THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

[redacted]

The application fee of $2,500 has been paid separately via direct credit.

Regards

[redacted]

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

315 Kerikeri Road, Kerikeri
P.O. Box 372, Kerikeri 0245, New Zealand.
Email: Kerikeri@tsurvey.co.nz
denis@tsurvey.co.nz, sam@tsurvey.co.nz

Telephone: **09 4077360**
Facsimile: **09 4077322**
After Hours: Director: Denis Thomson 09 4071372
After Hours: Office Manager: Sam Lee 021 1370060

Background picture represents a New Zealand surveying trig station, used to beacon control survey marks

Far North District Council

Office Use Only
Application Number:

Private Bag 752, Memorial Ave
Kaikohe 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

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 O Fast Track Land Use* O Subdivision O Discharge

O Extension of time (s.125) O Change of conditions (s.127) O Change of Consent Notice (s.221(3))

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

O Other (please specify) _____

***The fast track for simple land use consents is restricted to consents with a controlled activity status and requires you provide an electronic address for service.**

3. Would you like to opt out of the Fast Track Process? Yes / ~~No~~

4. Applicant Details:

Name/s: Vanessa and Alan Abernethy

Electronic Address for Service (E-mail): [redacted]

Phone Numbers: W [redacted]

Postal Address: (*or* alternative method of service under section 352 of the Act) [redacted]

Post Code: [redacted]

5. Address for Correspondence: *Name and address for service and correspondence (if using an Agent write their details here).*

Name/s: ***Lynley Newport; Thomson Survey Ltd***

Electronic Address for Service (E-mail): ***lynley@tsurvey.co.nz***

Phone Numbers: ***Work: 4077360*** Home: _____

Postal Address: (*or* alternative method of service under section 352 of the Act) ***P O Box 372***
KERIKERI

Post Code: ***0245***

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

6. 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: ***Alan & Vanessa Abernethy***

Property Address/: Location ***refer item 4 for contact details***

7. Application Site Details:

Location and/or Property Street Address of the proposed activity:

Site Address/ Location: ***25 Kotare Drive***

COOPERS BEACH

Legal Description: ***Lot 9 DP 49862***

Record of Title: ***NA5C/496***

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.

8. Description of the Proposal:

Please enter a brief description of the proposal here. Attach a detailed description of the proposed activity and drawings (to a recognized scale, e.g. 1:100) to illustrate your proposal. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

To re-develop residential site by way of demolition of existing dwelling and construction of new dwelling requiring consent for earthworks and fire risk to a residential unit

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or 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) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification? ~~Yes~~/No

10. Other Consent required/being applied for under different legislation (more than one circle can be ticked):

O Building Consent (BC ref # if known)

O Regional Council Consent (ref # if known)

O National Environmental Standard consent

O Other (please specify)

11. 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 (further information in regard to this NES is available on the Council's planning web pages):

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) — O yes ☑ no O don't know

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle). — O yes ☑ no O don't know

O Subdividing land

O Changing the use of a piece of land

O Disturbing, removing or sampling soil

O Removing or replacing a fuel storage system

12. 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.

Please see attached AEE.

13. 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 all names in full) [redacted]

Email:

Postal Address:

Post Code: 0230

Phone Numbers: Work: [redacted] Home: _____ Fax: _____

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: [redacted] (please print)

Signature: [redacted] (signature of bill payer – **mandatory**) Date: 14-12-23

14. 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.

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

Name: [redacted] (please print)

Signatu[redacted] (signature) Date: 14-12-23.

(A signature is not required if the application is made by electronic means)

Checklist (please tick if information is provided)

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

Digital Applications may be submitted via E- mail to: Planning.Support@fndc.govt.nz

Only one copy of an application is required, but please note for copying and scanning purposes, documentation should be:

UNBOUND **SINGLE SIDED** **NO LARGER THAN A3 in SIZE**

Alan and Vanessa Abernethy

RE-DEVELOPMENT OF SITE CONTAINING EXISTING DWELLING TO CONSTRUCT NEW TERRACED DWELLING & PARKING/GARAGING AREA

25 Kotare Drive, Coopers Beach

PLANNER'S REPORT & ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The applicant plans to re-develop their property at 25 Kotare Drive, Coopers Beach by replacing the existing residential dwelling located on the lower portion of the site, closest to the beach, with a new multi terraced series of structures, located back up slope and away from the beach.

The re-development will result in a greater site coverage than currently exists. It will consist of the existing dwelling being demolished (refer to Topographical Survey Plan as part of Appendix 1), and replaced with a multi level pod-like structures (pavilions) ascending up the site (refer to the full set of plans in Appendix 1).

The lower pavillion (most western and closest to the Bay) will be two storey and accommodate garaging, laundry and guest accommodation/living area above, including a swimming pool. The main living level, forming the 'core' of the house, is upslope and will enjoy an ocean view over the roof level of the lower block. A two-storey upper level (furthest east) will house the family bedrooms and be connected to the main living level below by a midlevel retreat space.

The new house is to be a permanent home, not a holiday home, and is intended to be used by multiple generations at certain times of the year.

A full set of plans, along with a proposed Landscaping Plan is contained in Appendices 1 & 1A.

Access is off a leg-in driveway coming off Kotare Drive – refer to Location Map in Appendix 2 and Record of Title in Appendix 3.

The proposal represents a large footprint, but the layout is such that vegetation can form a large component of the overall development, with landscape plantings at lower end and up the boundaries, and between pods. There will be land above the most eastern and upper pavillion that will remain in existing (and/or enhanced) vegetation and plantings.

Key considerations for the architectural design being put forward include:

- The steepness of the site and inconsistent terrain (within the Coopers Beach Landslide Feature, which is now also mapped as being a 100 year coastal hazard scenario area (low risk)). Full geotechnical investigations and assessment have advised the design and layout of the buildings, as well as stormwater management within and from the site;
- Need for several retaining walls;
- The narrowness of the site resulting in much consideration being given to height-in-relation to boundary aspects.

The site is serviced by the FNDC reticulated sewage system and has connection to the privately operated Doubtless Bay Water Supply Company reticulated system.

1.2 Scope of this Report

This assessment and report accompanies the Resource Consent Application, and is provided in accordance with Section 88 and Schedule 4 of the Resource Management Act 1991. The application seeks consent to construct a dwelling, with guest quarters and garaging, in the Residential Zone, as a discretionary activity under the Operative District Plan.

The information provided in this assessment and report is considered commensurate with the scale and intensity of the activity for which consent is being sought. The name and address of the owner of the property is contained in the Form 9 Application form.

2.0 PROPERTY DETAILS

Location:	25 Kotare Drive, Coopers Beach
Legal description:	Lot 9 DP 49862, contained in Record of Title NA5C/496, with an area of 1,234m^2 (refer to Appendix 3)

3.0 SITE DESCRIPTION

3.1 Site characteristics

The site is located at Kotare Drive (sealed public road). Access to the site is gained via an access leg-in coming off the Kotare Drive cul-de-sac head adjacent to reserve land the beach beyond. The site has an existing residential dwelling at its lower (western) end, serviced by Doubtless Bay Water Supply Company network and FNDC reticulated wastewater. Being fully serviced, supporting residential development and less than 4,000m^2 in area, the site meets the ODP's definition of "urban environment".

The site is moderately steep, sloping up (to the east) away from the reserve and beach area. The lower end accommodates the existing dwelling, with the balance of the property in vegetation, a minor amount of which has been cleared to allow topographic surveying and site investigation work in support of the application.

Mapped features include:

- The site is zoned Residential in the Operative District Plan (ODP) and zoned General Residential with Coastal Environment Overlay in the Proposed District Plan (PDP). The site is not identified as having any outstanding landscape or other overlay in either Plan.

- The site is also mapped as within the 'coastal environment' in the Regional Policy Statement for Northland (RPS), with no high or outstanding landscape or natural characters values.

- The site is shown as being within an area potentially subject to coastal hazard within the next 100 years (Source: PDP maps). The 100 year scenario is not defined as 'high risk'.

- The site is urban and not identified on the FNDC's Far North Maps, Species Distribution layer, as being within a 'kiwi present' or 'high density kiwi' area (Far North Maps).

- The FNDC's Far North Maps, Historic Sites layer does not identify any recorded or registered archaeological sites within the application site's boundaries, nor any Historic Place or Object, nor any Site of Significance to Maori.

- The site is not within any Treaty Settlement Statutory Acknowledgement Area (Source: NRC on-line maps, Treaty Settlement layer).

3.2 Legal Interests

The title has no legal interests registered on it that are relevant to the proposed development.

3.3 Consent History

The site supports a single residential dwelling. There are two building consents on the property file relating to the dwelling – BP 123283 and BP 520418.

4.0 THE PROPOSAL IN DETAIL

The total proposed building coverage is 298.54m^2, or 24.23% of total site area. The Site Plan in Appendix 1 provides further detail on site layout / plan; floor plans; and elevations, along with garage/parking areas. Total proposed impermeable surface coverage is estimated at 489.67m^2, or 39.75% of total site area.

No part of the structure is over 8m in height (rolling height) and all components have been designed and located such that there is no breach of the Sunlight rule on any boundary. There will be a series of engineer designed retaining walls/structure to establish and retain each level's building, as well as an engineer designed retaining wall running the length of the southern boundary parallel to buildings. These are in ground and will not breach any Sunlight rule.

To accommodate the re-development of the site, the existing dwelling will be demolished. The re-development will necessitate earthworks, with 578m^3 cut and 2m^3 fill, totalling 580m^3 excavation/filling volume, over an area of 349.2m^2. The cut/fill depths required to form each building platform will exceed 1.5m in height in several instances, with the highest face being 3.83m. Cut faces will be behind engineer designed retaining walls, a part of one such face being 3.83m in height. All other retaining walls supporting cut/fill faces are 3.0m or less in height.

The basic design components are outlined in Section 1.1 of this report and shown in more detail in the Plans attached in Appendix 1. The proposed landscaping plan is contained within Appendix 1A.

Access to the site is from the western boundary, via an existing leg-in. This is currently in hard packed grass cover suitable for all weather access, but is proposed to be concreted/paved throughout. Garaging for up to two vehicles is proposed on the lower level, with guest quarters above, and decking on the roof of those guest quarters, for the main living pavillion higher up the site. It is proposed that occupants will be able to move between the pavilions via a 'stair hall' traversing the length of the proposed building along the southern boundary.

The site has been subject to detailed topographical survey and geotechnical investigation by Hawthorne Geddes – refer Appendix 4 – in order to finalise appropriate building platforms and foundation designs.

The application is supported by:

- Architectural plans and Architectural Statement;

- Landscaping Plan;
- Civil Engineering Report;
- Geotechnical Engineering Report;
- FENZ approval for alternative fire fighting water supply.

5.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

Clauses 2 & 3: Information required in all applications

(1) An application for a resource consent for an activity must include the following:	
(a) a description of the activity: .	Refer Sections 1.1 above and 4.0 of this Planning Report.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 7.0 of this Planning Report.
(b) a description of the site at which the activity is to occur:	Refer to Section 3.0 of this Planning Report.
(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	There are no other activities. Application is for land use consent pursuant to the Far North Operative District Plan.
(e) a description of any other resource consents required for the proposal to which the application relates:	Consent is being sought pursuant to the Far North Operative District Plan. No other resource consent is required.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 8.3 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): (*a) any relevant objectives, policies, or rules in a document; and* *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other*	Refer to Sections 7 & 8 of this Planning Report.

regulations).	
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	The site supports a single residential dwelling, with building consent issued.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.
(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:* *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land*	N/A – not a subdivision.

within the coastal marine area (which is to become part of the common marine and coastal area under section 237A): *(g) the locations and areas of land to be set aside as new roads.*	

Clause 6: Information required in assessment of environmental effects

(1) An assessment of the activity's effects on the environment must include the following information:	
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:	Refer to Section 7.0 of this planning report. The activity will not result in any significant adverse effect on the environment.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 7.0 of this planning report.
(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:	Not applicable as the application does not involve hazardous installations.
(d) if the activity includes the discharge of any contaminant, a description of— *(i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and* *(ii) any possible alternative methods of discharge, including discharge into any other receiving environment:*	The proposal does not involve any discharge of contaminant.
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 7.0 of this planning report and appendices.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 9.0 of this planning report. No affected persons have been identified.
g) if the scale and significance of the activity's effects are such that	No monitoring is required as the scale and significance of the effects do not warrant it.

monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	No protected customary right is affected.

Clause 7: Matters that must be addressed by assessment of environmental effects (RMA)

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 7.0 and 9.0 of this planning report and also to the assessment of objectives and policies in Sections 8.1 and 8.2.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 7.0. The site has no high or outstanding landscape or natural character values.
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 7.0. The proposed development has no adverse effects on ecosystems or habitat.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	Refer to Section 7.0. The site has no aesthetic, recreational, scientific, historical, spiritual or cultural values that will be adversely affected by the proposal.
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The proposal will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The application site is subject to natural hazard. The proposal has been assessed by suitably qualified geotechnical engineers and will not create a risk to the wider community or environment. The proposal does not involve hazardous installations.

6.0 COMPLIANCE ASSESSMENT

6.1 Operative District Plan

The property is zoned Residential in the Operative District Plan (ODP) and is a serviced site. The site is landward of any Coastal Hazard lines as shown on the ODP's Coastal Hazard maps. An assessment of the proposal against relevant zone and district wide rules in the ODP follows:

RESIDENTIAL ZONE RULES:		
Permitted Standards	**Comment**	**Compliance Assessment**
7.6.5.1.1 RELOCATED BUILDINGS	N/A	
7.6.5.1.2 RESIDENTIAL INTENSITY (a) Each residential unit for a single household shall have available to it a minimum net site area of: Sewered sites: 600m² Unsewered sites: 3,000m²	The existing residential unit is to be removed to accommodate the new residential unit.	Permitted.
7.6.5.1.3 SCALE OF ACTIVITIES The total number of people engaged at any one period of time in activities on a site, including employees and persons making use of any facilities, but excluding people who normally reside on the site or are members of the household shall not exceed: 2 persons per 600m² (sewered) 2 persons per 3,000m² (unsewered)	N/A. The activity involves residential or residential type use.	
7.6.5.1.4 BUILDING HEIGHT The maximum height of any building shall be 8m	Buildings are less than 8m above ground level using rolling height method.	Permitted.
7.6.5.1.5 SUNLIGHT No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary (refer to definition of Recession Plane in Chapter 3 - Definitions), except that: (a) a building may exceed this standard for a maximum	Buildings comply with the permitted sunlight plane on all boundaries.	Permitted.

distance of 10m along any one boundary other than a road boundary, provided that the maximum height of any building where it exceeds the standard is 2.7m (refer to Recession Plane Diagram B within the definition of Recession Plane in Chapter 3 – Definitions); and (b) where a site boundary adjoins a legally established entrance strip, private way, access lot, or access way serving a rear site, the measurement shall be taken from the farthest boundary of the entrance strip, private way, access lot, or access way.		
7.6.5.1.6 STORMWATER MANAGEMENT The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 50%.	Estimated total impermeable surface coverage is 39.75% of total site area.	Permitted.
7.6.5.1.7 SET BACK FROM BOUNDARIES (a) The minimum building setback from road boundaries shall be 3m, except that; (b) The minimum set-back from any boundary other than a road boundary, ... shall be 1.2m except that no set-back is required for a maximum total length of 10m along any one such boundary; (c) Not less than 50% of that part of the site between the road boundary and a parallel line 2m there from (i.e. a 2m wide planting strip along the road boundary) shall be landscaped...;	Buildings are more than 3m from road boundary, and more than 1.2m from boundaries. I do not believe (c) to be applicable given the only frontage the site has is 3.7m wide and entirely access.	Permitted.
7.6.5.1.8 SCREENING FOR NEIGHBOURS - NON-RESIDENTIAL ACTIVITIES	N/A	
7.6.5.1.9 OUTDOOR ACTIVITIES	N/A	
7.6.5.1.10 VISUAL AMENITY	N/A – rule only applies to Coopers Beachfront Estate	

	(which the site is not within) and Cobham Road Kerikeri plus some specific sites on Kerikeri Inlet Road.	
7.6.5.1.12 SITE INTENSITY - NON-RESIDENTIAL ACTIVITIES	N/A	
7.6.5.1.13 HOURS OF OPERATION - NON-RESIDENTIAL ACTIVITIES	N/A	
7.6.5.1.14 KEEPING OF ANIMALS	N/A – the proposal does not involve the keeping of animals.	
7.6.5.1.15 NOISE All activities shall be conducted so as to ensure that noise from the site shall not exceed the following noise limits as measured at or within the boundary of any other site in this zone, or at or within the notional boundary of any dwelling in a rural or coastal zone: 0700 to 2200 hours 50 dBA L10 2200 to 0700 hours 45 dBA L10 and 70 dBA Lmax	Residential activity. Not expected to breach any noise rule requirements.	Permitted
7.6.5.1.16 HELICOPTER LANDING AREA	N/A	N/A
7.6.5.1.17 BUILDING COVERAGE Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 45% of the gross site area.	Building coverage is estimated at 24.23% of total site area	Permitted.
DISTRICT WIDE RULES		
Indigenous Flora and Fauna		
12.2.6.1.1 INDIGENOUS VEGETATION CLEARANCE PERMITTED THROUGHOUT THE DISTRICT Notwithstanding any rule in the Plan to the contrary but subject to Rules 12.5.6.1.1, 12.5.6.1.3 and 12.5.6.2.2 in the Heritage section of this Plan, indigenous vegetation clearance is permitted throughout the District where the clearance is	The site meets the definition of "urban environment" as defined in clause (o) of 12.2.6.1.1.	Permitted clearance.

for any of the following purposes: (o) it involves the felling, trimming, damaging or removal of a tree or group of trees in an urban environment unless the tree or group of trees is— (A) specifically identified in the plan (refer to Chapter 12.5 and Appendix 1D); or (B) located within an area in the district that— (i) is a reserve (within the meaning of section 2(1) of the Reserves Act 1977); or (ii) is subject to a conservation management plan or conservation management strategy prepared in accordance with the Conservation Act 1987 or the Reserves Act 1977. Where urban environment means an allotment no greater than 4000 m2 — (a) that is connected to a reticulated water supply system and a reticulated sewerage system; and (b) on which is a building used for industrial or commercial purposes, or a dwelling house.		
12.2.6.1.4 INDIGENOUS VEGETATION CLEARANCE IN OTHER ZONES The clearance of indigenous vegetation is a permitted activity if the site meets the definition of an "urban environment" site as specified in Rule 12.2.6.1.1(o) above. On all other sites in other zones, the clearance of indigenous vegetation is a permitted activity, provided that the clearance does not increase the total area of cleared land on the site above 500m^2.	As stated above, the site meets the definition of "urban environment".	Permitted.
Soils and Minerals		
12.3.6.1.3 EXCAVATION AND/OR FILLING, EXCLUDING MINING AND QUARRYING, IN THE RESIDENTIAL, INDUSTRIAL,	Estimated total volume of excavation is 580m^3. Retaining walls will be engineer designed,	**Cannot comply with parts (a) or**

HORTICULTURAL PROCESSING, COASTAL RESIDENTIAL AND RUSSELL TOWNSHIP ZONES Excavation and/or filling, excluding mining and quarrying, on any site in the Residential, Industrial, Horticultural Processing, Coastal Residential or Russell Township Zones is permitted, provided that: (a) it does not exceed 200m3 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.	therefore any cut face behind such a retaining wall can be up to 3m in height before meeting definition of cut/fill face. Maximum cut and retained height is 3.8m.	**(b). Defaults to discretionary activity status due to height of cut face.**
Natural Hazards		
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; *(b) Any trees in a deliberately planted woodlot or forest .... [not relevant]*	Whilst the existing dwelling has existing use rights and in any event the required 20m clearance could be achieved, the re-development of the site with a larger residential dwelling footprint, extending into other parts of the site, no existing use right is applicable. It is neither possible, nor desirable to achieve a 20m clearance from the drip line of areas of trees, e.g. these trees are on adjacent sites and outside of the control of the applicants.	**Cannot comply – defaults to discretionary activity status**
Heritage		
Chapter 12.5 Heritage & 12.5A Heritage Precincts	N/A Site contains no Notable Trees; no Historic Sites, Buildings and Objects; no Registered Archaeological Sites; no Sites of Cultural Significance to Maori. No rules in 12.5 are applicable. The property is not within a Heritage Precinct.	

Lakes, Rivers, Wetlands & the Coastline		
12.7.6.1.1 SETBACK FROM LAKES, RIVERS AND THE COASTAL MARINE AREA Any building and any impermeable surface must be set back from the boundary of any lake (where a lake bed has an area of 8ha or more), river (where the average width of the riverbed is 3m or more) or the boundary of the coastal marine area, except that this rule does not apply to man-made private water bodies other than the Manuwai and Waingaro Reservoirs. The setback shall be: (a) a minimum of 30m in the Rural Production, Waimate North, Rural Living, Minerals, Recreational Activities, Conservation, General Coastal, South Kerikeri Inlet and Coastal Living Zones; (b) a minimum of 26m in the Residential, Coastal Residential and Russell Township Zones; (c) a minimum of 20m in the Commercial and Industrial Zones.	All buildings and other impermeable surfaces will be more than 26m from the coastal marine boundary.	Permitted.
Traffic, Parking & Access		
15.1.6A.2.1 TRAFFIC INTENSITY The Traffic Intensity threshold value for a site shall be determined for each zone by Table 15.1.6A.1 above. The Traffic Intensity Factor for a proposed activity (subject to the exemptions identified below) shall be determined by reference to Appendix 3A in Part 4.	A residential unit is 'deemed' to generate 10 daily one way traffic movements. However, the first residential unit on a site is exempt.	Permitted.
15.1.6B.1.1 ON-SITE CAR PARKING SPACES Where: (i) an activity establishes; or (ii) the nature of an activity changes; or (iii) buildings are altered to	Appendix 3C specifies a requirement for 2 car parking spaces per residential unit. These can be accommodated.	Permitted.

increase the number of persons provided for on the site; the minimum number of on-site car parking spaces to be provided for the users of an activity shall be determined by reference to Appendix 3C.		
15.1.6B.1.5 CAR PARKING SPACE STANDARDS (a) The required size of off-street car parking spaces, the manoeuvring space between, and the vehicle circulation routes providing access to them, shall be as set out in Appendix 3D. (b) Stacked parking will be permitted for one of two spaces associated with a specific residential unit. In determining the extent of area required for manoeuvring space, the Council will be guided by the Tracking Curve diagrams as shown in Appendix 3E. (c) All parking, loading, access drives and manoeuvring areas shall be formed and provided with an all weather surface, drained, marked out and maintained to the satisfaction of the Council, and shall be kept free and available for the uses intended. Where a parking area provides four or more car parking spaces is adjacent to a road, a kerb or a barrier shall be provided to prevent direct access except at the designated vehicle access point	Manouevring space for off-street car parking spaces is tight, but possible with 3 point manoeuvring required. Overall, the turning area may not fully comply with all aspects of Appendix 3D Stacked parking is permitted for a residential unit. Driveway, parking and turning areas will be concrete, with stormwater management. This second part of (c) does not apply.	**May be a shortfall of manoeuvring space** in the vicinity of the proposed carport.
15.1.6C.1.1 PRIVATE ACCESSWAY IN ALL ZONES (a) The construction of private accessway, in addition to the specifics also covered within this rule, is to be undertaken in accordance with Appendix 3B-1 in Part 4 of this Plan. (b) Minimum access widths and	(a) The crossing will be formed to the appropriate Council standard. (b) the grade of the access where it leaves Kotare Drive is less than 1:8 in steepness. (c) accessway serves a single	Can comply.

maximum centreline gradients, are set out in the Appendix 3B-1 table except that the grade shall be no steeper than 1:8 adjacent o the road boundary for at least 5m. (c) A private accessway may serve a maximum of 8 household equivalents. (d) Where a subdivision serves 9 or more sites, access shall be by public road. (e) Access shall not be permitted: (i) onto a State Highway or a Limited Access Road; (ii) onto an arterial or collector road within 90m of its intersection with an arterial road or a collector road; (iii) onto an arterial or collector road within 30m of its intersection with a local road; (iv) onto a local road within 30m of its intersection with an arterial or collector road;	property. (d) ditto. (e) all parts complied with.	
15.1.6C.1.2 PRIVATE ACCESSWAYS IN URBAN ZONES (a) Private accessways in all urban zones, excluding the Commercial and Industrial Zones, shall comply with the following: The private accessway from the road boundary to any parking or loading space shall be: • not less than 3m wide; and • a minimum overhead clearance of 4m.	The proposed concrete driveway will be minimum 3m width and the required overhead clearance can be achieved.	Permitted.
15.1.6C.1.3 PASSING BAYS ON PRIVATE ACCESSWAYS IN ALL ZONES	N/A The driveway is internal and serves a single residence.	
15.1.6C.1.4 ACCESS OVER FOOTPATHS	N/A – no footpath.	
15.1.6C.1.5 VEHICLE CROSSING STANDARDS IN RURAL AND COASTAL ZONES	N/A	
15.1.6C.1.6 VEHICLE CROSSING STANDARDS IN URBAN ZONES (a) Private access off streets in the urban zones the vehicle	These standards need to be considered when 'designing'	Can meet permitted activity standards.

crossing is to be constructed in accordance with Council's "Engineering Standards and Guidelines" (June 2004 – Revised 2009).	final driveway formation and surface and where that intersects with existing seal at cul-de-sac. The crossing is off the cul-de-sac head at the end of Kotare Drive.	
15.1.6C.1.7 GENERAL ACCESS STANDARDS (a) Provision shall be made such that there is no need for vehicles to reverse off a site except where there are less than 4 parking spaces gaining access from a local road. (b) All bends and corners on the private accessway are to be constructed to allow for the passage of a Heavy Rigid Vehicle. (c) Any access where legal width exceeds formation requirements shall have surplus areas (where legal width is wider than the formation) grassed. (d) Runoff from impermeable surfaces shall, wherever practicable, be directed to grass swales and/or shall be managed in such a way as will reduce the volume and rate of stormwater runoff and contaminant loads.	There will be no need to reverse off the site for any standard motor vehicle. There is no scope, however, for light or heavy rigid vehicles to perform a turning manoeuvre internal to the site to enable frontward entry and frontward exit. This means such vehicles will need to reverse off the site. As there is parking required for only two parking spaces, reversing off a site is permitted. (b) the bends and corners on the driveway will be able to accommodate a heavy rigid truck with longer axle length. (c) N/A (d) can be complied with.	Can comply.
No other rules in Chapter 15.1.6C are applicable.		

Summary of rule breaches pursuant to the Operative District Plan:

District Wide Rules:

12.3.6.1.3 Excavation/Filling, and associated restricted discretionary rule;
12.4.6.1.2 Fire Risk to Residential Unit;
15.1.6B.1.5 Car Parking Space Standards, part (a).

The breaches of the above district wide rules, result in the application being a **discretionary activity** under the Operative District Plan.

6.2 Proposed District Plan

The FNDC publicly notified its PDP on 27th July 2022. Whilst the majority of rules in the PDP will not have legal effect until such time as the FNDC publicly notifies its decisions on submissions, there are certain rules that have been identified in the PDP as having immediate legal effect and that may therefore need to be addressed in this application and may affect the category of activity of the application under the Act.

Rules identified by the Council as having legal effect include:

Rules HS-R2, R5, R6 and R9 in regard to hazardous substances on scheduled sites or areas of significance to Maori, significant natural areas or a scheduled heritage resource. As the application site and proposal does not involve hazardous substances, these rules are not relevant to the proposal.

Heritage Area Overlays – N/A as none apply to the application site.

Historic Heritage rules and Schedule 2 – N/A as the site does not have any identified (scheduled) historic heritage values.

Notable Trees – N/A – no notable trees on the site.

Sites and Areas of Significance to Maori – N/A – the site does not contain any site or area of significance to Maori.

Ecosystems and Indigenous Biodiversity – Rules IB-R1 to R5 inclusive.

IB-R1 is entitled *Indigenous vegetation pruning, trimming and clearance and any associated land disturbance for specified activities within and outside a Significant Natural Area* and applies to all zones. It sets out what indigenous vegetation is permitted.

PER-1 item 6 states:
To create or maintain a 20m setback from a building used for a vulnerable activity (excluding accessory buildings) to the edge of the indigenous vegetation area;

Interpretation of the above is not clear cut. However, I believe this permitted activity rule could be interpreted as allowing a property owner to create a 20m setback from a residential building.

PER-1 item 7 states:
To allow for the construction of a single residential unit on a title and essential associated on-site infrastructure and access and it does not exceed 1,000m^2;

This permitted activity provides for necessary clearance of indigenous vegetation to provide for a single residential unit on a title and associated on-site infrastructure and access, provided no more than 1,000m^2 of clearance is carried out. In the case of this proposal,

clearance is being limited to only that required to provide for the residential development and associated on site infrastructure and access. This amounts to less than 1,000m^2 of clearance. The proposal therefore meets PER-1 item 7 as a permitted activity.

IB-R2 is not relevant as it only applies to clearance required for papakainga housing.

IB-R3 & IB-R4 provide for certain amounts of clearance. However, given that the clearance in this instance is covered by PER-1 item 7 above, there is no need to assess the clearance against these rules.

IB-R5 relates only to plantation forestry and activities and is therefore not relevant.

Subdivision (specific parts) – N/A as the proposal is not a subdivision.

Activities on the surface of water – N/A as no such activities are proposed.

Earthworks – Only some rules and standards have legal effect. These are Rules EW-R12 and R13 and related standards EW-S3 and ES-S5 respectively. EW-R12 and associated EW-S3 relate to the requirement to abide by Accidental Discovery Protocol if carrying out earthworks any artefacts are discovered. This requirement can be met and is a requirement under heritage legislation in any event. EW-13 and associated EW-S5 relate to ensuring Erosion and Sediment Control measures are in place during earthworks. They cite compliance with GD05. This will be a requirement of any consent issued. Both requirements are offered as conditions of consent.

Signs – N/A – signage does not form part of this application.

Orongo Bay Zone – N/A as the site is not in Oronga Bay Zone.

There are no zone rules within the General Residential Zone with immediate legal effect, nor any rules applying to the Coastal Environment overlay.

7.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

The potential effects can be broadly summarised as follows:

- Positive Effects;
- Natural Hazards;
- Earthworks and construction effects;
- Access;
- Stormwater, wastewater and water supply;
- Effects on Indigenous vegetation and habitat;
- Landscape and Visual Effects;
- Archaeological/cultural Effects.

7.1 Positive Effects

The property is mapped as being within the Coopers Beach Landslide Feature. The residential re-development proposed for the site has had regard to the implications of this hazard. The design and layout chosen is considered to have minimal impact on ground stability. The re-development also features retention of indigenous vegetation where practicable and landscape planting to ensure the maintenance and enhancement of amenity values associated with the built and vegetated environment within which the property is located.

7.2 Natural Hazards

The application site is mapped as being within the Coopers Beach Landslide Feature. This means it is within the Coastal Erosion Zone 3: 100 Year + Rapid Sea Level Rise Scenario; and Zone 2: 100 Year Scenario. Neither 'zone' fall within the definition of 'high risk' natural hazard as defined in the Proposed District Plan:

*areas of coastal erosion hazard and coastal flooding hazard mapped by the Northland Regional Council and included in the District Plan maps as Coastal Flood Hazard **Zone 1** (CFHZ1) and Coastal Erosion Hazard **Zone 1** (CEHZ1).*

The site is not within any coastal erosion hazard as mapped in the ODP.

In determining a suitable site, footprint and foundation design for the re-development of the site, the applicants commissioned Hawthorne Geddes Engineers and Architects to carry out geotechnical investigations and reporting (including earthworks); and stormwater and overland flow management. The resulting reports are attached in Appendices 4 and 5.

Recommendations and conclusions are contained in section 11 of the Geotechnical Suitability Report (pg 18). The site is extremely unlikely to liquefy. The building is considered to be at low risk of slope stability hazard subject to the recommendations in the report. These include retaining and stormwater management and control. No fill is to be placed between the building site, with excavation spoil to be removed from site. Soils are considered suitable for the proposed dwelling supported over a conventional concrete slab. In summary, and subject to the recommendations in the report being implemented, the report authors consider the proposed dwelling suitable for the site.

The property is one of several that feature bush coverage, amongst which are located houses. Like all other properties (vacant and already developed), this means any residential unit is generally unable to achieve the 20m setback from drip line of trees requirement, often because of proximity of trees on adjacent properties over which they have no control. Vegetation clearance will be kept to the absolute minimum for ground stability and amenity reasons and consent is being sought for a breach of Rule 12.4.6.1.2. To mitigate against the risk of fire, sufficient accessible (and dedicated) fire fighting water supply will be stored on site. The site also has a connection to Doubtless Bay Water Supply Company's reticulated system but this alone is not regarded as adequate for fire fighting.

Approval from Fire & Emergency NZ for the proposed fire fighting water supply has been obtained. Refer to Appendix 6 for consultation with FENZ.

7.3 Earthworks and Construction Effects

The nature of the development is such that the built structures are to be located on a series of levelled terraces, moving up the slope in an easterly direction. This necessitates earthworks and several engineer designed retaining walls and structures. The Geotechnical Suitability Report addresses earthworks in its section 11.3 and the Civil engineering suitability report also addresses earthworks, as well as erosion and sediment control, on its pg 2 of 3.

Visual amenity and natural character effects of earthworks

The site is zoned Residential and is not Outstanding Landscape. The re-development, whilst overall appearing quite substantive, is designed such that each 'pavillion' will be built on its own levelled platform. Earthworks will be visible from the water and adjacent sites (but not public road) during site works. However, thereafter any bare surfaces will be planted/re-vegetated or behind retaining walls and structures. The long term visual effects of earthworks will be less than minor.

7.4 Access

The access to the existing dwelling is existing, primarily on grass cover going up to the house. It is intended to concrete/pave this accessway to a minimum 3m wide carriageway. This work is more than 26m from MHWS. The accessway is level ground where it intersects with the end of Kotare Drive. The driveway climbs a gentle slope to the proposed manoeuvring and garaging area. Vehicles will be able to enter the garage space frontwards and then execute a 3-point turn to exit, or alternative can execute a 3-point manoeuvre to reverse into the garage in order to then drive straight out. Larger vehicles, however, will not be able to executive that manoeuvre due to space constraint and will have to either reverse along the access leg-in or, if entering frontwards, reverse back out. This is only for a distance of 30m, and straight line, so readily achievable. Where a site is required to have fewer than 4 car parking spaces, reversing off a site is permitted.

7.5 Stormwater, wastewater and water supply

Stormwater & Drainage

Hawthorn Geddes have provided both a Geotechnical Suitability Report and a Civil Engineering Report - attached in Appendices 4 & 5. The latter discusses overland flow interception and stormwater management. To effectively capture and manager catchment flows, it is recommended to install a shallow swale with a depth of 300mm positioned across the contour leading to an inlet scruffy dome chamber. To facilitate the conveyance of flow along the boundary, it is advised to install a pipe, given the gradient. The proposal is to

connect to the FNDC reticulated stormwater network at the end of Kotare Drive, just south of the vehicle entrance to the site.

Wastewater (Effluent Disposal)

The site is connected to the Council's reticulated sewerage system, with the FNDC's main running along the front of the site, connecting to Kotare Drive sewer and beyond. The proposal replaces an existing residential unit and does not require any additional connections.

Water Supply

The site is connected to the privately operated Doubtless Bay Water Supply Company reticulated system. In addition a dedicated fire fighting storage is proposed via a Duracrete underground tank.

7.6 Effects on Indigenous vegetation and habitat

The site is zoned Residential and as such it is an expected outcome that a residential unit will be accommodated on the site, resulting in the need to clear at least some of the indigenous vegetation on the site. The site is typical of several in the area, supporting a mixture of indigenous and exotic species. Vegetation clearance has been limited so far to that required to enable topographical survey and geotechnical investigations. The upper portion of the property will largely remain in vegetative cover (mixed indigenous / exotics). Areas between and around buildings and driveways/pathways will be landscaped (also mixed indigenous/exotics with an emphasis on avoiding highly flammable species).

Indigenous vegetation clearance is permitted under the ODP by virtue of the site meeting the definition of "urban environment". It is permitted under the PDP because the proposal is for a residential unit and its on-site infrastructure and clearance will not exceed 1,000m^2.

7.7 Landscape, natural character and visual amenity

The site is zoned Residential and is in an existing built up area. It is within the coastal environment and a feature of the area within which the site is located is the abundance of vegetation and greenery. This allows the built environment to blend into the background and houses are less conspicuous than might otherwise be the case if there were not as many trees.

The proposed re-development is made up of a series of tiered pavillions, none of which have a particularly large individual footprint, but with a combined footprint of just under 300m^2. The building is long and narrow – 34.5m long and 12m wide. It is designed to sit centrally (north-south orientation) within the lot at the lower end, leaving existing vegetation on the upper slopes within the site.

The buildings will consist of materials that are recessive and will not be in sharp contrast to the backdrop of vegetated hillside. Being within an urban area, with services, the area's landscape and natural character values are already compromised. This proposal will not cause adverse effects on landscape and natural character values of a minor or more than minor nature.

7.8 Archaeological/cultural Effects

The site is not within any Heritage Precinct and is not mapped as containing any listed or scheduled Heritage sites, no Notable Trees, no Archaeological Sites (as recorded in the NZAA database) and no Sites of Cultural Significance to Maori. The property is also outside of the area proposed to be within the Mangonui and Rangikapiti Peninsula Heritage Area (PDP). The site is not visible from the Rangikapiti Reserve.

The site is already developed and I do not believe the proposed re-development for residential living, on a site zoned for that purpose, will have any adverse effects on archaeological or cultural values. No development is proposed near the coastal marine area.

7.9 Precedent & Cumulative Effects

I have not identified any adverse precedent effects. The necessary supporting information has been provided to show that the proposed development is appropriate for the site. The proposal does not result in any adverse cumulative effects. It will be the only residential development within a site zoned for residential development, and is compliant with bulk and location rules.

8.0 STATUTORY ASSESSMENT

8.1 Operative District Plan Objectives and Policies

Objectives and policies relevant to this proposal are predominantly those listed in Chapter 7.6 Residential Zone. These are discussed below where particularly relevant to this proposal. Also of relevance are objectives and policies in Chapters 12.2 & 12.4 of the District Plan (indigenous vegetation and fire risk). There are no mapped hazard features in the ODP that the application site is subject to.

7.6.3 OBJECTIVES

7.6.3.1 To achieve the development of new residential areas at similar densities to those prevailing at present.
7.6.3.2 To enable development of a wide range of activities within residential areas where the effects are compatible with the effects of residential activity.

The proposal is to re-develop an existing site, zoned for residential purposes, for residential use.

7.6.4 POLICIES

7.6.4.1 That the Residential Zone be applied to those parts of the District that are currently predominantly residential in form and character.
7.6.4.2 That the Residential Zone be applied to areas which are currently residential but where there is scope for new residential development.
7.6.4.3 That the Residential Zone be applied to areas where expansion would be sustainable in terms of its effects on the environment.

The above three policies are aimed at the Council as opposed to individual property development.

7.6.4.4 That the Residential Zone provide for a range of housing types and forms of accommodation.

The design and style of the proposed dwelling is one that 'fits' well on the site. It is innovative and provides for abundant indoor living area whilst preserving outdoor living area and privacy.

7.6.4.5 That non-residential activities only be allowed to establish within residential areas where they will not detract from the existing residential environment.

Not relevant.

7.6.4.6 That activities with net effects that exceed those of a typical single residential unit, be required to avoid, remedy or mitigate those effects with respect to the ecological and amenity values and general peaceful enjoyment of adjacent residential activities.

Not relevant.

7.6.4.7 That residential activities have sufficient land associated with each household unit to provide for outdoor space, planting, parking and manoeuvring.

7.6.4.8 That the portion of a site or of a development that is covered in buildings and other impermeable surfaces be limited so as to provide open space around buildings to enable planting, and to reduce adverse hydrological, ecological and amenity effects.

The built coverage is only 24%, well within the zone's permitted thresholds. There is sufficient space on site for outdoor living, and planting. Whilst there are some constraints on site in regard to parking and manoeuvring, these are to some extent unavoidable given the narrowness of the existing site and its topography.

7.6.4.9 That sites have adequate access to sunlight and daylight.

The building pavillions will all be orientated in a westerly direction, out towards the water. The sun will generally rise over the hill side behind the site and set out over the bay and distant peninsula. The site will have abundant access to sunlight and daylight.

7.6.4.10 That provision be made to ensure a reasonable level of privacy for inhabitants of buildings on a site.

The design is such that the focus for inhabitants will be westwards, towards the bay, not towards adjacent properties. A high level of privacy is ensured for occupiers of the site.

Whilst I have not identified any breach of the Operative District Plan's indigenous vegetation clearance rule, there is some clearance required. Objectives and policies in Chapter 12.2 are aimed at protecting significant areas of indigenous vegetation and habitat. Some clearance of indigenous vegetation has already occurred to enable topographical survey and geotechnical assessment/investigations. More will be required when preparing the terraced building platforms for construction.

The vegetation on the site (and adjacent properties) is a mix of indigenous and exotic species. It would be difficult to consider the vegetation on site as 'significant' in its own right, due to the mixed species, weed growth and urban nature of the area. However, vegetative cover across several adjacent sites does provide continuous canopy and habitat for birdlife. It is intended to retain this canopy coverage on the upper portion of the application site and to install and maintain landscape plantings around the built environment and on the site frontage. I believe the proposal to be consistent with Chapter 12.2's objectives and policies insofar as they relate to indigenous vegetation in an urban setting with serviced sites.

Objectives and policies in Chapter 12.4, relevant to fire risk to residential units in proximity to an area of bush or shrubland, are addressed below.

Objective
12.4.3.7 To avoid fire risk arising from the location of residential units in close proximity to trees, or in areas not near fire fighting services.; and
Policy
12.4.4.7 That the risk to adjoining vegetation and properties arising from fires be avoided.

The proposed development cannot entirely avoid the risk of fire, primarily because the site cannot provide for a building platform 20m or more away from the dripline of trees on adjacent properties, let alone within the site itself. However, the development will mitigate fire risk by means of an accessible and sufficient fire fighting water supply. Consultation has been carried out with Fire and Emergency NZ, with approval received – refer Appendix 6.

In summary I consider the proposal to be consistent with the relevant objectives and policies of the District Plan.

8.2 Proposed District Plan Objectives and Policies

The property has a General Residential Zone under the Proposed District Plan (PDP) and has a Coastal Environmental Overlay.

Objectives

GRZ-O1

The General Residential zone provides a variety of densities, housing types and lot sizes that respond to:

a. *housing needs and demand;*
b. *the adequacy and capacity of available or programmed development infrastructure;*
c. *the amenity and character of the receiving residential environment; and*
d. *historic heritage.*

GRZ-O2

The General Residential zone consolidates urban residential development around available or programmed development infrastructure to improve the function and resilience of the receiving residential environment while reducing urban sprawl.

GRZ-O3

Non-residential activities contribute to the well-being of the community while complementing the scale, character and amenity of the General Residential zone.

GRZ-O4

Land use and subdivision in the General Residential zone is supported where there is adequacy and capacity of available or programmed development infrastructure.

GRZ-O5

Land use and subdivision in the General Residential zone provides communities with functional and high amenity living environments.

GRZ-O6

Residential communities are resilient to changes in climate and are responsive to changes in sustainable development techniques.

GRZ-O1 is aimed at the Council when determining zoning and provisions to apply to its urban zones. The proposal is for a single residential development on a site zoned for such a use and the site is serviced (GRZ-O2 and GRZ-O4). The proposal is residential so GRZ-O3 is not relevant. The proposal is appropriate for the site and will maintain amenity (GRZ-O5 & O6).

Policies

GRZ-P1

Enable land use and subdivision in the General Residential zone where:

a. *there is adequacy and capacity of available or programmed development infrastructure to support it; and*
b. *it is consistent with the scale, character and amenity anticipated in the residential environment.*

The site is serviced and is consistent with the scale, character and amenity anticipated in the zone.

GRZ-P2

Require all subdivision in the General Residential zone to provide the following reticulated services to the boundary of each lot:

a. *telecommunications:*
b. *fibre where it is available; or*
c. *copper where fibre is not available;*
d. *local electricity distribution network;*
e. *wastewater; and*
f. *potable water and stormwater where it is available.*

N/A – not a subdivision.

GRZ-P3

Enable multi-unit developments within the General Residential zone, including terraced housing and apartments, where there is adequacy and capacity of available or programmed development infrastructure.

N/A – not a multi unit development.

GRZ-P4

Enable non-residential activities that:

a. *do not detract from the vitality and viability of the Mixed Use zone;*
b. *support the social and economic well-being of the community;*
c. *are of a residential scale; and*
d. *are consistent with the scale, character and amenity of the General Residential zone.*

N/A – not a non-residential activity.

GRZ-P5

Relates to retirement villages – N/A

GRZ-P6

Encourage and support the use of on-site water storage to enable sustainable and efficient use of water resources.

The proposal includes a dedicated fire fighting water supply. The site is connected to Doubtless Bay Water Supply.

GRZ-P7

Encourage energy efficient design and the use of small-scale renewable electricity generation in the construction of residential development.

N/A – proposal does not involve renewable electricity generation.

GRZ-P8

Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:

a. consistency with the scale, design, amenity and character of the residential environment;
b. location, scale and design of buildings or structures, potential for shadowing and visual dominance ;
c. for residential activities,:
  i. provision of outdoor living space;
  ii. privacy for adjoining sites;
  iii. access to sunlight

d. for non-residential activities: N/A
e. at zone interfaces,
any setbacks, fencing, screening or landscaping required to address potential conflicts;
f. the adequacy and capacity of available or programmed development infrastructure to accommodate the proposed activity, including:
i. opportunities for low impact design principles
ii. ability of the site to address stormwater and soakage;
g. managing natural hazards; and
h. Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters s et out in Policy TW-P6.

The proposal has addressed, and taken into account, all of the relevant matters listed in GRZ-P8.

The site has a coastal environment overlay. Relevant objectives and policies in regard to the above are addressed below:

Coastal Environment Objectives and Policies:

CE-O1
The natural character of the coastal environment is identified and managed to ensure its long-term preservation and protection for current and future generations.

CE-O2
Land use and subdivision in the coastal environment:
a. preserves the characteristics and qualities of the natural character of the coastal environment;
b. is consistent with the surrounding land use;
c. does not result in urban sprawl occurring outside of urban zones;
d. promotes restoration and enhancement of the natural character of the coastal environment; and
e. recognises tangata whenua needs for ancestral use of whenua Māori.

CE-O3
Land use and subdivision in the coastal environment within urban zones is of a scale that is consistent with existing built development.

The site is in an urban environment where 'natural character' values associated with the coastal environment are already somewhat compromised. The proposal is consistent with surrounding land use and with the scale of existing built development; and does not result in urban sprawl occurring outside of an urban zone. Building coverage is comfortably within the permitted activity threshold.

CE-P2 *Avoid adverse effects of land use and subdivision on the characteristics and qualities of the coastal environment identified as:*
a. outstanding natural character;
b. ONL;
c. ONF.

CE-P3 *Avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of land use and subdivision on the characteristics and qualities of the coastal environment not identified as:*

a. *outstanding natural character;*
b. *ONL;*
c. *ONF.*

The site contains none of the items listed a-c in CE-P2 and P3.

CE-P4 *Preserve the visual qualities, character and integrity of the coastal environment by:*
a. *consolidating land use and subdivision around existing urban centres and rural settlements; and*
b. *avoiding sprawl or sporadic patterns of development.*

CE-P5 *Enable land use and subdivision in urban zones within the coastal environment where:*
a. *there is adequacy and capacity of available or programmed development infrastructure; and*
b. *the use is consistent with, and does not compromise the characteristics and qualities.*

The site is within an existing serviced urban area.

CE-P8 *Encourage the restoration and enhancement of the natural character of the coastal environment.*

The area is primarily an urban area and has services and infrastructure. It would be inappropriate to restore or enhance natural character values in the circumstances given that built development is the predominant use.

CE-P10 *Manage land use and subdivision to preserve and protect the natural character of the coastal environment, and to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:*
a. *the presence or absence of buildings, structures or infrastructure;*
b. *the temporary or permanent nature of any adverse effects;*
c. *the location, scale and design of any proposed development;*
d. *any means of integrating the building, structure or activity;*
e. *the ability of the environment to absorb change;*
f. *the need for and location of earthworks or vegetation clearance;*
g. *the operational or functional need of any regionally significant infrastructure to be sited in the particular location;*
h. *any viable alternative locations for the activity or development;*
i. *any historical, spiritual or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6;*
j. *the likelihood of the activity exacerbating natural hazards;*
k. *the opportunity to enhance public access and recreation;*
l. *the ability to improve the overall quality of coastal waters; and*
m. *any positive contribution the development has on the characteristics and qualities.*

The proposal has taken the matters listed in CE-P10 into consideration.

<u>Ecosystems and indigenous biodiversity Objectives and Policies</u>

No rule breaches have been identified pursuant to the PDP. The lot owner is entitled to clear indigenous vegetation for the first residential unit on a site (up to 1000m^2). The following

objective has some (although limited) relevance and the proposal is considered consistent with it.

IB-O2 *Indigenous biodiversity is managed to maintain its extent and diversity in a way that provides for the social, economic and cultural well-being of people and communities.*

The following policies have limited relevance:

IB-P2 *Within the coastal environment:*

a. *avoid adverse effects of land use and subdivision on Significant Natural Areas; and*
b. *avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of land use and subdivision on areas of important and vulnerable indigenous vegetation, habitats and ecosystems.*

IB-P5 *Ensure that the management of land use and subdivision to protect Significant Natural Areas and maintain indigenous biodiversity is done in a way that:*

a. *does not impose unreasonable restrictions on existing primary production activities, particularly on highly versatile soils;*
b. *recognises the operational need and functional need of some activities, including regionally significant infrastructure, to be located within Significant Natural Areas in some circumstances;*
c. *allows for maintenance, use and operation of existing structures, including infrastructure; and*
d. *enables Māori land to be used and developed to support the social, economic and cultural well-being of tangata whenua, including the provision of papakāinga, marae and associated residential units and infrastructure.*

Adverse effects are avoided and/or mitigated. The clearance is required to allow for the construction of what will be the only residential unit on the site.

IB-P10 *Manage land use and subdivision to address the effects of the activity requiring resource consent for indigenous vegetation clearance and associated land disturbance, including (but not limited to) consideration of the following matters where relevant to the application:*

N/A – no resource consent required under the PDP.

The site is mapped as being within a low risk Coastal Hazard area (100 year event) and some of the objectives and policies in the Natural Hazards section of the PDP have relevance accordingly.

Objectives

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

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

Supporting reports demonstrate that the proposal is an appropriate use of the site and will not increase the risk from natural hazards.

General Policies

NH-P1
Map or define areas that are known to be subject to the following natural hazards, taking into account accepted estimates of climate change and sea level rise:
a. flooding;
b. coastal erosion;
c. coastal inundation; and
d. land instability.

The PDP's maps show hazard areas.

NH-P2
Manage land use and subdivision so that natural hazard risk is not increased or is mitigated, giving consideration to the following:
a. the nature, frequency and scale of the natural hazard;
b. not increasing natural hazard risk to other people, property, infrastructure and the environment beyond the site;
c. the location of building platforms and vehicle access;
d. the use of the site, including by vulnerable activities;
e. the location and types of buildings or structures, their design to mitigate the effects and risks of natural hazards, and the ability to adapt to long term changes in natural hazards;
f. earthworks, including excavation and fill;
g. location and design of infrastructure;
h. activities that involve the use and storage of hazardous substances;
i. aligning with emergency management approaches and requirements;
j. whether mitigation results in transference of natural hazard risk to other locations or exacerbates the natural hazard; and
k. reduction of risk relating to existing activities.

The building platforms and foundation design have been selected only after comprehensive investigations involving geotechnical expertise. The design is considered appropriate for the site. The erosion risk is not classified as 'high risk', being the 100 year event scenario. As much as possible has been done to mitigate the fire risk.

NH-P3
Take a precautionary approach to the management of natural hazard risk associated with land use and subdivision.

I believe the proposal has taken an appropriate precautionary approach.

NH-P5
Require an assessment of risk prior to land use and subdivision in areas that are subject to identified natural hazards, including consideration of the following:
a. the nature, frequency and scale of the natural hazard;
b. the temporary or permanent nature of any adverse effect;
c. the type of activity being undertaken and its vulnerability to an event, including the effects of

climate change;
d. the consequences of a natural hazard event in relation to the activity;
e. any potential to increase existing risk or creation of a new risk to people, property, infrastructure and the environment within and beyond the site and how this will be mitigated;
f. the design, location and construction of buildings, structures and infrastructure to manage and mitigatethe effects and risk of natural hazards including the ability to respond and adapt to changing hazards;
g.the subdivision/site layout and management, including ability to access and exit the site during a natural hazard event; and
h. the use of natural features and natural buffers to manage adverse effects.

Refer to Geotechnical Suitability Report in Appendix 4.

Coastal Hazard Policy NH-P7

Manage new land use and subdivision in coastal hazard areas so that:
a. new subdivision avoids locating building platforms within High Risk Coastal Hazard areas and building platforms should be located outside other coastal hazard areas where alternative locations are available and it is practicable to do so;
b. new buildings containing vulnerable activities are not located within High Risk Coastal Hazard areas unless:
i. there is no other suitable location available on the existing site;
ii. hazard risks can be mitigated without the need for hard protection structures.
c. where a building or building platform is located with a coastal hazard area, it should be designed and constructed such that:
i. the building platform will not be subject to inundation and / or material damage (including erosion) over a 100-year timeframe; and either
ii. the finished floor level of any building accommodating a vulnerable activity must be at least 500mm above the maximum water level in a 1 percent AEP flood event plus 1m sea level rise; or
iii. the finished floor level of any other building must be at least 300mm above the maximum water level in a 1 percent AEP flood event plus 1m sea level rise.
d. hazard risk is not transferred to, or increased on, other properties;
e. buildings, building platforms, access and services are located and designed to minimise the need for hard protection structures;
f. safe vehicle access within the site is provided; and
g. services are located and designed to minimise the risk of natural hazards.

The proposal is not a subdivision (part a). The building will be outside of any *high* risk coastal hazard area (part b). The location and construction methodology has taken into account the risk of hazard. The site is well above sea level (part c). No risk is being transferred to or increased on other properties (part d). No hard protection structures are proposed (part e). Safe vehicular access can be provided and services are either already in place or will be located so as not to add to risk (parts f and g).

8.3 Part 2 Matters

5 Purpose
(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The proposal is considered to provide for the sustainable management of natural and physical resources. It provides for residential development on a single lot, zoned for that purpose.

6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

(f) the protection of historic heritage from inappropriate subdivision, use, and development:

(g) the protection of protected customary rights:

(h) the management of significant risks from natural hazards.

I consider the proposal to be an appropriate level and type of development for a site of this nature in the coastal environment, and within an urban zone (and fully serviced). Whilst clearance of indigenous vegetation within the site is required, the top part of the site will remain in its current vegetative cover and mixed indigenous/exotic landscape plantings are proposed for in and around the built environment. There are no heritage or cultural values associated with the site that I am aware of. There are no *significant* risks from natural hazards.

7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

(a) kaitiakitanga:

(aa) the ethic of stewardship:

(b) the efficient use and development of natural and physical resources:

(ba) the efficiency of the end use of energy:

(c) the maintenance and enhancement of amenity values:

(d) intrinsic values of ecosystems:

(e) [Repealed]

(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(h) the protection of the habitat of trout and salmon:
(i) the effects of climate change:
(j) the benefits to be derived from the use and development of renewable energy.

The proposed development will ensure the ongoing maintenance and enhancement of amenity values and the overall quality of the environment, and respects the intrinsic values of ecosystems.

8 Treaty of Waitangi
In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The principles of the Treaty of Waitangi have been considered and it is believed that this proposal does not offend any of those principles.

In summary, it is considered that all matters under s5-8 inclusive have been adequately taken into account.

8.4 NZ Coastal Policy Statement

The NZ Coastal Policy Statement (NZCPS) has relevance to this proposal due to the property's location. It is shown as being within the "coastal environment" on the Regional Policy Statement for Northland's maps as well as the district council's PDP maps. The following objectives and policies are considered relevant to the proposal.

Objective 2: *To preserve the natural character of the coastal environment and protect natural features and landscape values through.....*

The subject site is within an urban area and is a serviced site. Natural character and natural features are already compromised by way of the urban development occurring in the Coopers Beach settlement.

Objective 6: *To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:*

- *the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;*

I consider the development to be an appropriate use of the site that provides for people's social and economic wellbeing.

Policy 6: *Activities in the coastal environment*
(1) In relation to the coastal environment:
……(h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects; …..

(i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and……

I believe that the proposed development is consistent with both of parts (h) and (i) above. The building is set well back from the coast and well below headlands or ridgelines.

***Policy 13**: Preservation of natural character*
(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:
(a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and
(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;

***Policy 14** Restoration of natural character*
Promote restoration or rehabilitation of the natural character of the coastal environment, including by :
….
And

***Policy 15** Natural features and natural landscapes*
To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:
(a) avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and
(b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;

The above three policies are all more relevant to non urban parts of the coastal environment. Natural character is not a relevant consideration where a coastal settlement already exists, with serviced sites (and State Highway nearby). The proposal is consistent with other policies in the NZCPS that encourage consolidation of development around existing urban areas in order to avoid urban sprawl. I believe the proposal gives effects to the relevant objectives and policies in the NZ Coastal Policy Statement.

8.5 Other National Policy Statements and National Environmental Standards

There are no other National Policy Statements considered relevant to this proposal. Neither are there any national environmental standards relevant to this proposal. The site has not been used for any hazardous activity or industry and there is no natural wetland or freshwater body affected that might trigger any consent requirement under the National Environmental Standard for Freshwater Management. The site is urban and development of a site in an urban zone for urban use is expected. I do not believe the proposal to be contrary to the recently enacted NPS for Indigenous Biodiversity.

8.6 Regional Policy Statement for Northland

In preparing this application, the Regional Policy Statement for Northland has been considered, in particular those Objectives and Policies relevant to land identified as being within the "coastal environment". The building site and development area sit outside any area identified as having High or Outstanding Landscape or Natural Values in the Regional Policy Statement's maps. The site is urban.

Relevant objectives and policies are discussed below.

Objective 3.5 Enabling economic wellbeing
Northland's natural and physical resources are sustainably managed in a way that is attractive for business and investment that will improve the economic wellbeing of Northland and its communities.

I believe the proposed development is a sustainable use of the site and provides for the property owners' social and economic wellbeing.

3.12 Regional form
Northland has sustainable built environments that effectively integrate infrastructure with subdivision, use and development, and have a sense of place, identity and a range of lifestyle, employment and transport choices.

The site is within a serviced urban settlement. The development is in keeping with the existing character of the area.

4.6.1 Policy – Managing effects on the characteristics and qualities natural character, natural features and landscapes
(1) In the coastal environment:
a) Avoid adverse effects of subdivision use, and development on the characteristics and qualities which make up the outstanding values of areas of outstanding natural character, outstanding natural features and outstanding natural landscapes.
b) Where (a) does not apply, avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of subdivision, use and development on natural character, natural features and natural landscapes.
Methods which may achieve this include:

- *(i) Ensuring the location, intensity, scale and form of subdivision and built development is appropriate having regard to natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins; and*
- *(ii) In areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (including earthworks / disturbance, structures, discharges and extraction of water) to natural wetlands, the beds of lakes, rivers and the coastal marine area and their margins; and*
- *(iii) Encouraging any new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been compromised.*

Part (a) does not apply. The site is zoned for urban use and has limited natural character. The proposal consolidates development within an existing settlement.

Policies in section 7 of the Regional Policy Statement relate to natural hazards.

7.1.3 Policy – New subdivision, use and development within areas potentially affected by coastal hazards (including high risk coastal hazard areas)

Within areas potentially affected by coastal hazards over the next 100 years (including high risk coastal hazard areas), the hazard risk associated with new use and development will be managed so that:
(a) Redevelopment or changes in land use that reduce the risk of adverse effects from coastal hazards are encouraged;
(b) Subdivision plans ....;
(c) Coastal hazard risk to vehicular access routes for proposed new lots is assessed;
(d) Any use or development does not increase the risk of social, environmental or economic harm (from coastal hazards);
(e) Infrastructure .....;
(f) The use of hard protection structures .....

7.1.6 Policy – Climate change and development
When managing subdivision, use and development in Northland, climate change effects will be included in all estimates of natural hazard risk, taking into account the scale and type of the proposed development and using the latest national guidance and best available information on the likely effects of climate change on the region or district.

The site is not within a high risk coastal hazard area and is well elevated above sea level. Access can be readily achieved. The proposal does not increase the risk of hazard and is not reliant on the use of hard protection structures.

9.0 CONSULTATION & s95 ASSESSMENT

Fire and Emergency NZ (FENZ)
Consultation has been carried out with FENZ in regard to a fire fighting water supply that is adequate, secure and accessible. Approval has been granted - refer to Appendix 6.

9.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. No such circumstance exists, and public notification is therefore not mandatory.

Step 2 of s95A specifies the circumstances that preclude public notification. No such circumstance exists, therefore public notification is not precluded. Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances. These include:

(a) the application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification:

(b) the consent authority decides, in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor.

The application is not subject to a rule or national environmental standard that requires public notification. This report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. Public notification is not required pursuant to Step 3 of s95A.

Step 4 of s95A states that the consent authority is to determine if there are any special circumstances under which public notification may be warranted. Such circumstances are not defined. I do not consider any such circumstances exist.

9.2 S95B Limited Notification Assessment

A consent authority must follow the steps set out in s95B to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified pursuant to s95A. Step 1 identifies certain affected groups and affected persons that must be notified. No such group or persons exist in this case.

Step 2 of s95B specifies the circumstances that preclude limited notification. No such circumstances exist and limited notification is therefore not precluded. Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified, specifically:

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

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

The application does not involve a boundary activity. Clause (7) therefore does not apply. The s95E assessment below concludes that there are no affected persons to be notified.

Step 4 of s95B states that the consent authority is to determine if there are any special circumstances under which limited notification may be warranted. Such circumstances are not defined. I do not consider any such circumstances exist.

In overall summary, limited notification of this application is not required.

9.3 S95D Level of Adverse Effects

The AEE in this report assesses effects on the environment and concludes that these will be no more than minor.

9.4 S95E Affected Persons

A person is an 'affected person' if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor). A person is not an affected person if they have provided written approval for the proposed activity.

The approval of the FENZ has been obtained to ensure as much mitigation as possible can be achieved in the case of fire risk to residential unit. Vehicle movements are well within permitted activity thresholds, and in any event the first residential unit on a site is exempt. There are no boundary infringements and appropriate erosion and sediment control measures will be put in place prior to, and during construction works. I have not identified any adjacent properties as being affected by this proposal.

The site does not contain any heritage or cultural sites or values. The site is not accessed off a state highway. No pre lodgement consultation has been considered necessary with tangata whenua, Heritage NZ, Department of Conservation or Waka Kotahi.

10.0 CONCLUSION

The site is considered suitable for the proposed development, and effects on the wider environment are no more than minor. The proposal is consistent with the relevant objectives and policies of the Operative and Proposed District Plans, the NZ Coastal Policy Statement, and the Regional Policy Statement, as well as Part 2 of the Resource Management Act.

There is no District Plan rule or national environmental standard that requires the proposal to be publicly notified and no persons have been identified as adversely affected by the proposal. No special circumstances have been identified that would suggest notification is required.

It is therefore requested that the Council grant approval to the land use consent and changes to consent notice, on a non notified basis, subject to appropriate conditions.

Lynley Newport
Senior Planner
Thomson Survey Ltd

Date 14th December 2023

11.0 APPENDICES

Appendix 1 Plans & Architectural Statement

Appendix 1A Landscape Planting Plan

Appendix 2 Location Map

Appendix 3 Title Information

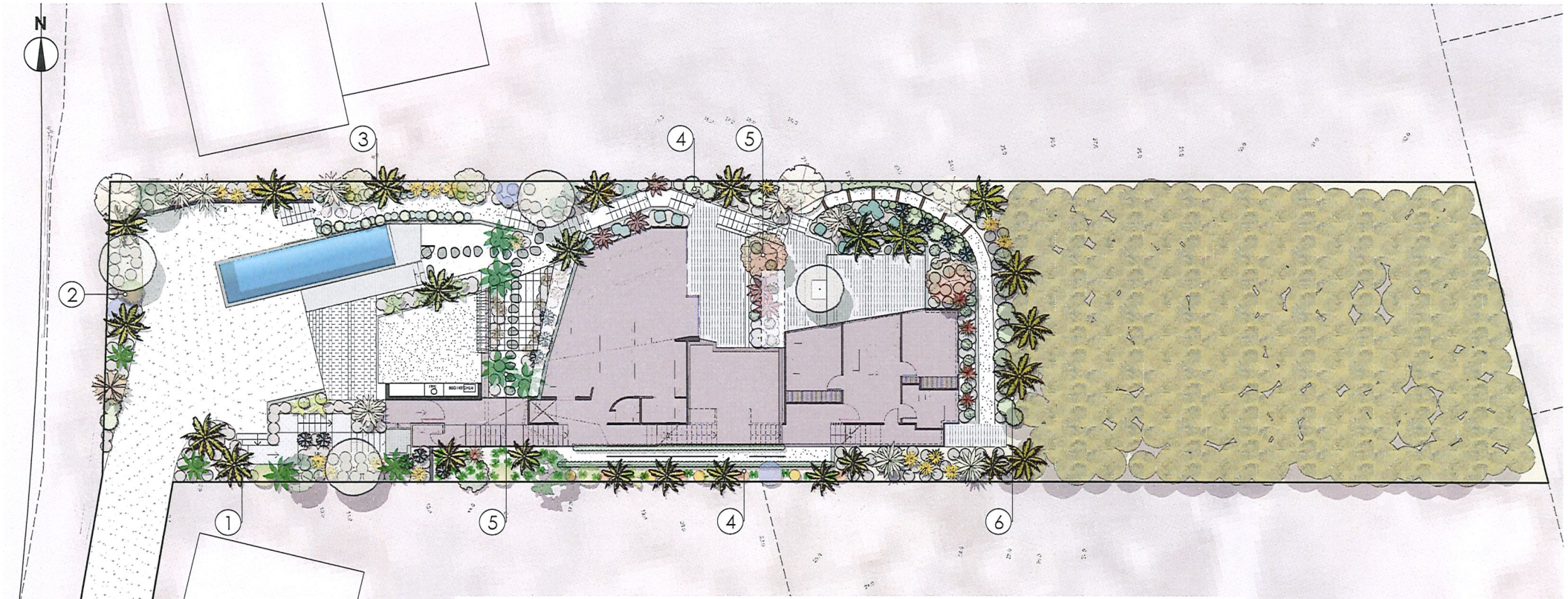
Appendix 4 Geotechnical Suitability Report

Appendix 5 Civil Engineering Report

Appendix 6 Consultation with FENZ

Appendix 1A

Landscape Planting Plan



KEY:

1. Landscaping located in this area along the southern boundary should include tall narrow growing trees and palms, with lush understory shrubs that will provide a vegetated screen between the proposed dwelling and the existing neighbouring house to the south. This will provide privacy for this neighbour. The use of tall narrow growing trees and palms will soften the view of the upper levels of the dwelling from the street and beach below. This will also assist with tying the house into the landscape when viewed form out upon the water.

2. A dense screen of vegetation located between the street and the house will screen the garaging and parking areas from the beach. This will provide privacy and maintain visual amenity values for anyone located along the beach reserve.

3. A buffer of landscaping along the northern boundary using a combination of palms and narrow growing plants will provide a visual buffer between the garaging, and pool areas and the neighbouring house to the north.

4. Narrow growing shrubs located between the house and boundary to provide maintain a vegetated area along the boundary.

5. Landscaping within the courtyard garden rooms that are located in the spaces between the different levels of the house. The use of palms, Cabbage trees and Punga will provide narrow growing plants with a head of foliage that will soften the built form. These fingers of green between the modules of the house will break it up the bulk of the structure and tie it into the landscape.

6. The rear of the house will be landscaped using native species to revegetate any bare areas from the construction of the dwelling. This planting will tie in with the surrounding Manuka dominated bush area.

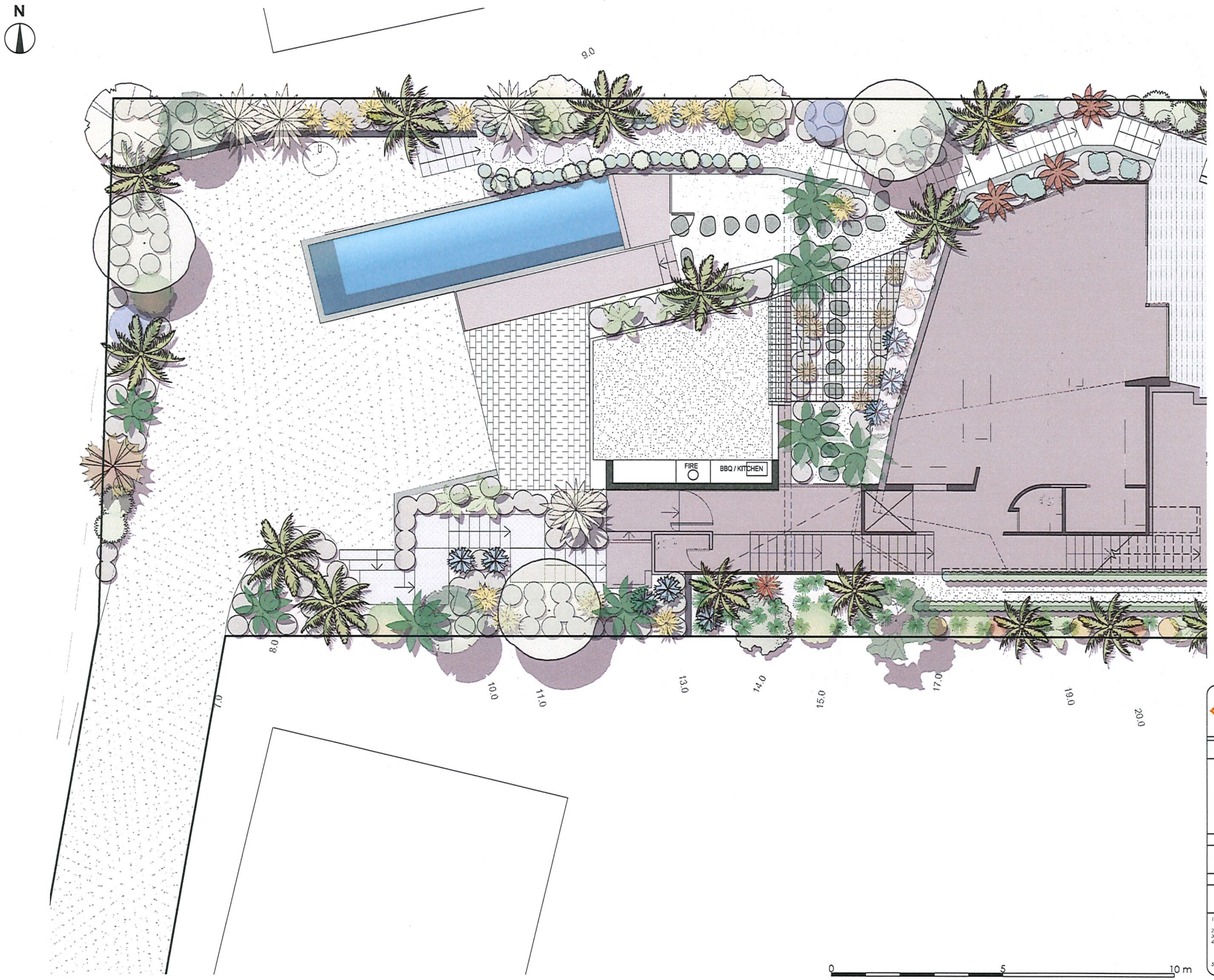
HAWTHORN
Landscape Architects

13.12. 2023

Landscape Integration Concept Plan

Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
1:200 @ A3	Cad Design
Drawing #	Rev #
1.0	A



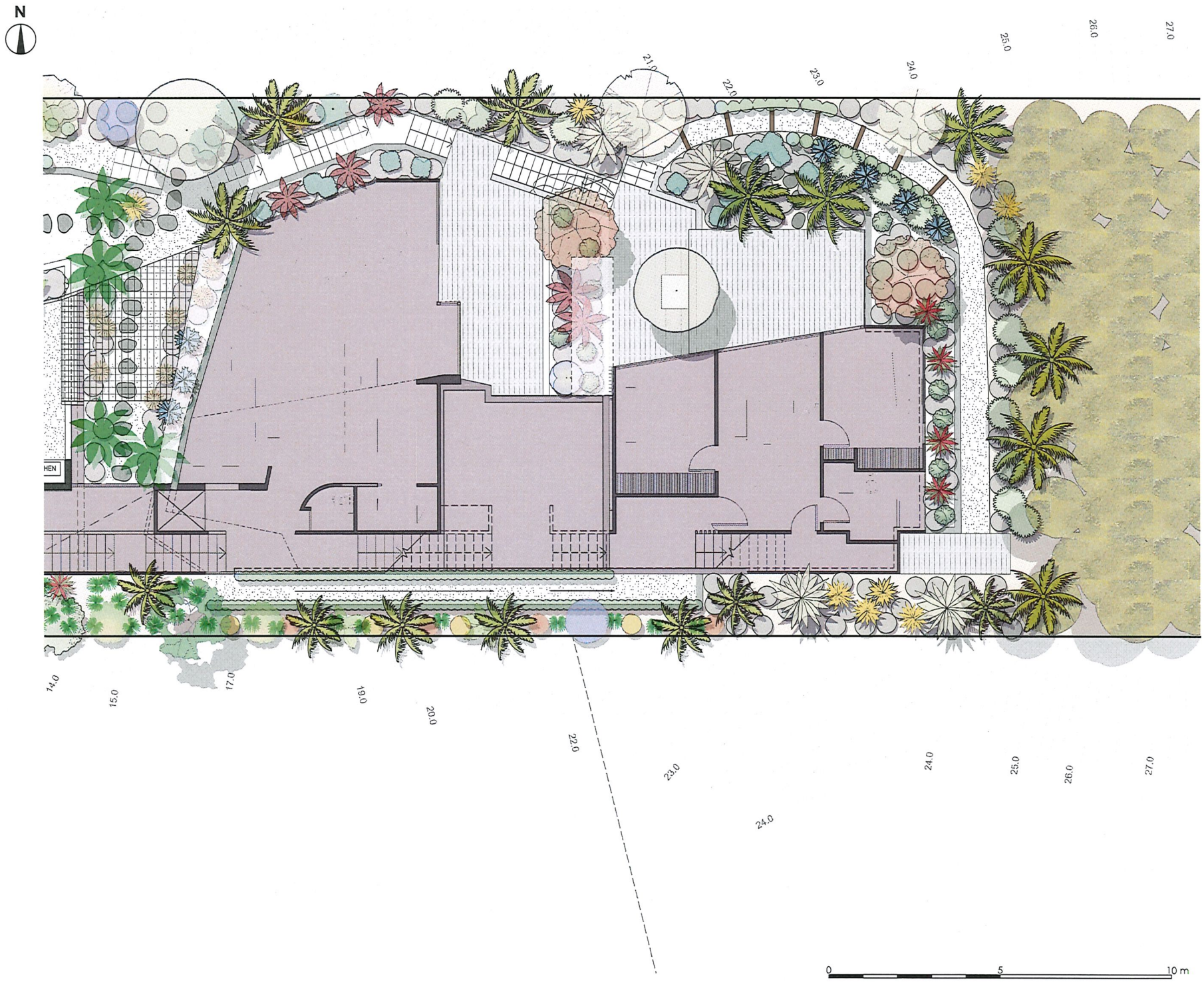
HAWTHORN
Landscape Architects

13.12. 2023

Landscape Integration Concept Plan
Enlargement 2

Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
1:100 @ A3	Cad Design
Drawing #	Rev #
2.0	A



HAWTHORN
Landscape Architects

13.12. 2023

Landscape Integration Concept Plan
Enlargement 2

Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
1:100 @ A3	Cad Design
Drawing #	Rev #
2.1	A

PLANT PALETTE OPTIONS - Tall Narrow Growing Plants


Cordyline australis


Cordyline Nigra

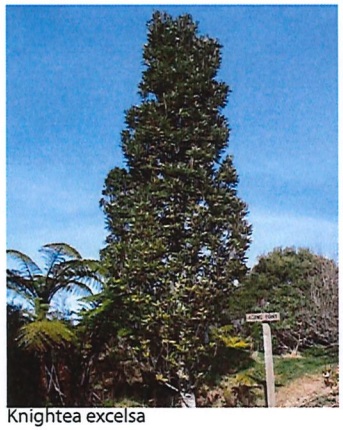

Cordyline Fiji


Cyathea medullaris

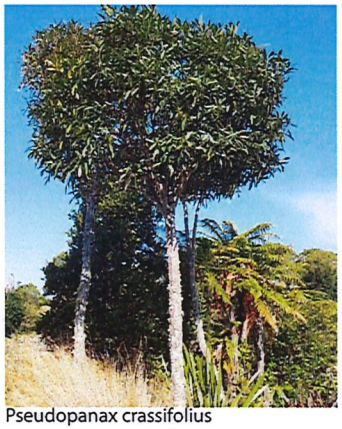

Dypsis baronii


Hymenosporum flavum


Howea fosteriana


Knightea excelsa


Pseudopanax Cyril Watson


Pseudopanax crassifolius


Radermachera sinica


Schefflera actinophylla

Feature Trees


Albizzia julibrissian


Ficus dammeropsis


Sophora tetraptea


Lagerstroemia St Emillion


Plumeria

HAWTHORN
Landscape Architects

13.12. 2023

Plant Palette
Enlargement 2

Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
No Scale	Cad Design
Drawing #	Rev #
3.0	A

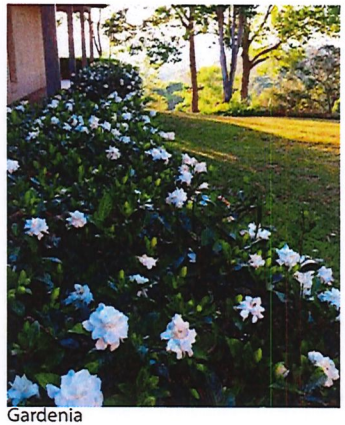
Shurbs & Understory Plantings


Canna irridiflora


Clianthus puniceus


Ctenanthe Tricolour

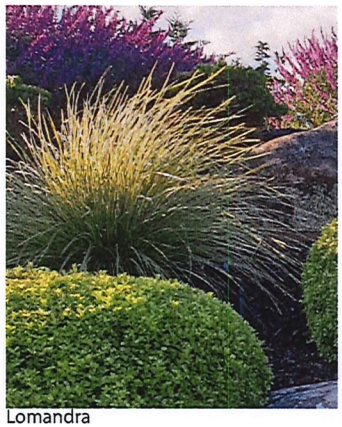

Dietes robinsonoiana


Gardenia


Hibiscus arnottianus Wilders White


Hibiscus rosa sinensis


Ligularia


Lomandra


Medinilla myriantha


Metrosideros Tahiti

Rhododendron Vireya Rangitoto Rose

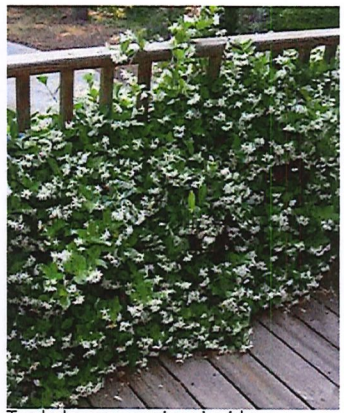
Vines


Beaumontia grandiflora


Gleditsia Sunburst


Thunbergia mysorensis


Petrea volubilis


Trachelospermum jasminoides

HAWTHORN
Landscape Architects

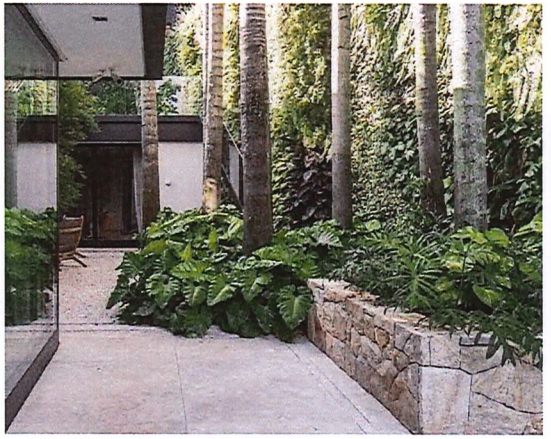
13.12. 2023

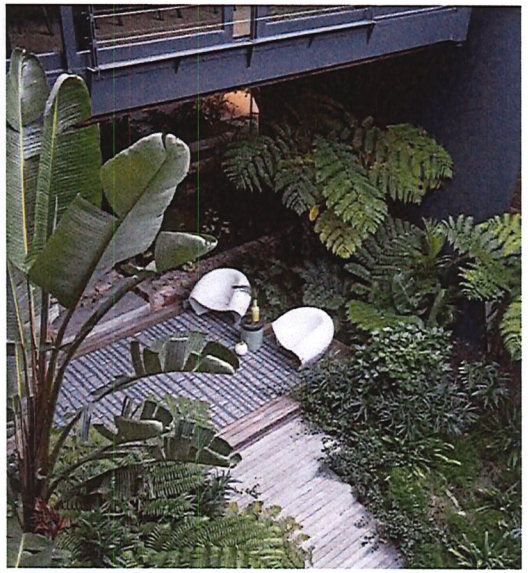
Plant Palette
Enlargement 2

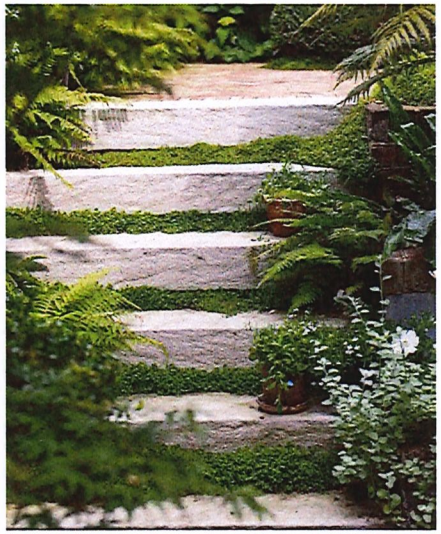
Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
No Scale	Cad Design
Drawing #	Rev #
3.1	A

HARD LANDSCAPE MATERIAL PALETTE







HAWTHORN
Landscape Architects

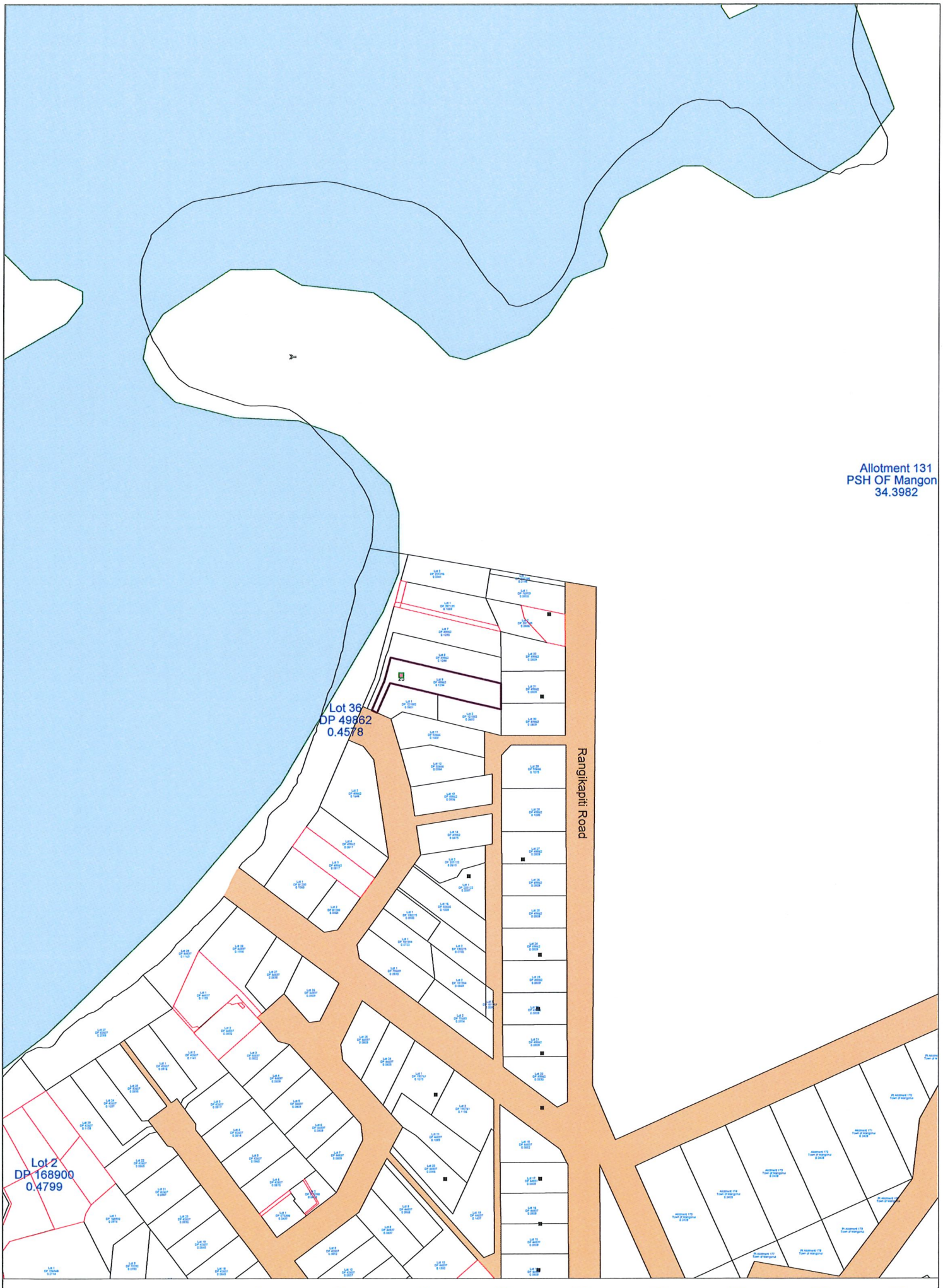
13.12. 2023

Material Palette
Enlargement 2

Vanessa & Alan Abernethy
25 Kotare Drive, Coopers Beach

Scale	Drawn By
	Cad Design
Drawing #	Rev #
3.2	A

Appendix 2
Location Map



0 50 100 150 200 250 300 350 400m

QuickMap
Custom Software Ltd

Any person wishing to rely on the information shown on this map must independently verify the information

Scale 1:3000 Topographical and Cadastral map derived from LINZ data. Printed: 08-Dec-2023 02:18.

Appendix 3
Title Information

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**NA5C/496**
Land Registration District	**North Auckland**
Date Issued	24 March 1965

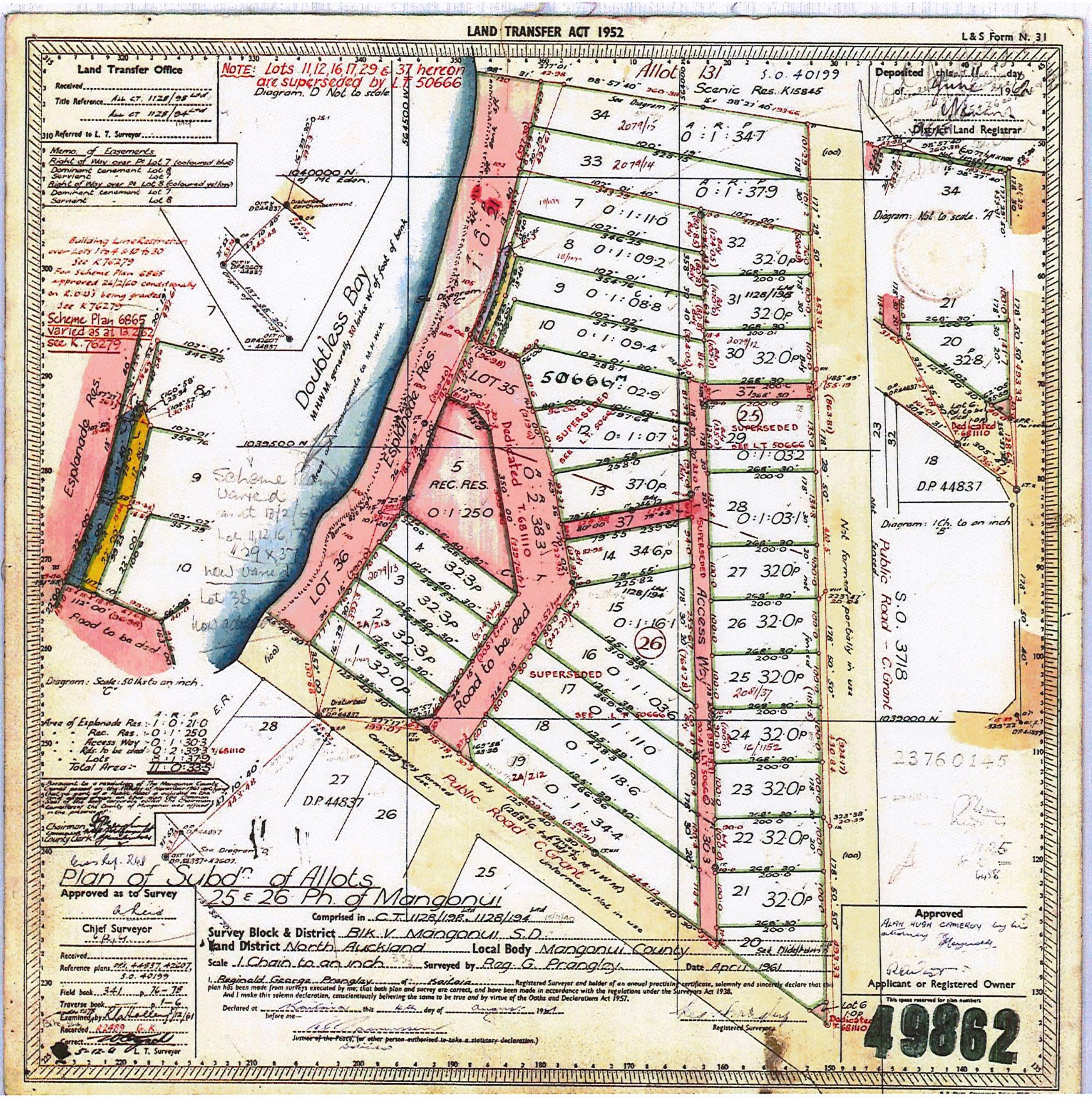
Prior References
NA1128/198

Estate	Fee Simple
Area	1234 square metres more or less
Legal Description	Lot 9 Deposited Plan 49862

Registered Owners
Alan Richard Abernethy and Vanessa Eileen Abernethy

Interests

7760080.3 Mortgage to ANZ National Bank Limited - 28.3.2008 at 3:51 pm


LAND TRANSFER ACT 1952
L & S Form N. 31
Land Transfer Office
NOTE: Lots 11,12,16,17,29 & 37 hereon are superseded by L.T. 50666
Diagram. D Not to scale
Allot 131
S.O. 40199
Scenic Res. K15845
Deposited this 11 day of June 1962
District Land Registrar
Memo. of Easements
Right of Way over Pt Lot 7 (coloured blue)
Dominant tenement Lot 8
Servient Lot 6
Right of Way over Pt Lot 8 (coloured yellow)
Dominant tenement Lot 7
Servient Lot 8
Scheme Plan 6865 varied as at 13.2.62 see K 76279
Doubtless Bay
Esplanade Res.
LOT 35
LOT 36
REC. RES.
Dedicated T. 68110
Road to be ded
SUPERSEDED
Access Way
Public Road - C. Grant
S.O. 3718
D.P. 44837
Not formed partially in use
Diagram: Scale: 50 lks to an inch "C"
Area of Esplanade Res: 1 : 0 : 21.0
Rec. Res. 0 : 1 : 25.0
Access Way 0 : 1 : 30.3
Rds. to be ded 0 : 2 : 39.3
Lots 11 : 1 : 37.9
Total Area: 11 : 0 : 33.5
Plan of Subdn. of Allots 25 & 26 Ph. of Mangonui
Comprised in C.T. 1128/198, 1128/194
Survey Block & District Blk. V Mangonui S.D.
Land District North Auckland
Local Body Mangonui County
Scale 1 Chain to an inch
Surveyed by Reg. G. Prangley
Date April 1961
Approved as to Survey
Chief Surveyor
Approved
Applicant or Registered Owner
Registered Surveyor
L. T. Surveyor
Justice of the Peace, (or other person authorised to take a statutory declaration.)
23760145
49862

Appendix 1

Plans & Architectural Statement

25 KOTARE DRIVE – ARCHITECTURAL STATEMENT

This property is located at the eastern end of Coopers Beach, a few properties to the south of Kohekohe Point, which terminates the northeastern extremity of the beach. The site contains a modest existing holiday house, typical of its time and estimated to have been built in the late 1940s-early 1950s.

The new house is to be a permanent home, not a holiday house, and is intended to be used by multiple generations at certain times of the year.

The site is approximately 1200m2, and abuts onto the foreshore reserve and beach. The site is relatively narrow along the foreshore frontage, but long up-slope. At present much of the site is covered in secondary growth manuka; with the new building contained within the bottom two-thirds of the site, the landscape character of the upper third will be unchanged – or enhanced.

There are three main drivers for the architectural response to the site. These are:

1. The site is very steep, with an average slope of about 21 degrees, and the terrain is fairly inconsistent. These natural conditions include small gullies and sudden drop-offs, and these influence the location and height of any new building.
2. Complicating the natural topography, are a series of retaining walls that have been used to establish platforms for the existing building and site features. Of particular note is a substantial retaining wall that spans the full width of the site; this is located about one third of the way up the site from the seaward boundary. As with the natural topography, the location of building platforms is very much influenced by the need to minimize the impact of these man-made rapid changes in level.
3. The narrowness of the site; combined with the topographical limitations, this constraint has led to much consideration being given to height-in-relation to boundary and maximum height parameters.

Overall, these three factors severely impact on the available space to locate the building elements within the site, and have heavily influenced the arrangement and location of the various components of the proposed design.

The resultant building is comprised of four main components:

1. A two-storey block at the base of the site, that houses a garage and swimming pool, with the entry and guest bedrooms above.
2. A main living level, which forms the core of the house, located upslope above the existing cross-site retaining wall (which is to be removed and essentially reinstated). This living area is located such that it enjoys an ocean view over the roof level of the lowest block; this arrangement also allows a deck to be located on this roof, thus providing a reasonably-sized level outdoor living space, that is otherwise very difficult to accommodate on this site.
3. A two-storey upper level that houses the family bedrooms, and is connected to the main living level below by a mid-level retreat space. These upper-level spaces open out towards both the ocean view to the west, and to a series of north facing decks located within a garden courtyard, defined by the building wings to its south and west.

4. The arrangement of the building plan and section, creates a north-facing courtyard space between the lower and central blocks, and a garden courtyard and decks to north and east of the upper blocks. This arrangement enables the landscaping of the site to be stitched into and around the new building

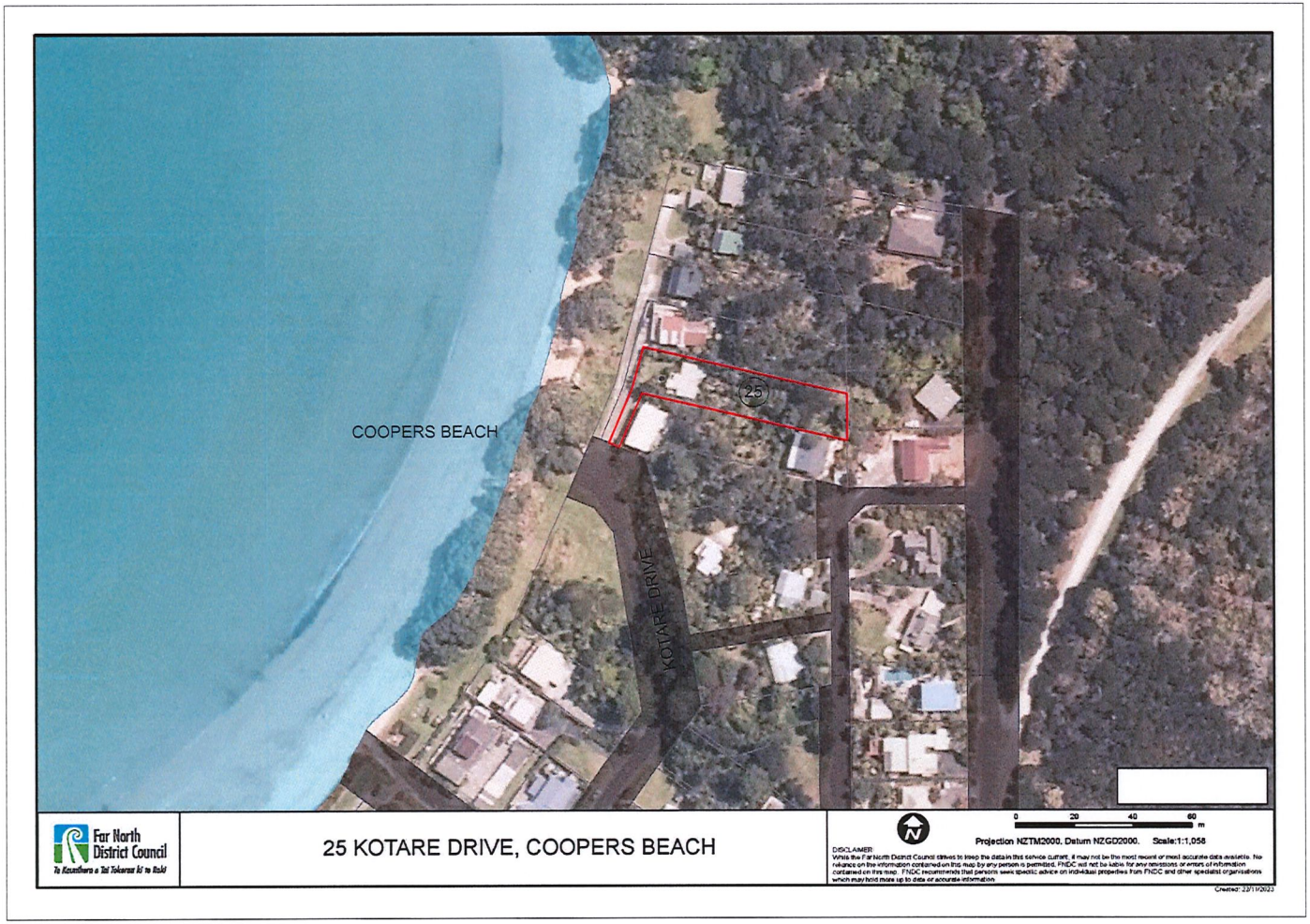
Given that the architectural response is necessarily very site specific, due to the constraints described above, the overall layout and shape of the building is irregular in both plan, section and elevation. This arrangement enables the building to be read as a series of pavilions, thereby breaking down its scale and any sense of visual dominance.

For counterbalancing cohesiveness, the roof and walls are clad in a durable matte-finished metal cladding; whether roof or wall, this material will be identically detailed, to appear like cedar shingle cladding from a distance. This cladding is available in a range of muted natural colours (LRV in the range of 5-25, with the final colour yet to be selected), to create a building that, because of its faceted design, will appear as a series recessive smaller scale pavilions set into the natural landscape. The aluminium joinery will also be matte finish, in dark bronze or black, to integrate with the building cladding.

For the landscape design itself, please refer to the drawings prepared by Hawthorn Landscape Architects, which also forms a part of this resource consent application.

robin o'donnell architects

architecture
planning
interior design



NOVEMBER 2023

RESOURCE CONSENT DOCUMENTS

2022-09 NEW HOUSE

FOR VANESSA & ALAN ABERNETHY

25 KOTARE DRIVE, COOPERS BEACH

NORTHLAND

SHEET NO.	DRAWING TITLE	REVISION
0.00 SITE PLANS AND PLANNING COMPLIANCE		
RC 0.00	COVER PAGE & SITE LOCALITY PHOTO	0
TI7655	EXISTING SURVEY PLAN - PREPARED BY REYBURN AND BRYANT	A
RC 0.01	PROPOSED SITE PLAN BUILDING PLATFORMS AND LOCATION	0
RC 0.02	PROPOSED SITE PLAN - BUILDING COVERAGE & IMPERMEABLE SURFACE AREAS	0
RC 0.03	PROPOSED SITE PLAN - HIRB LOCATIONS	0
RC 0.04	HIRB ELEVATIONS - GARAGE AND GUEST PAVILION	0
RC 0.05	HIRB ELEVATIONS - LIVING AND BEDROOM PAVILIONS 1	0
RC 0.06	HIRB ELEVATIONS - LIVING AND BEDROOM PAVILIONS	0
RC 0.07	PROPOSED SITE PLAN - FIRE FIGHTING WATER SUPPLY	0
1.00 PLANS		
RC 1.00	OVERALL PLAN	0
RC 1.01	GARAGE PLAN	0
RC 1.02	GUEST PLAN	0
RC 1.03	LIVING PAVILION PLAN	0
RC 1.04	RETREAT/KIDS PLAN	0
RC 1.05	MAIN BEDROOM PLAN	0
2.00 ELEVATIONS		
RC 2.01	NORTH ELEVATION	0
RC 2.02	WEST ELEVATION	0
RC 2.03	SOUTH ELEVATION	0
RC 2.04	GARAGE/GUEST PAVILION ELEVATIONS 1	0
RC 2.05	GARAGE/GUEST PAVILION ELEVATIONS 2	0
RC 2.06	LIVING & BEDROOM PAVILION ELEVATIONS 1	0
RC 2.07	LIVING & BEDROOM PAVILION ELEVATIONS 2	0
RC 2.08	LIVING & BEDROOM PAVILION ELEVATIONS 3	0
RC 2.09	LIVING & BEDROOM PAVILION ELEVATIONS 4	0

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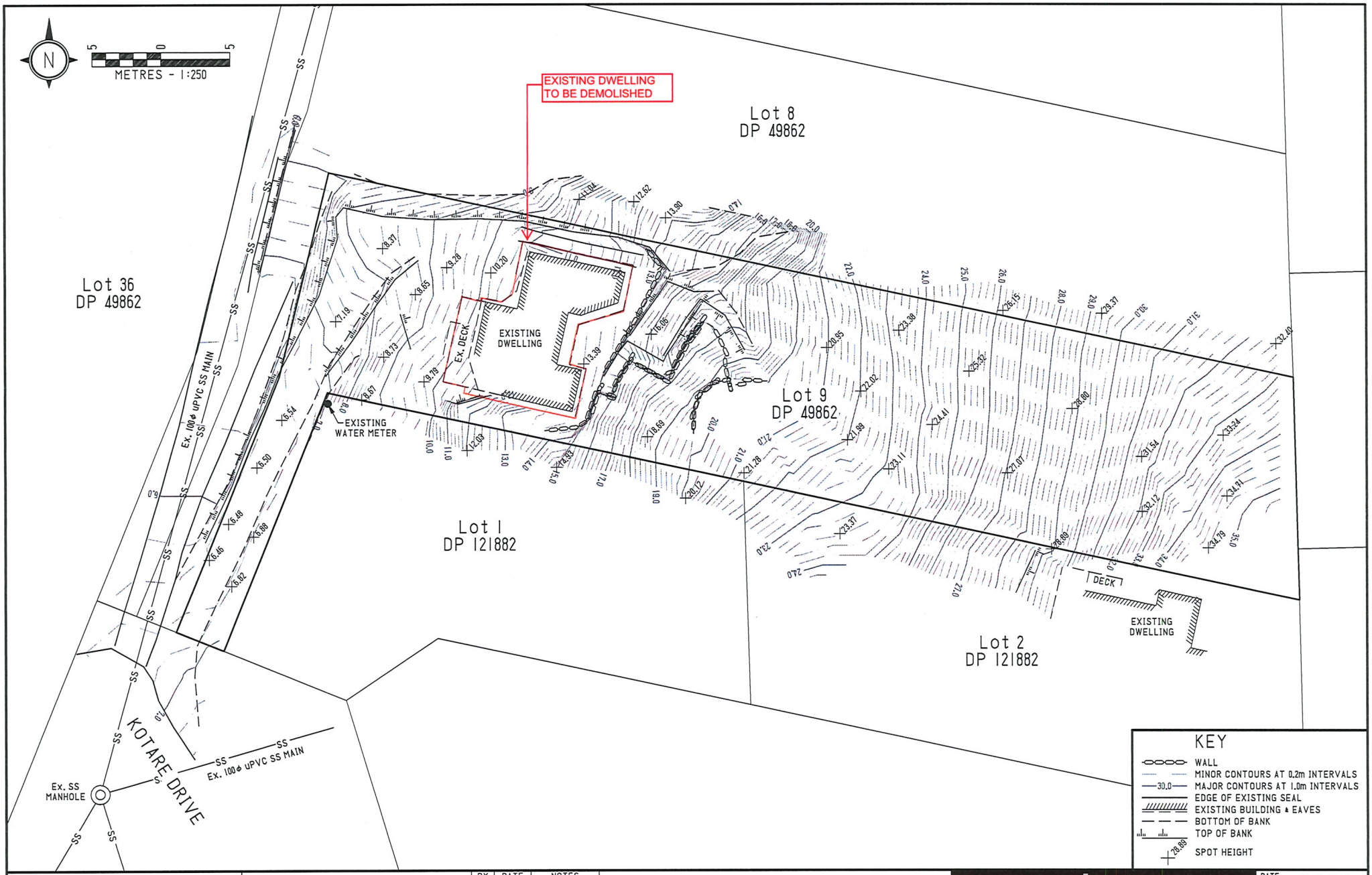


NOTES
- NO PART OF THIS PLAN MAY BE REPRODUCED, COPIED, OR AMENDED IN ANY FORM WITHOUT THE PRIOR PERMISSION OF REYBURN & BRYANT (1999) LIMITED.
- DO NOT SCALE OFF DRAWINGS.
- NOT ALL SERVICES MAY BE LOCATED ON THIS PLAN. CONSULT SERVICE PROVIDERS BEFORE COMMENCING EXCAVATION OR CONSTRUCTION.

LEVELS IN TERMS OF NEW ZEALAND VERTICAL DATUM (2016)
SM 1627 SO 59605: RL=58.61m
COORDINATES IN TERMS OF MT EDEN 2000

BY	DATE	NOTES
AN	26.06.23	SURVEY
CC	06.10.23	DRAFTING
REF. DATA:		

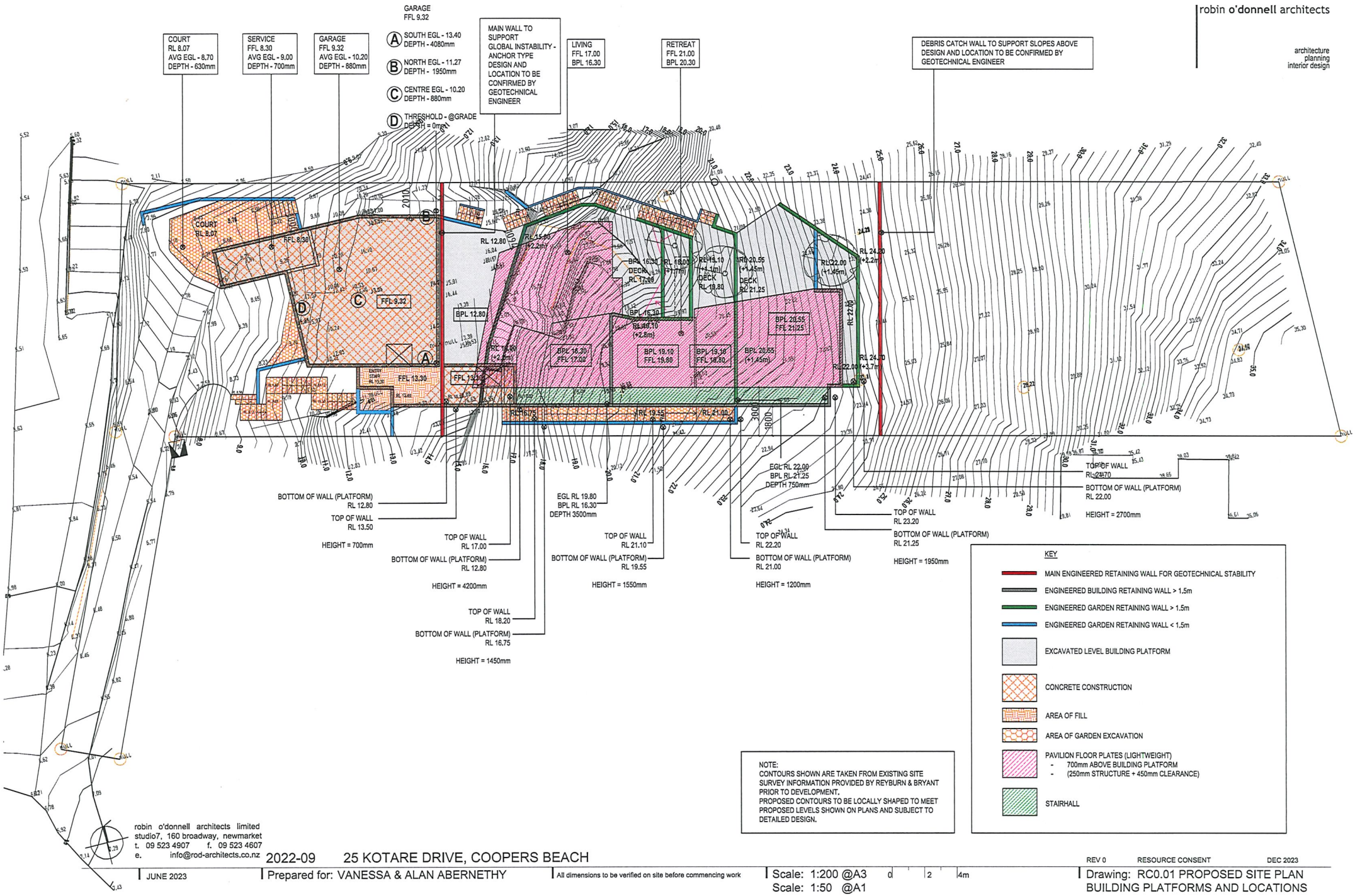
TOPOGRAPHICAL SURVEY OF LOT 9 DP 49862

ALAN & VANESSA ABERNETHY
25 KOTARE DRIVE, COOPERS BEACH

reyburn & bryant
Ph: 09 438 3563
7 Selwyn Ave, Whangarei
PO Box 191, Whangarei 0140
www.reyburnandbryant.co.nz

DATE	06.10.2023
SCALE	1:250 @A3
JOB	T17655
SHEET	1/1
REV	A

Date Plotted: 10/9/2023 1:38 PM File Path: P:¥17000 - 17999¥17655 - Alan & Vanessa Abernethy¥Drawings¥Topo Plans¥T17655 - Abernethy - Rev A.dwg



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 0 2 4m | Scale: 1:50 @A1

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC0.01 PROPOSED SITE PLAN
BUILDING PLATFORMS AND LOCATIONS

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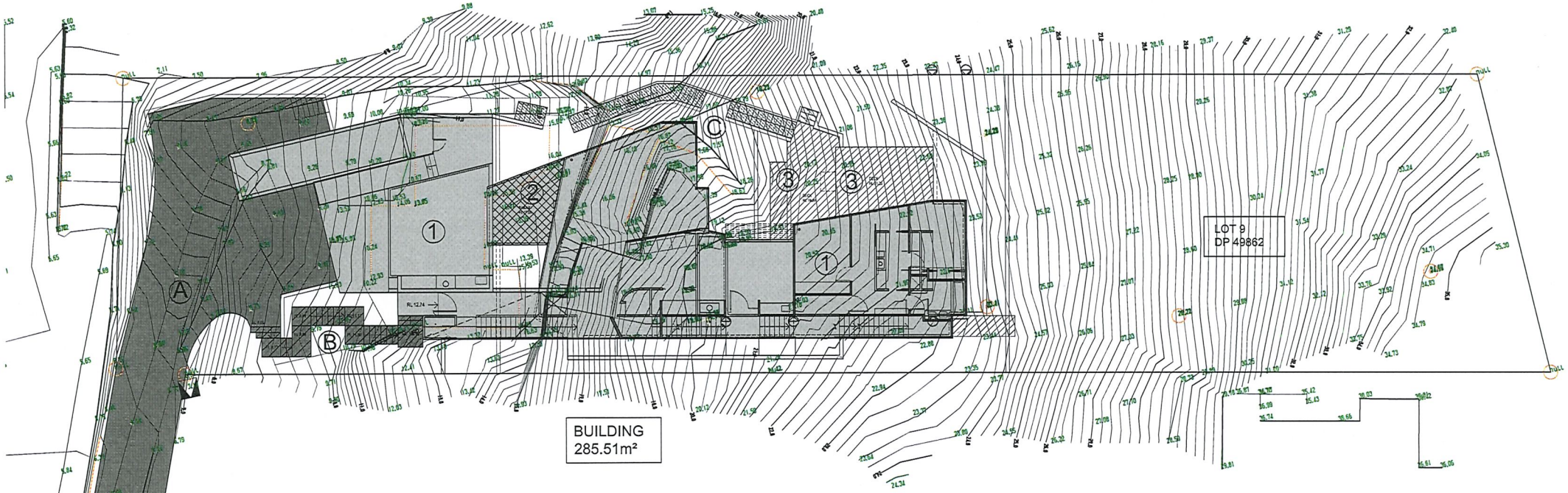
planning
interior design



BUILDING COVERAGE CALCULATIONS
GROSS SITE AREA = 1232.00m² (CONFIRM WITH CoT)

FAR NORTH DISTRICT PLAN
CHAPTER 7 - URBAN ENVIRONMENT
SECTION 6 - RESIDENTIAL ZONE

7.6.5.17 - BUILDING COVERAGE
45% GROSS SITE AREA MAXIMUM PERMITTED

1	BUILDING COVERAGE	-	285.51m²
2	OPEN SLATTED DECK > 1m	-	13.03m²
3	OPEN SLATTED DECK < 1m	-	N/A

7.6.5.6 - STORMWATER MANAGEMENT
IMPERMEABLE SURFACES
50% GROSS SITE AREA MAXIMUM PERMITTED

A	DRIVEWAY	-	178.19m²
B	ENTRY PATH NOT LESS THAN 1m WIDE	-	12.94m²
C	STAIRS AND PATHS LESS THAN 1m WIDE	-	N/A
	BUILDING COVERAGE 1 / 2 / 3	-	298.54m²

TOTAL PROPOSED BUILDING COVERAGE
= 298.54m² (24.23%)

TOTAL PROPOSED IMPERMEABLE SURFACE
= 489.67m² (39.75%)

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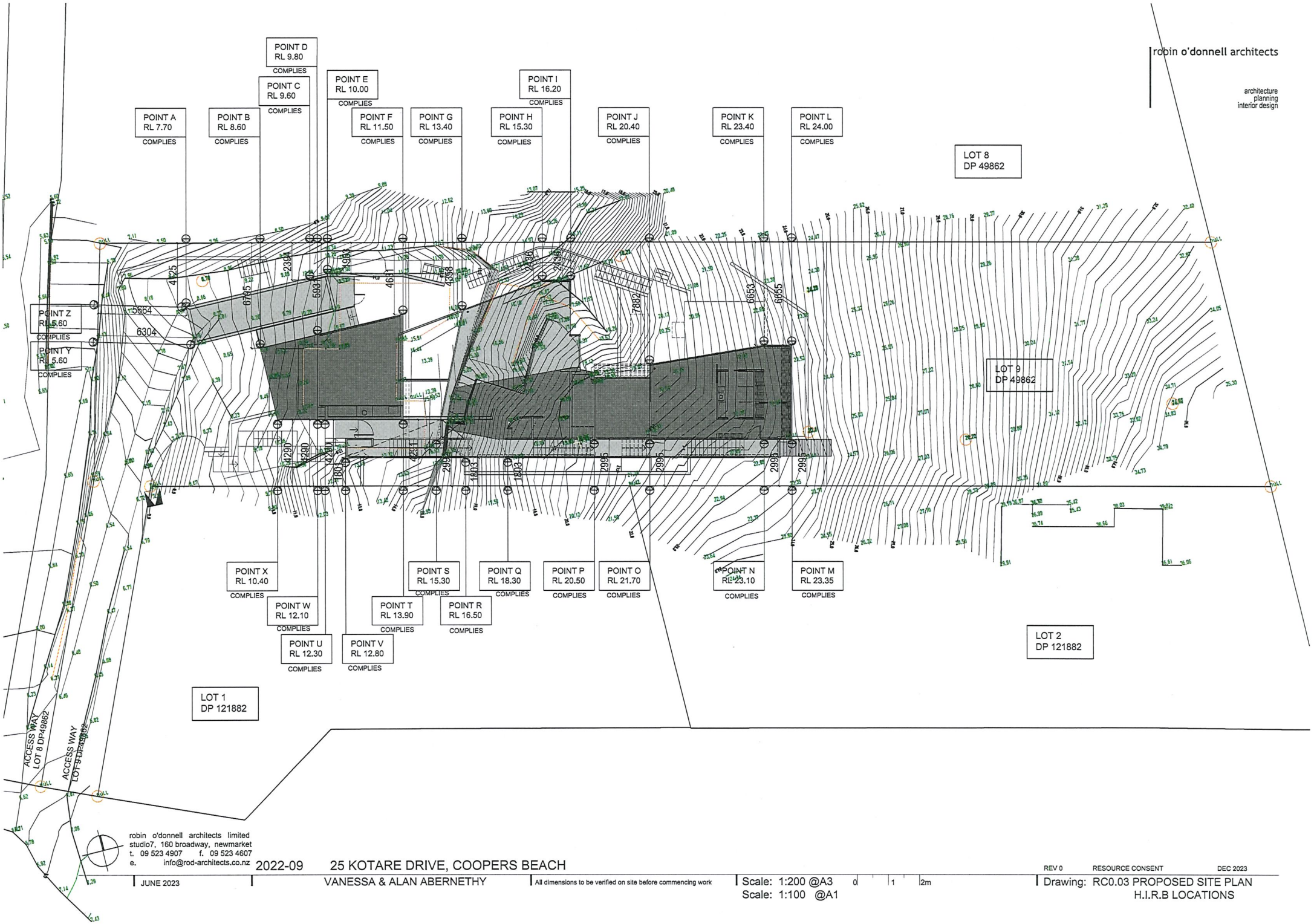
2022-09 | 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023 | VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 | Scale: 1:100 @A1 | 0 1 2m

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC0.02 PROPOSED SITE PLAN
BUILDING COVERAGE &
IMPERMEABLE SURFACE AREAS



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

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REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC0.03 PROPOSED SITE PLAN
H.I.R.B LOCATIONS

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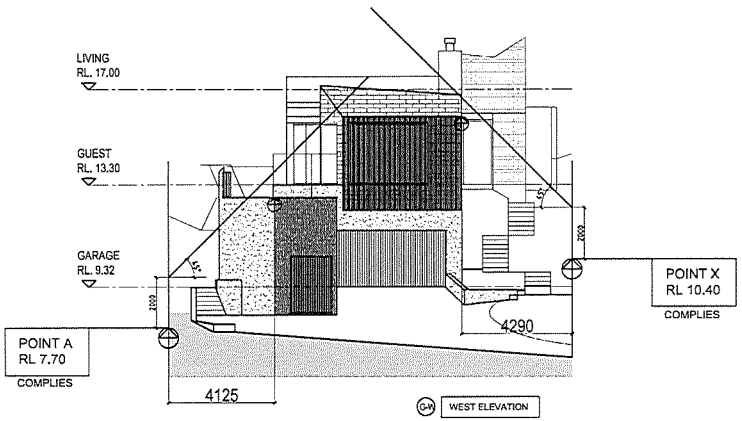

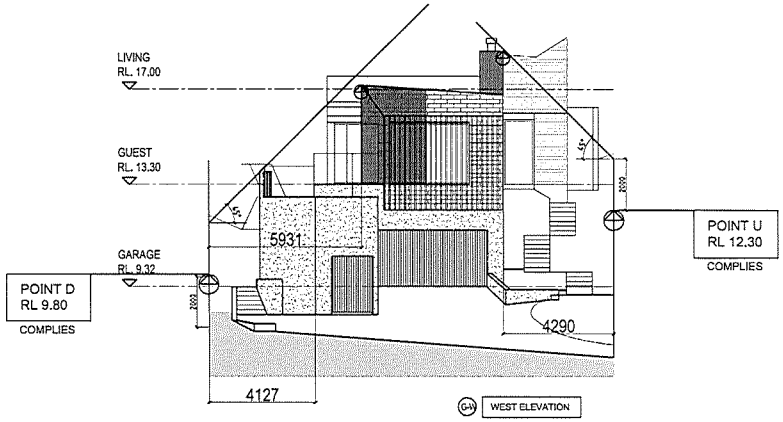

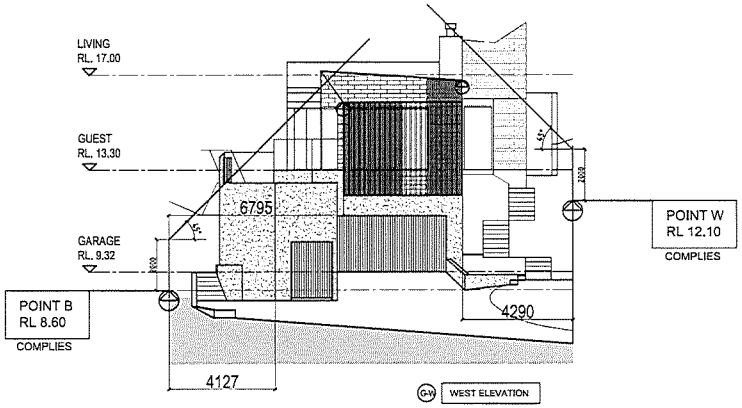

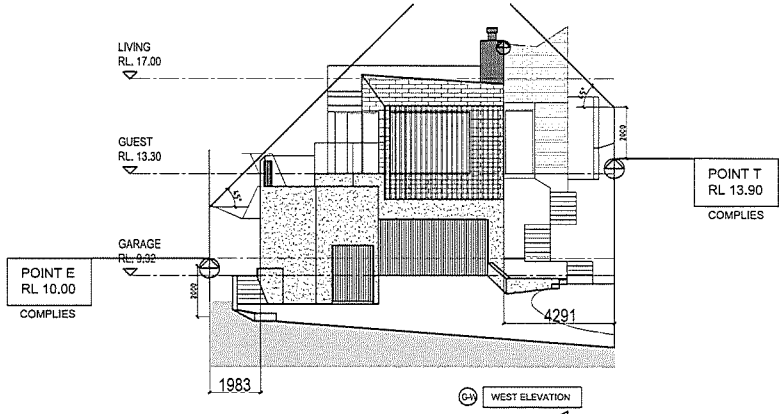

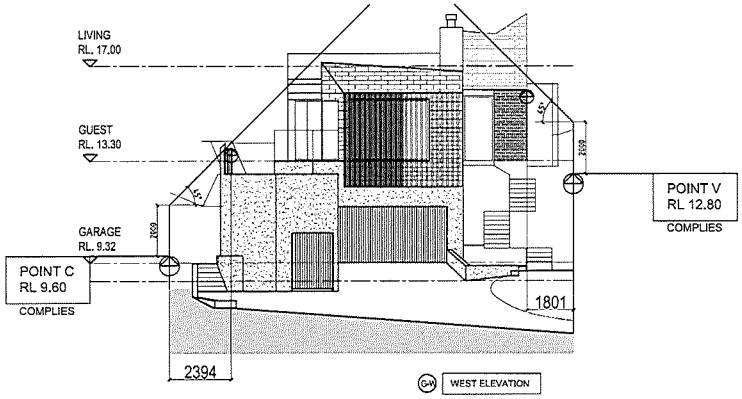

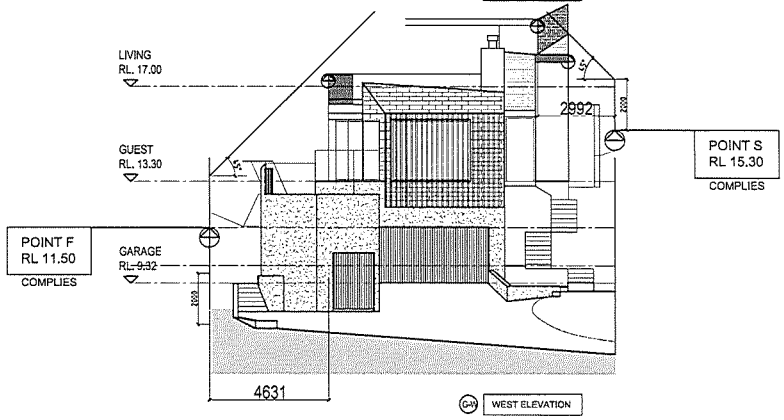

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2022-09

25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023

VANESSA & ALAN ABERNETHY

All dimensions to be verified on site before commencing work

Scale: 1:200 @A3 0 1 2m

Scale: 1:100 @A1

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC 0.04 HIRB ELEVATIONS
GARAGE AND GUEST PAVILION

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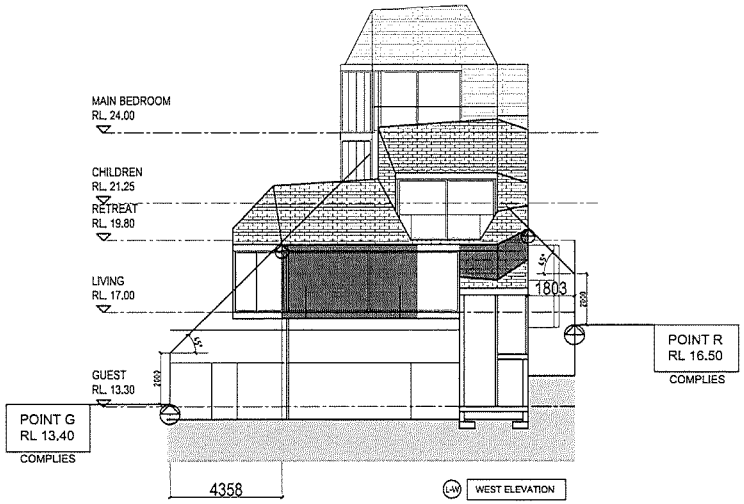

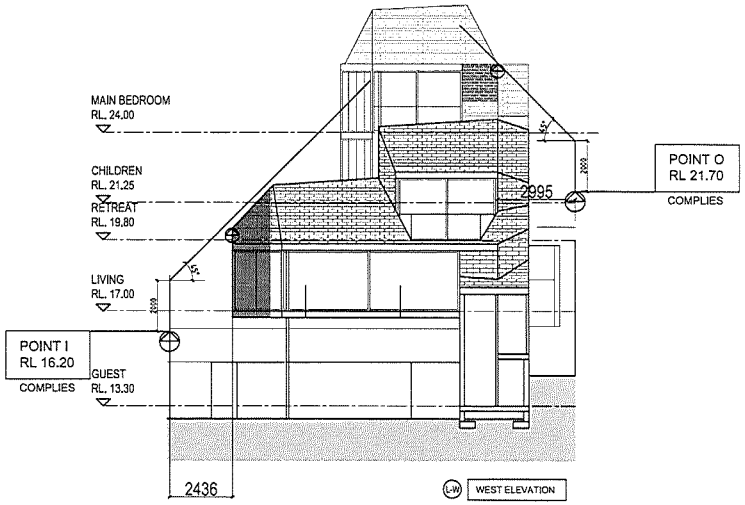

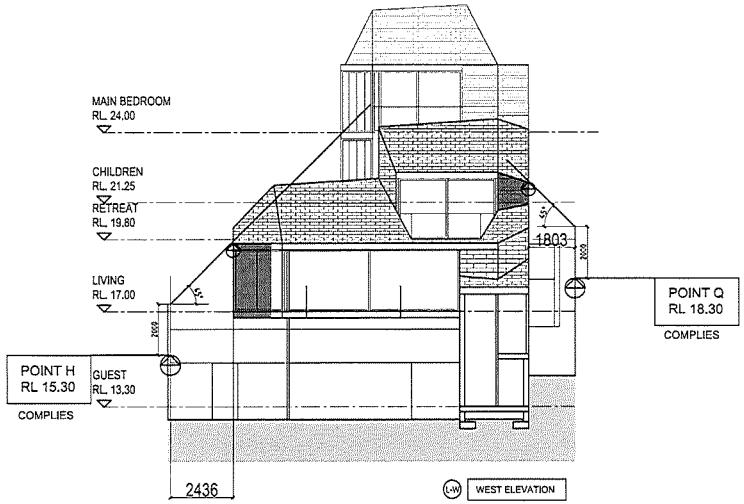

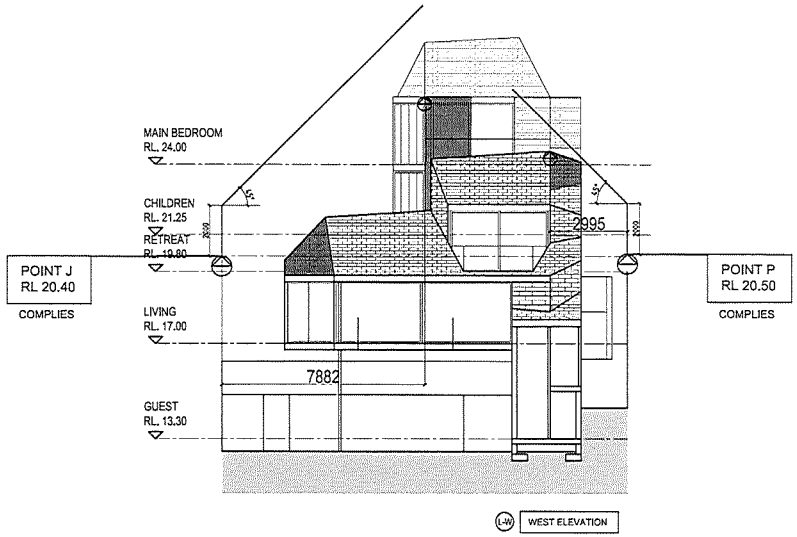

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2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

JUNE 2023 | VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 0 1 2m | Scale: 1:100 @A1 | Drawing: RC 0.05 HIRB ELEVATIONS LIVING AND BEDROOM PAVILIONS 1

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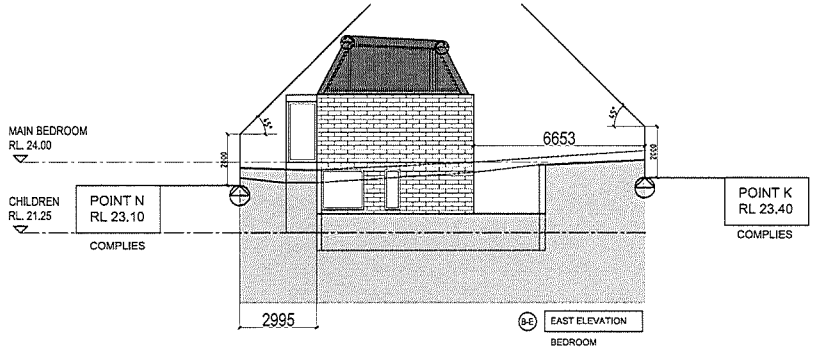
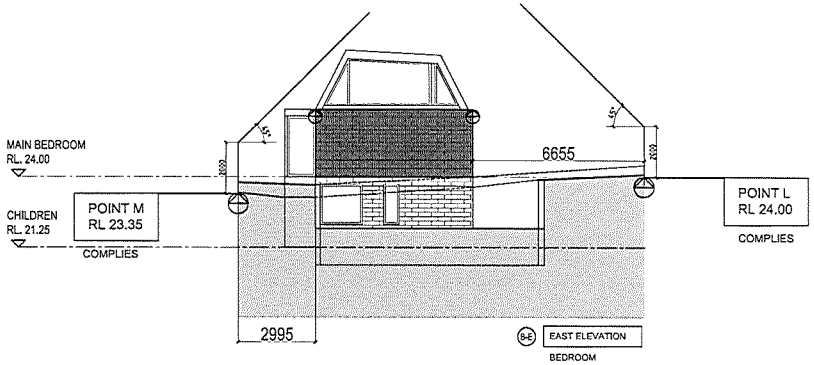
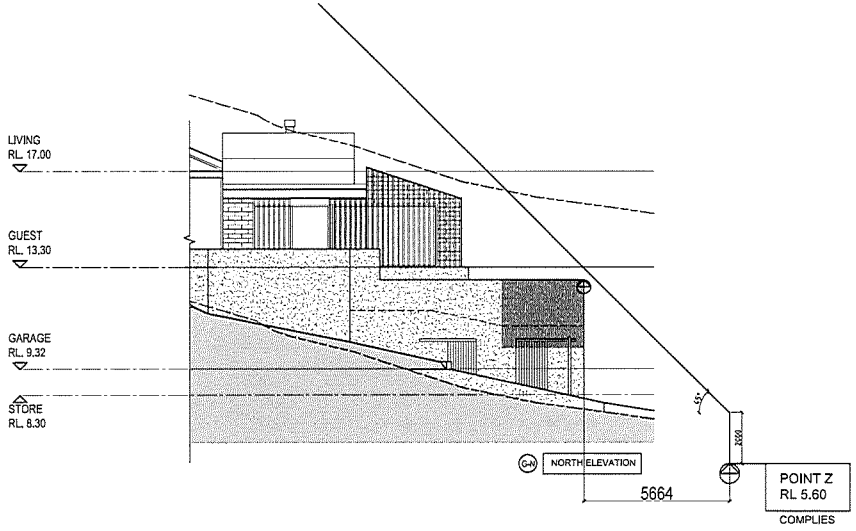
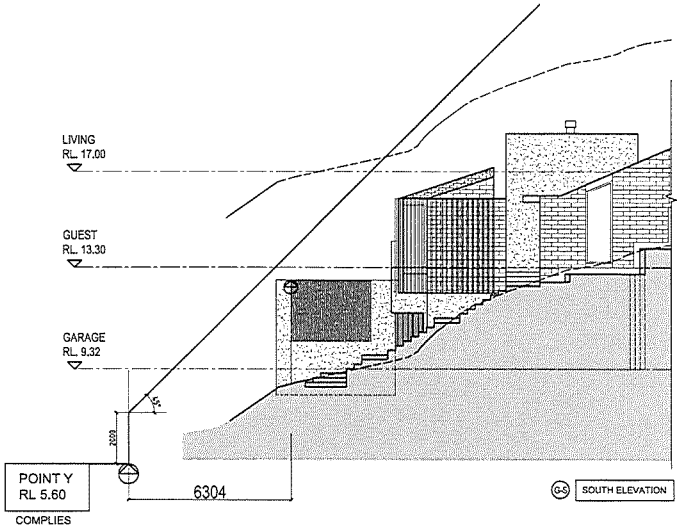
planning
interior design









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2022-09 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023 | VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 Scale: 1:100 @A1 | 0 1 2m

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC 0.06 HIRB ELEVATIONS
LIVING & BEDROOM PAVILIONS 2

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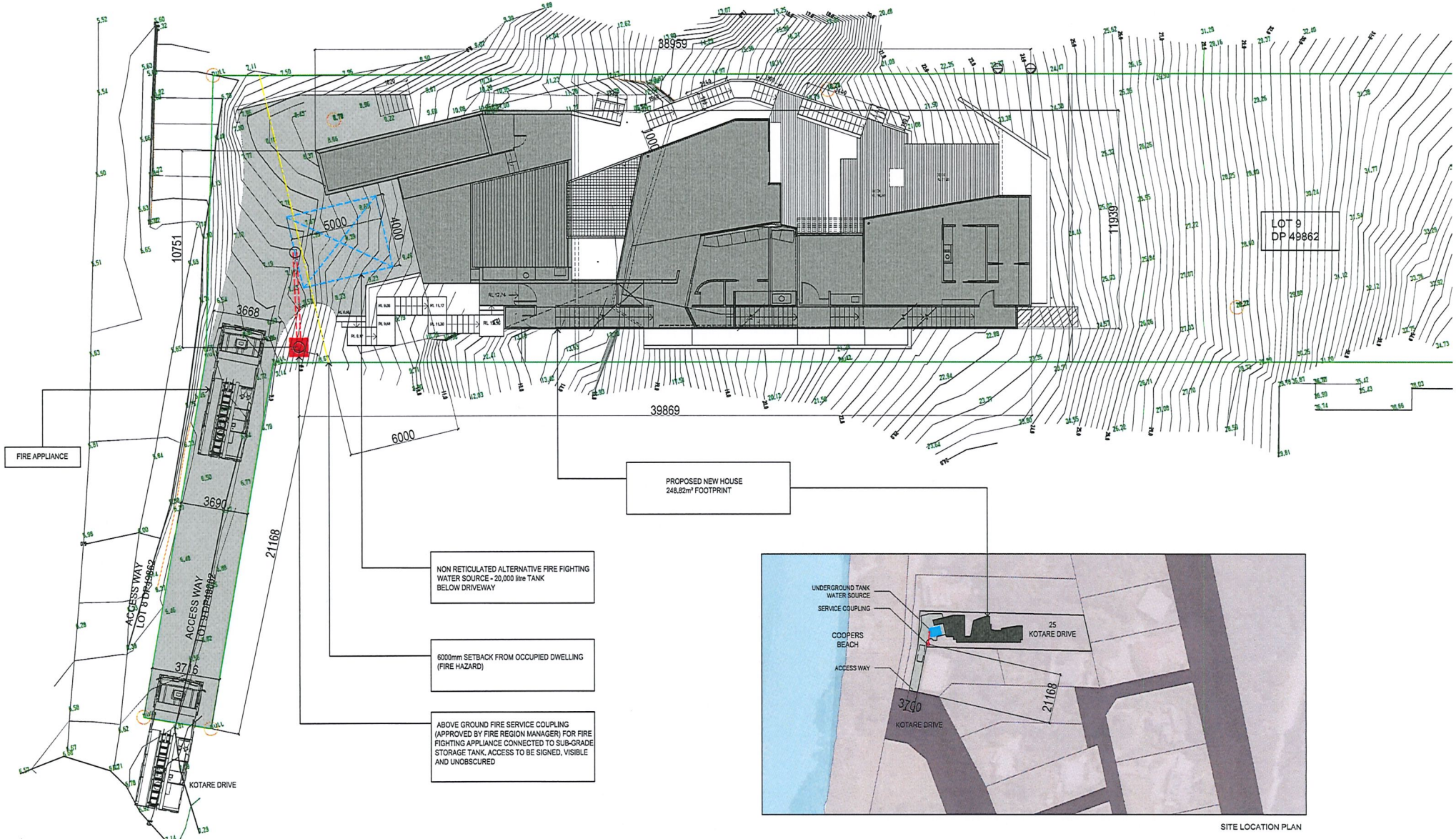
planning
interior design



SITE LOCATION PLAN

robin o'donnell architects limited
studio7, 160 broadway, newmarket
t. 09 523 4907 f. 09 523 4907
e. info@rod-architects.co.nz

2022-09 | 25 KOTARE DRIVE, COOPERS BEACH | REV 0 RESOURCE CONSENT DEC 2023

JUNE 2023 | VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 0 1 2m | Scale: 1:100 @A1 | Drawing: RC0.07 PROPOSED SITE PLAN FIRE FIGHTING WATER SUPPLY

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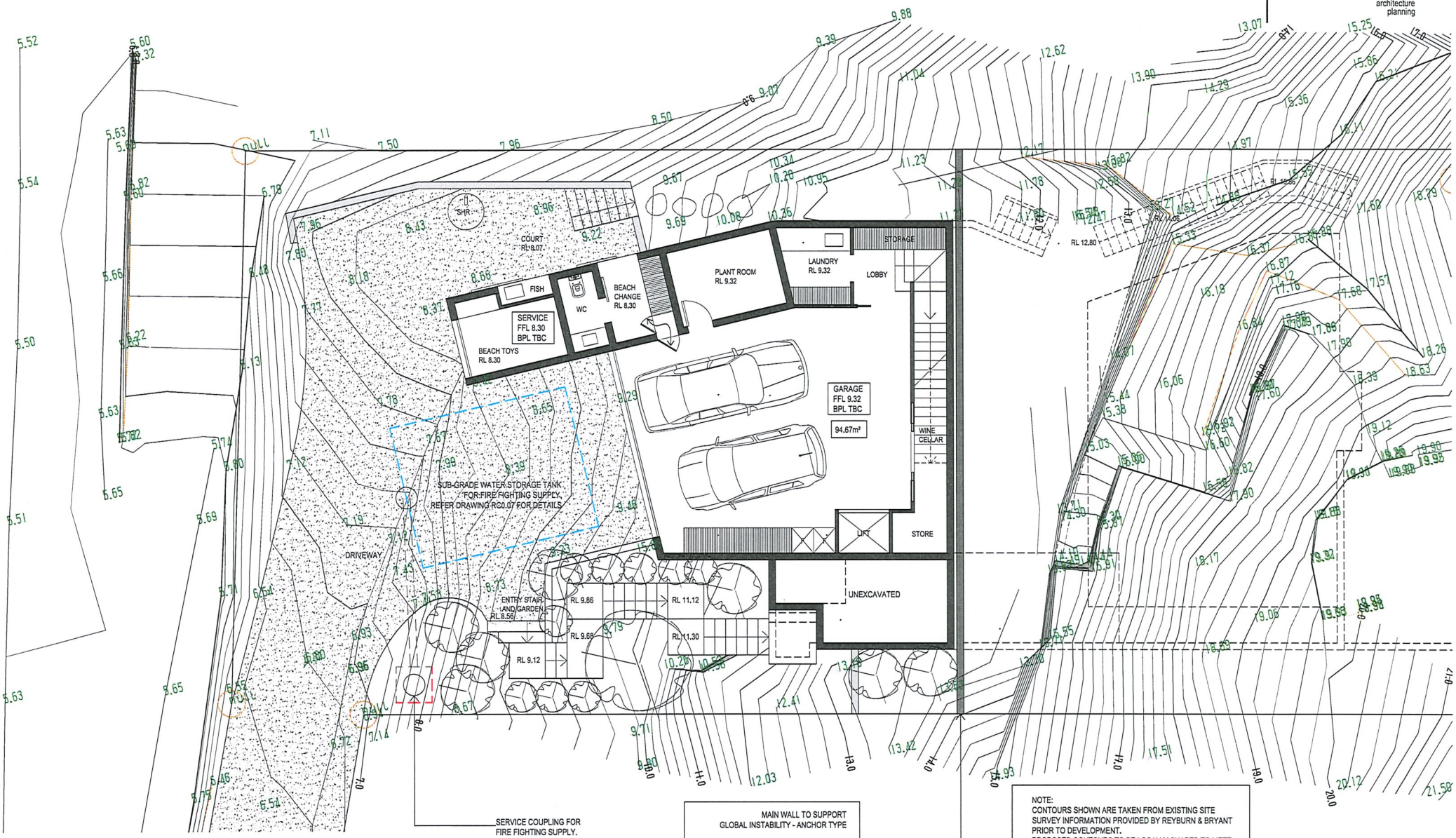
architecture
planning



SERVICE COUPLING FOR
FIRE FIGHTING SUPPLY.

MAIN WALL TO SUPPORT
GLOBAL INSTABILITY - ANCHOR TYPE

BELOW GRADE

DESIGN AND LOCATION TO BE CONFIRMED BY
GEOTECHNICAL ENGINEER

NOTE:
CONTOURS SHOWN ARE TAKEN FROM EXISTING SITE SURVEY INFORMATION PROVIDED BY REYBURN & BRYANT PRIOR TO DEVELOPMENT.
PROPOSED CONTOURS TO BE LOCALLY SHAPED TO MEET PROPOSED LEVELS SHOWN ON PLANS AND SUBJECT TO DETAILED DESIGN.

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REV 0 RESOURCE CONSENT DEC 2023

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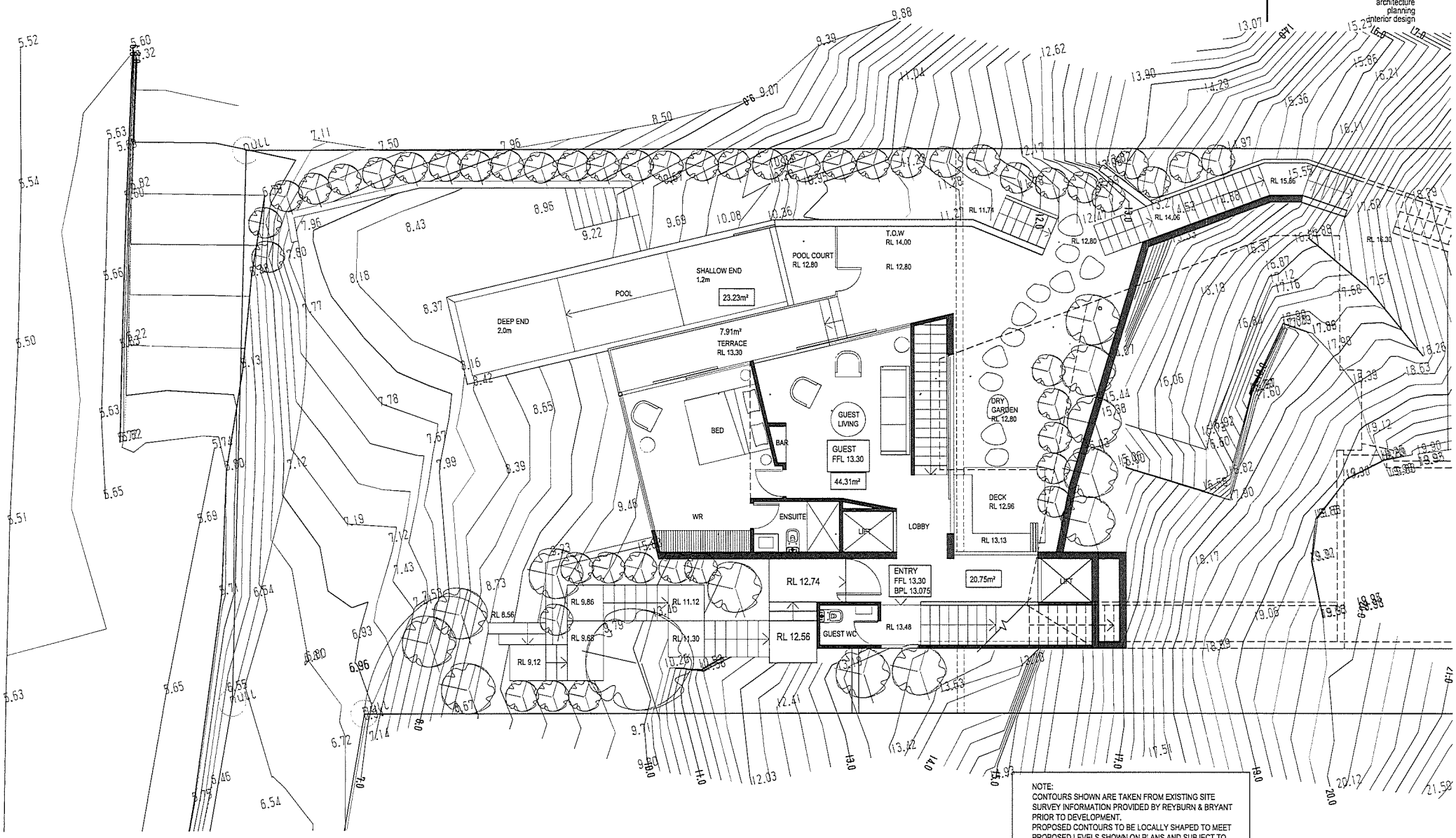
planning
interior design



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

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JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:100 @A3 | Scale: 1:50 @A1 | 0 1 2m | Drawing: RC1.02 GUEST PLAN

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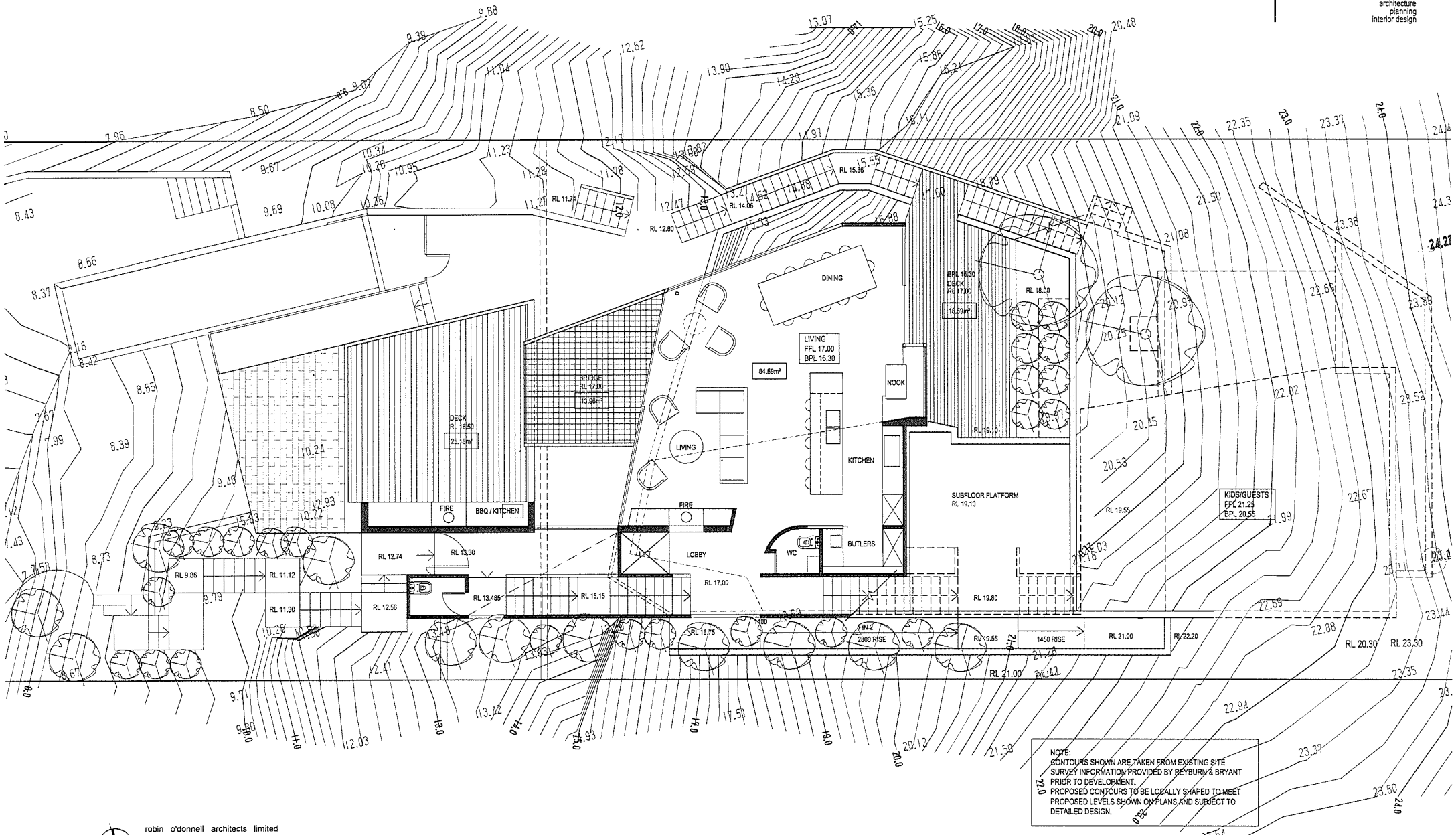
planning
interior design



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

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JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:100 @A3 Scale: 1:50 @A1 | 0 1 2m | Drawing: RC1.03 LIVING PAVILION PLAN

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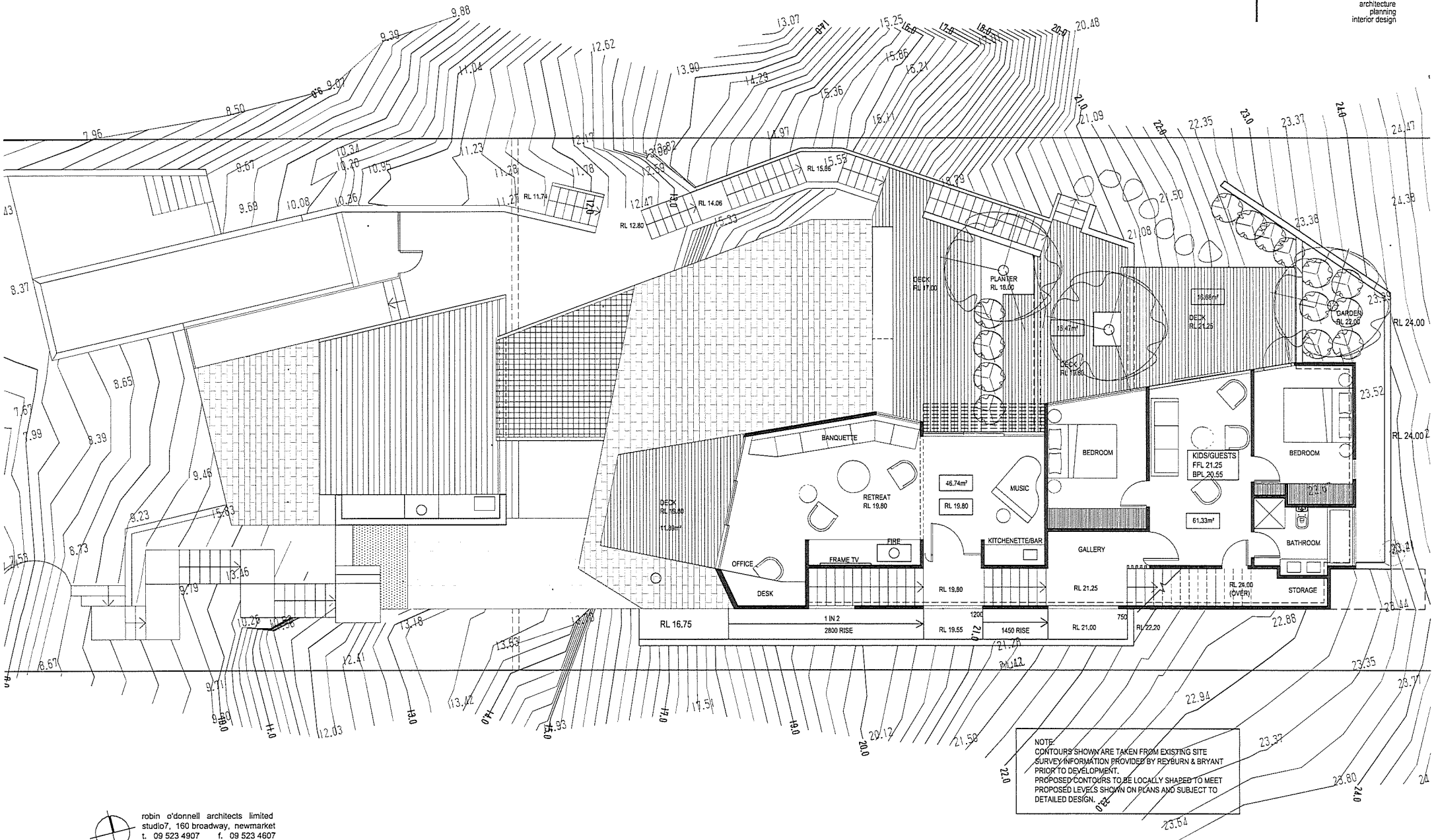
planning
interior design



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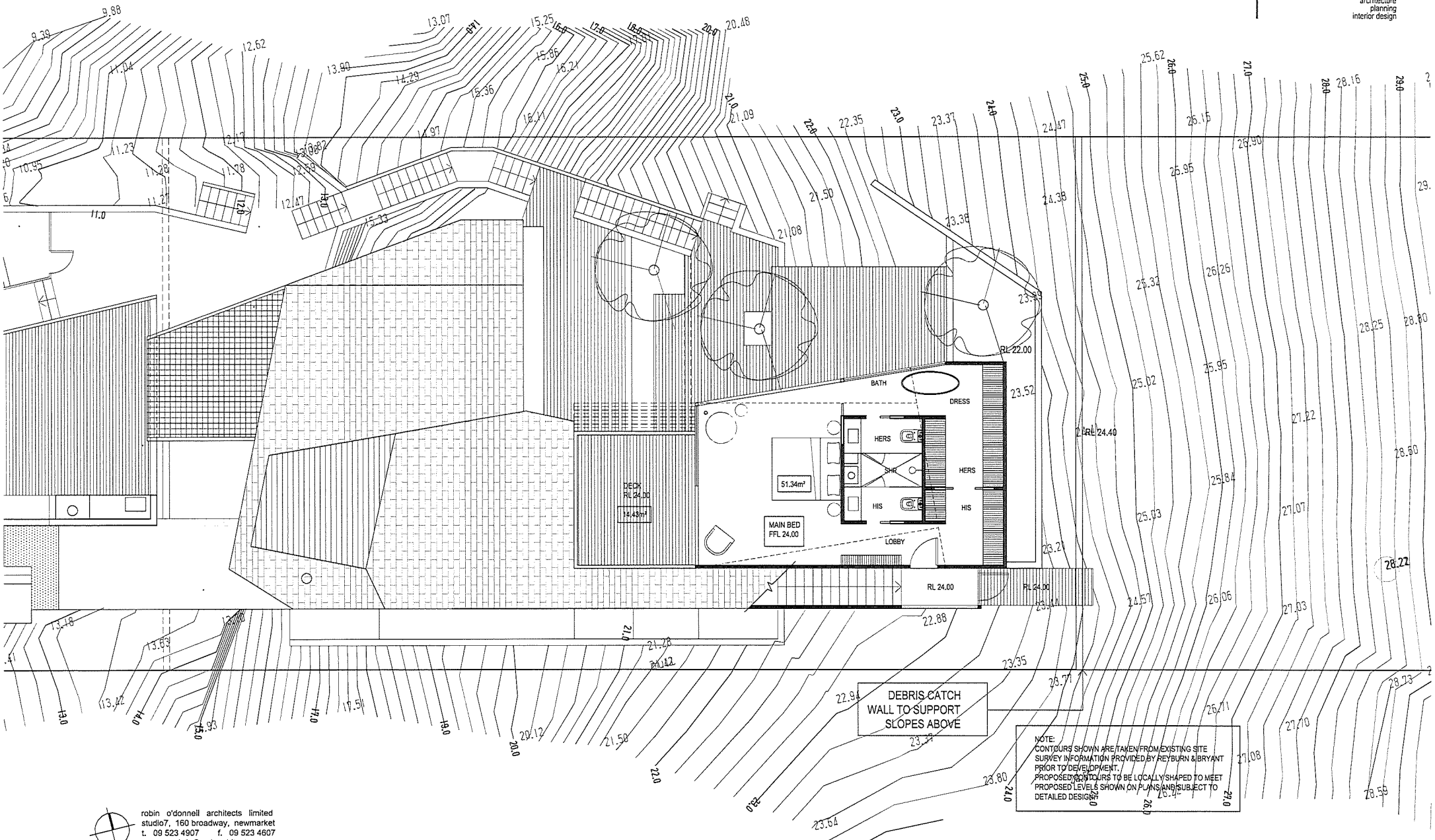
planning
interior design



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023

Prepared for: VANESSA & ALAN ABERNETHY

All dimensions to be verified on site before commencing work

Scale: 1:100 @A3 0 1 2m

Scale: 1:50 @A1

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC1.05 MAIN BEDROOM PLAN

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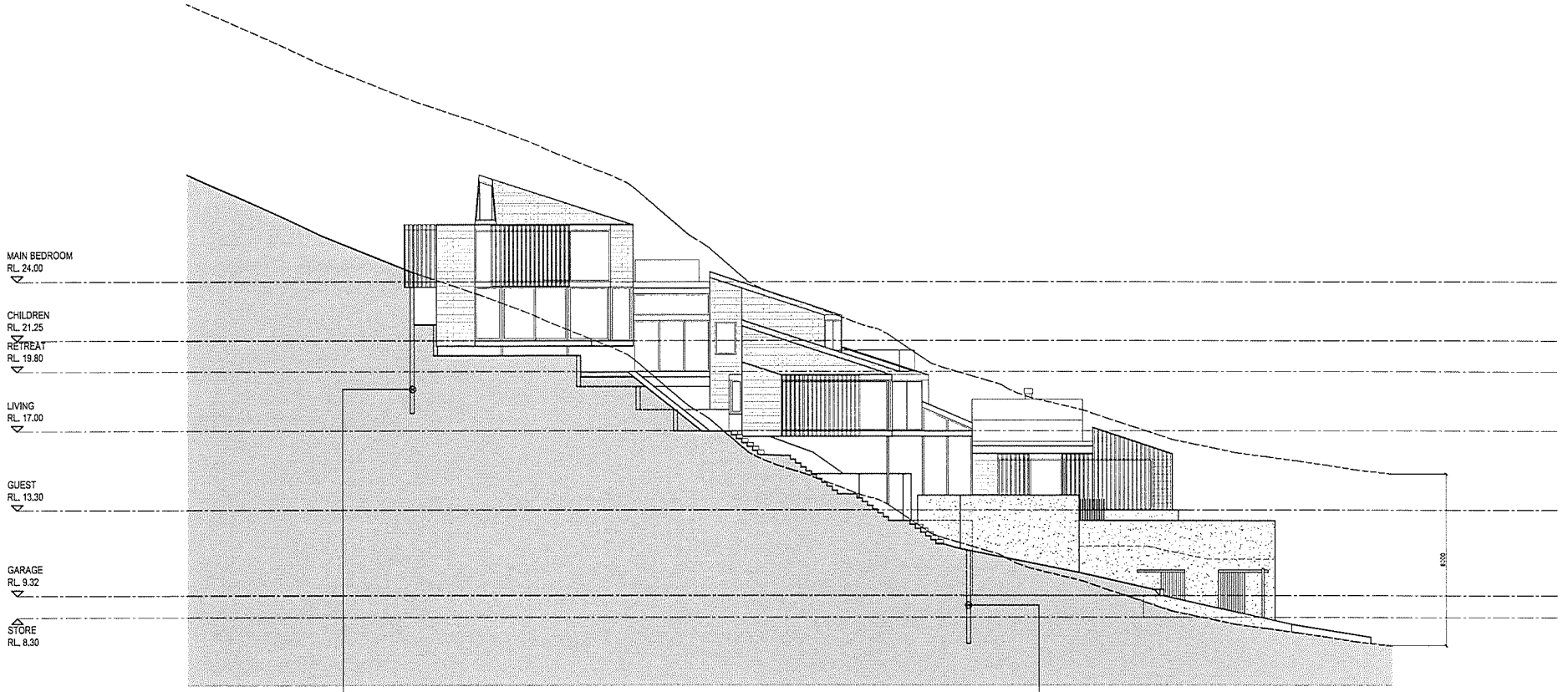
interior design



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Scale: 1:100 @A1

Drawing: RC2.01 NORTH ELEVATION

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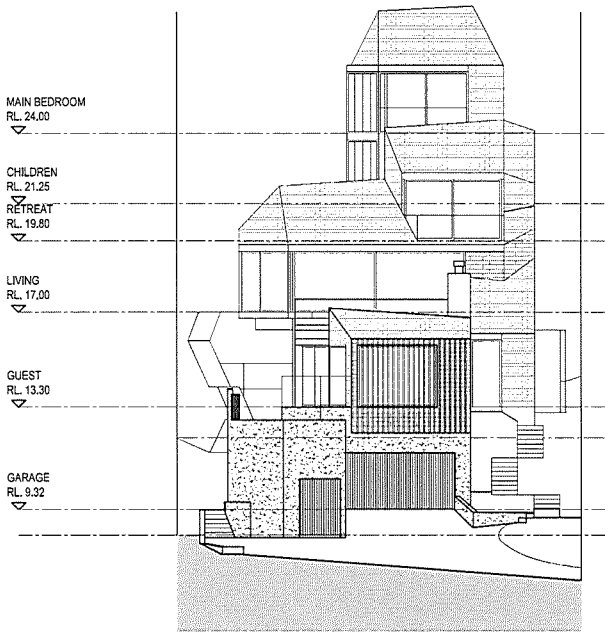
planning
interior design



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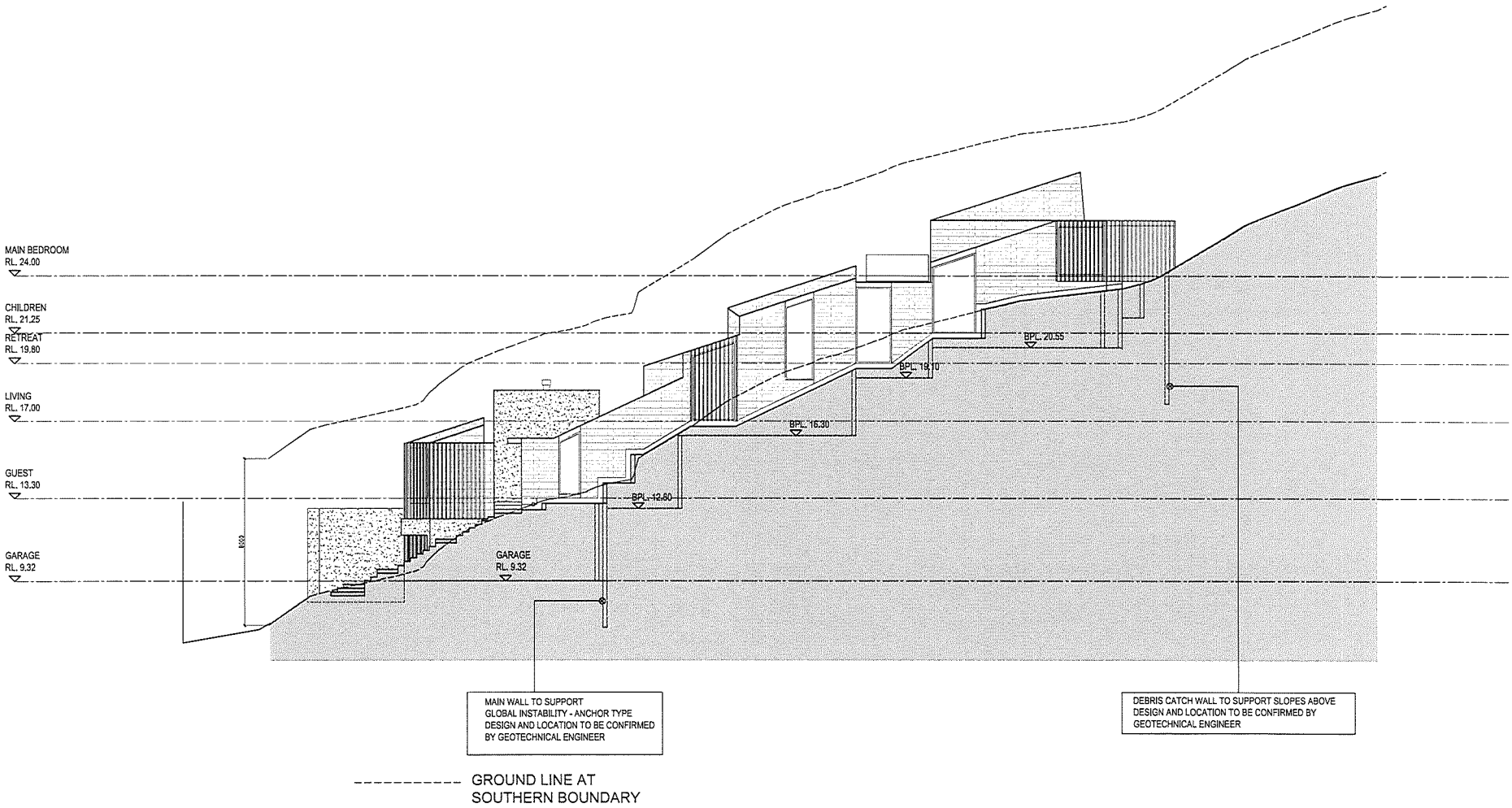
architecture
planning
interior design



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 0 2 4m | Scale: 1:100 @A1 | Drawing: RC2.03 SOUTH ELEVATION

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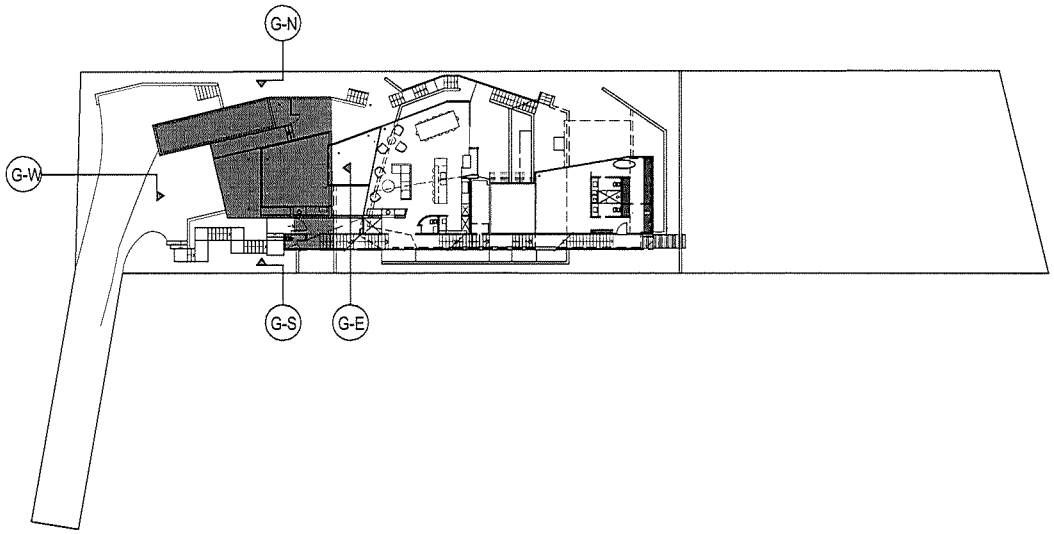
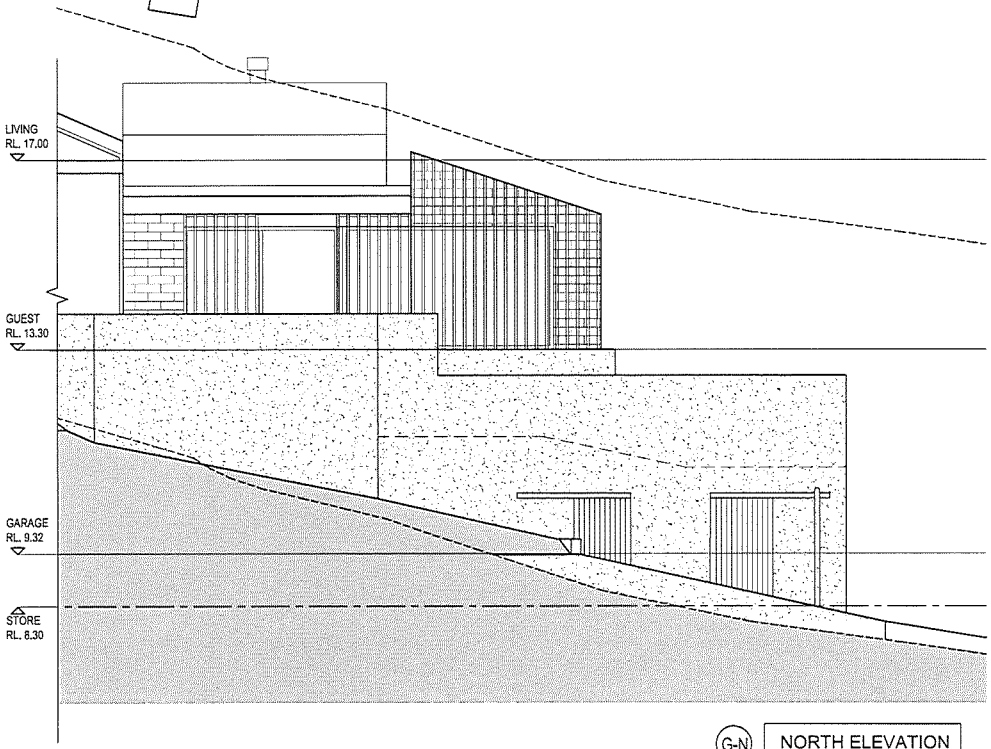
architecture
planning
interior design





G-N NORTH ELEVATION

G-W WEST ELEVATION

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e. info@rod-architects.co.nz

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REV 0 RESOURCE CONSENT DEC 2023

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:100 @A3 0 1 2m | Scale: 1:50 @A1 | Drawing: RC2.04 GARAGE/GUEST PAVILION ELEVATIONS 1

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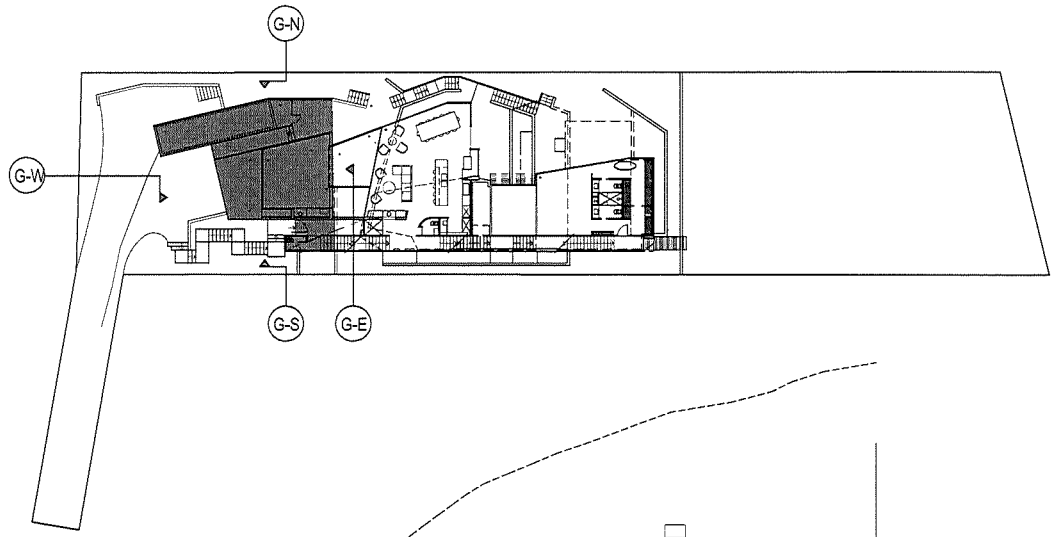
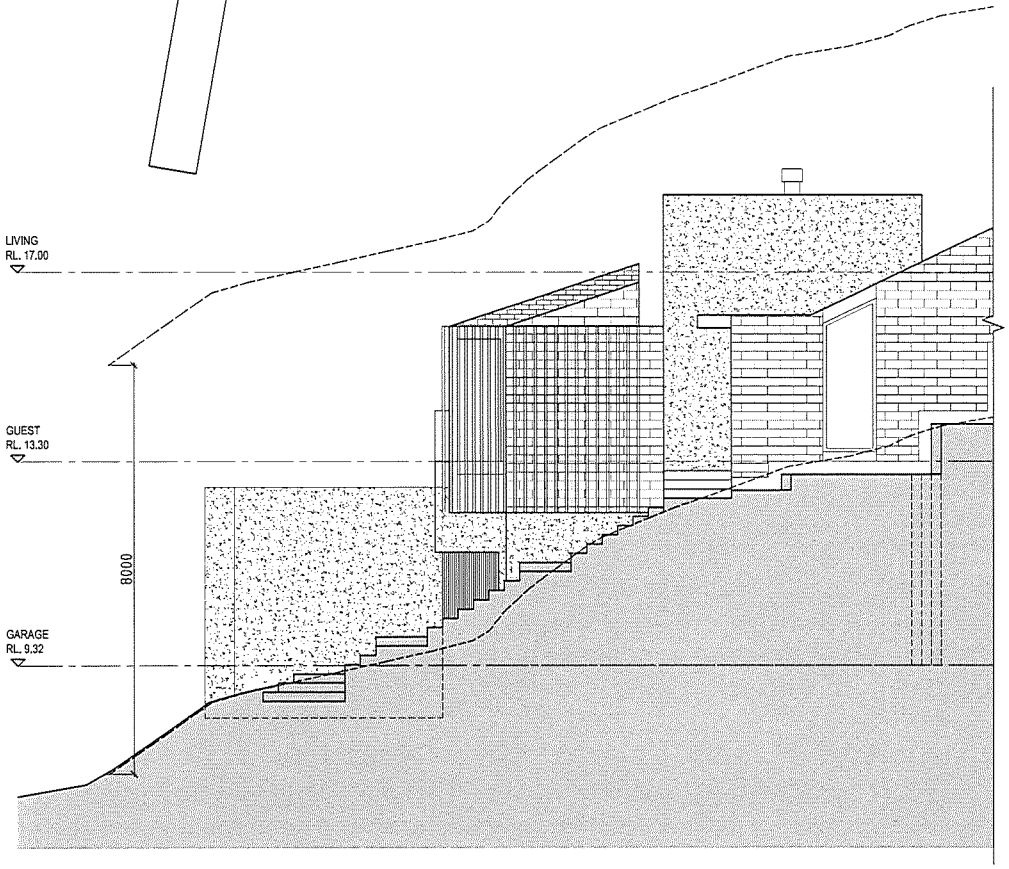
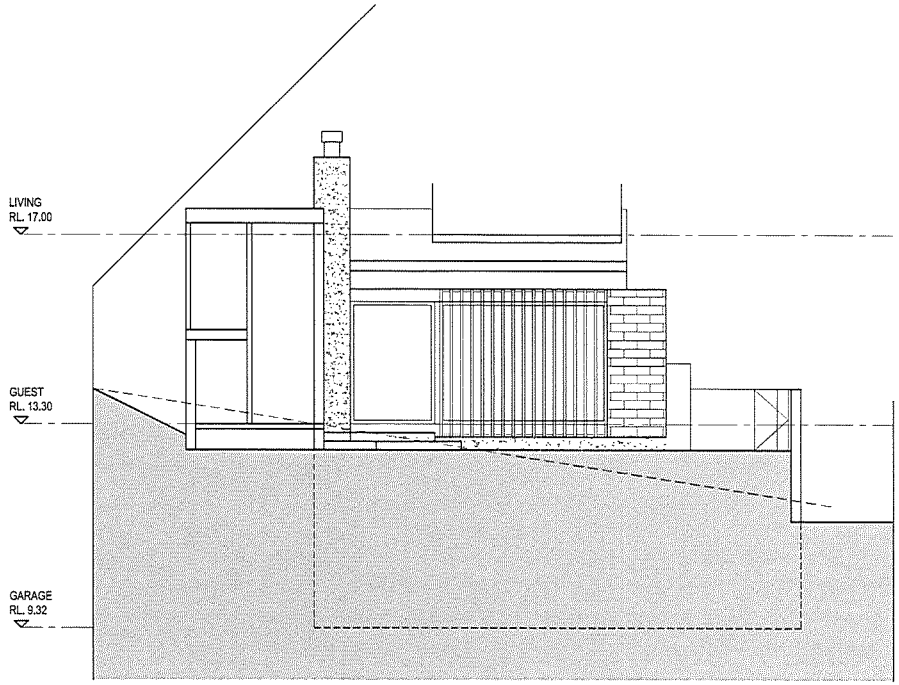
planning
interior design





G-S SOUTH ELEVATION



G-E EAST ELEVATION

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2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

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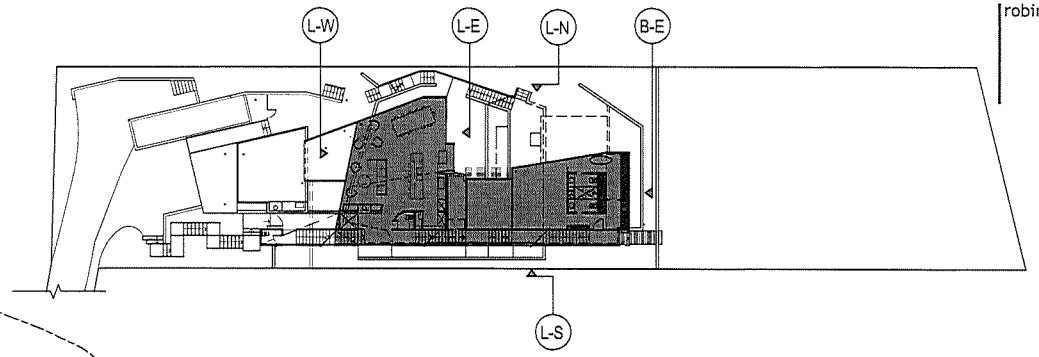
architecture
planning
interior design



L-N NORTH ELEVATION

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e. info@rod-architects.co.nz

2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

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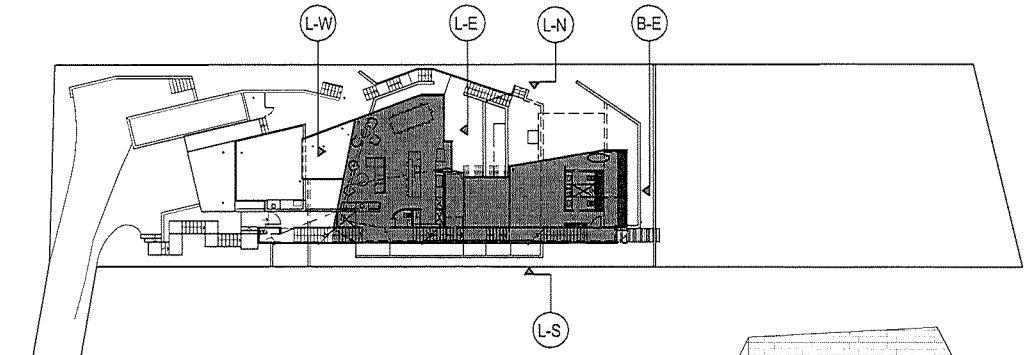
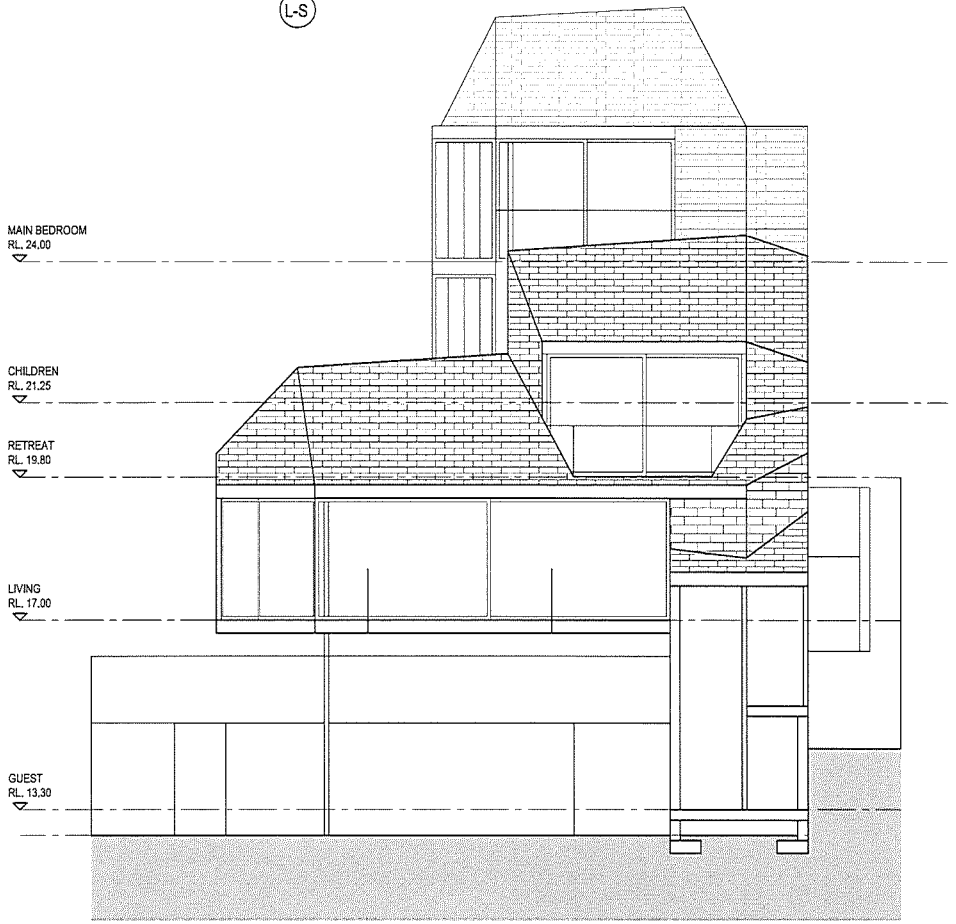
architecture
planning
interior design





L-W WEST ELEVATION

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t. 09 523 4907 f. 09 523 4607
e. info@rod-architects.co.nz

2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV A RC RESOURCE CONSENT 28 NOV 2023

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:100 @A3 Scale: 1:50 @A1 | 0 1 2m | Drawing: RC2.07 LIVING & BEDROOM PAVILION ELEVATIONS 2

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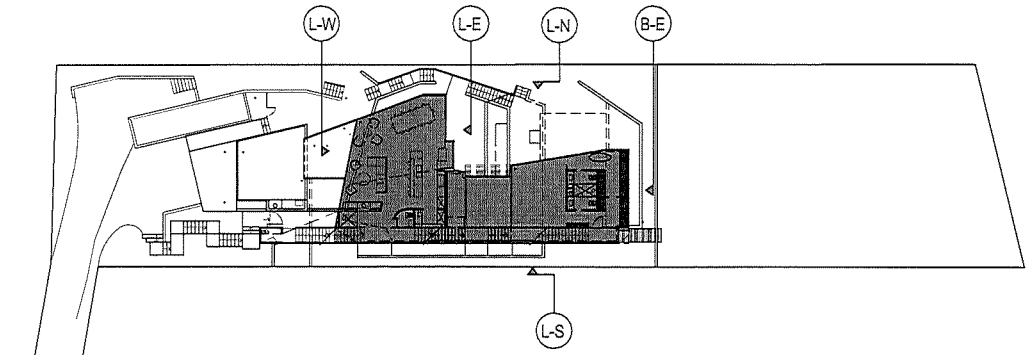
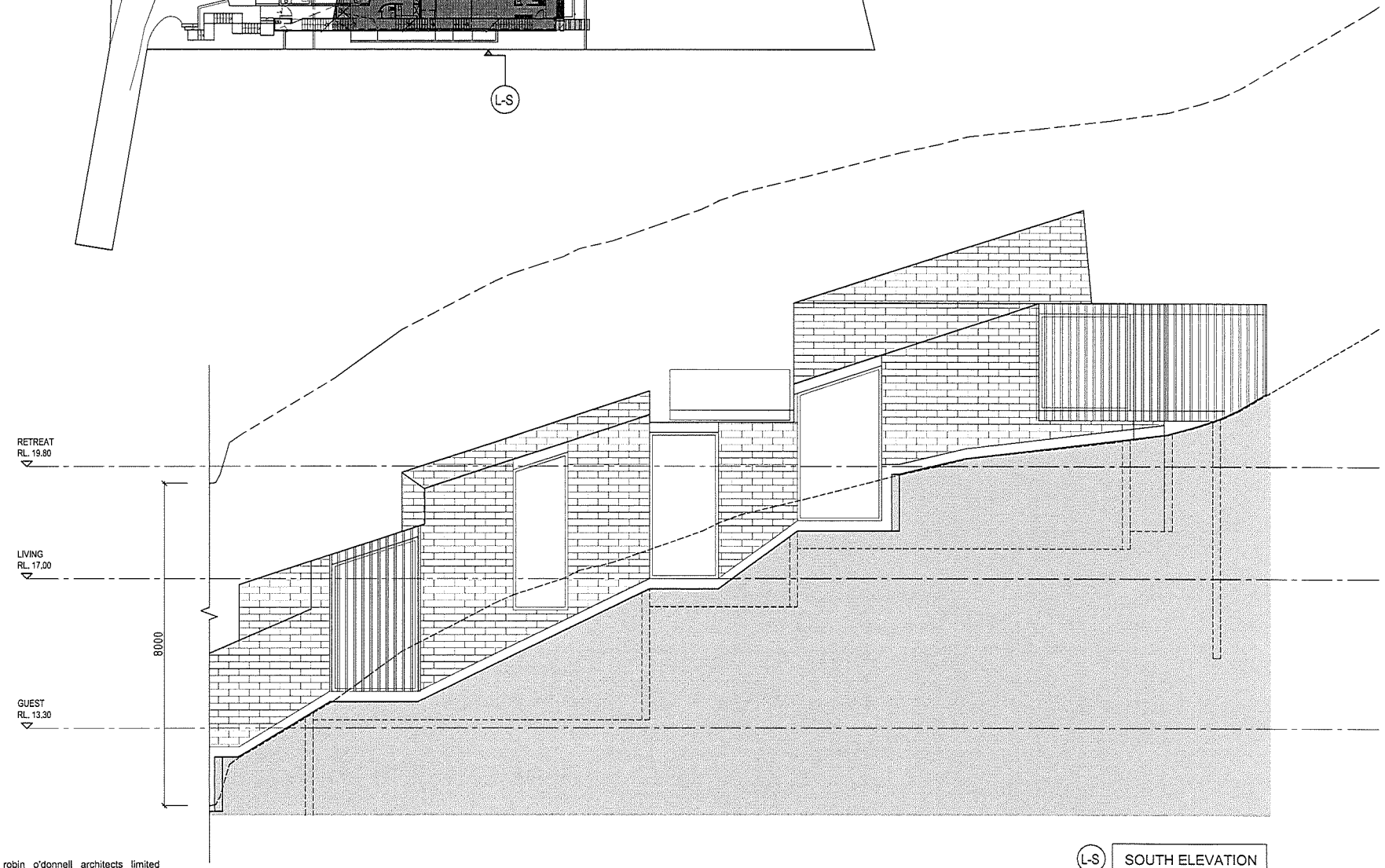
architecture
planning
interior design





L-S SOUTH ELEVATION

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studio7, 160 broadway, newmarket
t. 09 523 4907 f. 09 523 4607
e. info@rod-architects.co.nz

2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

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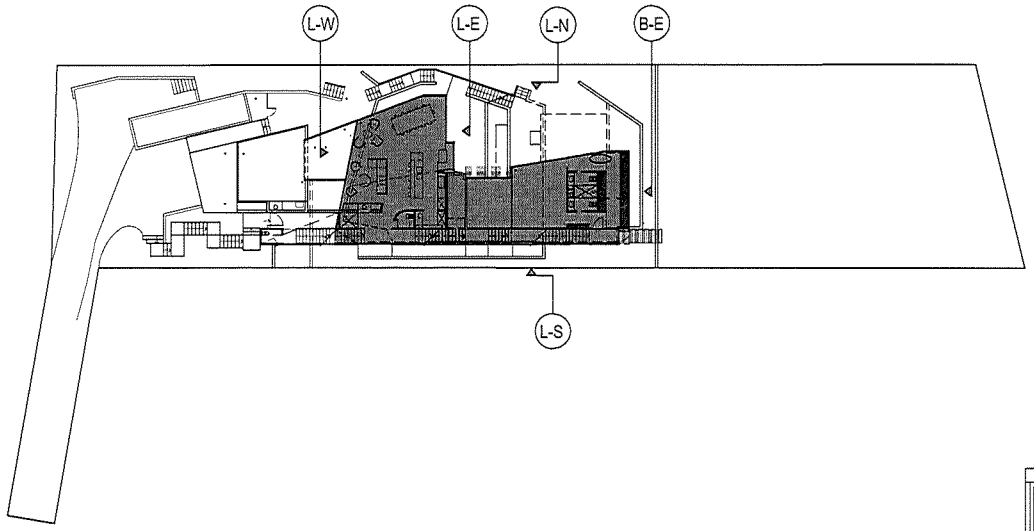
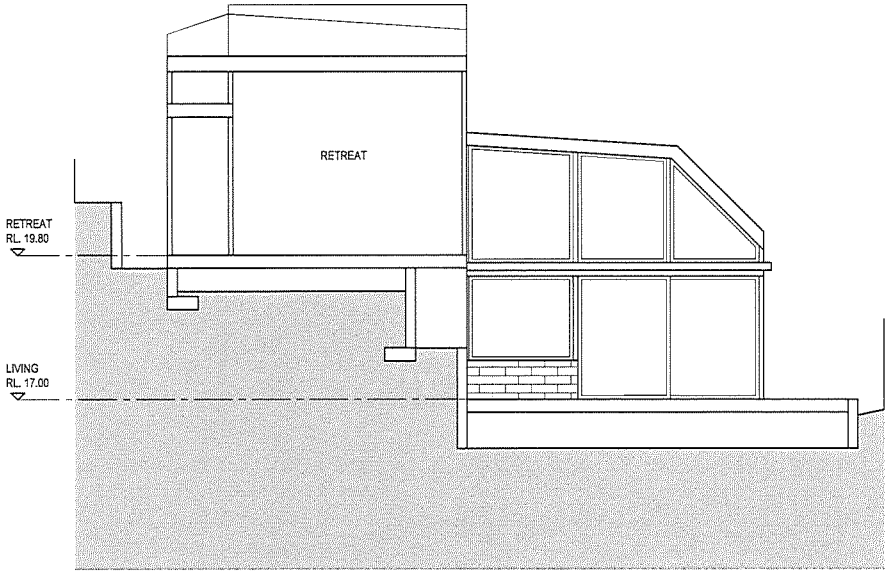
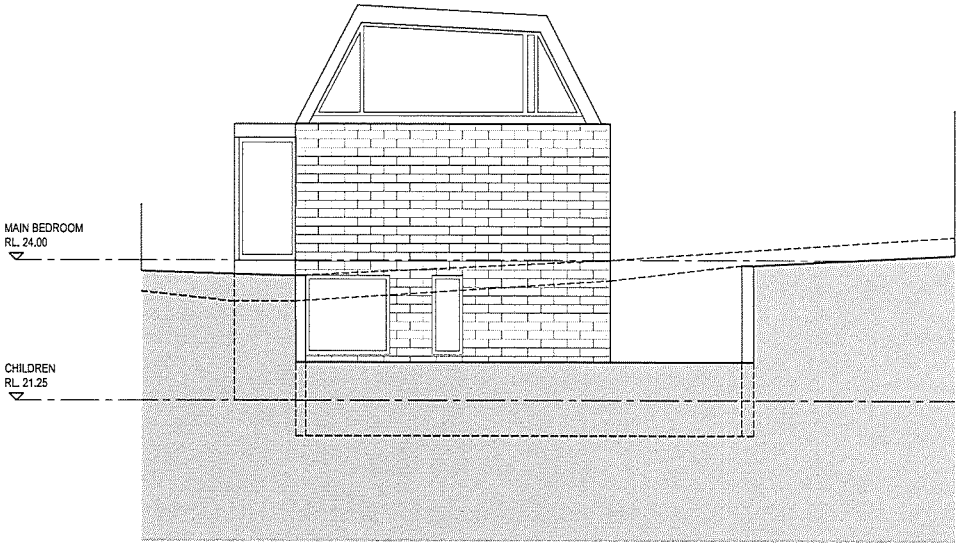
architecture
planning
interior design





L-E EAST ELEVATION

LIVING



B-E EAST ELEVATION

BEDROOM

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Appendix 4
Geotechnical Suitability Report

Hawthorn Geddes
engineers & architects ltd

GEOTECHNICAL SUITABILITY REPORT FOR RESOURCE CONSENT R1

PREPARED FOR ALAN & VANESSA ABERNETHY

AT 25 KOTARE DRIVE, COOPERS BEACH

LOT 9 DP 49862

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hg@hgcs.co.nz

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Warkworth 0910
09 283 3428

hawthorngeddes.co.nz

Civil, Structural, Environmental and Geotechnical Engineers
Registered Architects and Project Managers

Also at Warkworth

GEOTECHNICAL SUITABILITY REPORT FOR RESOURCE CONSENT R1

Table of Contents

Report
Prepared by: [redacted]

Report
Approved by: [redacted]
Callum Sands,
Geotechnical Engineer,
BE (Hons), CPEng, CMEngNZ

DOCUMENT TRANSMITTAL				
Prepared for:		ALAN & VANESSA ABERNETHY		Job No.: 12955
Revision	**Issued To**		**Copies Issued**	**Date**
DRAFT	Client: Attention: Via email:	Alan and Vanessa Abernethy Robin O'Donnell robin@rod-architects.co.nz	EMAIL	13.10.23
0	Client: Via email: CC Attention: Via email:	Alan and Vanessa Abernethy vanessa_abernethy@hotmail.com Robin O'Donnell Architects Limited Robin O'Donnell robin@rod-architects.co.nz	EMAIL	07.12.23
1	Client: Via email: CC Attention: Via email:	Alan and Vanessa Abernethy vanessa_abernethy@hotmail.com Robin O'Donnell Architects Limited Robin O'Donnell robin@rod-architects.co.nz	EMAIL	12.12.23

1. Purpose

The purpose of this report is to present the results of the geotechnical investigation completed at Lot 9 DP 49862, 25 Kotare Drive, Coopers Beach. This report provides advice for the proposed dwelling on liquefaction damage potential, static load settlement, slope stability, earthworks, and building site suitability.

This report is suitable to support a resource consent application to the Far North District Council (FNDC).

This report supersedes the previous version dated, 7th of December 2023.

2. Executive Summary

This report presents the results of a geotechnical investigation and assessment completed for the proposed development as described in Section 3 below.

This Executive Summary provides a brief overview of our geotechnical engineering evaluation for the project and is not intended to replace more detailed information contained elsewhere in this report. A summary of important geotechnical considerations, our conclusions and recommendations for the proposed development are as follows:

- **Development Type:** construct a large dwelling with three individual pavilions situated over stepped building platforms connected via a hallway along the southern boundary. The dwelling is proposed to have a total floor area of some 403m² with up to two storeys. A pool is proposed to be placed atop of the storage facilities that connect to the garage.

- **Geological Unit:** the property is mapped by GNS Science as being underlain by the Mangonui Formation which is described as a conglomerate.

- **General Site Topography:** moderately to very steeply sloping, typically trending northwest from a north to south trending ridgeline situated east of the property boundary.

- **Subsoil Investigation:** hand augered boreholes (HA) and machine augered boreholes (MBH) were completed on the 20th to 23rd of June 2022. The subsurface investigations encountered hard and cohesive fill beneath the existing building platform.

  The soils encountered include estuarine deposits, overlying completely weathered and geothermally altered conglomerate which overlies glauconitic sandstone with thinly interbedded mudstone, the final identified unit was calcareous mudstone. A historic fault was identified in the boreholes and a secondary fault was inferred from the collected data although, the actual location and dip angle is unknown.

- **Soil Expansivity:** soils over the site are considered to be highly expansive (Class H) as determined by Atterberg Limit testing completed on clayey silt comprised from estuarine deposits.

- **Groundwater:** groundwater was not encountered within the hand augered boreholes however evidence of groundwater transmissions was observed as iron-oxide staining from 1.5m bgl within all near surface deposits encountered.

- **Liquefaction Vulnerability:** not considered vulnerable to liquefaction processes.

- **Static Load Settlement:** residual soils are not considered susceptible to settlement under the proposed building load.

- **Site Subsoil Class:** Seismic Subsoil Class C, per AS/NZS 1170.5:2004, Amd 2016, Section 3.1.3.1.

- **Earthworks:** will be required for the formation of the three individual stepped building platforms and the contouring of the site. The dwelling shall be found entirely within excavation with no fill placed anywhere over the property, and all excavations retained.

- **Building Site Suitability:** a combination of foundations will be required, these include masonry block, suspended floor slab, concrete floor slab, and piles where the foundations exceed the excavated building platform. All excavations shall be sufficiently retained by external walls, to increase the Factor of Safety for the proposed development a range of retaining structures are proposed to be constructed.

3. Proposal

It is proposed to construct a stepped, multi-level dwelling over three individual building platforms (accessed via the hallway and retreat area) with a total floor area of 403m^2 at the above address.

The property is proposed to contain a 23.23m^2 above ground swimming pool that is to be situated atop the storage facilities connected to the garage. The existing accessway is to be upgraded and will mostly remain in the same location.

The property is connected to the council's wastewater network, and has an on-site water bore with ability to connect to potable water. On-site stormwater management as it relates to slope stability is presented in Section 11.2 and Section 11.3 of this report.

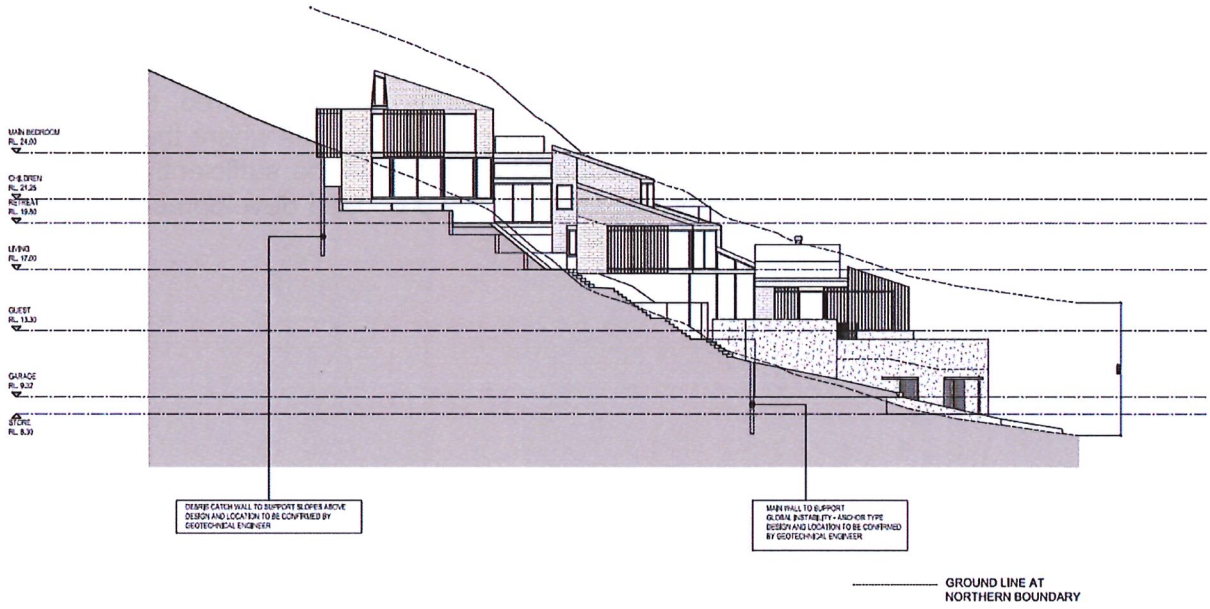


Figure A: North Elevation drawing RC2.01 (source: Robin O'Donnell Architects concept dated December 2023).

4. Site Description

The property is roughly rectangular in shape, some 0.12Ha in area, with the existing accessway extending north off Kotare Drive. The western property boundary borders Kotare Drive that is bound to the west by Coopers Beach. The mean high tide mark is some 30m west of the western property boundary. The property is some 300m southwest of the Rangikapiti Pa Historic Reserve and some 450m north of the Twin Coast Discovery Highway / State Highway 10 (SH10). The majority of the property is currently occupied by dense native and exotic flora with the existing dwelling (set to be removed) situated at the base of the slope.

Figure B: Aerial image of the property and its surrounds (source: LINZ Data). The yellow triangles represent mapped known active boreholes as provided by the Northland Regional Council (NRC).

5. Geological Setting

The published geology by GNS Science indicates that the property is underlain by Mangonui Formation with Undifferentiated Tangihua Complex basalt (UTC) situated some 50m north of the property boundary.

The Mangonui Formation is described as a conglomerate comprising pebbly sandstone, mudstone, and lignite. The Mangonui Formation is weakly indurated, with depth to groundwater typically greater than 10m bgl. Mangonui Formation is much younger than the UTC with formation dated between 11 million to 5.5 million years ago.

The Undifferentiated Tangihua Complex basalt in Northland Allochthon is described as basaltic pillow lava and pillow breccia, with sill and dike of basalt and dolerite. The UTC is part of an ophiolite sequence that has undergone saltwater geothermal alterations changing the dikes to have identifying metamorphosed minerals such as zeolite, calcite, and green chlorite. This unit was formed as long as 105 million years ago and is very strong and highly durable against erosional processes.

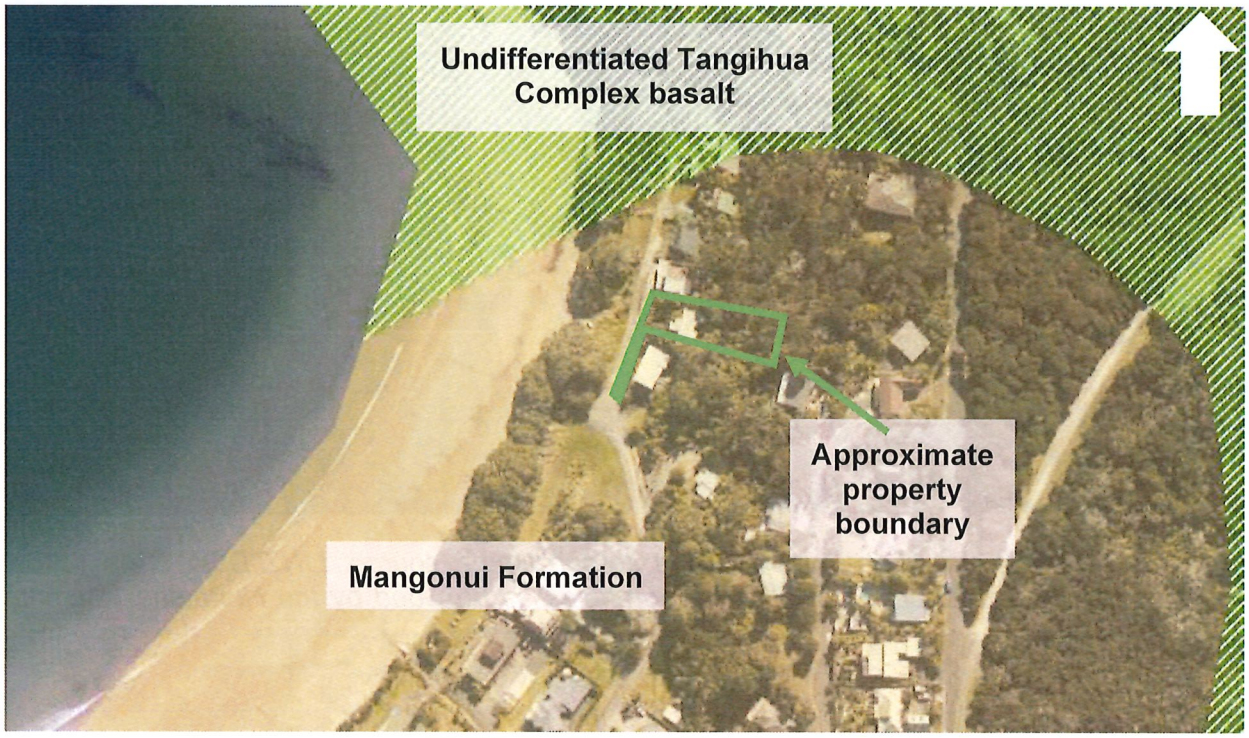


Figure C: Aerial view of the property and its surrounds with the GNS Science published 250k geology overlain (source: GNS Science).

6. Geotechnical Investigation

A detailed subsoil investigation was carried out over the extent of the proposed development on the 20th and 23rd of June 2023. The investigation comprised:

- Two hand augered boreholes (HA1 to HA2) performed by Hawthorn Geddes (HGEA),
- Three machine boreholes (MBH1 to MBH3) performed by DS Geotechnical Services LTD.

6.1. Hand Auger Investigation

Hand augered boreholes were drilled beneath the proposed development to a maximum depth of 3.0m bgl. Undrained shear strengths were measured using a handheld shear vane, at nominal 0.3m intervals as the boreholes were advanced within cohesive soils, results ranged between 67kPa and 204+kPa. Typically, undrained peak shear strengths of the subsoils were measured to be greater than 130kPa across both boreholes.

Groundwater transmissions were not encountered in either of the hand augered boreholes. Evidence of prior elevated groundwater transmissions were observed at the interface of the conglomerate and the sandstone with mudstone interbedding, encountered from 0.7m and 1.3m bgl respective to HA1 and HA2. This was evident as orange iron oxide staining, considered representative of prior groundwater transmissions. Normal groundwater transmissions are inferred to be much deeper to coincide with the high tide mark, no shallower than 5.0m bgl across the entirety of the property.

The hand augered boreholes encountered multiple soil types within the subsurface. Typically, where the ground has not previously been modified, the subsoil profile consists of topsoil, estuarine deposited clays / silts, completely weathered and geothermally altered conglomerate of the Mangonui Formation, before encountering the residual clayey silts remnant of sandstone with thinly interbedded mudstone of the Motatau Complex.

Soils encountered in the boreholes are partially considered consistent with the published geology of the Mangonui Formation.

Logs of the hand augered boreholes and a site plan indicating the borehole locations, are attached to this report.

Each hand augered borehole is summarised on Table 1 below:

Table 1: Summary of Subsoil Conditions

Hand Augered Borehole	Hand Auger Termination Depth	Scala Penetrometer Termination Depth	Topsoil Depth	Groundwater Depth	Shear Vane Soil Strengths	Scala Penetrometer Raw Data in Natural Ground	Generalised Description
All depths measured in (m) below current ground level					min - max		
					kPa	Blows/ 100mm	
HA1	3.0	NM	0.05	NE	67 – 204+	NM	**Estuarine Deposits:** yellow brown, clayey silt with minor fine to medium sand and trace organics. Low plasticity, very stiff, and moist. **Mangonui Formation Conglomerate:** yellowish orange pink to pinkish red matrix with grey centres of rounded completely weathered gravels and cobbles <180mm. The matrix comprises clayey silt with minor fine to medium sand derived from geothermally altered and relocated sediments. **Omahuta Sandstone** clayey silt to silt with clay and varying amounts of fine to medium sands. Yellowish brown to grey mottled orange, very stiff, and moist.
HA2	3.0	NM	0.1	NE	76 – 204+	NM	

Table 1 Notes:

NM = not measured NE = not encountered

6.2. Machine Borehole Data (MBH) Investigation

Three machine augured boreholes (MBH1 to MBH3) were performed by DS Geotechnical Services Ltd over the 20th and 23rd of June 2023, for confirmation on the soil composition beneath the property. MBH1 was drilled at the lowest elevation and MBH3 was drilled at the highest elevation of the boreholes, the three boreholes were drilled to depths of 15.45m, 14.50m, and 15.00m bgl respective to MBH1 through MBH3.

MBH1 and MBH2 encountered engineered fill to some 1.5m bgl and 0.3m respectively before MBH1 lost 0.75m of recovery due to excess water used during drilling. MBH3 encountered clays and silts of estuarine deposits to some 3.5m bgl, this layer is not found in the other two machine boreholes but has likely been removed from weathering and/or human interference.

All three machine boreholes encountered completely weathered clayey silt, a derivative of geothermally altered rounded gravels and cobbles no greater than 180mm are representative of the Mangonui Formation conglomerate (11 million to 5.5 million years old). These soils are pinkish red within the matrix and the outer perimeter of the gravels / cobbles which become light brown or grey toward their centres.

The size of the completely weathered gravels / cobbles decreased with depth towards the underlying geologic unit of completely weathered to slightly weathered sandstone with thinly interbedded mudstone. The greenish grey Omahuta Sandstone (50 million to 30 million years old) with thinly interbedded Taipa Mudstone layers, belongs to the Motatau Complex and was found to be extremely weak with increasing strength respective to an increased depth. The rock is not typically fractured, historic faulting movements were identified within the unit.

MBH1 was the only machine augered borehole to encounter calcareous mudstone of the Taipa Mudstone (50 million to 30 million years old) at the base of the borehole. The calcareous mudstone was light brown, highly weathered, very weak with fractures that have no infilling and are extremely closely spaced. This mudstone is inferred to extend beneath the entire property and was not encountered in the other boreholes as a result of the remaining machine boreholes being stopped prior to the unit change.

A historic fault is inferred to run through all geologic units at an angle of approximately 24°. Our investigation found indicative shear zones comprising some 150mm of highly fractured, slickensided material that is infilled with sandy clayey silt encountered in all MBHs through MBH3 at depths of 15.0m, 6.6m, and 6.1m respectively. The fault is steep and inferred to be historic.

There is a difference in the stratigraphy depths between those encountered in MBH1 and those encountered in MBH2 to MBH3. The bedding layers within MBH2 and MBH3 align to dip at some 6° towards the coastline, for the bedding depths encountered in MBH1 to be 6°, a normal fault may be present between MBH1 and MBH2 (this is the theory, our geologic cross-section is modelled on). The actual location of the fault and its dip angle is unknown but modelled at 48° as the most representative theory based on the absence of its presence within the MBHs and the natural dip in the existing topography.

The difference in thickness between the Omahuta Sandstone is likely due to millions of years of weathering that occurred over the area at a lower elevation. The depth of the Mangonui Conglomerate is thicker at the base of the slope, this is likely due to the formation of the conglomerate undergoing greater consolidation in areas at a lower elevation.

6.3. Geological Model

A geological profile through the subject building site is presented below in Figure D. The illustrated image shows the encountered and inferred subsoil depths from hand and machine augered boreholes. The locality of this section is identified in the site plan in Appendix A of this report.

The property is underlain by a range of geological units that typically follow the chronological order of young estuarine silt and clay deposits, hydrothermally altered and completely weathered conglomerate, weathered glauconitic sandstone with thinly interbedded mudstone layers, overlying calcareous mudstone that has been highly weathered.

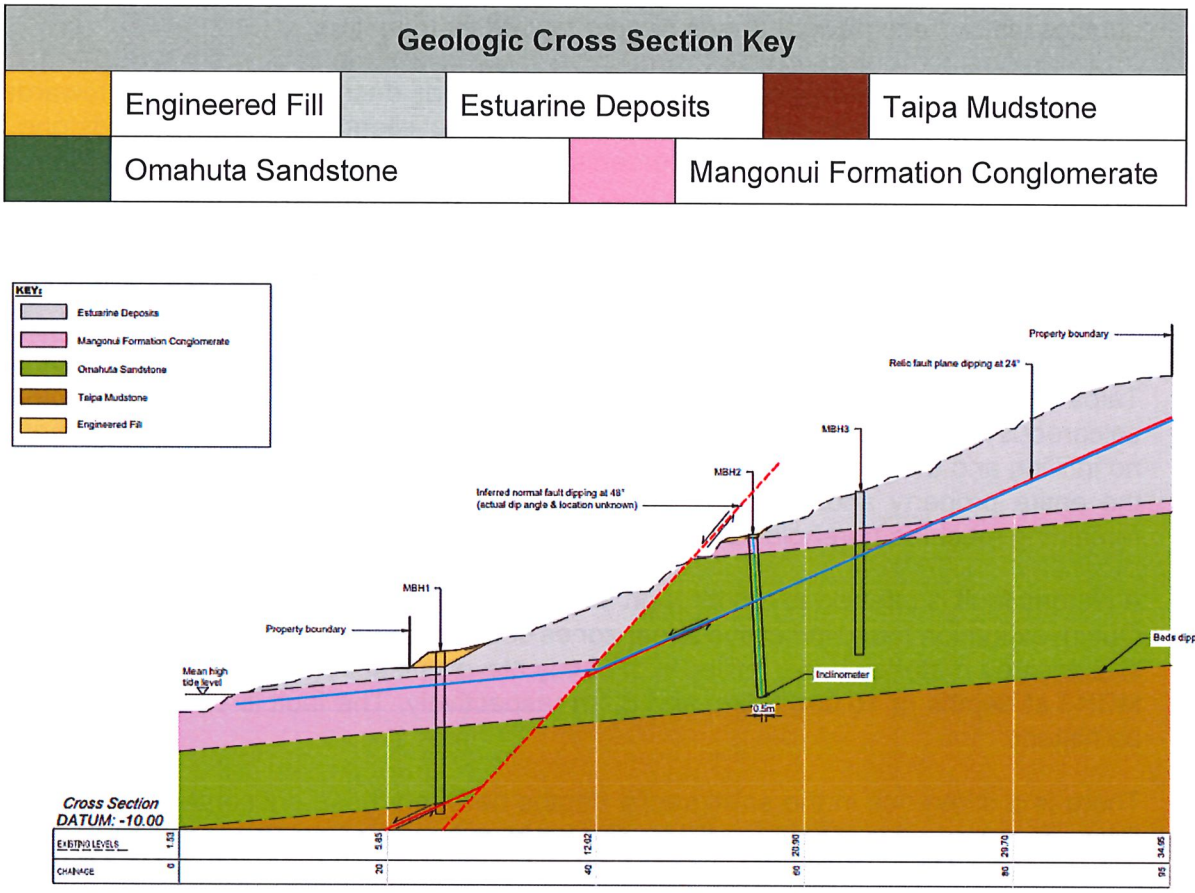


Figure D: Geologic cross section of the existing ground profile, normal groundwater transmissions are identified as a blue line (attached in Appendix A, Figure 2).

6.4. Atterberg Limit Testing (Expansive Soils)

Soil expansivity is the susceptibility of the soil to shrink and swell in response to soil column volume changes due to variations in moisture content. This process occurs in clay-rich soils, where a correlation is observed between increased moisture content and subsequent swelling of clay particles. The reverse is also observable, where decreased moisture content results in shrinking of the soil particles. Shrink/swell typically occurs in the upper 1.0m of soils, this is significantly dependent on clay content, moisture variation, soil compaction, and environmental factors.

Expansive soils can impact structures and infrastructures found within them. Design must consider the effect of expansive soils to mitigate the potential for foundation movement, cracking and damage, differential settlement, and/or infrastructure damage.

A soil sample was taken from a previous subsoil investigation on the 29th of June 2023, taken from the proposed building site. The sample was taken from 0.3m to 0.8m bgl through the estuarine deposited clays and silts, this is considered representative of soils with the greatest expansivity potential across the property.

Atterberg Limit testing was completed in-house at HGEA following standard testing procedures presented in NZS 4402:1986 Test 2.2 and Test 2.3 guidelines. The results are presented in Table 2 below:

Sample	Sample Depth (m)	Liquid Limit (%)	Plasticity Limit (%)	Plasticity Index (%)	AS 2870:2011 Soil Class
1	0.3-0.8	61	22	39	H

The liquid limit and plasticity index presented above were used to assign the expansive soil class as described in AS 2870:2011 Clause 2.1.2, based on guidance set out in AASHTO T 258-81 Table 1. Soils are considered highly expansive where the liquid limit and plasticity index are greater than 60 and 35 respectively. These soils have been classified as highly expansive due to Atterberg Limit testing, on-site observations, and our experience with similar soils.

The soils are classified as highly expansive, therefore are not considered to be good ground as described in NZS 3604:2004. We recommend the foundations and retaining wall be designed in accordance with B1 AS1 Amd 19 for Class H soils.

6.5. Laboratory Testing

One push tube sample was taken of the estuarine deposited soils at a depth of 2.25m to 2.5m bgl. The sample comprised silty clay that was found to be moderately plastic and sent to Babbage Geotechnical Laboratory for isotropically consolidated, undrained (CIU), multi-stage triaxial compressive strength testing.

Soil parameters measured and calculated from the CIU testing are presented in Table 2 below:

Table 2: Summary of Soil Parameters from CIU Testing

General Soil Description	Measured	
	Cohesion (kPa)	Angle of Shear Resistance (ϕ)
Estuarine Deposit Silty clay, very stiff	6	30°

A copy of the CIU report is attached to this report, see Appendix D.

7. Seismic Subsoil Classification

The results of the investigation indicate the site is Seismic Soil Class C; in accordance with AS/NZS 1170.5:2004.

This was assessed based on the geological properties measured during our investigation in correlation with AS/NZS 1170.5:2004; (method (d) of the hierarchy for site classification methods, AS/NZS 1170.5:2004, Amd 2014, Section 3.1.3.1).

8. Stability Assessment

8.1. Visual Stability Assessment

A visual stability assessment was undertaken by a geotechnical engineer and reviewed by a chartered professional geotechnical engineer from HGEA. This comprised a detailed site walkover, a review of historical aerial photographs (source: Google Earth and Retro Lens), and available Lidar data (Figure E).

The property ranges from gently to very steeply sloping, with no obvious evidence of recent or current slope instability resultant of either shallow or deep-seated movements. The property trends west, typically at 25° with angles increasing up to 50° in certain areas from both natural and anthropogenic causes.

Areas of very steep angles that were formed naturally are resultant of millions of years of increased surface water runoff from the upper slope catchment, in areas that were formed via excavations are timber pole retaining walls. These timber pole retaining walls show evidence of movement within the horizontal timber boards from the effect of excessive water transmissions over/through the wall, but the poles show no deformation typical of slope movement.

A review of historic images from Google Earth and Retro Lens found no evidence of instabilities within the subject property or its surround in the past 80yrs due to the dense bush impacting the visibility of the ground surface.

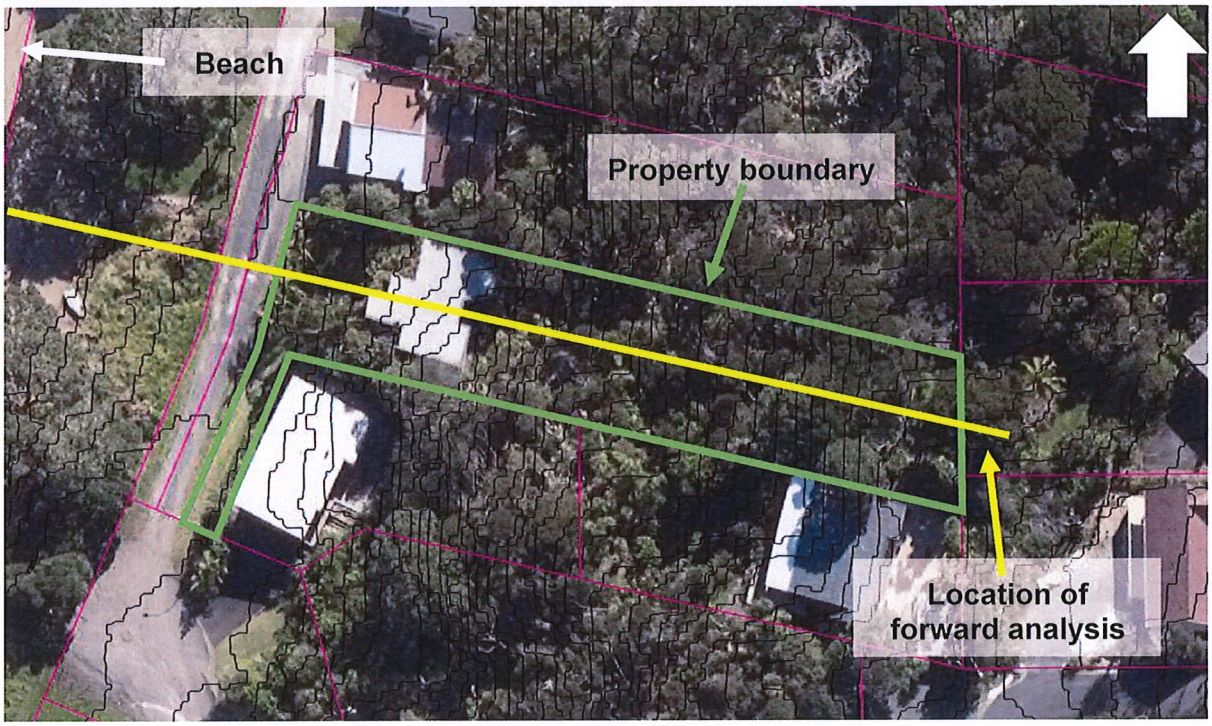


Figure E: Aerial view of property with contours at 1.0m intervals (source: LINZ Data).

8.2. Numerical Stability Assessment

A numerical slope stability analysis has been undertaken to determine the Factor of Safety (FoS) against sliding beneath the subject site. The modelling presented within this report was completed using RocScience Slide2 and a trigger analysis to assess the best model to assess the global and local stability. The cross section used for the analysis have been adopted from available Lidar data, shown in Figure E above.

The Mohr-Coulomb (MC) engineering soil parameters of the subsoil conditions were derived from prior experience with similar soils and results of laboratory testing.

Soil lithology and depth for the forward analyses have been inferred based on site topography and profiles encountered in the machine and hand augered boreholes, inferring post-earthworks slope conditions.

Table 3: Calibrated MC Soil Parameters

Subsurface Soil Description	Soil Unit Weight (γ)	Effective Cohesion (c')	Effective Friction Angle (ϕ')
	kN/m^3	kPa	Degrees
Engineered Fill	19	6	30
Estuarine Deposits	18	6	30
Mangonui Formation Conglomerate	19	2	32
Motatau Complex – Omahuta Sandstone	20	2	35
Motatau Complex – Taipa Mudstone	20	8	33

Groundwater was assumed as not shallower than 1.0m bgl, representative of conservative elevated groundwater conditions, as inferred from iron oxide staining and likely surface water runoff depths encountered from 1.5m bgl. A rotational slip failure is the expected failure mechanism as typically associated with the site's geomorphology.

The cases modelled to find the FoS of the proposed development are as follows:

1. Normal groundwater conditions (NGWT)

2. Elevated groundwater conditions (EGWT)

3. Ultimate Limit State seismic (ULS)

4. Damage Control Limit State seismic (DCLS)

The analysis criteria adopted herein is based on the industry standard 'best practice' which requires a minimum FoS against sliding of 1.5 to be achieved for normal groundwater conditions, 1.3 for extreme groundwater conditions, 1.1 for a ULS level seismic event and 1.0 for a DCLS level seismic event.

Peak ground acceleration (PGA) and magnitude for this analysis have been adopted from Table A1, Appendix A of the MBIE/NZGS Earthquake Geotechnical Engineering Practice Module 1, November 2021. Input parameters for the seismic assessment are summarised in Table 4 below:

Table 4: Seismic Assessment Input Parameters

Importance Level	Limit State	Probability of Exceedance (per annum)	PGA	Magnitude
2	ULS	1/500	0.13	5.8
	DCLS	Not defined	0.19	6.5

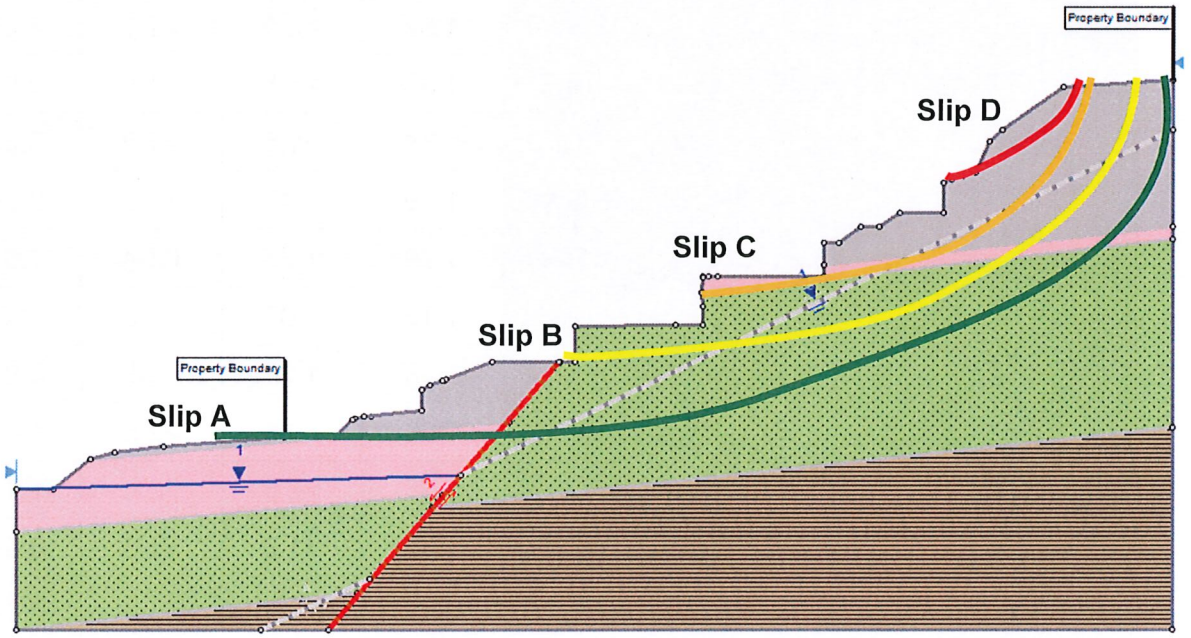


Figure F: Proposed southern elevation with normal groundwater transmissions. Slip A through Slip D are identified as the critical slips that are to be retained (source: Slide2).

Each numerical stability analysis completed for the proposed northern and southern elevation profiles were calculated against four different limit equilibrium methods (Spencer, Janbu Simplified, Bishop's Simplified, and GLE Morgenstern-Price), of which the GLE Morgenstern-Price was identified as the most representative. The GLE Morgenstern-Price results of the proposed topography during the four different scenarios in relation to Slip A through Slip D as identified in Figure F above are summarised in Table 5 below:

Table 5: Critical FoS as Determined by GLE / Morgenstern Price for Four Prevalent Slips

Scenario		Slip			
		Slip A	Slip B	Slip C	Slip D
Proposed Topography – Northern Elevation	NGWT	1.36	1.38	1.24	1.06
	EGWT	1.12	1.16	1.01	0.96
	ULS	1.06	1.07	1.00	0.73
	DCLS	0.94	0.97	0.90	0.73
Proposed Topography – Northern Elevation with Retaining	NGWT	1.81	>2.5	>2.5	1.06
	EGWT	1.52	>2.5	>2.5	1.06
	ULS	1.38	>1.5	>1.5	0.87
	DCLS	1.34	>1.5	>1.5	0.86
Proposed Topography – Southern Elevation	NGWT	1.49	1.47	1.25	0.98
	EGWT	1.29	1.23	0.94	1.01
	ULS	1.12	1.09	1.00	0.8
	DCLS	1.00	1.04	0.98	0.87
Proposed Topography – Southern Elevation with Retaining	NGWT	1.96	>2.5	>2.5	1.47
	EGWT	1.65	>2.5	>2.5	1.18
	ULS	1.42	>1.5	>1.5	0.99
	DCLS	1.20	>1.5	>1.5	0.85

8.2.1. Slip A

Slip A represents the critical global stability of the site with inferences made on the slip occurring near the upper slope boundary and encompassing the remainder of the downslope property. The stability FoS associated with Slip A for the proposed excavations and loading is typically less than the required minimum of industry 'best practice'. Following the installation of retaining, Slip A's FoS increases for all modelled scenarios to reach an adequate FoS.

8.2.2. Slip B

Slip B represents the critical global stability where the toe of the slip is situated between the first and second downslope excavations with the head of the slip near the upslope property boundary. The FoS for Slip B is considered just below the required minimum FoS as per industry 'best practice', however with retaining, the FoS increases to be greater than 2.5 for groundwater transmission changes and greater than 1.5 for both modelled seismic events.

8.2.3. Slip C

Slip C represents the critical global stability beneath the upper slopes of the property, where the toe of the slip aligns with the base of the tallest excavation (up to some 4.0m tall), the head of the slip originates near the upper property boundary. The FoS for Slip C is well below acceptable limits for all scenarios prior to the installation of adequate retaining where it increases to become well above the minimum FoS for industry 'best practice'.

8.2.4. Slip D

Slip D represents the critical local stability of the upper slopes of the property, where the toe of the slip aligns with the base of the upslope excavation base. This slip plane is assessed as being no deeper than 3.0m with all FoS calculations well below industry 'best practice' standards in all scenarios irrespective of retaining.

Mitigation techniques shall be required to reach an appropriate FoS as per industry 'best practice'. The installation of a debris catch wall from the base of the uppermost excavation shall appropriately increase the FoS following the removal of debris spoil following slips. Another option to increase the FoS is to remove the upper 2.0m of soils and batter the upper slope at no more than 22° with stabilisation techniques such as coconut matting, and heavy planting installed following battering.

9. Liquefaction Assessment

Liquefaction is a phenomenon where saturated low plasticity soils lose strength due to high pore pressure development during earthquake shaking. This generally occurs in loose to medium dense, cohesionless soils such as sands and river deposited non-plastic silts, most common in low-lying and coastal areas with associated high groundwater tables. Liquefaction of near-surface soils typically results in surface cracking, dislocation, ground deformation, and lateral spreading.

9.1. Building Platform

Results of our subsoil investigation found the proposed building platform to be directly underlain by a combination of estuarine deposited clays/silts and clayey silt of the completely weathered Mangonui Formation Conglomerate. Underlying these units are the Omahuta Sandstone and Taipa Mudstone layers which range from completely weathered through to slightly weathered.

Hand augered boreholes, shear vanes, and machine boreholes were undertaken in correspondence with a 'Level C' detailed area-wide assessment of liquefaction risk, as per the Planning and Engineering Guidance released by EQC, MBIE, and MfE in 2017 (PEG 2017). The assessment was completed to provide a significant reduction in the uncertainty level of liquefaction related risks.

We consider the proposed building site to have a very low liquefaction damage vulnerability occurring at a rate of less than 1% during a 500-year seismic event. A less concise categorisation of 'liquefaction is unlikely to occur' (occurrence at a rate of less than 15%) can be applied to areas away from where the subsoil investigations were completed.

Groundwater was not encountered within any HA borehole and is inferred to be deeper than 1.5m bgl during wet seasonal fluctuations. Evidence of groundwater transmissions were identified from 1.5m bgl with iron oxide staining of the residual soils.

No numerical analysis has been undertaken.

9.2. Lateral Spreading

Lateral spreading normally occurs along an open slope face such as a riverbank or steep coastal slope, where loose, saturated sandy soils are commonly encountered at shallow depths. The effect of lateral spreading generally decreases with increased distance from the slope face.

The subject property away from retained excavations and the planar building site is proposed to be contoured into gentle to steep slopes, with the building levels situated over planar excavations. There are no soils with high percentages of sand present, therefore it is considered highly unlikely to be at risk of lateral spreading should a seismic event occur.

10. Static Settlement Analysis

Consolidation settlement is the process of excess porewater pressure dissipation, whereby when a load is applied to a soil structure, the load is initially taken up by the pore water pressure and gradually transferred to the soil skeleton. This process results in the consolidation of the soil structure over time, referred to as 'primary consolidation settlement'.

Creep settlement occurs over an extensive period and is the re-adjustment of soil particles under constant load, generally commencing once all excess pore water pressure dissipates (at the end of consolidation settlement), referred to as 'secondary settlement'.

The building site is underlain by multiple geologic units with none considered susceptible to consolidation. Post earthworks following the formation of the building platform and installation of retaining, the site is considered to have a low susceptibility to consolidation under load such as the proposed infrastructure.

11. Recommendations and Conclusions

11.1. Liquefaction Damage Potential

Results of our subsoil investigation found the property to be underlain by clays and silts of estuarine deposits, completely weathered muddy Omahuta Sandstone, and completely weathered clayey silt of the Mangonui Formation Conglomerate, encountered from depths no shallower than 0.3m bgl.

A 'Level C' liquefaction assessment was completed to reduce the uncertainty of liquefaction related risks. Ground damage induced by an earthquake or similar shaking has an 85% likelihood of not occurring at this site. Groundwater transmissions were not encountered but evidence of elevated groundwater transmissions such as iron-oxide staining was encountered from 1.5m bgl. The site is unlikely to undergo liquefaction damage and in investigated areas a very low liquefaction vulnerability is assigned as defined by PEG 2017.

Results of the liquefaction assessment presented within this report indicate that the site is extremely unlikely to liquefy during a ULS level seismic event. Catastrophic failure of the infrastructure during a ULS level event or smaller would be extremely unlikely to occur.

11.2. Stability

We assess the location of the proposed building site, placed into the excavated hillside, to be at low risk of slope stability hazards subject to the recommendations outlined below.

The property is proposed to be contoured in such a way that the surface water runoff is diverted towards a closed drain that is to be installed along the southern property boundary.

No evidence of recent or active global slope movement was observed over the property to suggest excessive erosion or slip processes. The three building platforms are to be constructed over excavations no greater than 5.0m high made into the hillside and adequately retained.

The global stability (critical FoS against sliding) of the slope beneath the building site was assessed by a numerical stability analysis. The FoS for the proposed building site was assessed in terms of the four most likely slip planes following loading, all FoS calculations made for the proposed building site were less than typical industry 'best practice'. Retaining of the excavation faces shall be required, a combination of retaining walls and rock anchors shall be designed to provide a sufficient FoS for all possible slip scenarios.

The existing soil profile is considered to be suitable for being founded over, the building platform will be found over a combination of estuarine deposits, Mangonui Formation Conglomerate, and the weathered Omahuta Sandstone. For the proposed building platform with sufficient retaining installed, the FoS of Slips A – C was calculated to be greater than industry 'best practice'.

To mitigate against inundation of Slip D's slip debris, either the installation of a debris catch wall or the contouring of the slopes above the building platform shall occur. Following the installation of a debris catch wall, slip debris will need to be removed for the wall to continue to work at full capacity, following any future slippage.

If contouring of the slopes above the building platform is the preferred option, then slopes shall be battered at no more than 22° with the upper 2.0m of the soil profile removed to a distance of 3.0m off the upslope property boundary. The batter shall be covered with coconut fibre matting or similar, and heavily planted with deep rooted natives to aid slope stability. A small debris catch wall extending some 0.5m above the slope face shall be installed to catch any further upslope slippage debris from impacting the dwelling.

Subject to our recommendations being implemented, we consider the proposed dwelling suitable for the site and not likely to result in negative effects upon the global stability of the site.

11.3. Earthworks

Earthworks will be required for the formation of the building platforms and contouring of the property. Excavations no greater than 5.0m are expected to occur over the property, these shall be retained or battered back at no more than 22°, with local excavations up to 30° where not more than 0.5m high. Any excavations made into the slope over which a building platform is to be constructed, shall be retained appropriately.

During the contouring of the property, the slopes shall be made to divert surface water runoff towards a closed drain to be installed along the northern boundary line. Drainage placed behind the base of the retaining walls shall dispose into the northern boundary drain.

No fill shall be placed anywhere beneath the building site, all excavation spoil shall be removed from the property, it is not considered appropriate for use as engineered fill.

11.4. Building Site Suitability

Soils encountered over the building site were consistent with the mapped Mangonui Formation Conglomerate and then underlain by Omahuta Sandstone and Taipa Mudstone. Measured undrained shear strengths in the residual soils were greater than 70kPa, with an ultimate geotechnical bearing capacity of 300kPa.

The building site soils of the Mangonui Formation Conglomerate have been classified as extremely plastic, Class E in accordance with Clause 2.2.3 of AS 2870:2011, based on Atterberg Limit testing completed on site soils.

Based on the subsoil investigation, we consider the soils suitable for the proposed dwelling supported over a conventional concrete slab. The design of foundations shall consider the upper 900mm of site soils to provide no lateral support.

12. Limitation

Recommendations and opinions in this report are based on data from the investigation described herein. The nature and continuity of subsoil conditions away from the boreholes is inferred and it is possible that actual conditions could vary from those assumed. Should subsoil conditions vary from those described in this report, it is essential that Hawthorn Geddes engineers and architects ltd be contacted to confirm the applicability of the recommendations.

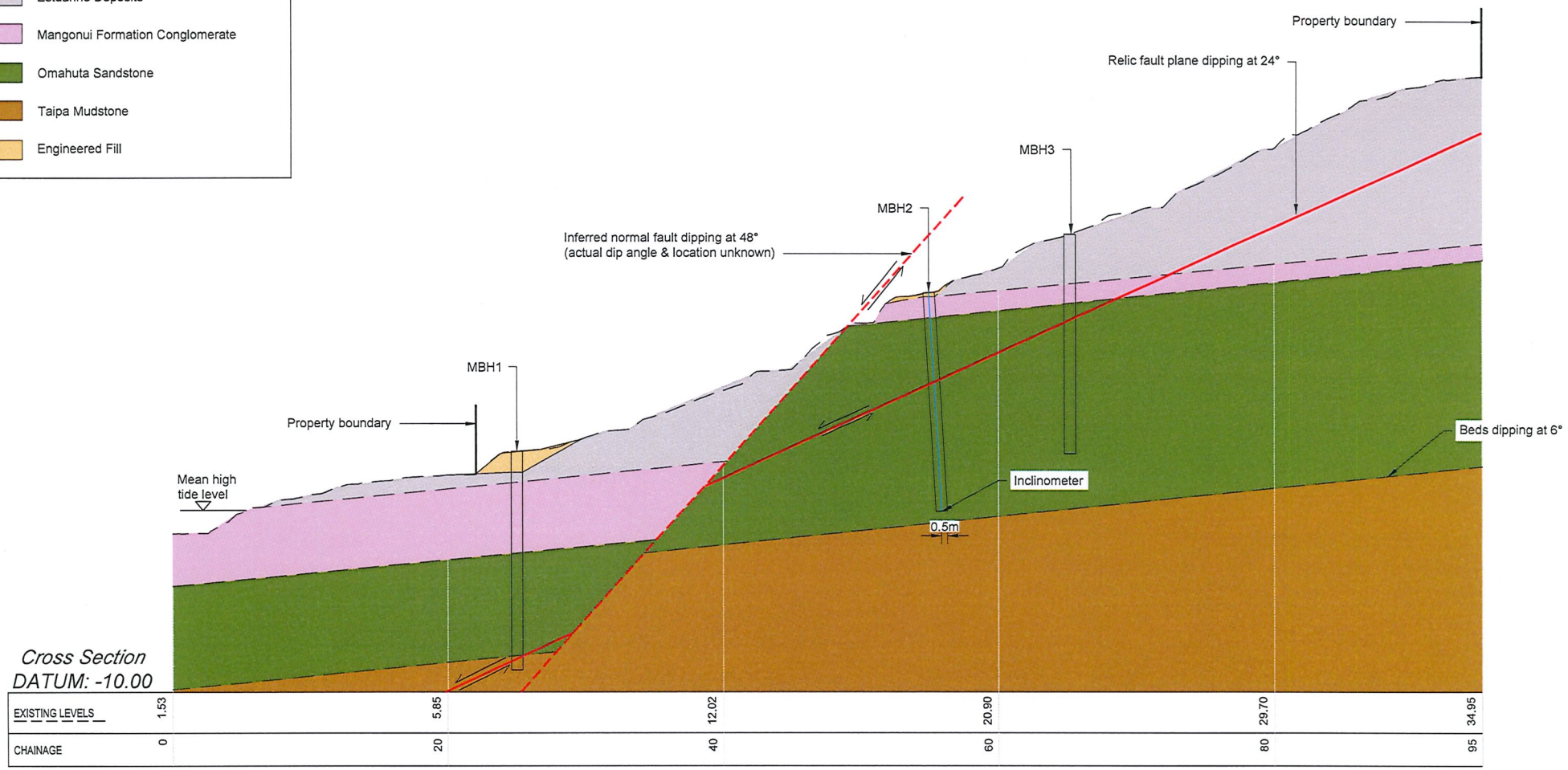
This report has been prepared solely for the benefit of our client Alan and Vanessa Abernethy and the Far North District Council in relation to the resource consent application for which this report has been prepared.

The comments in it are limited to the purpose stated in this report. No liability is accepted by Hawthorn Geddes engineers & architects ltd in respect of its use by any other person, and any other person who relies upon any matter contained in this report does so entirely at their own risk.

Appendix A. Figures

KEY:

- Estuarine Deposits
- Mangonui Formation Conglomerate
- Omahuta Sandstone
- Taipa Mudstone
- Engineered Fill



SECTION A
SCALE - 1:300 Fig01

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CLIENT **ALAN & VANESSA ABERNETHY**
PROJECT **GEOTECH FOR BUILDING CONSENT**
25 KOTARE DRIVE, COOPERS BEACH
DRAWING **GEOLOGICAL CROSS SECTION**

SCALE @ A3 1:300
PROJECT No. **12955**
FIGURE No. **02**
REV. **R1**

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CLIENT **ALAN & VANESSA ABERNETHY**

PROJECT **GEOTECH FOR BUILDING CONSENT**
25 KOTARE DRIVE, COOPERS BEACH

DRAWING **GEOLOGICAL CROSS SECTION**

SCALE @ A3 1:1000

PROJECT No. **12955**

FIGURE No. **01**

REV. **R1**

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Appendix B. Borehole Logs

Hawthorn Geddes engineers & architects ltd

LOG OF BOREHOLE

MBH01

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647577.09E, 6128371.87N	LEVEL	8.34
DRILLING CONTRACTOR			
DRILLING METHOD	Rotary Rig		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
	TS	85				0.10 TOPSOIL Gravelly SILT. Gravel, fine to coarse, angular to subround, unweathered; (FILL).	Groundwater Not Encountered	
		45				0.60 HARDFILL		
1		70				1.20 Clayey SILT, with minor sand and gravel; orange grey, brown. 1.50 Very stiff; low plasticity; moist; sand, fine to medium, gravel, fine; (FILL).		
						No soil recovery due to excess water during drilling. Likely silts of estuarine deposits.		
2						2.25 Clayey SILT, with minor sand; light brown inner gravels and light reddish brown infill matrix. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <180mm. Mangonui Formation Conglomerate.		
3		95				3.0m: With trace gravel. Gravel, fine, angular.		
4								
5						5.25 SILT, with some clay, with minor sand; pinkish red, light grey. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <180mm. Mangonui Formation Conglomerate.		
		93						

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes
engineers & architects ltd

LOG OF BOREHOLE

MBH01

CLIENT Alan & Vanessa Abernethy
PROJECT Abernethy - Prelim
PROJECT NUMBER 12955
PROJECT LOCATION 25 Kotare Drive, Coopers beach
START DATE 20/06/23 COMPLETED DATE 23/06/23
COORDINATES 1647577.09E, 6128371.87N LEVEL 8.34
DRILLING CONTRACTOR
DRILLING METHOD Rotary Rig
LOGGED BY GS
HOLE LOCATION 25 Kotare Drive, Coopers beach

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
7						[CONT] SILT, with some clay, with minor sand; pinkish red, light grey. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <180mm. Mangonui Formation Conglomerate. 6.0m - 7.0m: With some gravel. Gravel, fine, angular; (Historic shear plane).	Groundwater Not Encountered	
8		90				7.50 Silty SAND, with minor clay; blue grey with pinkish red orange matrix. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <120mm. Mangonui Formation Conglomerate. 7.9m - 8.3m: No recovery. 8.3m: With some clay.		
9								
10						10.00 Completely weathered; fine fabric, gently inclined, laminated; SANDSTONE; extremely weak; light blue grey. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
11	SPT (C)	80	3 for 150mm, 3 / 5, 5, 6 (0 for 225mm)					

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes engineers & architects ltd

LOG OF BOREHOLE

MBH01

CLIENT Alan & Vanessa Abernethy
PROJECT Abernethy - Prelim
PROJECT NUMBER 12955
PROJECT LOCATION 25 Kotare Drive, Coopers beach
START DATE 20/06/23 COMPLETED DATE 23/06/23
COORDINATES 1647577.09E, 6128371.87N LEVEL 8.34
DRILLING CONTRACTOR
DRILLING METHOD Rotary Rig
LOGGED BY GS
HOLE LOCATION 25 Kotare Drive, Coopers beach

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
13						[CONT] Completely weathered; fine fabric, gently inclined, laminated; SANDSTONE; extremely weak; light blue grey. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone. 12.0m: Very weak. 13.2m: Highly weathered; SANDSTONE; very weak; grey green, red laminations.	Groundwater Not Encountered	
14						14.5m: Weak.		
15		75 95				15.00 15.15 Silty CLAY, with minor sand; bluish grey mottled orange. High plasticity; sand, fine to medium; relic shear plane. 15.45 Highly weathered; fine fabric, gently inclined, laminated; very weak; calcareous mudstone, light brown, fractures 2mm, no infill, apertures are extremely closely spaced. Tapia Mudstone. EOH: 15.45m		
16								
17								

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes
engineers & architects ltd

LOG OF BOREHOLE

MBH02

CLIENT Alan & Vanessa Abernethy
PROJECT Abernethy - Prelim
PROJECT NUMBER 12955
PROJECT LOCATION 25 Kotare Drive, Coopers beach
START DATE 20/06/23 COMPLETED DATE 23/06/23
COORDINATES 1647602.73E, 6128360.04N LEVEL 18.87
DRILLING CONTRACTOR
DRILLING METHOD Rotary Rig
LOGGED BY GS
HOLE LOCATION 25 Kotare Drive, Coopers beach

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
0		20				HARDFILL	Groundwater Not Encountered	
0.30						Clayey SILT, with minor inclusion of topsoil and sand; dark brown. Very stiff; low plasticity; moist; sand, fine to medium; (FILL).		
						Silty CLAY, with trace sand; light grey orange streaks. Very stiff; high plasticity; moist; sand, fine; Derived from completely weathered, geothermally altered rounded fine gravels. Mangonui Formation Conglomerate.		
1		90				1.0m: With trace sand; pinkish red. Sand, coarse.		
						1.7m: Clayey SILT, with some sand; pink, red, grey, mottled orange. Low plasticity; sand, fine to medium.		
1.90						Completely weathered; fine fabric, gently inclined, thinly laminated; SANDSTONE; extremely weak; light bluish green grey, moderately fractured. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
2								
3						3.0m: Fractures dipping @ 45 degree tight, no infill, iron oxide staining.		
4		95				4.5m: Very weak, light beige.		
5						5.2m: Fracture dipping @ 80 degree tight, no infill, iron oxide staining		
						5.5m: Light bluish green grey.		
						5.7m: Highly weathered; weak.		

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

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

Hawthorn Geddes engineers & architects ltd

LOG OF BOREHOLE

MBH02

CLIENT Alan & Vanessa Abernethy
PROJECT Abernethy - Prelim
PROJECT NUMBER 12955
PROJECT LOCATION 25 Kotare Drive, Coopers beach
START DATE 20/06/23 COMPLETED DATE 23/06/23
COORDINATES 1647602.73E, 6128360.04N LEVEL 18.87
DRILLING CONTRACTOR
DRILLING METHOD Rotary Rig
LOGGED BY GS
HOLE LOCATION 25 Kotare Drive, Coopers beach

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
7						[CONT] Completely weathered; fine fabric, gently inclined, thinly laminated; SANDSTONE; extremely weak; light bluish green grey, moderately fractured. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone. 6.5m: Completely weathered; extremely weak; highly fractured. 6.6m: For 50mm potential shear zone with sandy clayey silt infill 6.8m: Highly weathered; very weak; Grey mottled orange. Quartz laminations less than 0.5mm thick and less than 2mm apart.	Groundwater Not Encountered	
8						7.6m: Near vertical fractures, tight apertures, no infilling. 8.2m: Highly fractured. 8.6m: Light brown.		
9						9.0m: For 50mm core recovered as soil due to high machine disturbance 9.1m: Moderately weathered; weak.		
10						10.0m: Bluish grey green.		
11						11.8m: Slightly weathered; moderately strong; Greenish grey.		

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

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

Hawthorn Geddes
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LOG OF BOREHOLE

MBH02
PAGE 3 OF 3

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647602.73E, 6128360.04N	LEVEL	18.87
DRILLING CONTRACTOR			
DRILLING METHOD	Rotary Rig		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
13						[CONT] Completely weathered; fine fabric, gently inclined, thinly laminated; SANDSTONE; extremely weak; light bluish green grey, moderately fractured. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
						12.3m: Tight fractures with iron oxide staining		
14						14.1m: No fractures, strong		
						14.50 EOH: 14.50m		
15								
16								
17								

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes engineers & architects ltd

LOG OF BOREHOLE

MBH03

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647611.38E, 6128353.17N	LEVEL	23.02
DRILLING CONTRACTOR			
DRILLING METHOD	Rotary Rig		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
0					TS TS T	TOPSOIL 0.20	Groundwater Not Encountered	
						Clayey SILT, with minor topsoil inclusion and sand; grey brown. 0.50 Very stiff; low plasticity; moist; sand, fine to medium; Estuarine Deposits.		
						Silty CLAY, with trace sand; golden brown mottled orange. Very stiff; high plasticity; moist; sand, fine to medium; Estuarine deposits.		
1						1.3m: Saturated soils due to drilling.		
2						2.0m: Clayey SILT, with minor sand. Low plasticity; sand, fine to medium.		
						2.8m: With minor gravel; pinkish red, light grey. Gravel, fine, iron oxide.		
3						3.0m: Mottled orange.		
						3.50		
						SILT, with some clay, with minor sand; light brown with pinkish red matrix. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and minor cobbles <180mm. Mangonui Formation Conglomerate.		
4						4.6m: With some sand, with minor clay; orangey pink. Non-plastic; sand, fine to medium.		
5						5.00		
						Completely weathered; fine fabric, gently inclined; extremely weak; green grey. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
						5.5m: Machine tight planar rough fracture.		
						5.7m: Machine fracture rough, no infill.		

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes
engineers & architects ltd

LOG OF BOREHOLE

MBH03
PAGE 2 OF 3

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647611.38E, 6128353.17N	LEVEL	23.02
DRILLING CONTRACTOR			
DRILLING METHOD	Rotary Rig		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
7						[CONT] Completely weathered; fine fabric, gently inclined; extremely weak; green grey. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone. 6.1m: Fracture undulating slickensided dipping at 75 degree, no infilling. 6.4m: Tight undulating rough fracture dipping at 55 degree, no infilling. 6.5m: Highly weathered; very weak. 7.0m: Weak. 7.5m: Moderately weathered. 8.5m: Moderately strong; Tight planar rough fracture, no infilling. 9.1m: Tight undulating fracture rough dipping at 70 degree, no infilling, iron oxide staining. 9.4m: Tight undulating rough fracture dipping at 55 degree, no infilling. 10.3m: Machine fracture. 11.1m: Slightly weathered; moderately strong. 11.5m: Machine tight planar rough fracture dipping at 35 degree, no infilling. 11.9m: Machine tight planar rough fracture dipping at 50 degrees, no infilling.	Groundwater Not Encountered	
8								
9								
10								
11								

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes
engineers & architects ltd

LOG OF BOREHOLE

MBH03

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647611.38E, 6128353.17N	LEVEL	23.02
DRILLING CONTRACTOR			
DRILLING METHOD	Rotary Rig		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SAMPLE TYPE	RECOVERY (%)	BLOW COUNTS (N-VALUE)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	INSTALLATION
13						[CONT] Completely weathered; fine fabric, gently inclined; extremely weak; green grey. Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone. 12.2m: Machine tight planar rough fracture dipping at 35 degrees, no infilling. 12.5m: Strong. 13.0m: Tight undulating rough fracture dipping at 35 degree, no infilling, iron oxide staining. 13.1m: Very strong. 13.2m: Machine tight planar rough fracture dipping at 65 degree.	Groundwater Not Encountered	
14								
15						15.00 EOH: 15.00m		
16								
17								

REMARKS

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes engineers & architects ltd

LOG OF HAND AUGER

HA1

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647592.00E, 6128356.40N	LEVEL	13.70
DRILLING CONTRACTOR			
DRILLING METHOD	50mm Hand Auger		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SCALA (Blows / 100mm)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	DEPTH (m)
				TOPSOIL	Groundwater Not Encountered	
		SV = 70 / 29 kPa (GEO952)		0.20 Clayey SILT, with minor sand; light grey brown . Stiff; low plasticity; moist; sand, fine to medium; (FILL).		
		SV = 134 / 20 kPa (GEO952)		Clayey SILT, with minor sand; pinkish red. Very stiff; low plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <100mm. Mangonui Formation Conglomerate. 0.70		
1		SV = 160 / 32 kPa (GEO952)		SILT, with some clay and sand; yellowish brown. Very stiff; low plasticity; moist; sand, fine to medium; Residual soil of Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
		SV = 67 / 15 kPa (GEO952)		1.2m: With some sand, with minor clay and gravel; greyish orange. Stiff; sand, fine to medium; gravel, fine to medium, angular.		
		SV = 120 / 15 kPa (GEO952)		1.5m: Very stiff		
2		SV = 204+ kPa (GEO952)				
		SV = 204+ kPa (GEO952)				
		SV = 204+ kPa (GEO952)		2.5m: With some clay; orange, light grey streaks.		
		SV = 204+ kPa (GEO952)				
3		SV = 204+ kPa (GEO952)		3.00 EOH: 3.00m		

PHOTO / SKETCH

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

REMARKS

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Hawthorn Geddes engineers & architects ltd

LOG OF HAND AUGER

HA2

CLIENT	Alan & Vanessa Abernethy	PROJECT	Abernethy - Prelim
PROJECT NUMBER	12955	PROJECT LOCATION	25 Kotare Drive, Coopers beach
START DATE	20/06/23	COMPLETED DATE	23/06/23
COORDINATES	1647622.43E, 6128359.21N	LEVEL	26.61
DRILLING CONTRACTOR			
DRILLING METHOD	50mm Hand Auger		
LOGGED BY	GS		
HOLE LOCATION	25 Kotare Drive, Coopers beach		

DEPTH (m)	SCALA (Blows / 100mm)	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER	DEPTH (m)
			TS	0.10 TOPSOIL		
		SV = 117 / 15 kPa (GEO952)		Clayey SILT, with minor sand, with trace organics; yellow brown. Very stiff; low plasticity; moist; sand, fine to medium; Estuarine deposits.		
				0.40		
		SV = 76 / 29 kPa (GEO952)		Silty CLAY, with trace sand; yellowish orange pink. Stiff; high plasticity; moist; sand, fine to medium; Derived from completely weathered, geothermally altered rounded gravels and cobbles <180mm. Mangonui Formation Conglomerate.		
		SV = 190 / 55 kPa (GEO952)		0.9m: Very stiff		
1				1.3m: Clayey SILT, with minor sand; grey with reddy orange matrix.		
		SV = 149 / 63 kPa (GEO952)		1.30 Very stiff; low plasticity; sand, fine to medium.		
				Clayey SILT, with minor sand; orange minor grey inclusions. Very stiff; low plasticity; moist; sand, fine to medium; Residual soils of Motatau Complex Omahuta Sandstone with thinly bedded Motatau Complex Taipa Mudstone.		
		SV = 152 / 76 kPa (GEO952)				
		SV = 137 / 61 kPa (GEO952)				
2						
		SV = 178 / 85 kPa (GEO952)				
		SV = 152 / 55 kPa (GEO952)				
				2.5m: With some clay; orange, light grey streaks.		
		SV = 204+ kPa (GEO952)				
				3.00 EOH: 3.00m		
3		SV = 146 / 61 kPa (GEO952)				

Groundwater Not Encountered

PHOTO / SKETCH

WATER OBSERVATIONS

Date / Time	Water Level (m)	Type	Remarks

REMARKS

SYMBOLS

- Standing Water Level
- Water Out flow
- Water In flow

Appendix 5
Civil Engineering Report

Hawthorn Geddes
engineers & architects ltd

In reply please quote: 12955

28th November 2023

Vanessa & Alan Abernethy

Attention: Robin O'Donnell
Via email: robin@rod-architects.co.nz

ENGINEERING SUITABILITY
FOR THE PROPOSED NEW DWELLING
25 KOTARE DRIVE, COOPERS BEACH (LOT 9 DP 49862)

The purpose of this letter is to summarise the engineering aspects associated with the proposed new dwelling at the property of 25 Kotare Drive, Coopers Beach (Lot 9 DP 49862). Advice is provided on overland flow interception, stormwater, wastewater, fire water provision, and erosion and sediment control for the required earthworks.

This letter is suitable to support a resource consent application with the Far North District Council (FNDC).

The proposal involves the construction of a large-scale residential dwelling on the subject property. The dwelling will have a total footprint of approximately 300m², comprising multiple levels, terracing up the slope. Additionally, the proposal includes a basement-type garage integrated into the toe of the slopes to the property, with an infinity pool located above. A retaining structure will also be erected to facilitate the terracing.

Overland Flow Interception

The upslope catchment area to the property is estimated to be approximately 3300m², with associated runoff peak flows of 38ℓ/sec and 60ℓ/sec for the 10% AEP and 1% AEP events, respectively. To effectively capture and manage these flows, it is recommended to install a shallow swale with a depth of 300mm, positioned across the contour leading to an inlet scruffy dome chamber.

To facilitate the conveyance of these flows along the boundary, it is strongly advised to install a pipe, given the gradient. During significant events, surface water velocities could be difficult to manage, potentially leading to scour. Calculations indicate that a 300mm pipe, laid to the grade of the site, would be suitable.

Management of discharges at the outlet will be essential to mitigate velocity, which is estimated to be in the order of 6.0m/sec.

Stormwater

The proposal is to connect to the FNDC reticulated stormwater network at the end of Kotare Drive, just south of the vehicle entrance to the site. The connection will require crossing of the existing reticulated wastewater network. If levels do not permit this connection, the alternative is to rely on natural servitude rights and discharge to the existing culvert on the adjacent (downslope) neighbour's drive.

Stormwater retention is not considered to be required if the connection to the reticulated network is provided, given the direct discharge to the tidal environment, and the connection having no effect on other properties discharging to the network. If the discharge is to be via the culvert on the neighbouring site attenuation will be required, requiring a total attenuated volume of 10-15m^3. It is recommended that this be a contained (DPM – Polyethylene sheet wrapped) granular sub-surface storage beneath the base level of the driveway.

Wastewater

The proposal is to connect to the FNDC reticulated wastewater network, located within the head of Kotare Drive.

Fire Water

Fire water storage is proposed to be provided within a sub-surface concrete water tank beneath the driveway, with a fire service connection. A 25m^3 Duracrete underground tank will be suitable, though loading from above will be limited to the design capacity of the tank.

Erosion and Sediment Control

Erosion and sediment control for the proposed earthworks on the property has been designed in accordance with GD05. Due to the steep gradients on the site and the soil conditions, silt fencing and decanting earth bunds are proposed to each cut platform independently. Refer to the attached drawing – sheets C05-C06.

Earthworks

The earthworks area for the proposed development is approximately 350m^2. The total earthworks volume across the site, required to form the proposed building platforms has been calculated at 578m^3 of cut and disposal off site. Refer to the attached drawing – sheets C01-C04.

Limitation

This letter has been prepared solely for the benefit of our client Vanessa & Alan Abernethy and the Far North District Council in relation to a resource consent application for which this letter has been prepared. The comments in it are limited to the purpose stated in this letter. No liability is accepted by Hawthorn Geddes engineers & architects ltd in respect of its use by any other person, and any other person who relies upon any matter contained in this letter does so entirely at their own risk.

Yours faithfully,

[redacted]

Stacey Gibson
Hawthorn Geddes
engineers & architects ltd

Encl: Drawing 12955 – sheets C01-C06

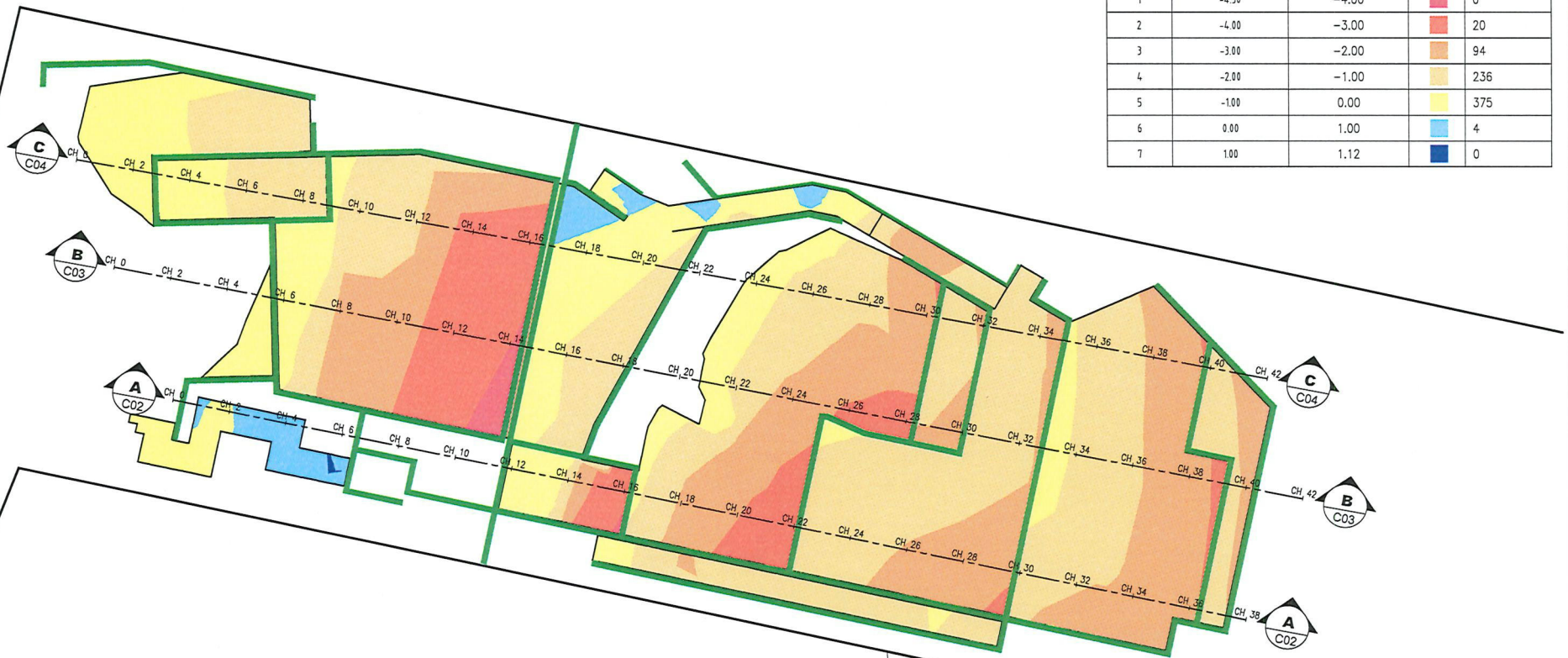
provisional - not for construction

THIS DRAWING WAS PRODUCED IN COLOUR. DO NOT USE FOR CONSTRUCTION PURPOSES IF THIS NOTE IS IN BLACK & WHITE

NOTE:
SITE INFORMATION ADAPTED FROM LIDAR;
BOUNDARY INFORMATION PROVIDED BY QUICKMAP;
AERIAL PHOTO PROVIDED BY LINZ MAPS AND MAY SHOW DISTORTION;
ALL INFORMATION MUST BE CONFIRMED ON SITE;
TO BE READ IN CONJUNCTION WITH HAWTHORN GEDDES ENGINEERS & ARCHITECTS LTD REPORT REFERENCE 12955;

Cut/Fill Depths Table

Number	Minimum Depth	Maximum Depth	Colour	Range Volume
1	-4.30	-4.00		0
2	-4.00	-3.00		20
3	-3.00	-2.00		94
4	-2.00	-1.00		236
5	-1.00	0.00		375
6	0.00	1.00		4
7	1.00	1.12		0



Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
cut fill	1.000	1.000	414.6sq.m	721 Cu. M.	4 Cu. M.	717 Cu. M.<Cut>
Totals			414.6sq.m	721 Cu. M.	4 Cu. M.	717 Cu. M.<Cut>

USE WRITTEN DIMENSIONS. DO NOT SCALE FROM DRAWING.

Hawthorn Geddes
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CLIENT ALAN & VANESSA ABERNETHY
PROJECT GEOTECH FOR BUILDING CONSENT
25 KOTARE DRIVE, COOPERS BEACH
DRAWING EARTHWORKS CUT & FILL

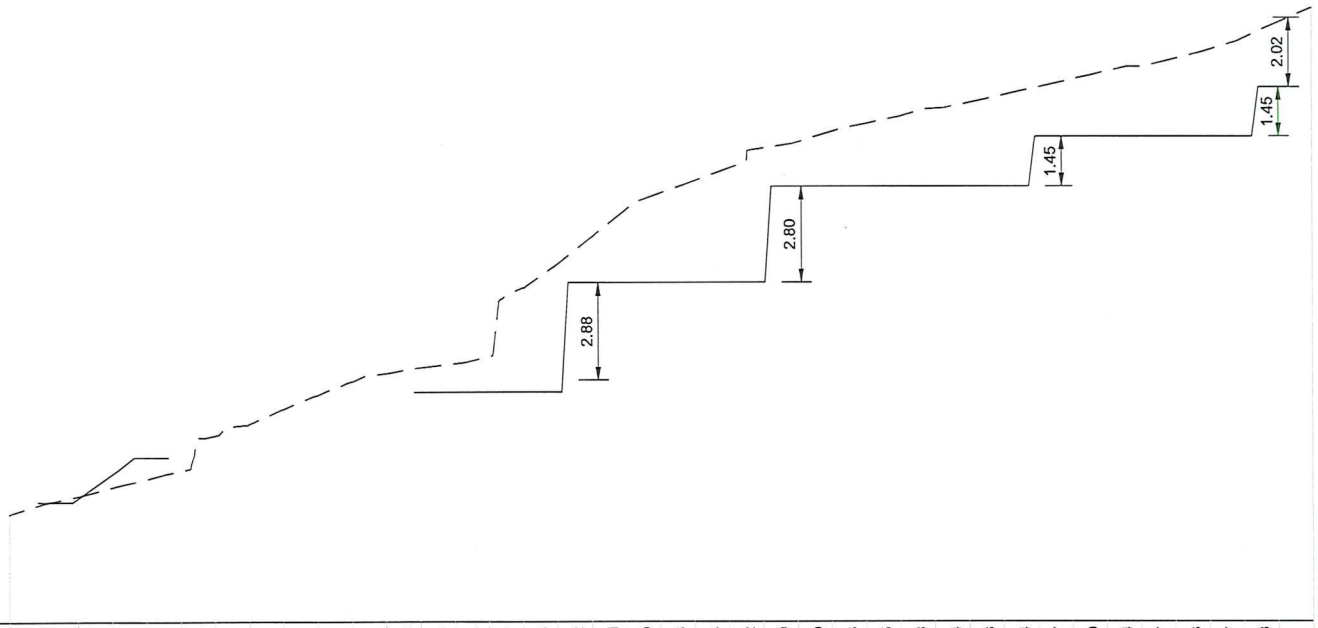
REV.	REVISION DETAILS	BY	DATE
P2	DRAWING ALTERED	JL	12/12/23
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/23

PRELIMINARY
SCALE @ A3 1:150
DRAWN JL NOV 2023
CHECK
PROJECT No. 12955
SHEET C01
REV. P2

13/12/2023 9:03:13 AM K:\12955 Abernethy - Prelim Geotech - Kotare Drive COOPERS BEACH\12955 231110 Earthworks Site Plan.dwg

provisionall - not for construction

THIS DRAWING WAS PRODUCED IN COLOUR. DO NOT USE FOR CONSTRUCTION PURPOSES IF THIS NOTE IS IN BLACK & WHITE



DATUM: 6.00

CHAINAGE	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
EXISTING LEVELS	9.16	9.47	9.68	9.94	10.18	10.42	11.46	11.80	12.23	12.63	13.03	13.27	13.44	13.56	13.77	15.79	16.47	17.27	18.06	18.55	18.91	19.28	19.87	20.04	20.35	20.58	20.80	21.03	21.19	21.41	21.64	21.87	22.10	22.24	22.47	22.73	23.07	23.53	23.97
DESIGN LEVELS		9.51	9.62	10.32	10.82								12.72	12.72	12.72	12.72	12.72	15.95	15.95	15.95	15.95	15.95	15.95	18.75	18.75	18.75	18.75	18.75	18.75	18.75	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20	21.65	
CUT/FILL DEPTHS		0.04	-0.06	0.38	0.64								-0.72	-0.84	-1.04	-3.07	-3.75	-1.32	-2.11	-2.60	-2.96	-3.33	-3.92	-1.29	-1.60	-1.83	-2.05	-2.28	-2.44	-2.66	-1.44	-1.67	-1.90	-2.04	-2.27	-2.53	-2.87	-1.88		

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www.hawthorngeddes.co.nz

CLIENT: **ALAN & VANESSA ABERNETHY**
PROJECT: **GEOTECH FOR BUILDING CONSENT**
25 KOTARE DRIVE, COOPERS BEACH
DRAWING: **SECTION A - A**

REV.	REVISION DETAILS	BY	DATE
P2	DRAWING ALTERED	JL	12/12/2
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/2

PRELIMINARY

SCALE @ A3: 1:150
DRAWN: JL NOV 2023
CHECK:
PROJECT No.: 12955
SHEET: C02
REV.: P2

13/12/2023 9:03:48 AM K:\12955 Abernethy - Prelim Geotech - Kotare Drive COOPERS BEACH\12955 231110 Earthworks Site Plan.dwg

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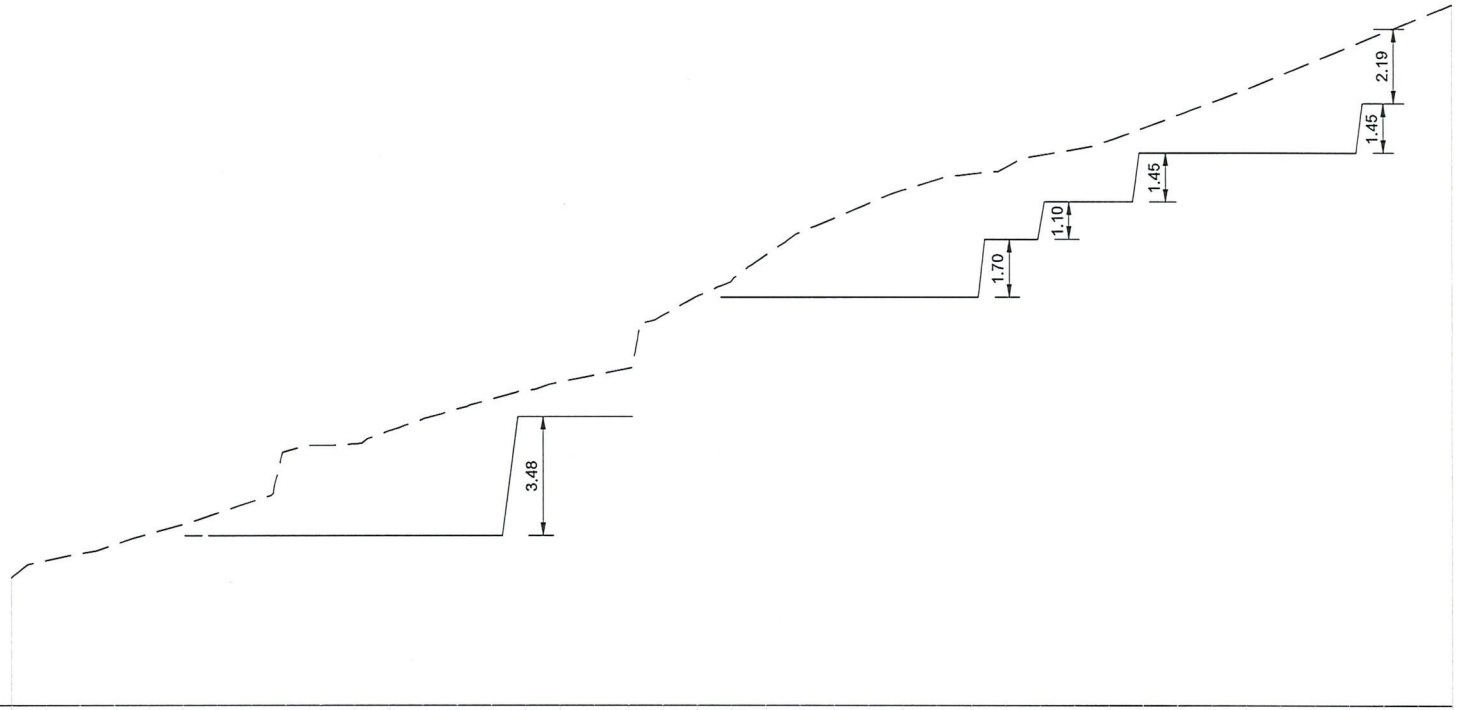

DATUM: 4.00

CHAINAGE	EXISTING LEVELS	DESIGN LEVELS	CUT/FILL DEPTHS
0	7.74		
1	8.23		
2	8.43		
3	8.70		
4	9.01		
5	9.29		
6	9.62	8.97	-0.65
7	9.96	8.97	-0.99
8	11.42	8.97	-2.45
9	11.60	8.97	-2.63
10	11.65	8.97	-2.68
11	12.02	8.97	-3.05
12	12.38	8.97	-3.41
13	12.68	8.97	-3.71
14	12.96	8.97	-3.99
15	13.22	12.45	-0.77
16	13.47	12.45	-1.02
17	13.67	12.45	-1.22
18	13.87	12.45	-1.42
19	15.41		
20	15.97		
21	16.41	15.95	-0.46
22	17.17	15.95	-1.22
23	17.84	15.95	-1.89
24	18.25	15.95	-2.30
25	18.69	15.95	-2.74
26	19.09	15.95	-3.14
27	19.40	15.95	-3.45
28	19.57	15.95	-3.62
29	19.75	17.65	-2.10
30	20.12	17.97	-2.15
31	20.29	18.75	-1.54
32	20.55	18.75	-1.80
33	20.92	20.20	-0.72
34	21.30	20.20	-1.10
35	21.67	20.20	-1.47
36	22.05	20.20	-1.85
37	22.46	20.20	-2.26
38	22.88	20.20	-2.68
39	23.29	20.20	-3.09
40	23.71	21.65	-2.06
41	24.12		
42	24.54		

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CLIENT: ALAN & VANESSA ABERNETHY
PROJECT: GEOTECH FOR BUILDING CONSENT
25 KOTARE DRIVE, COOPERS BEACH
DRAWING: SECTION B - B

REV.	REVISION DETAILS	BY	DATE
P2	DRAWING ALTERED	JL	12/12/23
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/23

PRELIMINARY
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DRAWN JL NOV 2023
PROJECT No. 12955
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SHEET C03
REV. P2

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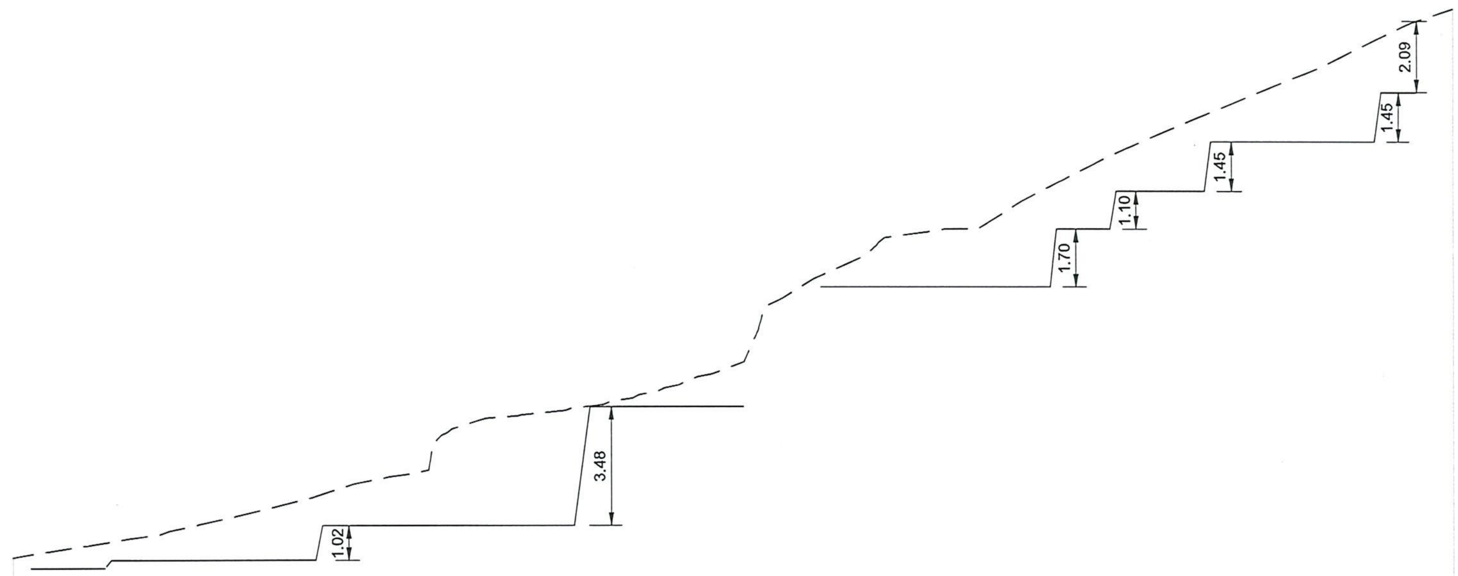

DATUM: 4.00

CHAINAGE	EXISTING LEVELS	DESIGN LEVELS	CUT/FILL DEPTHS
0	8.03		
1	8.20	7.72	-0.48
2	8.36	7.72	-0.64
3	8.51	7.95	-0.56
4	8.66	7.95	-0.71
5	8.89	7.95	-0.94
6	9.12	7.95	-1.17
7	9.36	7.95	-1.41
8	9.61	7.95	-1.66
9	9.88	8.80	-1.08
10	10.20	8.97	-1.23
11	10.40	8.97	-1.43
12	10.57	8.97	-1.60
13	11.86	8.97	-2.89
14	12.13	8.97	-3.16
15	12.22	8.97	-3.25
16	12.32	8.97	-3.35
17	12.48	12.45	-0.03
18	12.69	12.45	-0.24
19	12.99	12.45	-0.54
20	13.32	12.45	-0.87
21	13.63	12.45	-1.18
22	15.40		
23	15.95		
24	16.47	15.95	-0.52
25	16.99	15.95	-1.04
26	17.47	15.95	-1.52
27	17.61	15.95	-1.66
28	17.66	15.95	-1.71
29	18.18	15.95	-2.23
30	18.75	15.95	-2.80
31	19.27	17.65	-1.62
32	19.79	17.65	-2.14
33	20.22	18.75	-1.47
34	20.66	18.75	-1.91
35	21.08	20.20	-0.88
36	21.50	20.20	-1.30
37	21.91	20.20	-1.71
38	22.31	20.20	-2.11
39	22.81	20.20	-2.61
40	23.30	21.65	-1.65
41	23.75		
42	24.10		

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CLIENT **ALAN & VANESSA ABERNETHY**
PROJECT **GEOTECH FOR BUILDING CONSENT**
25 KOTARE DRIVE, COOPERS BEACH
DRAWING **SECTION C - C**

REV.	REVISION DETAILS	BY	DATE
P2	DRAWING ALTERED	JL	12/12/23
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/23

PRELIMINARY

DRAWN JL NOV 2023
CHECK'
APPROVED [redacted]

SCALE @ A3 1:150
PROJECT No. **12955**
SHEET **C04**
REV. **P2**

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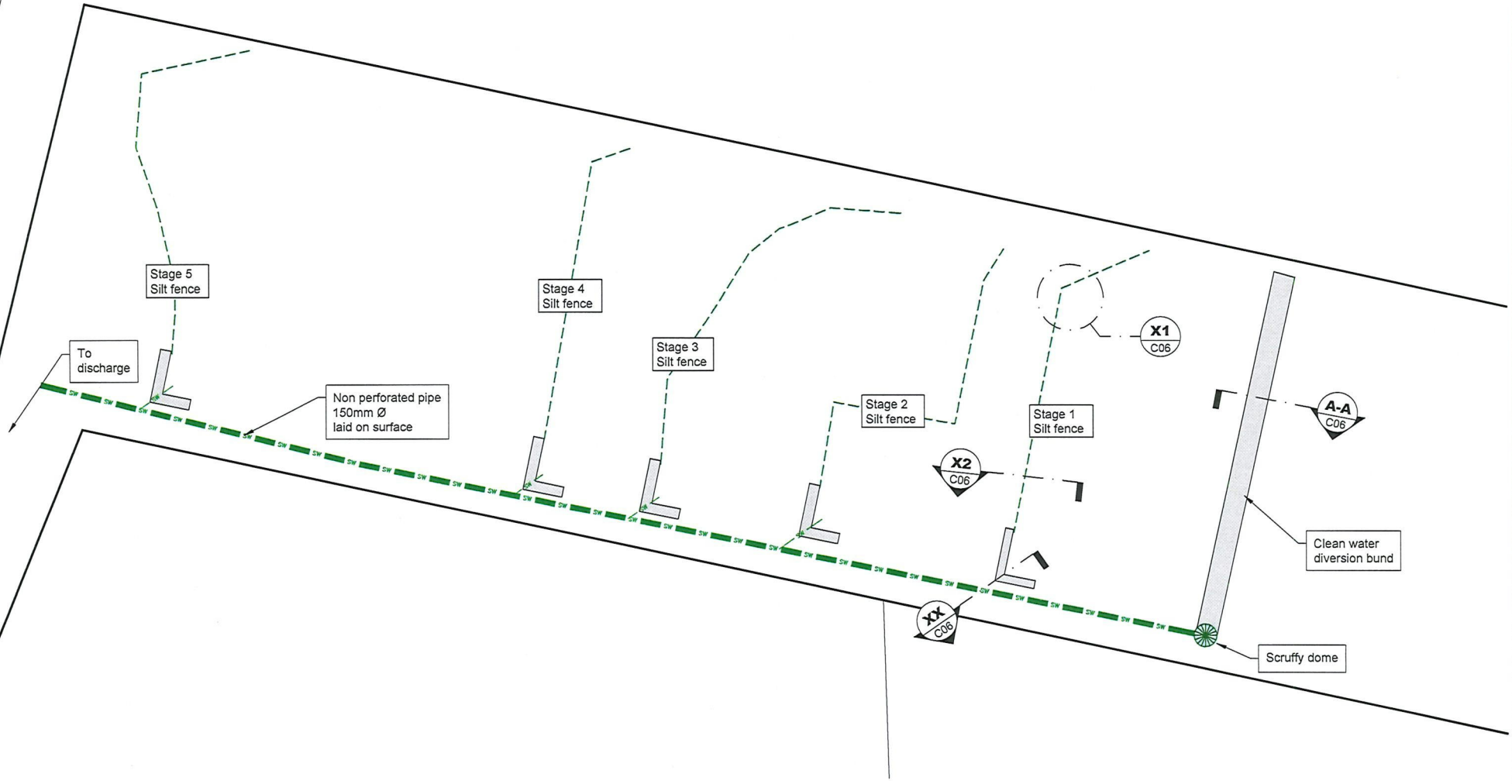
NOTE:
SITE INFORMATION ADAPTED FROM LIDAR;
BOUNDARY INFORMATION PROVIDED BY QUICKMAP;
AERIAL PHOTO PROVIDED BY LINZ MAPS AND MAY SHOW DISTORTION;
ALL INFORMATION MUST BE CONFIRMED ON SITE;
TO BE READ IN CONJUNCTION WITH HAWTHORN GEDDES ENGINEERS & ARCHITECTS LTD REPORT REFERENCE 12955;



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CLIENT: ALAN & VANESSA ABERNETHY
PROJECT: GEOTECH FOR BUILDING CONSENT
25 KOTARE DRIVE, COOPERS BEACH
DRAWING: SEDIMENT CONTROL PLAN

REV.	REVISION DETAILS	BY	DATE
P2	DRAWING ALTERED	JL	12/12/23
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/23

PRELIMINARY

SCALE @ A3 1:150

DRAWN JL NOV 2023
CHECK
APPROVED JAMES BLACKBURN [redacted]

PROJECT No. 12955

SHEET C05

REV. P2

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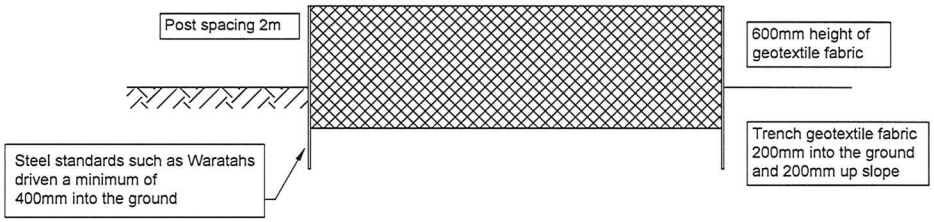
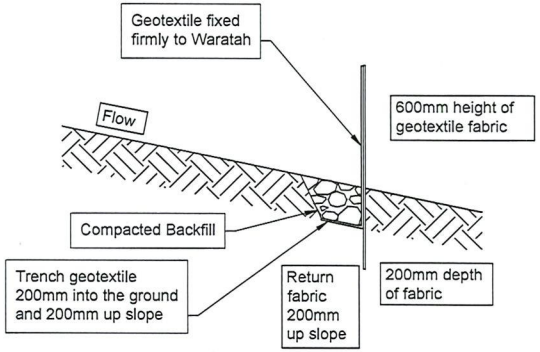
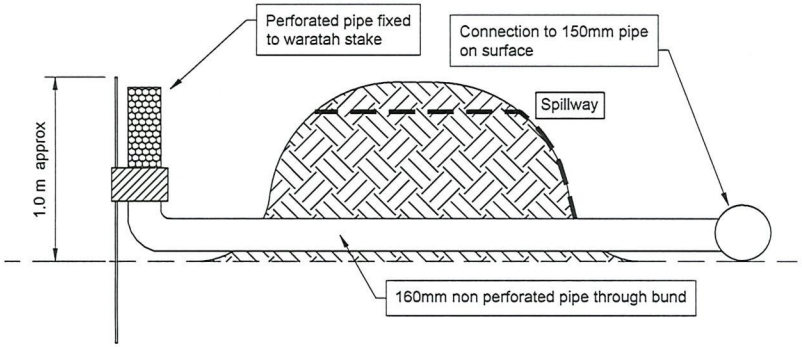


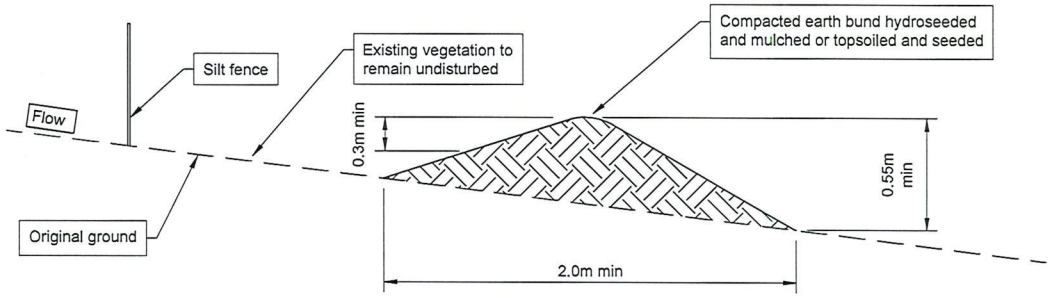
X1 SILT FENCE ELEVATION
C05 SCALE - NTS



X2 SILT FENCE CROSS SECTION
C05 SCALE - NTS



XX DECANTING EARTH BUND CROSS SECTION
C05 SCALE - NTS



A-A CLEANWATER DIVERSION BUND CROSS SECTION
C05 SCALE - NTS

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CLIENT: ALAN & VANESSA ABERNETHY
PROJECT: GEOTECH FOR BUILDING CONSENT
25 KOTARE DRIVE, COOPERS BEACH
DRAWING: SEDIMENT BUND DETAILS

REV.	REVISION DETAILS	BY	DATE
P1	ISSUED FOR CLIENT COMMENT	JL	10/11/23

PRELIMINARY
SCALE @ A3 1:25
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PROJECT No. 12955
SHEET C06
REV. P1

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Appendix 6
Consultation with FENZ

FIRE EMERGENCY NEW ZEALAND

WHAKARATONGA IWI

25 Kotare Drive,
Coopers Beach

Non-Reticulated Firefighting Water Supplies, Vehicular Access & Vegetation Risk Reduction Application for New and Existing Residential Dwellings and Sub-Divisions

Contents

Section A - Firefighting Water Supplies and Vegetation Risk Reduction Waiver

"Fire and Emergency New Zealand strongly recommends the installation of automatic fire detection system devices such as smoke alarms for early warning of a fire and fire suppression systems such as sprinklers in buildings (irrespective of the water supply) to provide maximum protection to life and property".

Waiver Explanation Intent

Fire and Emergency New Zealand [FENZ] use the New Zealand Fire Service [NZFS] Code of Practice for firefighting water supplies (SNZ PAS 5409:2008) (The Code) as a tool to establish the quantity of water required for firefighting purposes in relation to a specific hazard (Dwelling, Building) based on its fire hazard classification regardless if they are located within urban fire districts with a reticulated water supply or a non-reticulated water supply in rural areas. The code has been adopted by the Territorial Authorities and Water Supply Authorities. The code can be used by developers and property owners to assess the adequacy of the firefighting water supply for new or existing buildings.

The Area Manager under the delegated authority of the Fire Region Manager is responsible for approving applications in relation to firefighting water supplies. The Area Manager may accept a variation or reduction in the amount of water required for firefighting for example; a single level dwelling measuring 200^{m2} requires 45,000L of firefighter water under the code, however the Area Managers in Northland have excepted a reduction to 10,000L.

This application form is used for the assessment of proposed water supplies for firefighting in non-reticulated areas only and is referenced from (Appendix B – Alternative Firefighting Water Sources) of the code. This application also provides fire risk reduction guidance in relation to vegetation and the 20-metre dripline rule under the Territorial Authority's District Plan. Fire and Emergency New Zealand are not a consenting authority and the final determination rests with the Territorial Authority.

For more information in relation to the code of practice for Firefighting Water supplies, Emergency Vehicle Access requirements, Home Fire Safety advice and Vegetation Risk Reduction Strategies visit www.fireandemergency.nz

Section B – Applicant Information

Applicants Information	
Name:	Alan & Vanessa Abernethy
Address:	Click or tap here to enter text.
Contact Details:	Click or tap here to enter text.
Return Email Address:	[redacted]

Section C – Property Details

Property Details	
Address of Property:	25 Kotare Drive, Coopers Beach
Lot Number/s:	Lot 4 DP 49862
Dwelling Size: (Area = Length & Width)	403.73m2 (GFA); 284.82m2 (footprint); 34.5mL x 12.0mW
Number of levels: (Single / Multiple)	Multiple

1. Fire Appliance Access to alternative firefighting water sources - Expected Parking Place & Turning circle

Fire and Emergency have specific requirements for fire appliance access to buildings and the firefighting water supply. This area is termed the hard stand. The roading gradient should not exceed 16%. The roading surface should be sealed, able to take the weight of a 14 to 20-tonne truck and trafficable at all times. The minimum roading width should not be less than 4 m and the property entrance no less 3.5 metres wide. The height clearance along access ways must exceed 4 metres with no obstructions for example; trees, hanging cables, and overhanging eaves.

1 (a) Fire Appliance Access / Right of Way	
Is there at least 4 metres clearance overhead free from obstructions?	☑YES ☐NO
Is the access at least 4 metres wide?	☐YES ☑NO
Is the surface designed to support a 20-tonne truck?	☐YES ☐NO
Are the gradients less than 16%	☑YES ☐NO
Fire Appliance parking distance from the proposed water supply is 22m. A paved surface is proposed for the driveway. Public road is not more than 90m from fire service coupling. ~~metres~~	

If access to the proposed firefighting water supply is not achievable using a fire appliance, firefighters will need to use portable fire pumps. Firefighters will require at least a one-metre wide clear path / walkway to carry equipment to the water supply, and a working area of two metres by two metres for firefighting equipment to be set up and operated.

1 (b) Restricted access to firefighting water supply, portable pumps required
Has suitable access been provided? ☐YES ☐ NO
Comments: In regard to 1(a) above, the legal width of access is only 3.7m wide. However this can accommodate a fire appliance if required, and the leg-in is proposed to be paved.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

2. Firefighting Water Supplies (FFWS)

What are you proposing to use as your firefighting water supply?

2 (a) Water Supply Single Dwelling	
Tank	☑ Concrete Tank ☐ Plastic Tank ☐ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500 mm above ground) ☑ Fully Buried (access through filler spout) Volume of dedicated firefighting water 20,000 litres

2 (b) Water Supply Multi-Title Subdivision Lots / Communal Supply	
Tank Farm	☐ Concrete Tank ☐ Plastic Tank ☐ Above Ground (Fire Service coupling is required - 100mm screw thread suction coupling) ☐ Part Buried (max exposed 1.500mm above ground) ☐ Fully Buried (access through filler spout) Number of tanks provided Click or tap here to enter text. Number of Tank Farms provided Click or tap here to enter text. Water volume at each Tank Farm Click or tap here to enter text. Litres Volume of dedicated firefighting water Click or tap here to enter text. litres

2 (c) Alternative Water Supply	
Pond:	Volume of water: Click or tap here to enter text.
Pool:	Volume of water: Click or tap here to enter text.
Other:	Specify: Click or tap here to enter text.
	Volume of water: Click or tap here to enter text.

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

3. Water Supply Location

The code requires the available water supply to be at least 6 metres from a building for firefighter safety, with a maximum distance of 90 metres from any building. This is the same for a single dwelling or a Multi-Lot residential subdivision. Is the proposed water supply within these requirements?

3 (a) Water Supply Location	
Minimum Distance:	*Is your water supply at least 6 metres from the building?* ☑YES ☐ NO
Maximum Distance	*Is your water supply no more than 90 metres from the building?* ☑YES ☐ NO

3 (b) Visibility
How will the water supply be readily identifiable to responding firefighters? E.g.: tank is visible to arriving firefighters or, there are signs / markers posts visible from the parking place directing them to the tank etc.
Comments: Water supply will be readily identifiable by signs/marker posts at entry to accessway and in vicinity of service coupling, directing firefighters to water supply

3 (c) Security
How will the FFWS be reasonably protected from tampering? E.g.: light chain and padlock or, cable tie on the valve etc.
Explain how this will be achieved: Light chain and padlock

Internal FENZ Risk Reduction comments only:
Click or tap here to enter text.

4. Adequacy of Supply

The volume of storage that is reserved for firefighting purposes must not be used for normal operational requirements. Additional storage must be provided to balance diurnal peak demand, seasonal peak demand and normal system failures, for instance power outages. The intent is that there should always be sufficient volumes of water available for firefighting, except during Civil Défense emergencies or by prior arrangement with the Fire Region Manager.

4 (a) Adequacy of Water supply
***Note:** The owner must maintain the firefighting water supply all year round. How will the usable capacity proposed be reliably maintained? E.g. automatically keep the tank topped up, drip feed, rain water, ballcock system, or manual refilling after use etc.*
Comments: As the proposed tank is below ground the usable capacity should be reliably maintained when unused. Proposed manual refilling after use.

Internal FENZ Risk Reduction comments only:
Click or tap here to enter text.

5. Alternative Method using Appendix's H & J

If Table 1 + 2 from the Code of Practice is not being used for the calculation of the Firefighting Water Supply, a competent person using appendix H and J from the Code of Practice can propose an alternative method to determine firefighting water supply adequacy.

Appendix H describes a method for determining the maximum fire size in a structure. Appendix J describes a method for assessing the adequacy of the firefighting water supply to the premises.

5 (a) Alternative Method Appendix H & J	
If an alternative method of determining the FFWS has been proposed, who proposed it? Name: Click or tap here to enter text.	
Contact Details: Click or tap here to enter text.	
Proposed volume of storage?	Litres: Click or tap here to enter text.
Comments: Click or tap here to enter text. ** Please provide a copy of the calculations for consideration.*	

Internal FENZ Risk Reduction comments only:
Click or tap here to enter text.

6. Diagram

Please provide a diagram identifying the location of the dwelling/s, the proposed firefighting water supply and the attendance point of the fire appliance to support your application.

See attached

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

7. Vegetation Risk Reduction - Fire + Fuel = Why Homes Burn

Properties that are residential, industrial or agricultural, are on the urban–rural interface if they are next to vegetation, whether it is forest, scrubland, or in a rural setting. Properties in these areas are at greater risk of wildfire due to the increased presence of nearby vegetation.

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

I. *Fire safe construction*

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

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

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

II. *Establish Safety Zones around your home.*

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

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

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

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

IV. *Choose Fire Resistant Plants*

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

For more information please go to https://www.fireandemergency.nz/at-home/the-threat-of-rural-fire/

If your building or dwelling is next to vegetation, whether it is forest, scrubland, or in a rural setting, please detail below what Risk Reduction measures you will take to mitigate the risk of fire development and spread involving vegetation?

7 (a) Vegetation Risk Reduction Strategy
There will be very little planting in the front of, and along the sides of the structure other than ornamental landscaping. There will also be landscape plantings within deck and patio areas, with highly flammable species avoided. It is proposed to leave the majority of the existing vegetation upslope and at the rear of the structure standing, with the first 10m beyond the building maintained with trees and shrubs pruned and flammable debris removed. .

Internal FENZ Risk Reduction comments only:

Click or tap here to enter text.

8. Applicant

Checklist	
☑	Site plan (scale drawing) – including; where to park a fire appliance, water supply, any other relevant information.
☑	Any other supporting documentation (diagrams, consent).

I submit this proposal for assessment.

Name: Lynley Newport, agent for the applicant Dated: 8/12/2023

Contact No.: 021 684 077

Email: lynley@tsurvey.co.nz

Signature: Click or tap here to enter text. [redacted]

9. Approval

In reviewing the information that you have provided in relation to your application being approximately a Click or tap here to enter text. square metre, Choose an item. *dwelling/sub division, and non-sprinkler protected.*

The Area Manager of Fire and Emergency New Zealand under delegated authority from the Fire Region Manager, Te Hiku, has assessed the proposal in relation to firefighting water supplies and the vegetation risk strategy. The Manager Choose an item. *agree with the proposed alternate method of Fire Fighting Water Supplies. Furthermore; the Manager agrees with the Vegetation Risk Reduction strategies proposed by the applicant.*

Name: Click or tap here to enter text.

Signature: Click or tap here to enter tex

P.P on behalf of the Area Manager

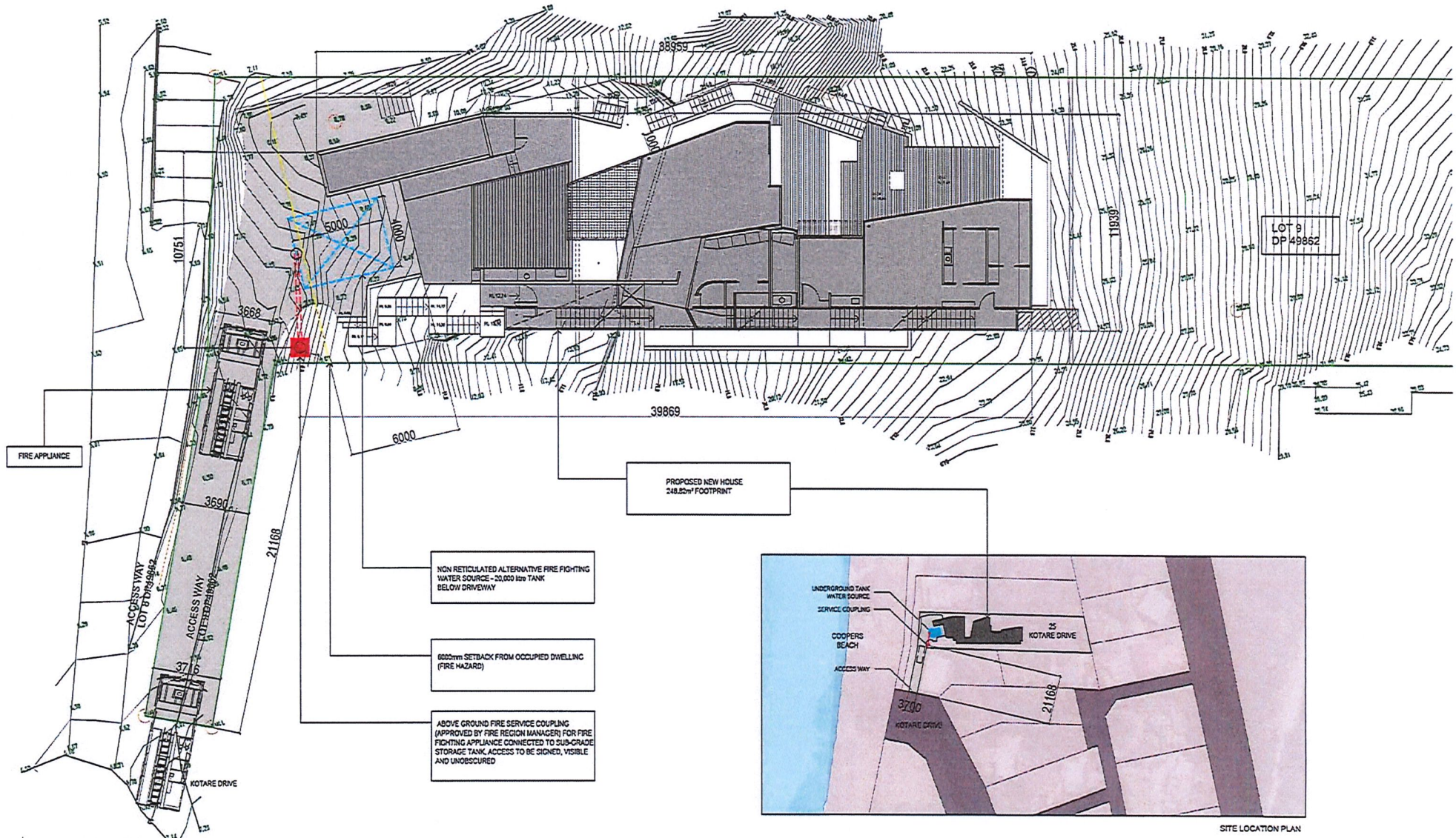
Fire and Emergency New Zealand
Te Tai Tokerau / Northland District

APPROVED
By GoffinJ at 9:15 am, Dec 11, 2023

Jason Goffin- Advisor Risk Reduction

robin o'donnell architects

architecture
planning
interior design



SITE LOCATION PLAN

robin o'donnell architects limited
studio7, 160 broadway, newmarket
t. 09 523 4907 f. 09 523 4607
e. info@rod-architects.co.nz

2022-09 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023 | VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 Scale: 1:100 @A1 | 0 1 2m

REV 0 RESOURCE CONSENT DEC 2023

Drawing: RC0.07 PROPOSED SITE PLAN
FIRE FIGHTING WATER SUPPLY

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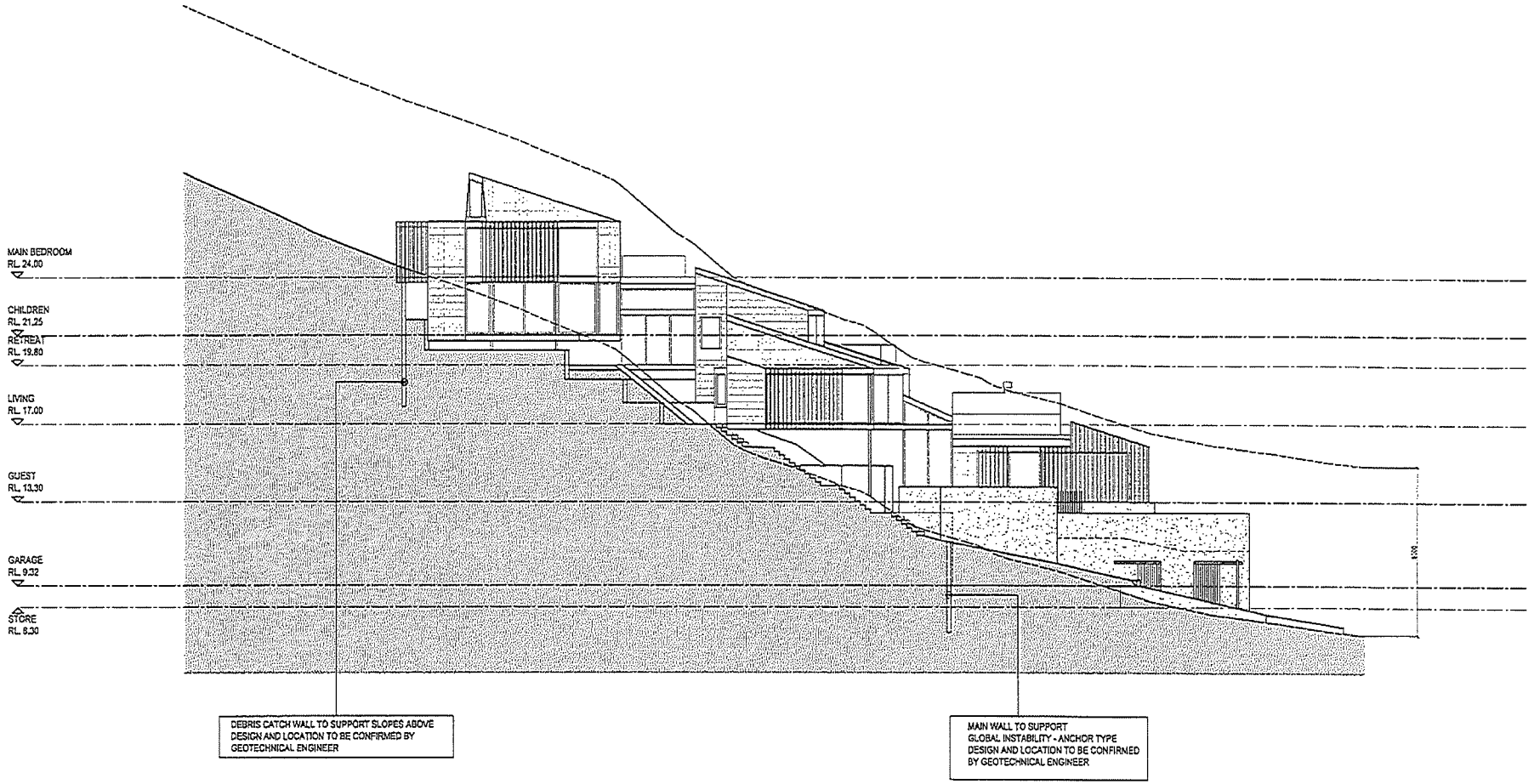

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2022-09 25 KOTARE DRIVE, COOPERS BEACH

REV 0 RESOURCE CONSENT DEC 2023

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 0 2 4m
Scale: 1:100 @A1 | Drawing: RC2.01 NORTH ELEVATION

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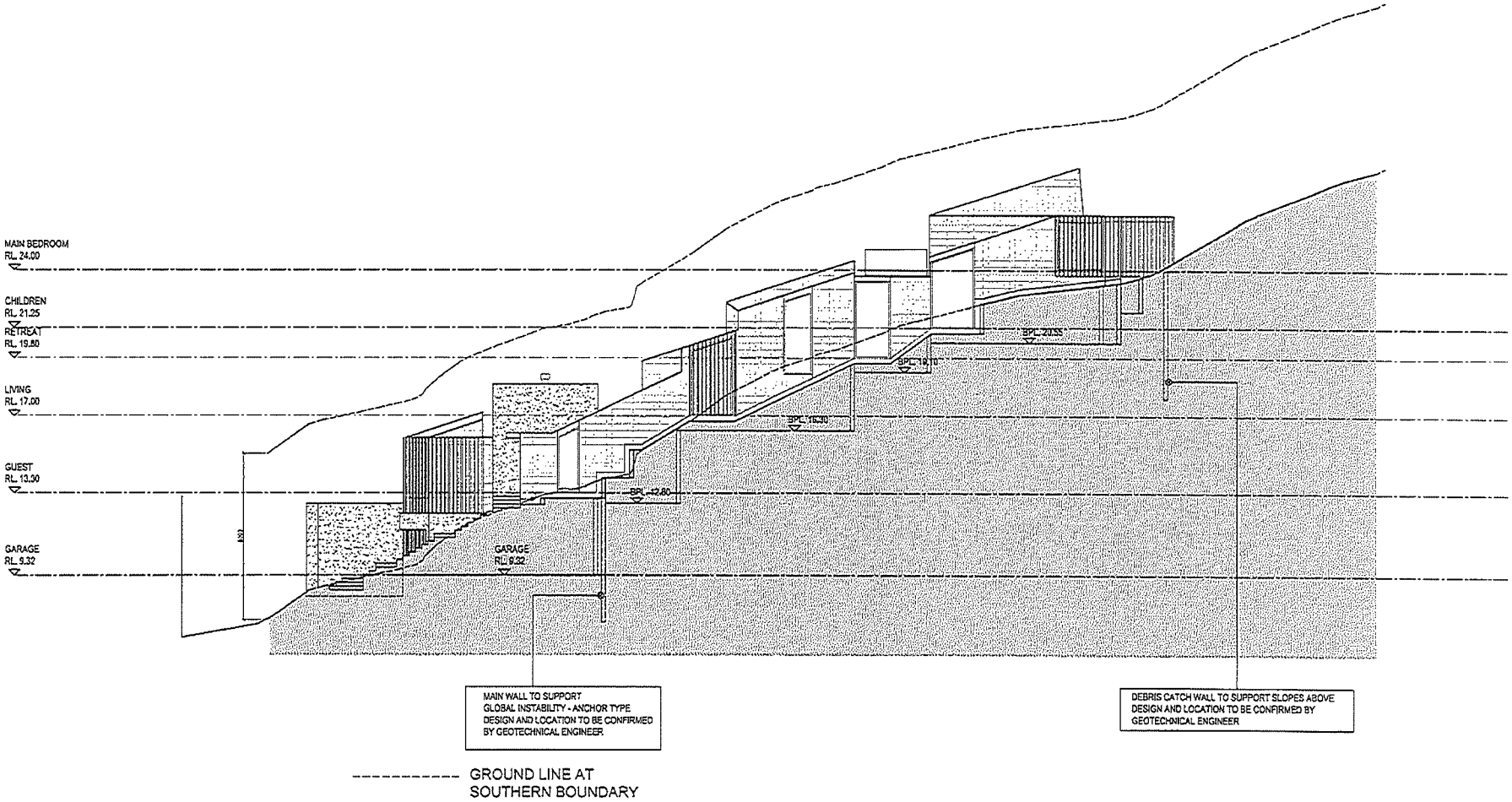
interior design



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2022-09 25 KOTARE DRIVE, COOPERS BEACH

JUNE 2023 | Prepared for: VANESSA & ALAN ABERNETHY | All dimensions to be verified on site before commencing work | Scale: 1:200 @A3 Scale: 1:100 @A1 | 0 2 4m | REV 0 RESOURCE CONSENT DEC 2023 | Drawing: RC2.03 SOUTH ELEVATION