions), the extreme condition of a fully saturated slope, and SLS, ILS and ULS seismic conditions. A seismic yield scenario was also run, to consider the critical acceleration (a_c) of the slope and an intermediate rainfall scenario was considered as surficial saturation is a known event scenario.

The GLE/Morgenstern-Price method, which considers interslice forces, has been adopted within the analysis, with non-circular failure surfaces used within the analysis. A staged pseudo-static method proposed by Duncan et al (1990) is used to analyse the stability of slopes during earthquake shaking. The soil strength parameters used in the analyses are shown in Table 4 and were generally derived by back-analysis, published and unpublished correlation charts and tables for the materials encountered in the investigation. The strength parameters for the shear zone/landslip surface were derived through back analysis of the slope beneath the development, whereby the modelled slope had to exhibit acceptable stability ($FOS > 1.5$) under normal, design conditions and marginal stability ($FOS \sim 0.9-1.1$) under extreme groundwater conditions. The friction angle of the shear zone material derived from the back analysis accords with established understanding of slope kinematics, whereby the friction angle selected is slightly more than the dip angle of the shear surface, imparting marginal stability. Consideration has been given to the behaviour of the materials with long term loading, and their strength under likely worst case moisture content levels. The adopted model geometry does not account for the presence of the mapped fault, nor the material change across the contacts, instead adopting a weathering profile, like that observed in the borehole and hand testing. The analysis limits were adjusted through experimentation to focus the analysis on the location of the proposed dwelling, and areas which were found to impact the location of the dwelling. The design criteria for each model scenario are shown in Table 5.

Table 4: Adopted material strength parameters.

Material	Unit Weight (kNm ⁻³)	Strength Type	Internal Friction Angle (°)	Cohesion (kPa)	UCS (kPa)	GSI	Mi
Residual Soil	18	Mohr-Coulomb	28	3	-	-	-
Shear Zone	18	Mohr-Coulomb	15	0	-	-	-
Completely Weathered Materials	18	Mohr-Coulomb	32	3	-	-	-
Highly Weathered Rock	20	Generalised Hoek-Brown	-	-	500	35	4
Moderately Weathered Rock	22	Generalised Hoek-Brown	-	-	2,500	40	5
Notes: Undrained parameters were used for stability modelling in seismic cases.							

Table 5: Minimum factor of safety criteria for each design scenario.

Design Case	Factor of Safety (FOS)
Design Groundwater Conditions	1.5
Extreme Groundwater Conditions	1.3
SLS Seismic Event	1.3
ULS Seismic Event	1.0

Further, where adequate FoS could not be achieved in the seismic case, a displacement-based approach was used to assess the seismic performance of ground across the proposed building platforms, with an adopted criterion of a maximum of 25mm of lateral movement under SLS seismic loads and a maximum of 100mm of lateral movement during a ULS seismic event for non-liquefied soils. The empirical methods outlined in Section 5.3 have been used to estimate liquefaction induced lateral displacements.

5.3 Results

A summary of the slope stability results is presented in Table 6 below, analysis outputs are provided in Appendix D. The results consider both the inundation risk (over-slip) from the slope above the building platform and the instability hazard (under-slip) of the slope below the building platform.

Table 6: Summary of slope stability results.

Cross Section Line	Case No.	Conditions of Analysis	Minimum Required FoS	Achieved FoS
Section 1	1	Design Groundwater – Static	1.5	1.71
	2	Extreme Groundwater – Static	1.3	0.94

Cross Section Line	Case No.	Conditions of Analysis	Minimum Required FoS	Achieved FoS
	5	ULS Seismic Undrained (Duncan Wright Wong (1990) method)	1.0	0.82
Notes: - All FoS given are GLE/Morgenstern-Price. - Cases where the achieved FoS does not meet the required FoS are indicated in red.				

The results of the numerical assessment show close agreement with the geomorphology of the slopes and evidence of historic instability events. Under existing groundwater conditions, the surrounding slopes are generally stable (FOS > 1.0). During significant rainfall events where the surficial soils become saturated, shallow instability in the superficial soils on the steeper slope sections can be expected (FOS < 1.0), and stability of the overall slope becomes marginal (FOS 0.9-1.1). Modelling of the slopes under ULS seismic loading scenarios finds them to be unstable (FOS << 1.0).

The design criterion is satisfied for the proposed development area in the static scenarios and in the SLS seismic case. Under Extreme Groundwater and ULS seismic design cases, our analysis indicates the design criterion is not met, the proposed development area having FOS of 0.94 and 0.82 respectively. The impact on the building platforms has been considered using a Newmark sliding block displacement-based approach. We have estimated 50th percentile seismic displacements to be in the order of 15-30 mm (Jibson, 2007; Ambraseys & Srbulov, 1995) for the ULS level earthquake.

5.3.1 Stability Improvement

Our analysis indicates the subject slopes are likely to become unstable during an extreme weather event or under ULS seismic conditions. Instability is predicted to occur at a depth of approximately 3.0 m bgl. Model scenarios were produced to test the effectiveness of various mitigation methods, including the use of an in-ground/palisade wall. The palisade wall was found to be the most effective measure in terms of both protection of the development and cost when modelled downslope of the dwelling. The following parameters were used to model the palisade wall:

- Support type: Pile/Micro Pile
- Force Application: Active (Method A)
- Force Orientation: Parallel to surface
- Out-Of-Plane Spacing: 1 m
- Failure Mode: Shear
- Pile Shear Strength: 158 kN

The model scenarios which utilised Pile/Micro Pile support with the above parameters all returned satisfactory factors of safety.

5.4 Compressible Soils

Topsoil is compressible and was identified to depths of up to 0.5 m, the topsoil should not be relied upon to support any foundation loads and should be removed prior to placing any fill.

5.5 Ground Shrinkage and Swelling Potential

No laboratory testing of the soil properties was completed. Field plasticity tests found the surficial soils display characteristics of high plasticity at the field moisture content. The site subsoils are therefore best regarded as being class 'H' – *Highly Expansive* when assessed in accordance with B1/AS1 (2021). A 500-year design characteristic ground movement (y_s) of up to 78 mm is expected.

5.6 Conclusions

From our assessment of the natural hazard and ground deformation risks presented to the proposed development we consider that the site is suitable for development, provided that the recommendations given in Section 6 are adopted.

6 ENGINEERING RECOMMENDATIONS

6.1 Design Considerations

Based on the scope of work completed, the following aspects need to be considered in foundation design:

- NZS1170.5 (2004) Seismic Site Subsoil Class C – Shallow Soil.
- Slope instability risk – Mitigation Required
- Class H Expansive soils – Highly Expansive

6.2 Accessway

Access is proposed to be via the existing site access, which has been formed to the east of the proposed dwelling.

6.3 Site Preparation and Earthworks

Based on the architectural plans provided, earthworks will not be required to form the building platform. Given the risk of slope instability at the site, all fills should be assessed by a suitably qualified and experienced geo-

professional. All cuts should be limited to 1.5 m in height and formed at gradients of 1V:3H or shall be otherwise retained with a specifically engineered retaining wall, designed by a chartered engineer.

6.3.1 Site Contouring and Topsoiling

As soon as possible, all final cut-slopes and fill slopes should be covered with topsoil a minimum of 0.10m thick to prevent the ground from drying out readily resulting in the development of cracks this is particularly important for due to their high reactivity (shrink – swell behaviour) of the site subsoils.

The finished ground level should be graded so that water cannot pond against, beneath or around the building and retaining walls for the economic life of structure. To achieve this, it will be important that the building platform beneath the topsoil grades away from the site.

Contouring should avoid the potential for concentration and discharge of surface water over point locations which could result in soil erosion or instability

6.4 Stability Improvements

For the in-ground/palisade wall LDE recommend specific engineered design be undertaken by a suitably qualified and experienced geotechnical engineer. The wall should be designed for an effective retained height of 3.3 m. Parameters for design are as follows:

- Soil Parameters
 - Unit weight: 18 kN/m³
 - Cohesion: 3 kPa
 - Phi: 28°
 - For lateral restraint a shear strength of 100 kPa is appropriate.
- Pile Parameters
 - Pile spacing should be 2.5 times the diameter of the piles (2.5D)
 - Pile Shear Capacity: 158 kN/m

6.5 Foundation Design and Construction Recommendations

The geotechnical investigations have identified that the subject site is underlain by soils which are classified as Class E – Extremely Expansive and are therefore outside of the definition of ‘Good Ground’ as defined by NZS3604 (2011). Seasonal variation in the moisture content of expansive soils results in cracking, which, when these soils are located on a slope, can be exacerbated by gravitational forces acting in the down slope direction. The result can be a loss of support within the soil profile down to the depth to which seasonal variation in the moisture content occurs. As such LDE recommend that all bored and poured timber pile foundations be specifically designed to allow for a loss of support in the upper 1.5 m of the soil profile. Foundation design should be carried out by a suitably

qualified and experienced structural engineer. A Geotechnical Ultimate Bearing Capacity of 300 kPa (100 kPa allowable) can be assumed.

6.5.1 Unsuitable Material

All foundation excavations must extend to natural ground, free from organic, deleterious or otherwise unsuitable material.

6.5.2 Buried Services in Foundation Construction

Any disused buried services encountered within the foundation excavation should be removed and chased out of the building footprint. All new services should be installed outside of the area of influence of any foundations or stability improvement measures and should be installed in such a way that they do not exacerbate slope instability at the site.

6.5.3 Groundwater in Foundation Construction

Consideration should be made for the potential of encountering groundwater during foundation excavation, it is recommended that any earthworks are only carried out during the summer months.

Significant complications can be encountered where excavation below, or close to, groundwater is required.

6.6 Settlement

Provided that the recommendations above are adhered to, we expect static load settlements to be less than 25mm, and static differential settlements are expected to be within design tolerances.

6.6.1 Filling around Dwelling

No more than 200 mm of fill shall be placed within 5m of the dwelling as this may result in settlement of foundations and could result in differential settlements exceeding design tolerances.

6.7 Surface Water

The site is not connected to the reticulated network. Rainwater will be collected from the roof for general household use. The stormwater system for the buildings should be operational as soon as the roof is in place. This is to ensure that the ground within the vicinity of the building is not compromised by the negative effects and potential consequences of soil saturation.

A stormwater attenuation assessment has been conducted, and the findings and recommendations are summarised in the LDE report titled 'Stormwater Neutrality Report', reference 29302.

6.7.1 Effluent Disposal

The site is not proposed to be connected to the Council sewerage reticulation network. We understand a third party is to design the onsite wastewater management system.

6.7.2 Service Pipes

All service pipes, stormwater structures should be designed and constructed to ensure adequate capacity, strength, and water tightness to prevent leakage into the platform through blockage, running under pressure, or structural failure.

All service pipes installed within any fill should be flexible, or flexibly joined, so that they may deflect without breaking if the ground settles.

A record should be kept of the position, type, and size of all subsoil drains, and in particular of their outlets.

6.8 Trees and Shrubs

If new trees, shrubs or gardens are established near the structure, care should be taken to ensure:

- The vegetation does not interfere with any subfloor ventilation or services to the structure.
- Over-watering of the vegetation does not saturate the ground near the foundations.
- Trees or shrubs with the potential to develop significant root systems should be planted a minimum distance equal to the mature height of the plant away from the foundations.

7 PLAN REVIEW

Prior to an application for Building Consent, it is important we are given the opportunity to review the final development drawings to ensure the recommendations contained within this report have been followed and interpreted correctly. Following successful review of the development drawings, we are able to update this report to support an application for Building Consent.

8 SITE VERIFICATION

It should be noted that the Building Consent Authority (BCA) frequently requires Producer Statement-Construction Review (PS4) to be submitted to the BCA in order for Code of Compliance Certification (CCC) to be issued. A PS4

is usually required for the geotechnical specialist area. The requirement for a consultant to issue a PS4-geotechnical may or will likely appear as a condition in the Building Consent documents.

It is the Consent Holders responsibility to notify LDE Ltd. for geotechnical constructions and testing required for subsequent issue of a PS4. Retrospective inspection of completed or partially completed geotechnical work is not possible and a PS4 cannot be issued without all the required inspections.

It is the Client's responsibility to ensure that any inspections that are required during construction are notified to us and that we are requested to carry out those inspections with adequate prior notice (at least 48 hours).

We anticipate a pre-construction meeting will be required, and the following elements will require inspection by a geotechnical specialist:

- i) Pile excavations for the palisade wall
- ii) Capping beam construction for palisade wall if relevant
- iii) Soil conditions associated with foundation piles excavation. Specifically, testing of the subgrade soils prior to construction with concrete will be required.
- iv) Any retaining structures that require consent

9 SECTION 72 STATEMENT

Subject to the adoption in full of the recommendations within this report, it is our opinion in terms of section 72 of the building act that;

- a) The land is not subject to and is unlikely to be subject to 1 or more natural hazards; and
- b) The building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or on any other property

10 SUSTAINABILITY

Considering sustainability as early as possible in a project's development, could lead to significant project opportunities and wider positive outcomes. Geotechnical opportunities for increased sustainability for this project include:

- Striping and stocking topsoil for reuse (dependant on presence/ levels of contaminants).
- Designing for cut and fill balance where possible.

- Reuse of site won materials, or using materials won from other sites including use of recycled crushed concrete aggregate for hard fill.
- Contributing site investigation data to the New Zealand Geotechnical Database (NZGD) to help reduce the site investigations needed in the future.
- Using local consultants and contractors to reduce transport related emissions.

11 SAFETY IN DESIGN

Safety in design (SiD) needs to be considered for all projects and is a requirement of the Health and Safety at Work Act (2015). We understand that the proposed structure will be built in situ.

Safety around excavations is a key risk during construction. Deep excavations shall be battered back at no steeper than a 1:1 slope and may require benching. Fall restraint may be required when working near deep excavations, and excavations shall be secured with fencing/ fall prevention. Some excavations may trigger the notification to Worksafe for particular hazardous work under Regulation 26 of the Health and Safety in Employment Regulations (1995).

We recommend SiD notes are attached to all drawings submitted for consent. Furthermore, during plan review LDE will check that the foundation drawings include our SiD recommendations to ensure these have been considered in the construction methodology.

12 LIMITATIONS

This report should be read and reproduced in its entirety including the limitations to understand the context of the opinions and recommendations given.

This report has been prepared exclusively for Anita Hollerer-Squire in accordance with the brief given to us or the agreed scope and they will be deemed the exclusive owner on full and final payment of the invoice. Information, opinions, and recommendations contained within this report can only be used for the purposes with which it was intended. LDE accepts no liability or responsibility whatsoever for any use or reliance on the report by any party other than the owner or parties working for or on behalf of the owner, such as local authorities, and for purposes beyond those for which it was intended.

This report was prepared in general accordance with current standards, codes and best practice at the time of this report. These may be subject to change.

Opinions given in this report are based on visual methods and subsurface investigations at discrete locations designed to the constraints of the project scope to provide the best assessment of the environment. It must be

appreciated that the nature and continuity of the subsurface materials between these locations are inferred and that actual conditions could vary from that described herein. We should be contacted immediately if the conditions are found to differ from those described in this report.

Cuts into the slopes and fills onto the slopes both above and below the site can significantly jeopardise its stability, unless appropriate measures put in place to restore the stability of the slope. Accordingly, we should be contacted prior to commencing any earthworks within the slopes to assess how this may affect the subject development.

The wall design is based on the ground conditions and ground profiles at the time of design. Changes to the surface profile and design use could have detrimental consequences to the stability of the wall. We should be contacted immediately if there are any changes eventuating or proposed to the ground immediately behind or below the wall. This includes the incidence of landslipping below the wall, the stockpiling of material behind the wall, or changes in the use of the wall (e.g. to support a building or vehicles).

Construction site safety is the responsibility of the builder/contractor. The recommendations included herein should not be construed as direction of the contractor's methods, construction sequencing or procedures. LDE Ltd can provide geotechnical recommendations during construction, upon request.

13 REFERENCES

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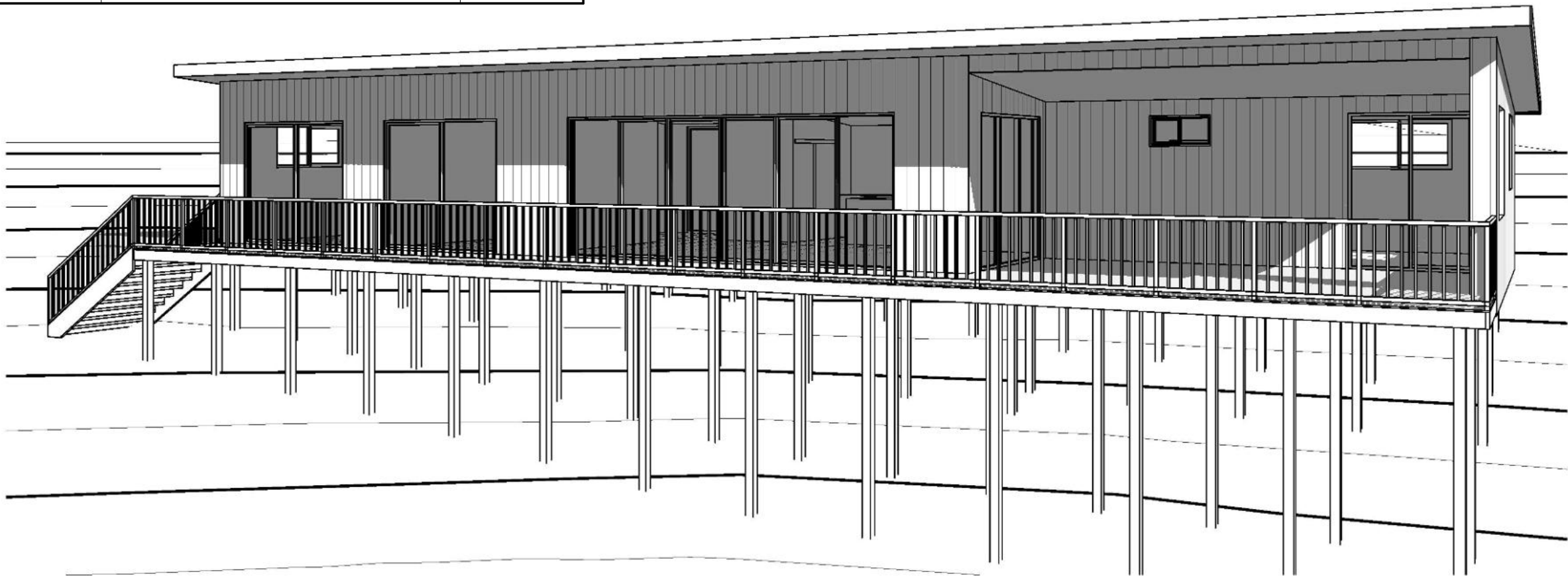
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APPENDIX A

ARCHITECTURAL DRAWINGS

SHEET LIST		
Number	Name	Revision
A.0.00	COVER SHEET	A
A.1.01	SITE PLAN	A
A.1.02	REFERENCE PLAN	A
A.1.03	DRAINAGE PLAN	A
A.1.04	PILE SETOUT PLAN	A
A.1.04.01	FLOOR FRAME SETOUT PLAN	A
A.1.05	FRAME SETOUT PLAN	A
A.1.06	OPENINGS PLAN	A
A.1.09	ROOF PLAN	1
A.1.10	ELECTRICAL PLAN	A
A.2.01	ELEVATIONS	A
A.2.02	ELEVATIONS	A
A.3.01	SECTIONS	A
A.3.02	SECTIONS	A
A.4.01	CONSTRUCTION DETAILS	A
A.4.02	CONSTRUCTION DETAILS	A
A.4.03	STEP DETAIL	A
A.5.01	OPENING DETAILS	A
A.5.02	WINDOW WATERPROOFING DETAILS	A
A.6.01	SCHEDULES	A
A.7.01	HOT WATER CYLINDER DETAILS	A
A.8.01	WET AREA DETAILS	A
A.8.02	WET AREA DETAILS	A
A.9.01	SEDIMENT CONTROL PLAN	A

PROPOSED NEW DWELLING
at
93 OLIVE VEIW HEIGHTS DRIVE, TAIPA
for
JASON SQUIRE & ANITA HOLLERER



imagine
KIT HOMES

Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

 www.greenstone.co.nz		Henry French 0210780330 7/16 Derby Street, St Albans, Christchurch LBP 122967 - D2	
Drawn	Approved	Date	
H.french	Approver	29/06/2026 1:40:30 pm	
Project No.		Scale	
G0344		@A3	
Project			
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING			
Title			

COVER SHEET

WORKING DRAWINGS

Sheet No.	Revision
A.0.00	RA

GENERAL NOTES

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES TO BE RAISED WITH THE DESIGNER / ARCHITECT

All work shall comply with the NZBC, all relevant Local Authority bylaws, NZS 3604, and all relevant standards

All work to be carried out in accordance with drawings and specification provided

All work to be undertaken to be best trade practice for each respective trade. Any substandard work or building material defects shall be the Contractors responsibility to remove, repair or replace at no extra cost to the contract

The Contractor shall ensure that all rubbish is removed from site during and at the end of the contract works

The Contractor shall provide the appropriate temporary fencing, hoarding, guardrails and signage as necessary to protect the public and others during the contract works and to meet the requirements of the Local and Territorial Authorities

All timber shall be H1.2 treated graded SG-8 unless stated otherwise

Refer to the Roof Truss Manufacturers drawings and specification.



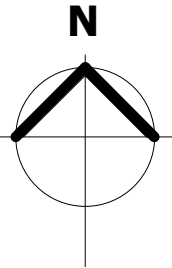
REAL DESCRIPTION

Allotment number	Lot 9
Deposited Plan	DP 207759
Area	1.0110 ha
Zone	Rural Lifestyle Zone
Local Authority	Far North District

SITE COVERAGE

Area of Proposed Dwelling	158.3m ²
Area of Existing Shed	27.0m ²
Site coverage equals	185.3m ² =1.83%

Wind Zone	Extra High
Earthquake Zone	1
Corrosion Zone	C
Snow Load	N0



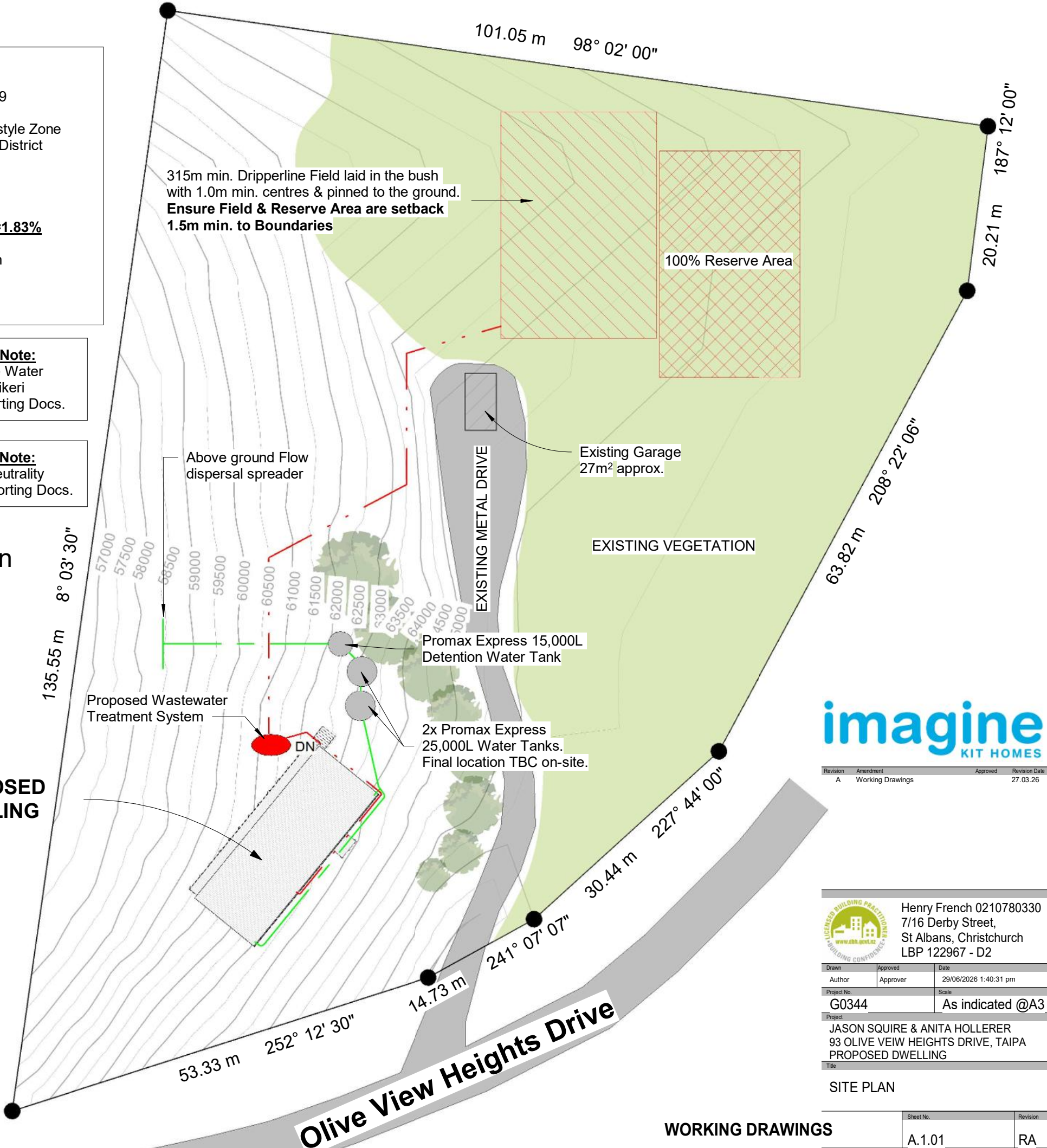
Wastewater Disposal Note:
Refer to On-Site Waste Water Disposal Report by Kerikeri Drainage Ltd. in Supporting Docs.

Stormwater Disposal Note:
Refer to Stormwater Neutrality Report by LDE in Supporting Docs.



Site Plan
1 : 500

PROPOSED DWELLING



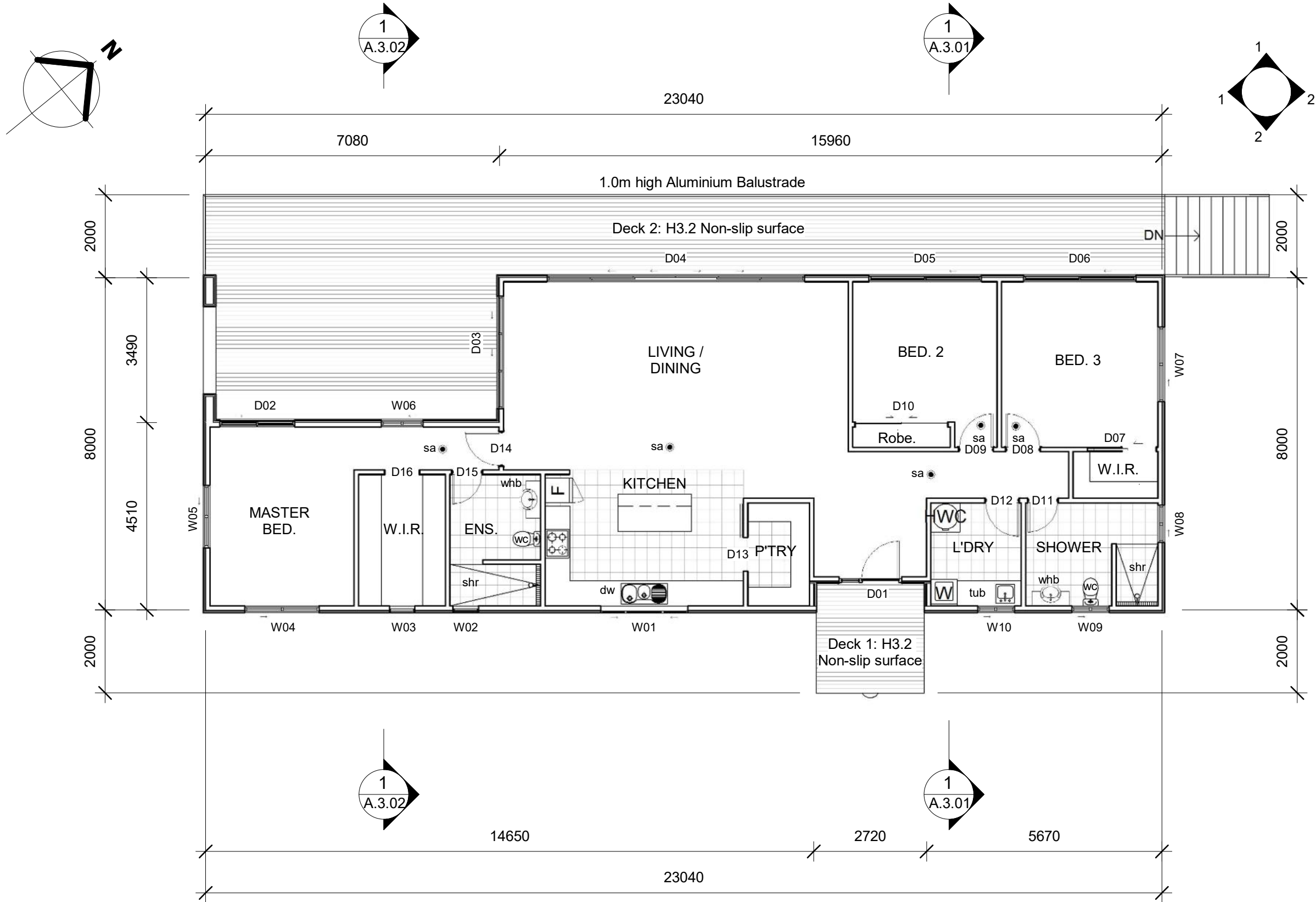
Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

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Project			
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Title			

SITE PLAN

WORKING DRAWINGS

Sheet No.	Revision
A.1.01	RA



FLOOR PLAN LEGEND

- wc Water closet
- whb Wash hand basin
- sk. Sink
- shr. Shower
- tub Tub
- dw Dishwasher
- W01 Window No.
- D01 Door No.
- SA Smoke Alarm
- Denote wet areas, Impervious floor finish required. Refer Wet Area Finishes



Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

2
A.2.01
Reference Plan
1 : 100

Floor Schedule	
Floor	Area
Deck 2	68.56 m ²
Deck 1	6.85 m ²
Main Floor	158.34 m ²
	233.74 m ²

		Henry French 0210780330 7/16 Derby Street, St Albans, Christchurch LBP 122967 - D2
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Author	Approver	29/06/2026 1:40:32 pm
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G0344	1 : 100 @A3	
Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		
REFERENCE PLAN		
Sheet No.		Revision
A.1.02		RA

WORKING DRAWINGS

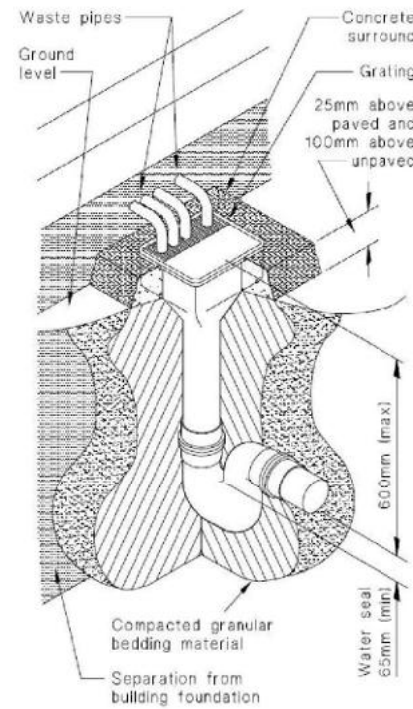
KEY

Proposed Stormwater	100mm PVC-U 1:100 (min)
Proposed Sewer	100mm PVC-U 1:60 (min)
Teminal Vent	TV 80mm (min)
Downpipe	DP
Gully Trap	GT
Inspection Junction	IP
Vented Soil Stack	SS
Air Admittance Valve	AAV

ALL DRAINAGE TO COMPLY WITH NZBC E1 & G13

Gully trap Note

to be postioned so that the top of dish is no less than 150mm below the overflow level of lowest fixture.
Have a grate that will allow surcharge
To be located in visible position.
Be installed so that surcharge cannot enter into or under the building.



PLUMBING & DRAINAGE

All drains to comply with G13/AS1 and S2

Bedding material to be clean granular, non-cohesive and free from top soil and rubbish with a maximum particle size of 20mm.

Air admittance valves are to be fitted to all fittings greater than 3.5 meters from gully traps.

Waste / pipe size / material / fall

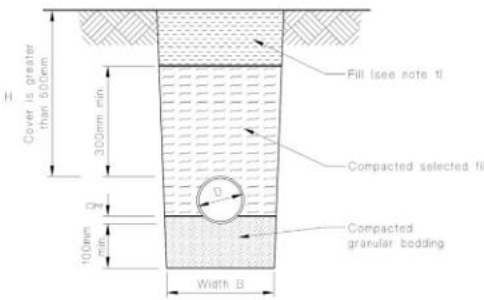
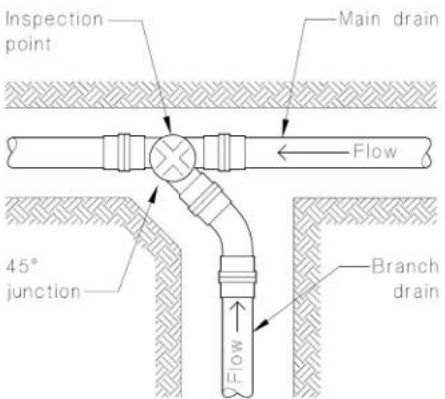
Shower waste	: DN40mm dia. PVC-U @ 1 in 40 fall
Sink waste	: DN50mm dia. PVC-U @ 1 in 40 fall.
Tub waste	: DN40mm dia PVC-U @ 1 in30 fall.
Basin waste	: DN 32mm dia PVC-U @ 1 IN 20 fall.
WC waste	: DN100mm dia. PVC-U Sewer Waste Drain @ 1:60 fall (minimum)
Stormwater	: DN100mm dia. PVC-U Stormwater drain @ 1 :100 fall (minimum)

Allow for 25mm seperation from foundation wall
NZDC G13/AS2 2.5.8.1.

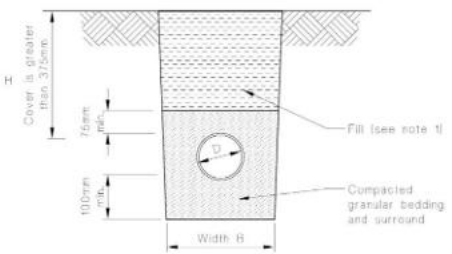
Gutter internal dimensions shall be 115 x 60mm minimum.

Hot Water Cylinder to be restrained with 25x1.0mm. galvanized straps tensioned when fixed in place.
Straps to be fixed to wall framing with:
1. No. 8mm coach screws with 30x2mm thick washers or
2. 20x2.5mm thick washers.
Screws to penetrate framing a minimum of 50mm.

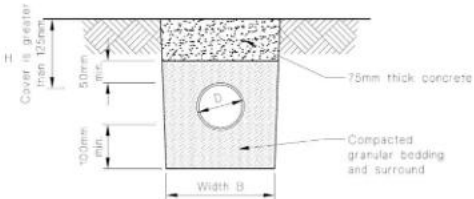
The delivery of hot water to be 50° at the tap via use of a tempering valve.
Set thermostat at 60° to prevent Legionella Bacteria occurring.
Hot water cylinder to comply with NZS 4305 - 1996.



(a) Bedding type 'B' of NZS 7643
Cover greater than 500mm

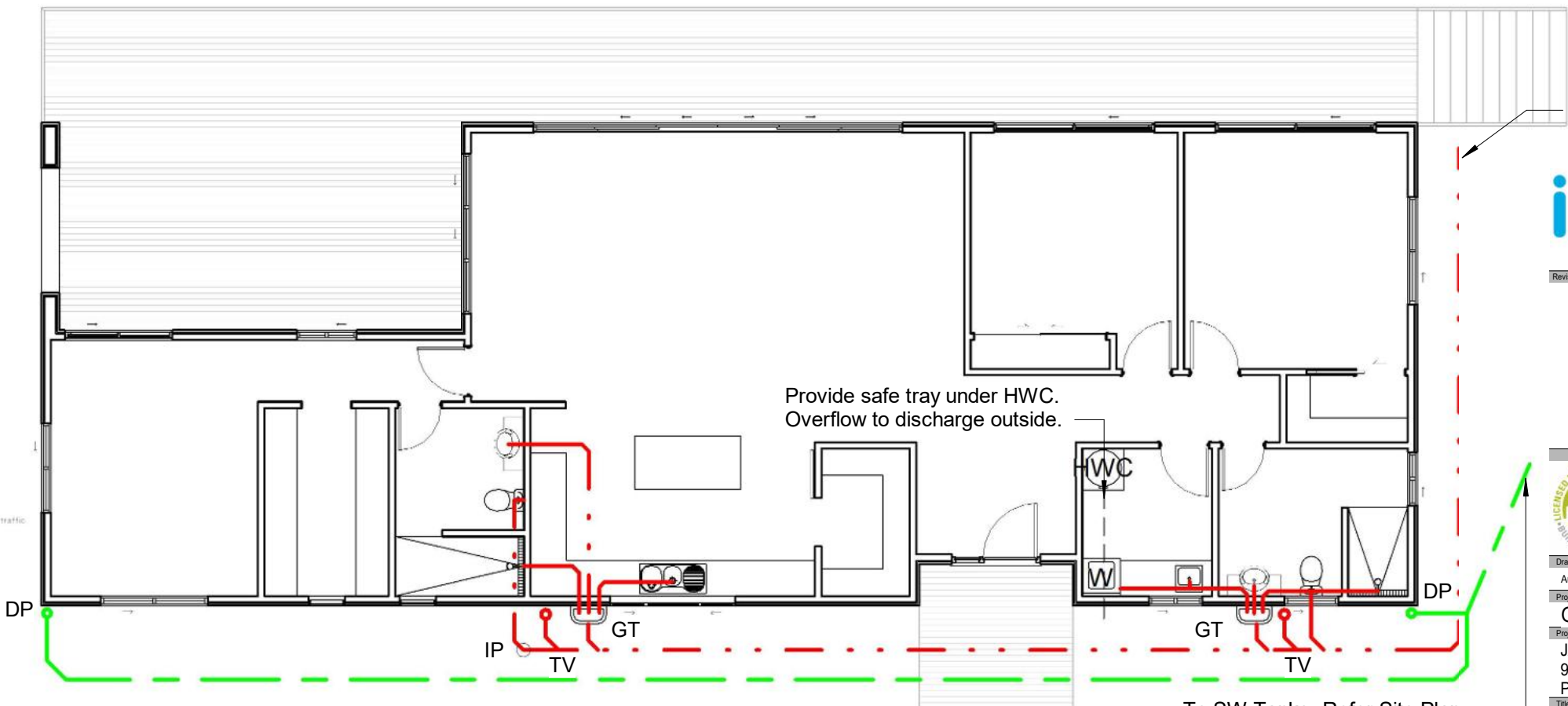


(b) Bedding type 'D' of NZS 7643
Cover greater than 375mm



(c) Cover between 125mm and 375mm

NOTE:
1. Fill shall be:
- Ordinary fill where drains are located below gardens and open country.
- Compacted selected fill where the drains are located below residential driveways and similar areas subject to light traffic



To WW treatment system-
Refer Site Plan

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A	Working Drawings		27.03.26

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Author	Approver	29/06/2026 1:40:32 pm	
Project No.	Scale		
G0344	As indicated @A3		
Project JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING			
Title			

DRAINAGE PLAN

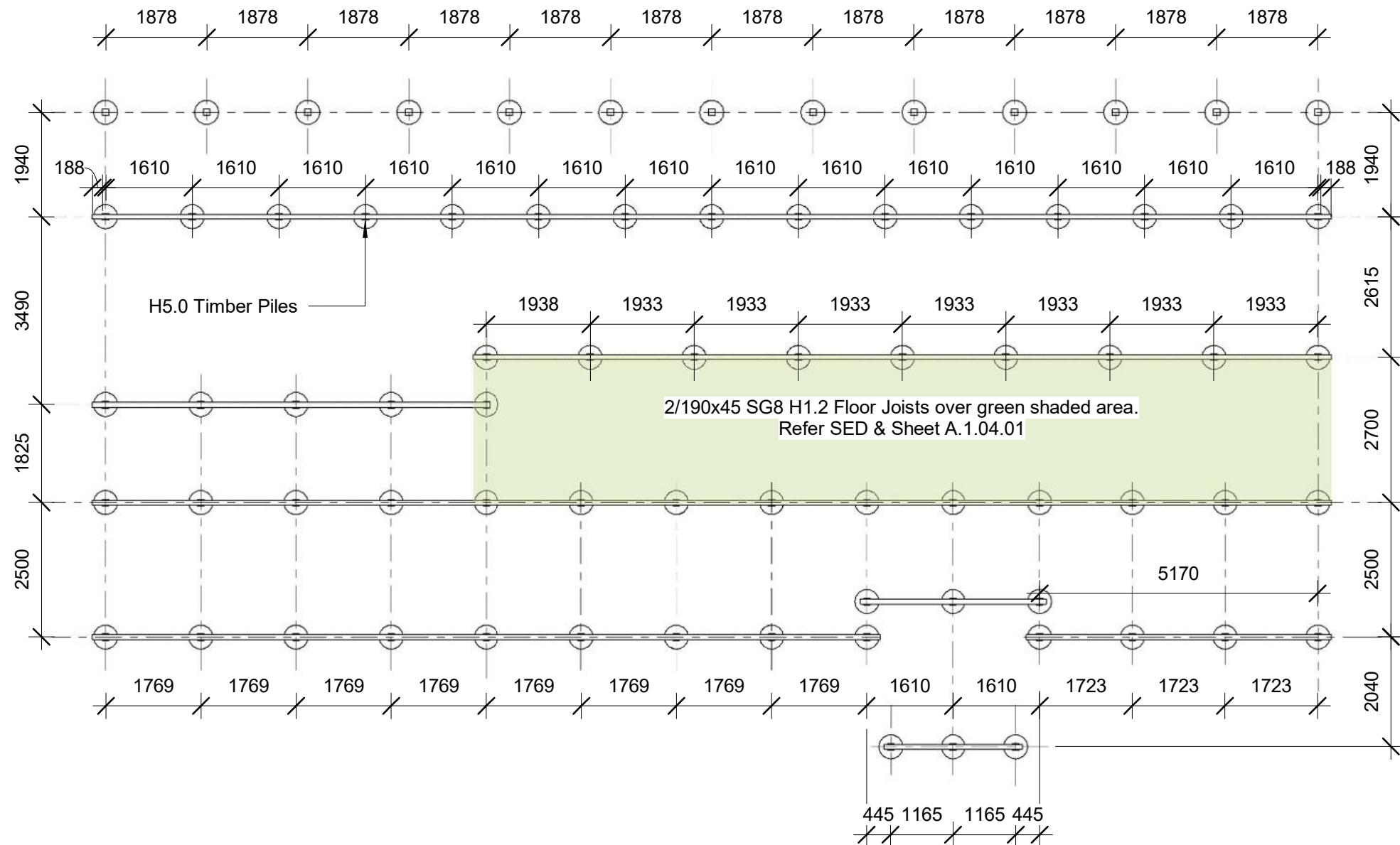
WORKING DRAWINGS

Sheet No.	Revision
A.1.03	RA

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3
A.2.01

Drainage Plan
1 : 100



1
A.2.01

Pile Setout Plan
1 : 100

Note
25 MPa Concrete Bored Pier foundation Engineer to confirm

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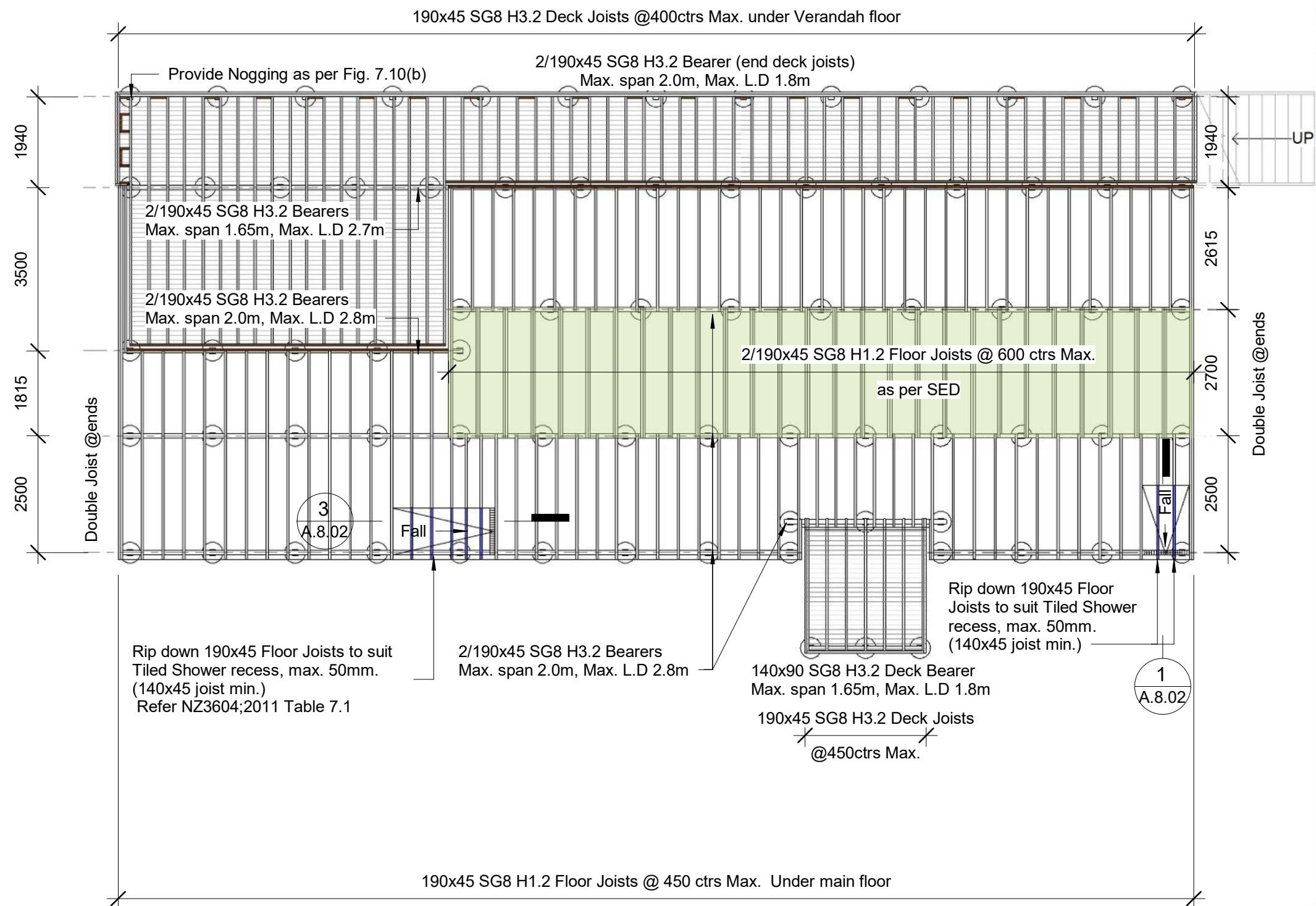
	Revision	Amendment	Approved	Revision Date
	A	Working Drawings		27.03.26

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Author	Designer	Approver	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	PILE SETOUT PLAN
Project No. G0344	Scale As indicated			
			Drawing No.	Sheet No. Revision
				A.1.04 RA

WORKING DRAWINGS



2 Floor Frame Setout Plan
A.2.01 1 : 100

SECTION 7 – FLOORS

NZS 3604:2011

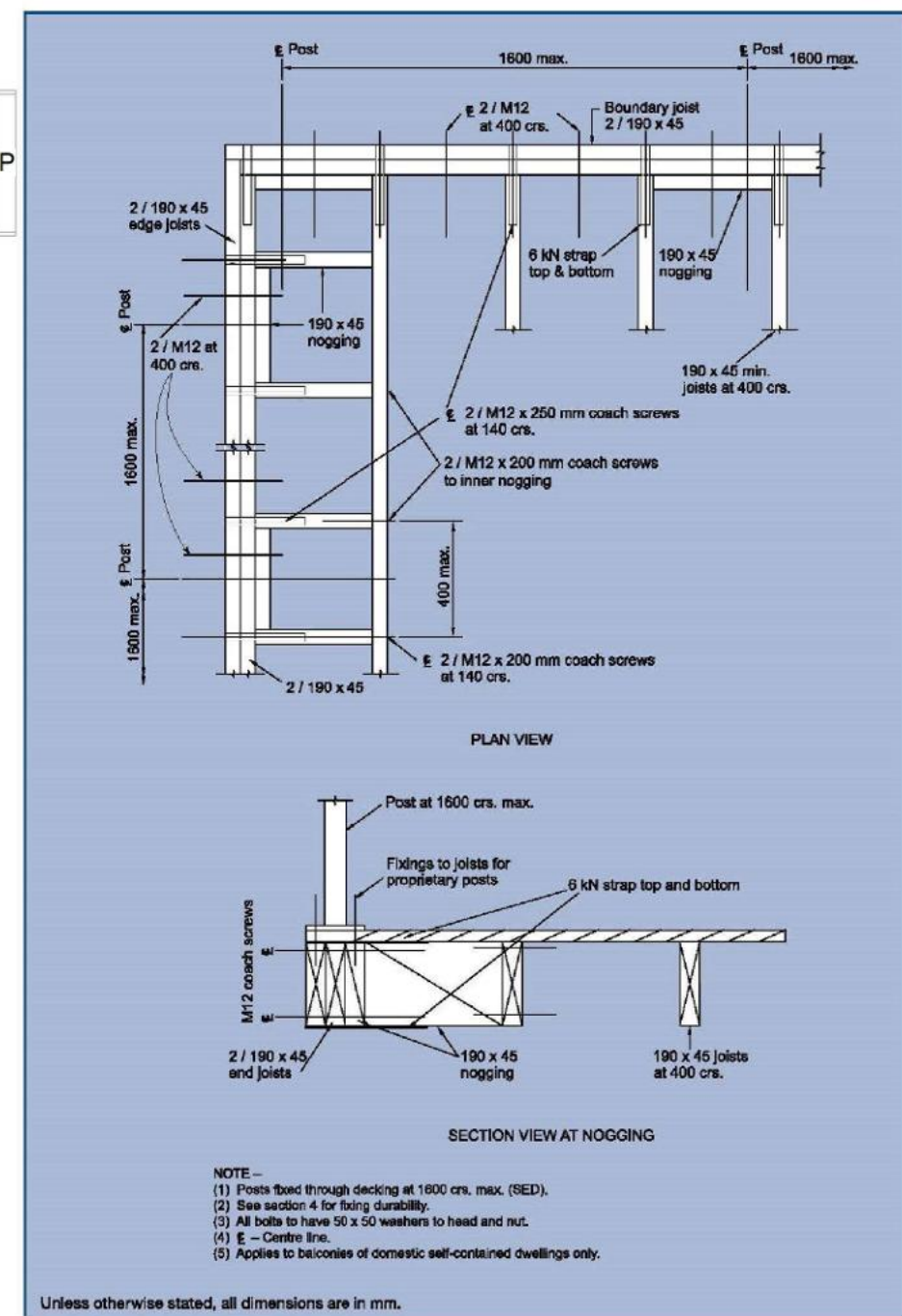


Figure 7.10(b) – Top-fixed post support detail for cantilever balustrade (see 7.4.1.3)

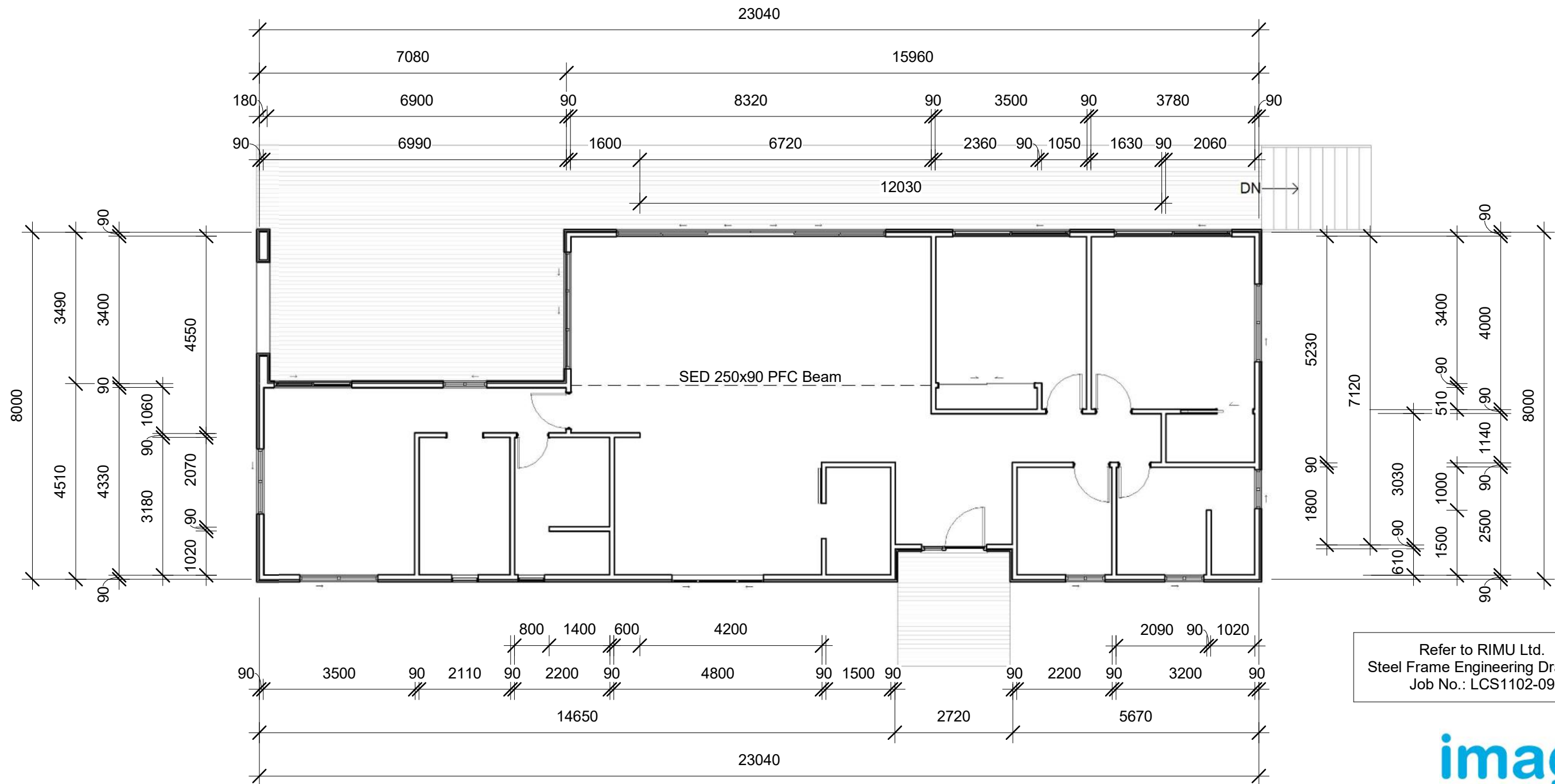
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A	Working Drawings		27.03.26

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Drawn	Designed	Approved	Project	Title
Author	Designer	Approver	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	FLOOR FRAME SETOUT PLAN
Project No. G0344	Scale 1 : 100			

WORKING DRAWINGS



Refer to RIMU Ltd.
Steel Frame Engineering Drawings
Job No.: LCS1102-09

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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

2

A.2.01

Frame Set Out Plan

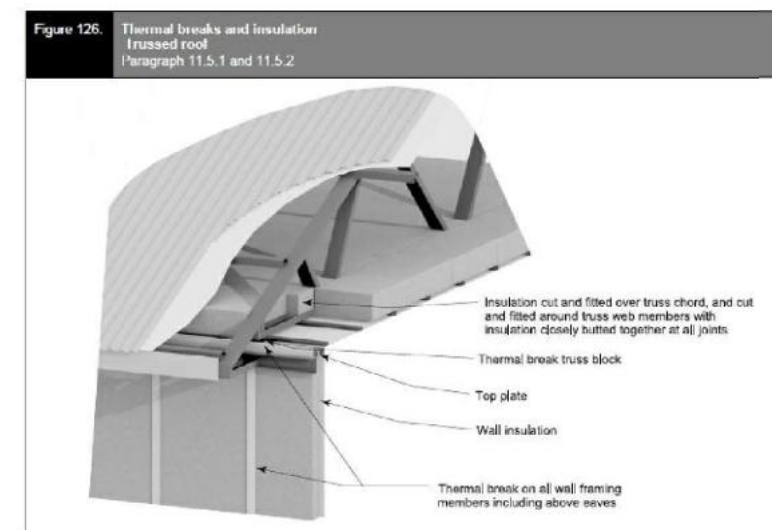
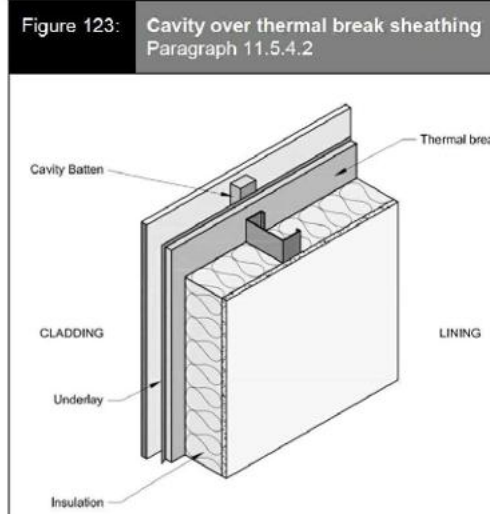
1 : 100

Thermal Break General Note:

Thermal Breaks shall applied to all building envelope steel framing members that face outside the buildings. Includes truss heels rafters and the like. Cladding fitted over cavity must not be treated as thermal breaks - Refer Diagrams.

Thermal breaks can be fixed to the framing by glue, screws, staples or gun nails. The thermal break must meet a minimum R value 0.25m² K/W minimum.

The thermal break shall extend 15mm minimum above the top plates and bottom plates, includes the areas in soffits that may have not cladding attached.

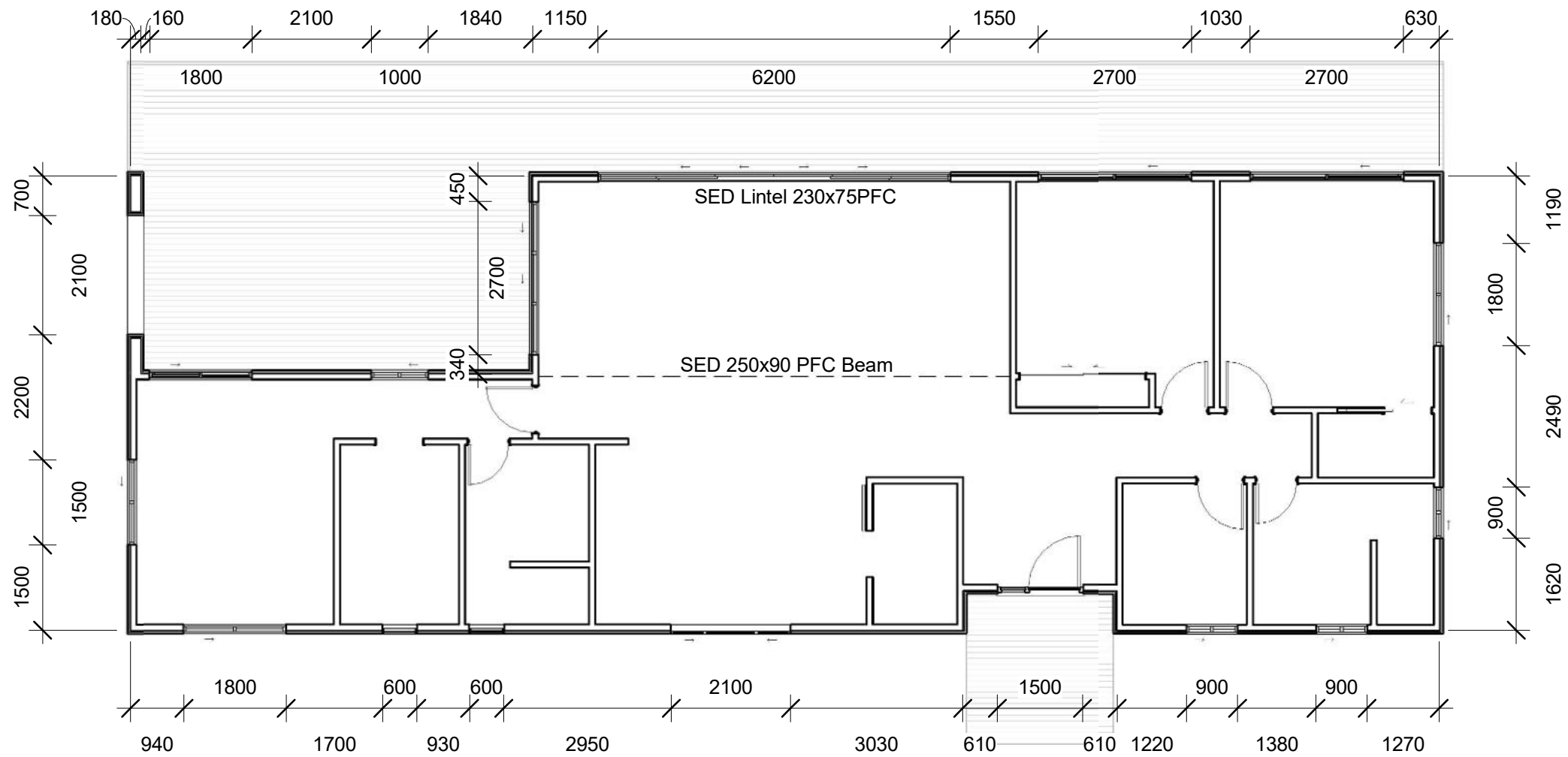


 LICENSED BUILDING PRACTITIONER www.lbp.co.nz BUILDING CONFIDENCE		Henry French 0210780330 7/16 Derby Street, St Albans, Christchurch LBP 122967 - D2	
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Title			

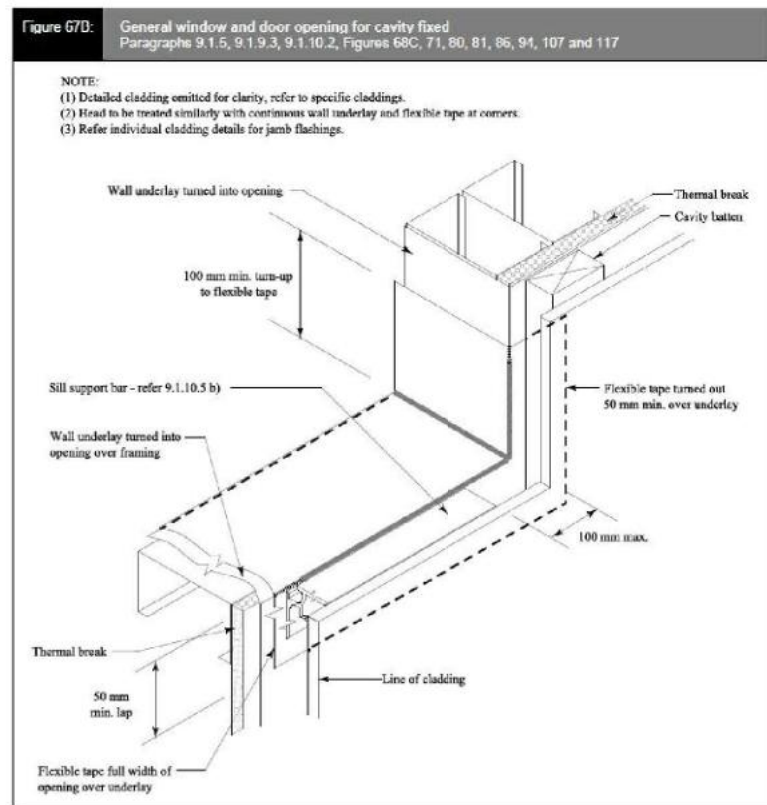
FRAME SETOUT PLAN

WORKING DRAWINGS

Sheet No.	Revision
A.1.05	RA



1 A.2.01 Openings Plan 1 : 100



Refer to RIMU Ltd.
Steel Frame Engineering Drawings
Job No.: LCS1102-09





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LBP 122967 - D2

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Author	Approver	29/06/2026 1:40:35 pm
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G0344		1 : 100 @A3
Project		
JASON SQUIRE & ANITA HOLLERER		
93 OLIVE VEIW HEIGHTS DRIVE, TAIPA		
PROPOSED DWELLING		
Title		
OPENINGS PLAN		

		Sheet No.	Revision
		A.1.06	RA

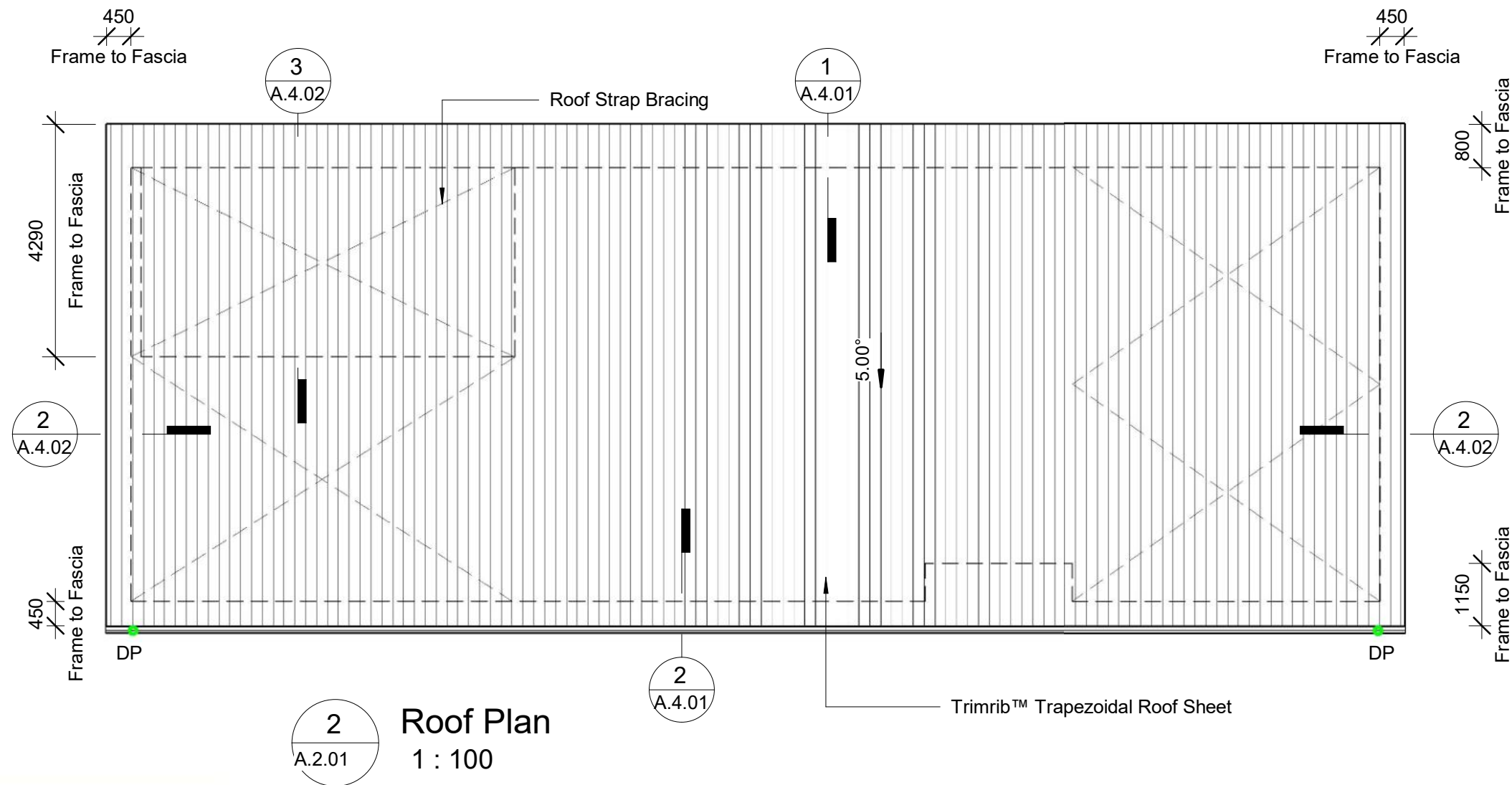
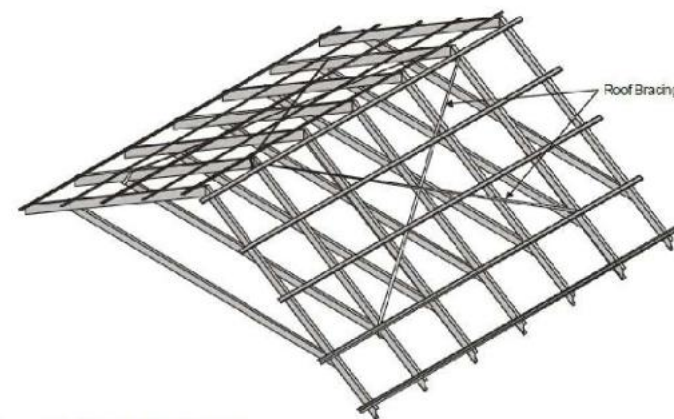
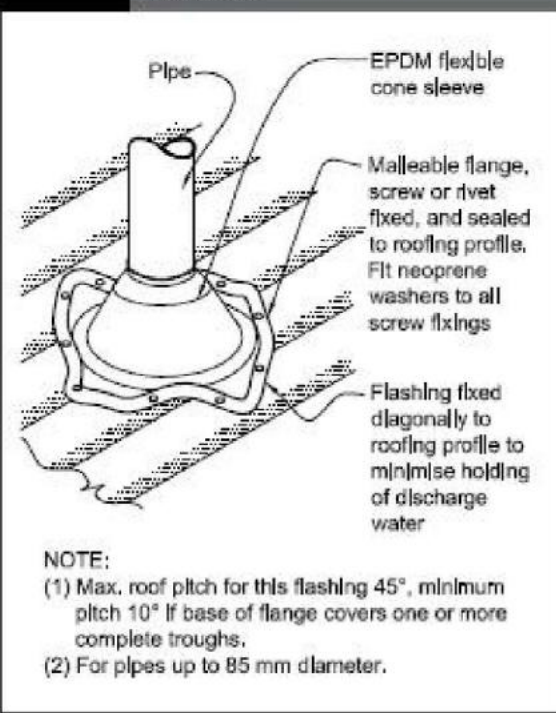


Figure 53: Flashing for small pipes
Paragraphs 8.3.10, 8.4.17, 9.6.8.5 and 9.6.9.6



ROOFING NOTES

Allow for flashing's and sealing of roof penetrations to achieve weatherproof roofing cladding

Downpipe capacity - Refer E1/AS1 Clause 4.0
0°-25° Roof Pitch
100mm Ø internal downpipe = 155m² catchments

Roof - Refer NZBC - Refer E1/AS1 Clause 4.0
222.3m² roof area = 2.0min.
100mm Ø downpipes 2 Provided.

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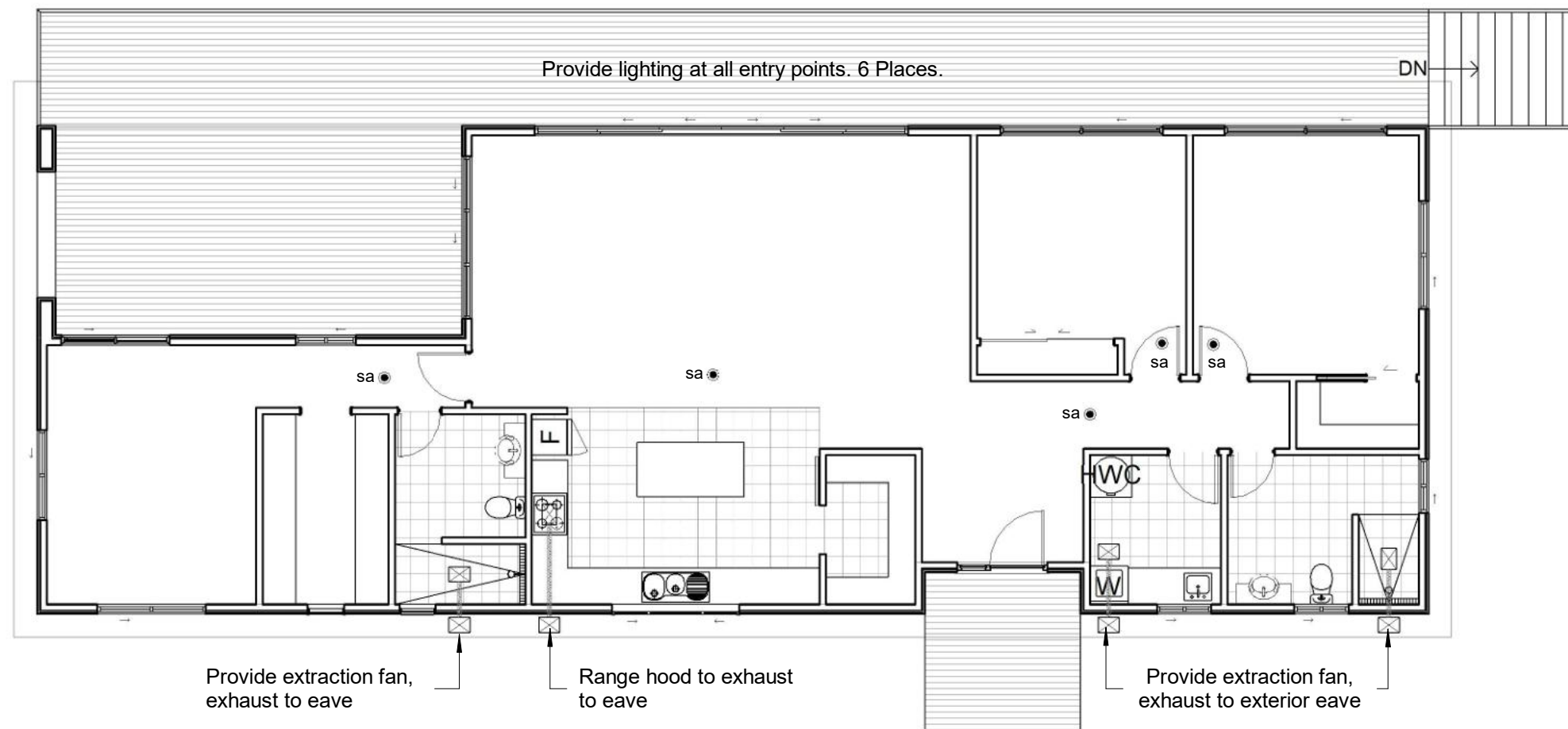
Revision	Amendment	Approved	Revision Date
1	Overhang Amendment		30.03.26
A	Working Drawings		27.03.26

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Author	Approver	29/06/2026 1:40:35 pm	
Project No.		Scale	
G0344		1 : 100 @A3	
Project			
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING			
Title			

ROOF PLAN

WORKING DRAWINGS

Sheet No.	Revision
A.1.09	R1



2
A.2.01

Electrical Plan
1 : 100

GENERAL NOTES

All electrical work and items are to comply with NZBC F7/AS1, AS/NZ3000, AS/NZS 3008, AS 3786 and NZS 6401.

Lighting to provide a minimum Illuminance of 20 Lux Minimum.

This layout is preliminary only, confirm final position and fitting allowance with client contract specification.

Electrical Safety Regulation 2012 only CA80, CA135, IC or IC-F downlight's to be installed.
Downlight's to be CA-Rated Type (max. 1 per 5m²)

Extraction fans air flow rate to be
min. 25L/s for shower/bath,
min. 50L/s for kitchen cooktop

SMOKE DETECTOR NOTE:

Each household unit shall be provided with a minimum of Type 1 domestic smoke alarm system in compliance with NZS 4514.

Type 1: - Smoke alarm or multiple interconnected smoke alarm devices, each containing a smoke detector and an alarm sounding feature.
Alarms required in all bedrooms, living spaces, hallways and landings, and on each level of a multi-level home.

Equipment required must be either 10 year long-life battery-operated (non removable/sealed) or 240v mains powered, interconnected smoke alarms.

SYMBOL	DESCRIPTION
● SA	Smoke Detector.
⊠	Extraction Fan

Through Roof Fans with Flashing for Metal Based Roof - Air Extraction

Classic	Duct (mm)	Fan Type	Max. Fan Watts (W)	Max. Fan Pressure (Pa)	Free Air Fan Performance		Specific Fan Power (W/l/s)	Sound dB(A)	Switching	Order Code
					(l/s)	(m ³ /hr)				
	150	Axial	18	91	105	380	0.17	38	Standard	DCT0189



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A	Working Drawings		27.03.26

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Project			
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING			
Title			

ELECTRICAL PLAN

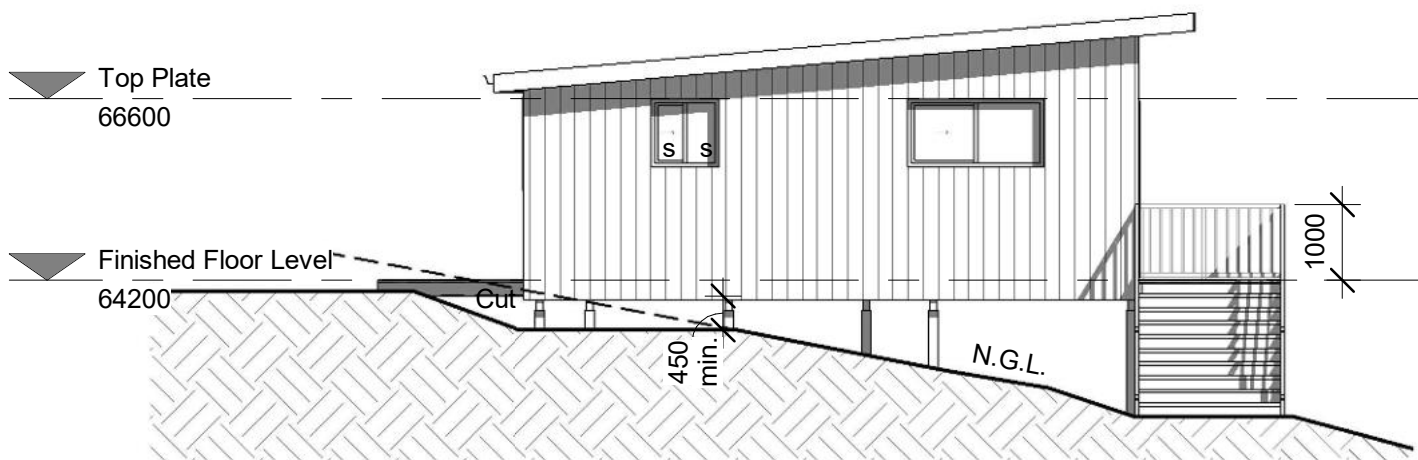
WORKING DRAWINGS

Sheet No.	Revision
A.1.10	RA



2 North Elevation
A.1.02 1 : 100

Cladding Legend:
Roof Colorsteel Trimrib™ Trapezoidal Roof Sheet
Walls Colorsteel Trimrib™ Vertical Trapezoidal Metal Cladding



1 East Elevation
A.1.02 1 : 100

BUILDING ENVELOPE RISK MATRIX.			
A	Wind Zone	Ex. High Risk	2
B	No. Storeys	Low Risk	0
C	Roof/wall Design	Low Risk	0
D	Eaves	High Risk	2
E	Envelope Complexity	Low Risk	0
F	Deck Design	Low Risk	0
TOTAL RISK SCOPE			4

GENERAL NOTES

WINDOWS

All windows and door to be double glazed units as per NZBC H1/AS1 2007.
Install WANZ support bars to all exterior windows and door sills.
All windows and doors to be site measured before commencement of manufacture.
S - Denotes safety glass to be installed

EXTERIOR CLADDING

Vertical Colorsteel Trimrib™ Trapezoidal Cladding over 20mm vented cavity batten over FPS™ wall underlay over Thermal Break over Steel Frame.

ROOF

Colorsteel Trimrib™ Trapezoidal roof sheet pitched at 5° over battens over builders paper.

Miscallaneous.
Install Lumberloc Metal Roof Strap Bracing where shown.

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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

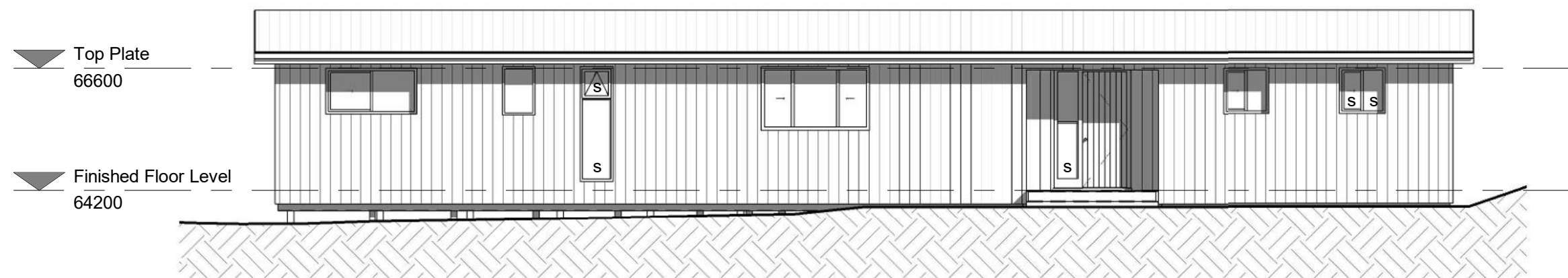
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Drawn	Approved	Date
Author	Approver	29/06/2026 1:40:36 pm
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Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

ELEVATIONS

WORKING DRAWINGS

Sheet No.	Revision
A.2.01	RA



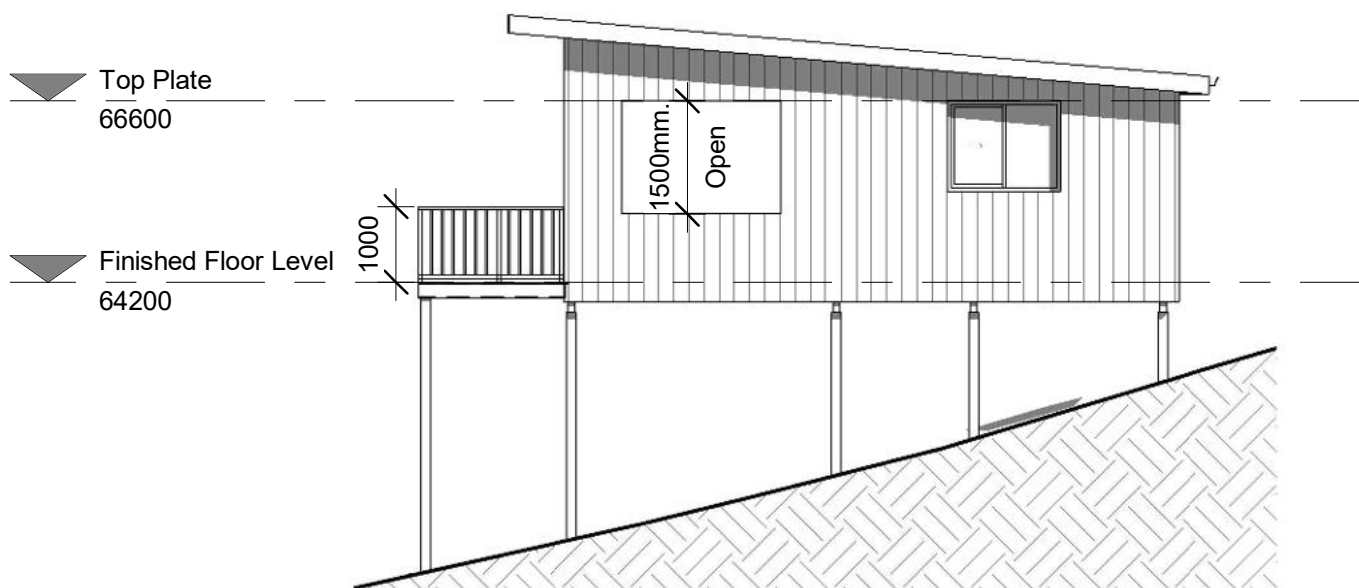
1
A.1.02

South Elevation

1 : 100

Cladding Legend:

- Roof  Colorsteel Trimrib™ Trapezoidal Roof Sheet
Walls  Colorsteel Trimrib™ Vertical Trapezoidal Metal Cladding



2
A.1.02

West Elevation

1 : 100

BUILDING ENVELOPE RISK MATRIX.

A	Wind Zone	Ex. High Risk	2
B	No. Storeys	Low Risk	0
C	Roof/wall Design	Low Risk	0
D	Eaves	High Risk	2
E	Envelope Complexity	Low Risk	0
F	Deck Design	Low Risk	0
TOTAL RISK SCOPE			4

GENERAL NOTES

WINDOWS

All windows and door to be double glazed units as per NZBC H1/AS1 2007.
Install WANZ support bars to all exterior windows and door sills.
All windows and doors to be site measured before commencement of manufacture.
S - Denotes safety glass to be installed

EXTERIOR CLADDING

Vertical Colorsteel Trimrib™ Trapezoidal Cladding over 20mm vented cavity batten over FPS™ wall underlay over Thermal Break over Steel Frame.

ROOF

Colorsteel Trimrib™ Trapezoidal roof sheet pitched at 5° over battens over builders paper.

Miscellaneous.

Install Lumberloc Metal Roof Strap Bracing where shown.

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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26



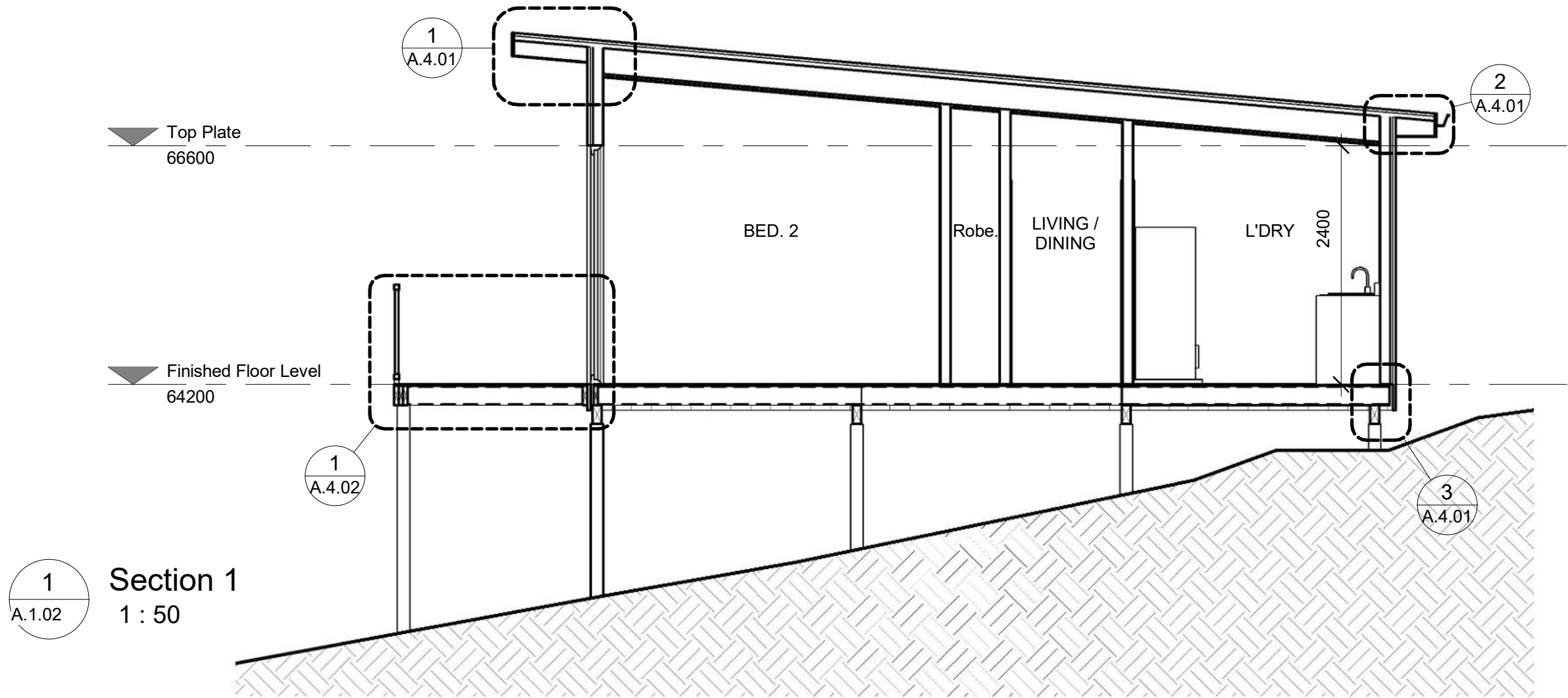
Henry French 0210780330
7/16 Derby Street,
St Albans, Christchurch
LBP 122967 - D2

Drawn	Approved	Date
Author	Approver	29/06/2026 1:40:37 pm
Project No.	Scale	
G0344	As indicated @A3	
Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

ELEVATIONS

WORKING DRAWINGS

Sheet No.	Revision
A.2.02	RA



GENERAL EXTERIOR CLADDING NOTE.

Colorsteel Trimrib™ Vertical Trapezoidal Cladding over 20mm H3.2 cavity battens over FPS™ Underlay over ThermaX B™ Thermal Break over steel framing.

Roof.
5° Steel Trusses @ 900 ctrs. as per Manufacturers Design, details and fixing schedule.

Colorsteel Trimrib™ Trapezoidal roof sheet over Thermakraft Covertek™ 405 self-supporting roof underlay over steel purlins.

Proprietary fascia and gutter systems.

Steel purlins fixed with 1/14g self drilling Type 17 screws, 100mm long, at 600 ctrs max at end and 900 ctrs. max intermediate spans.

Fibreglass Batt Ceiling Insulation.

4.5mm Hardiflex soffit.

GENERAL WALL AND INTERNAL LINING NOTES.

External Walls.
Wall framing to be 90x45 Steel Framing.
Studs and dwangs spacing as per Steel Frame Drawings

Internal Lining to be 10mm Gib Board installed in accordance with Gib Bracing Systems 2011 Handbook.

Fibreglass batts wall insulation, living.

Internal walls
Wall framing to be 90x45 Steel Framing.
Studs and dwangs spacing as per Steel Frame Drawings

Internal lining to be 10mm Gib Board installed in accordance with Gib Bracing Systems CBI5113 December 2014 Handbook.
(Note 10mm Gib. Board may be substituted with 13mm if desired)

All external walls to be insulated with insulation batts.

Use FPS™ wall underlay between framing and exterior cladding.

Construction R-Values Requirement - Refer H1 Report - Calculation Method		
	Proposed	Required Minimum
Roof	R3.7 (Pink Batt™ Skillion Roof R3.6)	R3.3
Wall	R2.1 (Pink Batt™ Ultra Steel Wall R2.8)	R1.0
Floor	R3.1 (Pink Batt™ Snugfloor R3.2)	R1.3
Window	R0.74 Starke™ Ambiance uPVC Joinery	R0.46



Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26



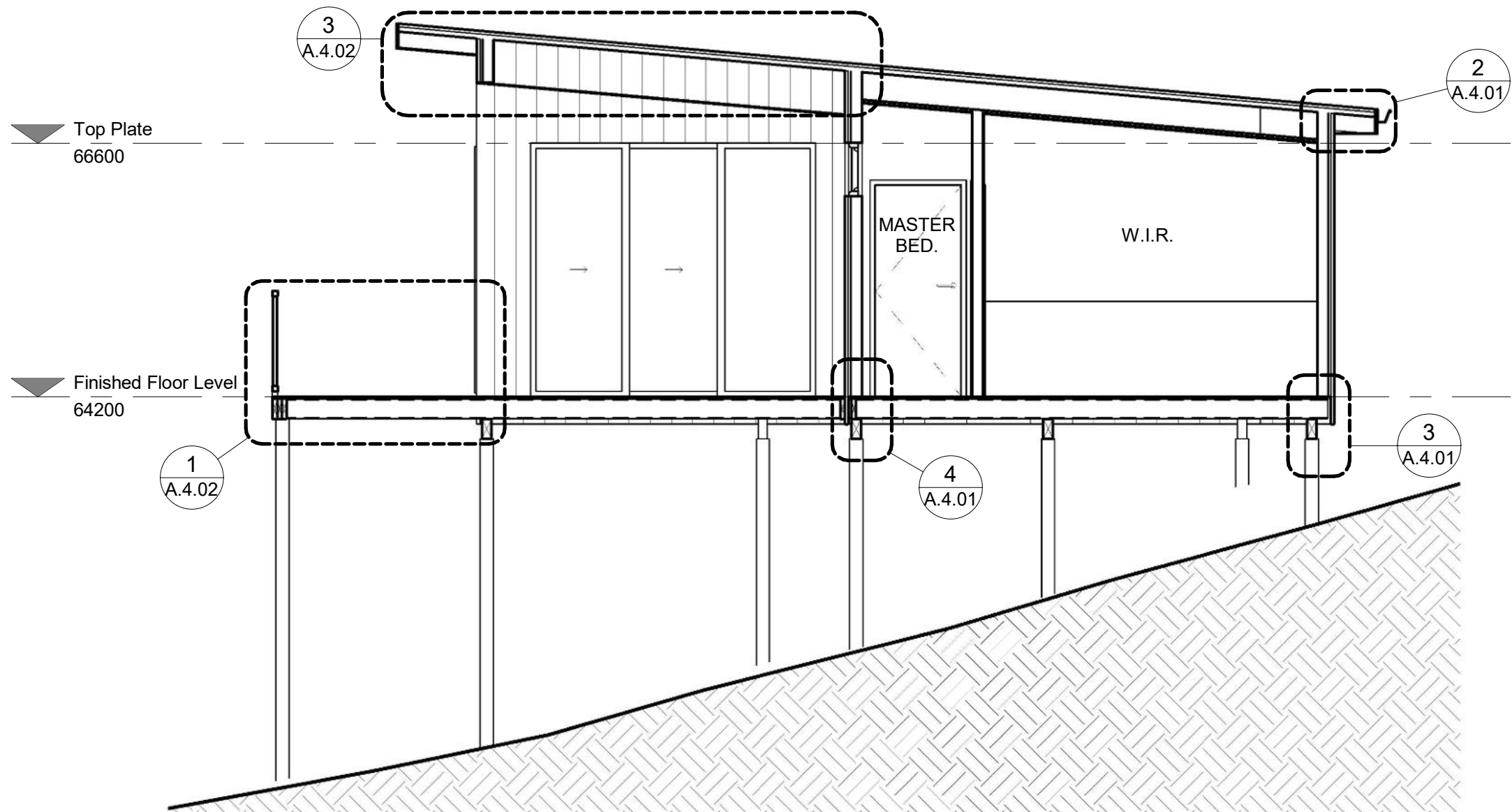
Henry French 0210780330
7/16 Derby Street,
St Albans, Christchurch
LBP 122967 - D2

Drawn	Approved	Date
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Project No.	Scale	
G0344	As indicated @A3	
Project	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	
Title		

SECTIONS

WORKING DRAWINGS

Sheet No.	Revision
A.3.01	RA



1
A.1.02

Section 2 1 : 50

GENERAL EXTERIOR CLADDING NOTE.

Colorsteel Trimrib™ Vertical Trapezoidal Cladding over 20mm H3.2 cavity battens over FPS™ Underlay over ThermaX B™ Thermal Break over steel framing.

Roof.
5° Steel Trusses @ 900 ctrs. as per Manufacturers Design, details and fixing schedule.

Colorsteel Trimrib™ Trapezoidal roof sheet over Thermakraft Covertex™ 405 self-supporting roof underlay over steel purlins.

Proprietary fascia and gutter systems.

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Fibreglass Batt Ceiling Insulation.

4.5mm Hardiflex soffit.

GENERAL WALL AND INTERNAL LINING NOTES.

External Walls.
Wall framing to be 90x45 Steel Framing.
Studs and dwangs spacing as per Steel Frame Drawings

Internal Lining to be 10mm Gib Board installed in accordance with Gib Bracing Systems 2011 Handbook.

Fibreglass batts wall insulation, living.

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Studs and dwangs spacing as per Steel Frame Drawings

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(Note 10mm Gib. Board may be substituted with 13mm if desired)

All external walls to be insulated with insulation batts.

Use FPS™ wall underlay between framing and exterior cladding.

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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26



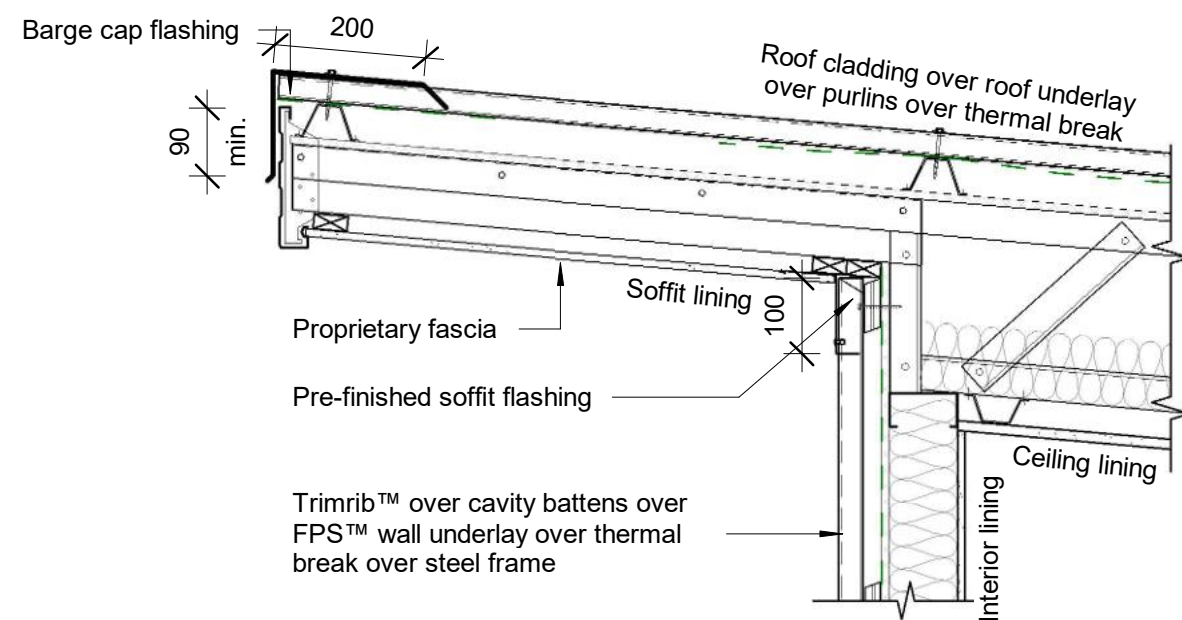
7/16 Derby Street,
St Albans, Christchurch

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Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

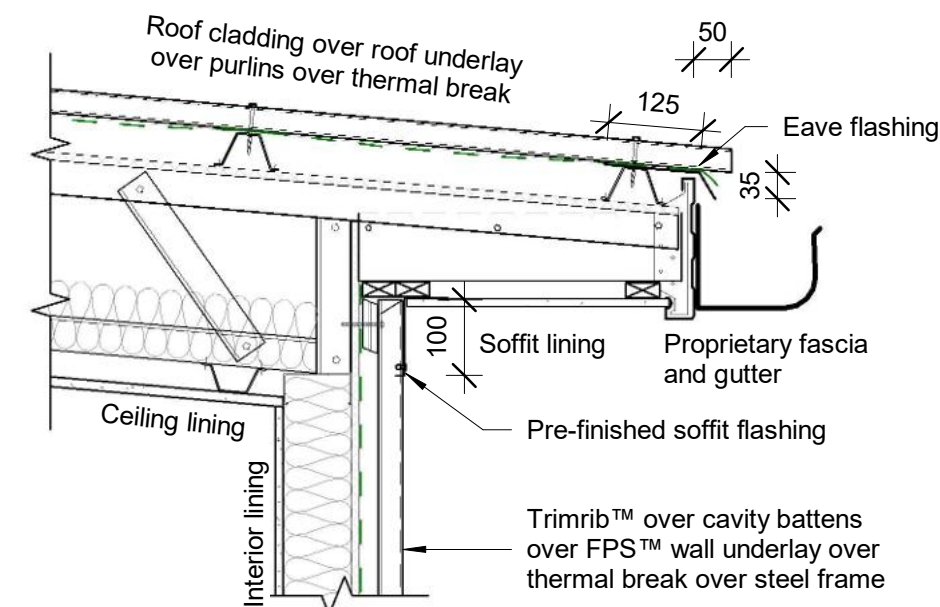
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WORKING DRAWINGS

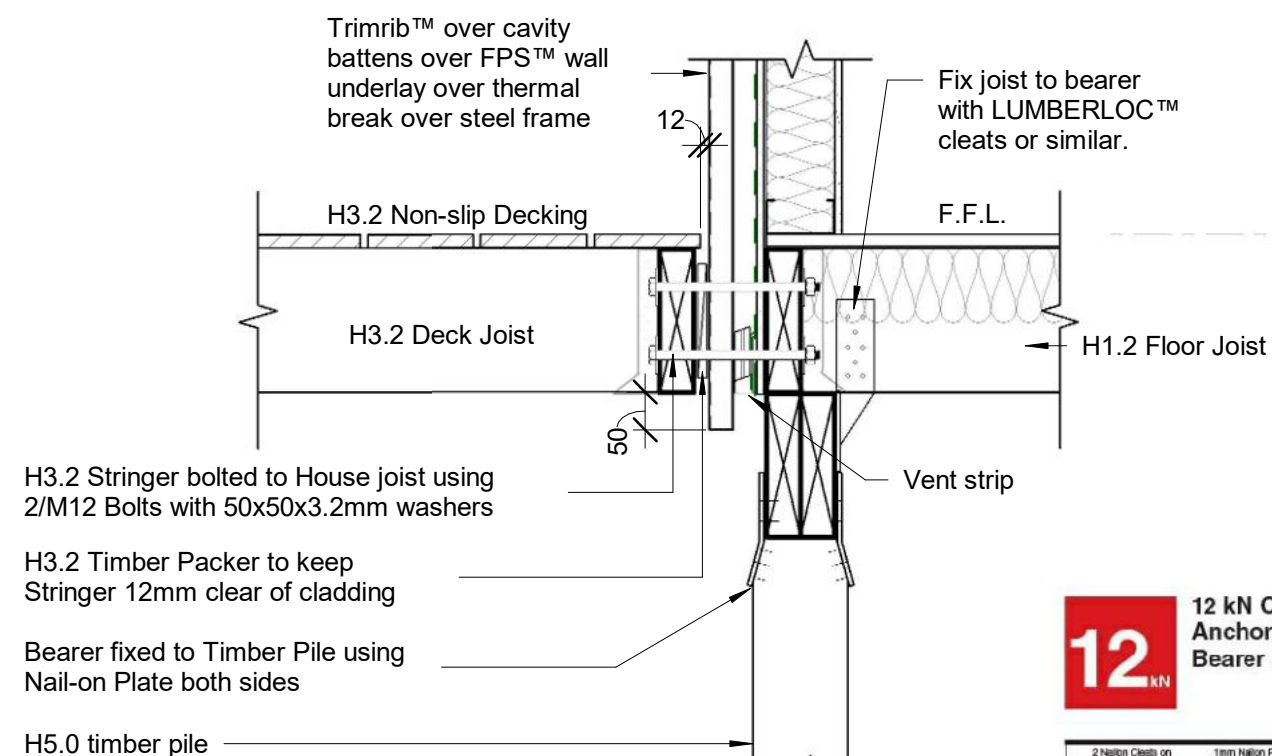
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A.3.02	RA



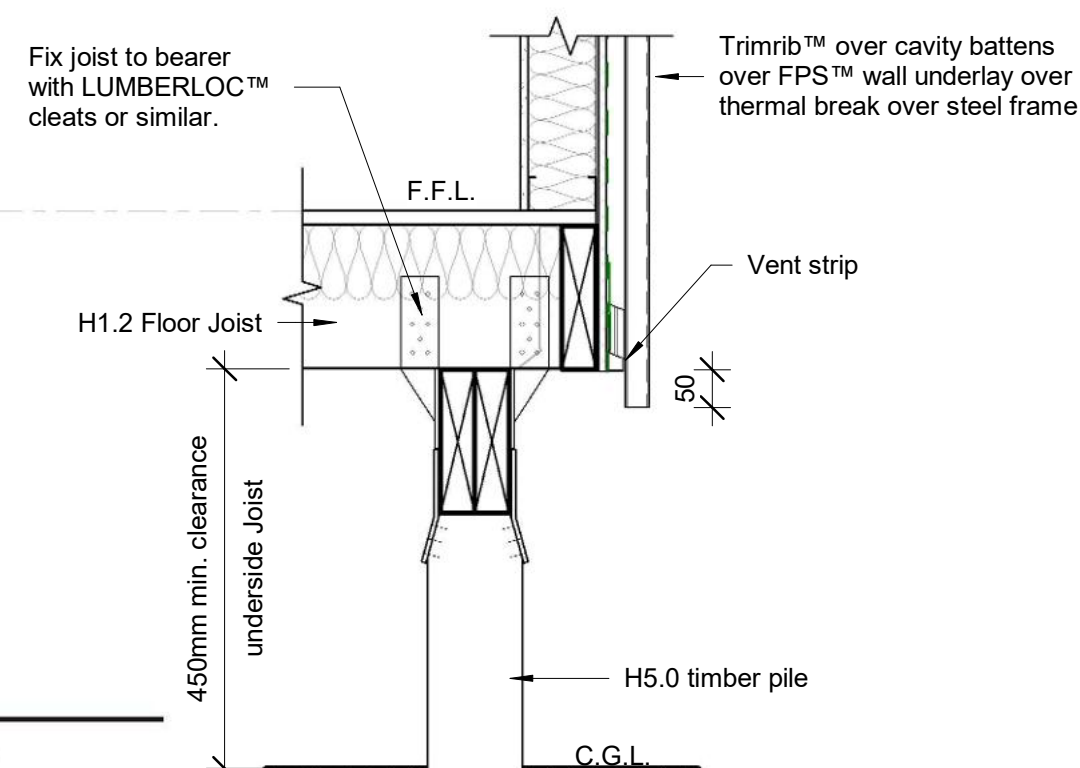
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Roof High End Detail
1 : 10



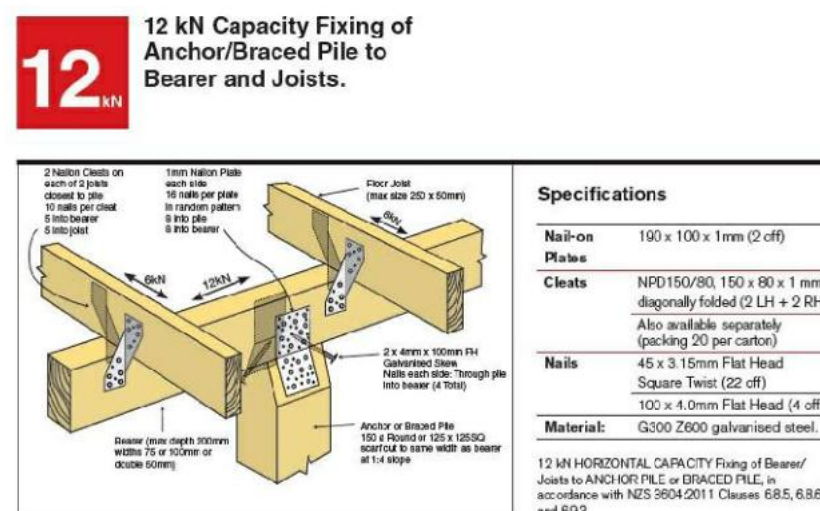
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A.1.09
Roof Low End Detail
1 : 10



4
A.3.02
Wall Floor Detail 1
1 : 10



3
A.3.01
Wall Floor Detail 2
1 : 10



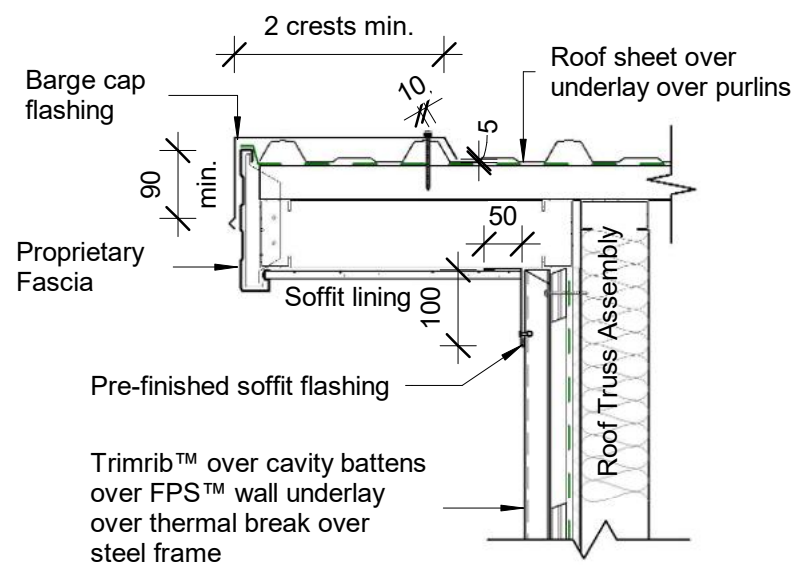
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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

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architectural design company

Drawn	Designed	Approved	Project	Title
Author	Designer	Approver	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	CONSTRUCTION DETAILS
Project No. G0344	Scale 1 : 10			

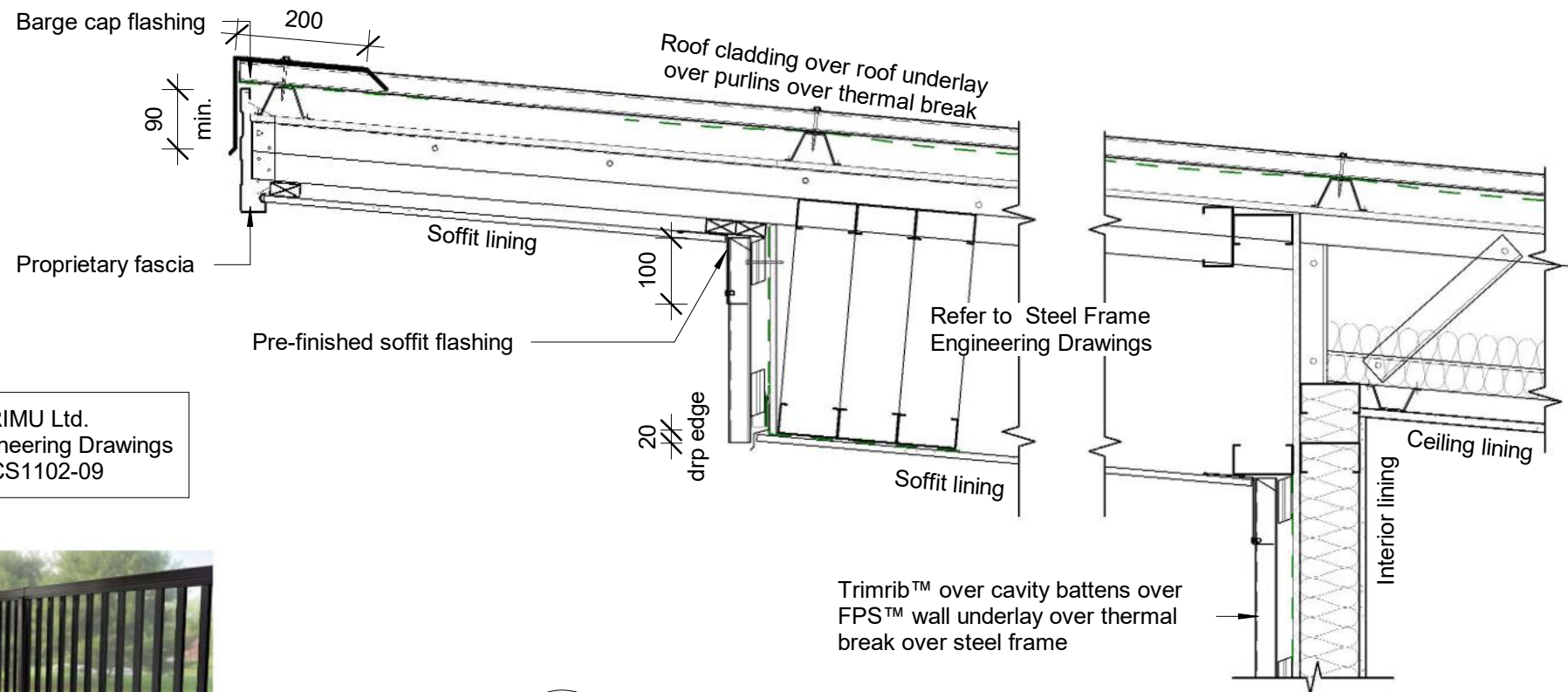
WORKING DRAWINGS



2
A.1.09

Roof Barge Detail

1 : 10



3
A.1.09

Roof Dropped Soffit Detail

1 : 10

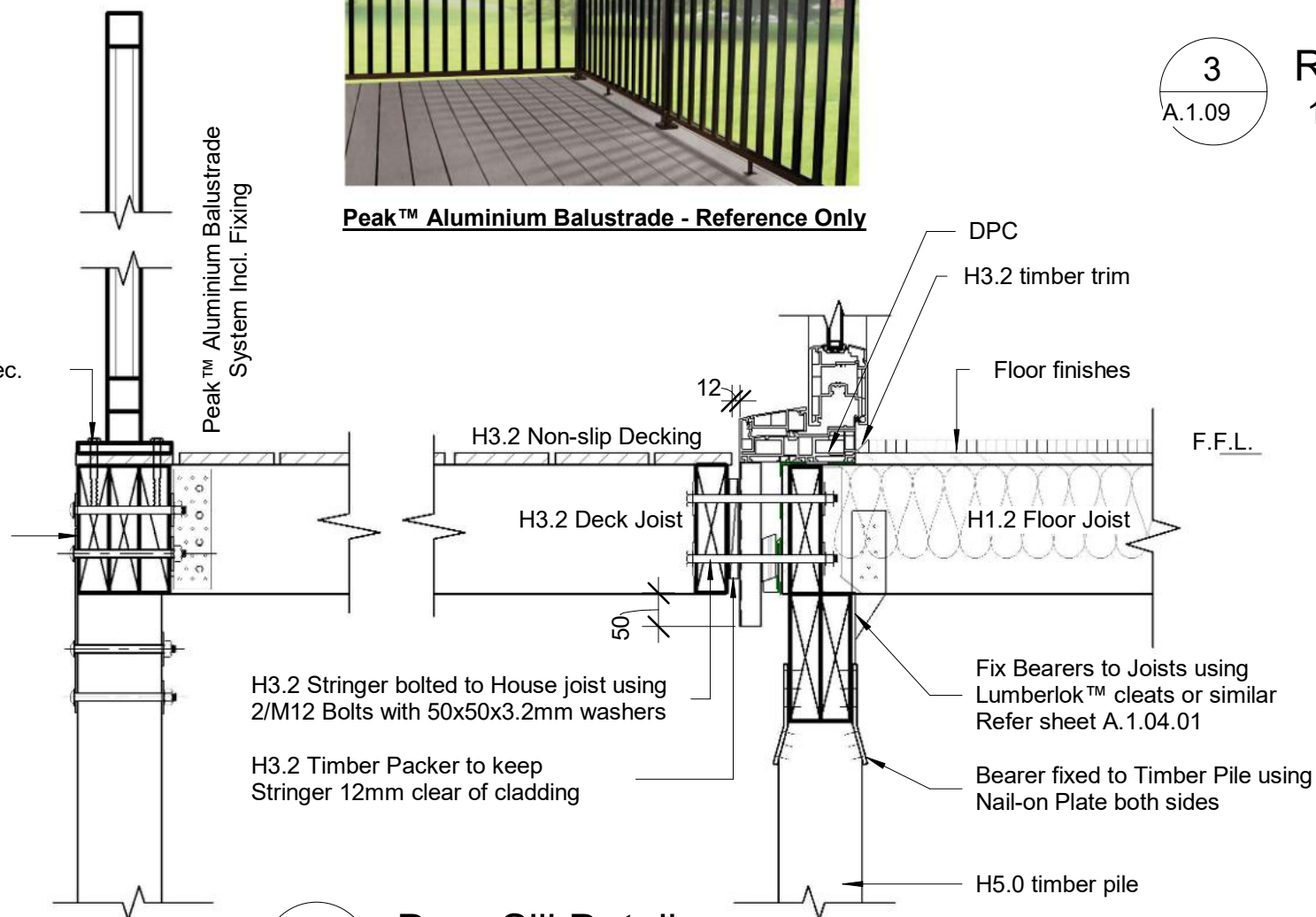
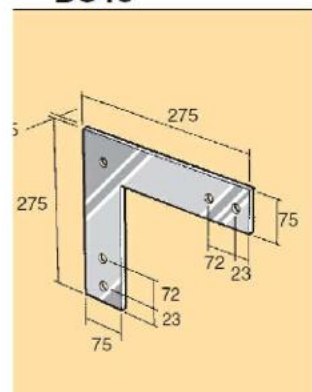


Peak™ Aluminium Balustrade - Reference Only

Fixing as per Peak™ Installation Spec.

Fix End Joists/Bearer to Support Pile with BS48 Structural Bracket 4/M12 Bolts with 50x50x3.2 Galv. Washers

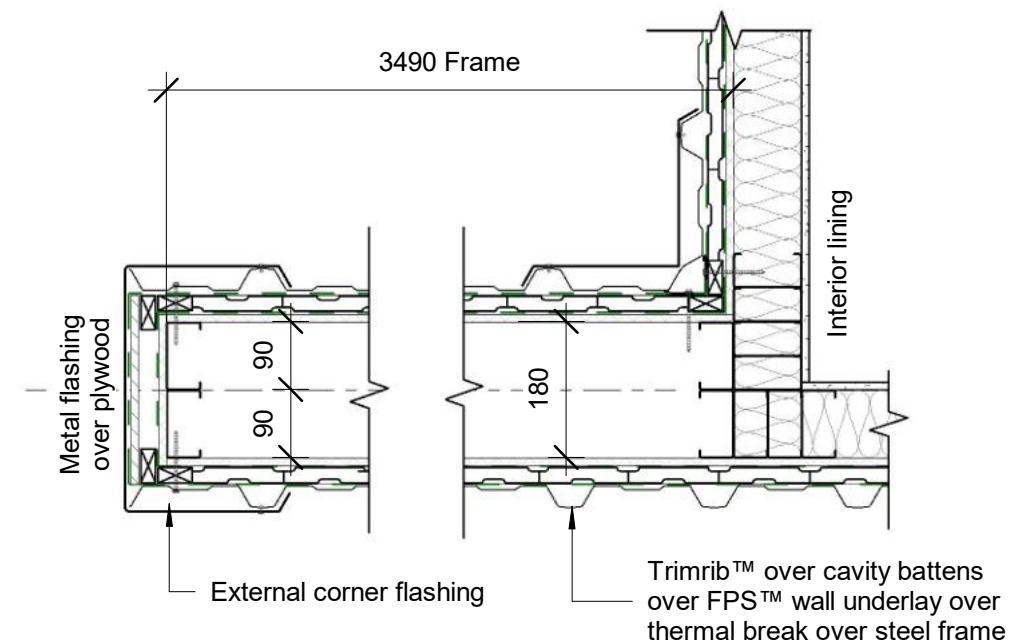
BS48



1
A.3.01

Door Sill Detail

1 : 10



4
A.4.02

Feature Nib Wall Plan

1 : 10

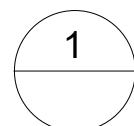
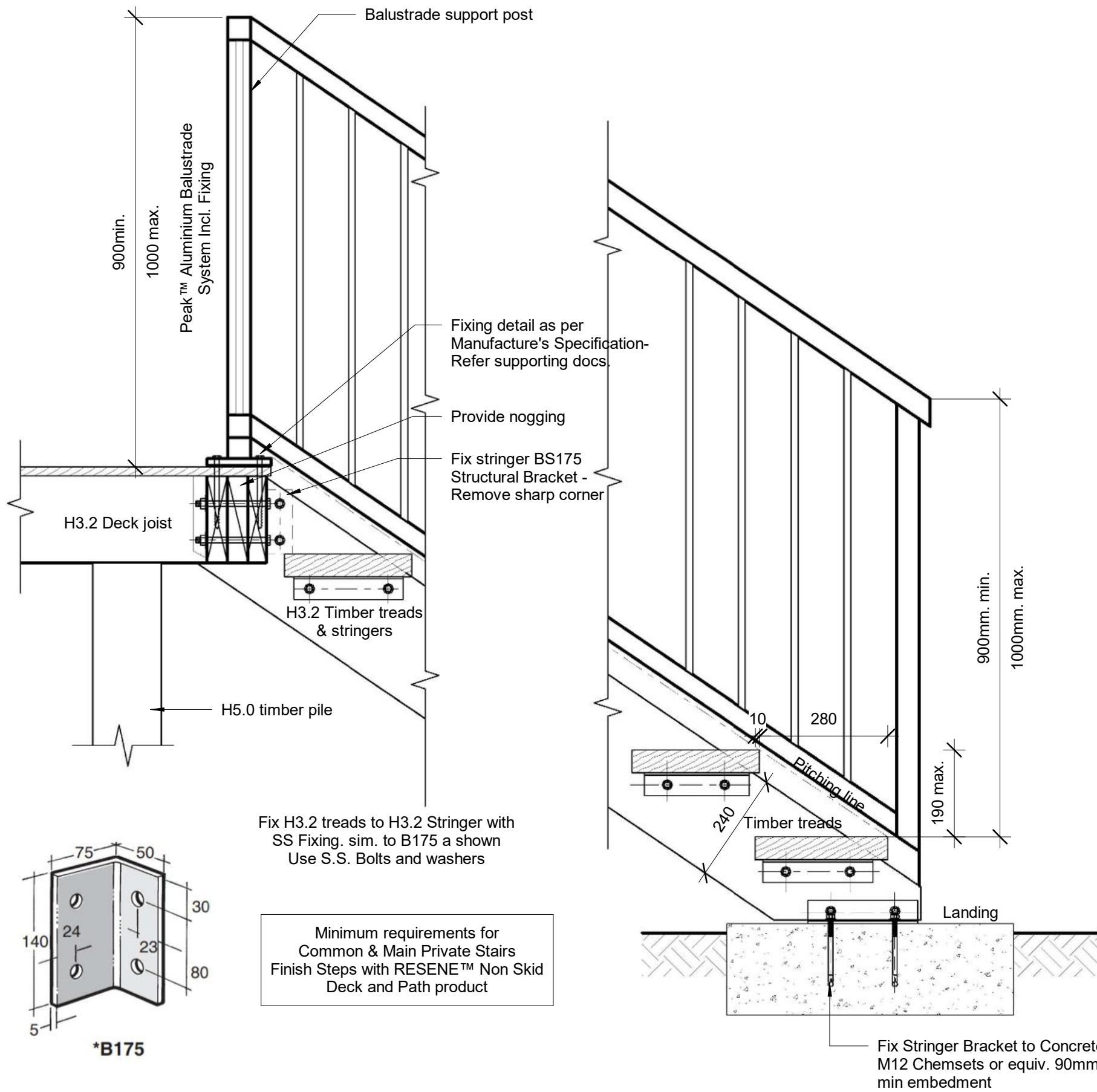
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Revision	Amendment	Approved	Revision Date
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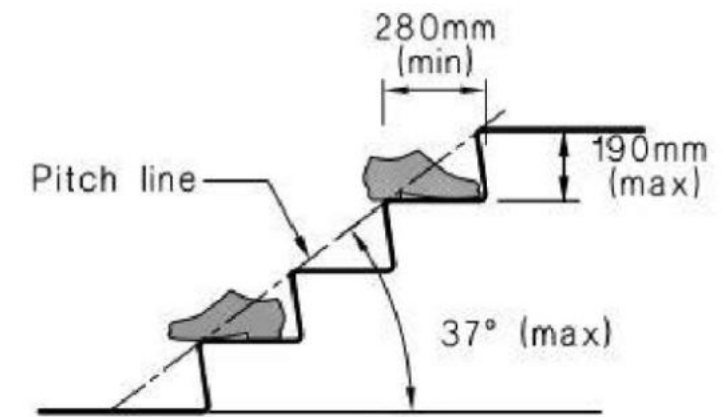
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architectural design company

Drawn	Designed	Approved	Project	Title
Author	Designer	Approver	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	CONSTRUCTION DETAILS
Project No. G0344	Scale 1 : 10			

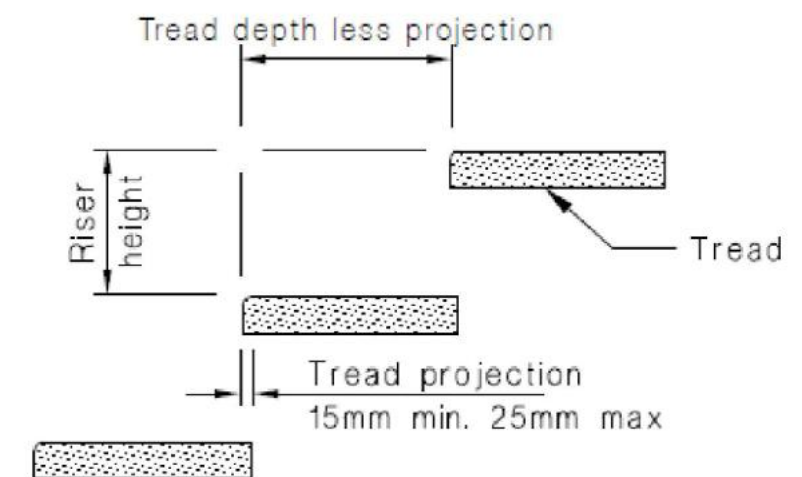
WORKING DRAWINGS



Exterior Step Detail
1 : 10



Common stairways
and main private stairways



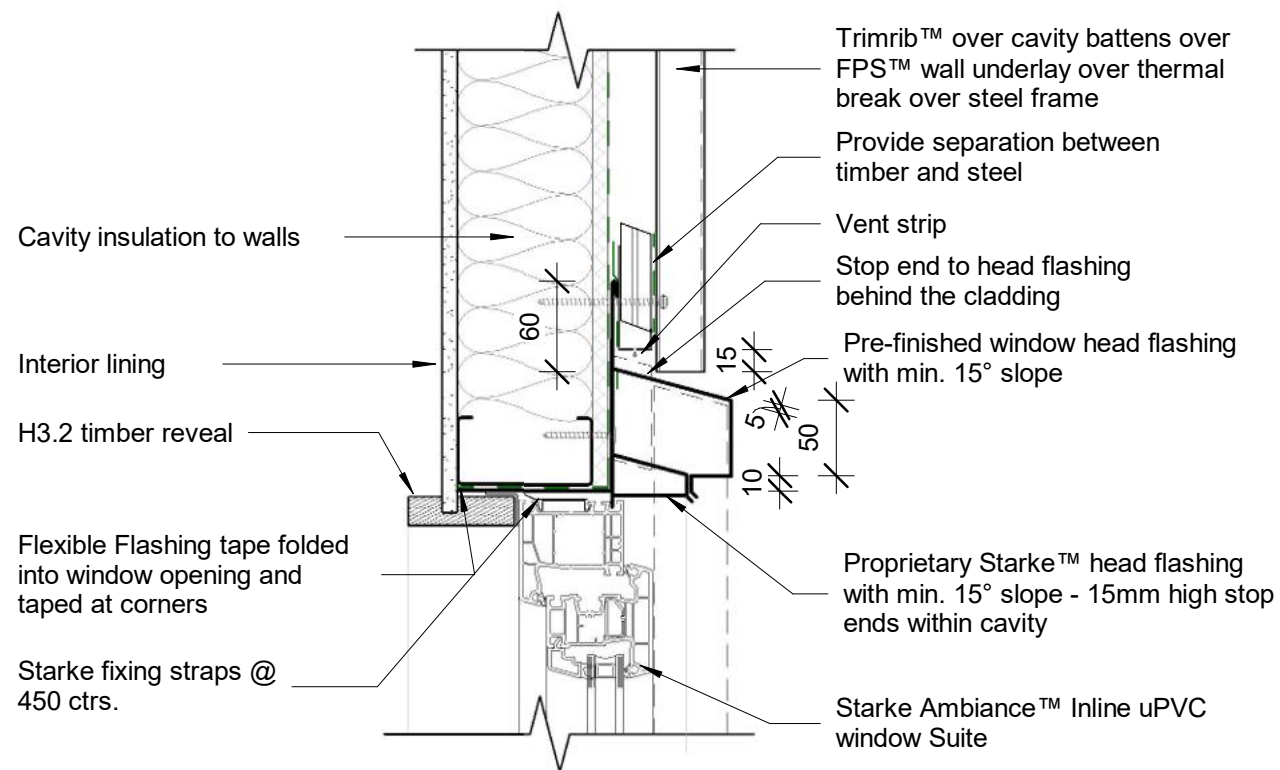
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Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

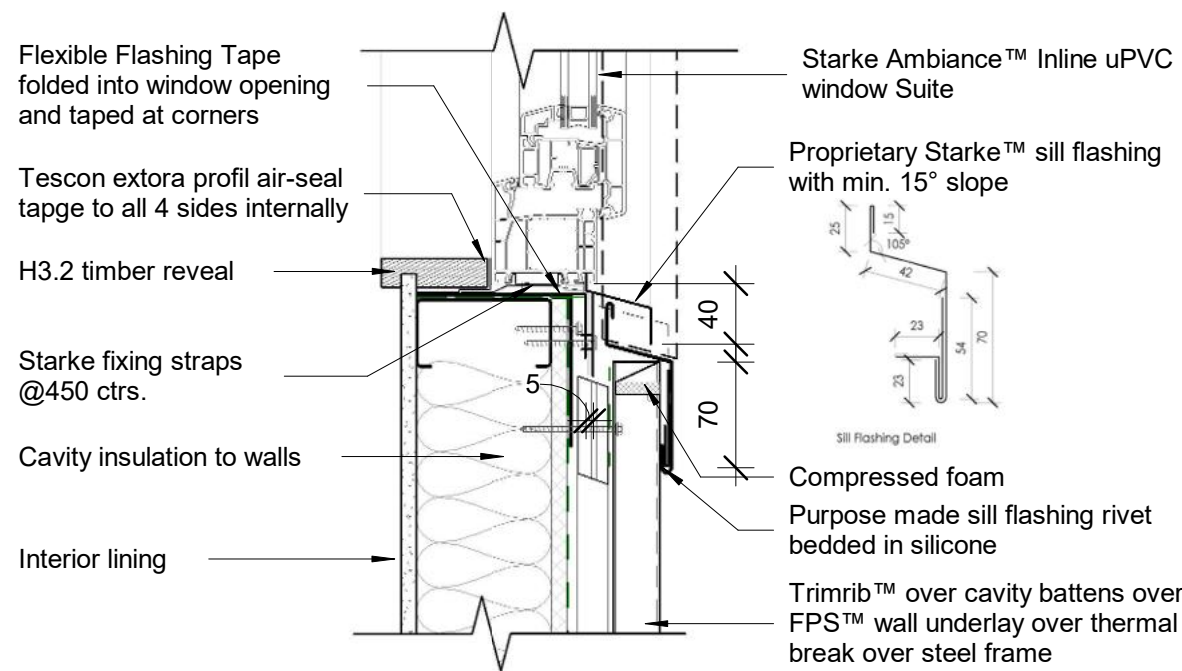
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Project No.		Scale	
G0344		1 : 10 @A3	
Project			
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIWH HEIGHTS DRIVE, TAIPA PROPOSED DWELLING			
Title			

WORKING DRAWINGS

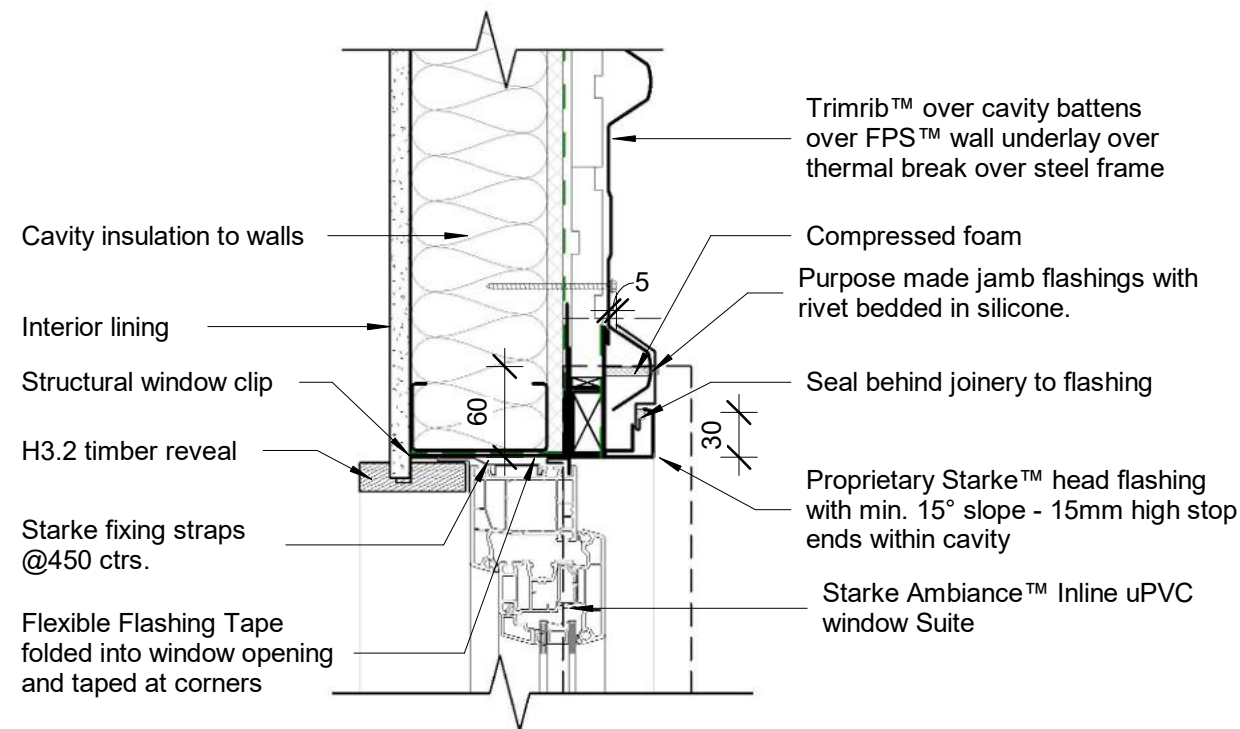
Sheet No.	Revision
A.4.03	RA



1 Trimrib™ Window Head Detail
1 : 5

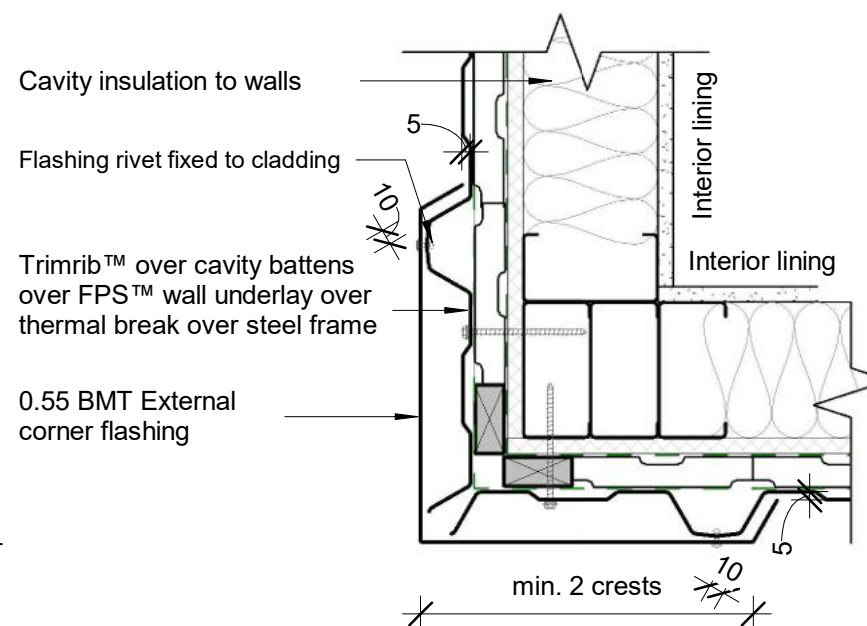


3 Trimrib™ Window Sill Detail
1 : 5

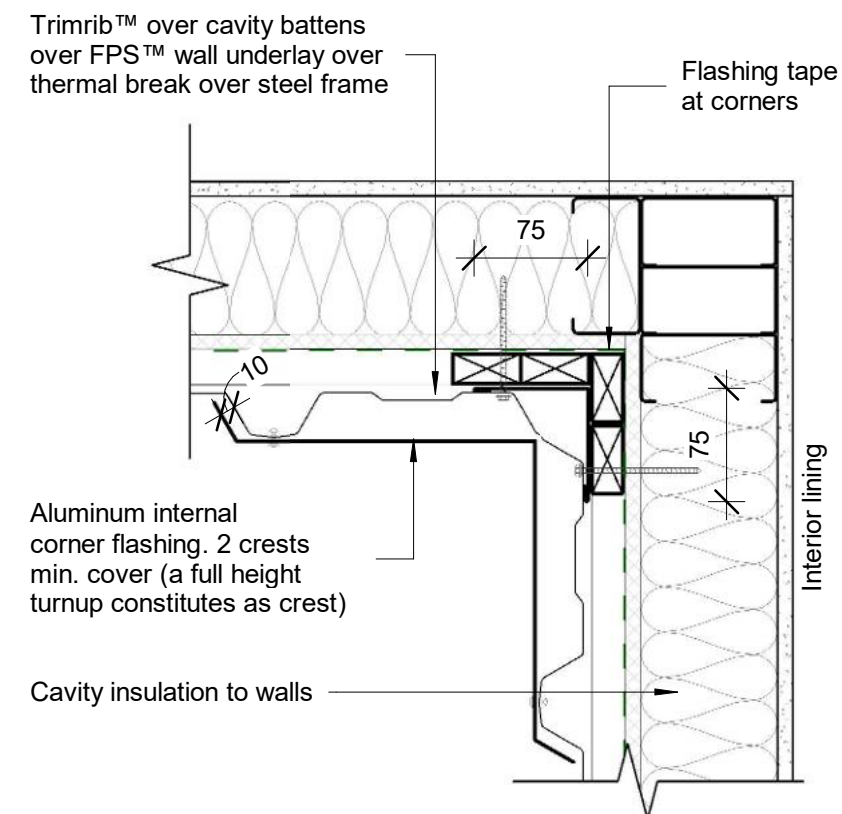


2 Trimrib™ Window Jamb Detail
1 : 5

Separate batten & cladding with DPC as required



4 Trimrib™ External Corner Detail
1 : 5



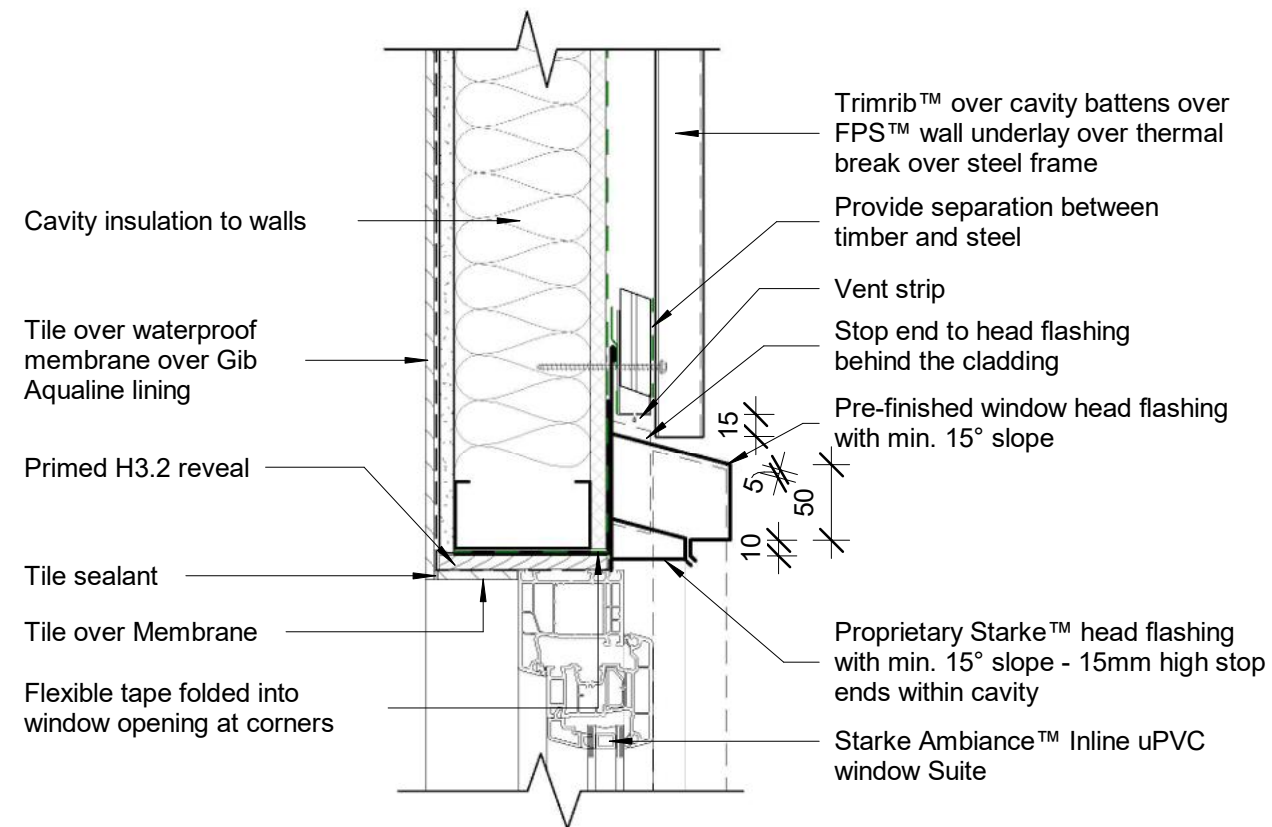
5 Trimrib™ Internal Corner
1 : 5

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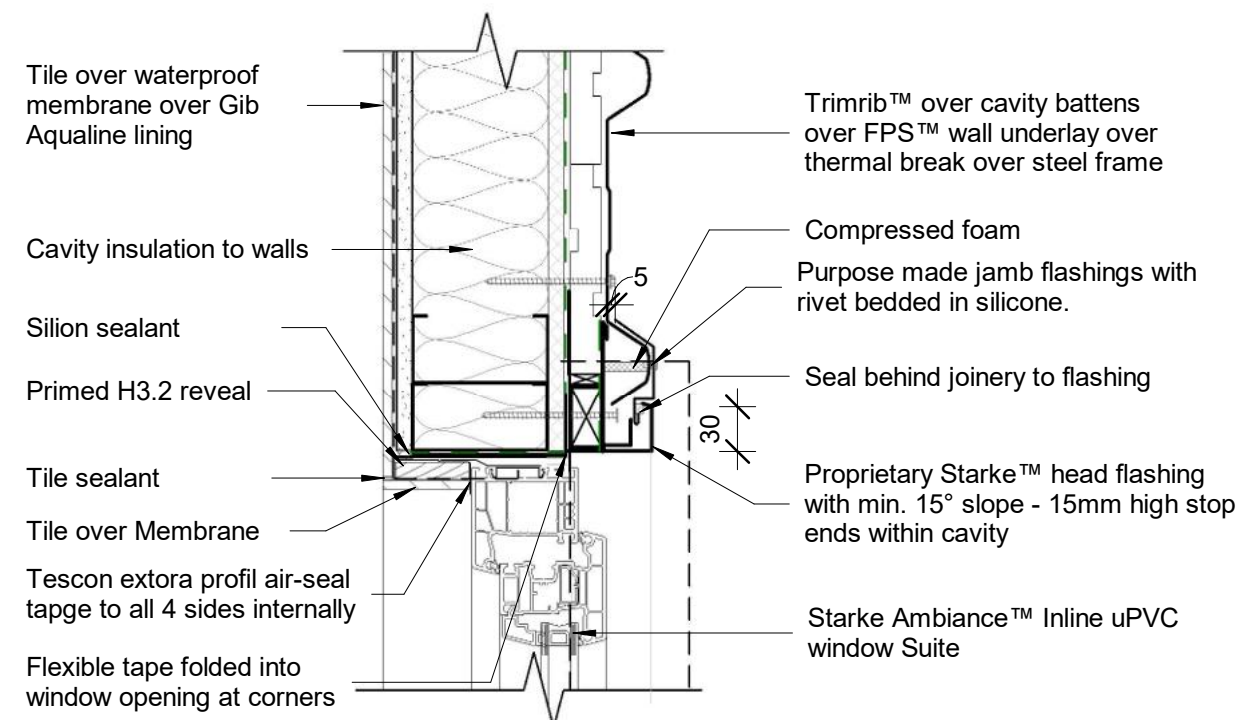
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A	Working Drawings		27.03.26

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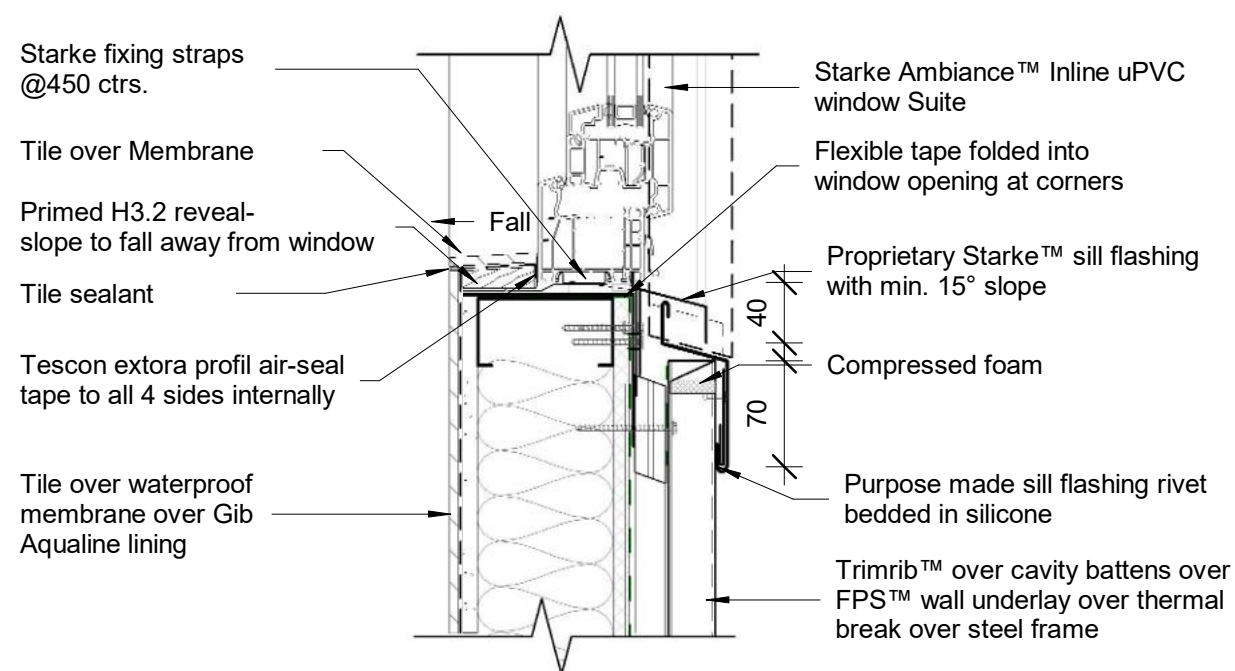
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G0344		H.F.	JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	OPENING DETAILS



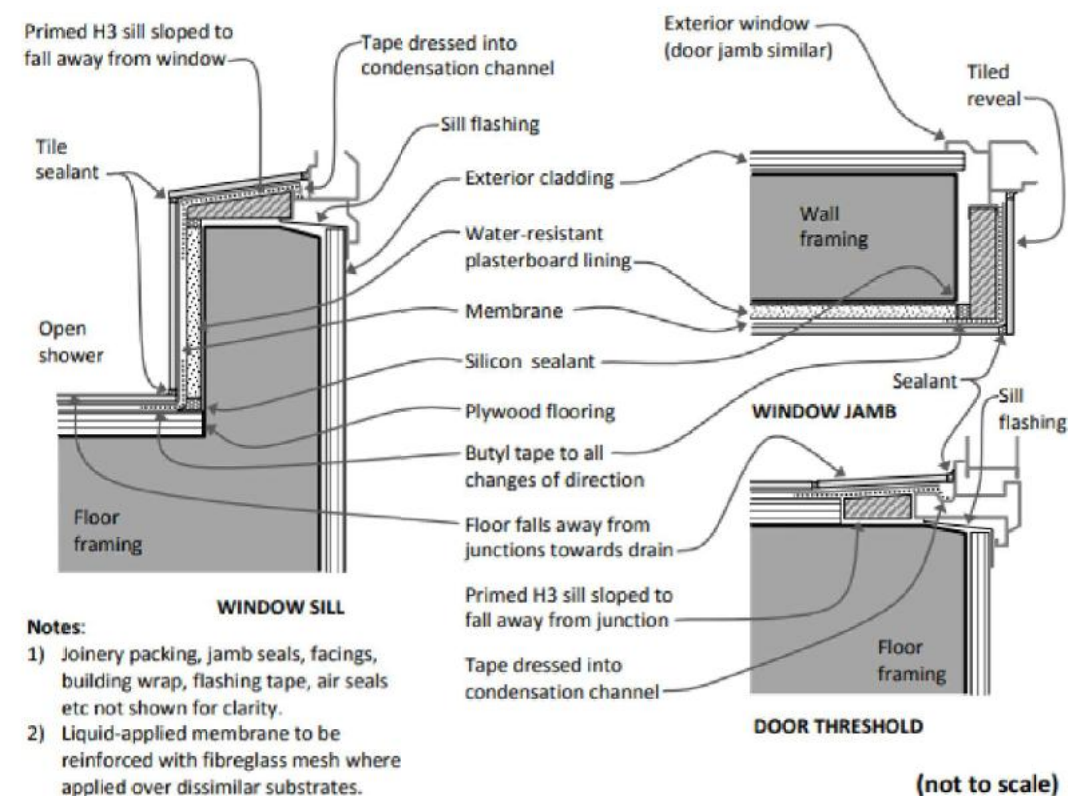
1 Window Head Waterproofing Detail
1 : 5



2. Window Jamb Waterproofing Detail
1 : 5



3 Window Sill Waterproofing Detail
1 : 5



Reference taken from MBIE
Determination 2017/031 Fig. 2

imagine
KIT HOMES

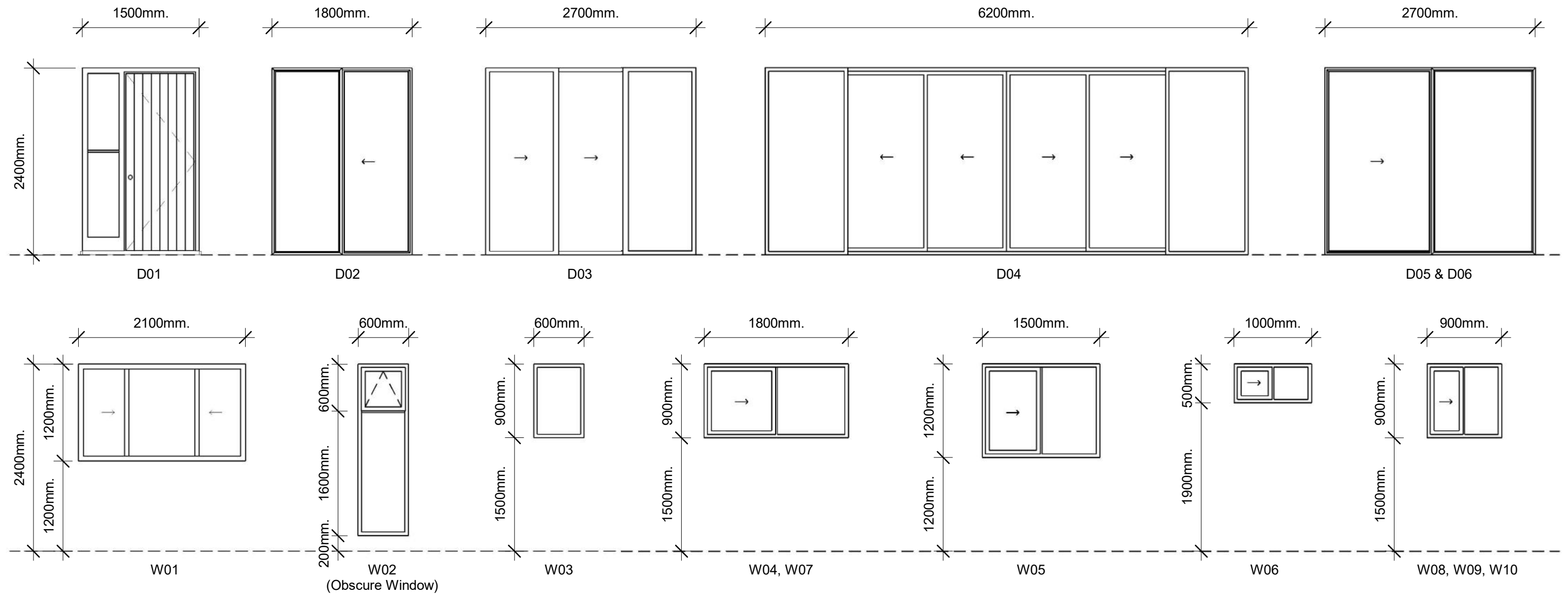
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A	Working Drawings		27.03.26

		Henry French 0210780330 7/16 Derby Street, St Albans, Christchurch LBP 122967 - D2
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Project No.	Scale	
G0344	1 : 5 @A3	
Project JASON SQUIRE & ANITA HOLLERER 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

WINDOW WATERPROOFING
DETAILS

WORKING DRAWINGS

Sheet No.	Revision
A.5.02	RA



Door & Window Schedule
1 : 50

Timber Treatment Schedule			
Member	Timber Species and Grade		
Sub floor		Size	Treat.
Piles	Radiata pine - SG - 8.	125x125mm	H5
Bearers	Radiata pine - SG - 8.	190x 70mm	H3.2
Floor Joists	Radiata pine - SG - 8.	190 x 45mm	H1.2
Flooring	Plywood	19mm	H1.2
Exterior Decking			
Piles	Radiata pine - SG - 8.	125x125mm	H5
Bearers	Radiata pine - SG - 8.	190x 70mm	H3.2
Floor Joists	Radiata pine - SG - 8.	190 x 45mm	H3.2
Decking	Kwila Decking	90 x 12mm	

Door Schedule				
Mark	Height	Width	Description	Location
D07	2000	810	Interior Honeycomb Cavity Sliding Door - Paint Finish	Bed. 3 W.I.R.
D08	2000	810	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Bed. 3
D09	2000	810	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Bed. 2
D10	2000	2200	Interior Honeycomb 2 Panel Sliding Door on Tracks- Paint Finish	Bed. 2 Robe
D11	2000	710	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Shower
D12	2000	810	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Laundry
D13	2000	810	Interior Barn Style Slider Door - Paint Finish	Pantry
D14	2000	810	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Master Bed.
D15	2000	710	Interior Honeycomb Single Leaf Swing Door - Paint Finish	Ensuite
D16	2000	810	Interior Architraved opening - Paint Finish	Master Bed. W.I.R.



Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26



Henry French 0210780330
7/16 Derby Street,
St Albans, Christchurch
LBP 122967 - D2

Drawn	Approved	Date
Author	Approver	29/06/2026 1:40:43 pm
Project No.	Scale	
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Project		
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING		
Title		

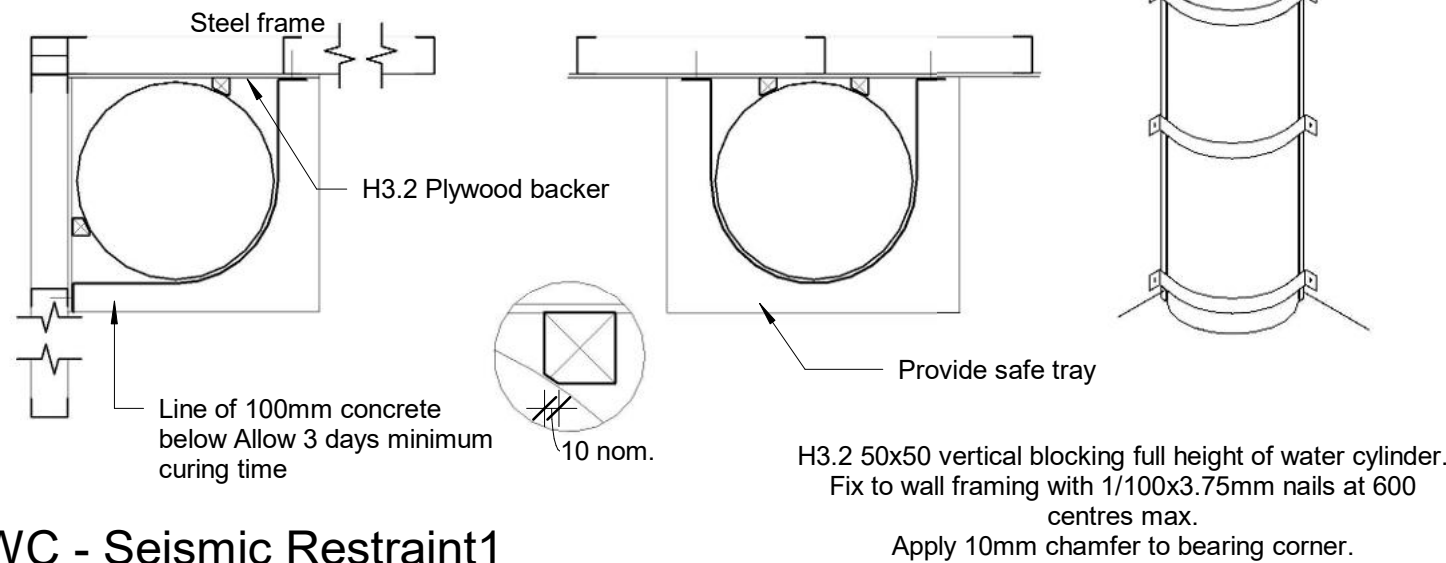
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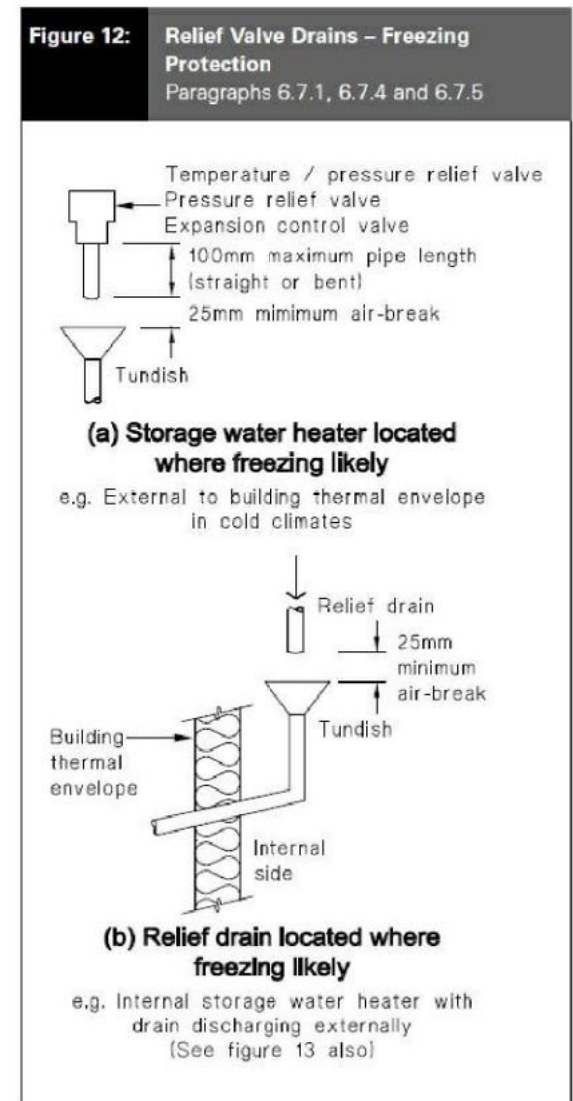
WORKING DRAWINGS

Sheet No.	Revision
A.6.01	RA

Hot Water Cylinders to be restrained with 25x1.0mm. galvanized straps tensioned when fixed in place. Straps to be fixed to wall framing with:
 1. No. 8mm coach screws with 30x2mm thick washers or
 2. 20x2.5mm thick washers.
 Screws to penetrate framing a minimum of 50mm.



1 HWC - Seismic Restraint
1 : 2



Hot water Schematic Plan is to be used as a guide only. Installation must be carried out by a Registered Plumber or Authorized personnel. To be in strict accordance with Manufacturers Installation manual, New Zealand Building Code, AS/NZ3000 Electrical Standards and local codes and regulatory authority requirements.

2 Rheem Inst. Schem. Diagram
N.T.S

3 Relief Valve Drain
N.T.S

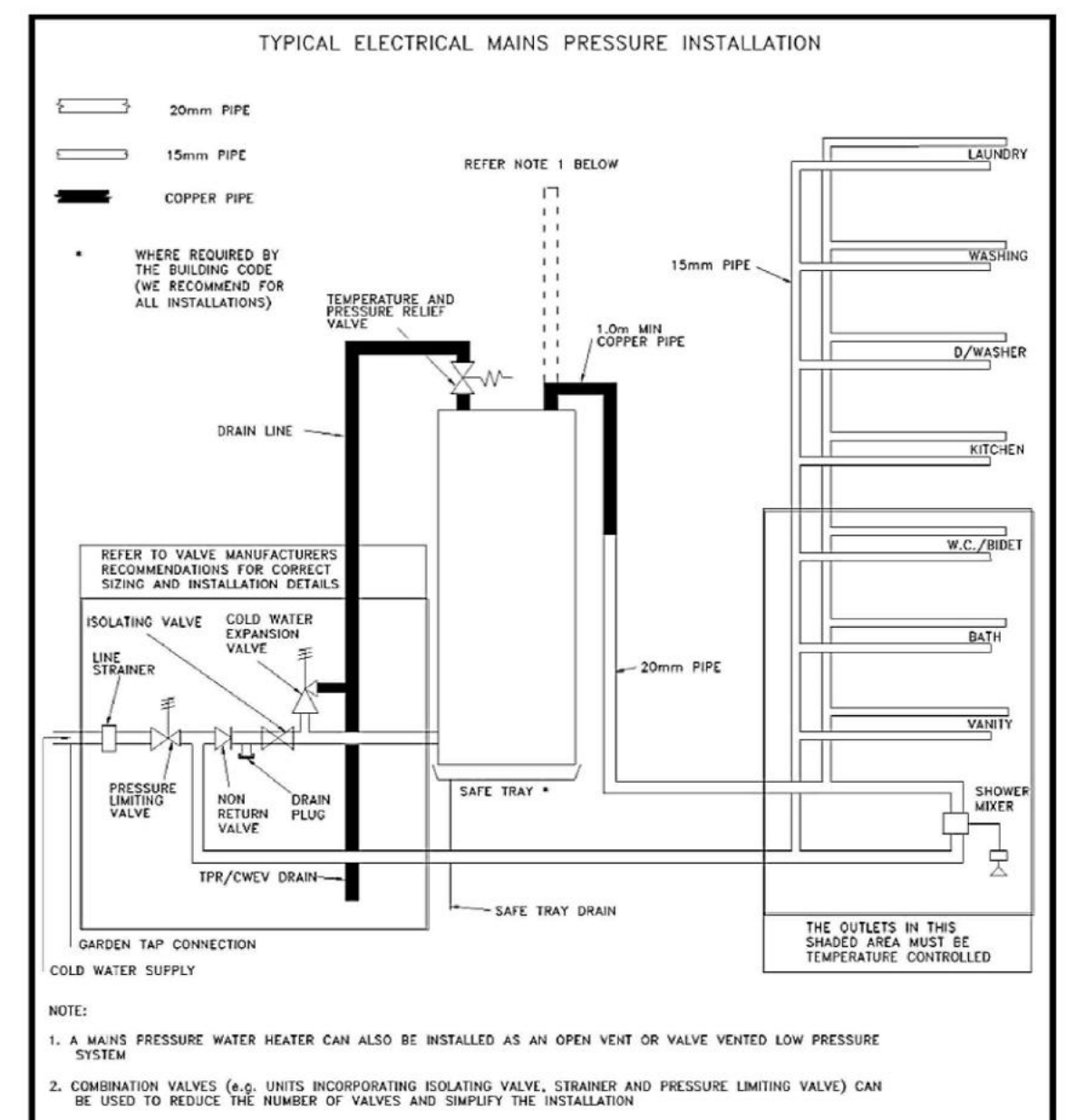
Notes
 Relief Valve drains shall fitted to Temperature/pressure relief gates. Pressure relief gates. Expansion Control valves.
 They are to comprise of copper pipe. have no restrictions or valves. have continuous fall from relief valve. Minimum diameter similar to that of valve. To have no more than 12 changes in direction.

WATER SUPPLY PIPE SIZES

Shower	DN20 (Ø20mm)
Basins	DN12 (Ø10mm)

Sizes taken from Clause G12 Table 4

Hot Water	Copper / Polybutylene
Cold Water	Polybutylene



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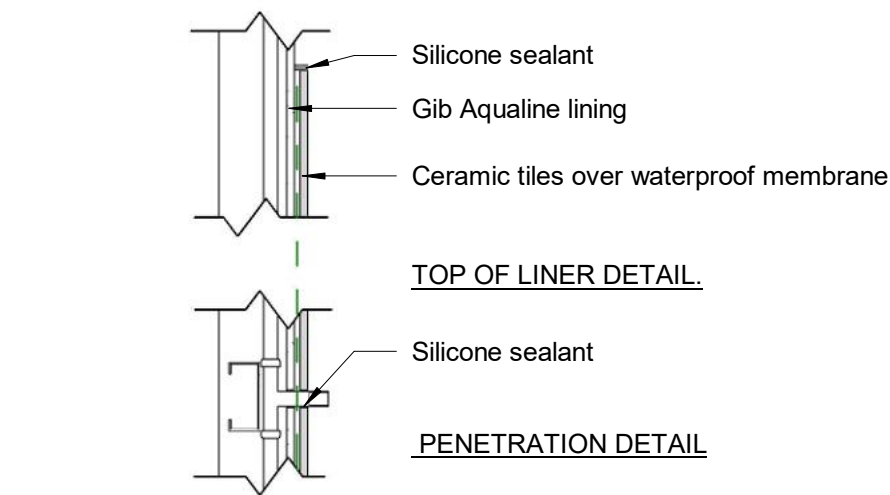
Revision A Working Drawings Approved 27.03.26

Henry French 0210780330
 7/16 Derby Street,
 St Albans, Christchurch
 LBP 122967 - D2

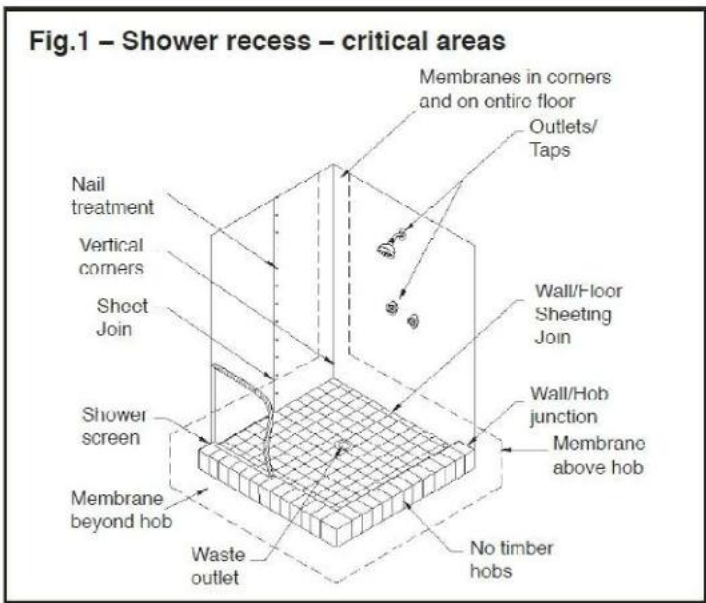
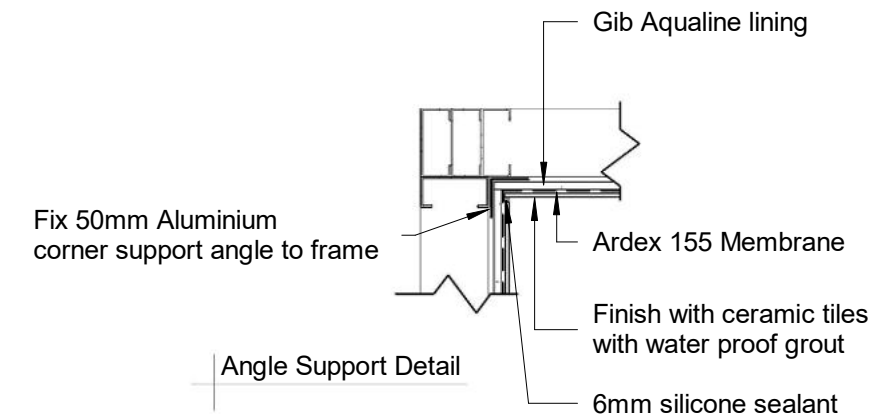
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 Project JASON SQUIRE & ANITA HOLLERER
 93 OLIVE VIEW HEIGHTS DRIVE, TAIPA
 PROPOSED DWELLING

HOT WATER CYLINDER DETAILS

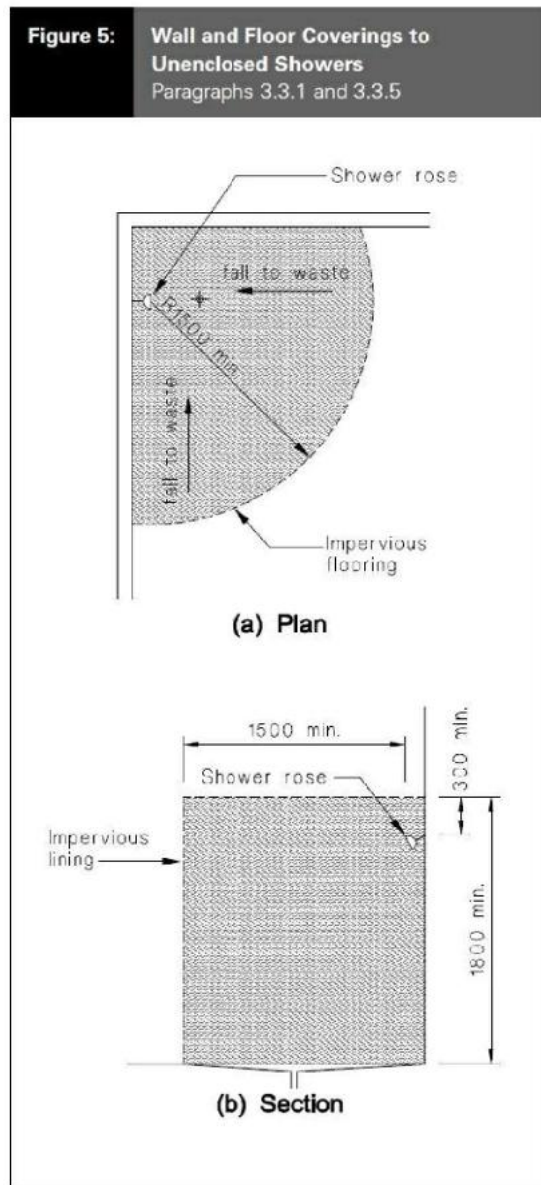
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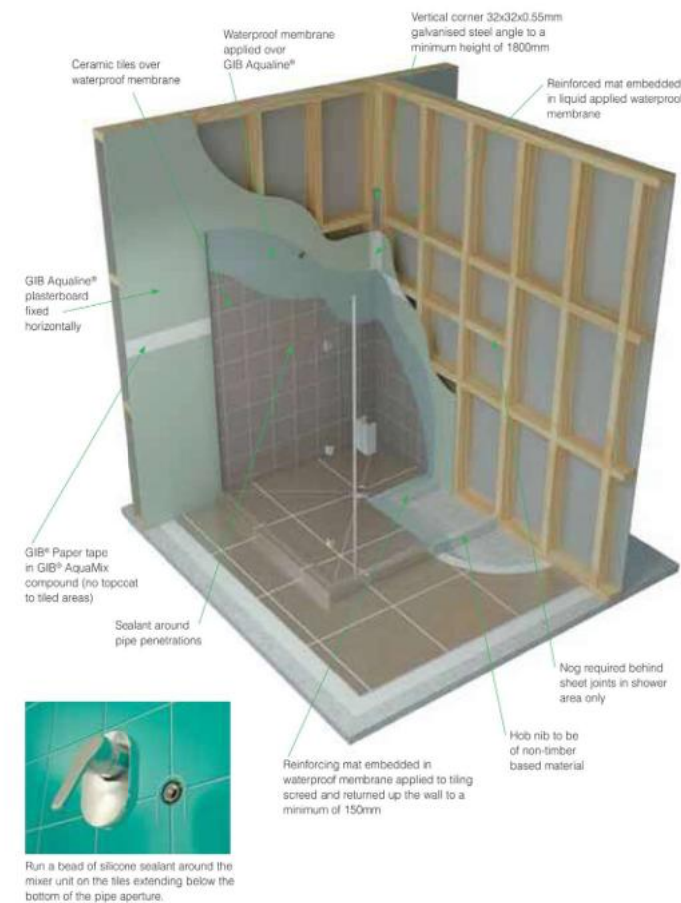
1 Tiled Shower Detail
1 : 10



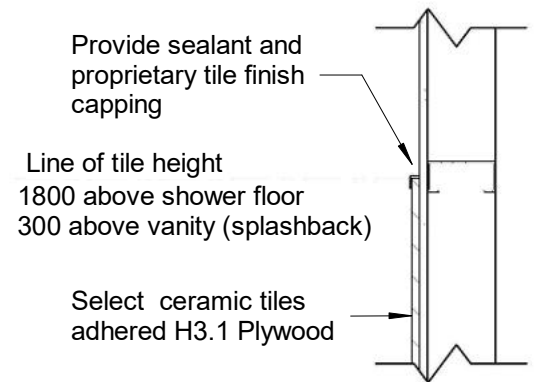
Sunrise
Shower Strip Drain- Reference only



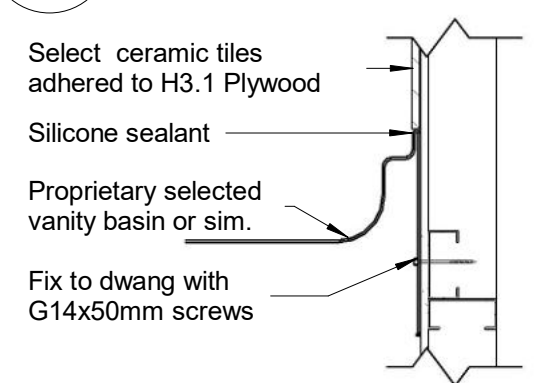
4 Shower Water Proofing Membrane Detail
1 : 10



Waterproofing Membrane to be ARDEX™ WPM155.
To be applied to shower recess,
1800mm above floor & 1500mm min. from shower rose
complete floor and up wall outside shower area to 75mm min
refer figure 5 this page

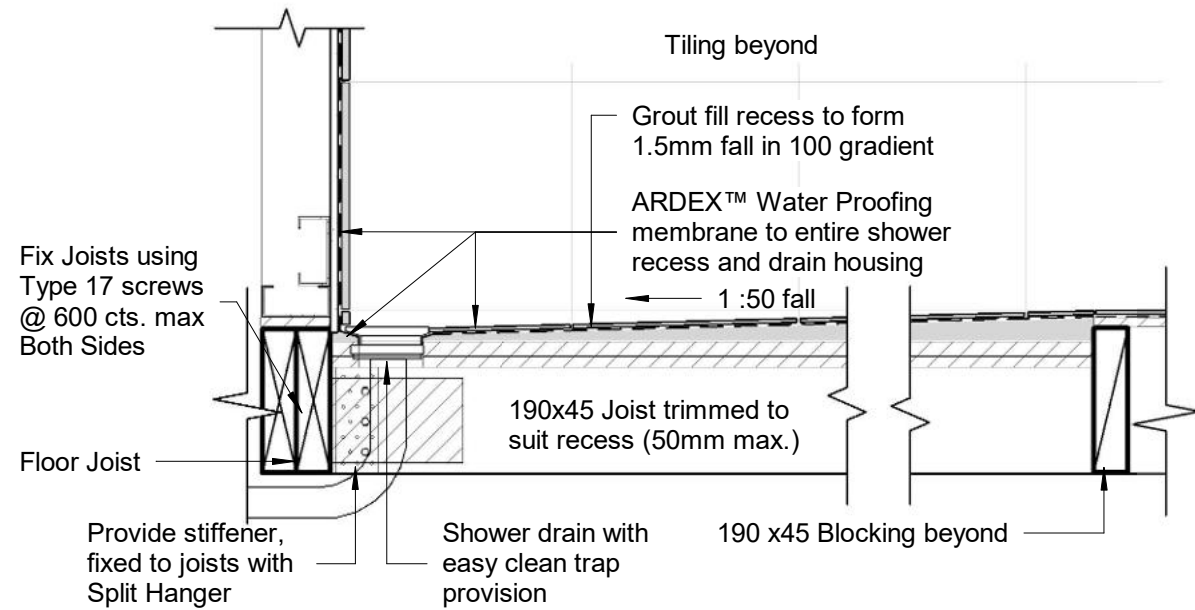


3 Top of Tile Detail.
1 : 10

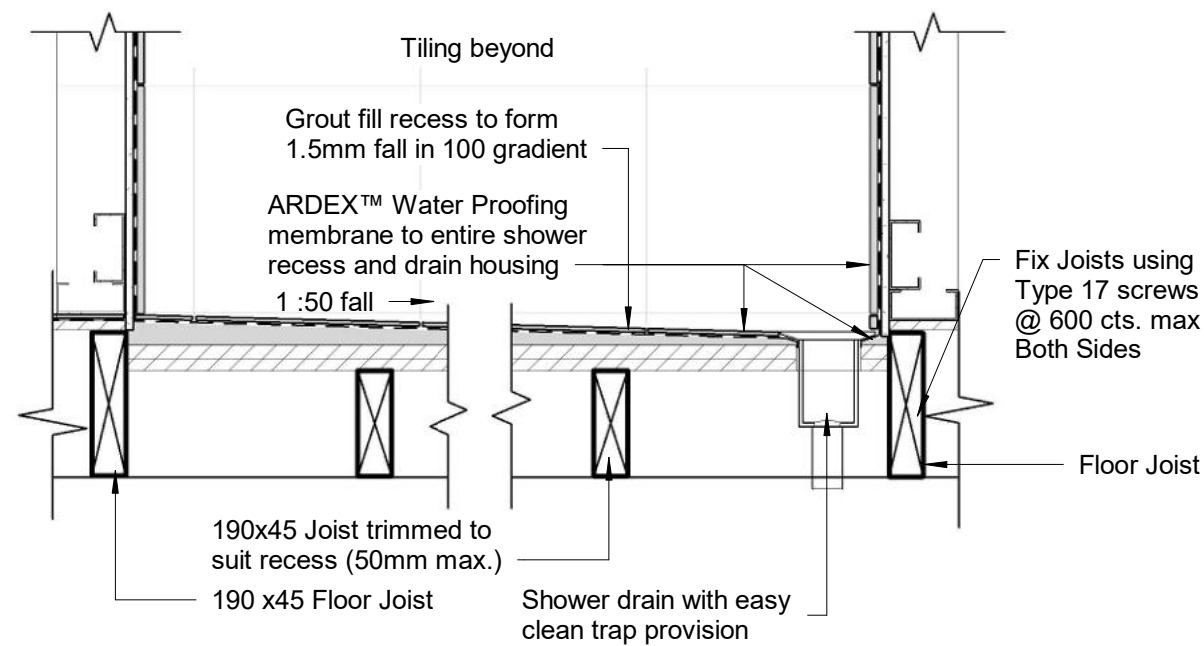


2 Basin to Wall Detail.
1 : 10

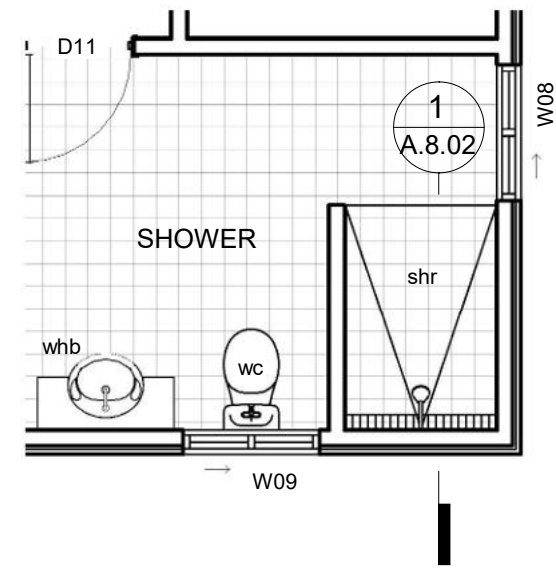
WET AREA SCHEDULE				
ROOM	Kitchen/Pantry	Ensuite	Shower	Laundry
Floor	Tiles	Tiles	Tiles	Tiles
Walls	W/B Acrylic Paint	W/B Acrylic Paint	W/B Acrylic Paint	W/B Acrylic Paint
Joinery	Formica Laminate	Formica Laminate	Formica Laminate	Formica Laminate
General Ground Floor covering to be adhered to floor using floor covering manufacturers recommendations. Internal walls to be H3.1 Plywood fixed in accordance CHH Installation Bulletin Water proof grout to be used when laying tiles. Wall Splash backs Tiles to protect to min. 300mm of wall adjoining joinery Shower Tiles to protect walls 1800mm min above floor in shower cubicle W/B - Denotes Water Base H.P - Denotes High Pressure				



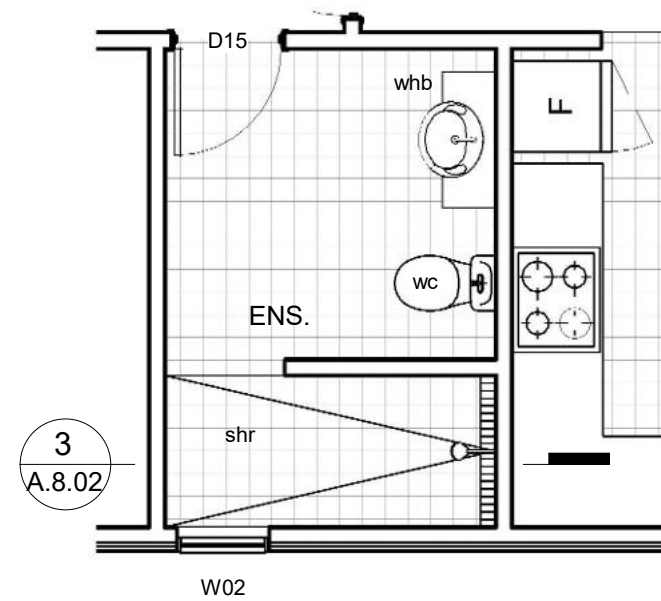
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A.1.04.01
Tiled Shower Floor Detail 1
1 : 10



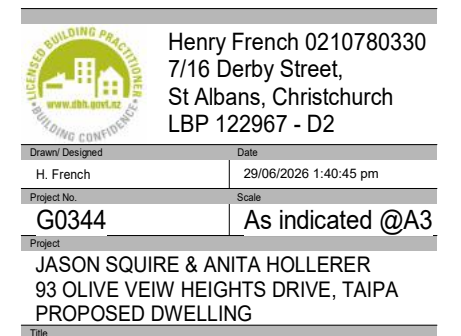
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A.1.04.01
Tiled Shower Floor Detail 2
1 : 10



2
A.2.01
Reference Plan-Shower
1 : 50



4
A.2.01
Reference Plan-Ensuite
1 : 50



WET AREA DETAILS

WORKING DRAWINGS

Sheet No.	Revision
A.8.02	RA

SEDIMENT CONTROL NOTES.

All erosion and sediment control structures are to be inspected each working day and maintained in good working order.

All ground cover is to be preserved where possible.
All erosion and sediment control measures are to be installed prior to commencement of any earthworks.

Roof water downpipes and drains are to be connected to the permanent stormwater drainage system as soon as practical

The excavated area may result in some runoff requiring appropriate erosion and sediment control measures, such as silt mesh or hay bales, to be installed on site to prevent sediment runoff into nearby drains. When practical, impacted soil to be removed from site will be direct-loaded onto trucks. If this is not practical, soil will be stockpiled on site and managed to reduce the dissipation effects of rain or wind on the pile.

Soils will be excavated by the fastest practical means and where they are to be removed from site; the soils will be direct-loaded onto trucks for offsite disposal. Saturated soils may be temporarily stockpiled immediately adjacent to the excavation to allow for excess water to drain back into the excavation. Any saturated soil removed directly from the site will be carted by trucks with sealed trays to prevent leakage during the transport.

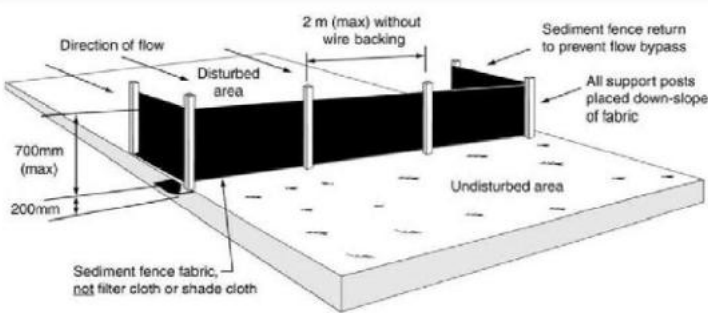
If the contractor cannot directly load contaminated material onto trucks, appropriate erosion and sediment control measures must be taken to prevent contamination of the site and the surrounding area. Suitable areas for the stockpiling of material include a relatively flat area located immediately adjacent to the excavation to allow excess soil to fall back into the excavation or an area within a pre-established sediment control zone away from any open stormwater cesspit.

Further sediment control shall be installed with the use of sheets on the ground and hay bales surrounding the stockpile. Should it rain between loading of the trucks the contractor shall cover the stockpile to prevent saturation.

Stockpiles must be carted away on the same day and not left overnight. Any soil will be placed into the excavation.

SEDIMENT CONTROL LEGEND.

- Construction fencing 1.8m high galvanised mesh and wire with posts on concrete bases or similar approved
- Sediment fencing to prevent sediment from being transported off site or entering the stormwater system
- Stabilised all-weather access limited to single entry/exit if possible to prevent sediments being tracked off site
- Flow control bund also required to redirect runoff towards sediment fencing
- Approved filter fabric placed over cesspits or other sediment control measure to prevent contamination of stormwater inlet



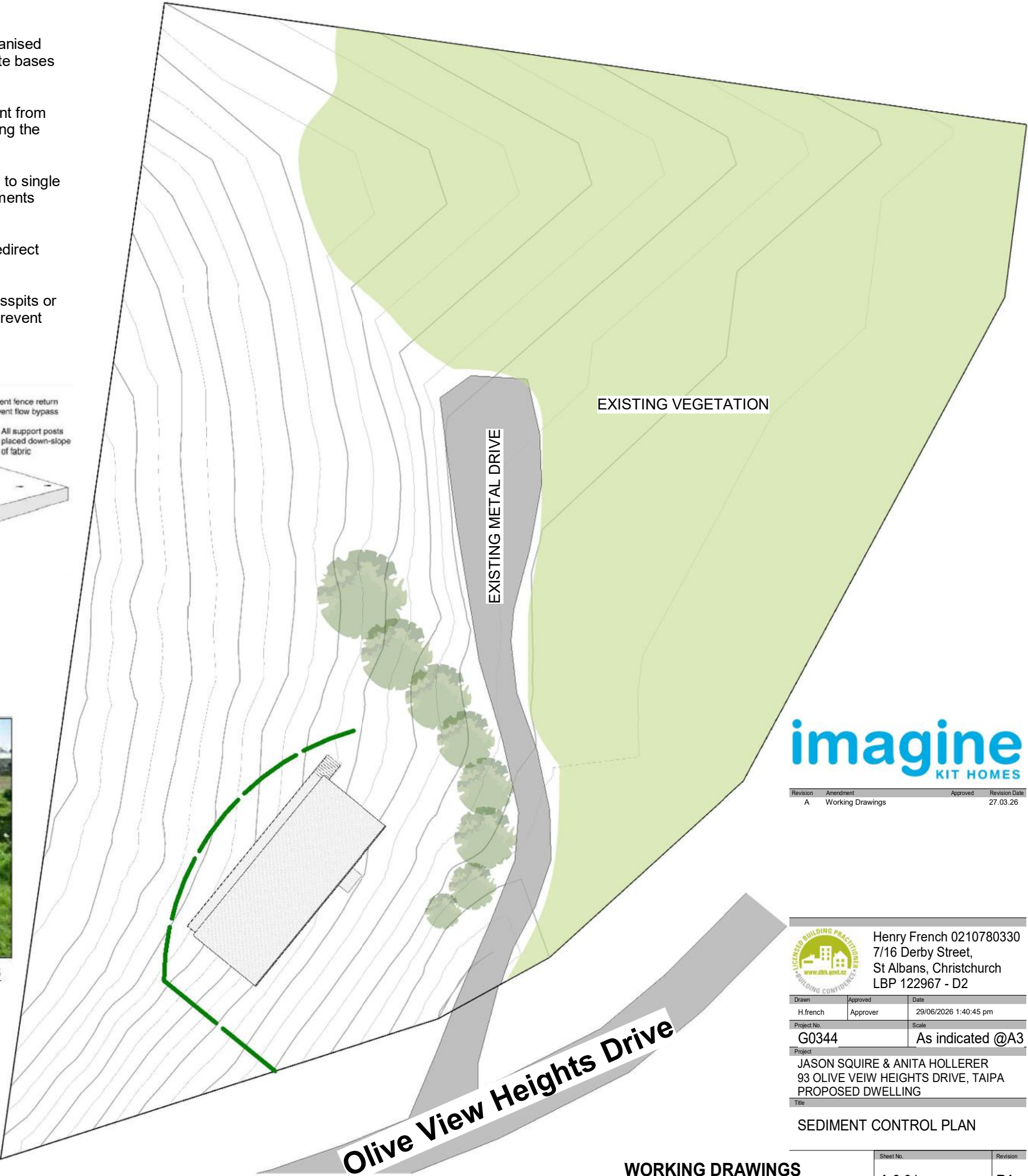
SILT FENCE DETAIL



EXAMPLE OF SEDIMENT FENCING WITH RETURNS

3
A.2.01

Sediment Control Plan
1 : 500



Revision	Amendment	Approved	Revision Date
A	Working Drawings		27.03.26

 Henry French 0210780330 7/16 Derby Street, St Albans, Christchurch LBP 122967 - D2	
Drawn	Approved
H.french	Approver
Project No.	Date
G0344	29/06/2026 1:40:45 pm
Project	Scale
JASON SQUIRE & ANITA HOLLERER 93 OLIVE VEIW HEIGHTS DRIVE, TAIPA PROPOSED DWELLING	As indicated @A3
Title	

SEDIMENT CONTROL PLAN

WORKING DRAWINGS

Sheet No.	Revision
A.9.01	RA

APPENDIX B

GEOTECHNICAL INVESTIGATION PLAN



LEGEND

Geotechnical Testing

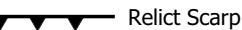
- Hand Auger Borehole
- Machine Borehole
- CPT



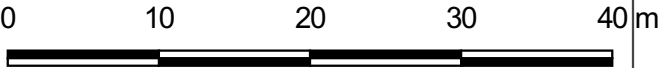
Section Line



Tension Crack



Relict Scarp



SCALE A3: 1:500

NOTES

1. Aerial basemap and property boundaries sourced from LINZ Data Service (CC-BY 4.0).
2. Topographic contours derived from LiDAR data.
3. Investigation locations shown approximately only.

CLIENT

Anita Hollerer-Squire

PROJECT

Geotechnical Investigation for Proposed Dwelling
93 Olive View Heights Drive,
Taipa

DRAWING TITLE

Geotechnical Investigation Plan



PROJECT REF
29302

DRAWING REF
29302-1

REVISION
A

DATE
01/07/2026

PREPARED BY
CJG

CHECKED BY
CJG

FILE PATH

M-FILES\LDE - Project\39694-29302\Geo QGIS Zip Folder (ID 79084)\29302 QGIS Site
Maps\29302 93 Olive View Heights.qgz

APPENDIX C

GEOTECHNICAL TEST LOGS

BOREHOLE LOG

Hole No.:	
-----------	--

BH01A

Client:	Anita Hollerer-Squire
Project:	Geotechnical Investigation
Site Location:	93 Olive View Heights Drive, Taipa
Test Location:	2.5 m upslope of BH01
Located By:	GIS/Web Map

Contractor:	DS Geotechnical
Rig:	Land cruiser
Driller:	Damian Spratt
Coordinates:	6126907mN, 1643677mE
Elevation:	61m

Project ID:	29302
Start Date:	16/09/2025
End Date:	18/09/2025
Grid:	NZTM
Datum:	Ground

[illegible]

Remarks:

Materials are described in general accordance with NZGS 'Field Description of Soil and Rock' (2005).

PIEZO	DATE	LEVEL	REMARK
-------	------	-------	--------

Hole Depth:	12.37
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Logged By:
C.J.G

Inclination:	90.00
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Checked By:	CP
-------------	----

Sheet 1 of 3

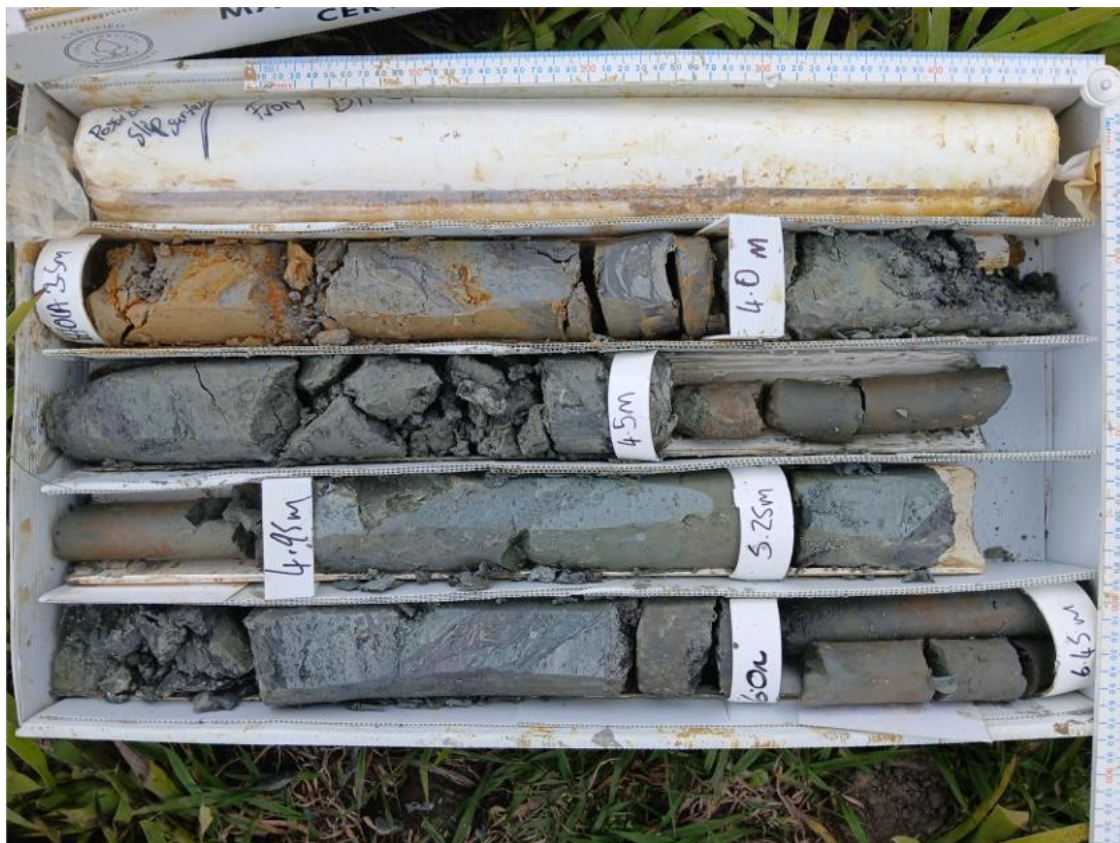
BOREHOLE LOG												Hole No.: BH01A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Project: Geotechnical Investigation					Rig: Land cruiser					Start Date: 16/09/2025																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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RL (m)	Geology	Material Description	Depth (m)	Graphic Log	In Situ Testing SPT blows/75mm Shear vane peak/residual	Strength	Weathering	Defect Spacing	Defects and Drilling Remarks	Depth (m)	Drilling Method	TCR (%)	RQD (%)	Sampling	Progress	Backfill/ Installation/ Groundwater																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
55		Completely weathered; dark grey with black; , bedded, moderately thick; SANDSTONE; extremely weak.	6		6 for 150mm/5/8/8 N = 29	EW	HW		5.08m: Joint, 60°, undulating, slickensided.	6	SPT	97	97																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		5.29m: Joint, 10°, undulating, rough.							63			27																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		5.45m: Joint, 30°, undulating, slickensided.							83			37																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		5.45m: Shear zone, 30°, Black clayey shear zone, historic, relithified.							67			56																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		7.35m: Joint, 35°, undulating, rough.							100			100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		7.67m: Joint, 60°, planar, rough.							95			54																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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		8.52m: Joint, 70°, undulating, slickensided.							103			32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		8.60m: Joint, 30°, undulating, slickensided.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		54										Highly weathered; dark grey; , bedded, thick; SILTSTONE; extremely weak; numerous, paleo shear zones, generally re-lithified, with little to no strength reduction compared to surrounding rock. Blocky fabric to rock mass, with polish on surfaces when broken. Defects are generally closed except where noted..	7					25 for 110mm Bouncing N = 50	VW	MW			7	SPT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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LDE engineers • scientists BOREHOLE LOG										Hole No.: BH01A						
Client: Anita Hollerer-Squire					Contractor: DS Geotechnical					Project ID: 29302						
Project: Geotechnical Investigation					Rig: Land cruiser					Start Date: 16/09/2025						
Site Location: 93 Olive View Heights Drive, Taipa					Driller: Damian Spratt					End Date: 18/09/2025						
Test Location: 2.5 m upslope of BH01					Coordinates: 6126907mN, 1643677mE					Grid: NZTM						
Located By: GIS/Web Map					Elevation: 61m					Datum: Ground						
RL (m)	Geology	Material Description	Depth (m)	Graphic Log	In Situ Testing SPT blows/75mm Shear vane peak/residual	Strength	Weathering	Defect Spacing	Defects and Drilling Remarks	Depth (m)	Drilling Method	TCR (%)	RQD (%)	Sampling	Progress	Backfill/ Installation/ Groundwater
50		[CONT] black with dark grey, mudstone/siltstone paleo shear zone, 200 mm thick. Very weak, no strength loss compared to surrounding rock.										103	32			
					14 for 150mm/10//10 /15 for 15 mm Bouncing N = 50	VW					SPT	100				
												70	0			
		Moderately weathered; dark grey; , bedded, moderately thick; SANDSTONE; weak; rock mass is sheared and fractured, with defects on multiple orientations. For the most part defects are tight and fractured and sheared zones are re-lithified..	11				MW		11.22m: Joint, 5°, undulating, rough.	11						
		Moderately weathered; dark grey; , bedded, moderately thick; SILTSTONE; very weak; Sub-vertical, pervasive shear fabric. .							11.53m: Joint, 45°, undulating, slickensided.			102	76			
49			12		11 for 150mm/10//12/14/ 3 for 5 mm Bouncing N = 50	W				12	SPT	100				
		EOH: 12.37m														
48			13							13						
47			14							14						
Remarks:					PIEZO	DATE	LEVEL	REMARK	Hole Depth: 12.37		Inclination: 90.00					
Materials are described in general accordance with NZGS 'Field Description of Soil and Rock' (2005).									Logged By: CJG		Checked By: CP					
											Sheet 3 of 3					

Generated with CORE-OS by Geotec - MBH v3.3 - 28/10/2025 2:28:50 pm



0.00m - 3.50m
Borehole 1A Box 1



3.50m - 6.45m
Borehole 1A Box 2



6.45m - 9.37m
Borehole 1A Box 3



9.37m - 12.30m
Borehole 1A Box 4

Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: **HA01**

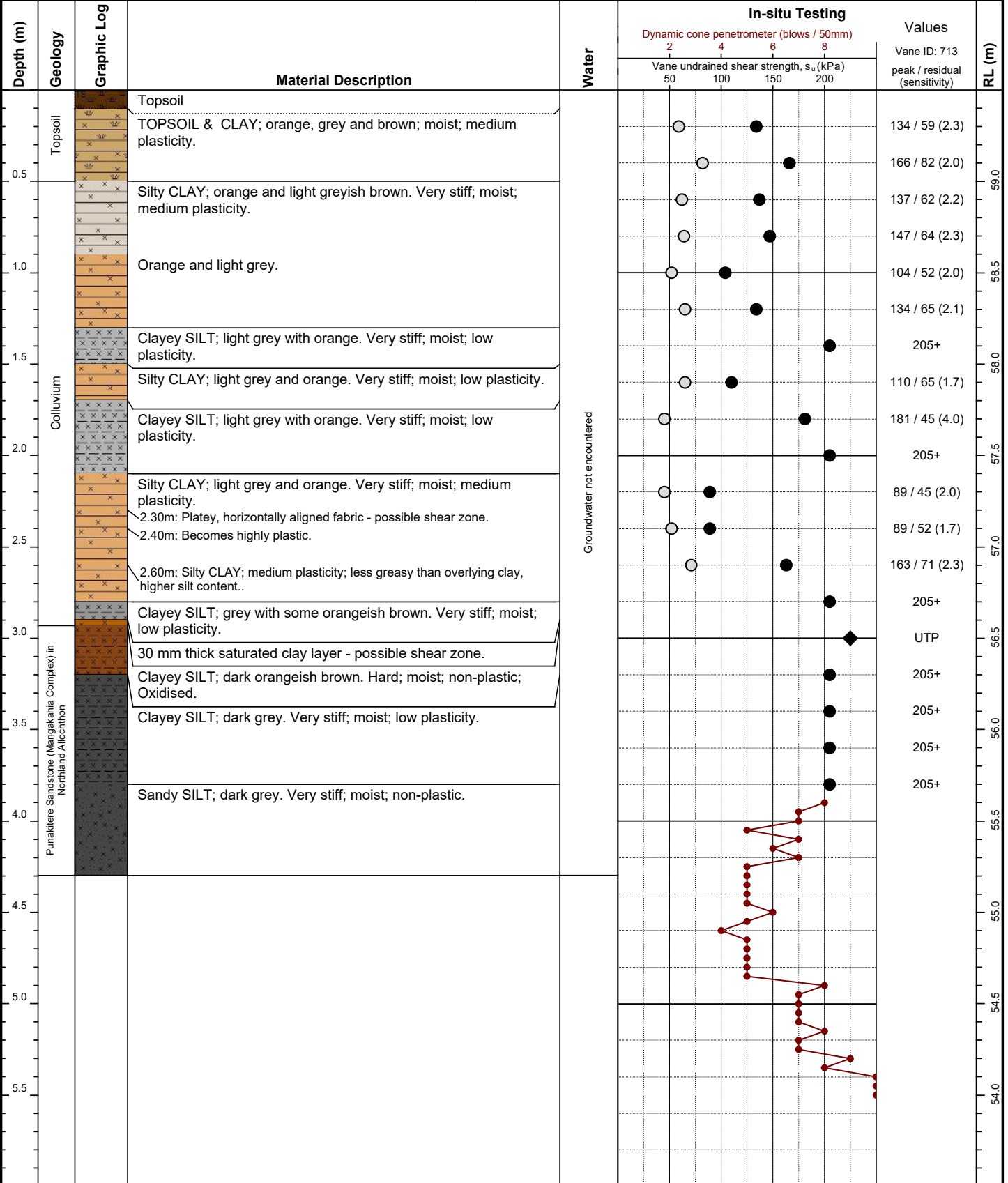
Project ID: 29302

Sheet: 1 of 1

Client: Anita Hollerer-Squire
Project: Geotechnical Investigation
Location: 93 Olive View Heights Drive, Taipa
Test Site: Refer to site plan

Coordinates: 6126899mN, 1643670mE
System: NZTM
Elevation: 59.5m
Located By: GIS/Web Map

Test Date: 18/08/2025
Logged By: CJG
Prepared By: BL
Checked By: CJG

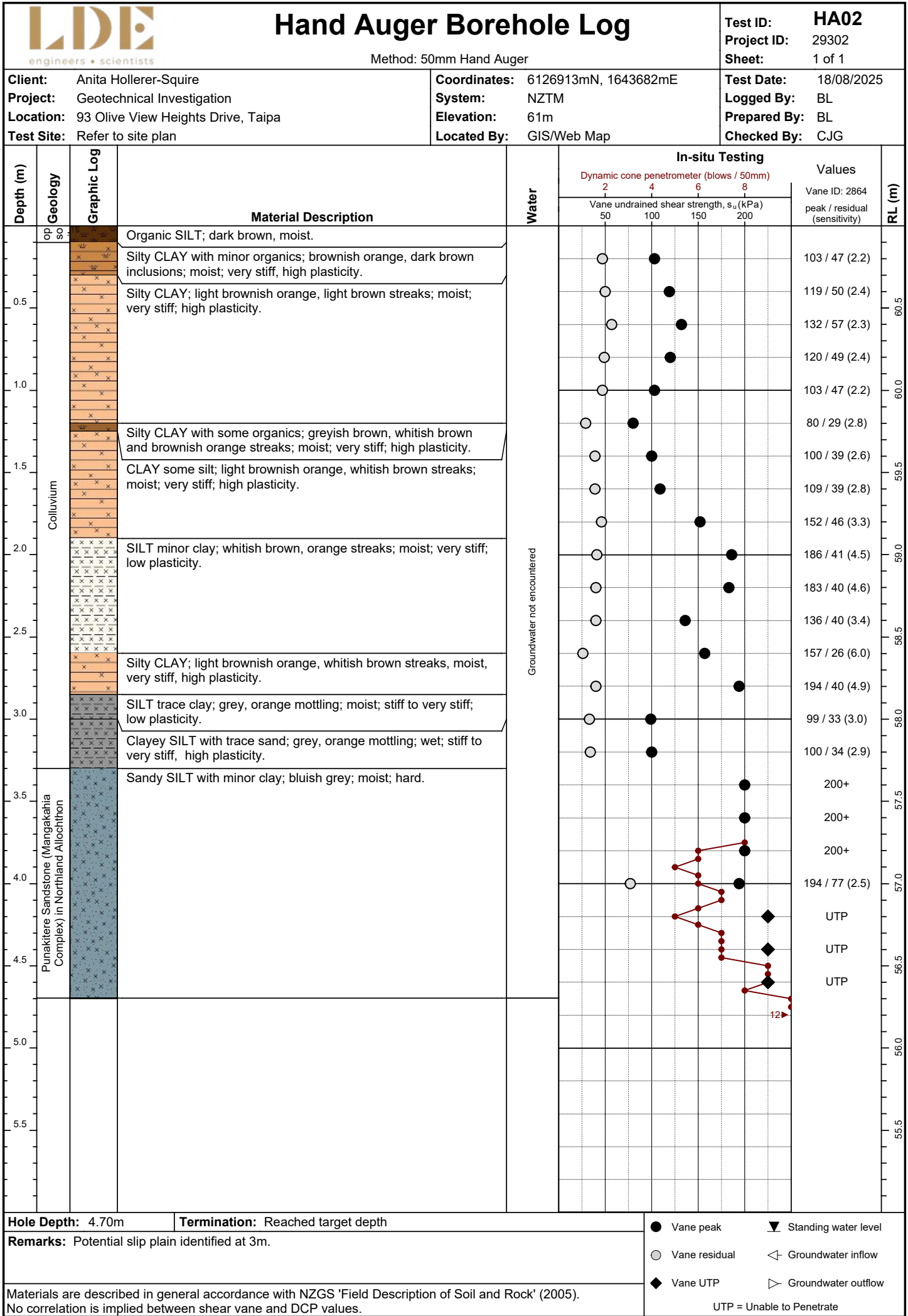


Hole Depth: 4.30m **Termination:** Reached target depth

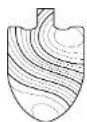
Remarks:

Materials are described in general accordance with NZGS 'Field Description of Soil and Rock' (2005).
No correlation is implied between shear vane and DCP values.

● Vane peak
 ○ Vane residual
 ◆ Vane UTP
 ▼ Standing water level
 ◁ Groundwater inflow
 ▷ Groundwater outflow
 UTP = Unable to Penetrate



Generated with CORE-GS by Geroc - HAXTP Log v9 - 28/10/2025 2:28:53 pm



Soil+Sample

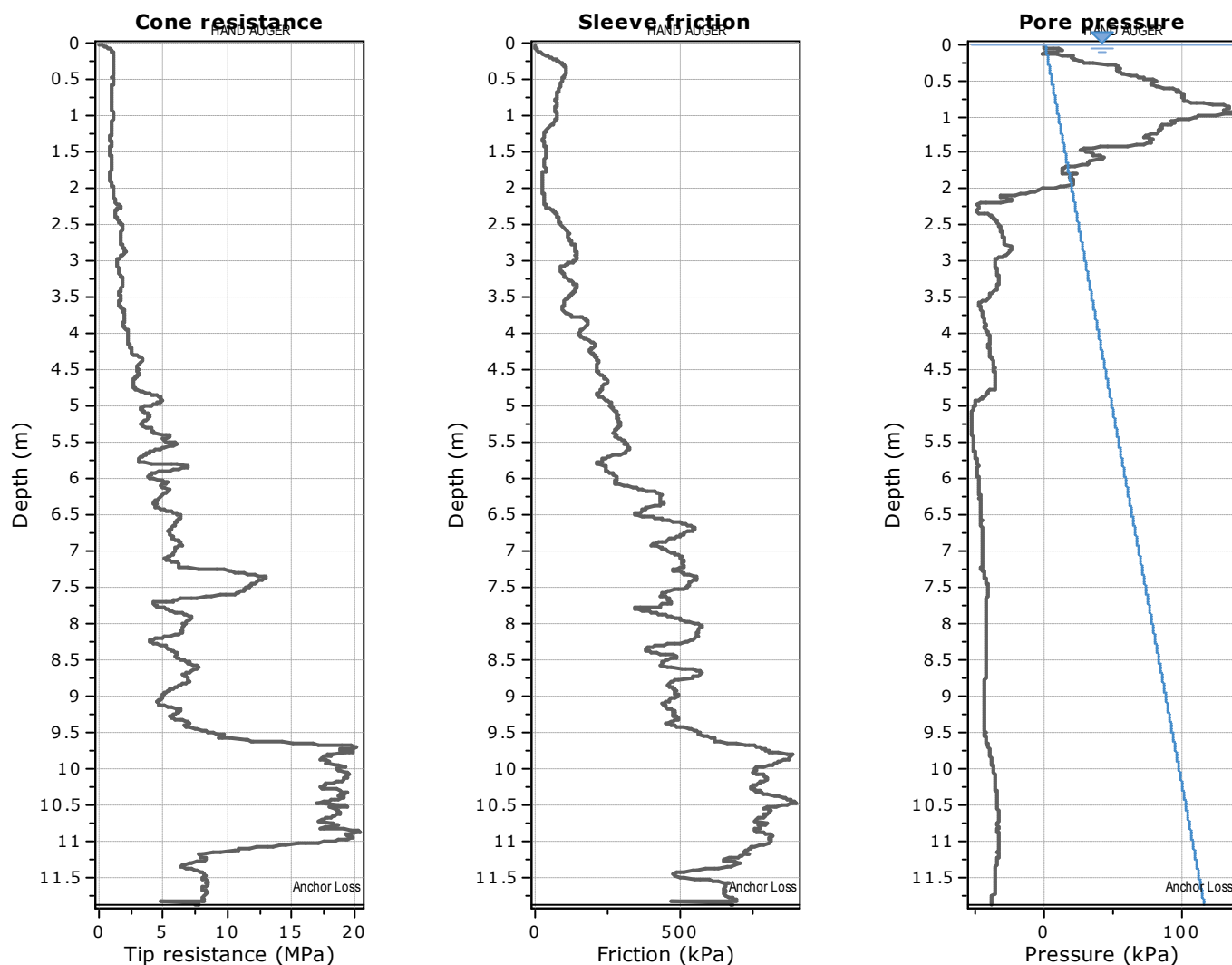
Soil & Sample Ltd
7 Maunu Road
Whangarei 0110
<http://soilandsample.nz/>

CPT: CPT 1

Total depth: 11.88 m, Date: 18/08/2025
Coords: lat -34.999551° lon 173.478799°
Cone Type: Compression
Cone Operator: Stuart Gemmell

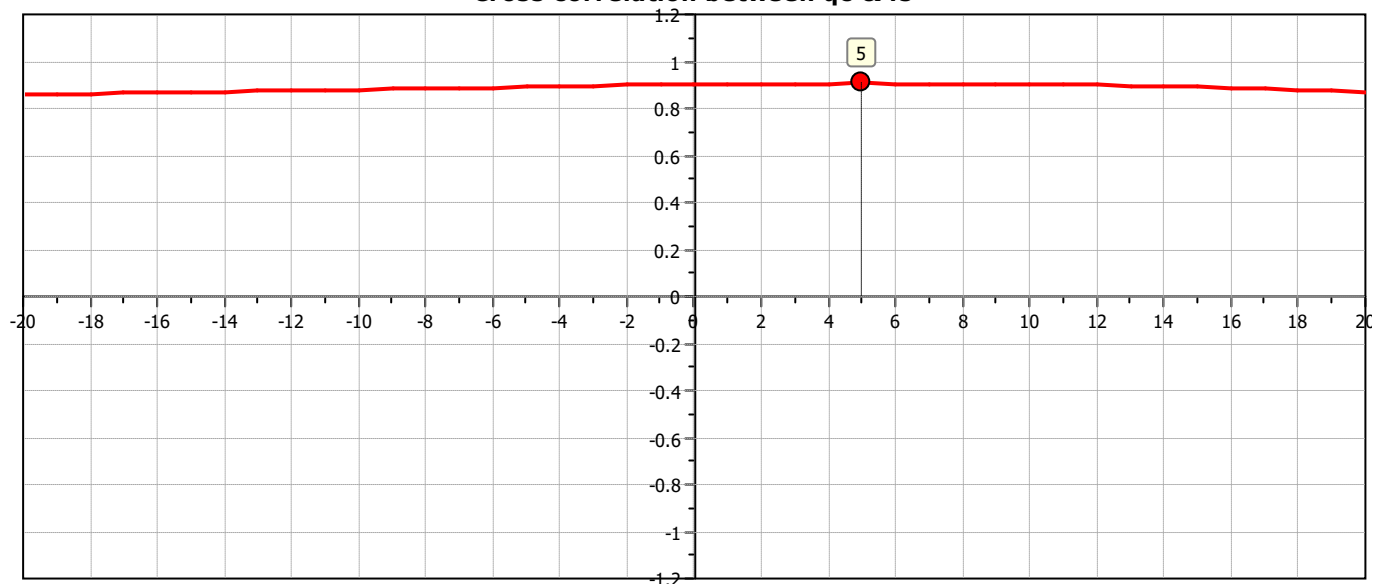
Project: 93 Olive View Heights, Taipa - LDE

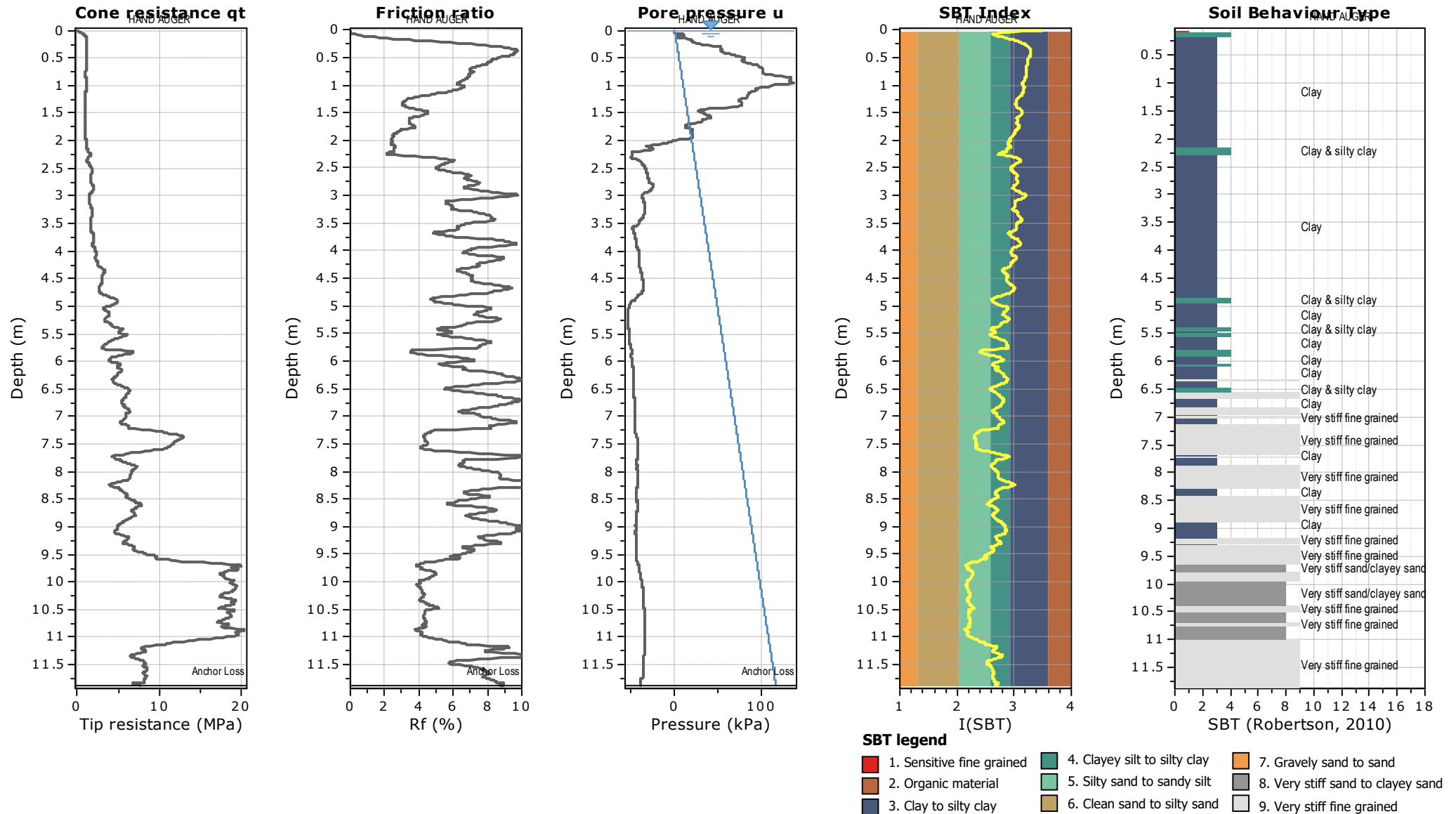
Location: 173.478421

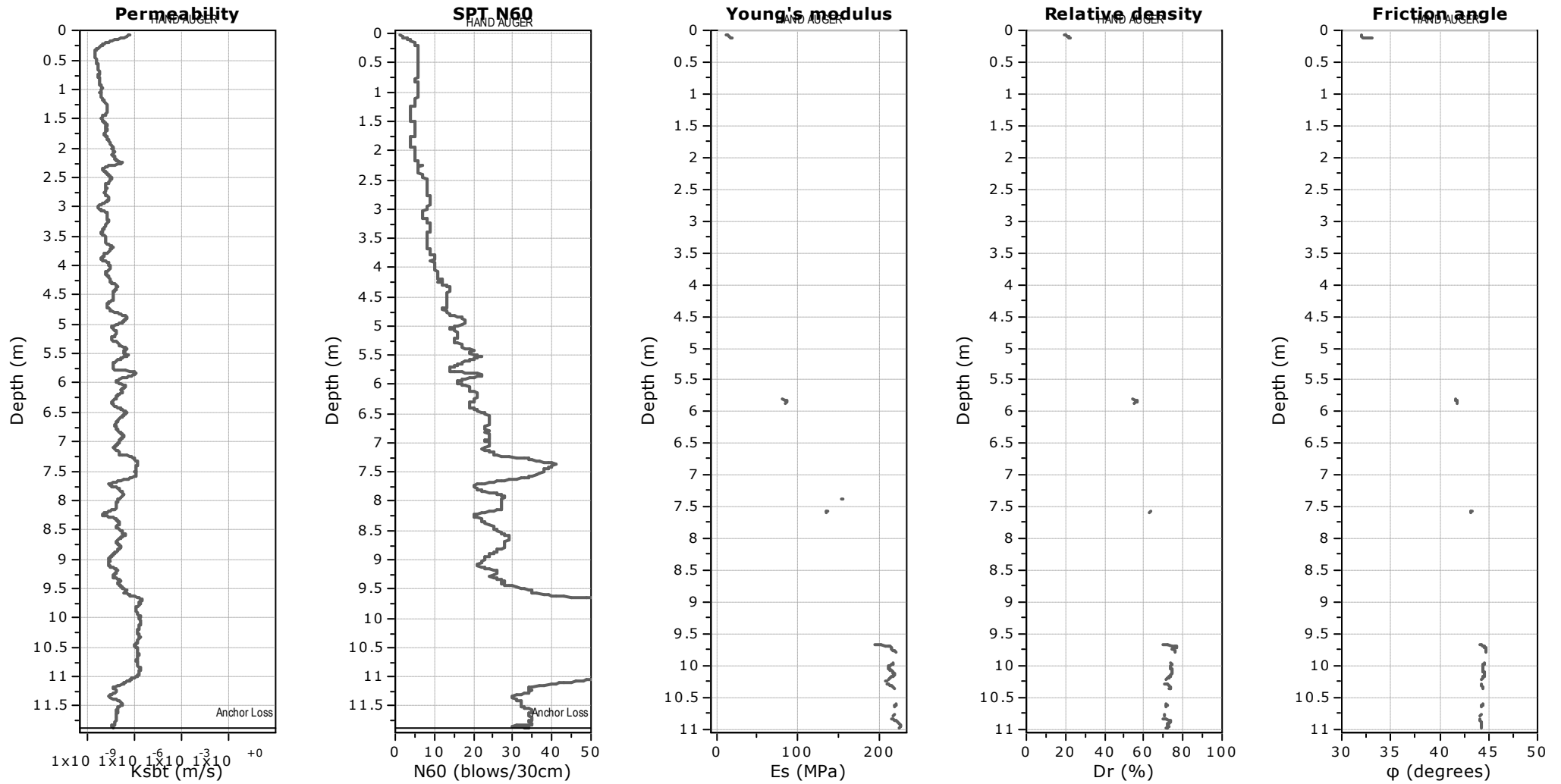


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s







Calculation parameters

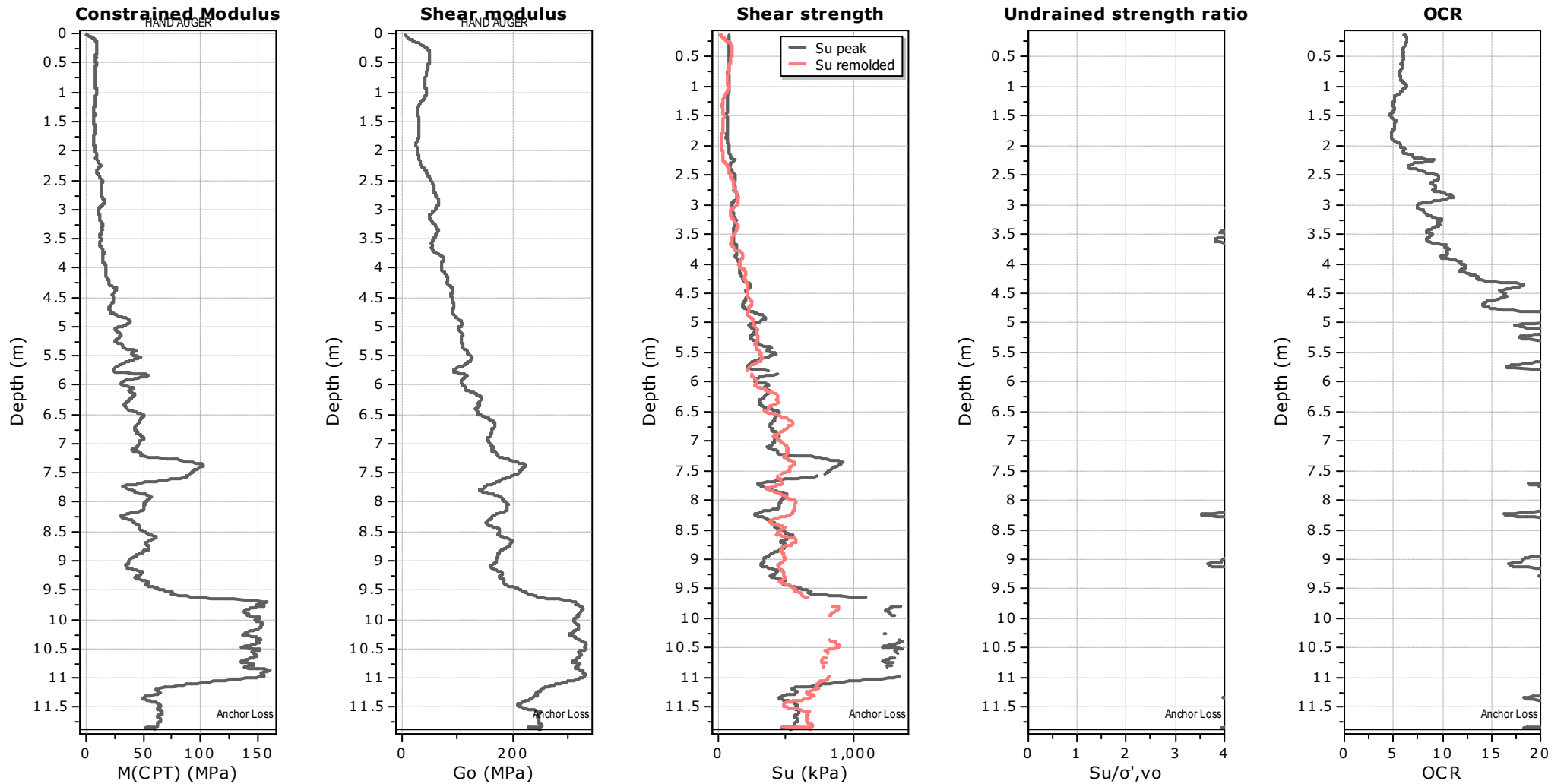
Permeability: Based on SBT_n

SPT N_{60} : Based on I_c and q_t

Young's modulus: Based on variable alpha using I_c (Robertson, 2009)

Relative density constant, C_{Dr} : 350.0

Phi: Based on Kulhawy & Mayne (1990)



Calculation parameters

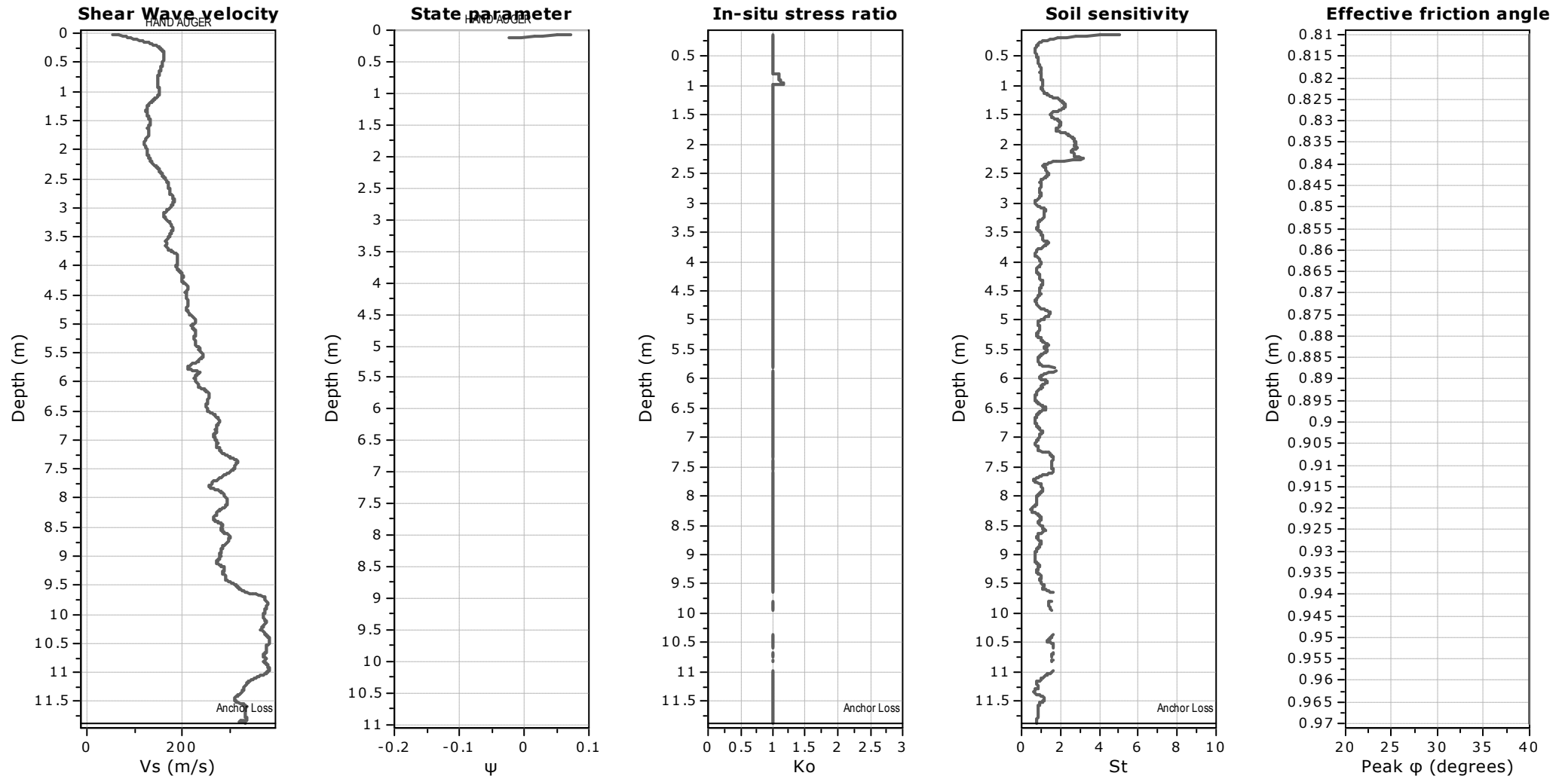
Constrained modulus: Based on variable α using I_c and Q_{tn} (Robertson, 2009)

Go: Based on variable α using I_c (Robertson, 2009)

Undrained shear strength cone factor for clays, N_{kt} : 14

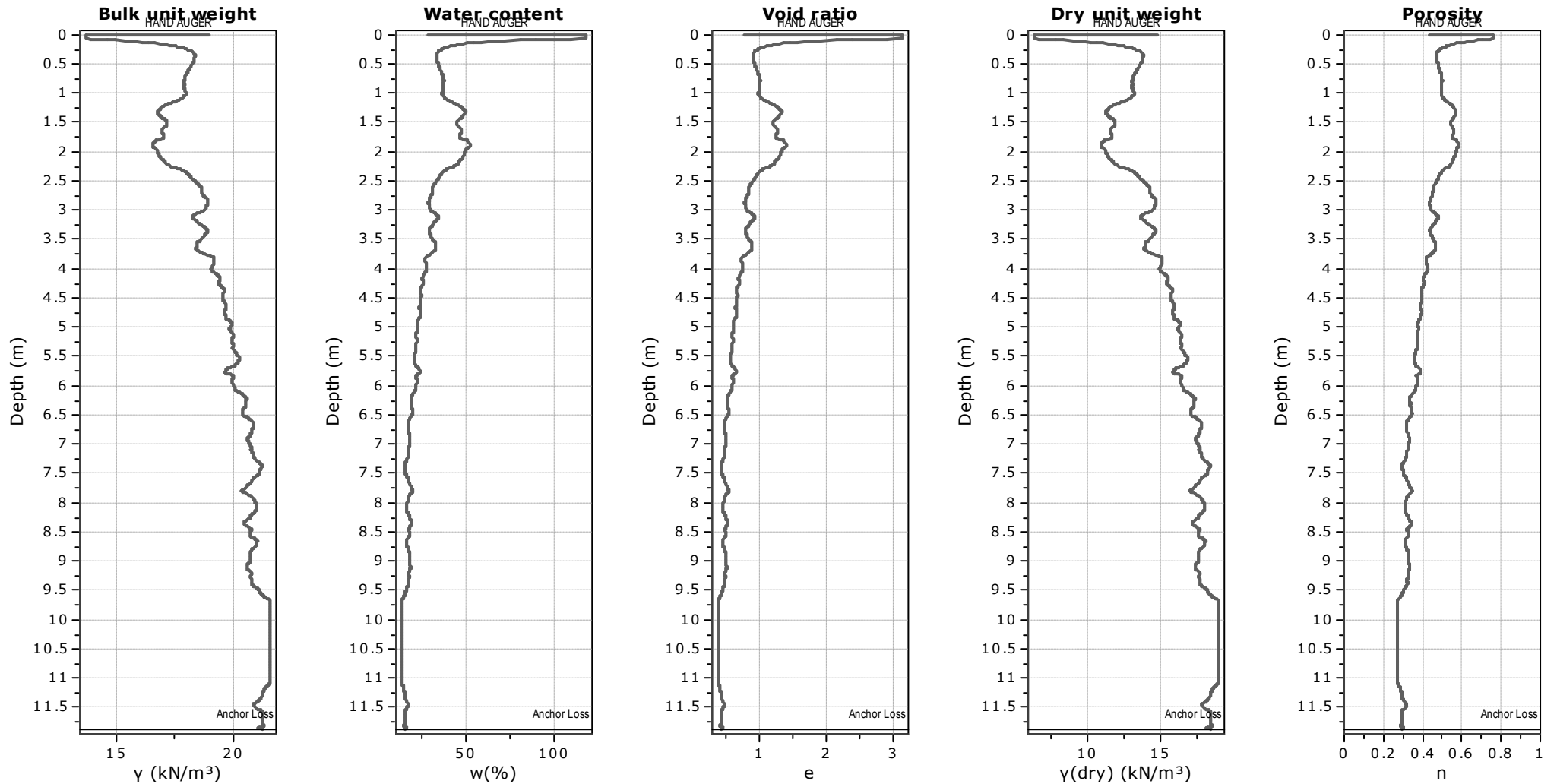
OCR factor for clays, N_{kt} : 0.33

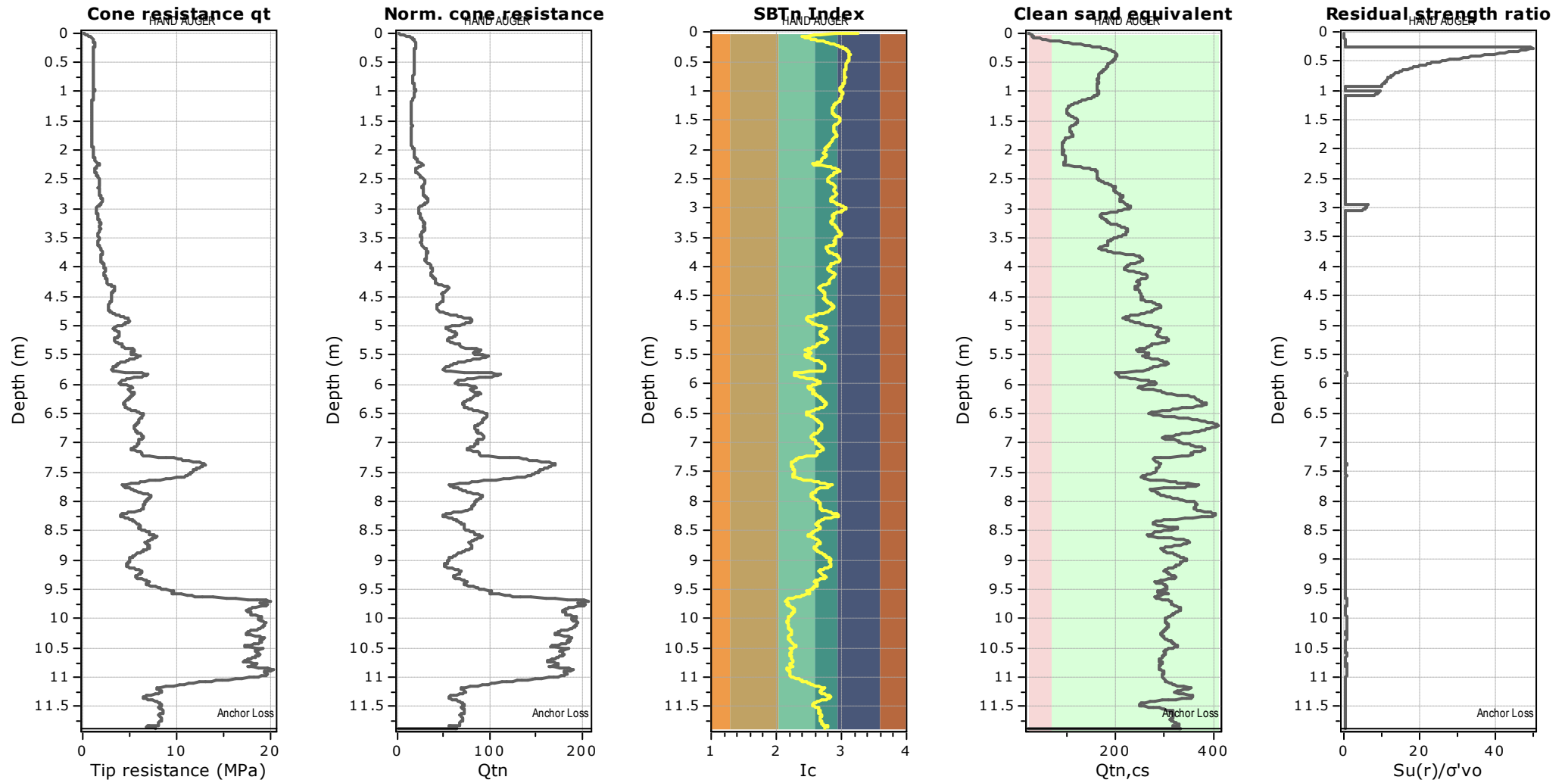
—●— Flat Dilatometer Test data

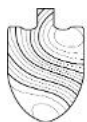


Calculation parameters

Soil Sensitivity factor, N_s : 7.00

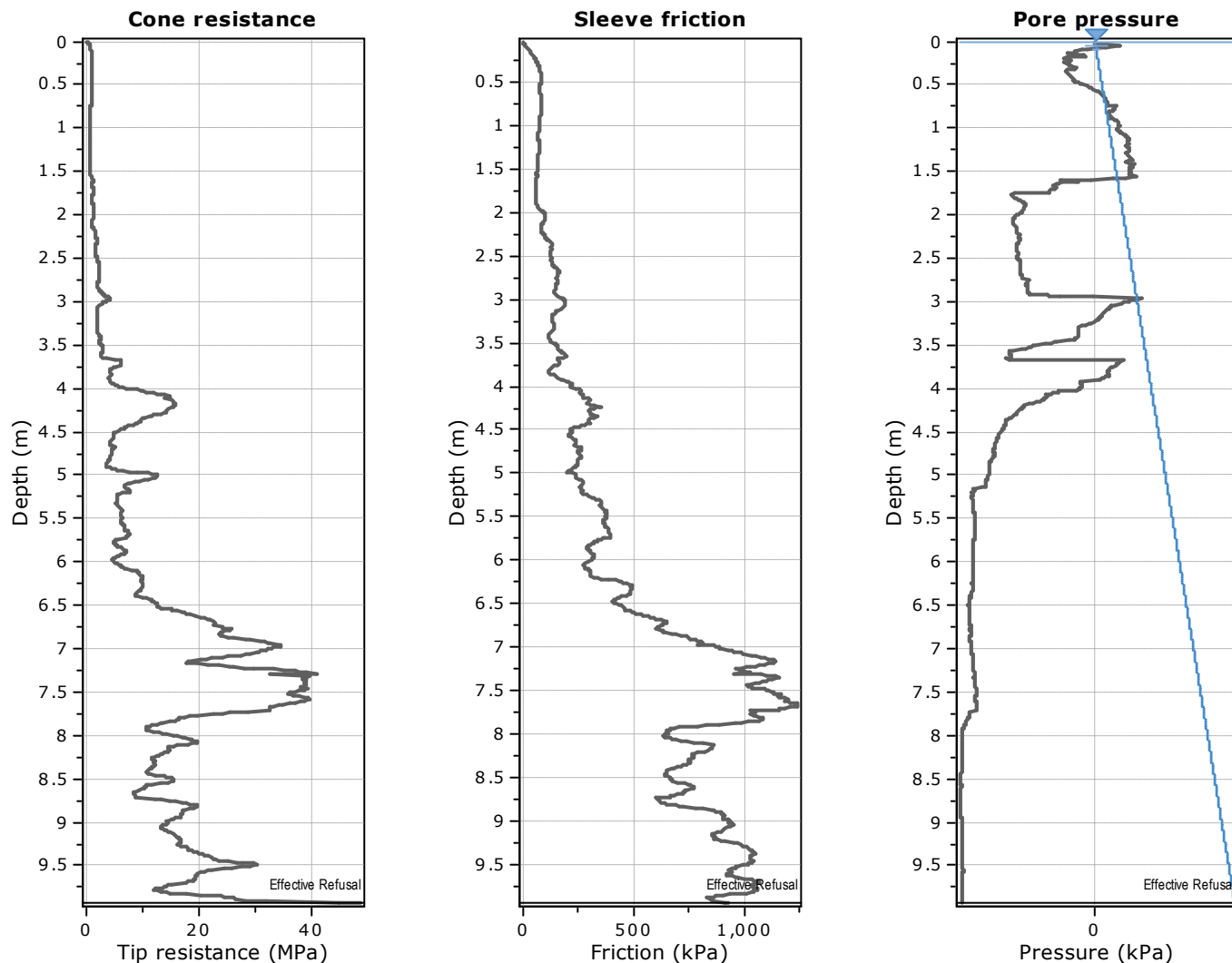






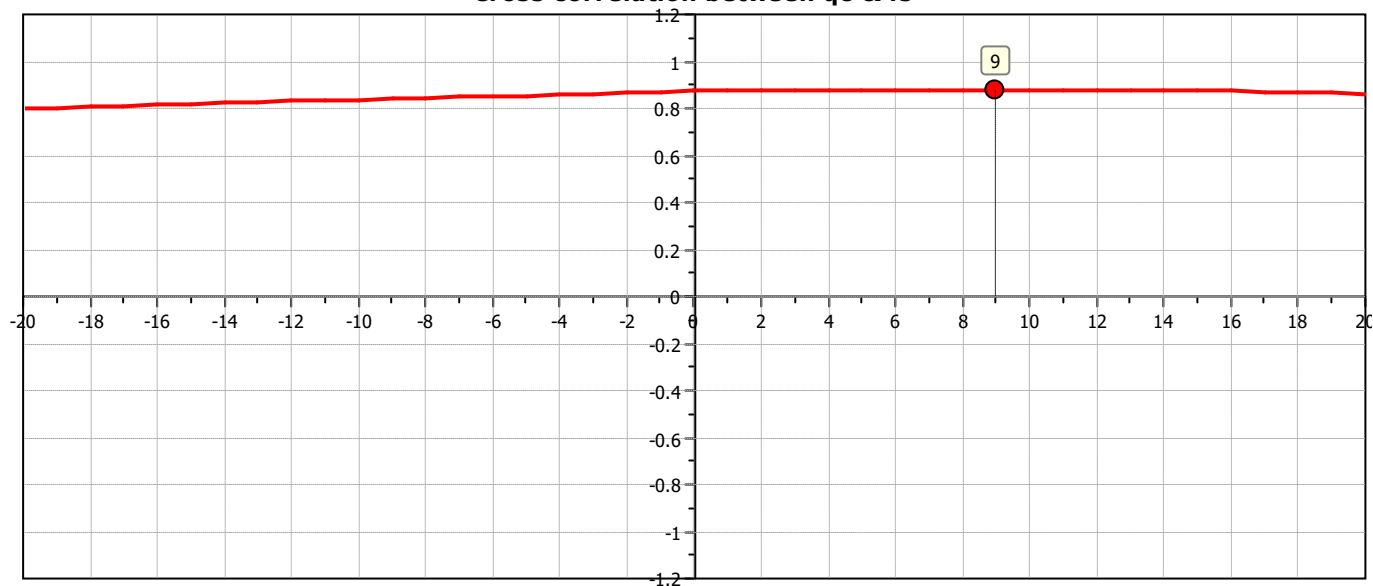
Project: 93 Olive View Heights, Taipa - LDE

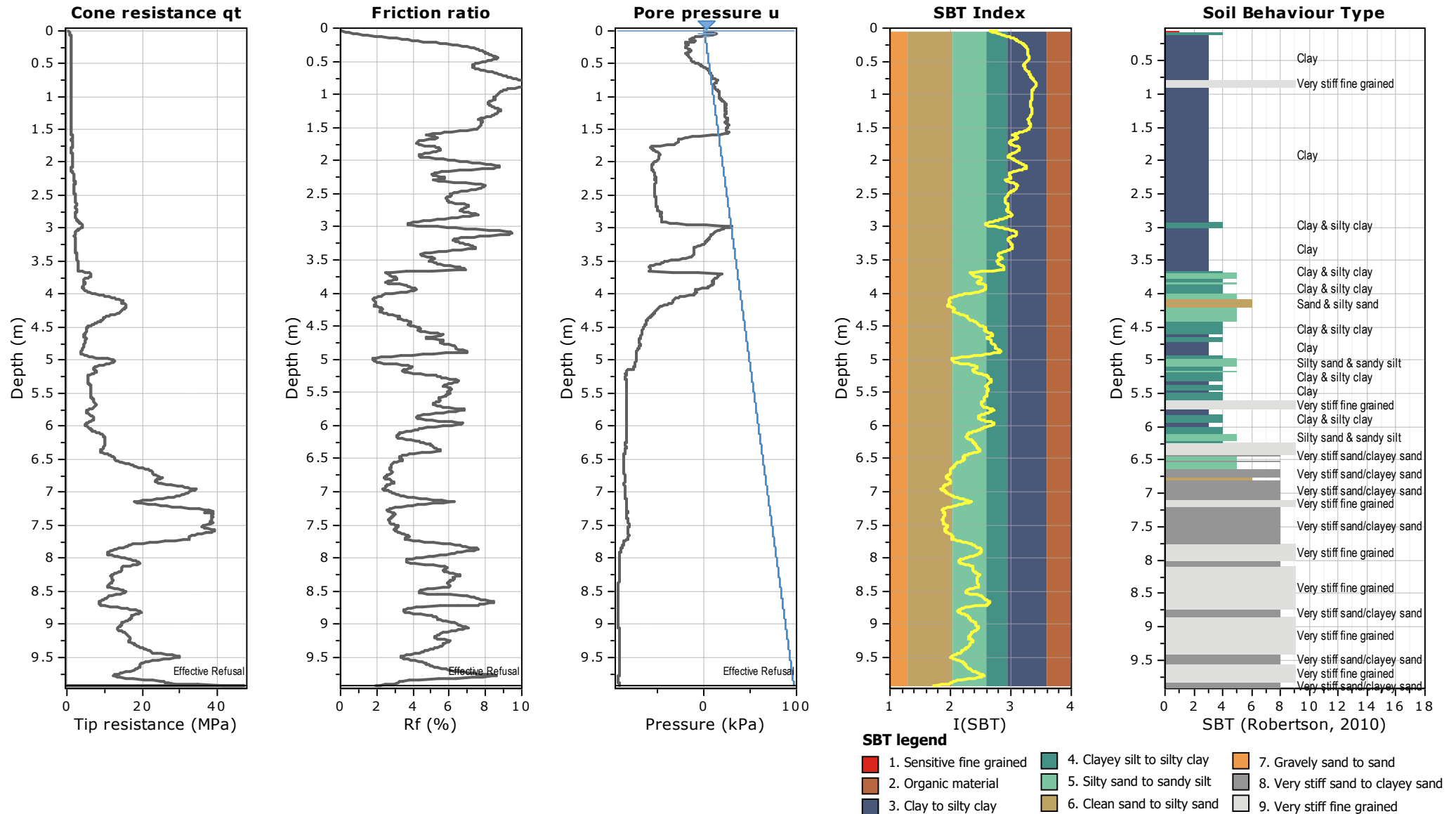
Location: 173.478421

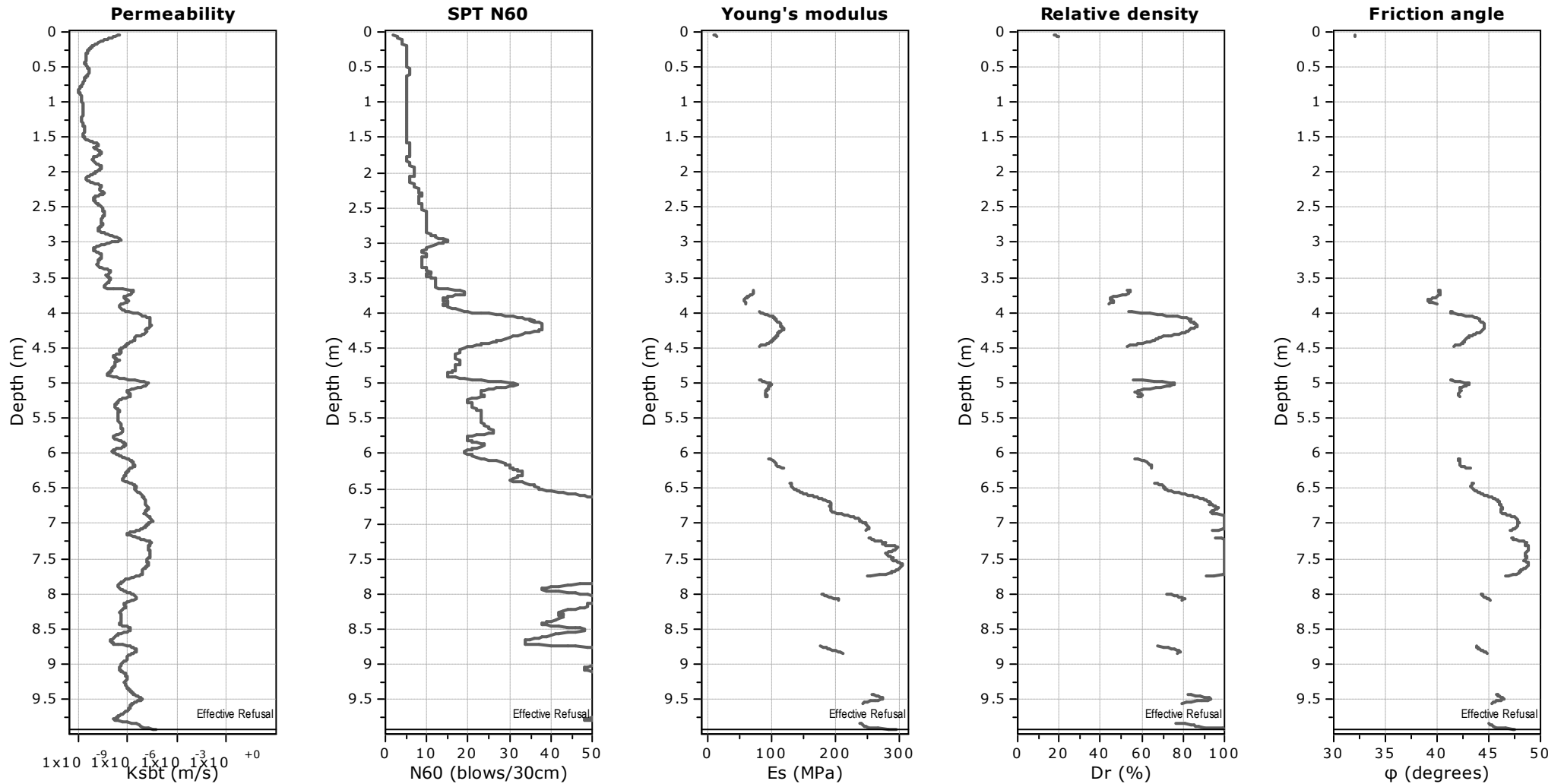


The plot below presents the cross correlation coefficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between qc & fs







Calculation parameters

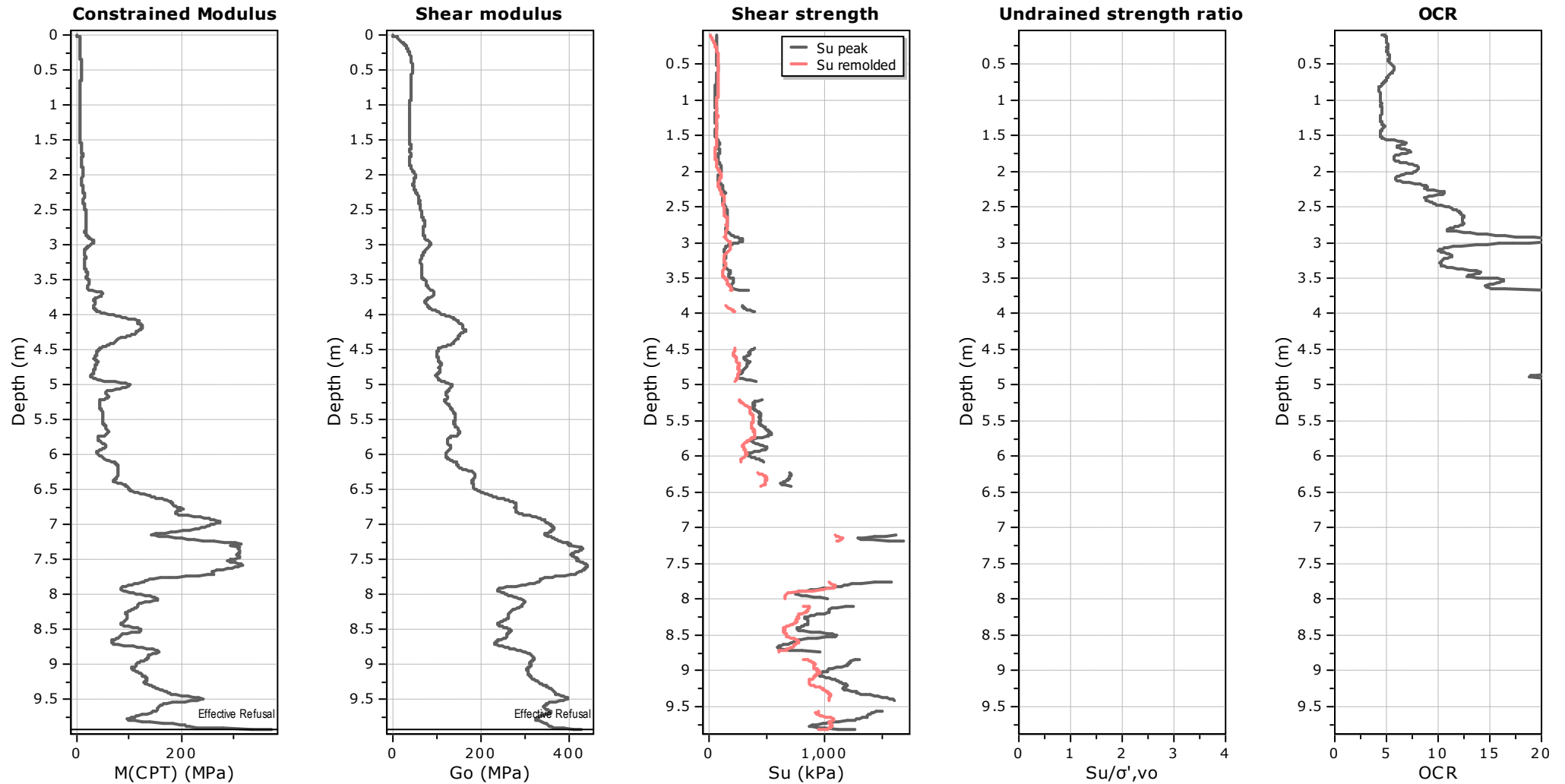
Permeability: Based on SBT_n

SPT N₆₀: Based on I_c and q_t

Young's modulus: Based on variable alpha using I_c (Robertson, 2009)

Relative density constant, C_{Dr}: 350.0

Phi: Based on Kulhawy & Mayne (1990)



Calculation parameters

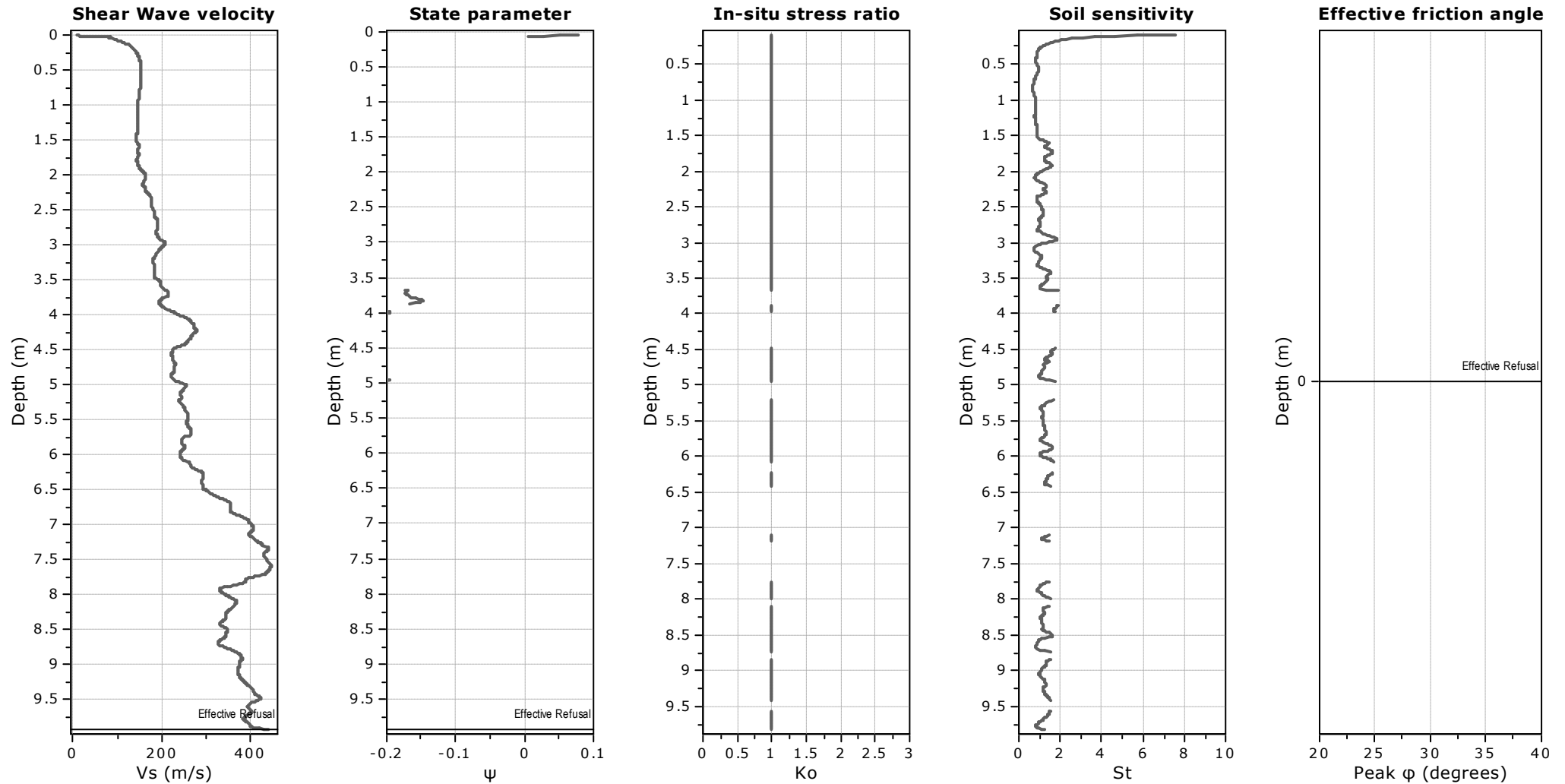
Constrained modulus: Based on variable α using I_c and Q_{tn} (Robertson, 2009)

Go: Based on variable α using I_c (Robertson, 2009)

Undrained shear strength cone factor for clays, N_{kt} : 14

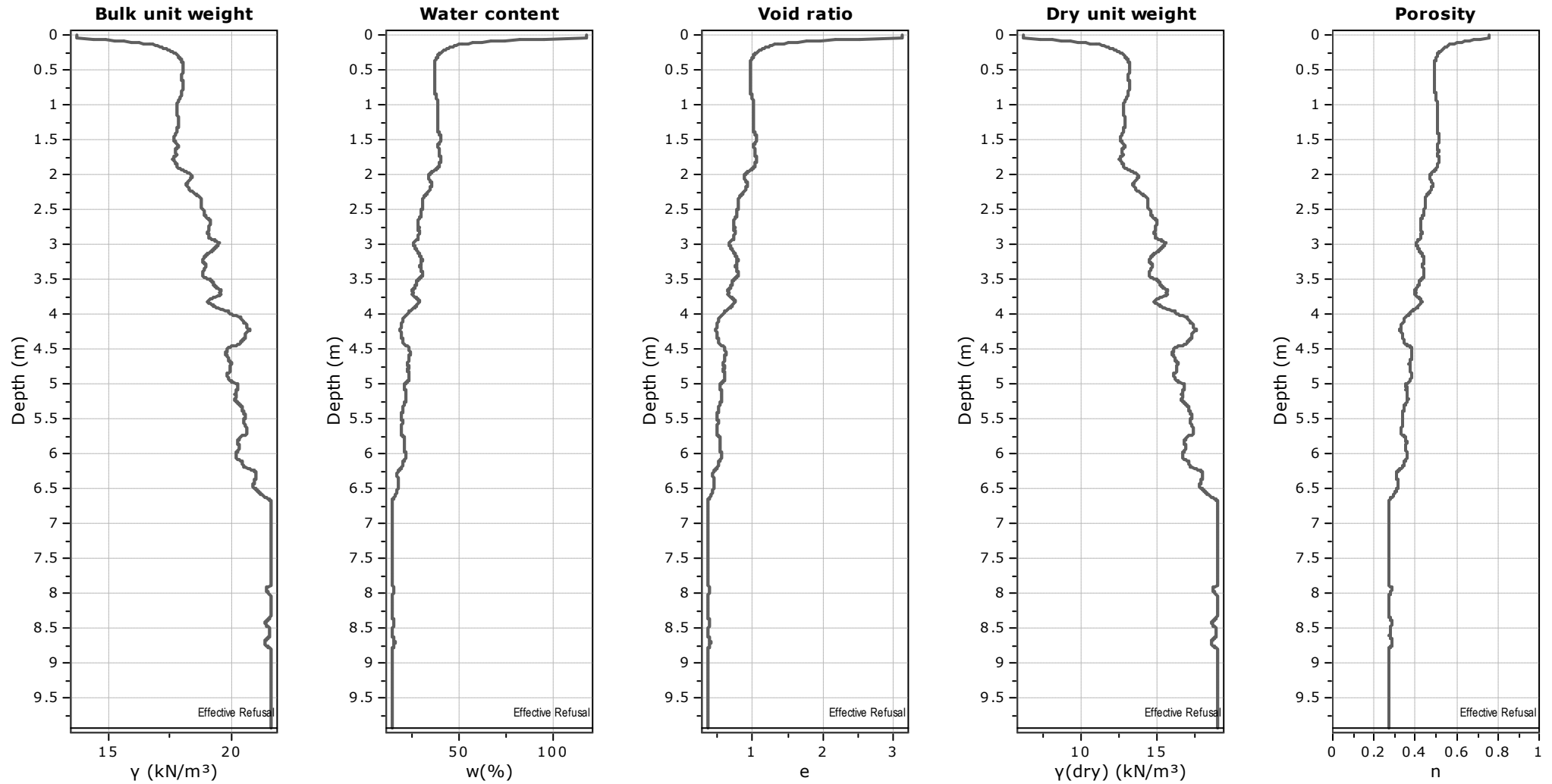
OCR factor for clays, N_{kt} : 0.33

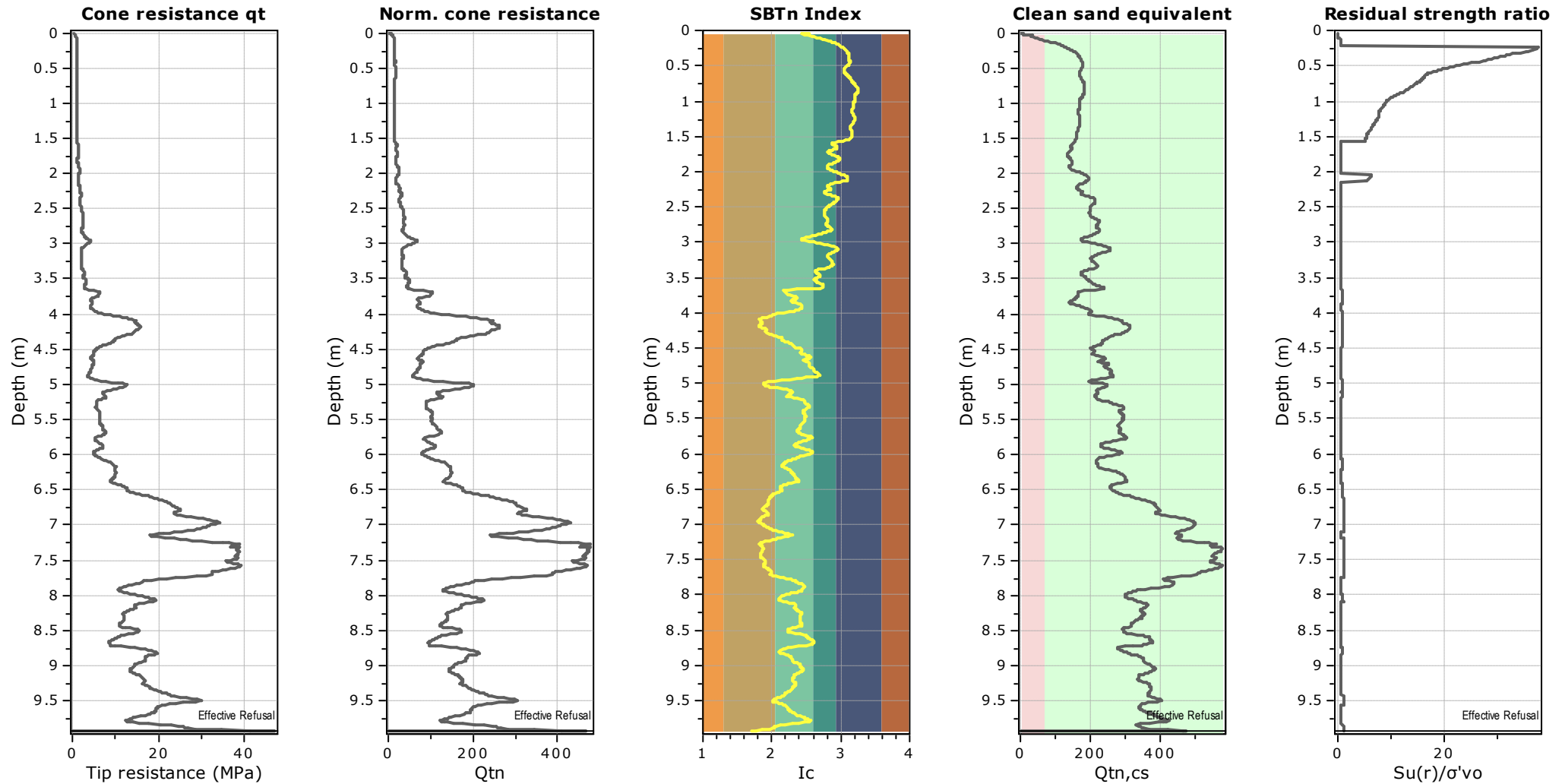
● Flat Dilatometer Test data



Calculation parameters

Soil Sensitivity factor, N_s : 7.00





Presented below is a list of formulas used for the estimation of various soil properties. The formulas are presented in SI unit system and assume that all components are expressed in the same units.

:: Unit Weight, g (kN/m³) ::

$$g = g_w \cdot \left(0.27 \cdot \log(R_f) + 0.36 \cdot \log\left(\frac{q_t}{p_a}\right) + 1.236 \right)$$

where g_w = water unit weight

:: Permeability, k (m/s) ::

$$I_c < 3.27 \text{ and } I_c > 1.00 \text{ then } k = 10^{0.952-3.04 \cdot I_c}$$

$$I_c \leq 4.00 \text{ and } I_c > 3.27 \text{ then } k = 10^{-4.52-1.37 \cdot I_c}$$

:: N_{SPT} (blows per 30 cm) ::

$$N_{60} = \left(\frac{q_c}{p_a} \right) \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

$$N_{1(60)} = Q_{tn} \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

:: Young's Modulus, E_s (MPa) ::

$$(q_t - \sigma_v) \cdot 0.015 \cdot 10^{0.55 \cdot I_c + 1.68}$$

(applicable only to $I_c < I_{c_cutoff}$)

:: Relative Density, Dr (%) ::

$$100 \cdot \sqrt{\frac{Q_{tn}}{k_{DR}}} \quad \text{(applicable only to SBT}_n: 5, 6, 7 \text{ and } 8 \text{ or } I_c < I_{c_cutoff})$$

:: State Parameter, ψ ::

$$\psi = 0.56 - 0.33 \cdot \log(Q_{tn,cs})$$

:: Drained Friction Angle, ϕ (°) ::

$$\phi = \phi'_{cv} + 15.94 \cdot \log(Q_{tn,cs}) - 26.88$$

(applicable only to SBT_n: 5, 6, 7 and 8 or $I_c < I_{c_cutoff}$)

:: 1-D constrained modulus, M (MPa) ::

If $I_c > 2.20$

$\alpha = 14$ for $Q_{tn} > 14$

$\alpha = Q_{tn}$ for $Q_{tn} \leq 14$

$$M_{CPT} = \alpha \cdot (q_t - \sigma_v)$$

If $I_c \geq 2.20$

$$M_{CPT} = 0.03 \cdot (q_t - \sigma_v) \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Small strain shear Modulus, G_0 (MPa) ::

$$G_0 = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Shear Wave Velocity, V_s (m/s) ::

$$V_s = \left(\frac{G_0}{\rho} \right)^{0.50}$$

:: Undrained peak shear strength, S_u (kPa) ::

$$N_{kt} = 10.50 + 7 \cdot \log(F_r) \text{ or user defined}$$

$$S_u = \frac{(q_t - \sigma_v)}{N_{kt}}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Remolded undrained shear strength, $S_u(rem)$ (kPa) ::

$$S_{u(rem)} = f_s \quad \text{(applicable only to SBT}_n: 1, 2, 3, 4 \text{ and } 9 \text{ or } I_c > I_{c_cutoff})$$

:: Overconsolidation Ratio, OCR ::

$$k_{OCR} = \left[\frac{Q_{tn}^{0.20}}{0.25 \cdot (10.50 + 7 \cdot \log(F_r))} \right]^{1.25} \text{ or user defined}$$

$$OCR = k_{OCR} \cdot Q_{tn}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: In situ Stress Ratio, K_0 ::

$$K_0 = (1 - \sin \phi') \cdot OCR^{\sin \phi'}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Soil Sensitivity, S_t ::

$$S_t = \frac{N_s}{F_r}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Peak Friction Angle, ϕ' (°) ::

$$\phi' = 29.5^\circ \cdot B_q^{0.121} \cdot (0.256 + 0.336 \cdot B_q + \log Q_t)$$

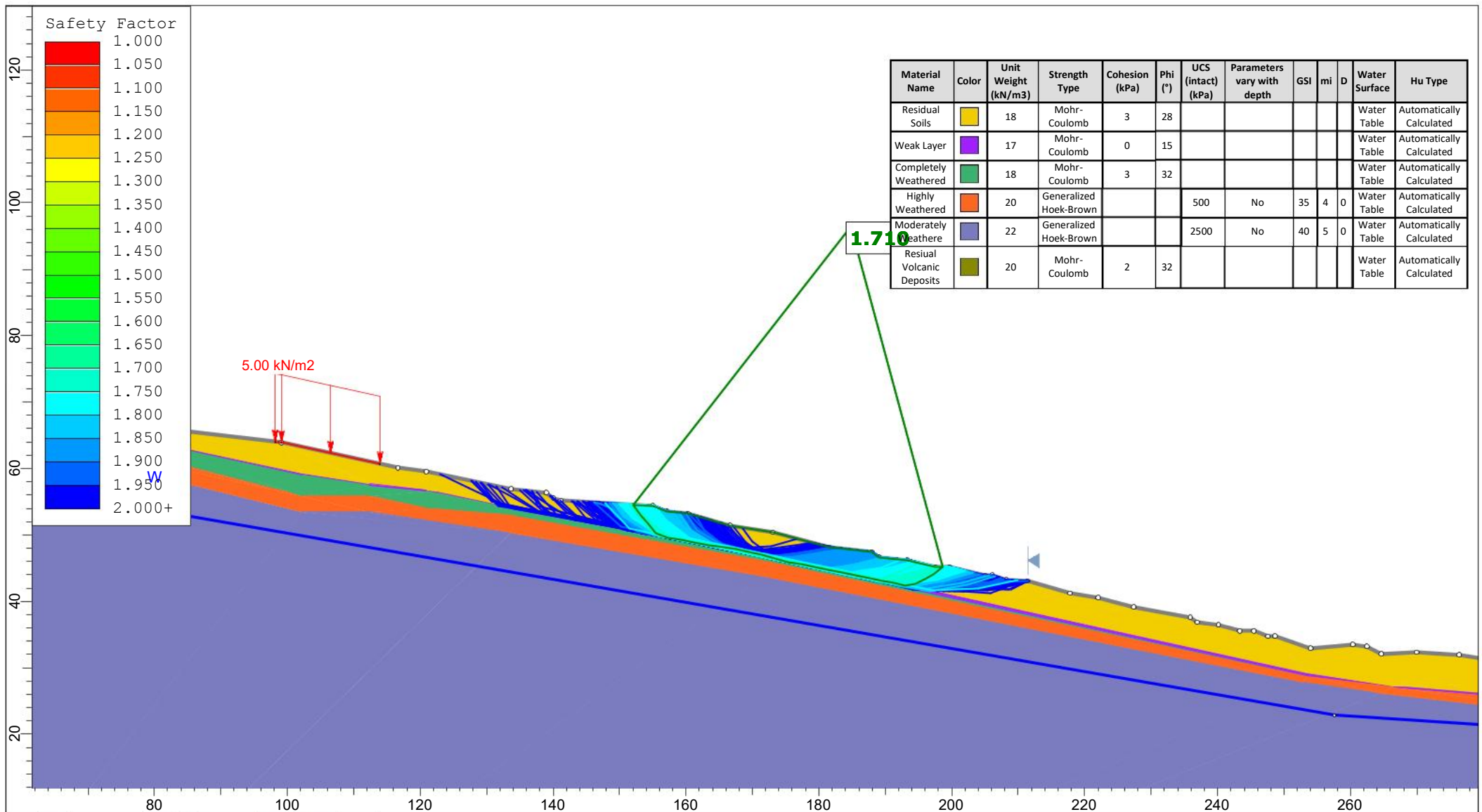
(applicable for $0.10 < B_q < 1.00$)

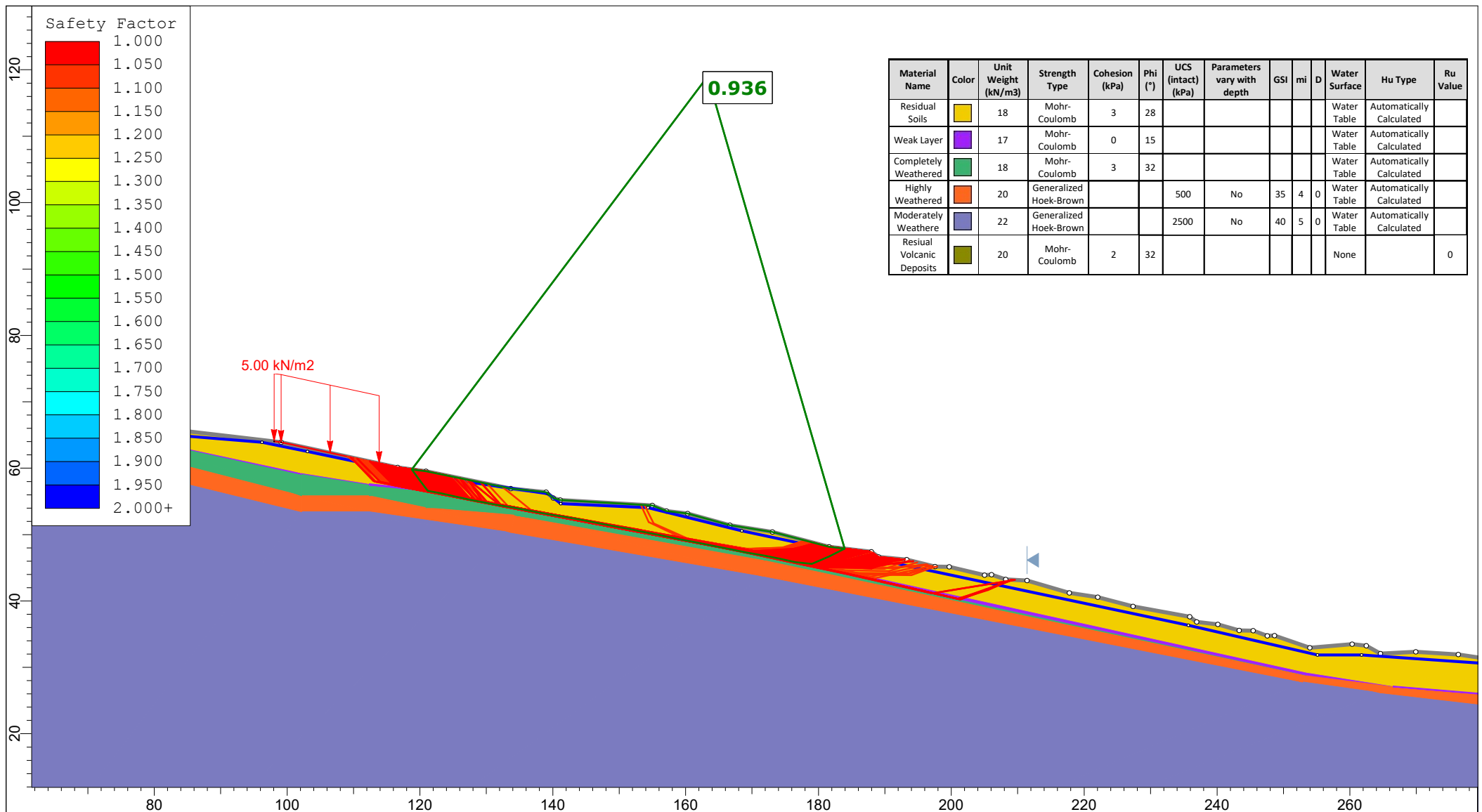
References

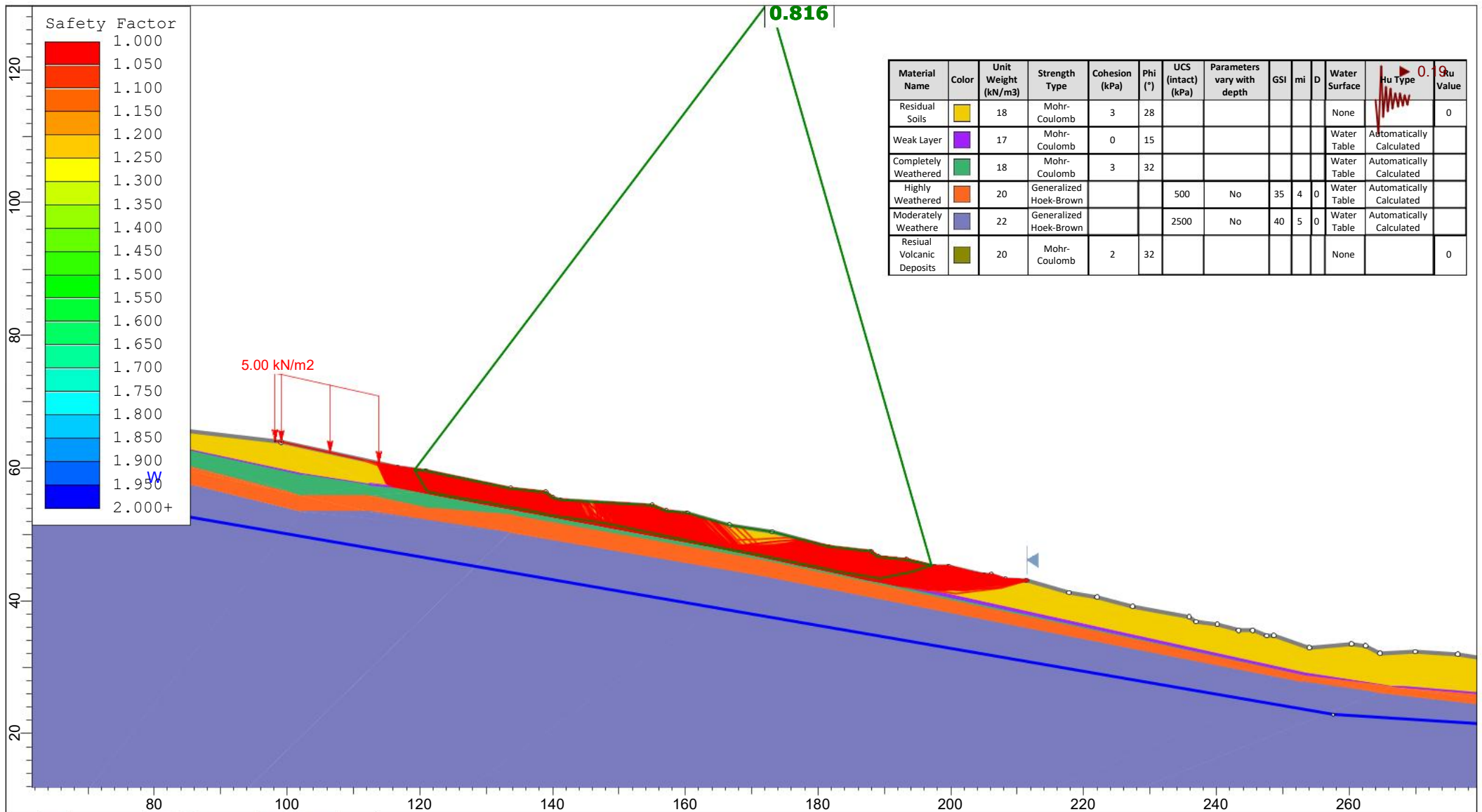
- Robertson, P.K., Cabal K.L., Guide to Cone Penetration Testing for Geotechnical Engineering, Gregg Drilling & Testing, Inc., 5th Edition, November 2012
- Robertson, P.K., Interpretation of Cone Penetration Tests - a unified approach., Can. Geotech. J. 46(11): 1337–1355 (2009)
- N Barounis, J Philpot, Estimation of in-situ water content, void ratio, dry unit weight and porosity using CPT for saturated sands, Proc. 20th NZGS Geotechnical Symposium

APPENDIX D

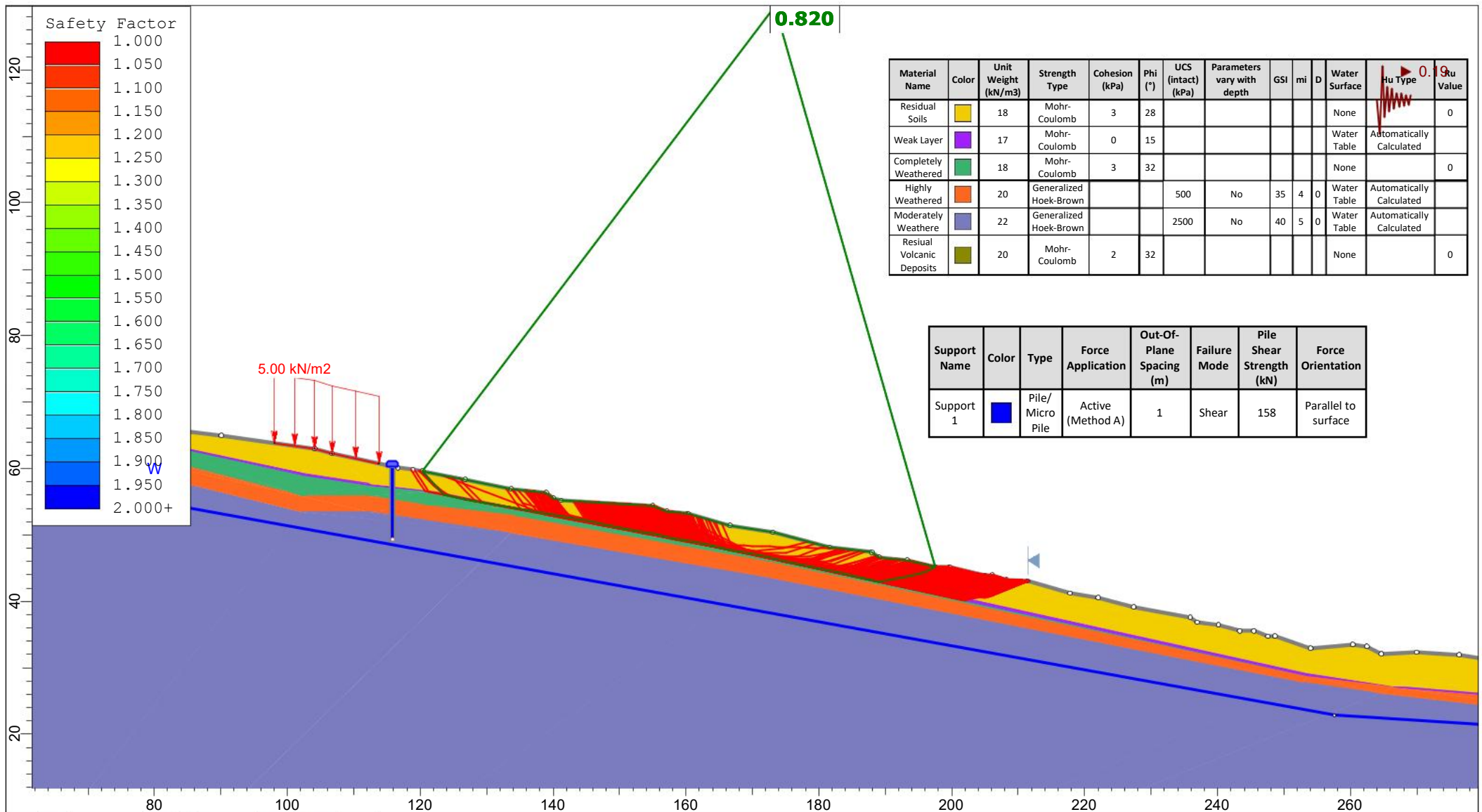
STABILITY ANALYSES

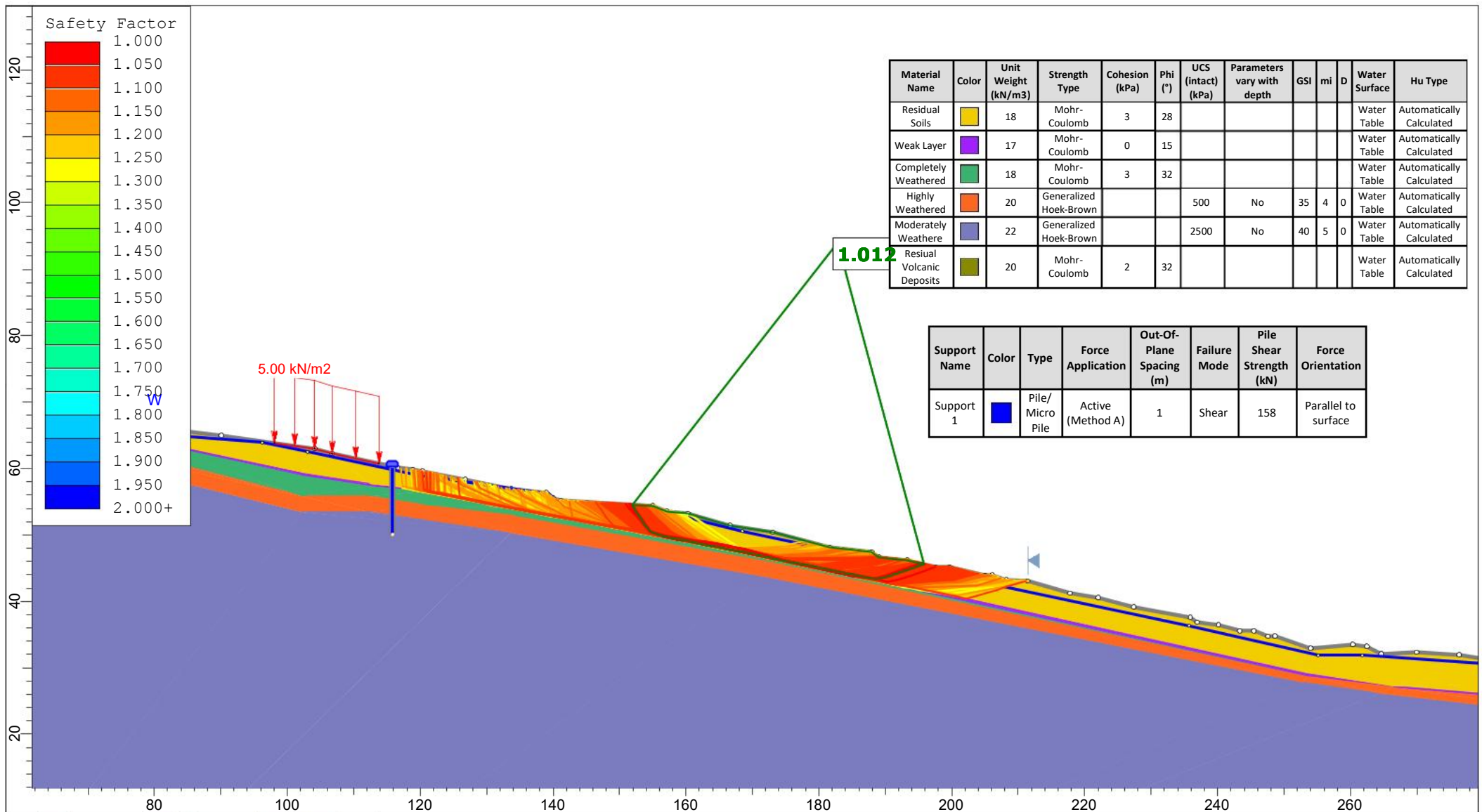






	Project		29302 - 93 Olive View Height Drive - Proposed Dwelling	
	Group	Group 2	Scenario	ULS 0.19g - FOS<1.0
	Drawn By	CJG		18/06/2026







SLIDEINTERPRET 9.041

Project		29302 - 93 Olive View Height Drive - Proposed Dwelling	
Group	Support	Scenario	Support - Extreme GW - FOS<1.3
Drawn By	CJG	18/06/2026	



Anita Hollerer-Squire

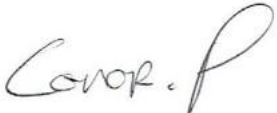
STRUCTURAL CALCULATION REPORT

93 Olive View Heights Drive, Taipa

Project Reference: 29302
July 15, 2026

DOCUMENT CONTROL

Version	Date	Comments
A	15/07/2026	Issued for Consent

Version	Issued For	Prepared By	Reviewed & Authorised By
A	Issued for Consent	 Che Cheng Associate Geotechnical Engineer CPEng	 Conor Pullman Associate Engineering Geologist PEngGeol

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 APPENDIX A: CALCULATIONS		

1 PROJECT DESCRIPTION

LDE has been engaged by Anita Hollerer-Squire to provide structural design for a bored timber pole palisade shear pile wall to protect a proposed dwelling at 93 Olive View Heights Drive, Taipa.

2 GENERAL

2.1 Scope

In general terms, the scope of the work is as follows:

- Design of bored timber palisade shear wall

2.2 Design Standards

- NZS 3603:1993

3 GEOTECHNICAL AND SOIL CONDITIONS

Generally consist with slide analysis output presented in LDE Ltd report: Doc ID 659987 - GEOTECHNICAL REPORT FOR NEW DWELLING – BUILDING CONSENT 93 Olive View Heights Drive, Taipa, at 3m in front of the wall, the ground condition is:

Material	Depth	Unit Weight (kN/m ³)	Drained Cohesion c (kPa)	Drained friction angle (°)	Young's Modulus (MPa)	Poisson's Ratio ν
Residual Soil	0-3.3	18	3	28	15	0.3
Completely Weathered Materials	3.3 – 5.3	18	5	32	30	0.3
Highly Weathered Rock	5.3-7.3	20	10	35	50	0.3
Moderately Weathered Rock	7.3+	22	20	40	200	0.2

Note - Wall friction of 0.5 adopted for design for both active and passive side.

4 DESIGN

4.1 General

For the purposes of consideration of loading, this structure is Importance Level [2] in accordance with AS/NZS 1170.0:2002. Table 3.2.

4.2 Methodology

Retaining wall was designed using computer software WALLAP 6.07 to calculate demand on palisade wall, assume a 3.3m deep land evacuation to occur in front of the wall. For seismic case, the wall is designed to tolerate 158kN/m of shear force per global stability output presented in the LDE geotechnical report. 5kPa surcharge has been assumed above the wall, as we understand the dwelling the wall protects shall be founded on piles, therefore limit loading transfer.

5 DESIGN LIFE FOR DURABILITY

5.1 Design Life

Structural design life is 50 years.

5.2 Durability Provisions – Acceptable Solutions

Durability provisions are achieved by the following acceptable solutions B2/AS1:

Timber ☒ NZS 3603: 1993 ☐ Other

Table 3: Foundations

Concrete Piles	Classification
Surfaces in contact with the ground	No DPM
Concrete compressive strength adopted	30MPa
Minimum required cover	75mm

6 MATERIALS SPECIFICATION

Table 15: Structural Timber

Structural Timber	Grade / Product	Treatment
Timber pole	High density	H5

7 CONSTRUCTION MONITORING

7.1 Construction Monitoring Level

The design is based on the verification of specific design B1/VM1 / VM4 aspects to the construction by a suitably qualified Chartered Professional Engineer in accordance with EngNZ level:

☐ CM1 ☒ CM2 ☐ CM3 ☐ CM4 ☐ CM5

7.2 Inspections – Specific Engineer Designed Structure

The following schedule of inspections is to be met in order to meet the required level of Construction Monitoring, and to ensure the intent of the design is met:

Table 16: Schedule of Inspections

Table 16: Schedule of Inspections				
Inspection	Stage	Reason	Person	
			Engineer	Geotech
Timber pole				
Piles	S, M, C	Excavation including bore diameter and depth, verify ground conditions and pour approval.	X	X

Stage: S=Start. M=Monitor progress. C=Completion

IMPORTANT: In order to make sure all the necessary inspections are undertaken for the works you should check your building consent conditions carefully and contact the Building Inspector for the Local Territorial Authority to confirm these requirements before enclosing or covering in any structural work. Failure to do so may result in refusal by the Local Territorial Authority to issue a Code Compliance certificate.

8 LIMITATIONS

This report has been prepared exclusively for Anita Hollerer-Squire with respect to the particular brief given to us. Information, opinions and recommendations contained in it cannot be used for any other purpose or by any other entity without our review and written consent. LDE Ltd accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

Opinions given in this report are based on drawings supplied by Anita Hollerer-Squire. We have not reviewed any physical construction.

APPENDIX A

CALCULATIONS

Client:	Anita Hollerer-Squire			
Project No.:	29302	Wall ID		WALL TYPE 1
Design Case	Static	Doc ID:	752093	
Prepared By:	Che Cheng	Date:	3/07/2026	
Checked By:	Richard Zhang	Date:	3/07/2026	

1. Wall Parameters

Proposed design:

425SEDs at 1.6m c/c. 8.5m embedment

Φ Pole	425	mm	
Spacing	1.6	m	
M*	53	kNm/m	From Wallap
V*	35	kN/m	From Wallap
Depth at Max Moment	0	m	
Depth at Max Shear	3.3	m	
Taper	4	mm	
Load Factor	1.5		

2. Shear Capacity

f_s	3.5	MPa	
k_1	0.6		Duration Factor
k_{20}	1		Machine Shaving Factor
k_{21}	0.9		Steaming Factor
ϕ	0.8		Strength Reduction Factor
V*	84.0	kN/pole	
ϕV_n	171.0		
$V_n > V^*$?	OK		

3. Moment Capacity

E	12.0	GPa	
f_b	52	MPa	
k_1	0.6		Duration Factor
k_{20}	0.85		Machine Shaving Factor
k_{21}	0.85		Steaming Factor
ϕ	0.8		Strength Reduction Factor
M*	127.2	kNm/pole	
ϕM_n	135.9		
$M_n > M^*$?	OK		

4. Lagging

P*	26.0	kPa	Pressure From Wallap
Max M*	8.3	kNm	

4.1 Plank lagging

t	100	mm	lagging thickness
f_b	11.7	MPa	lagging bending strength
Z	0.00167	m ³	Z
ϕM_n	7.956	kNm	factored moment capacity
$M_n > M^*$?	Not OK		

4.2 SED lagging

Φ Pole	100	mm	SED lagging diameter
f_b	38	MPa	SED lagging bending strength
Z	0.000981748	m ³	Z
ϕM_n	12.93786395	kNm	factored moment capacity
$M_n > M^*$?	OK		

Client:	Anita Hollerer-Squire			
Project No.:	29302	Wall ID		WALL TYPE 1
Design Case	Static	Doc ID:	752093	
Prepared By:	Che Cheng	Date:	3/07/2026	

Notes

High Density Timber

E= 12 GPa
f_b= 52.0 MPa

GPa
MPa

Medium density timber

E = 8.7 GPa
f_b= 38.0 MPa

GPa
MPa

Load Factor = 1.5 (Clause 4.2.3 (f) AS/NZS 1170.0:2002)

K₁= 0.6 if load duration >1 year and 0.8 if <1 year and 1.0 for seismic

SED Size	meter (at max mom	meter (at max she	As	I	I/m	Z	φ Mn / pole	φ Vn / pole
mm	mm	mm	m ²	m ⁴	m ⁴ /m	m ³	kNm	kN
150	150	163.2	0.015688862	2.48505E-05	1.55316E-05	0.00033134	5.98	23.72
175	175	175	0.018039614	4.60386E-05	2.87741E-05	0.000526155	9.49	27.28
200	200	200	0.023561945	7.85398E-05	4.90874E-05	0.000785398	14.16	35.63
225	225	225	0.029820587	0.000125806	7.86285E-05	0.001118272	20.17	45.09
250	250	250	0.036815539	0.000191748	0.000119842	0.001533981	27.66	55.67
275	275	275	0.044546802	0.000280738	0.000175461	0.002041728	36.82	67.35
300	300	300	0.053014376	0.000397608	0.000248505	0.002650719	47.80	80.16
325	325	325	0.062218261	0.00054765	0.000342281	0.003370156	60.78	94.07
350	350	350	0.072158456	0.000736618	0.000460386	0.004209243	75.91	109.10
375	375	375	0.082834963	0.000970722	0.000606701	0.005177185	93.36	125.25
400	400	400	0.09424778	0.001256637	0.000785398	0.006283185	113.31	142.50
425	425	425	0.106396907	0.001601495	0.001000934	0.007536448	135.91	160.87
450	450	450	0.119282346	0.00201289	0.001258056	0.008946176	161.33	180.35
475	475	475	0.132904095	0.002498874	0.001561796	0.010521574	189.74	200.95
500	500	500	0.147262156	0.003067962	0.001917476	0.012271846	221.31	222.66
525	525	525	0.162356527	0.003729126	0.002330704	0.014206196	256.19	245.48

Standard pole sizes 1.2, 1.8, 2.4, 3.0, 3.6, 4.2, 4.8, 5.4, 6.0, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

K₂= 0.6 if load duration >1 year and 0.8 if <1 year and 1.0 for seismic

|

Client:	Anita Hollerer-Squire			
Project No.:	29302	Wall ID		WALL TYPE1
Design Case	Seismic	Doc ID:	752093	
Prepared By:	Che Cheng	Date:	3/07/2026	
Checked By:	Richard Zhang	Date:	3/07/2026	

1. Wall Parameters

Proposed design:

425SEDs at 1.6m c/c. 8.5m embedment

Φ Pole	425	mm	
Spacing	1.6		
M*	112	kNm/m	From Wallap
V*	158	kN/m	From Wallap
Depth at Max Moment	0	m	
Depth at Max Shear	3.3	m	
Taper	4	mm	
Load Factor	1		

2. Shear Capacity

f_s	3.5	MPa	
k_1	1		Duration Factor
k_{20}	1		Machine Shaving Factor
k_{21}	0.9		Steaming Factor
ϕ	0.8		Strength Reduction Factor
V*	252.8	kN/pole	
ϕV_n	285.0		
$V_n > V^* ?$	OK		

3. Moment Capacity

E	12.0	GPa	
f_b	52	MPa	
k_1	1		Duration Factor
k_{20}	0.85		Machine Shaving Factor
k_{21}	0.85		Steaming Factor
ϕ	0.8		Strength Reduction Factor
M*	179.2	kNm/pole	
ϕM_n	226.5		
$M_n > M^* ?$	OK		

4. Lagging

P*	26.0	kPa	Pressure From Wallap
Max M*	8.3	kNm	

4.1 Plank lagging

t	100	mm	lagging thickness
f_b	11.7	MPa	lagging bending strength
Z	0.00167	m ³	Z
ϕM_n	13.26	kNm	factored moment capacity
$M_n > M^* ?$	OK		

4.2 SED lagging

Φ Pole	100	mm	SED lagging diameter
f_b	38	MPa	SED lagging bending strength
Z	0.000981748	m ³	Z
ϕM_n	21.56310658	kNm	factored moment capacity
$M_n > M^* ?$	OK		

Client:	Anita Hollerer-Squire			
Project No.:	29302	Wall ID		WALL TYPE1
Design Case	Seismic	Doc ID:	752093	
Prepared By:	Che Cheng	Date:	3/07/2026	

Notes

High Density Timber

E= 12 GPa
f_b= 52.0 MPa

GPa
MPa

Medium density timber

E = 8.7 GPa
f_b= 38.0 MPa

GPa
MPa

Load Factor = 1.5 (Clause 4.2.3 (f) AS/NZS 1170.0:2002)

K₁= 0.6 if load duration >1 year and 0.8 if <1 year and 1.0 for seismic

SED Size	meter (at max mom	meter (at max she	As	I	I/m	Z	φ Mn / pole	φ Vn / pole
mm	mm	mm	m ²	m ⁴	m ⁴ /m	m ³	kNm	kN
150	150	163.2	0.015688862	2.48505E-05	1.55316E-05	0.00033134	9.96	39.54
175	175	175	0.018039614	4.60386E-05	2.87741E-05	0.000526155	15.81	45.46
200	200	200	0.023561945	7.85398E-05	4.90874E-05	0.000785398	23.61	59.38
225	225	225	0.029820587	0.000125806	7.86285E-05	0.001118272	33.61	75.15
250	250	250	0.036815539	0.000191748	0.000119842	0.001533981	46.11	92.78
275	275	275	0.044546802	0.000280738	0.000175461	0.002041728	61.37	112.26
300	300	300	0.053014376	0.000397608	0.000248505	0.002650719	79.67	133.60
325	325	325	0.062218261	0.00054765	0.000342281	0.003370156	101.29	156.79
350	350	350	0.072158456	0.000736618	0.000460386	0.004209243	126.51	181.84
375	375	375	0.082834963	0.000970722	0.000606701	0.005177185	155.61	208.74
400	400	400	0.09424778	0.001256637	0.000785398	0.006283185	188.85	237.50
425	425	425	0.106396907	0.001601495	0.001000934	0.007536448	226.52	268.12
450	450	450	0.119282346	0.00201289	0.001258056	0.008946176	268.89	300.59
475	475	475	0.132904095	0.002498874	0.001561796	0.010521574	316.24	334.92
500	500	500	0.147262156	0.003067962	0.001917476	0.012271846	368.84	371.10
525	525	525	0.162356527	0.003729126	0.002330704	0.014206196	426.98	409.14

Standard pole sizes 1.2, 1.8, 2.4, 3.0, 3.6, 4.2, 4.8, 5.4, 6.0, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

K₂= 0.6 if load duration >1 year and 0.8 if <1 year and 1.0 for seismic

|

LDE LTD | Sheet No.
 Program: WALLAP Version 6.07 Revision A55.B74.R58 | Job No. 29302
 Licensed from GEOSOLVE | Made by : CC
 Data filename/Run ID: palisade_wall |
 93 Olive View Height Drive | Date:14-07-2026
 In ground palisade wall | Checked :

Units: kN,m

INPUT DATA

SOIL PROFILE

Stratum no.	Elevation of top of stratum	Soil types	
		Left side	Right side
1	0.00	1 Residual soils	1 Residual soils
2	-3.30	2 Completely weathered	2 Completely weathered
3	-5.30	3 Highly weathered	3 Highly weathered
4	-7.30	4 Moderately weathered	4 Moderately weathered

SOIL PROPERTIES

No.	Soil type -- Description (Datum elev.)	Bulk density kN/m3	Young's Modulus Eh,kN/m2 (dEh/dy)	At rest coeff. Ko (dKo/dy)	Consol. state. (Nu)	Active limit (Ka)	Passive limit (Kpc)	Cohesion (dc/dy)
1	Residual soils	18.00	15000	0.600	OC (0.300)	0.320 (1.278)	3.812 (5.289)	3.000d
2	Completely weathered	18.00	30000	0.500	OC (0.300)	0.270 (1.168)	4.845 (6.154)	3.000d
3	Highly weathered	20.00	50000	0.500	OC (0.300)	0.237 (1.089)	5.879 (6.968)	10.00d
4	Moderately weathered	22.00	200000	0.500	OC (0.200)	0.189 (0.966)	4.685 (4.392)	20.00d

Additional soil parameters associated with Ka and Kp

No.	Description	--- parameters for Ka ---			--- parameters for Kp ---		
		Soil friction angle	Wall Back-coeff.	adhesion fill	Soil friction angle	Wall Back-coeff.	adhesion fill
1	Residual soils	28.00	0.469	0.00	28.00	0.469	0.00
2	Completely weathered	32.00	0.459	0.00	32.00	0.459	0.00
3	Highly weathered	35.00	0.450	0.00	35.00	0.450	0.00
4	Moderately weathered	40.00	0.434	0.00	40.00	0.010	0.00

GROUND WATER CONDITIONS

Density of water = 10.00 kN/m3

	Left side	Right side
Initial water table elevation	-3.30	-3.30

Automatic water pressure balancing at toe of wall : No

Left side				Right side				
Water profile no.	Point no.	Elev. m	Piezo Water elev. kN/m2	Point no.	Elev. m	Piezo Water elev. kN/m2	press.	
1	1	-8.00	-8.00	0.0	1	-8.00	-8.00	0.0

WALL PROPERTIES

Type of structure = Fully Embedded Wall
 Elevation of toe of wall = -8.50
 Maximum finite element length = 0.50 m
 Youngs modulus of wall E = 1.2000E+07 kN/m2
 Moment of inertia of wall I = 1.0010E-03 m4/m run
 E.I = 12012 kN.m2/m run
 Yield Moment of wall = Not defined

SURCHARGE LOADS

Surch- no.	Elev.	Distance from wall	Length parallel to wall	Width perpend. to wall	Surcharge ----- Near edge	Surcharge ----- Far edge	Equiv. soil type	Partial factor/ Category
1	0.00	0.00(L)	100.00	10.00	0.00	36.00	1	N/A
2	-0.10	2.00(L)	100.00	10.00	5.00	=	0	N/A

Note: L = Left side, R = Right side

A trapezoidal surcharge is defined by two values:

N = at edge near to wall, F = at edge far from wall

CONSTRUCTION STAGES

Construction Stage description

stage no.	-----
1	Apply surcharge no.1 at elevation 0.00
2	Apply surcharge no.2 at elevation -0.10
3	Excavate to elevation -3.30 on RIGHT side Toe of berm at elevation -5.30 Width of top of berm = 0.01 Width of toe of berm = 10.00
4	Apply water pressure profile no.1
5	Apply seismic loading: 0.0950g horizontal Line of action of quasi-static seismic force = 0.333 Seismic loading model: Quasi-static loading

FACTORS OF SAFETY and ANALYSIS OPTIONS

Stability analysis:

Method of analysis - Strength Factor method

Factor on soil strength for calculating wall depth = 1.00

Active limit pressures calculated by Wedge Stability

Passive limit pressures calculated by Wedge Stability

Parameters for undrained strata:

Minimum equivalent fluid density = 5.00 kN/m3

Maximum depth of water filled tension crack = 0.00 m

Bending moment and displacement calculation:

Method - Subgrade reaction model using Influence Coefficients

Open Tension Crack analysis? - No

Non-linear Modulus Parameter (L) = 0 m

Boundary conditions:

Length of wall (normal to plane of analysis) = 1000.00 m

Width of excavation on Left side of wall = 20.00 m

Width of excavation on Right side of wall = 20.00 m

Distance to rigid boundary on Left side = 20.00 m

Distance to rigid boundary on Right side = 20.00 m

OUTPUT OPTIONS

Stage no.	----- Stage description	----- Displacement Bending mom. Shear force	----- Active, Passive pressures	----- Graph. output
1	Apply surcharge no.1 at elev. 0.00	No	No	No
2	Apply surcharge no.2 at elev. -0.10	No	No	No
3	Excav. to elev. -3.30 on RIGHT side	No	No	No
4	Apply water pressure profile no.1	Yes	Yes	Yes
5	Quasi-static Seismic load: 0.095g(H)	Yes	Yes	Yes
*	Summary output	Yes	-	Yes

LDE LTD | Sheet No.
 Program: WALLAP Version 6.07 Revision A55.B74.R58 | Job No. 29302
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 In ground palisade wall | Checked :

Units: kN,m

Stage No. 4 Apply water pressure profile no.1

STABILITY ANALYSIS of Fully Embedded Wall according to Strength Factor method

Factor of safety on soil strength

Active limit pressures calculated by Wedge Stability

Passive limit pressures calculated by Wedge Stability

				FoS for toe		Toe elev. for		
				elev. = -8.50		FoS = 1.000		
<u>Stage</u>	<u>Ground level</u>	<u>Prop</u>	<u>Factor</u>	<u>Moment</u>	<u>Toe</u>	<u>Wall</u>	<u>Direction</u>	
<u>No.</u>	<u>Act.</u>	<u>Pass.</u>	<u>Elev.</u>	<u>of</u>	<u>elev.</u>	<u>Penetr</u>	<u>of</u>	
				<u>Safety at elev.</u>		<u>-ation</u>	<u>failure</u>	
4	0.00	-3.30	Cant.	1.644	-8.01	-5.58	2.28	L to R

BENDING MOMENT and DISPLACEMENT ANALYSIS of Fully Embedded Wall

Analysis options

Length of wall perpendicular to section = 1000.00m

Subgrade reaction model - Boussinesq Influence coefficients

Soil deformations are elastic until the active or passive limit is reached

Active limit pressures calculated by Wedge Stability

Passive limit pressures calculated by Wedge Stability

Open Tension Crack analysis - No

Rigid boundaries: Left side 20.00 from wall

Right side 20.00 from wall

<u>Node</u>	<u>Y</u>	<u>Nett</u>	<u>Wall</u>	<u>Wall</u>	<u>Shear</u>	<u>Bending</u>	<u>Prop</u>	
<u>no.</u>	<u>coord</u>	<u>pressure</u>	<u>disp.</u>	<u>rotation</u>	<u>force</u>	<u>moment</u>	<u>forces</u>	
		kN/m2	m	rad.	kN/m	kN.m/m	kN/m	
1	0.00	0.00	0.062	1.28E-02	0.0	-0.0		
2	-0.10	0.00	0.061	1.28E-02	0.0	0.0		
3	-0.55	0.00	0.055	1.28E-02	0.0	0.0		
4	-1.00	2.68	0.049	1.28E-02	0.6	0.1		
5	-1.50	5.97	0.043	1.28E-02	2.8	0.9		
6	-2.00	9.28	0.037	1.27E-02	6.6	3.2		
7	-2.50	12.57	0.030	1.25E-02	12.0	7.8		
8	-2.90	15.18	0.025	1.21E-02	17.6	13.7		
9	-3.30	17.77	0.020	1.15E-02	24.2	22.0		
		4.65	0.020	1.15E-02	24.2	22.0		
10	-3.67	-4.21	0.016	1.07E-02	24.3	31.2		
11	-4.05	-11.43	0.012	9.61E-03	21.3	39.8		
12	-4.36	-17.52	0.010	8.50E-03	16.8	45.8		
13	-4.67	-23.62	0.007	7.25E-03	10.4	50.1		
14	-4.99	-29.77	0.005	5.92E-03	2.0	52.1		
15	-5.30	-30.92	0.003	4.57E-03	-7.5	51.9		
		-69.66	0.003	4.57E-03	-7.5	51.9		
16	-5.65	-32.14	0.002	3.14E-03	-25.3	45.6		
17	-6.00	-2.82	0.001	1.97E-03	-31.4	34.8		
18	-6.50	18.96	0.001	8.65E-04	-27.4	18.7		
19	-6.90	25.88	0.000	3.99E-04	-18.4	9.3		
20	-7.30	28.18	0.000	1.77E-04	-7.6	4.0		
		6.74	0.000	1.77E-04	-7.6	4.0		
21	-7.65	7.68	0.000	9.30E-05	-5.1	1.8		
22	-8.00	6.47	0.000	6.00E-05	-2.6	0.5		
23	-8.50	3.85	0.000	5.00E-05	-0.0	0.0		

(continued)

Stage No.4 Apply water pressure profile no.1

Node no.	Y coord	LEFT side					Total earth pressure	Coeff. of subgrade reaction
		Water press.	Effective -al	Active limit	Passive limit	Earth pressure		
		kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m3
1	0.00	0.00	0.00	0.00	15.87	0.00	0.00a	3578
2	-0.10	0.00	2.03	0.00	32.61	0.00	0.00a	3578
3	-0.55	0.00	11.18	0.00	85.76	0.00	0.00a	3578
4	-1.00	0.00	20.42	2.68	137.43	2.68	2.68a	3578
5	-1.50	0.00	30.81	5.97	195.47	5.97	5.97a	3578
6	-2.00	0.00	41.23	9.28	253.72	9.28	9.28a	3578
7	-2.50	0.00	51.60	12.57	311.69	12.57	12.57a	3578
8	-2.90	0.00	59.83	15.18	357.67	15.18	15.18a	3578
9	-3.30	0.00	67.97	17.77	403.22	17.77	17.77a	3578
		0.00	67.97	16.29	441.55	16.29	16.29a	7157
10	-3.67	0.00	75.53	18.52	488.03	18.93	18.93	7157
11	-4.05	0.00	83.02	20.86	472.97	21.93	21.93	7157
12	-4.36	0.00	89.21	22.87	428.27	24.40	24.40	7157
13	-4.67	0.00	95.35	24.72	456.56	26.88	26.88	7157
14	-4.99	0.00	101.45	26.55	484.64	29.33	29.33	7157
15	-5.30	0.00	107.51	28.36	512.51	31.77	31.77	7157
		0.00	107.51	17.14	683.02	20.94	20.94	11928
16	-5.65	0.00	114.93	19.20	725.51	32.36	32.36	15330
17	-6.00	0.00	122.31	21.25	767.71	45.86	45.86	15330
18	-6.50	0.00	132.76	24.16	827.54	58.25	58.25	15330
19	-6.90	0.00	141.06	26.47	875.04	64.57	64.57	15330
20	-7.30	0.00	149.31	28.76	922.24	69.29	69.29	15330
		0.00	149.31	12.80	1219.09	55.66	55.66	56683
21	-7.65	0.00	157.19	14.93	1276.25	59.45	59.45	56683
22	-8.00	0.00	165.04	16.19	1275.00	62.47	62.47	56683
23	-8.50	5.00	171.19	18.63	1277.80	65.18	70.18	264716

Node no.	Y coord	RIGHT side					Total earth pressure	Coeff. of subgrade reaction
		Water press.	Effective -al	Active limit	Passive limit	Earth pressure		
		kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m3
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
2	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.0
3	-0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.0
4	-1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
5	-1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.0
6	-2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
7	-2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.0
8	-2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.0
9	-3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.0
		0.00	0.00	0.00	11.63	11.63	11.63p	17067
10	-3.67	0.00	6.74	0.00	32.22	23.14	23.14	17067
11	-4.05	0.00	13.49	0.11	52.81	33.37	33.37	17067
12	-4.36	0.00	19.12	1.29	70.01	41.92	41.92	17067
13	-4.67	0.00	24.75	2.47	87.20	50.50	50.50	17067
14	-4.99	0.00	30.39	3.66	104.41	59.10	59.10	17067
15	-5.30	0.00	36.02	4.84	121.63	62.69	62.69	17067
		0.00	36.02	0.00	194.35	90.60	90.60	28444
16	-5.65	0.00	43.04	0.00	222.83	64.50	64.50	15330
17	-6.00	0.00	50.06	0.96	251.32	48.68	48.68	15330
18	-6.50	0.00	60.10	3.28	292.08	39.29	39.29	15330
19	-6.90	0.00	68.14	5.14	324.72	38.69	38.69	15330
20	-7.30	0.00	76.19	7.01	357.40	41.12	41.12	15330
		0.00	76.19	0.00	518.12	48.92	48.92	56683

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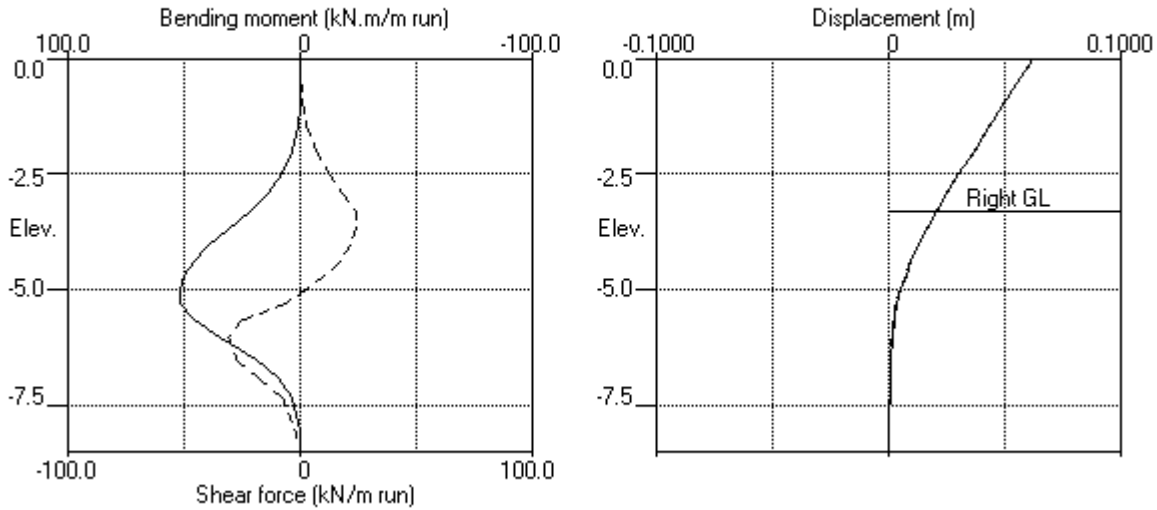
Stage No.4 Apply water pressure profile no.1

<u>Node</u> <u>no.</u>	<u>Y</u> <u>coord</u>	<u>RIGHT side</u>					<u>Total</u> <u>earth</u> <u>pressure</u> <u>kn/m2</u>	<u>Coeff. of</u> <u>subgrade</u> <u>reaction</u> <u>kn/m3</u>
		<u>Water</u> <u>press.</u> <u>kn/m2</u>	<u>Vertic</u> <u>-al</u> <u>kn/m2</u>	<u>Active</u> <u>limit</u> <u>kn/m2</u>	<u>Passive</u> <u>limit</u> <u>kn/m2</u>	<u>Earth</u> <u>pressure</u> <u>kn/m2</u>		
21	-7.65	0.00	83.95	0.00	560.43	51.77	51.77	56683
22	-8.00	0.00	91.71	0.00	602.79	56.00	56.00	56683
23	-8.50	5.00	97.81	0.00	636.92	61.33	66.33	264716

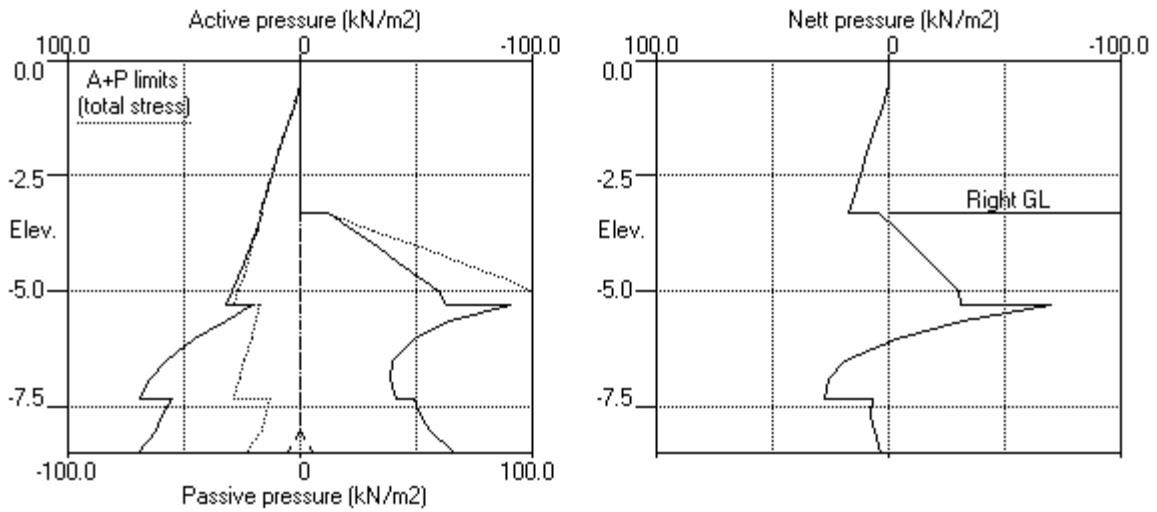
Note: 16.29 a Soil pressure at active limit
 11.63 p Soil pressure at passive limit

Units: kN,m

Stage No.4 Apply water pressure profile no.1



Stage No.4 Apply water pressure profile no.1



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Units: kN,m

Stage No. 5 Apply seismic loading:
 0.0950g horizontal
 Line of action of quasi-static seismic force = 0.333
 Seismic loading model: Quasi-static loading

STABILITY ANALYSIS of Fully Embedded Wall according to Strength Factor method

Factor of safety on soil strength
 Active limit pressures calculated by Wedge Stability
 Passive limit pressures calculated by Wedge Stability

		FoS for toe		Toe elev. for				
		elev. = -8.50		FoS = 1.000				
Stage	Ground level	Prop	Factor	Moment	Toe	Wall	Direction	
No.	Act.	Pass.	Elev.	of	elev.	Penetr	of	
				equilib.			failure	
			Safety	at elev.	-ation			
5	0.00	-3.30	Cant.	1.429	-8.06	-6.16	2.86	L to R

BENDING MOMENT and DISPLACEMENT ANALYSIS of Fully Embedded Wall

Analysis options

Length of wall perpendicular to section = 1000.00m
 Subgrade reaction model - Boussinesq Influence coefficients
 Soil deformations are elastic until the active or passive limit is reached
 Active limit pressures calculated by Wedge Stability
 Passive limit pressures calculated by Wedge Stability
 Open Tension Crack analysis - No

Rigid boundaries: Left side 20.00 from wall
 Right side 20.00 from wall
 Equivalent excavation elevation for seismic loading with berm = -4.05

Node	Y	Nett	Wall	Wall	Shear	Bending	Prop
no.	coord	pressure	disp.	rotation	force	moment	forces
		kN/m2	m	rad.	kN/m	kN.m/m	kN/m
1	0.00	0.00	0.081	1.69E-02	0.0	0.0	
2	-0.10	0.00	0.079	1.69E-02	0.0	0.0	
3	-0.55	0.00	0.071	1.69E-02	0.0	0.0	
4	-1.00	3.70	0.064	1.69E-02	0.8	0.1	
5	-1.50	8.25	0.055	1.68E-02	3.8	1.2	
6	-2.00	12.81	0.047	1.67E-02	9.1	4.4	
7	-2.50	17.36	0.038	1.64E-02	16.6	10.7	
8	-2.90	20.96	0.032	1.59E-02	24.3	18.9	
9	-3.30	24.53	0.026	1.51E-02	33.4	30.3	
		10.80	0.026	1.51E-02	33.4	30.3	
10	-3.67	-5.09	0.020	1.39E-02	34.5	43.2	
11	-4.05	-21.26	0.015	1.24E-02	29.5	55.4	
12	-4.36	-34.93	0.012	1.09E-02	20.7	63.4	
13	-4.67	-39.28	0.009	9.19E-03	9.1	68.4	
14	-4.99	-37.55	0.006	7.39E-03	-2.9	69.2	
15	-5.30	-32.91	0.004	5.62E-03	-13.9	67.1	
		-77.74	0.004	5.62E-03	-13.9	67.1	
16	-5.65	-36.68	0.002	3.79E-03	-33.9	58.0	
17	-6.00	-1.23	0.001	2.31E-03	-40.5	43.9	
18	-6.50	23.50	0.000	9.12E-04	-35.0	23.5	
19	-6.90	30.17	0.000	3.31E-04	-24.3	11.4	
20	-7.30	31.24	0.000	7.40E-05	-12.0	4.1	
		18.10	0.000	7.40E-05	-12.0	4.1	
21	-7.65	14.68	0.000	-3.22E-07	-6.2	1.0	
22	-8.00	9.89	0.000	-1.11E-05	-1.9	-0.3	
23	-8.50	-2.15	0.000	-5.55E-06	-0.0	0.0	

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Stage No.5 Apply seismic loading:
0.0950g horizontal
Line of action of quasi-static seismic force = 0.333
Seismic loading model: Quasi-static loading

LEFT side								
Node no.	Y coord	Effective stresses				Earth pressure	Total earth pressure	Coeff. of subgrade reaction
		Water press.	Vertic -al	Active limit	Passive limit			
		kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m3
1	0.00	0.00	0.00	0.00	15.87	0.00	0.00a	3611
2	-0.10	0.00	2.03	0.00	33.98	0.00	0.00a	3611
3	-0.55	0.00	11.18	0.00	89.90	0.00	0.00a	3611
4	-1.00	0.00	20.42	3.70	144.07	3.70	3.70a	3611
5	-1.50	0.00	30.81	8.25	204.93	8.25	8.25a	3611
6	-2.00	0.00	41.23	12.81	265.99	12.81	12.81a	3611
7	-2.50	0.00	51.60	17.36	326.77	17.36	17.36a	3611
8	-2.90	0.00	59.83	20.96	374.97	20.96	20.96a	3611
9	-3.30	0.00	67.97	24.53	422.73	24.53	24.53a	3611
		0.00	67.97	21.44	502.71	21.44	21.44a	7222
10	-3.67	0.00	75.53	24.38	555.64	24.38	24.38a	7222
11	-4.05	0.00	83.02	27.04	524.68	27.04	27.04a	7222
12	-4.36	0.00	89.21	29.09	455.11	29.09	29.09a	7222
13	-4.67	0.00	95.35	31.43	485.17	31.43	31.43a	7222
14	-4.99	0.00	101.45	33.76	515.01	33.76	33.76a	7222
15	-5.30	0.00	107.51	36.07	544.62	36.07	36.07a	7222
		0.00	107.51	23.34	720.91	23.34	23.34a	12037
16	-5.65	0.00	114.93	26.15	765.76	30.88	30.88	12037
17	-6.00	0.00	122.31	28.94	810.31	46.65	46.65	16758
18	-6.50	0.00	132.76	32.90	873.45	60.52	60.52	16758
19	-6.90	0.00	141.06	36.05	923.59	66.71	66.71	16758
20	-7.30	0.00	149.31	39.17	973.41	70.83	70.83	16758
		0.00	149.31	19.46	1274.17	61.34	61.34	62013
21	-7.65	0.00	157.19	22.70	1333.91	62.95	62.95	62013
22	-8.00	0.00	165.04	24.69	1332.32	64.18	64.18	62013
23	-8.50	5.00	171.19	31.15	1335.26	62.18	67.18	1058866

RIGHT side								
Node no.	Y coord	Effective stresses				Earth pressure	Total earth pressure	Coeff. of subgrade reaction
		Water press.	Vertic -al	Active limit	Passive limit			
		kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m2	kN/m3
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
2	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.0
3	-0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.0
4	-1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
5	-1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.0
6	-2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
7	-2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.0
8	-2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.0
9	-3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.0
		0.00	0.00	0.00	10.64	10.64	10.64p	15034
10	-3.67	0.00	6.74	0.00	29.47	29.47	29.47p	15034
11	-4.05	0.00	13.49	0.06	48.30	48.30	48.30p	15034
12	-4.36	0.00	19.12	0.69	64.02	64.02	64.02p	15034
13	-4.67	0.00	24.75	1.33	79.75	70.71	70.71	15034
14	-4.99	0.00	30.39	1.96	95.48	71.31	71.31	15034
15	-5.30	0.00	36.02	2.60	111.23	68.97	68.97	15034
		0.00	36.02	0.00	181.37	101.07	101.07	25056
16	-5.65	0.00	43.04	0.00	207.95	67.56	67.56	25056
17	-6.00	0.00	50.06	0.21	234.55	47.89	47.89	16758

Run ID. palisade_wall
 93 Olive View Height Drive
 In ground palisade wall

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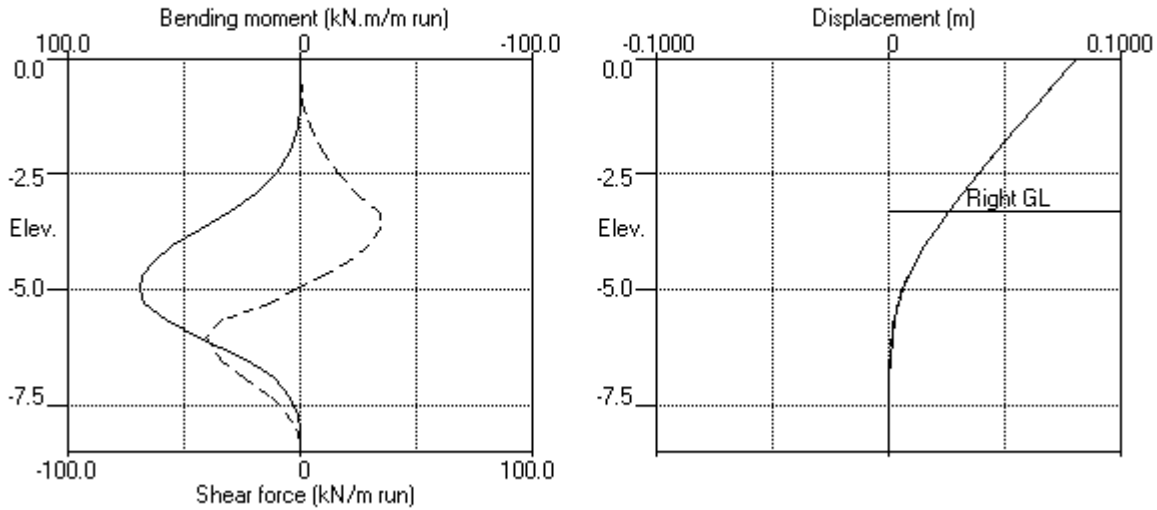
Stage No.5 Apply seismic loading:
 0.0950g horizontal
 Line of action of quasi-static seismic force = 0.333
 Seismic loading model: Quasi-static loading

<u>Node</u> <u>no.</u>	<u>Y</u> <u>coord</u>	<u>RIGHT side</u> <u>Effective stresses</u>					<u>Total</u> <u>earth</u> <u>pressure</u> <u>kn/m2</u>	<u>Coeff. of</u> <u>subgrade</u> <u>reaction</u> <u>kn/m3</u>
		<u>Water</u> <u>press.</u> <u>kn/m2</u>	<u>Vertic</u> <u>-al</u> <u>kn/m2</u>	<u>Active</u> <u>limit</u> <u>kn/m2</u>	<u>Passive</u> <u>limit</u> <u>kn/m2</u>	<u>Earth</u> <u>pressure</u> <u>kn/m2</u>		
18	-6.50	0.00	60.10	0.73	272.58	37.02	37.02	16758
19	-6.90	0.00	68.14	1.15	303.04	36.54	36.54	16758
20	-7.30	0.00	76.19	1.56	333.54	39.58	39.58	16758
		0.00	76.19	0.00	483.81	43.24	43.24	62013
21	-7.65	0.00	83.95	0.00	523.32	48.27	48.27	62013
22	-8.00	0.00	91.71	0.00	562.87	54.29	54.29	62013
23	-8.50	5.00	97.81	0.00	594.41	64.33	69.33	1058866

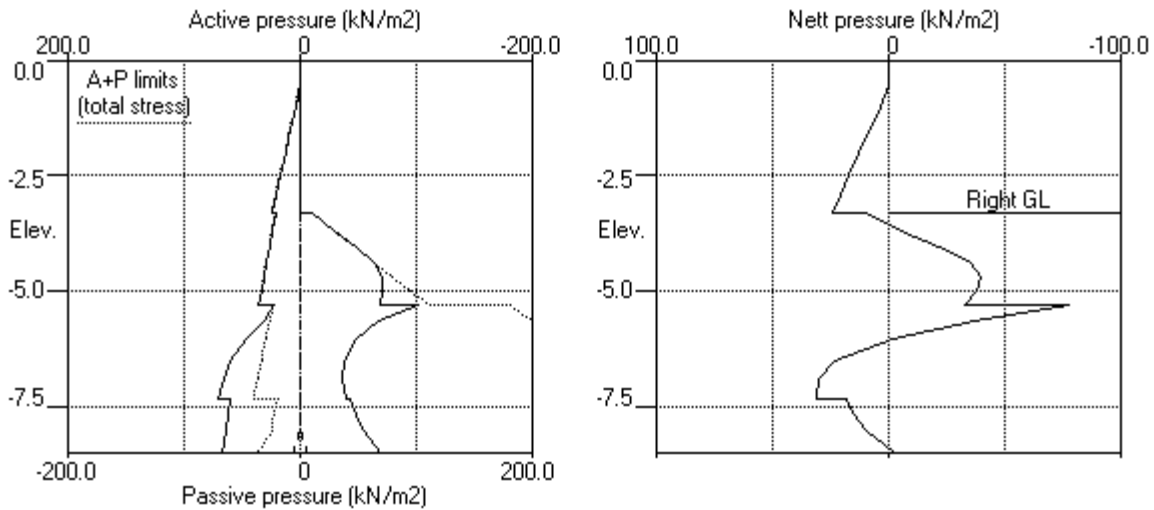
Note: 23.34 a Soil pressure at active limit
 64.02 p Soil pressure at passive limit

Units: kN,m

Stage No.5 Quasi-static Seismic load: 0.095g(H)



Stage No.5 Quasi-static Seismic load: 0.095g(H)



LDE LTD | Sheet No.
 Program: WALLAP Version 6.07 Revision A55.B74.R58 | Job No. 29302
 Licensed from GEOSOLVE | Made by : CC
 Data filename/Run ID: palisade_wall |
 93 Olive View Height Drive | Date:14-07-2026
 In ground palisade wall | Checked :

Units: kN,m

Summary of results

STABILITY ANALYSIS of Fully Embedded Wall according to Strength Factor method

Factor of safety on soil strength

Active limit pressures calculated by Wedge Stability

Passive limit pressures calculated by Wedge Stability

Stage No.	Ground level		FoS for toe elev. = -8.50		Toe elev. for FoS = 1.000			
	Act.	Pass.	Prop Elev.	Factor of Safety at elev.	Moment of equilib.	Toe elev.	Wall Penetr	Direction of failure
1	0.00	0.00	Cant.	Conditions not suitable for FoS calc.				
2	0.00	0.00	Cant.	Conditions not suitable for FoS calc.				
3	0.00	-3.30	Cant.	1.368	-8.07	-6.31	3.01	L to R
4	0.00	-3.30	Cant.	1.644	-8.01	-5.58	2.28	L to R
5	0.00	-3.30	Cant.	1.429	-8.06	-6.16	2.86	L to R

LDE LTD | Sheet No.
 Program: WALLAP Version 6.07 Revision A55.B74.R58 | Job No. 29302
 Licensed from GEOSOLVE | Made by : CC
 Data filename/Run ID: palisade_wall |
 93 Olive View Height Drive | Date:14-07-2026
 In ground palisade wall | Checked :

Units: kN,m

Summary of results

BENDING MOMENT and DISPLACEMENT ANALYSIS of Fully Embedded Wall

Analysis options

Length of wall perpendicular to section = 1000.00m
 Subgrade reaction model - Boussinesq Influence coefficients
 Soil deformations are elastic until the active or passive limit is reached
 Active limit pressures calculated by Wedge Stability
 Passive limit pressures calculated by Wedge Stability
 Open Tension Crack analysis - No

Rigid boundaries: Left side 20.00 from wall
 Right side 20.00 from wall

Bending moment, shear force and displacement envelopes

Node no.	Y coord	Displacement		Bending moment		Shear force	
		maximum	minimum	maximum	minimum	maximum	minimum
		m	m	kN.m/m	kN.m/m	kN/m	kN/m
1	0.00	0.081	0.000	0.0	-0.0	0.0	0.0
2	-0.10	0.079	0.000	0.0	-0.0	0.0	-0.0
3	-0.55	0.071	0.000	0.0	-0.1	0.0	-0.3
4	-1.00	0.064	0.000	0.1	-0.2	0.8	-0.5
5	-1.50	0.055	0.000	1.2	-0.5	3.8	-0.6
6	-2.00	0.047	0.000	4.4	-0.8	9.1	-0.5
7	-2.50	0.038	0.000	10.7	-1.0	16.6	-0.3
8	-2.90	0.032	0.000	18.9	-1.0	24.3	0.0
9	-3.30	0.026	0.000	30.3	-0.9	33.4	0.0
10	-3.67	0.020	0.000	43.2	-0.8	34.5	0.0
11	-4.05	0.015	0.000	55.4	-0.8	29.5	0.0
12	-4.36	0.012	0.000	63.4	-0.8	20.7	-0.0
13	-4.67	0.009	0.000	68.4	-0.8	10.4	0.0
14	-4.99	0.006	0.000	69.2	-0.7	2.1	-2.9
15	-5.30	0.004	0.000	67.1	-0.6	0.5	-13.9
16	-5.65	0.002	0.000	58.0	-0.5	0.1	-33.9
17	-6.00	0.001	0.000	43.9	-0.6	0.0	-40.5
18	-6.50	0.001	0.000	23.5	-0.6	0.3	-35.0
19	-6.90	0.000	0.000	11.4	-0.4	0.9	-24.3
20	-7.30	0.000	0.000	4.1	0.0	2.0	-12.0
21	-7.65	0.000	0.000	1.8	0.0	0.2	-6.2
22	-8.00	0.000	0.000	0.5	-0.3	0.0	-2.6
23	-8.50	0.000	0.000	0.0	0.0	0.0	-0.0

Maximum and minimum bending moment and shear force at each stage

Stage no.	Bending moment				Shear force			
	maximum	elev.	minimum	elev.	maximum	elev.	minimum	elev.
	kN.m/m		kN.m/m		kN/m		kN/m	
1	0.4	-7.65	-0.8	-2.90	1.6	-7.30	-0.5	-1.50
2	0.5	-7.65	-1.0	-2.90	2.0	-7.30	-0.6	-1.50
3	52.0	-4.99	-0.0	0.00	24.2	-3.30	-31.4	-6.00
4	52.1	-4.99	-0.0	0.00	24.3	-3.67	-31.4	-6.00
5	69.2	-4.99	-0.3	-8.00	34.5	-3.67	-40.5	-6.00

Run ID. palisade_wall
93 Olive View Height Drive
In ground palisade wall

| Sheet No.
| Date:14-07-2026
| Checked :

Summary of results (continued)

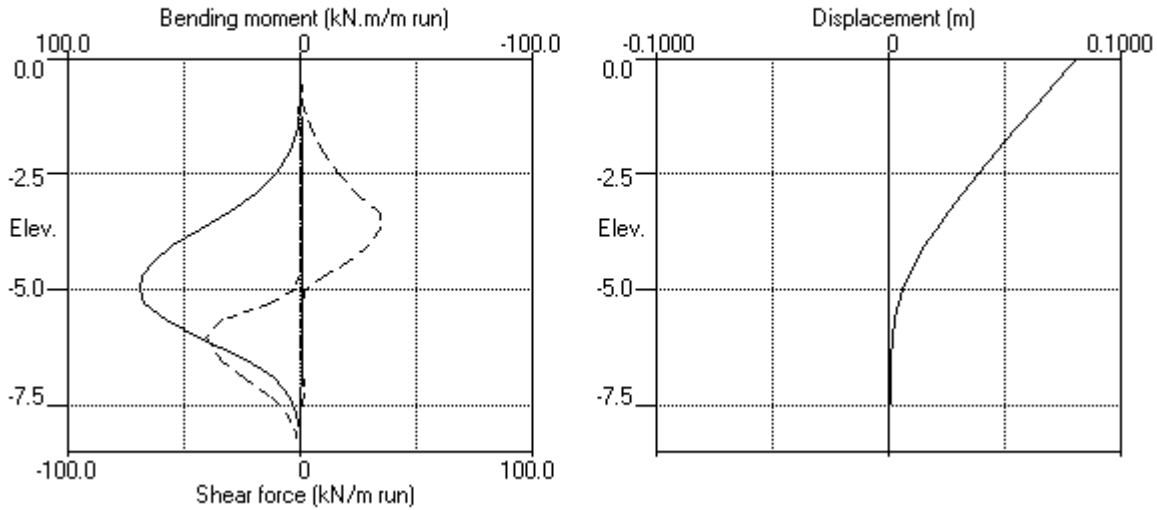
Maximum and minimum displacement at each stage

Stage ----- Displacement -----

no.	<u>maximum</u> m	<u>elev.</u>	<u>minimum</u> m	<u>elev.</u>	<u>Stage description</u>
1	0.000	-3.30	0.000	0.00	Apply surcharge no.1 at elev. 0.00
2	0.001	-3.67	0.000	0.00	Apply surcharge no.2 at elev. -0.10
3	0.062	0.00	0.000	0.00	Excav. to elev. -3.30 on RIGHT side
4	0.062	0.00	0.000	0.00	Apply water pressure profile no.1
5	0.081	0.00	0.000	0.00	Quasi-static Seismic load: 0.095g(H)

Units: kN,m

Bending moment, shear force, displacement envelopes



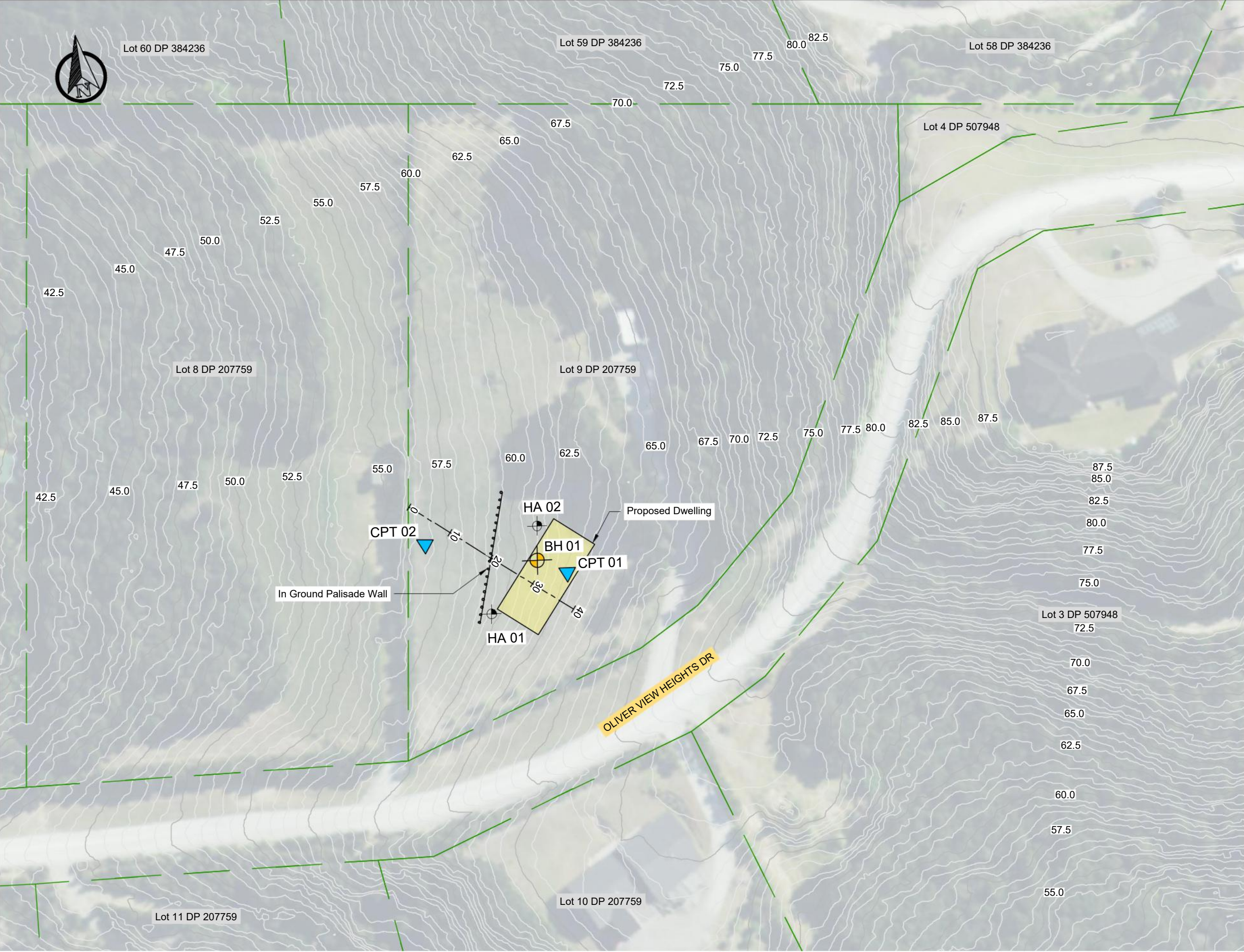


Project Number: 29302
Project Office: Whangarei
Project Manager: C. Pullman
Issue Date: 14/07/2026

BUILDING CONSENT

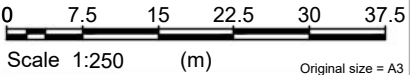
**LOT 9 DP 207759
8 OLIVE VIEW HEIGHTS DRIVE
TAIPA
NORTHLAND**

Drawing Index				
Sheet	Description	Issue Date	Status	Revision / Issue
C001	In Ground Palisade Wall Plan View	14/07/2026	Building Consent	A
C101	Cross Section - Typical Details	14/07/2026	Building Consent	A

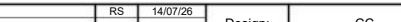


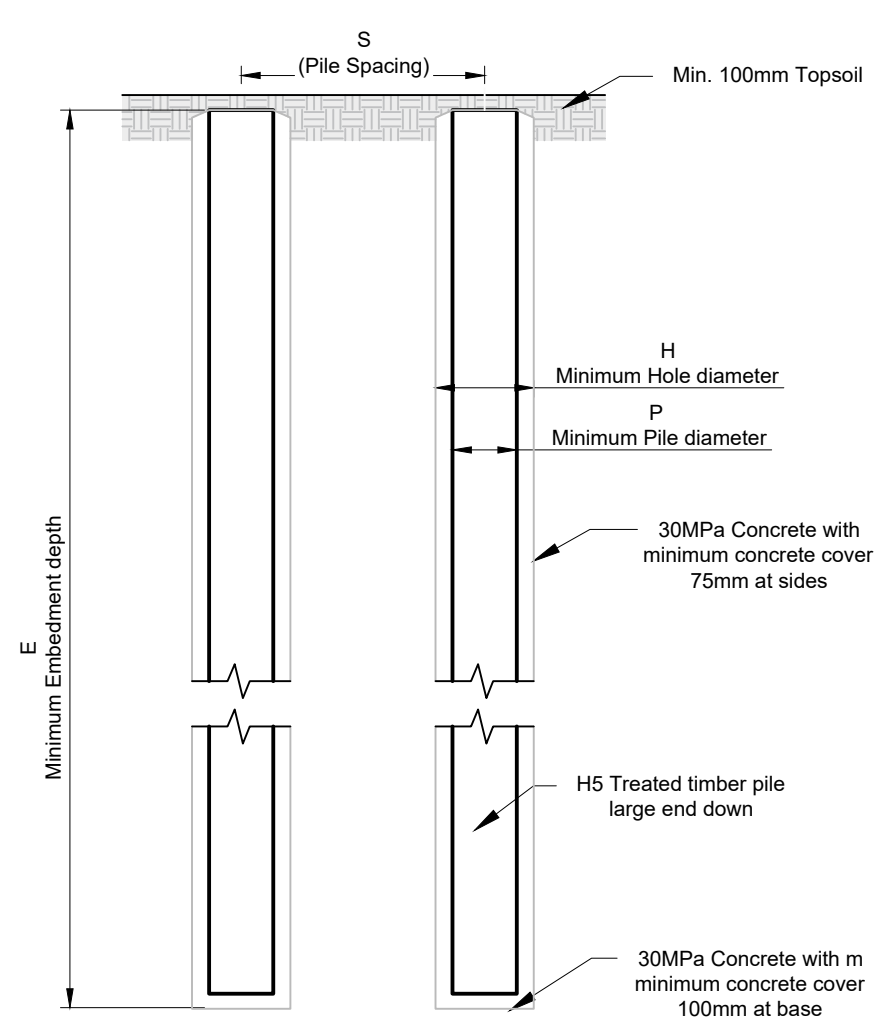
- General Notes:**
1. All works to be undertaken in accordance with the Far North District Council (FNDC) engineering standards, the New Zealand Building Code, and Health and Safety at Work Act 2015.
 2. All dimensions are shown in metres unless noted otherwise.
 3. All existing services should be located by the contractor on site prior to commencement of construction.
 4. All disturbed public areas to be made good and restored to existing condition.
 5. Aerial image form LINZ
 6. Surface data LINZ (LiDAR - 2024)
 7. Existing service positions and alignments may have been obtained from third party records and should be verified on site prior to commencement of any works. LDE does not in any way guarantee the accuracy of any underground service shown on this plan.

	In Ground Palisade Wall
	Existing Major Contour (5.0m)
	Existing Minor Contour (1.0m)
	Indicative Property Boundary
	CPT
	CPT Location
	Hand Auger Location
	Bore Hole Location

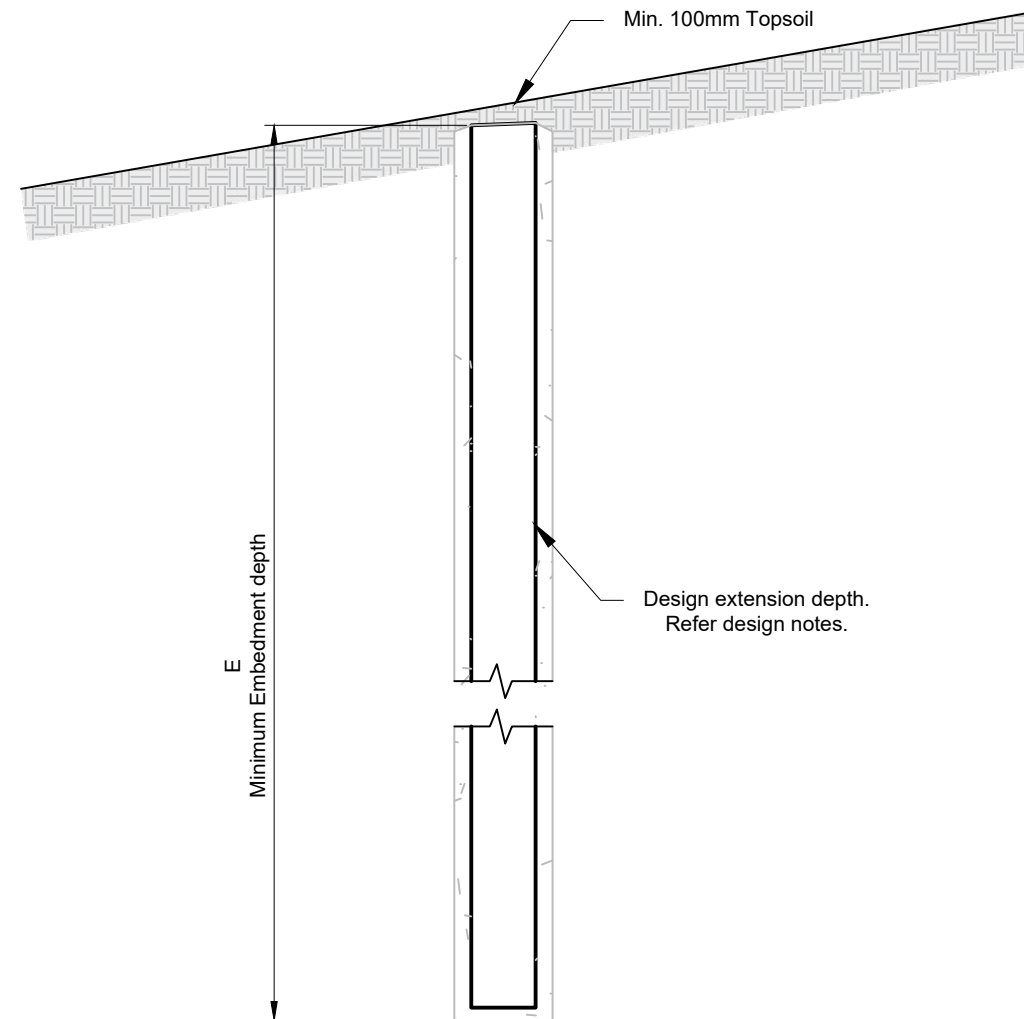


Copyright: LDE All rights reserved / Do not scale off drawings / Confirm all dimensions on site prior to work

Client	Project	Drawing Title		01 In Ground Palisade Wall		RS	14/07/26	Design:	CC	Project status: Preliminary		
Anita Hollerer-Squire	New Retaining Wall 92 Olive View Heights Drive Taipa, Northland	In Ground Paliside Wall Plan View						Drawn:	RS	Project: 29302		
								Approved:	CC	Drawing No: C001		
								Scale A3:	1:250	Issue/Rev: A		
								No.	Issue/Revision	Aprvd	Date	



LS Typical Long Section
Scale 1:25



CS Typical Cross Section
Scale 1:25

Pile Density	Total Pole Length	Max Pile Spacing Centre to Centre (S)	Min Pile Diameter (P)	Min Hole Diameter (H)
High Density	8.5m	1.6m	425mm	650mm

0 0.5 1 1.5 2 2.5
Scale 1:25 (m) Original size = A3

Copyright: LDE All rights reserved / Do not scale off drawings / Confirm all dimensions on site prior to work

Client	Project	Drawing Title		01	In Ground Palisade Wall	RS	14/07/26	Design:	CC	Project status:			
Anita Hollerer-Squire	New Retaining Wall 92 Olive View Heights Drive Taipa, Northland	Typical Details							Drawn:	RS	For Consent		
										Approved:	CC	Project:	
												29302	
										Scale A3:	1:25	Drawing No:	
												C101	Issue/Rev
				No.	Issue/Revision	Amount	Date	A					



Anita Hollerer-Squire

STORMWATER NEUTRALITY REPORT

93 Olive View Heights Drive, Taipa

Project Reference: 29302
May 8, 2026

DOCUMENT CONTROL

Version	Date	Comments
A	08/05/2026	Issued for Building Consent

Version	Issued For	Prepared By	Reviewed & Authorised By
A	Issued for Consent	 Zeke Scouller Civil Engineer <i>BEng (Hons.) - Civil</i>	 Riaan Louwrens Civil Engineer <i>Btech: Civil, CMEngNZ (Eng. Technician)</i>

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- 3 PROPOSED DEVELOPMENT2
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 - 4.5.3 Outfall From Site5
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- APPENDIX A: HIRDS V4 RAINFALL DATA
- APPENDIX B: HEC HMS MODEL SCHEMATICS AND OUTPUTS
- APPENDIX C: ENGINEERING DRAWINGS

1 PROJECT DESCRIPTION

LDE Ltd has been engaged to undertake a stormwater attenuation design for the proposed new dwelling to be located at 93 Olive View Heights Drive, Taipa. The purpose of this report is to determine the requirements for stormwater attenuation and disposal from the property.



Figure 1: Site location in relation to the surrounding suburbs¹

2 SITE DESCRIPTION

The legal description of the site is Lot 9 DP 207759 with an area of 10,110 m². The site is located approximately 1km south of Cable Bay Beach

The site currently has an existing metal driveway towards a ~27 m² garage, with grassed and bushed vegetation covering the remaining land as shown in Figure 2.



Figure 2: Aerial photos of the subject site²

¹ LINZ Data Service GIS Mapping

² LINZ Data Service GIS Mapping

3 PROPOSED DEVELOPMENT

It is proposed to manage stormwater runoff from the roof of a new dwelling using above-ground detention tanks to control runoff storage, reuse, and discharge. For the purposes of this assessment, it has been assumed that the roof is the same size as the proposed dwelling, 158.3m². Runoff from other impermeable areas will not be captured; however, over-attenuation of roof runoff will account for these areas.

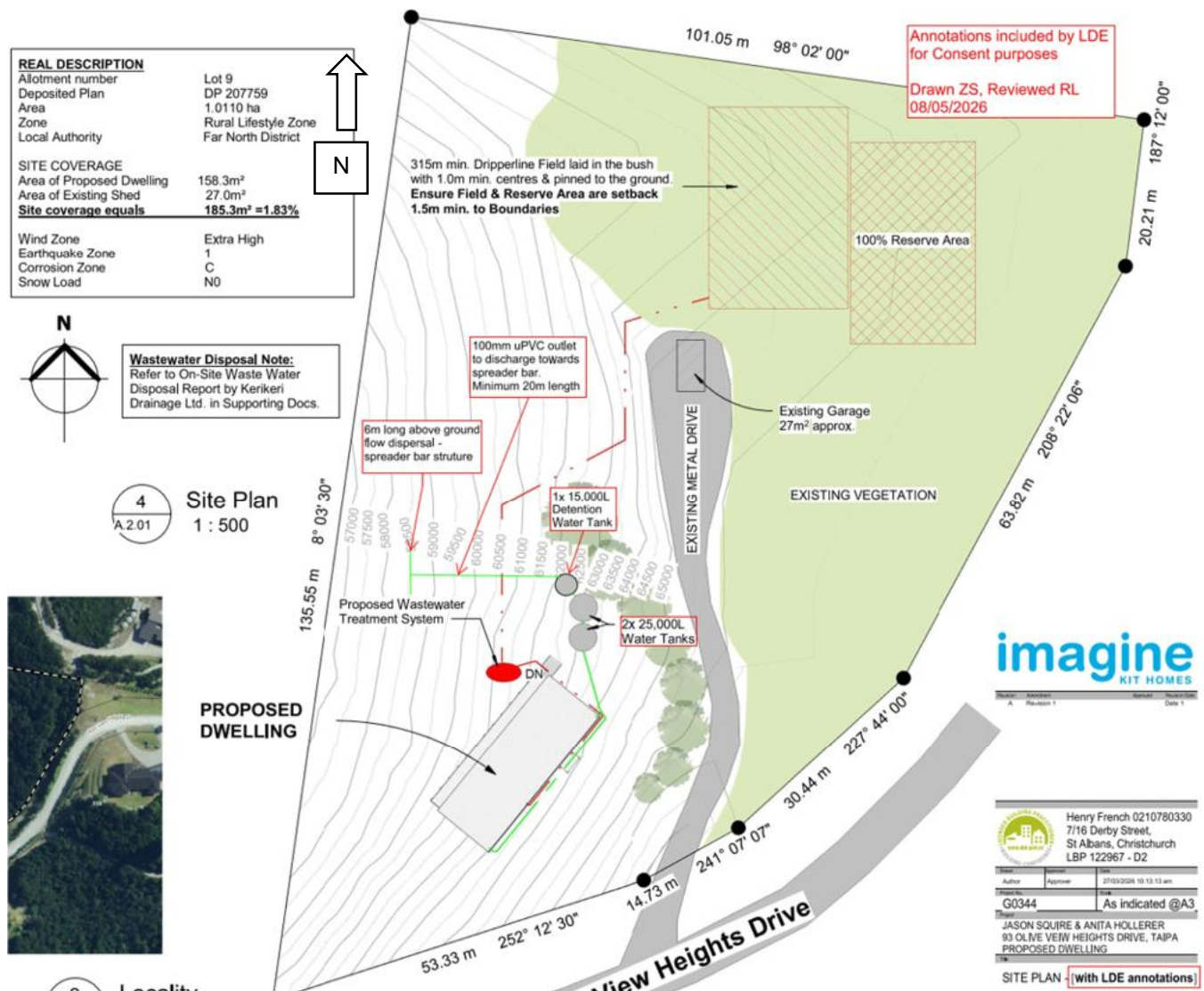


Figure 3: Proposed development plan³

A larger site plan can be found in **Appendix C**.

³ Greenstone - Site Plan (with LDE indicative markups for this report ONLY)

4 STORMWATER

It is proposed to attenuate new impervious areas for 50%, 20%, and 1% annual exceedance probability (AEP) design storm events. Reducing peak flows from the proposed development to less than 80% of the pre-development flows can help mitigate potential adverse downstream effects.

4.1 Stormwater Analysis

We have utilised HEC-HMS software to analyse pre- and post-development scenarios to determine the storage volume and the configuration of outlet orifice(s) to achieve stormwater neutrality. The post-development stormwater discharge can be attenuated to 80% of the pre-development discharge rate using this method. We have utilised the SCS-Type 1A design storm as the preferred storm methodology within the Far North District.

The pre-development rainfall depths used in the stormwater analysis are derived from historical regional data from NIWA HIRDS V4. The post-development rainfall depths have a 20% climate change factor applied to account for potential elevated storm severities resulting from climate change effects. Rainfall data for the site is attached in **Appendix A**.

It is proposed to collect stormwater runoff from the new roof areas in an above-ground tank for attenuation. Stormwater runoff from proposed hardstand areas is to be managed separately and will not discharge to the tank. It is not proposed to catch surface runoff from proposed hardstand areas within the proposed tank; however, attenuation of these areas has been accounted for through oversizing of the tanks and specific configuration of the tank's orifices.

4.2 Analysis Parameters

It is intended to mitigate the effect of increased peak flow rates due to an increase of 158.3 m² in impervious surfaces.

Table 1 below shows the parameters used in the HEC-HMS hydrological model of the site. A hydrological soil Group C was adopted for the HEC-HMS model. The hydrological soil group was inferred based on site specific geotechnical information, and a time of concentration of 10 minutes has been used due to the small catchment areas being assessed.

Table 1: HEC-HMS model parameters

Land use, Group C soils	Runoff curve Number	Initial rainfall abstraction (mm)
Pre-development Area (Grassed)	74	5
Post-development Area (Roof)	98	0

A schematic of the pre- and post-development models and the computed results are shown in **Appendix A**.

4.3 Extended Detention

Extended detention calculations in HEC-HMS show a difference in pre- versus post-development volumes up to 10.6m³. To enable this live storage to be discharged over a 24-hour period, orifices are required.

4.4 Analysis Results

Table 2 below shows the pre- and post-development peak flow rates produced by the proposed design. The full output tables from the HEC-HMS modelling are attached in **Appendix B**.

Table 2: Peak runoff flow rates for the 50%, 20% and 1% AEP rainfall events

AEP	Pre-development flow (L/s)	Post-development flow (L/s)	Post/Pre Development Flow
50%	0.40	0.30	75%
20%	0.63	0.48	78%
1%	1.56	1.21	78%

The results show that the proposed design attenuates post-development peak flows to 80% or less than the pre-development flows from the site.

If impermeable areas differ from those analysed in this design, then a revision of the design outlined in this report may be required, and we should be contacted.

4.5 Stormwater Devices and Outfall Recommendation

4.5.1 Attenuation

Stormwater runoff exceeding 50kL of retention shall overflow to a Promax XPRESS Water Tank 15,000 Ltr (or similar approved) for detention. This tank is 2.5m high and will control stormwater discharge when retention overflows. Three orifice outlets and an overflow outlet shall be plumbed into the tank as set out in Table 3 below for optimal detention performance against the design storm events.

Table 3: Tank orifice outlet summary

Outlet	Design Event	Centre Height Above Base (m)	Diameter (mm)	Peak Storage (L)	Peak Elevation (m)
Orifice 1	50% AEP	0.15	13	4,620	0.83
Orifice 2	20 % AEP	0.90	13	5,990	1.05
Orifice 3	1% AEP	1.50	23	9,160	1.74
Overflow	Tank Exceedance	As high as possible	100	15,000	2.50

Changes to the orifice layout should first be confirmed with the engineer, as layout changes may invalidate the design storm simulation output and tank suitability.

4.5.2 Retention and Tank Configuration

Stormwater runoff from the new roof shall be plumbed directly to two 25kL Promax XPRESS retention tanks (or similar approved) and overflow to a Promax XPRESS Water Tank 15,000 Ltr (or similar approved) for detention. All Promax XPRESS tanks must be installed above ground only. Drawings of the tank configuration are provided in **Appendix C – Drawings C01 and C03**.

4.5.3 Outfall From Site

Overflow from the tank will be discharged through an outlet pipe and widely distributed via a level spreader structure. The spreader consists of a perforated 100mm diameter uPVC pipe (with 10mm holes at 300mm centres) installed a minimum of 20m from nearby structures. The spreader will be connected via a tee-joint and shall be laid at a gradient of ~0-0.5% (less than 1 in 200), pinned down using 50x50mm 114 treated stakes at 1200mm centres.

Specific levels, grades, and installation methodology should be confirmed prior to construction. Drawings of the spreader bar details are provided in **Appendix C – Drawing C02**.

5 LIMITATIONS

This report should be read and reproduced in its entirety including the limitations to understand the context of the opinions and recommendations given.

This report has been prepared exclusively for Anita Hollerer-Squire in accordance with the brief given to us or the agreed scope and they will be deemed the exclusive owner on full and final payment of the invoice. Information, opinions, and recommendations contained within this report can only be used for the purposes with which it was intended. LDE accepts no liability or responsibility whatsoever for any use or reliance on the report by any party other than the owner or parties working for or on behalf of the owner, such as local authorities, and for purposes beyond those for which it was intended.

This report was prepared in general accordance with current standards, codes and best practice at the time of this report. These may be subject to change.

APPENDIX A

RAINFALL DATA

—

DERIVED FROM LOCAL AND

REGIONAL HIRDS DATA

RAINFALL DEPTHS (MM)

DESIGN STORM EVENT (AEP)	PRE-DEVELOPMENT 24HR RAINFALL DEPTH (MM)	POST-DEVELOPMENT 24HR RAINFALL DEPTH (MM)
50%	89.9	107.9
20%	118.3	142.0
1%	214.5	257.5

POST-DEVELOPMENT RAINFALL

CLIMATE CHANGE FACTOR:

20%

DESIGN STORM EVENT METHODOLOGY:

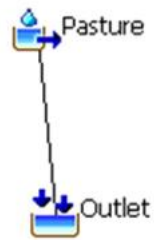
TYPE SCS-1A

APPENDIX B

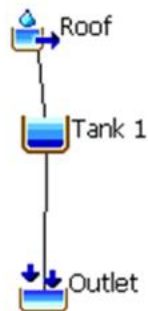
HEC HMS MODEL SCHEMATIC AND

MODEL OUTPUTS

PRE-DEVELOPMENT SCHEMATIC



POST-DEVELOPMENT SCHEMATIC



PRE-DEVELOPMENT RESULTS – ALL DESIGN STORMS

Global Summary Results for Run "Pre 50%"

Project: 93 Olive View Heights Drive Simulation Run: Pre 50%

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 07May2026, 11:43:17

Basin Model: Basin 2 - Pre
Meteorologic Model: 50% Pre-Develop
Control Specifications: Control 1

Show Elements: All Elements Volume Units: ☒ MM ☐ 1000 M3 Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Pasture	0.00016	0.00040	1 January 2000, 0...	41.11713
Outlet	0.00016	0.00040	1 January 2000, 0...	41.11713

Global Summary Results for Run "Pre 20%"

Project: 93 Olive View Heights Drive Simulation Run: Pre 20%

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 07May2026, 11:29:21

Basin Model: Basin 2 - Pre
Meteorologic Model: 20% Pre-Develop
Control Specifications: Control 1

Show Elements: All Elements Volume Units: ☒ MM ☐ 1000 M3 Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Pasture	0.00016	0.00063	1 January 2000, 0...	62.98418
Outlet	0.00016	0.00063	1 January 2000, 0...	62.98418

Global Summary Results for Run "Pre 1%"

Project: 93 Olive View Heights Drive Simulation Run: Pre 1%

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 07May2026, 11:29:25

Basin Model: Basin 2 - Pre
Meteorologic Model: 1% Pre-Develop
Control Specifications: Control 1

Show Elements: All Elements Volume Units: ☒ MM ☐ 1000 M3 Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Pasture	0.00016	0.00156	1 January 2000, 0...	146.10791
Outlet	0.00016	0.00156	1 January 2000, 0...	146.10791

POST-DEVELOPMENT RESULTS – ALL DESIGN STORMS

Global Summary Results for Run "50% AEP"				
Project: 93 Olive View Heights Drive		Simulation Run: 50% AEP		
Start of Run: 01Jan2000, 00:00		Basin Model: Basin 1		
End of Run: 02Jan2000, 00:00		Meteorologic Model: 50% AEP CC		
Compute Time: DATA CHANGED, RECOMPUTE		Control Specifications: Control 1		
Show Elements: All Elements		Volume Units: ☒ MM ☐ 1000 M3	Sorting: Watershed Explorer	
Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Roof	0.00016	0.00113	1 January 2000, 0...	107.58624
Tank 1	0.00016	0.00030	1 January 2000, 0...	97.46939
Outlet	0.00016	0.00030	1 January 2000, 0...	97.46939

Global Summary Results for Run "20% AEP"				
Project: 93 Olive View Heights Drive		Simulation Run: 20% AEP		
Start of Run: 01Jan2000, 00:00		Basin Model: Basin 1		
End of Run: 02Jan2000, 00:00		Meteorologic Model: 20% AEP CC		
Compute Time: DATA CHANGED, RECOMPUTE		Control Specifications: Control 1		
Show Elements: All Elements		Volume Units: ☒ MM ☐ 1000 M3	Sorting: Watershed Explorer	
Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Roof	0.00016	0.00148	1 January 2000, 0...	141.58708
Tank 1	0.00016	0.00048	1 January 2000, 0...	127.22881
Outlet	0.00016	0.00048	1 January 2000, 0...	127.22881

Global Summary Results for Run "1% AEP"				
Project: 93 Olive View Heights Drive		Simulation Run: 1% AEP		
Start of Run: 01Jan2000, 00:00		Basin Model: Basin 1		
End of Run: 02Jan2000, 00:00		Meteorologic Model: 1% AEP CC		
Compute Time: DATA CHANGED, RECOMPUTE		Control Specifications: Control 1		
Show Elements: All Elements		Volume Units: ☒ MM ☐ 1000 M3	Sorting: Watershed Explorer	
Hydrologic Element	Drainage Area (KM2)	Peak Discharge (M3/S)	Time of Peak	Volume (MM)
Roof	0.00016	0.00269	1 January 2000, 0...	256.75123
Tank 1	0.00016	0.00121	1 January 2000, 0...	227.84207
Outlet	0.00016	0.00121	1 January 2000, 0...	227.84207

APPENDIX C

ENGINEERING DRAWINGS

GENERAL NOTES

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES TO BE RAISED WITH THE DESIGNER / ARCHITECT

All work shall comply with the NZBC, all relevant Local Authority bylaws, NZS 3604, and all relevant standards

All work to be carried out in accordance with drawings and specification provided

All work to be undertaken to be best trade practice for each respective trade. Any substandard work or building material defects shall be the Contractors responsibility to remove, repair or replace at no extra cost to the contract

The Contractor shall ensure that all rubbish is removed from site during and at the end of the contract works

The Contractor shall provide the appropriate temporary fencing, hoarding, guardrails and signage as necessary to protect the public and others during the contract works and to meet the requirements of the Local and Territorial Authorities

All timber shall be H1.2 treated graded SG-8 unless stated otherwise

Refer to the Roof Truss Manufacturers drawings and specification.



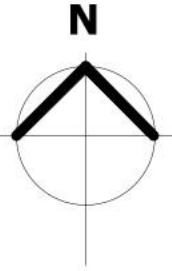
REAL DESCRIPTION

Allotment number Lot 9
Deposited Plan DP 207759
Area 1.0110 ha
Zone Rural Lifestyle Zone
Local Authority Far North District

SITE COVERAGE

Area of Proposed Dwelling 158.3m²
Area of Existing Shed 27.0m²
Site coverage equals 185.3m² = 1.83%

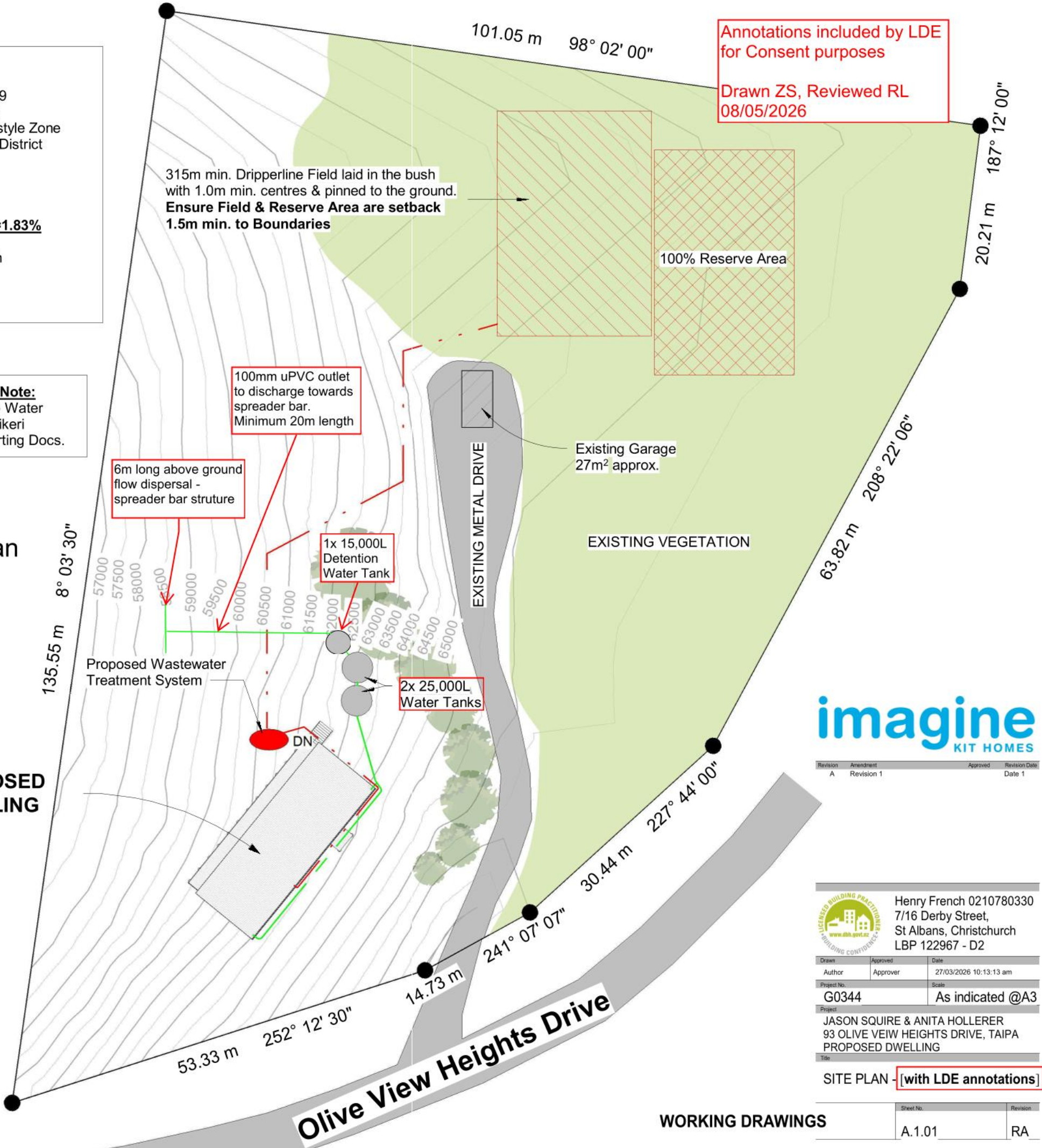
Wind Zone Extra High
Earthquake Zone 1
Corrosion Zone C
Snow Load N0



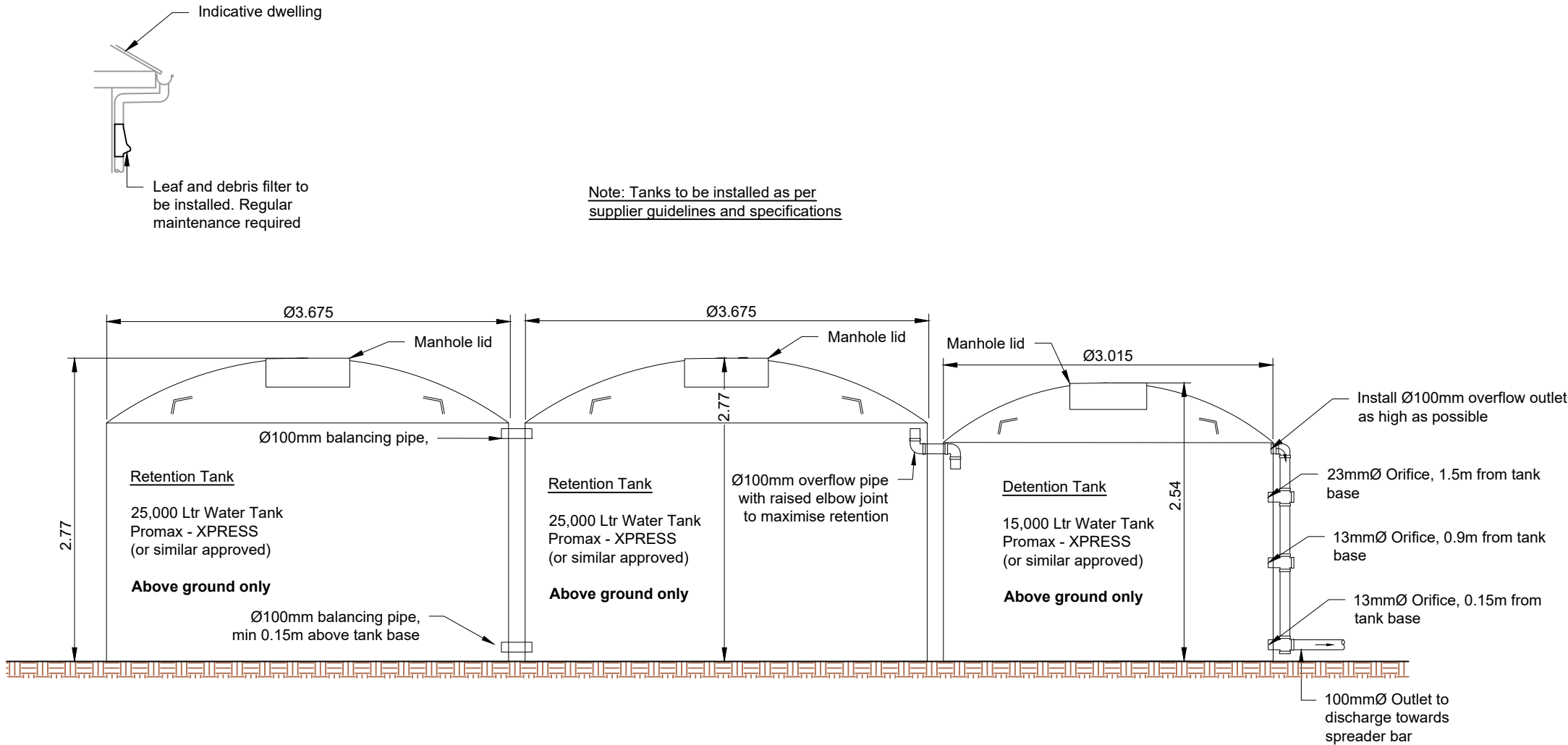
Wastewater Disposal Note:
Refer to On-Site Waste Water Disposal Report by Kerikeri Drainage Ltd. in Supporting Docs.

4 Site Plan
A.2.01 1 : 500

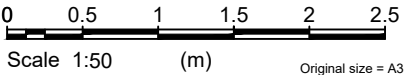
PROPOSED DWELLING



- General Notes:**
1. All works to be undertaken in accordance with FNDC engineering standards, NZS 4404 Land development and subdivision infrastructure, and Health and Safety at Work Act 2015.
 2. All works to be in compliance with the New Zealand Building Code
 3. All dimensions are shown in metres unless noted otherwise.
 4. All existing services should be located by the contractor on site prior to commencement of construction.
 5. All disturbed public areas to be made good and restored to existing condition.



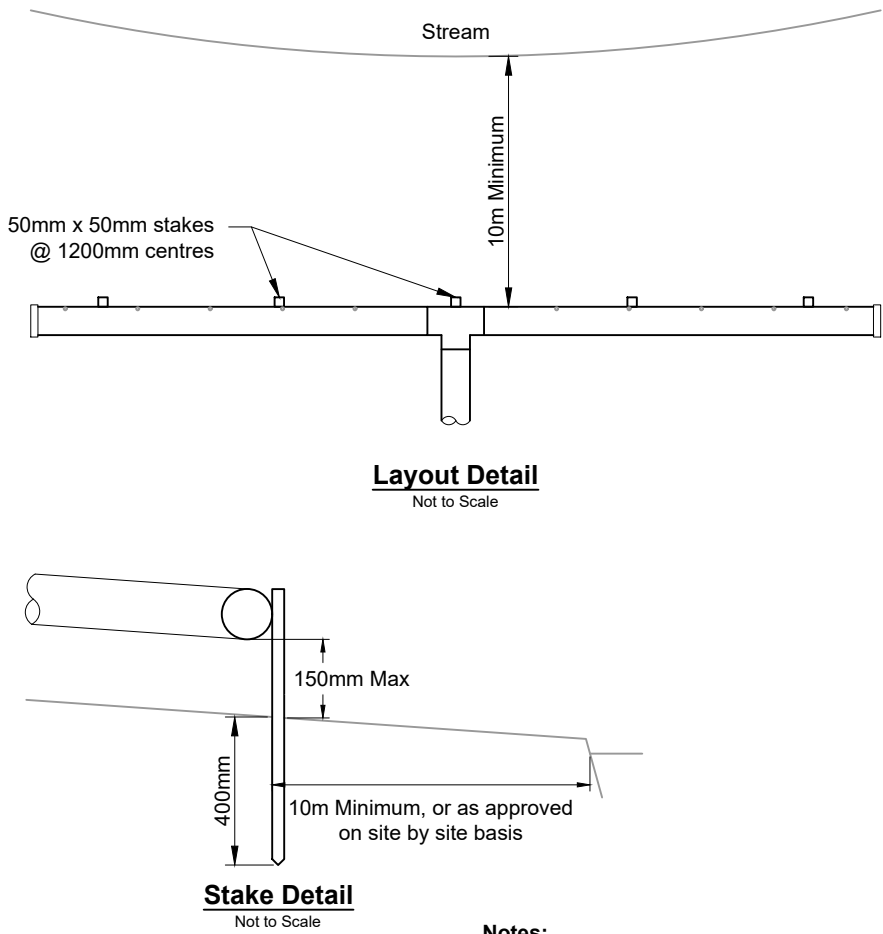
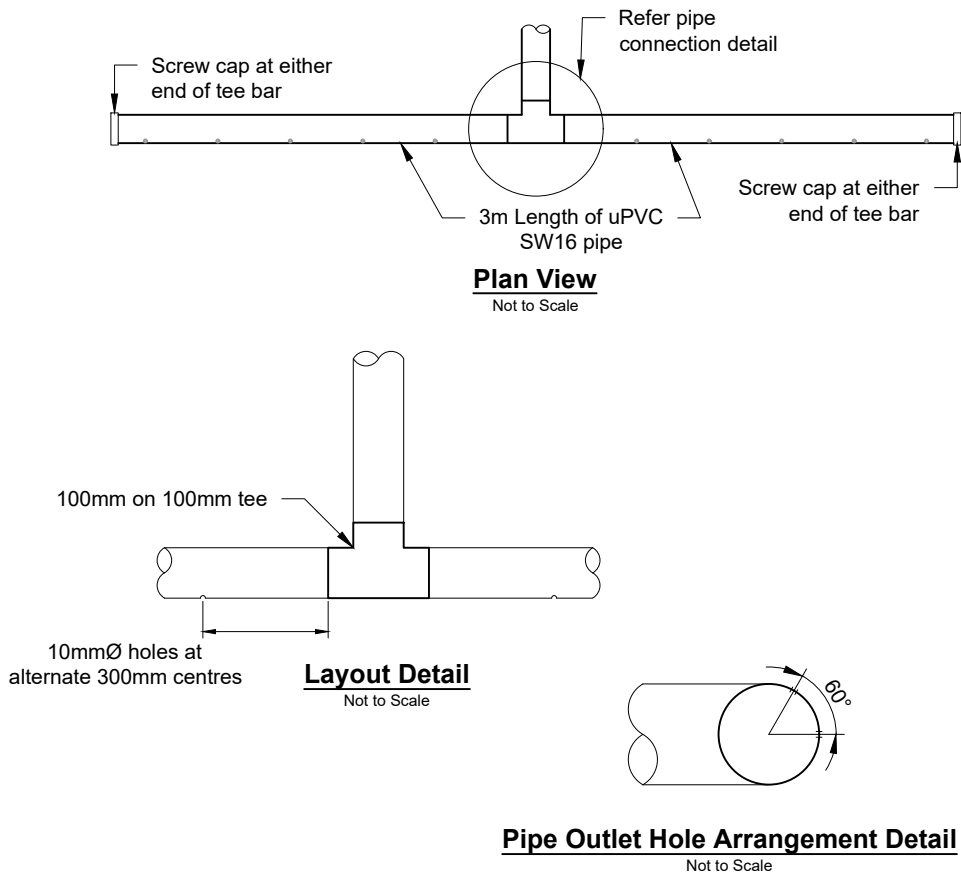
D1 Tank System Detail
C01 Scale 1:50



Copyright: LDE All rights reserved / Do not scale off drawings / Confirm all dimensions on site prior to work

Client Anita Hollerer-Squire	Project	Drawing Title					Design:	ZS	Project status:			
	93 Olive View Heights Drive Taipa	Stormwater Attenuation Tank System Configuration					Drawn:	ZS	For Consent			
							Approved:	RL	29302			
							Scale A3:	1:50	C01			
							No.	Issue/Revision	Apv'd	Date	Drawing No: Issue/Rev:	
							A	Tank System Configuration	ZS	08 May 2026	A	

- General Notes:**
1. All works to be undertaken in accordance with FNDC engineering standards, NZS 4404 Land development and subdivision infrastructure, and Health and Safety at Work Act 2015.
 2. All works to be in compliance with the New Zealand Building Code
 3. All dimensions are shown in metres unless noted otherwise.
 4. All existing services should be located by the contractor on site prior to commencement of construction.
 5. All disturbed public areas to be made good and restored to existing condition.



- Notes:**
1. Pin pipe and tee bar using 50x50mm 114 treated stakes at 1200mm centres. Level pipe and fix to stakes using down pipe clips.
 2. Stakes to be driven 400mm into ground. Tee bar to be no more than 150mm above ground level at any point and to be constructed dead level across length of tee bar.

D2 Typical Detail of Above Ground Flow Dispersal
C02 Not to Scale

Client Anita Hollerer-Squire	Project 93 Olive View Heights Drive Taipa	Drawing Title Stormwater Attenuation Spreader Bar - Typical Details Above Ground Flow Dispersal																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</
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5. All disturbed public areas to be made good and restored to existing condition.

Retention Tank
25,000 Ltr Water Tank
Promax - XPRESS
(or similar approved)
Above ground only

Manhole lid

Ø100mm overflow pipe with raised elbow joint to maximise retention

Detention Tank
15,000 Ltr Water Tank
Promax - XPRESS
(or similar approved)
Above ground only

Manhole lid

Install Ø100mm overflow outlet as high as possible

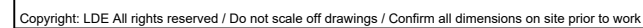
23mmØ Orifice, 1.5m from tank base

13mmØ Orifice, 0.9m from tank base

13mmØ Orifice, 0.15m from tank base

100mmØ Outlet to discharge towards spreader bar

D4
C03

[illegible]



51C ORANGEWOOD LANE
KERIKERI
NORTHLAND
PHONE 094078062 A/HRS
MOBILE 0274931597
FAX 094078062
E mail wood123@xtra.co.nz

ON-SITE WASTE WATER DISPOSAL REPORT

CLIENT

JASON SQUIRE & ANITA HOLLERER

SITE LOCATION

93 OLIVE VIEW HEIGHTS DRIVE, TAIPA



NORTHLAND WIDE

K E R I K E R I D R A I N A G E L T D

51C ORANGEWOOD LANE
KERIKERI
NORTHLAND
PHONE 094078062 A/HRS
MOBILE 0274931597
FAX 094078062
E mail wood123@xtra.co.nz

02/09/25

The Senior Building Inspector
Far North District Council
Private Bag 752
Kaikohe

RE : ON-SITE WASTE WATER TREATMENT SYSTEM FOR A PROPOSED THREE BEDROOM HOUSE AT OLIVE VIEW HEIGHTS DRIVE, TAIPA

An inspection of the above site was undertaken to assess the option for on-site waste water treatment and effluent disposal for a proposed three bedroom house. The lot is 1854 SQ M .

A bore hole was drilled to determine soil profile and any ground water. The soil was found to be 0.1 M of topsoil overlaying 0.3M grey clay loam then an orange silty clay loam. No ground water was encountered.

The soil is classed in soil category 5 Hukerenui Sandy Loam.

The contour of the site is approximately 18-23 degrees facing west .

The most appropriate waste water treatment system would be a secondary waste water treatment system .

The design has been based on a 3 bedroom house with a total of 5 people generating 180 litres per day per person (tank supply) equals 900 litres per day. Soil category 5 AS/NZS 1547 can expect to sustain a loading rate of 2.86 mm per sq M per day therefore will require 315M of RAAM irrigation tubing with 3.5 litres per hour drippers at 1M spacings. There is adequate area for the dripper lines and 100 percent reserve area.

Final set out of dripperlines to be done by the drainlayer on site. The dripperlines must be pinned to the ground because of the slope.

The effluent disposal area is in bush so the bush will generate mulch over the dripperliners with time. A cut off drain is not required as the bush will disperse the stormwater and the road above has open drains to divert stormwater away from the effluent field.

To provide long term satisfactory treatment and disposal of domestic waste water it is required that :-

A) The secondary waste water treatment system be sized to cater for a minimum daily waste water flow of 900L/D producing effluent having less than 30 mg/1 cubic of BOD5 and 45mg/1 cubic TSS.

B) Effluent disposal is by RAAM trickle irrigation tubing or equivalent and 315M be installed to the manufacturers specifications.

C) The secondary treatment system be maintained to the manufacturers specifications.

D) Kerikeri Drainage Ltd will not be liable for any drainage work done by others and all work to be done to the best professional and trade practises and to the design.

Yours Faithfully Steve Wood.



PRODUCER STATEMENT

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

ISSUED BY: Steve Wood (approved qualified design professional)

TO: Jason Squire & Anita Hollerer (owner)

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

PROPERTY LOCATION: 93 Olive View Heights Drive, Taipa

LOT 9 DP 207759 VALUATION NUMBER 00085/24825

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 8.15 of The Far North District Council Engineering Standards.

..... (Signature of approved design professional)

Certifying Drainlayer (Professional qualifications)

08189 (Licence Number or professional Registration number)

Address 51C Orangewood Lane

Kerikeri

Phone Number 094078062

Fax Number 094078062

Cell Phone 0274931597

Date 02/09/25

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.

FAR NORTH DISTRICT COUNCIL

Appendix E

TP58

On-site Wastewater Disposal Site Evaluation Investigation Checklist

Part A –Owners Details**1. Applicant Details:**

Applicant Name	Jason Squire	
Company Name		
	First Name(s)	Surname
Property Owner Name(s)	Jason David Anita	Squire Hollerer

Nature of Applicant* **Owner**

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

2. Consultant / Site Evaluator Details:

Consultant/Agent Name	Kerikeri Drainage			
Site Evaluator Name	Steve Wood			
Postal Address	51C Orangetown Lane			
	Kerikeri			
Phone Number	Business	094078062	Private	094078062
	Mobile	0274931597	Fax	094078062
Name of Contact Person	Steve Wood			
E-mail Address	wood123@xtra.co.nz			

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

Yes		No	tick	(Please tick)
If yes, give Reference Numbers and Description				

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

If so, specify Application Details and Consent No.

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

Part B- Property Details**1. Property for which this application relates:**

Physical Address of Property	93 Olive View Heights Drive, Taipa
Territorial Local Authority	FAR NORTH DISTRICT COUNCIL
Regional Council	NORTHLAND REGIONAL COUNCIL
Legal Status of Activity	Permitted: Controlled: Discretionary:
Relevant Regional Rule(s) (Note 1)	
Total Property Area (m ²)	10110 sq M
Map Grid Reference of Property If Known	

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

Lot No.		DP No.		CT No.	
	9		207759		NA135D/202
Other (specify)					

Please ensure copy of Certificate of Title is attached

PART C: Site Assessment - Surface Evaluation

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

Note: Underlined terms defined in Table 1, attached

Has a relevant property history study been conducted?

Yes		No	tick	(Please tick one)
-----	--	----	------	-------------------

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

No signs of slips in the adjacent properties

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

Yes		No	tick	Please tick
-----	--	----	------	-------------

If No, why not?

Gently sloping with no signs of slipping.

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

Author	
Company/Agency	
Date of Report	
Brief Description of Report Findings:-	

2. Site Characteristics (See Table 1 attached):

Provide descriptive details below:

Performance of Adjacent Systems:

No known problems

Estimated Rainfall and Seasonal Variation:

Information available from N.I.W.A MET RESEARCH

1700mm per year / 1000mm winter / 700mm summer

Vegetation / Tree Cover:

Grass and bush

Slope Shape: (Please provide diagrams)

Gently sloping to West

Slope Angle:

8 to 23 degrees

Surface Water Drainage Characteristics:

Sheet flow

Flooding Potential: YES/NO

No

If yes, specify relevant flood levels on appended site plan, i.e. one in 5 years and/or 20 year and/or 100 year return period flood level, relative to disposal area.

Surface Water Separation:

Greater than 15M

Site Characteristics: or any other limitation influencing factors

Must be secondary treated because of slope gradient

3. Site Geology

Check Rock Maps

Hukerenui Sandy Loam. Imperfectly to very poorly drained.

Geological Map Reference Number NZMS 290 SHEET P04/05

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

North		West	Tick
North-West		South-West	
North-East		South-East	
East		South	

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

Separation Distance from	Treatment Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries	Greater than 1.5 M	Check Council requirements
Surface water, rivers Creeks drains etc	Greater than 5 M	Greater than 5 M
Groundwater	Greater than 0.6 M	Greater than 0.6 M
Stands of Trees/Shrubs	NA	
Wells, water bores	None known	
Embankments/retaining walls	NA	
Buildings	Greater than 3 M	Greater than 3 M
Other (specify):		

PART D: Site Assessment - Subsoil Investigation

(Refer TP58 - Sn 5.1 General Purpose of Site Evaluation, and Sn 5.2.2(a) Site Surface Evaluation and Sn 5.3 Subsurface Investigations)

Note: Underlined terms defined in Table 2, attached

1. Please identify the soil profile determination method:

Test Pit	(Depth _____ m)	No of Test Pits	
Bore Hole	(Depth <u>1.3</u> m)	No of Bore Holes	one
Other (specify):			

Soil Report attached?

Yes	tick	No		Please tick
-----	------	----	--	-------------

2. Was fill material intercepted during the subsoil investigation?

Yes		No	tick	Please tick
-----	--	----	------	-------------

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

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

Please specify the method

Constant Head Permeameter

Test Report Attached?	Yes	tick	No		Please tick
-----------------------	-----	------	----	--	-------------

4. Are surface water interception/diversion drains required?

Yes		No	tick	Please tick
-----	--	----	------	-------------

If yes, please show on site plan

4a Are subsurface drains required

If yes enter details

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

Winter	2 M	m	Measured		Estimated	tick
Summer	Greater than 4 M	m	Measured		Estimated	tick

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

Yes		No	tick	Please tick
-----	--	----	------	-------------

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

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

Is Topsoil Present?	Yes	If so, Topsoil Depth?	0.1	(m)
---------------------	-----	-----------------------	-----	-----

Soil Category	Description	Drainage	Tick One
1	Gravel, coarse sand	Rapid draining	
2	Coarse to medium sand	Free draining	
3	Medium-fine & loamy sand	Good drainage	
4	Sandy loam, loam & silt loam	Moderate drainage	
5	Sandy clay-loam, clay loam & silty clay-loam	Moderate to slow drainage	Tick AS/NZS 1547
6	Sandy clay, non-swelling clay & silty clay	Slow draining	
7	Swelling clay, grey clay, hardpan	Poorly or non-draining	

Reasons for placing in stated category

Assessment of soil texture
Observation of soakage test
Checking of soil maps

PART E: Discharge Details

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

Rainwater (roof collection)	tick
Bore/well	
Public supply	

(Refer TP58 Table 6.1 and 6.2)

Number of Bedrooms	12/- 3 -14//	Three
Design Occupancy		(Number of People)
Per capita Wastewater Production	1111100//111180// 180	(tick) (Litres per person per day)
Other - specify	1200//1226// 111111	
Total Daily Wastewater Production	900	(litres per day)

a) Full Water Conservation Devices?	Yes		No	tick	(Please tick)
b) Water Recycling - what %?	%			tick	(Please tick)

DUAL FLUSH TOILET
NO GARBAGE GRINDER
LOW FLOW DISHWASHER
Reduction 20L per day per person

Yes		(Please tick)
No	tick	(Please tick)

Gross Lot Area	10110	M
Total Daily Wastewater Production	900	(Litres per day)(from above)
Lot Area to Discharge Ratio	11.23	

Yes	tick	No	Please tick
-----	------	----	-------------

Yes		No	tick	(Please tick)
-----	--	----	-------------	---------------

PART F: Primary Treatment (Refer TP58 Section 7.2)

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

Number of Tanks	Type of Tank	Capacity of Tank (Litres)
	Total Capacity	

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

PART G: Secondary and Tertiary Treatment

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

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

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

PART H: Land Disposal Method

(Refer TP58 Section 8)

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

Gravity	
Dosing Siphon	
Pump	tick

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

Yes ☒ no ☐

If not to be installed, explain why

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

Total Design Head	To manufacturers recommendation	
Pump Chamber Volume	130	(Litres)
Emergency Storage Volume	1000	(Litres)

4. Please identify the type(s) of land disposal method proposed for this site: (please tick)

(Refer TP58 Sections 9 and 10)

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

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

Loading Rate	2.86	(Litres/m2/day)
Disposal Area	Design	315 (m2)
	reserve	315 (m2)

Explanation (Refer TP58 Sections 9 and 10)

Loading rate adopted for secondary treated effluent for category 5 soil AS/1547

A low water use dishwasher allowed for.

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

Reserve Disposal Area (m ²)	315 M
Percentage of Primary Disposal Area (%)	100 percent

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

Description and Dimensions of Disposal Field:

A minimum of 315 M of RAMM dripline with 3.5 L/HR emitters at 1 M spacing and 1 M line separation spacing.

Dripperliner to be laid in the bush pinned down with the bush creating the mulch over time.

Plan Attached?	Yes	tick	No		(Please tick)
----------------	-----	------	----	--	---------------

If not, explain why not

PART I: Maintenance & Management

(Refer TP58 Section 12.2)

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

Yes		No	tick	(Please tick)
-----	--	----	------	---------------

Name of Suppliers

Waterflow or Similar

PART J: Assessment of Environmental Effects

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

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

Yes	tick	No		(Please tick)
-----	------	----	--	---------------

If Yes, list and explain possible effects

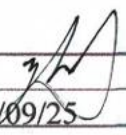
PART K: Is Your Application Complete?

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

Fully Complete this Assessment Form	YES
Include a <i>Location Plan</i> and <i>Site Plan</i> (with Scale Bars)	YES
Attach an Assessment of Environmental Effects (AEE)	YES

1. Declaration

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

Name	Steve Wood	Signature	
Position	Designer	Date	02/09/25

Note

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

93 Olive View Heights Drive, Taipa

Job No. _____

ON-SITE EFFLUENT DISPOSAL
ASSESSMENT OF ENVIRONMENTAL EFFECTS, MITIGATION MEASURES

Assessment of Environmental Effects

Impact on Surface Water (incl. flood times) VERY MINOR

Impact on Ground Water VERY MINOR

Impact on Soils MINOR

Impact on Amenity Values MINOR

Public Health Issues:

Should access to the disposal area be discouraged? YES

Will odour effects be greater than usual? NO

Will noise effects be greater than usual? NO

Mitigation Measures

Has conservative approach been taken in choosing system design capacity? YES

Is system design robust (cope with fluctuations of load, climate)? YES

Is level of treatment high? SECONDARY WASTE WATER TREATMENT

Protection against failure storage, alarms? RESERVE AREAS , ALARMS, STORAGE

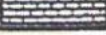
Is hydraulic loading rate conservative? YES

Is distribution area protected from hydraulic overload (interception drains)? NO

Will soil type enhance treatment? YES

Are desired separation distances attainable? (to surface water, groundwater, bores) YES

Is the reserve area adequate? YES. 100 PERCENT

Depth (m)	Legend	Soil Symbol	Soil Description	Water Level	Vane Shear Strength maximum/residual corrected kPa	Soil Sensitivity	Sample Number	Other Tests
0			TOPSOIL					
-0.2			GREY CLAY LOAM					
-0.5			ORANGE SILTY CLAY LOAM					
-1								
-1.2								
-1.5								
-1.8								
-2								
-2.5								
-3								
-3.3								
Remarks: No water encountered					Topsoil		Sand	
					Fill		Gravel	
					Clay		Peat	
					Silt		Rock	

Client:

Job:

Location:

Augerhole No.:

Drilling Method:

REF:

Logger:

Date:

Page:

Checked:

PERCOLATION TEST -GRAPH SHEET

Client:

Job: 93 Olive View Heights Drive

Location:

Ref.:

Report No.:

Page:

Tested by:

Date:

Presoaking conditions:

Weather conditions prior:

30 Min

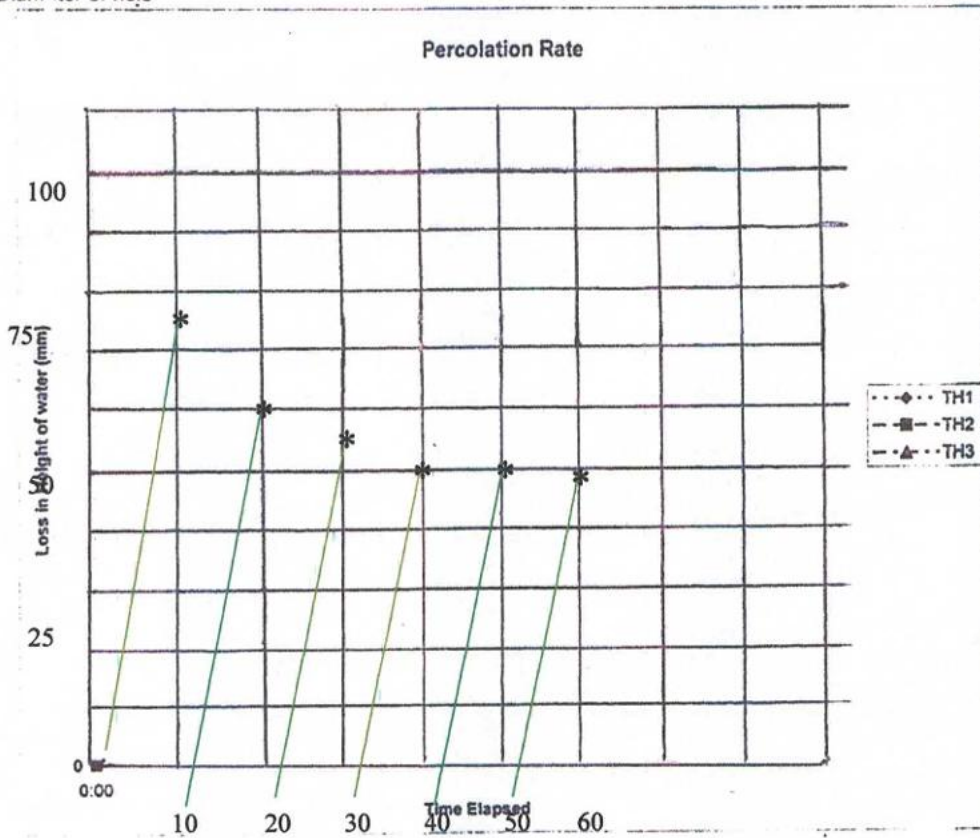
Wet

[illegible]

Depth of hole

Depth of topsoil

Diameter of hole



Percolation Rate

Old sandstone soils

Soil types in this group

- Hukerenui fine sandy loam - HKf, HKfH*
- Hukerenui sandy loam - HKa, HKaH*
- Hurewai fine sandy loam - HW, HWH*
- Mahurangi fine sandy loam - MV, MVH*
- Otangaroa clay, sandy clay loam - OC, OCH*
- Oturu fine sandy loam - OU
- Puketitoe sandy loam - PD, PDH*
- Pukewaenga sandy loam - PW, PWH*

*The H denotes the hill variant of this soil type, which occurs on slopes over 20° and has a shallower profile.

This fact sheet uses NZ Soil Bureau map series soil type names and abbreviations.

0-10 cm
dark grey sandy loam

10-30 cm
grey mottled brown
sandy clay loam

30-100 cm
mottled yellow-
brown clay, strongly
developed columnar
structure



Hukerenui sandy loam (HKa, HKaH) soil profile

Features of old sandstone soils

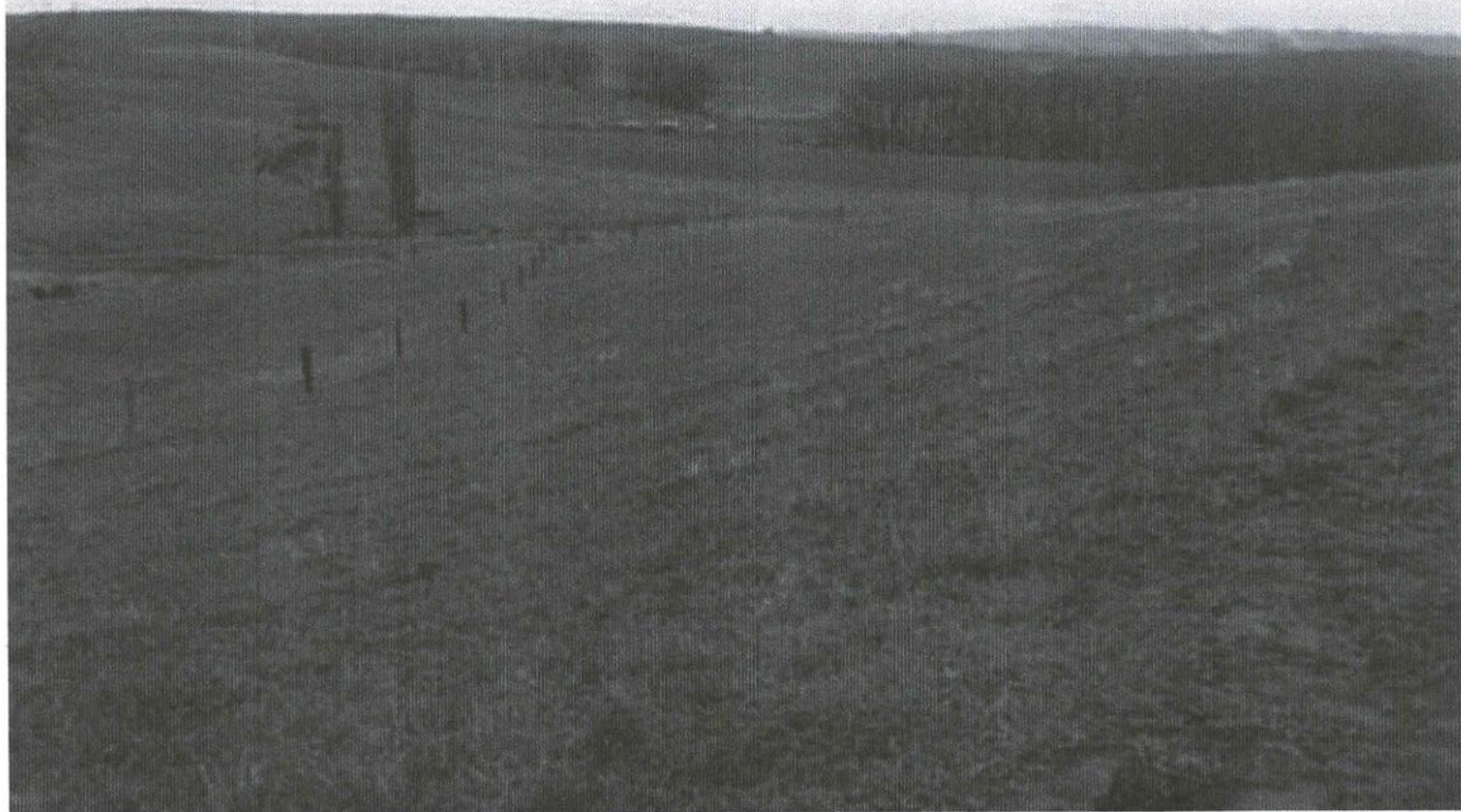
- Old sandstone soils are strongly leached and naturally acidic because of the conditions produced under kauri forest leaf litter
- They are part of the Omanaia, Puhoi, Purua and Waiotira suites
- Most soils are pale due to leaching of iron and loss of clay
- Low clay content in topsoils has resulted in the formation of sandy loams
- These soils often appear in a mosaic with younger soils on steeper sites and podzols ('gumland') on flat or very easy sites
- Where podzols have formed, soil horizons are distinct
- Some of these soils have high sulphide subsoils that can be difficult to revegetate if exposed

Structure and drainage management

Issues	Management tips
Winter wetness and associated pugging and compaction are problems with all these soils	Careful winter grazing management can minimise pugging and compaction and protect soil structure
Ground seepage is common in some areas for long periods; from autumn to late spring	Paddock smoothing may be required at intervals; but cropping and regrassing rotations should be no-till where possible to avoid damage to soil structure
While sandy loams are easy to cultivate because of very low clay content, cropping can turn soil into a structureless dust in summer and a mud slurry in winter	

Erosion control

Erosion risks	Soil type	Specific problems	Possible solutions
Gully erosion	All old sandstone soils	Strongly developed columnar subsoils are prone to gully erosion Heavy stock pressure damages weak soil structure, turning wet soils into a quagmire Erosion and sediment discharge from roads and tracks distributes fine sediments into waterways	If sulphide levels are high and pH low, consider use of netting or debris dams to retain soil until growing conditions are suitable Armour gully sides and heads with soil conservation trees In these soils there is a risk that tree establishment will be poor; seek professional advice
Sheet erosion	All old sandstone soils	Sheet erosion washes topsoil and nutrients into waterways Cropping and pasture development can turn soils into structureless dust Groundwater seepage can increase potential for sheet erosion	Reduce stock pressure to prevent pugging and overgrazing, which can lead to sheet erosion Use no-till methods when regrassing Consider retiring very steep or marginal pastoral land from grazing if pastoral returns are marginal and/or weed invasion is a problem When constructing roads and tracks: crowning road surfaces and using frequent culverts will reduce scouring; armour channels and culvert outfalls carefully to avoid scouring Restore and create wetlands in less productive low lying areas to trap sediment



Old sandstone Puketitoti sandy loam soils (PD, PDH), Kokopu

Nutrient management

Soil type	Nutrient status	Management strategies
All old sandstone soils	These soils are heavily leached and generally acidic. They are low in natural fertility and trace elements	Lime may be needed to raise pH, however nutrient availability should be high due to low clay content. A 'little but often' maintenance fertiliser programme will reduce leaching losses Seek advice from your fertiliser consultant and vet for nutrient requirements
Hill variants	Lower in sulphur than other mature sandstone soils	Test soils regularly

Drainage classes

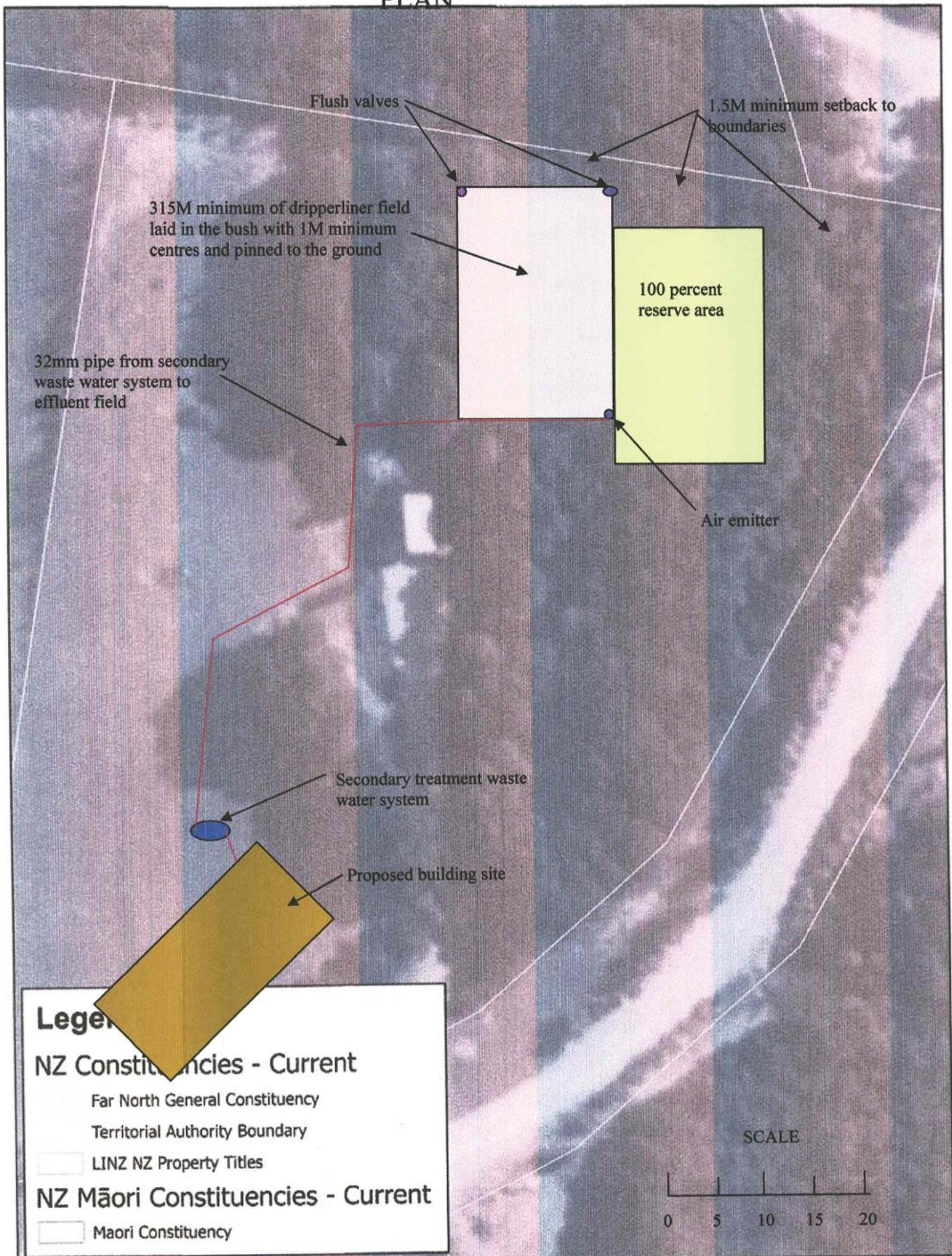
Soil symbol	Full name	Drainage class
PUHOI SUITE Basement rock: banded sandstone		
MV, MVH	Mahurangi fine sandy loam	3⇒2⇒1 - Moderately to poorly drained
OU	Oturu fine sandy loam	3⇒2⇒1 - Moderately to poorly drained
HKf, HKfH	Hukerenui fine sandy loam	2⇒1 - Imperfectly to poorly drained
OMANAIA SUITE Basement rock: sandstone–mudstone complex		
HW, HWH	Hurewai fine sandy loam	3⇒2⇒1 - Moderately to poorly drained
WAIOTIRA SUITE Basement rock: massive sandstone		
PD, PDH	Puketitoti sandy loam	3⇒2⇒1 - Moderately to poorly drained
PW, PWH	Pukewaenga sandy loam	3⇒2⇒1 - Moderately to poorly drained
HKa, HKaH	Hukerenui sandy loam	2⇒1 - Imperfectly to poorly drained
PURUA SUITE Basement rock: shattered sandstone		
OC, OCH	Otangaroa clay, sandy clay loam	2 - Imperfectly drained

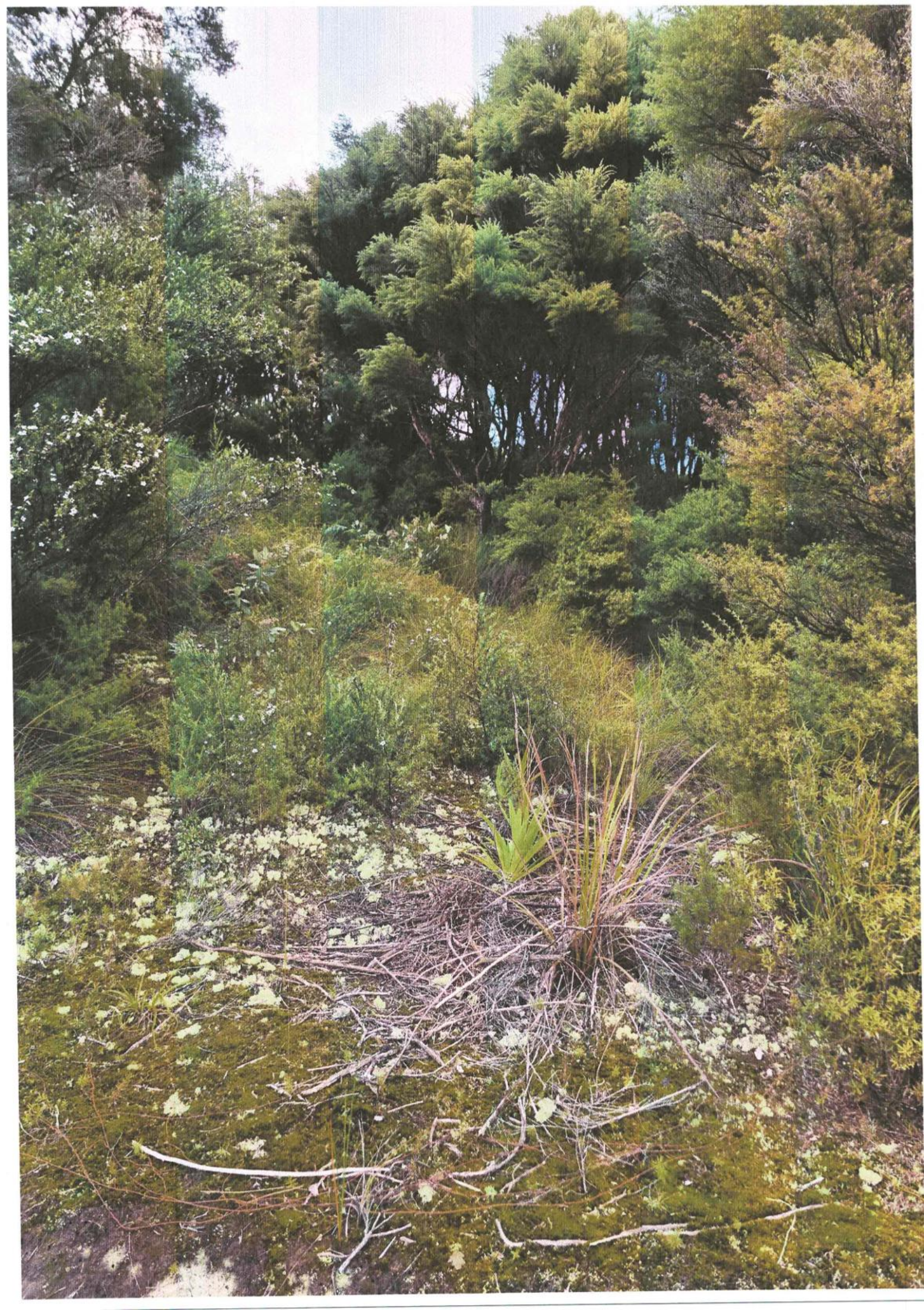
Northland soil factsheet series

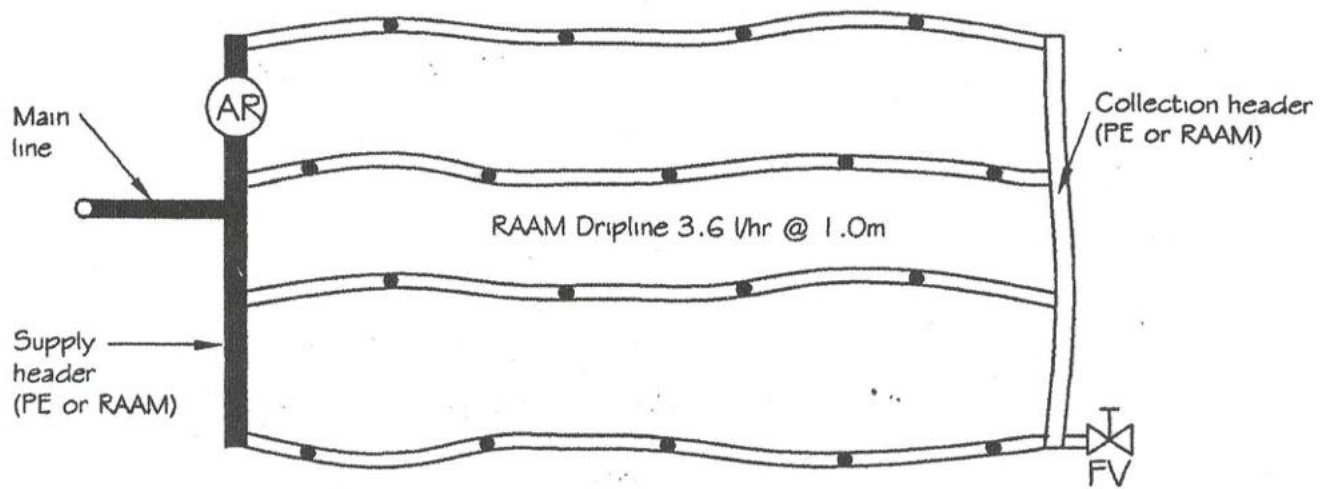
- Northland's climate, topography, historic vegetation and mixed geology have combined to form a complex pattern of soils across the region. There are over 320 soil types in Northland. Other regions in New Zealand average only 20 soil types per region.
- The information in this fact sheet is based on a 1:50,000 mapping scale. Therefore, it is not specific to individual farms or properties. However, it may help you to understand general features and management options for recent alluvial soils.
- Knowing your soils' capabilities and limitations is the key to sustainable production in Northland. Northland Regional Council (NRC) land management advisors are available to work with landowners to provide free soil conservation advice, plans and maps specific to your property.
- Regular soil tests are recommended. If you are concerned about your soil structure or health, the Visual Soil Assessment test could be useful. Contact the land management advisors at Northland Regional Council for more information.
- Further background information about the processes that have formed these soils can be found here:
www.nrc.govt.nz/soilfactsheets

Contact a land management advisor on
0800 002 004 or visit www.nrc.govt.nz/land

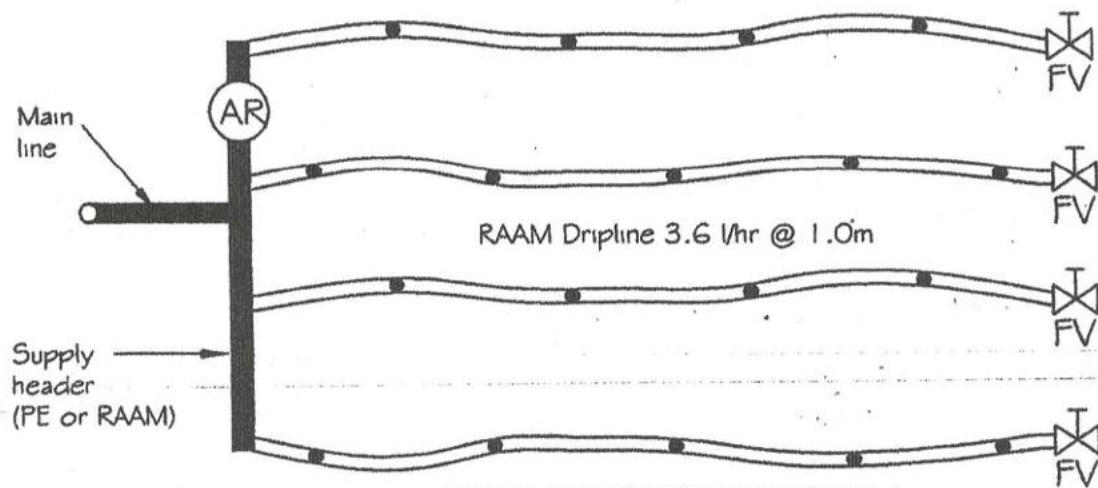
PLAN







BASIC GRID LAYOUT



FIELD LAYOUT WITHOUT A
COLLECTION HEADER PIPE



Air / Vacuum Release Valve



Flushing Valve

ON-SITE EFFLUENT DISPOSAL
TYPICAL FIELD LAYOUTS
Trickle Irrigation

Ref:

Sheet:

Scale: NTS

Draw

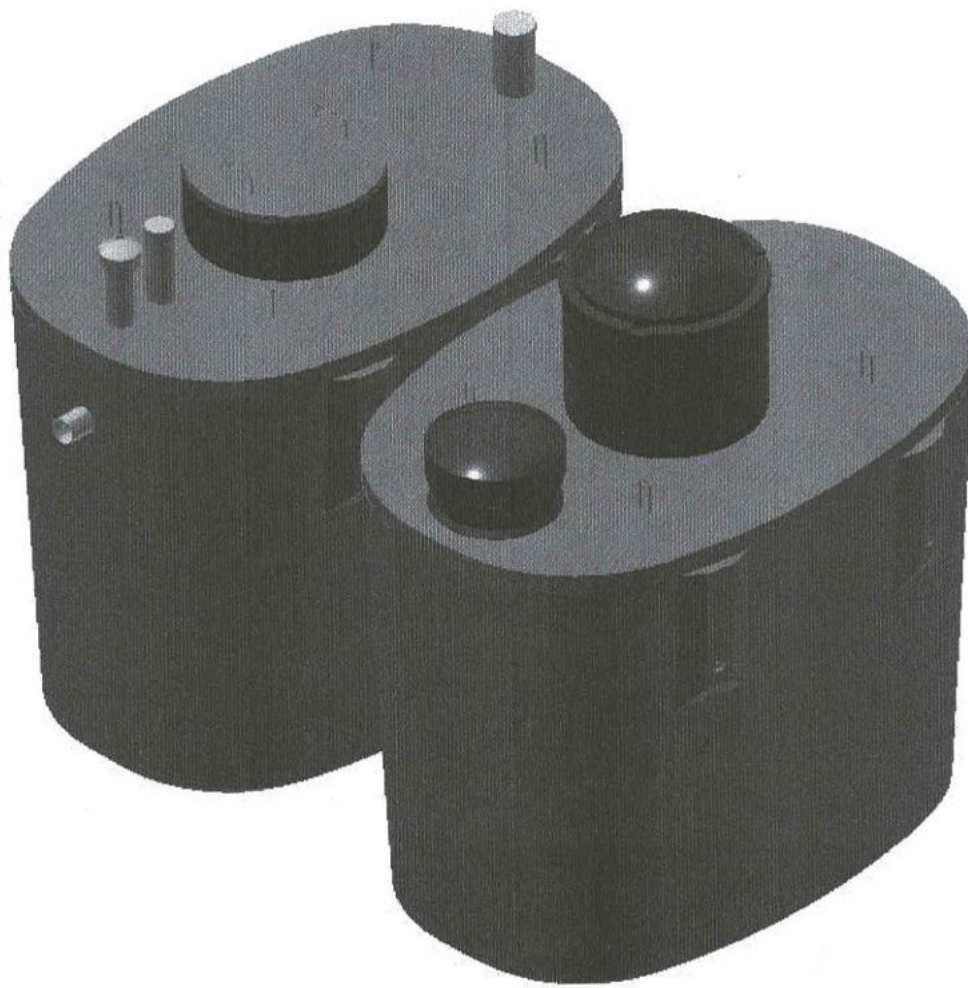
Date

Check

econo-treat

Econotreat VBB-C-2200 Treatment System

System Specifications & Installation Instructions



ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

New Zealand's Leaders in Advanced Secondary Treatment Systems

The Treatment Process

Primary Chamber / Tank

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

After primary settling, the sewage passes through a ReIn outlet filter.

Aeration Chamber

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

Clarification Chamber

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

System Performance

The Econotreat VBB-C-2200 system is capable of treating up to 2200L per day peak flow to an advanced secondary standard. The effluent is suitable for UV disinfection where required.

Benchmark Ratings

The Waipapa Tanks Econo-Treat® VBB C-2200-2 system achieved the following effluent quality ratings:

Indicator Parameters	Median	Std Dev.	Rating	Rating System				
				A+	A	B	C	D
BOD (g/m ³)	3.4	1.5	A+	<5	<10	<20	<30	≥30
TSS (g/m ³)	4.98	3.49	A+	<5	<10	<20	<30	≥30
Total nitrogen TN (g/m ³)	13.6	1.3	A	<5	<15	<25	<30	≥30
Ammonia Nitrogen NH ₄ -N (g/m ³)	1.1	1.8	A	<1	<5	<10	<20	≥20
Total phosphorus TP (g/m ³)	4.2	0.5	B	<1	<2	<5	<7	≥7
Faecal Coliforms FC (cfu/100mL)	11,200	50,196	B-	<10	<200	<10,000	<100,000	≥100,000
Energy (kWh/d) (mean)	1.8	-	B	0	<1	<2	<5	≥5

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ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

New Zealand's Leaders in Advanced Secondary Treatment Systems

Compliance Requirements

All Econotreat Treatment Systems meet the requirements of the NZ Building Code G13-VM4.

Section 9 of AS/NZS 1546.1:2008 state that tanks constructed to these Standards will meet the requirements of the Code for Clauses B1 and B2, structure and durability.

Compliance with Section 9 of AS/NZS 1546.1:2008 and also Clauses G13.3.4 relating to on-site treatment and disposal systems and G14.3.1 and 14.3.2 relating to the control of foul water as an industrial waste.

Tank Specifications

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

Dual Chamber Septic Tank

5200L Nominal Capacity
2500mm Long
1700mm Wide
1975mm High
- 3100kg

Aeration Tank

5200L Nominal Capacity
2500mm Long
1700mm Wide
1975mm High
- 2900kg

System Information

500L Pump Chamber
2120L Emergency Storage

Installation Location and Certification

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

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

High Water Table Installations

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

In high water table installations, it is important to fill the tanks with water. This removes the hydraulic uplift and simplifies the installation. In extremely high-water tables, a concrete foot can be added to the tank during manufacture. Waterflow must be made aware of this early on in view of supplying a tank that is fit for purpose.

If in doubt contact the experts on 0800 SEWAGE or sales@waterflow.co.nz

ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

New Zealand's Leaders in Advanced Secondary Treatment Systems

Plumbing Pipes and Fittings

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

Backfill and Bedding

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

Electrical

Where a pump is required on a flat site electrical connection must be installed according to AS/NZS 3000 and the control and alarm system must be in a weatherproof housing located in a readily visible position.

Warranty

WATERFLOW NZ LTD warrants that the Econotreat System will be free from defects in material and workmanship for the following periods of time from the date of installation as set out in the following conditions:

1. Concrete Tank 15yrs
2. Roto-Molded Tanks 15yrs
3. Nitto Blower 3yrs
4. Irrigation Pumps 2yrs
5. Warranty of Operation covers the performance of the Econotreat System as connected to the effluent inflow for which they are designed, and has been installed to the criteria as set out in the relative installation instructions and procedures, and has an assigned Service/Maintenance contract in place with Waterflow NZ Ltd or it's appointed agent/s.

Warranty excludes defects due to:

- A) Failure to use the system in accordance with owner's manual.
- B) A force majeure event outside the reasonable control of WATERFLOW NZ LTD such as (but not limited to) earthquake, fire, flood, soil subsidence, ground water table variations or plumbing fault.
- C) Modifications to surrounding landscape contour after installation
- D) The actions of a third party
- E) The system required to bear loads (either hydraulic or biological) greater than that for which it was designed
- F) Any modifications or repairs undertaken without the consent of WATERFLOW NZ LTD
- G) Failure, where applicable, to fence and plant disposal field.

1st June 2014
Dean Hoyle
Managing Director



See our website: www.waterflow.co.nz

ECONOTREAT VBB-C-2200

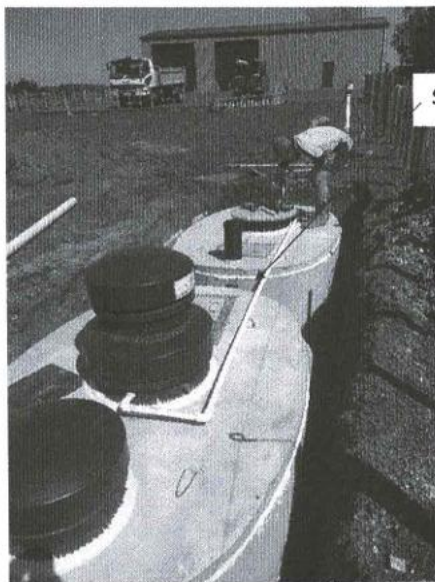
System Specification & Installation Instructions

Econotreat VBB-C-2200 Installation Instructions

The Econotreat system is to be installed or signed off by a registered Drain layer to the design specified by Waterflow NZ Ltd.

The following installation instructions and procedures followed correctly will ensure System performance is not compromised in any way.

1. Excavate two 3m x 2m level platforms at an appropriate depth to ensure adequate fall for inlet pipe from the source. This has to be installed on virgin ground. The two platforms are ideally on the same level and next to each other, either side-by-side or end-on-end.
2. Lay 100mm of bedding metal on platform and place the Septic and Aeration tanks next to each other. As close as practically possible to minimize the connection distance between the tanks.
3. Connect the two tanks with 100mm PVC. If the tanks are side-by-side the connection will need supporting. This is done by tying it back to the wire on the lids with a length of rope supplied. The rope can be found in the top of the treatment tank.



4. Next connect the sludge return. This is a 25mm PVC pipe that come out of the central riser on the treatment tank. This must be plumbed back to the second 100mm PVC at the start of the septic tank. It is important that this pipe is falling slightly or at minimum flat.
5. Trench from Dose Chamber outlet to disposal field and lay the 25mm alkathene feed line.
6. Take a minimum of 3 photos at this point to showing connections and back fill, to ensure correct installation for sign off.
7. Back fill around tanks. Using spoil from the excavation is fine, be aware that this will settle over time though.

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

If in doubt contact the experts on 0800 SEWAGE or sales@waterflow.co.nz

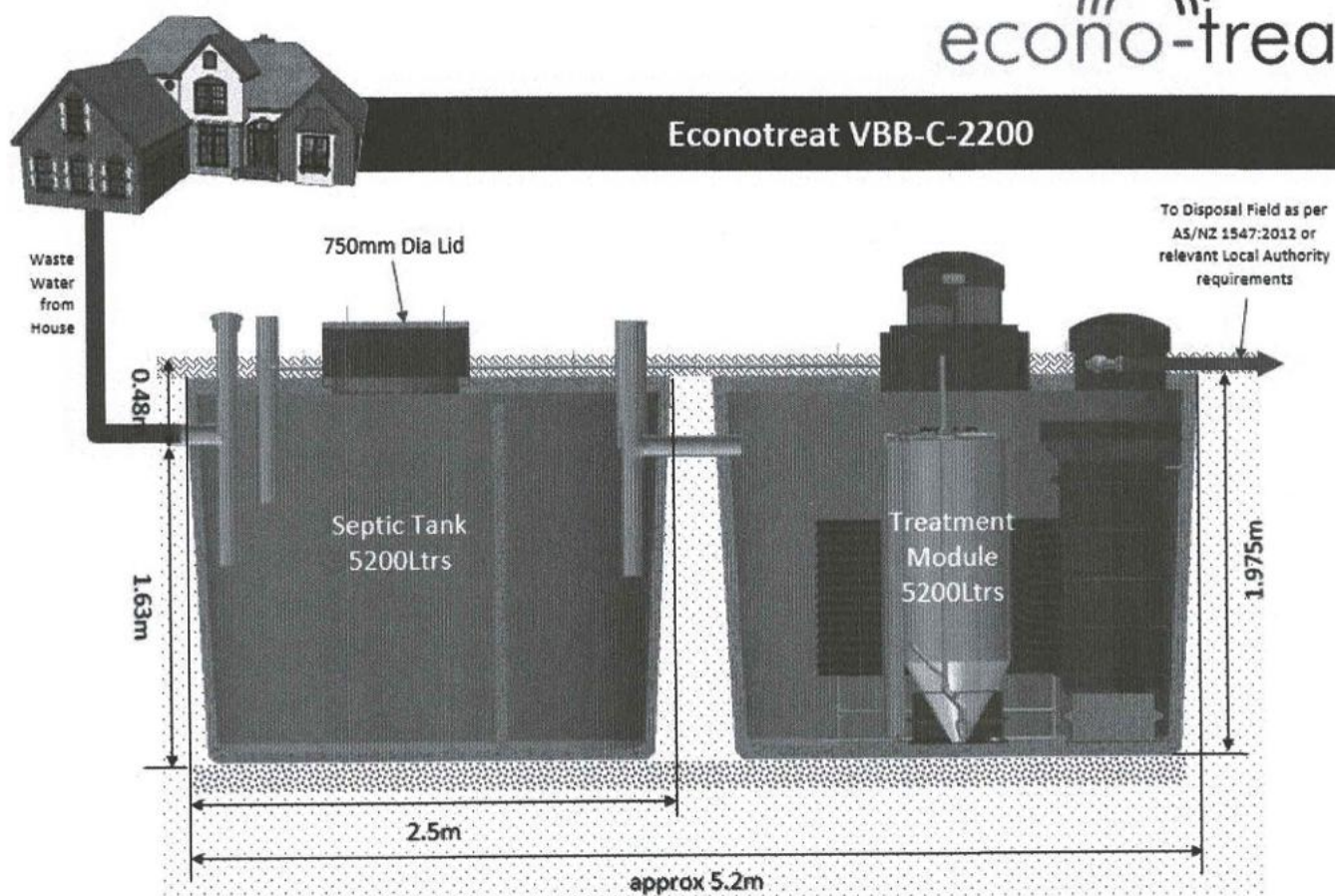
ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

Econotreat VBB-C-2200 Schematic Drawings

econo-treat

Econotreat VBB-C-2200



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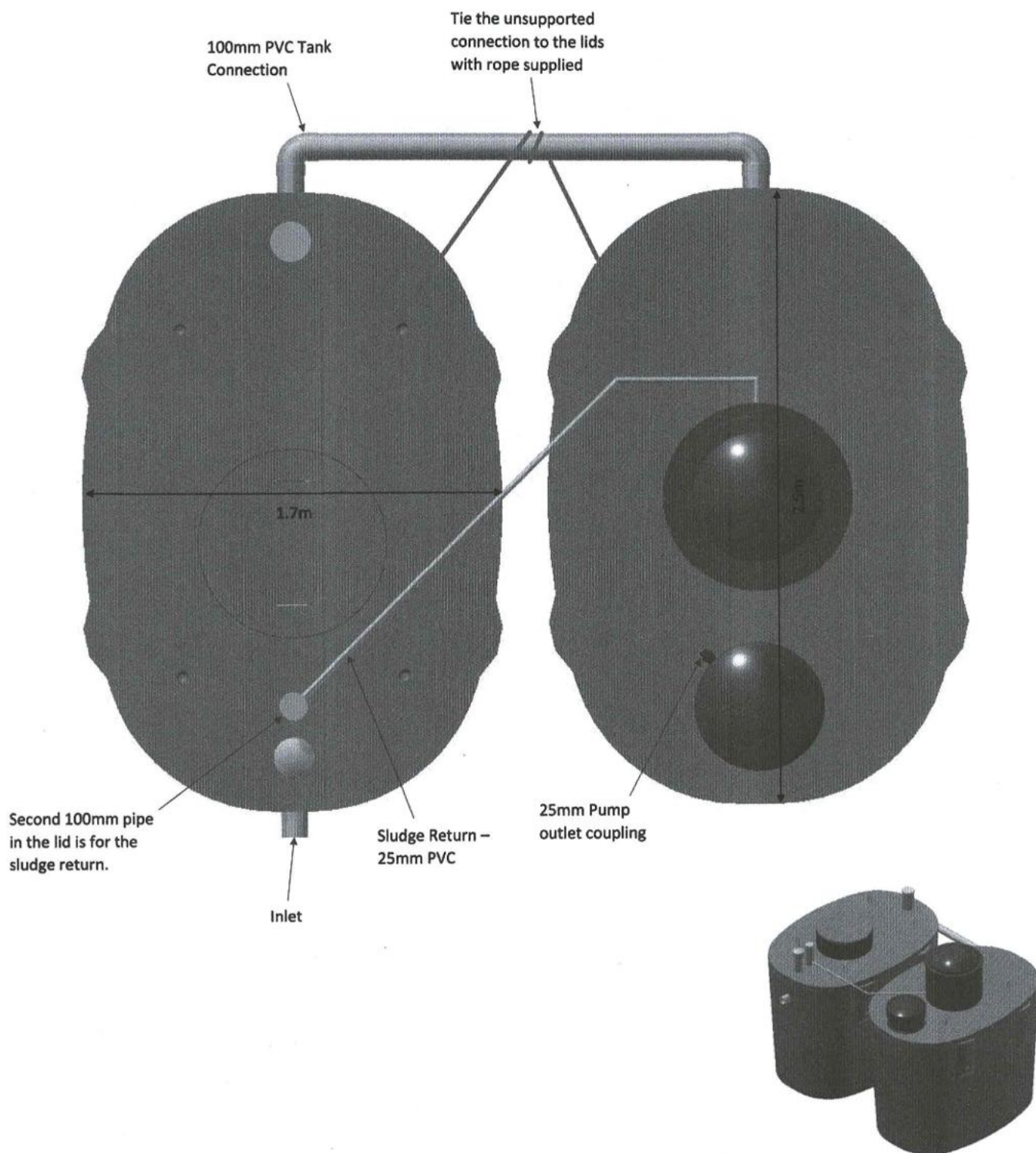
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ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

Econotreat VBB-C-2200 Schematic Drawings

Side by Side Installation



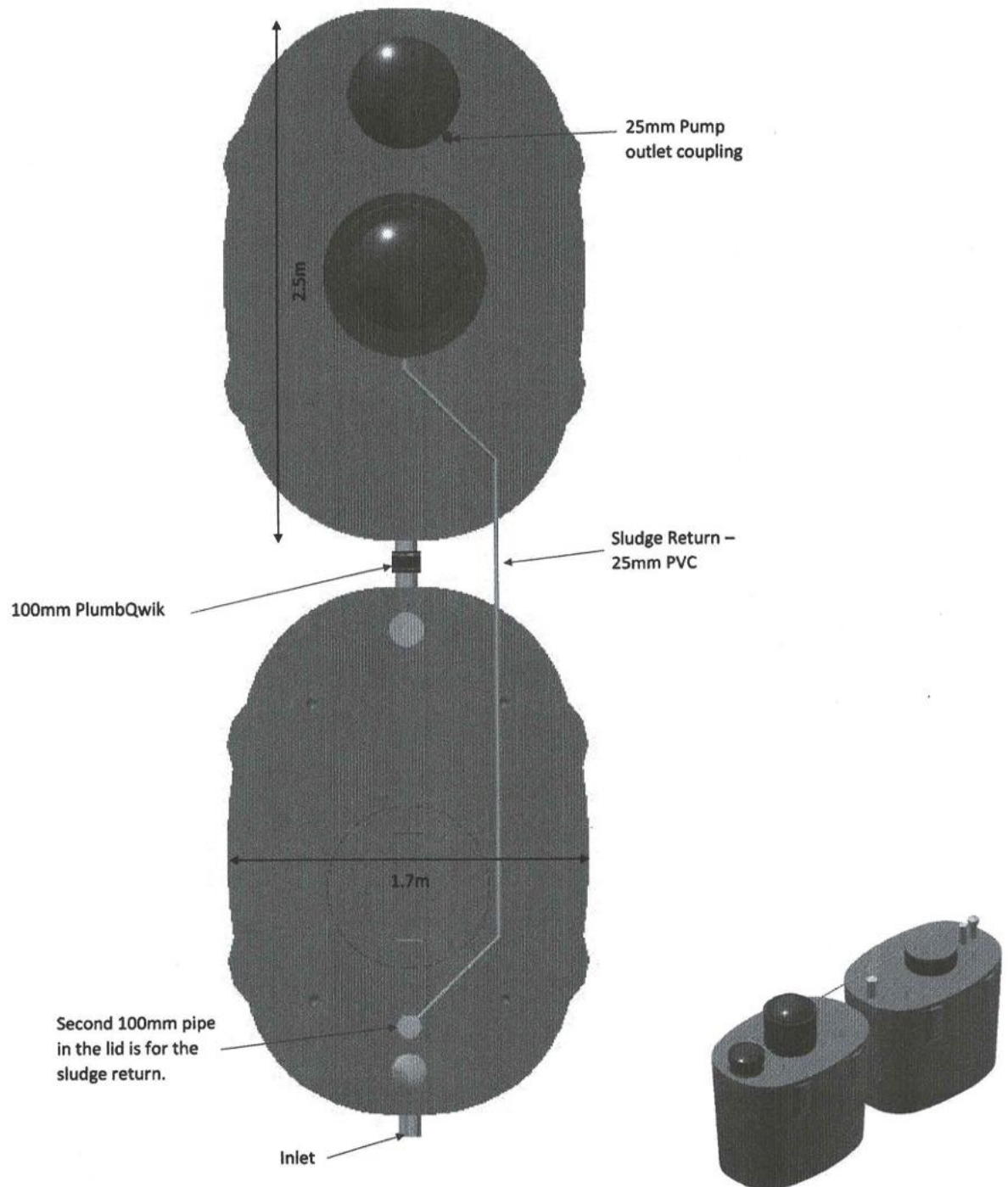
If in doubt contact the experts on 0800 SEWAGE or sales@waterflow.co.nz

ECONOTREAT VBB-C-2200

System Specification & Installation Instructions

Econotreat VBB-C-2200 Schematic Drawings

End on End Installation



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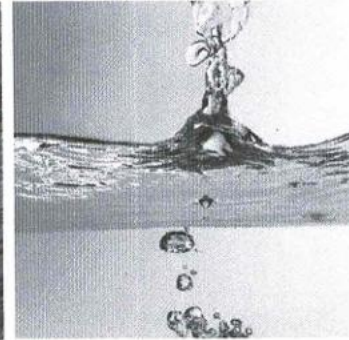
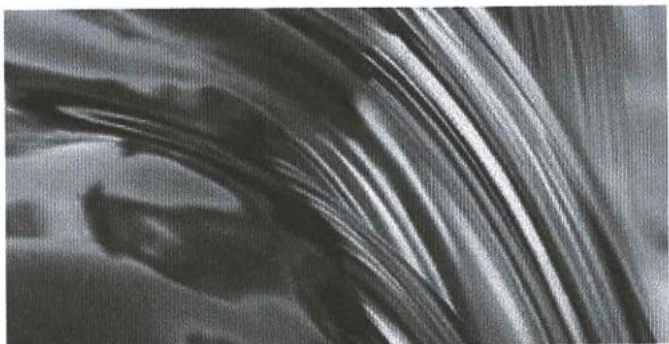


"Making it Easy"

Call us today to discuss your needs

0800 SEWAGE

Or for more information www.waterflow.co.nz



Head Office	Waipapa Branch
Waterflow NZ Ltd	Waterflow NZ Ltd
1160 State Highway 12,	166 Waipapa Road,
Maungaturoto	Kerikeri
P. 09 431 0042	P. 09 407 8323

FF. 0800 SEWAGE
E. sales@waterflow.co.nz
www.waterflow.co.nz

ON-SITE DOMESTIC WASTEWATER MANAGEMENT

Advice to Home Owner/Occupier

Homeowners and occupiers are legally responsible to keep their on-site wastewater system in good working order. The following schedule gives advice on the use and maintenance of the system.

1. Use of the System

For the on-site wastewater system to work well there are some good habits to encourage and some bad habits to avoid:

1.1 In order to reduce sludge building up in the tank:

- (i) Scrape all dishes to remove fats, grease etc, before washing.
- (ii) Keep all possible solids out of the system.
- (iii) Don't use a garbage grinder unless the system has been specifically designed to carry the extra load.
- (iv) Don't put sanitary napkins, other hygiene products or disposable nappies into the system.

1.2 In order to keep the bacteria working in the tank and in the land-application area:

- (i) Use biodegradable soaps.
- (ii) Use a low-phosphorus detergent.
- (iii) Use a low-sodium detergent in dispersive soil areas.
- (iv) Use detergents in the recommended quantities.
- (v) Don't use powerful bleaches, whiteners, nappy soakers, spot removers and disinfectants.
- (vi) Don't put chemicals or paint down the drain.

1.3 Conservation of water will reduce the volume of effluent disposed to the land-application area, make it last longer and improving its performance. Conservation measures could include:

- (i) Installation of water-conservation fittings.
- (ii) Taking showers instead of baths.
- (iii) Only washing clothes when there is a full load.
- (iv) Only using the dishwasher when there is a full load.

1.4 Avoid overloading the system by spacing out water use evenly. For example not doing all the washing on one day and by not running the washing machine and dishwasher at the same time.

Maintenance

2.1 The primary wastewater-treatment unit (septic tank) will need to:

- (i) Be desludged regularly i.e. every 3 to 5 years, or when scum and sludge occupy 2/3 of the volume of the tank (or first stage of a two-stage system).
- (ii) Be protected from vehicles.
- (iii) Have any grease trap cleaned out regularly.
- (iv) Have the vent and/or access cover of the septic tank kept exposed.
- (v) Have any outlet filter inspected and cleaned.

2.2 The land-application area needs protection as follows:-

- (i) Where surface water diversion drains are required by the design, these need to be kept clear to reduce the risk of stormwater runoff entering the effluent soakage area.
- (ii) No vehicles or stock should be allowed on trenches or beds.
- (vi) Deep rooting trees or shrubs should not be grown over absorption trenches or pipes.
- (viii) Any evapo-transpiration areas should be designed to deter pedestrian traffic.
- (ix) The baffles or valves in the distribution system should be periodically (monthly or seasonally) changed to direct effluent into alternative trenches or beds, if required by the design.

2.3 Evapo-transpiration and irrigation areas should have their grass mowed and plants maintained to ensure that these areas take up nutrients with maximum efficiency.

2.4 For aeration treatment systems. Check equipment and:

- (i) Follow the manufacturer's instructions for maintaining and cleaning pumps, siphons and septic tank filters.
- (ii) Clean disc filters or filters screens on irrigation-dosing equipment periodically by rinsing back into the primary wastewater-treatment unit.
- (iii) Flush drip irrigation lines periodically to scour out any accumulated sediment.

Auckland Regional Council Technical Sheet G-1

LIST OF WATER TOLERANT PLANTS SUITABLE FOR ON-SITE WASTEWATER DISPOSAL SYSTEMS

GENERAL MATTERS TO CONSIDER WHEN PLANTING A LAND DISPOSAL AREA:

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

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

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

Advice on such matters for particular plant species can be obtained from garden centre specialists and landscaping consultants.

NATIVE PLANTS SUITABLE FOR MOIST CONDITIONS IN THE AUCKLAND REGION:

The following list covers native plant species are considered to be suitable for planting in moist conditions, such as those associated with wastewater disposal fields in Auckland situations. They are all tolerant or fond of moist conditions and all are native to the Auckland region. Much of this information has been adapted from one of the ARC Botanic Gardens advisory leaflets; "14 – New Zealand plants for wet places", and the list edited and reviewed by Dr. Rhys Gardner Consulting Botanist, Auckland War Memorial Museum (August 2004).

Grasses, ground covers, and other plants

Astelia grandis (swamp astelia)

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

Blechnum novaezealandiae (kiokio)

Large, robust fern growing to 1 or even 2m, Hardy species that tolerates most conditions, but does best in well drained, shady areas.

Carex

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

Carex dissita

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

Carex flagellifera

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

Carex geminata

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

Carex lessoniana

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

Carex secta (purei, makura)

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

Carex virgata

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

***Cortaderia fulvida* (toetoe)**

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

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

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

***Dicksonia squarrosa* (whakl, tree fern)**

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

***Elatostema rugosum* (perataniwha)**

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

Hypolepis dicksonioides

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

***Phormium tenax* (harakeke, flax)**

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

Trees and shrubs

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

***Carpodetus serratus* (putaputaweta, marbleleaf)**

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

Coprosma areolata

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

***Coprosma robusta* (karamu, shining karamu)**

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

***Coprosma tenuicaulis* (swamp coprosma)**

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

***Cordyline australis* (ti kouka, cabbage tree)**

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

***Dacrycarpus dacrydioides* (kahikatea, white pine)**

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

***Geniostoma rupestre* (hangehange)**

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

***Hebe stricta* (koromiko)**

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

***Laurelia novae-zealandiae* (pukatea)**

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

14 August 2026

Jason David Squire and Anita Hollerer
7 Highfields
RD 1 Kaitaia 0481

Tēnā koe,

Building consent number: EBC-2027-84/0
Property ID: 3344419
Address: 93 Olive View Heights Drive, Taipa 0420
Description: To construct a single story steel framed dwelling with 3 bedrooms. To be built on a timber pile foundation system

Requirement for Resource Consent

PIM Assessment of your application has highlighted the need for Resource Consent that must be granted prior to any building works or earthworks commencing.

NB: As 30th June 2026, the Far North District Council Proposed District Plan – Decisions Version took legal effect and compliance with these rules applies to your building consent. Please visit our website to see these rules [Map - Far North Proposed District Plan - Decisions Version](#)

The site is zoned **Coastal Living** under the Operative District Plan and Resource Consent is required for breach of the following:

	Consent Notice 5678508.2 condition 3 states: Any building constructed on lots 5-12 described hereunder is to be located entirely within the building envelope specified on the plan attached to this Consent Notice.
Reason:	Compliance not shown. The following options are available: 1. Provide documentation to demonstrate compliance with this condition; or 2. Provide approval to vary or cancel this consent notice condition.
	Consent Notice 5678508.2 condition 5 states: Any building to be constructed on lots 5-9 described hereunder is to be no higher than 6 meters above the average ground level within the specified building envelope and is to be finished and from thereon maintained in recessive natural colours; such colours to be approved at time of a building consent being lodged with the Council.
Reason:	Compliance not shown. The following options are available: 1. Provide documentation to demonstrate compliance with this condition; or 2. Provide approval to vary or cancel this consent notice condition.
Rule:	12.4.6.1.2 FIRE RISK TO RESIDENTIAL UNITS (a) Residential units shall be located at least 20m away from the drip line of any trees in a naturally occurring or deliberately planted area of scrub or shrubland, woodlot or forest;

Reason:	Compliance not shown.
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Rule:	12.3.6.1.2 EXCAVATION AND/OR FILLING, INCLUDING OBTAINING ROADING MATERIAL BUT EXCLUDING MINING AND QUARRYING, IN THE RURAL LIVING, COASTAL LIVING, SOUTH KERIKERI INLET, GENERAL COASTAL, RECREATIONAL ACTIVITIES, CONSERVATION, WAIMATE NORTH AND POINT VERONICA ZONES Excavation and/or filling, excluding mining and quarrying, on any site in the Rural Living, Coastal Living, South Kerikeri Inlet Zone, General Coastal, Recreational Activities, Conservation, Waimate North and Point Veronica Zones is permitted, provided that: (a) it does not exceed 300m ³ in any 12 month period per site; and (b) it does not involve a cut or filled face exceeding 1.5m in height i.e. the maximum permitted cut and fill height may be 3m.
Reason:	The geotechnical stability wall is designed for a 3.3m effective retained height — well over the 1.5m threshold at any volume.

Rule:	10.7.5.1.1 VISUAL AMENITY The following are permitted activities in the Coastal Living Zone: (a) any new building(s), provided that the gross floor area of any new building(s) permitted under this rule does not exceed 50m ² ;
Reason:	Proposed dwelling exceeds permitted 50m ² .

Rule:	10.7.5.1.4 BUILDING HEIGHT The maximum height of any building shall be 8m.
Reason:	Compliance not shown.

Rule:	10.7.5.1.6 STORMWATER MANAGEMENT The maximum proportion or amount of the gross site area which may be covered by buildings and other impermeable surfaces shall be 10% or 600m ² whichever is the lesser.
Reason:	Proposal appears to exceed permitted threshold 600m ² .

The site is zoned **Rural Lifestyle** under the Proposed District Plan – Decision Version and Resource Consent is required for breach of the following:

Rule:	RLZ-R1 New buildings or structures and relocated buildings or extensions or alterations to existing buildings or structures
Reason:	Compliance not shown with standards RLZ-S1 Maximum height and RLZ-S3 Setback (excluding from MHWS or wetland, lake and river margins)

Rule:	NH-R5 Wildfire - Buildings used for a vulnerable activity (excluding accessory buildings) PER-2 Any building used for a vulnerable activity (excluding accessory buildings) that is not located within an urban zone is set back at least 20m from the dripline of any contiguous scrub or shrubland, woodlot or forestry.
Reason:	Compliance not shown.

Rule:	EW-R1 Earthworks
Reason:	Compliance not shown with standards EW-S2 and EW-S7.

Rule:	2019 Proposed Regional Plan for Northland – C.6.1.3 Other on-site treated domestic wastewater discharge permitted activity:
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	<i>Note: Far North District Council issue Discharge Consents under delegated authority from the Northland Regional Council for wastewater from domestic systems up to 3m³/day.</i>
Reason:	A Discharge Consent is required for breach of this rule. 5) for wastewater that has received secondary treatment or tertiary treatment, it is discharged via: b) an irrigation line system that is dose loaded and covered by a minimum of 50 millimetres of topsoil, mulch, or bark, Compliance not shown. 6) for the discharge of wastewater onto the surface of slopes greater than 10 degrees: d) a minimum 10 metre buffer area down-slope of the lowest irrigation line is included as part of the disposal area, Compliance not shown.

Please note there may be other rule breaches found during the Resource Consent process. It is your responsibility to ensure the Resource Consent approved plans match the Consented approved plans.

The application form can be downloaded from www.fndc.govt.nz and submitted to Council's (Planning Department) with the appropriate documentation and instalment fee.

If you have any queries, please contact the Duty Planner on Duty.Planner@fndc.govt.nz or 0800 920 029.

Nāku iti nei, nā



Jude Barber
PIM Officer

Delivery and Operations

Emailed to: henry@gsdesign.nz

FORM 4
Certificate attached to
PROJECT INFORMATION MEMORANDUM
Section 37, Building Act 2004

Building Consent Number: EBC-2027-84/0

**RESTRICTIONS ON COMMENCING BUILDING WORK UNDER
RESOURCE MANAGEMENT ACT 1991**

The building work referred to in the attached Project Information Memorandum is also required to have the following **Resource Consent(s)** under the Resource Management Act 1991:

• **Resource Consent – REQUIRED**

As the above Resource Consent(s) will affect the building work to which the Project Information Memorandum relates, until this has been granted no building work may proceed.

Failure to comply with the requirements of this notice may result in legal action being taken against you under the Resource Management Act 1991.

Signature:



Trent Blakeman
Manager - Building Services –
Delivery and Operations
Far North District Council (Building Consent Authority)
14 August 2026

Position:

On behalf of:

Date: