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SOLD ON KĀPITI

Anderson Construction
11 Te Harawira Street
Otaki 5512

10 July 2024

Dear Building Consent Applicant / Building Owner

Approval of Building Consent – Detached Residential / Outbuilding: 240337

Location: 86 Kotare Street, Waikanae
Legal Description: Lot 10 DP 538654
Description: New engineer designed retaining wall and safety barrier.

I am pleased to inform you that the above building consent application has been approved. The building consent documents have been issued and are enclosed.

The building consent attached to this letter is consent under the Building Act 2004 to undertake building work in accordance with the plans and specifications that accompanied your application. Under section 49 of that Act, Council is satisfied that the provisions of the building code would be met if the proposed building work were completed in accordance with those plans and specifications. This consent does not affect any duty or responsibility under any other Act or permit any breach of any other Act.

This building consent does not give or imply any rights to transgress beyond your legal boundaries. Any work that is required beyond your legal boundaries can only be undertaken with the permission of the affected owner/s.

Building work related to this consent may not yet commence because you need to obtain resource consent/s under the Resource Management Act 1991 or the proposal must be amended to comply with the requirements of the District Plan. See attachments for further details.

Before starting any work please read ALL the building consent documents carefully and in full so that you, as the owner, understand the conditions under which the consent has been issued.

Please note that this building consent includes restricted building work, the details of this are included in this letter.

Owner responsibilities

The owner is responsible for ensuring:

Form 508a Building Consent Letter - detached residential or outbuilding v5 October 2019

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- building work starts within 12 months of the approval of the building consent and that work progresses at a reasonable pace.
- written notice of every licensed building practitioner undertaking restricted building work is provided to Council before that work commences, and any changes are advised in writing
- the approved building consent documents are kept on site during construction and available for the District inspector at inspections
- all required inspections are completed and that a Code Compliance Certificate is obtained once the work has been completed. The list of supporting documentation required before issue of the Code Compliance Certificate and information on filling out the application form for code compliance certificate is attached. Failure to obtain a final inspection and a code compliance certificate may affect your insurance cover and could affect future re-sale of your property.
- a Corridor Access Request is made and a Works Access permit is obtained before undertaking work in the legal road/road reserve, including installing a vehicle access crossing from the public road into your property. The process to be followed and the forms can be found on the Council website under Council Services/Roads or Council Services/Frequently asked questions/Access & Transport.
- before any excavations are undertaken a "Before U Dig" inquiry is made to check for locations of any underground services.
- no work with noisy equipment is to be carried out before 7.30 a.m. or after 6 p.m. Monday to Saturday. During the week there may be workers on site from 6.30 a.m. quietly preparing for work. Work with noisy equipment is not permitted on Sundays and public holidays.
- all loose materials that are capable of being carried by the wind are either secured or removed from the site. All activities must be carried out in a manner that keeps to a minimum the dust nuisance to adjacent properties.
- no damage occurs to public property, for example footpaths, water meters or retaining structures. Should damage occur you will be required to pay for any repairs.
- obtaining an amendment to the building consent for any changes to the approved building consent, prior to that work being undertaken.
- meeting the requirements of any easements, consent notices, covenants, and like listings registered on the title.
- the development contributions invoiced, if any, must be paid before a code compliance certificate can be issued.
- all maintenance recommended by the manufacturers is carried out at the required intervals.

General requirements

Note: Your attention is drawn to the notes contained in the 'Addendum to the Consent' and guidance documents referred to.

The following information is relevant to this building consent:

1. The Building Inspector is to be given 24 hours' notice before carrying out the inspections on the attached list. To arrange for inspections by the District Inspector, please contact the building inspectorate on 04 296 4700 between the hours of 8.00am and 4.30pm.
2. You are responsible for the safety of visitors to the work site including those undertaking building inspections. You must provide safe access to parts of the construction necessary for inspection. Ladder access must be securely founded and tied. Scaffold access and roof edge protection is generally required.
3. If required inspections, including those by designers of specifically designed elements, are not undertaken you may experience difficulty in obtaining a Code Compliance Certificate for the project. We suggest that at the time of the first inspection you discuss the inspection requirements with the inspecting officer.
4. This building consent will lapse and be of no effect if the building work concerned has not been commenced within 12 calendar months after the date of issue, or within such further period as the territorial authority allows.
5. The contractor is to leave the site clear of all demolition materials and in a tidy state.
6. Easements, consent notices, covenants, and like listings registered on the title are the responsibility of the applicant.
7. Note and comply with endorsements on approved plans.

Restricted Building Work

The following building work associated with this building consent is restricted building work [Section 7 and 402(1)(n) of the Building Act 2004 and Building (Definition of Restricted Building Work) Order 2011]:

Description of restricted building work including design work that is restricted building work
<i>Primary structure</i>
Foundations and subfloor framing
Walls
Roof
Columns and beams
Bracing
Other
<i>External moisture management systems</i>
Damp proofing
Roof cladding or roof cladding system
Ventilation system (for example subfloor or cavity)
Wall cladding or wall cladding system
Waterproofing
Other

Please note that the design work and restricted building work must be supervised or carried out by a licensed building practitioner who is licensed to carry out or supervise that kind of building work.

You or your agent will need to provide their details to the Council in writing prior to commencement of the building work. If after the restricted building work commences the named licensed building practitioner(s) ceases to be engaged to carry out or supervise the restricted building work under the building consent, this must also be advised in writing as must also the details of any other licensed building practitioner(s) subsequently engaged to carry out or supervise the restricted building work (Section 87 of the Building Act 2004). A form "Advice of licensed building practitioner(s)" is enclosed for you to use to advise the Council of licensed building practitioner details.

Please also note that it is an offence to engage another person to carry out or supervise restricted building work who is not a licensed building practitioner (Section 86 of the Building Act 2004).

Other reference material

- Guide for completing an application for code compliance,
<https://www.kapiticoast.govt.nz/your-council/planning/building/code-compliance-certificate/>
- A guide to the inspection process
<https://www.kapiticoast.govt.nz/your-council/planning/building/building-services-inspections/>

If you have any questions regarding your building consent or your responsibilities, please contact Kapiti Coast District Council on 04 296 4700 or toll free on 0800 486 486.

Building Consent

[Form 5, Building (Forms) Regulations 2004]

240337

Section 51, Building Act 2004

The building

Street address of building: 86 Kotare Street, Waikanae

Legal description of land where

building is located: Lot 10 DP 538654

Valuation number: 1496055407

Building name:

Location of building within site/

block number:

Level/unit number:

The owner

Name of owner: Samuel Leigh Gouk and Elizabeth Fay Bowyer

Contact person: -

Mailing address: 86 Kotare Street, Waikanae 5036

Street address/registered office: 86 Kotare Street, Waikanae

Phone numbers:

Landline: 15715160916 *Mobile:* -

After hours: - *Fax number:* -

Email address: libbyd3@hotmail.com

Website: -

First point of contact for communications with the council/building consent authority:

Full Name: Anderson Construction

Mailing Address: 11 Te Harawira Street, Otaki 5512

Phones:: 0226070234

Email: andersonconstruction09@hotmail.com

Building work

The following building work is authorised by this building consent:

New engineer designed retaining wall and safety barrier

Ancillary

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Conditions of building consent

This building consent is subject to the following conditions:

1. Refer to the list of inspections required. Under section 90 of the Building Act 2004 agents authorised by the Council (acting as a Building Consent Authority) are entitled, at all times during normal working hours or while building work is being done, to inspect–
 - a. land on which building work is being or is proposed to be carried out; and
 - b. building work that has been or is being carried out on or off that building site; and
 - c. any building.

Compliance schedule

A compliance schedule is not required for the building.

Attachments

Copies of the following documents are attached to this building consent:

- List of required inspections and supporting documentation required
- Building Consent Addendum
- Plans and specifications
- Certificate attached to PIM.
- A certificate notifying restrictions on commencing building work under the Resource Management Act 1991
- Advice of licensed building practitioners

Note: The cover letter and all attachments to this building consent should be read fully to ensure you understand all conditions of this consent.



Signature

Building Officer

Position

On behalf of: KAPITI COAST DISTRICT COUNCIL

Date: 10/07/24

Relevant Information

Issued in accordance with Building Consent No. 240337

1. The owner/builder is responsible for clearly defining the site boundary lines and pegs. This may require a survey. NOTE: established fences are not necessarily on the boundary.
2. Plan notes take precedence over general specifications.

Certificate attached to Project Information Memorandum 240337

Section 37, Building Act 2004

Restrictions on Commencing Building Work Under the Resource Management Act 1991

The building work referred to in the attached Project Information Memorandum is also required to have the following resource consents under the Resource Management Act 1991:

Resource Consent is required to comply with Rules:

EW-R2.2 – *In all other areas except as provided for in Standard 3, earthworks must not: a. disturb more than 50m³ (volume) of land per subject site in residential zones, working zones, natural open space zones and open space zones (excluding the Private Recreation and Leisure Precinct) within a 5 year period; c. alter the original ground level by more than 1 metre, measured vertically.*

GRZ-R33.4 – *Buildings and structures must be set back from the relevant boundary by the minimum depth listed in the yards table below: Side yard 1m.*

GRZ-R3 – *The maximum height of any fence or wall on a boundary shall be 2 metres.*

As these resource consents will or may materially affect the building work to which the attached Project Information Memorandum relates, until they have been granted no building work may proceed.

Failure to comply with the requirements of this notice may result in legal action being taken against you under the Resource Management Act 1991.



Signature:

Position:

RMA Compliance & Resource Consents Projects Officer

On behalf of:

Kāpiti Coast District Council

Date

08 July 2024

Building Consent Addendum to 240337

Application	Building Consent No. 240337
Anderson Construction	
11 Te Harawira Street	
Otaki 5512	

Project	
Description:	Retaining Walls
	Being Stage 1 of an intended 1 Stages
	New engineer designed retaining wall and safety barrier.
Intended Life:	Indefinite, but not less than 50 years
Intended Use:	Ancillary
Estimated Value:	\$25,000
Location:	86 Kotare Street, Waikanae
Legal Description:	Lot 10 DP 538654
Valuation No:	1496055407

Builder: Peter Bolton - 56179 279 Oxford Street, Levin : 06 367 0088

Specific requirements

1. The inspection of all specific design components covered by a producer statement design (PS1), where the designer has recommended construction monitoring, is the responsibility of the Design Engineer who is also required to supply a written report (PS4) to the Council. It is the Design engineer's responsibility to confirm design assumptions.
2. Ground bearing must be reconfirmed on site following excavation but prior to placing of concrete and reinforcing.

KAPITI COAST DISTRICT COUNCIL

Consent No: 240337

Building Category: R1

Site Address: 86 Kotare Street, Waikanae

Owner/Agent: Anderson Construction

Inspections

The following inspections are required:

- 1 Piles
- 1 Final Inspection
- 2 Total Inspections

Residential Documentation

- 1 Application for CCC
- 1 Construction review PS4 statement for structural engineering
- 1 Record of Work

Building Practitioners

- 1 Designer 1 Peter Bolton
- 1 Carpentry 1

NOTE:

* ARCHITECTURAL PLANS ARE TO BE READ IN CONJUNCTION
WITH THE PROJECT SPECIFICATION & REFERENCED
MANUFACTURERS DETAILS

* A COPY OF THE SPECIFICATION IS TO REMAIN ONSITE FOR THE
DURATION OF THE CONSTRUCTION & INSPECTION PROCESS

11

APPROVED BY
BUILDING
nikitak
OFFICER
10/07/2024

ENGINEERS DESIGN

This project contains elements specifically
designed by an engineer. The owner/builder
is required to ensure the engineer inspects
the work and provides KCDC with written
evidence of the inspection.

ENGINEER STRUCTURAL DESIGN
TAKES PRECEDENCE

NEW RETAINING WALL FOR GOUK & BOWYER 86 KOTARE STREET, WAIKANAE

BC240337
Received by
Kapiti Coast District Council
10/06/2024

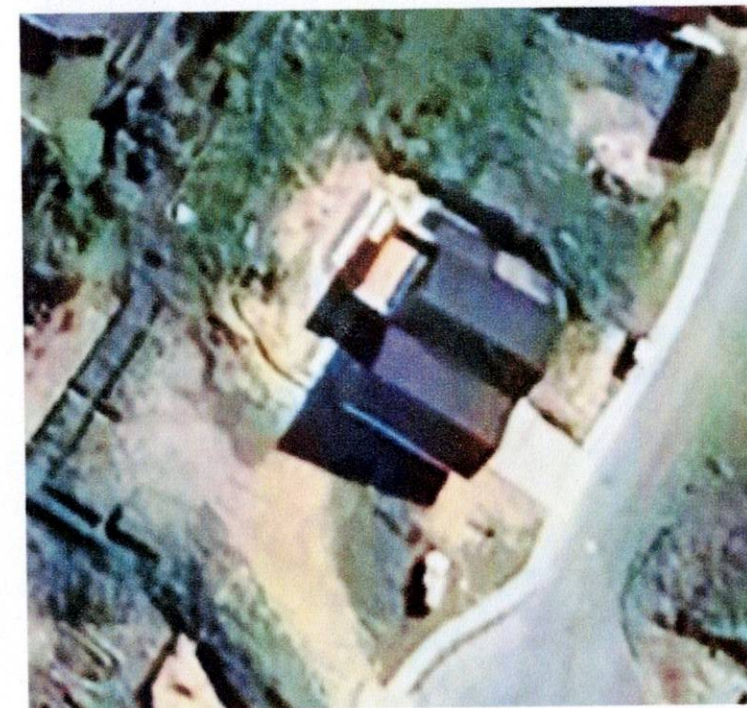
CONTENTS:

01:LOCATION/SITE PLAN
02:FLOOR PLAN





BC240337
Received by
Kapiti Coast District Council
10/06/2024



86 KOTARE STREET, INSTALLATION OF
NEW ENGINEER DESIGNED SURCHARGED
RETAINING WALL & SAFETY BARRIER
SUPPORTING EXISTING CUT/GROUND
LINE FROM RECENTLY COMPLETED NEW
DWELLING

LOCATION/SITE PLAN

N.S.T.
SITE AREA = 625M2
SITE COVERAGE = 160.21M2 (25.63%)
NO CHANGE

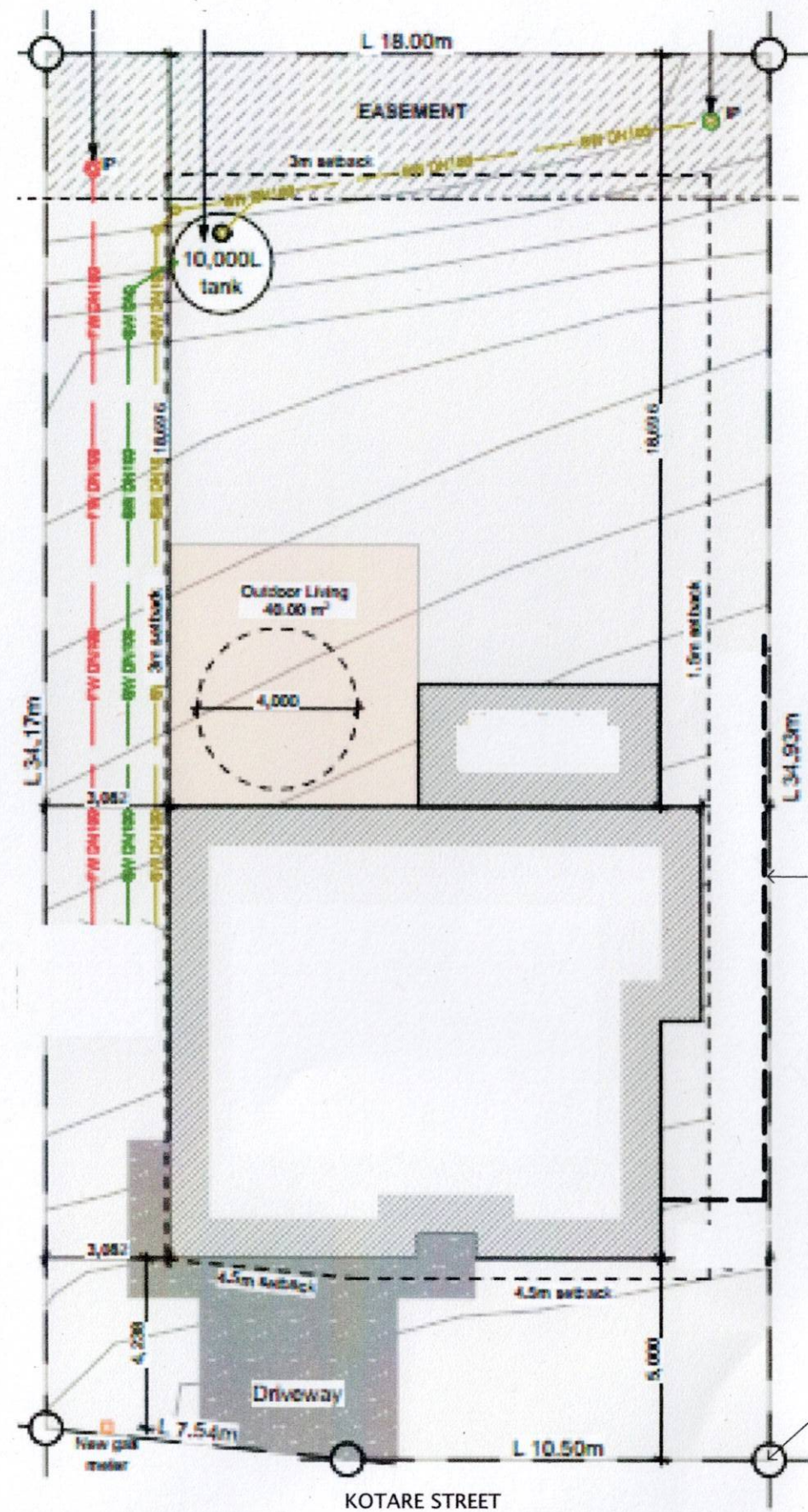
SITE DETAILS:

ADDRESS: 86 KOTARE STREET, WAIKANAE
LEGAL DESCRIPTION: LOT 10, DP 538654
WIND ZONE: VERY HIGH WIND ZONE
CORROSION ZONE: CORROSION ZONE C
EARTHQUAKE ZONE: 3
CLIMATE ZONE: C
RAINFALL INTENSITY: 70-80
NATURAL HAZARDS: NIL
CONSENT NOTICES ON TITLE: YES

SITE NOTES:

- SLOPING SITE WITH NEW RETAINING WALLS INSTALLED AT EXISTING CUT LINES
- ENSURE WORK AREA IS SECURED FROM UNAUTHORIZED ENTRY, PROVIDE SAFETY FENCING & SIGNAGE IN ACCORDANCE WITH F5/AS1

	DRAFTED ARCHITECTURAL DESIGN	NOTES DO NOT SCALE FROM DRAWINGS -CONTRACTORS TO VERIFY ALL MEASUREMENTS & LOCATION OF SERVICES ON SITE PRIOR TO COMMENCING WORK. CONTACT DRAFTED.NZ FOR ANY CONTRADICTIONS OR ONSITE ANOMALIES. -PLANS ARE TO BE CROSS REFERENCED & READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS. CONSULTANT REPORTS & SPECIALIST DOCUMENTATION ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, RELEVANT DISTRICT PLAN REQUIREMENTS & OR RESOURCE MANAGEMENT ACT -THE COPYRIGHT OF THIS DRAWING IS VESTED IN DRAFTED.NZ & IT MAY NOT BE REPRODUCED IN WHOLE OR PART OR USED FOR THE MANUFACTURE OF ANY ARTICLE WITHOUT THE EXPRESS PERMISSION OF THE COPYRIGHT HOLDERS.	PROJECT: NEW RETAINING WALL 86 KOTARE STREET, WAIKANAE	CLIENT: GOUK & BOWYER	TITLE: LOCATION PLAN		
	11 TE HARAMRA STREET OTAKI, NZ PHONE: 022 607 0234 EMAIL: drafted.nz@gmail.com www.drafted.nz		SCALE AT A3: N.T.S	DATE: JUNE 24	DRAWN: JS	CHECKED: JS	STATUS: BC
			PROJECT NO: 1124	REVISION: ----	DRAWING NO: 01		



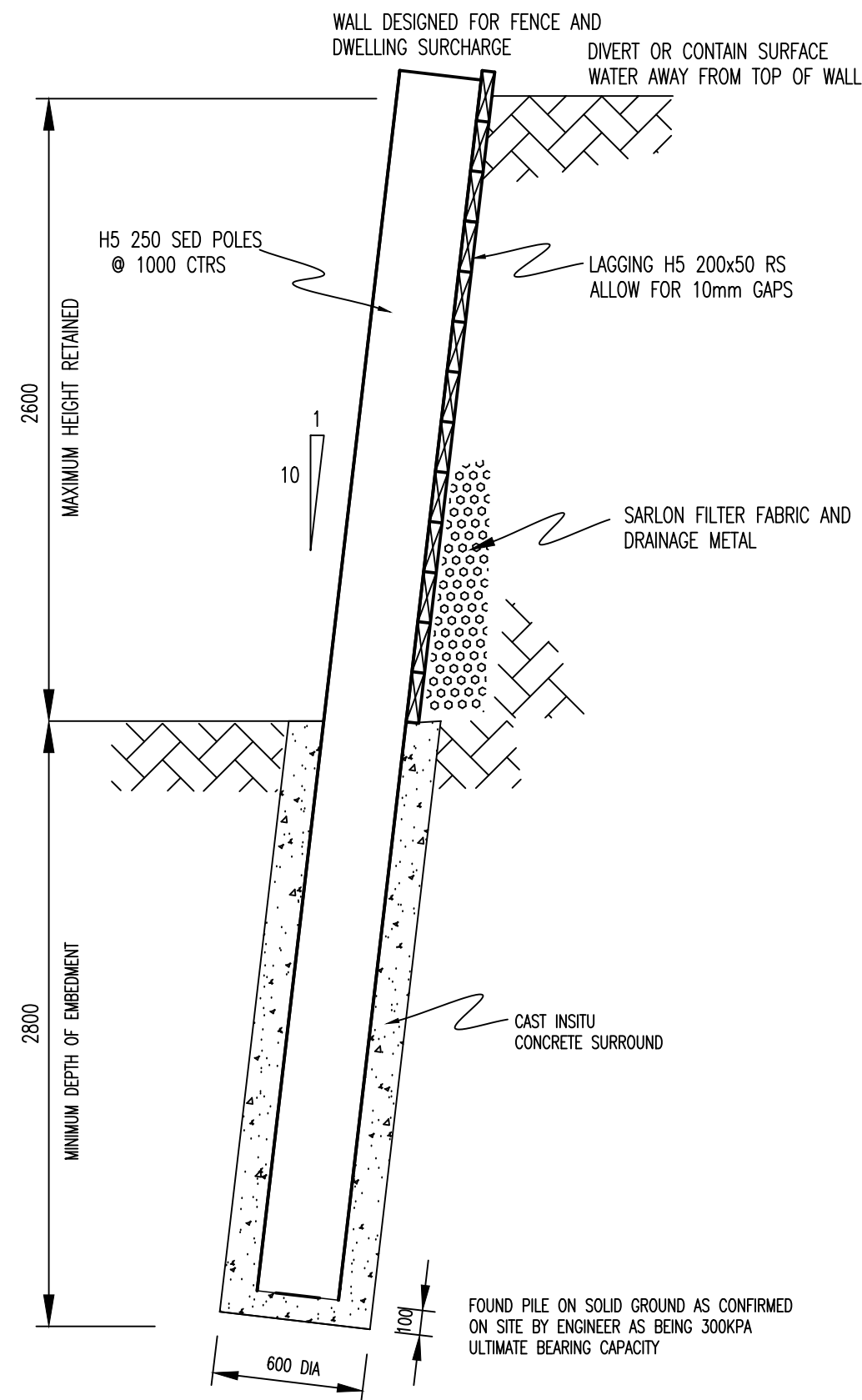
NEW ENGINEER DESIGNED RETAINING WALL & SAFETY BARRIER FOLLOWING EXISTING GROUND LINE, 2.6 MAX HEIGHT, SAFETY BARRIER REQUIRED TO ALL AREAS WHERE FALL EXCEEDS 1.0M

NEW WALL SET INSIDE OF BOUNDARY LINE, LOCATE & CONFIRM EXISTING SITE BOUNDARIES, IF REQUIRED ENGAGE A REGISTERED SURVEYOR TO INSTALL NEW BOUNDARY PEGS FOR SETOUT

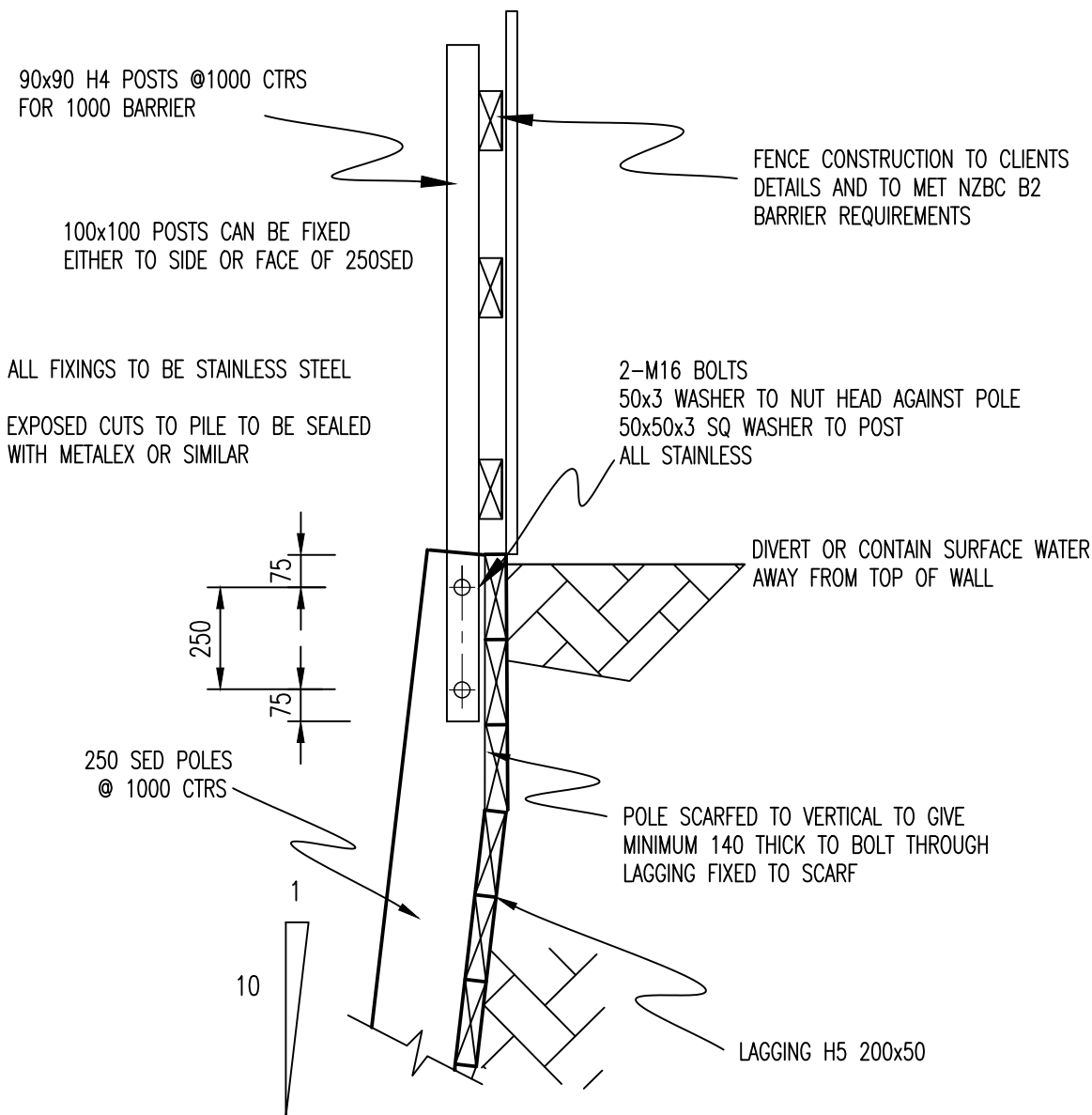
BC240337
Received by
Kapiti Coast District Council
10/06/2024

	DRAFTED ARCHITECTURAL DESIGN		NOTES		PROJECT:		CLIENT:		TITLE:	
	11 TE HARAWIRA STREET OTAKI, NZ PHONE: 022 607 0234 EMAIL: drafted.nz@gmail.com www.drafted.nz		DO NOT SCALE FROM DRAWINGS CONTRACTORS TO VERIFY ALL MEASUREMENTS & LOCATION OF SERVICES ON SITE PRIOR TO COMMENCING WORK. CONTACT DRAFTED.NZ FOR ANY CONTRADICTIONS OR ON-SITE ANOMALIES. PLANS ARE TO BE CROSS REFERENCED & READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS, CONSULTANT REPORTS & SPECIALIST DOCUMENTATION. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, RELEVANT DISTRICT PLAN REQUIREMENTS & OR RESOURCE MANAGEMENT ACT. THE COPYRIGHT OF THIS DRAWING IS VESTED IN DRAFTED.NZ & IT MAY NOT BE REPRODUCED IN WHOLE OR PART OR USED FOR THE MANUFACTURE OF ANY ARTICLE WITHOUT THE EXPRESS PERMISSION OF THE COPYRIGHT HOLDERS.		NEW RETAINING WALL 86 KOTARE STREET, WAIKANAE		GOUK & BOWYER		FLOOR PLAN	
	SCALE AT A3: 1:100		DATE: JUNE 24		DRAWN: JS		CHECKED: JS		STATUS: BC	

PROJECT NO: 1124	REVISION: ----	DRAWING NO: 02
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SD11 RETAINING WALL



SD12

1.0M HIGH SAFETY BARRIER TO CONSIST OF 150x20 H3.2 CLOSE BOARDED FENCE PALINGS- NAIL OR SCREW FIXED OVER 3/90x45 H3.2 FENCE RAILS FIXED TO ENGINEER DESIGNED 90x90 H4 POSTS WITH 2/14G x125 GALVANIZED BUGLE HEAD SCREWS, NOTE: BASE OF PALINGS ARE NOT TO EXCEED 100mm ABOVE FINISHED GROUND LINE

BC240337
Received by
Kapiti Coast District Council
10/06/2024

No.	AMENDMENT	NAME	DATE
A	CONSENT	PB	27/05

NOTES:

REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND DETAILS

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT CODE OF PRACTICE

THE STABILITY OF THE GROUND DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM THE RETAINED HEIGHT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION

THE BEARING CAPACITY AT THE BASE OF PILE HOLES TO BE CONFIRMED BY THE ENGINEER AT THE TIME OF CONSTRUCTION

CONCRETE STRENGTH TO BE 25MPa AT 28 DAYS
BACKFILL BEHIND WALL TO BE SAND OR BASECOURSE COMPACTED IN 150 THICK LAYERS

PROVIDE MINIMUM 24 HOURS NOTICE FOR INSPECTIONS BY ENGINEER

IT IS THE CLIENTS RESPONSIBILITY TO DETERMINE WHAT INSPECTIONS ARE REQUIRED BY THE ENGINEER AND TO FORWARD THE PS4 TO THE TERRITORIAL AUTHORITY ON COMPLETION

A PS4 PRODUCER STATEMENT CAN ONLY BE ISSUED IF INSPECTIONS ARE CARRIED OUT BY BASE CONSULTING ENGINEERS LTD

Base Consulting Engineers Limited



279 Oxford Street

P O Box 434

Levin 5540

Telephone Levin 06-367 0088

Paraparaumu 04-297 0088

Mobile 027 44 44 080

Copyright of this drawing is vested in Base Consulting Engineers Limited

STRUCTURAL DETAILS

BOWER RETAINING WALL
86 KOTARE STREET
WAIKANAE

SCALE

AS SHOWN

	NAME	DATE	DRAWING NUMBER
FIELDWORK			24021 SS1
DESIGNED	PB	24/5/24	
DRAWN	PB	24/5/24	
CHECKED	TGB	24/5/24	
			SHEET 1 OF 1 SHEETS



Jaime Sherlock <drafted.nz@gmail.com>

Bower- 86 Kotare Street Waikanae

peter@basecon.co.nz <peter@basecon.co.nz>

5 July 2024 at 10:47

To: chris anderson <andersonconstruction09@hotmail.com>, Jaime Sherlock <drafted.nz@gmail.com>

Cc: Peter Bolton <peter@basecon.co.nz>

Greetings Chris

Re: RFI

We have attached our test results for the adjacent Lot #88. Test Locations P1, P2 and P5 are relevant being within 5 metres of the proposed wall.

The results of these tests show ground conditions suitable for the retaining wall designed.

Thank you

Regards

Peter Bolton CMEng IntPE(NZ)

Base Consulting Engineers Ltd.

[256 Oxford Street, Levin](#)

0274 444 080



Geotechnical Investigation Report 88 Kotare Street Waikanae.pdf
1957K

BASE CONSULTING ENGINEERS
279 Oxford Street
Levin 5510



C & D Trust
C/- Mr C Anderson
88 Kotare Street
Waikanae

15 February 2024

Job No. 24009

Dear Mr. Anderson

**Geotechnical Investigation and Report for New Dwelling
88 Kotare Street Waikanae**

Executive Summary

Ground **does not** comply with the provisions of NZS 3604 for good ground.
The design undertaken for this project identifies this fact and requires the ground conditions to be inspected at the time of construction and modified by the Design Engineer accordingly.
All areas of unsuitable material under the proposed concrete foundations shall be removed and replaced with basecourse and compacted to Engineers approval.

1.0 Introduction

Base Consulting Engineers have been engaged by the client to undertake a Geotechnical Investigation for the project at 88 Kotare Street Waikanae.
The project involves the building of a new dwelling at the location as shown on the plans provided by Gilplans Architecture Job 2320.
The site has been included in the ABUILD Consulting Engineers Report 10244 January 2017 prepared for the subdivision. This report should be read as a part of this project

Scope of Works

The following work was undertaken in the preparation of this report:

- Walk over survey by our Geotechnical Engineer
- Shallow geotechnical investigation comprising Dynamic Cone Penetrometer (DCP) tests.

2.0 Site Conditions

2.1 Geology

The following sources provide geotechnical information for the site:

- New Zealand Geotechnical Database (NZGD)
- Kapiti Coast District Council Local Maps Viewer
- Greater Wellington Regional Council
- GNS Geological Maps

2.2 Site Description

The property is a 537m² section with the Kotare Street carriageway forming the East boundary. The new dwelling is located central on the site. The site has a moderate fall to the West as shown by the contours on the Gilplans Site Plan

2.3 Natural Hazard Risk

The Greater Wellington Regional Council Maps identify the site as having the following risk

- Ground shaking hazard: Severity 2
- Slope failure hazard: Severity 1, low
- Liquefaction hazard: Not Rated
- Combined earthquake hazard: severity 3 Moderate

3.0 Geotechnical Investigations

Base Consulting Engineers undertook a geotechnical investigation on 13 February 2024 comprising 6 Dynamic Cone Penetrometer tests. The probe locations are shown on the attached plan. The site plan by Gilplans Architecture shows the new dwelling location and contours.

The following table summarises the Dynamic Cone Penetrometer results

Test ID	200KPa Achieved Depth	300KPa Achieved Depth
P1	0.2m	0.3m
P2	0.2m	0.3m
P3	0.2m	0.3m
P4	0.2m	0.3m
P5	0.2m	0.3m
P6		

Probes were terminated at 400mm due to an impenetrable gravel layer.

4.0 Engineering Considerations

4.1 Liquefaction

Liquefaction is a process which causes soil to temporarily behave more like a liquid than solid during an earthquake. Three conditions are required for liquefaction to occur

- Loose non-cohesive saturated soils that lose shear resistance under seismic shaking (loose fine sands and many loose sand-silt mixtures)
- Ground saturation, liquefaction susceptible material lies below the ground-water table
- Sufficient shaking to trigger liquefaction (the level of seismic shaking to trigger liquefaction can vary site to site¹)

The liquefaction process

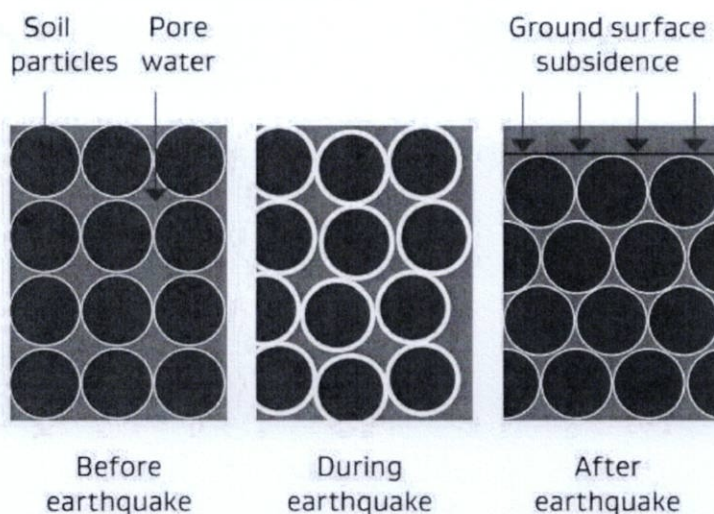


Figure 1: Schematic representation of the mechanism of liquefaction (from Tonkin + Taylor 2015)

The potential consequences of liquefaction are numerous, this report is limited to the effects on building foundations.

The effect on buildings can include:

- Distortion of the structure due to differential settlement of the underlying ground, impacting the amenity and weather tightness of the building.
- Loss of foundation-bearing capacity, resulting in settlement of the structure. In some cases this can result in tilting or overturning of multi-level buildings.
- Stretch of the foundation due to lateral spreading, pulling the structure apart. In some cases this can result in collapse or near-collapse of buildings.
- Damage to piles due to lateral ground movements, and settlement of piles due to downdrag from ground settlement.
- Damage to service connections due to ground and building deformations.

4.2 Liquefaction Risk

The soil type in the area is silt and silty gravels. The cohesive soils are non-liquefiable. We expect no liquefaction in this area.

4.3 Slope Stability and Fault Hazard Zone

Refer to Abuild report for these recommendations

4.4 NZS 3604 Requirements

This investigation considers the requirements from the NZS3604:2011 Light Timber Framed Buildings not requiring Specific Design, to determine if ground conditions are met. The minimum requirements for NZS 3604 are as follows:

3.1.2:

- (a) The foundations for the building are supported on good ground with an Ultimate Bearing Capacity of 300kPa

And

3.3.7.1

The soil below the underside of the foundations shall be assumed to have an Ultimate Bearing Capacity of not less than 300kPa when:

- (a) None of the following is encountered below the depth of the footing at any test site:
 - (i) Organic topsoil
 - (ii) Soft or very soft peat
 - (iii) Soft or very soft clay
 - (iv) Fill material, except where a certificate of suitability has been issued under NZS 4431;
- (b) Scala Penetrometer tests conducted in accordance with 3.3.2(a), where the number of blows per 100mm depth of penetration below the underside of the proposed footing at each test site exceeds:
 - (i) Five down to a depth equal to twice the width of the widest footing below the underside of the proposed footing;
 - (ii) Three at greater depths: and
 - (iii) Providing the set blow is relatively uniform, the number of blows per 100mm may be obtained by averaging the number of blows for depths not exceeding 300mm; and
- (c) Comparisons of the results at all test sites show that soil conditions are closely similar at each test site

5.0 Foundation Recommendations

5.1 Technical Categories and Design

The proposed foundation for the dwelling are bored cast in-situ concrete piles together with a garage concrete slab on grade. These support a light framed structure designed by others.

5.1 Bearing Capacity

The geotechnical ultimate bearing capacity (UBC) for the proposed foundations are based on NZS3604:2011 and the MBIE technical guideline Part A.

For the New Dwelling 200kPa is achieved at 0.3m below ground level, with 300kPa available at 0.9m.

Based on the recommendations in the New Zealand Building Code (B1/VM1) we recommend the following capacity reduction factors when assessing bearing capacity

- Factored Ultimate Limit State 0.5
- Unfactored Serviceability Case 0.33
- Earthquake Over strength 0.8

5.2 NZS 3604 Requirements

For the ground conditions described above we advise that the ground conditions do not meet the requirements of NZS 3604:2011 etc: due to the unsuitable ground conditions identified in the Abuild Report, test locations TP11/P11 and Landlink KA18/KA19.

The foundation design has been undertaken by Base Consulting Engineers based on these findings and the recommendations in the Abuild report.

As noted in the BCE drawings, the ground conditions are to be confirmed on site at the time of construction. This is acceptable engineering practice.

5.3 Subsoil Category

The Seismic Sub Soil Category at this site has been assessed as 'Class C' in terms of NZS 1170.5 Section 3.1.3.

6.0 Limitations

This report has been prepared for the Kapiti Coast District Council and our client. Ground conditions may vary between locations tested. This report shall not be relied upon by any third party without the approval of the authors.

This report summarizes the results of the fieldwork undertaken, and does not address the issues of flood zones or seismic zones as may be identified on the Kapiti Coast District Plan. If applicable these will be noted in the PIM information provided by the Kapiti Coast District Council

If you have any further questions please do not hesitate to contact us.

Kind Regards,



Thomas Bolton CMEngNZ CPEng
Senior Engineer



Peter Bolton CMEngNZ CPEng
Director

References.

¹Planning and engineering guidance for potentially liquefaction-prone land: EQC, MBIE

⁴NZS1170.0:2004. Australia/New Zealand Standard, Structural Design Actions, Part 0: General Principles. Standards New Zealand, Wellington, New Zealand.

⁴NZS 1170.5:2004: Structural Design Actions Part 5: Earthquake actions – New Zealand, Wellington, New Zealand: Standards New Zealand.

Greater Wellington Regional Council Hazard Maps Viewer

GNS Geological Maps Wellington



Base Consulting Engineers Limited

SCALA PROBES:

(9kg hammer falling 1 metre to a steel anvil, driving a 16mm rod fitted with a 20mm cone)

SKETCH OF LOCATION

BC240337

Further Information Received
05/07/24

Job# : 24009 Date : 13/02/24

Location : 88 Kotare Street
Waikanae

Client : C & D Trust

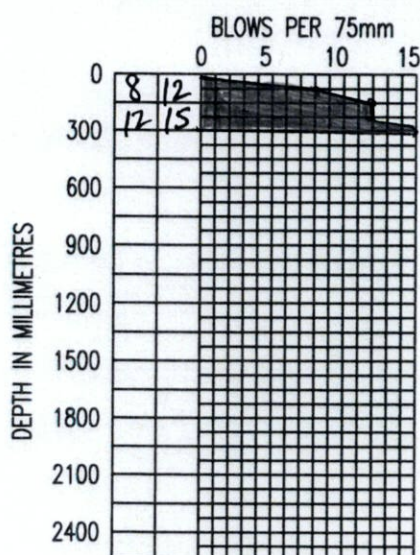
Signed : *[Signature]*

Refer Site Plan Cul Plans

PROBING NUMBER: P1

Elevation :

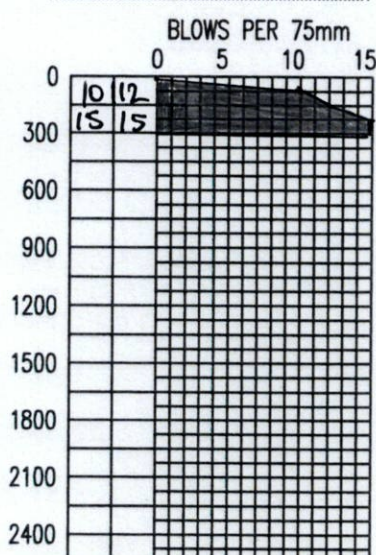
Remarks :



PROBING NUMBER: P2

Elevation :

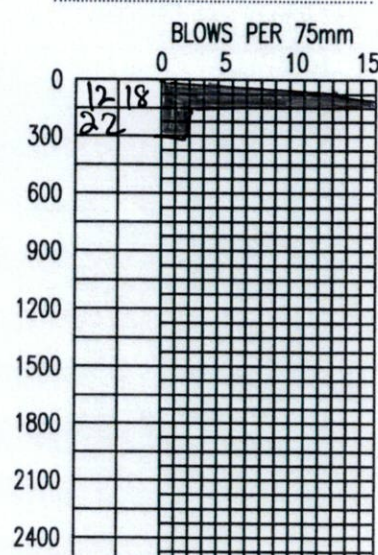
Remarks :



PROBING NUMBER: P3

Elevation :

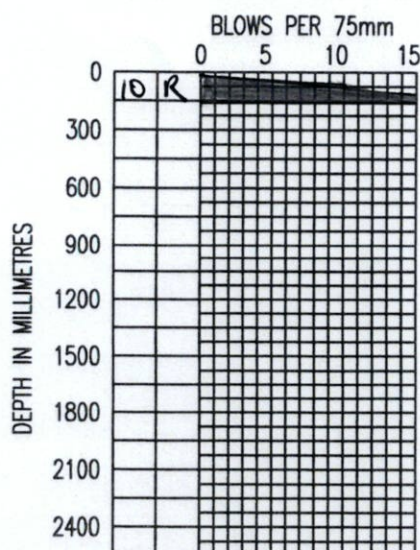
Remarks :



PROBING NUMBER: P4

Elevation :

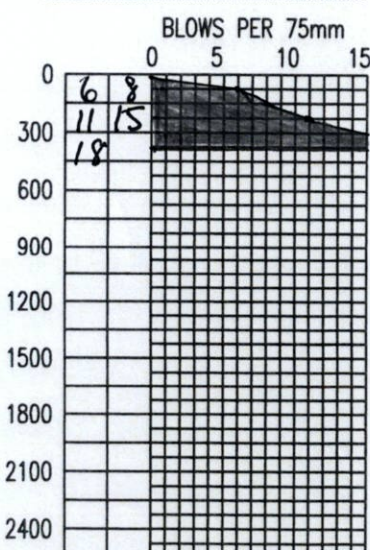
Remarks :



PROBING NUMBER: P5

Elevation :

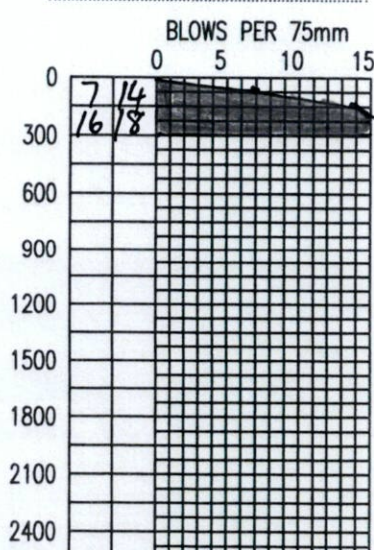
Remarks :



PROBING NUMBER: P6

Elevation :

Remarks :





SITE DETAILS:

ADDRESS: 88 KOTARE ST, WAIKANA
 LEGAL DESCRIPTION: LOT 9 ON DP 518654
 WIND ZONE: VERY HIGH WIND ZONE
 CORROSION ZONE: CORROSION ZONE C
 EARTHQUAKE ZONE: 3
 CLIMATE ZONE: 3
 RAINFALL INTENSITY: 70-80mm
 NATURAL HAZARDS: NO
 CONSENT NOTICES ON TITLE: YES
 ZONE: RESIDENTIAL
 LOCAL AUTHORITY: KDC

SITE COVERAGE:

SITE AREA = 537 m²
 SITE COVERAGE INC DECKS OVER 1m² 268m² (50%)

SITE LEGEND:

NEW DECKS
 NEW HOUSE

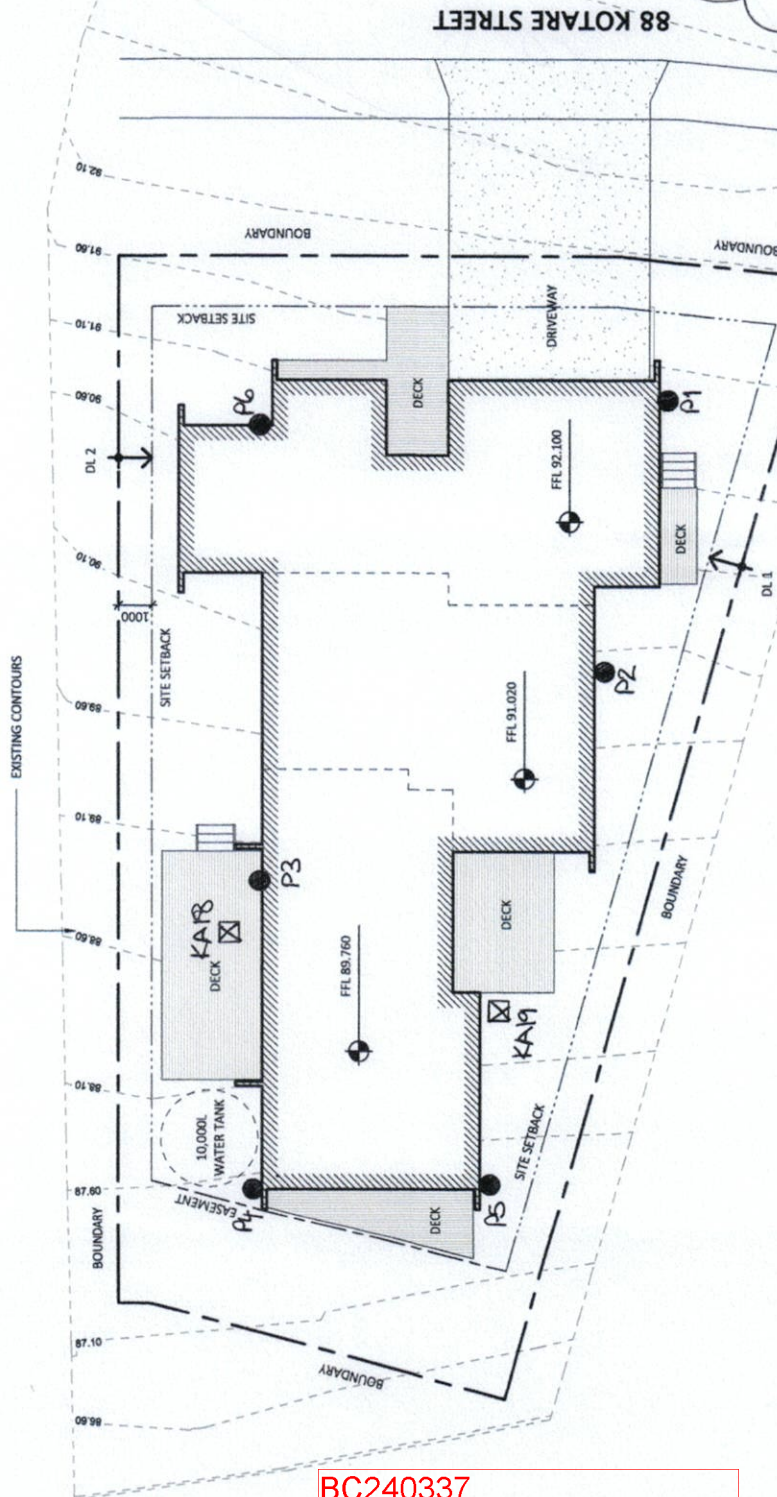
BUILDING RECESSON PLANES - REFER ELEVATIONS

DL1

SITE NOTES:

-SLOPING SITE REFER CROSS SECTIONS/EXCAVATION PLAN FOR LEVELS
 -NEW BUILDING WORKS SET TO R.L. AS INDICATED ON PLANS, CONFIRM R.L. WITH DATUM BENCHMARK INSTALLED ON-SITE BY REGISTERED SURVEYOR
 -ENSURE WORK AREA IS SECURED FROM UNAUTHORIZED ENTRY, PROVIDE SAFETY FENCING & SIGNAGE IN ACCORDANCE WITH FSA/SL
 -LOCATE & CONFIRM EXISTING SITE BOUNDARIES, IF REQUIRED ENGAGE A REGISTERED SURVEYOR TO LOCATE BOUNDARY PGS FOR BUILDING SETOUT
 -LOCATE ALL SERVICES/ATERIALS ON-SITE PRIOR TO COMMENCEMENT OF WORK
 -SCAPING - SCAPING GRASS & REMOVE ALL RUBBISH, NOXIOUS & ORGANIC MATTER FROM THE BUILDING AREA
 -GROUND BEARING MUST BE RECOMMENDED ON-SITE FOLLOWING EXCAVATIONS & PRIOR TO PILE PLACEMENT. ENGINEERS SPECIFIC DESIGN REFER PLANS & SPECIFICATIONS
 -NO BUILDING WORK IS TO BE CARRIED OUT UNTIL CONSTRUCTION OF ALL SEDIMENT CONTROL STRUCTURES ARE IN PLACE TO PREVENT ANY BACKFILL OR DEBRIS WASHING INTO ADJACENT PROPERTIES.
 -STORMWATER SYSTEM OR WATERWAYS, ANY STOCKPILED SOIL, CLAY ETC TO BE COVERED WITH IMPERVIOUS TARP. DOWNPIPES TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS PRACTICAL

24009
 Site Plan
 Test Locations
 Base Consulting Engineers Ltd
 13/2/2024



SITE PLAN
 1:150

● P1-P6 - Scaba Penetratometer
 B.C.E

☒ KA - Abuild Test
 Locations

GIL-PLANS ARCHITECTURE

44 Kapiti Rd,
 Paraparaumu, NZ
 office@gilplans.co.nz
 Ph. 04 9044 575
 mob. 021 285 4454

ALL WORK TO COMPLY WITH THE BUILDING ACT,
 NEW ZEALAND BUILDING STANDARDS & TERRITORIAL
 AUTHORITY BY LAWS. ALL DIMENSIONS TO BE CHECKED
 ON SITE PRIOR TO COMMENCEMENT OF WORK. REPORT ANY
 DISCREPANCIES TO OWNER.
 THESE DRAWINGS ARE COPYRIGHT & REMAIN
 THE PROPERTY OF GIL-PLANS.

NOT FOR CONSTRUCTION

SITE PLAN		SHEET	2
STAGE:	PROGRESS	REVISION:	
DATE:	NOVEMBER 2023		

BC240337
 Further Information Received
 05/07/24



association of
consulting
and
engineering



PRODUCER STATEMENT – PS1 DESIGN

BUILDING CODE CLAUSE(S): B1/VM1/VM4

JOB NUMBER: 24021

ISSUED BY: BASE CONSULTING ENGINEERS LTD.
(Engineering Design Firm)

TO: L. BOWER
(Owner/Developer)

TO BE SUPPLIED TO: KAPITI COAST DISTRICT COUNCIL
(Building Consent Authority)

IN RESPECT OF: BOWER RETAINING WALLS
(Description of Building Work)

AT: 86 KOTARE STREET, WAIKANAE
(Address, Town/City)

LEGAL DESCRIPTION:

N/A ☐

We have been engaged by the owner/developer referred to above to provide (Extent of Engagement):

The Structural Design for: Timber retaining walls

in respect of the requirements of the Clause(s) of the Building Code specified above for Part only ☒, as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☐ Compliance documents issued by the Ministry of Business, Innovation & Employment (Verification method/acceptable solution) AS/NZS: 1170; NZS: 3101; NZS: 3603 and/or;
- ☐ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: N/A
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 2 ☒ level of construction monitoring.

I, (Name of Engineering Design Professional) PETER BOLTON, am:

- ☒ CPEng number 56179

and hold the following qualifications BE CIVIL

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000

The Engineering Design Firm is not ☒ a member of ACE New Zealand.

SIGNED BY (Name of Engineering Design Professional): PETER BOLTON
(Signature below):

ON BEHALF OF (Engineering Design Firm): BASE CONSULTING ENGINEERS LTD.

Date: 22/05/2024

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of \$200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

SCHEDULE to PS1

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

24021 - Design & Drawing

BC240337
Received by
Kapiti Coast District Council
10/06/2024

GUIDANCE ON USE OF PRODUCER STATEMENTS

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website

<https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/>

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

PS1 DESIGN Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 DESIGN REVIEW Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 CONSTRUCTION Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011²

PS4 CONSTRUCTION REVIEW Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

Competence of Engineering Professional

This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

Professional Indemnity Insurance

As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

Professional Services during Construction Phase

There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers³). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Refer Also:

- ¹ Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- ² NZIA Standard Conditions of Contract SCC 2011
- ³ Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
- ⁴ PN01 Guidelines on Producer Statements

www.acenz.org.nz
www.engineeringnz.org

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10/06/2024

Form 2A

Memorandum from licensed building practitioner: Certificate of design work
Section 45 and Section 30C, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: 86 KOTARE STREET

Town/City: WAIKANA E	Postcode:
----------------------	-----------

THE OWNER

Name: L. BOWER

Mailing address:

Suburb:	PO Box/Private Bag:
Town/City:	Postcode:
Phone number:	Email address:

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies (✓)	
()	sole designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design myself – no other person will be providing any additional memoranda for the project
()	lead designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and no other person will be providing any additional memoranda for the project
()	lead designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the other designers will provide their own memoranda relating to their specific RBW design
(✓)	specialist designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I, Peter Bolton, carried out the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is restricted building work	Description	Carried out/ supervised	Reference to plans and specifications
Tick (✓) if included Cross (X) if excluded	[If appropriate, provide details of the restricted building work]	[Specify whether you carried out this design work or supervised]	[If appropriate, specify references]

	<i>someone else carrying out this design work]</i>	
--	--	--

Primary structure

All RBW Design work relating to B1	()		() Carried out () Supervised	
Foundations and subfloor framing	()		() Carried out () Supervised	
Walls	()		() Carried out () Supervised	
Roof	()		() Carried out () Supervised	
Columns and beams	()		() Carried out () Supervised	
Bracing	()		() Carried out () Supervised	
Other	(√)	Timber retaining walls	(√) Carried out () Supervised	24021

EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2

All RBW design work relating to E2	()		() Carried out () Supervised	
Damp proofing	()		(√) Carried out () Supervised	
Roof cladding or roof cladding system	()		() Carried out () Supervised	
Ventilation system (for example, subfloor or cavity)	()		() Carried out () Supervised	
Wall cladding or wall cladding system	()		() Carried out () Supervised	
Waterproofing	()		() Carried out () Supervised	
Other	()		() Carried out () Supervised	

FIRE SAFETY SYSTEMS: C1 – C6

Emergency warning systems, evacuation and fire	()		() Carried out() Supervised	
--	-----	--	-------------------------------	--

service operation systems, suppression or control systems, or other			
---	--	--	--

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.

Note: continue on another page if necessary.

WAIVERS AND MODIFICATIONS

Waivers or modifications of the building code are required () Yes (√) No

If Yes, provide details of the waivers or modifications below:

Clause	Waiver/modification required
<i>[List relevant clause numbers of building code]</i>	<i>[Specify nature of waiver or modification of building code]</i>

Note: continue on another page if necessary.

ISSUED BY

Name: Peter Bolton	LBP or Registration number:56179
The practitioner is a: () Design LBP () Registered architect (√) Chartered Professional Engineer	
Design Entity or Company (optional): Base Consulting Engineers Ltd	
Mailing address (if different from below):	
Street address / Registered office: 279 Oxford Street	
Suburb:	Town/City: Levin
PO Box/Private Bag:	Postcode:
Phone number:	Mobile:0274 444 080
After Hours:	Fax:
Email address:peter@basecon.co.nz	Website:

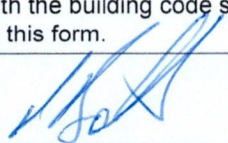
DECLARATION

I Peter Bolton *[name of practitioner]*, CPEng,

state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code; or
- Complies with the building code subject to any waiver or modification of the building code recorded on this form.

Signature:



Date: 22 May 2024



**BASE CONSULTING
ENGINEERS LIMITED**

Job Number: 24021

Page number: 1

Client: Anderson Construction

By: P Bolton

Date: 24/05/2024

Project/Job: Bower Retaining Wall

Subject: Design Features Report

DESIGN FEATURES REPORT

Scope

The client is planning to erect a timber retaining wall on the boundary of 86 and 88 Kotare Street, Waikanae.

Base Consulting Engineers has been contracted to provide structural design services for the client, Anderson Construction.

These services are to design:

- Timber Pole Retaining Walls
- 1.0m barrier at the top of the wall.

We have not been provided with drawings or a site plan, these are to be provided by the client.

Standards

The structural design of the canopy is to comply with Clause B1 of the New Zealand Building Code. New Zealand Standards are used to ensure designs are an Acceptable Solution to B1.

New Zealand Standards used in this design are:

- NZS 1170 Structural design action
- NZS 3603 Timber structures standard
- NZS 3101 Concrete Standard

Design Parameters

We have assumed the following parameters for the building:

- 50 Year design life
- Importance level 1

BC240337
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Kapiti Coast District Council
10/06/2024

Permanent actions and live loads

	Dwelling	Driveway	Fence/barrier	
Description	Lightweight	Medium Vehicles	Wind Loads	Imposed Actions
Weight (kPa)	5.0	12.0	As below	0.75kPa/0.6kN

Dead Loads

	Roof	Floor	Deck	Garage
Distributed (kPa)	0.25	1.5	2.0	2.5
Point Load	1.4	1.8	1.8	9.0

Balustrade Loads

Designed using requirements of clauses 3.6 and 3.8 of AS/NZS 1170.1 as modified by B1/VM1 (clauses 2.2.7 and 2.2.8) with imposed actions as specified in Table 3.3 of AS/NZS 1170.1.



**BASE CONSULTING
ENGINEERS LIMITED**

Job Number: 24021

Page number: 2

Client: Anderson Construction

By: P Bolton

Date: 24.05.2024

Project/Job: Bower Retaining Wall

Subject: Design Features Report

Wind Parameters

- Wind Area: W
- Wind Zone: Very High
- Basic ULS wind speed 51 ms^{-1}
- Basic SLS wind speed 43 ms^{-1}

Seismic Parameters

Ductility 1.25 for steel elements, 2.0 for timber foundations

Soil Class D

Hazard factor $Z=0.4$

	Ductility	Performance factor	Time period	Seismic Acc. $C_d(t)$
ULS	2.0	0.9	0.4	0.69
SLS	1.0	0.7	0.4	0.21

Geotechnical Parameters

A Geotechnical Investigation was undertaken on the recently completed 88 Kotare Street, the results of which show an Ultimate Bearing Pressure of 300kPa is available for the design of the wall.

For design assume soil density, γ 19kN/m³ shear friction, ϕ 34 degrees.

BC240337
Received by
Kapiti Coast District Council
10/06/2024



Job BOWER RETAINING WALL

By P BORTON

86 KOTARE STREET WAIKANA

Date 24/05/24

PREMISE

From DFR to provide the structural design for timber pole retaining on the boundary of 86/88 Kotare Street.

△ site visit measured the height as 2.60 m maximum

allow for surcharge from dwelling of 88.
To Bower.

Loading

$$V = V_2 M_h M_z$$

$$= 51 \times 0.91 \times 1.2$$

$$= 55.7 \text{ kN}$$

$$h = 1.0 \quad V_2 = 51 \text{ kN/s}$$

$$M_h = 0.91$$

$$M_z = 1.2$$

Design Wind Pressure

$$P = 0.5 \rho V_s^2 C_{fi}$$

$$= 2.2 \text{ kN}$$

$$C_{fi} = 1.2$$

Design Moment M_p^*

$$M_p^* = P L$$

$$= 2.2 \text{ kNm}$$

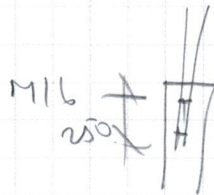
For 2/M16 @ 250

$$P_b = M_p / d$$

$$= 2.2 / 0.25$$

$$= 8.8 \text{ kN}$$

△ for M16.



1000 barrier
@ 1.0%
2/M16
250 apart

Wall 250 SED @ 1.0%

2600 Retained.

2400 deep x 600.

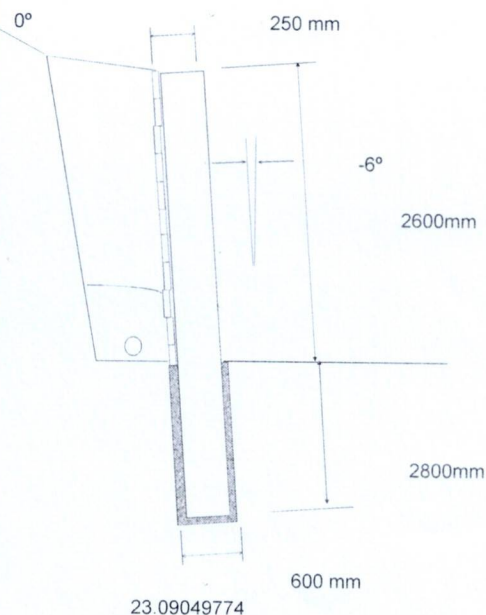
JOB NAME: Bower Retaining Wall
 JOB NUMBER: 24021
 DESCRIPTION: 86 Kotare Street, Waikanae

ENGINEER: P. Bolton
 DATE: 24/05/2024

CANTILEVER WALL

NOTE: SPREADSHEET ADOPTS PENDER PROVISIONS FOR FACTORED LOAD/FACTORED RESISTANCE

WALL DIMENSIONS			
Ø Poles - SED	0.25 m	OK	
I_{pole}	1.92E+08 mm ⁴		
Z_{pole}	1.53E+06 mm ³		
E_{pole}	8.70E+03 MPa		
Ø Auger Hole	0.6 m ==> 84 kPa Bearing Pressure		
Height stem H	2.6 m		
Height retained	2.6 m ==> Ratio	1.00	
Slope stem β	-6 degrees	-0.105 rads	
Depth Pole D	2.80 m ==> Min.	1.90 m	
Waler Depth Nominal	200 mm		
Waler Thickness Nominal	100 mm		
Waler Defl. Limit	150	Therefore Max Defl = 6.7 mm	
Pole Spacing	1.0 m Note ==>	Max Waler Span = 2200 mm	
Waler Defl. Check	0.6 mm	K2 = 2.0	
SOIL AND WALL PROPERTIES			
Overburden	0.0 m		
Applied Surcharge	0.0 kPa		
Surcharge	5.0 kPa		
Density backfill	19 kN/m ³		
Density wall material	5.5 kN/m ³		
Undrained Shear Str.	50 kPa		
Ult. Soil Bearing Strength	300 kPa		
Angle internal friction	34 degrees	0.593 rads	
Angle passive pressure	23 degrees	0.396 rads	
Slope backfill	0 degrees	0.000 rads	
Slope Front	0 degrees	0.000 rads	
Active Pressure Coef Ka	0.21		
Passive Pressure Coef Kp	6.89		
DESIGN ACTIONS (For 1m strip wall)			
Weight stem	4.83 kN @	-0.01 m (horizontally)	
Weight footing	5.20 kN @	-0.02 m (horizontally)	
Soil active force	20.31 kN @	0.87 m (vertically)	
Soil/soil(or conc) fric. force	13.77 kN @	0.00 m (horizontally)	
Surcharge force	4.11 kN @	1.30 m (vertically)	
Stem Moments		Base Shears	
Ultimate stem moment Static	22.95 kNm	Base Shear Static	24.4 kN



Load Factors	
LF Dead	1.35
LF act. Static	1.60
ϕ bearing	0.50
ϕ sliding	0.80

Solve for Minimum Embedment		Pile Bending	
Effective Horizontal Force	24.42 kN @	0.9423	Str. Reduction Factor 0.80
Kp	3.54		Duration Factor K_1 0.60
Assumed Depth Lmin	1.90 m		K_{22} 1.00
Hu	24.43 kN ==> Solver	0.00	Bending Stress fb 38.0
Depth of Max Moment g_s	0.64 m		Slender Factor K_8 1.00
Max Moment	24.69 kNm		Fact. Bend. Str ϕM_{nx} 23.8 kNm
			Max Deflection 12.3 mm
			Bearing Pressure 84 kPa

NOTES:

- Calculations do not account for water pressure i.e. assumes wall is fully drained.
- Minimum Embedment is based on the Broms Approach to estimate the lateral capacity of a pile.

BC240337
 Received by
 Kapiti Coast District Council
 10/06/2024



KCDC174940 - Request For More Information

BC240337
Received by
Kapiti Coast District Council
10/06/2024

GoGet Inspection Audit Report

Consent No: **240337**
Applicant: **Anderson Construction**
Site Address: **86 Kotare Street, Waikanae**
Work Type: **New engineer designed retaining wall and safety barrier**

Inspection Type: **Retaining Wall**
Inspection Outcome: **Fail**
Inspected By: **Stew Nelson**
Inspection Date: **20 August 2024 9:17 a.m.**
Duration: **15 minutes**

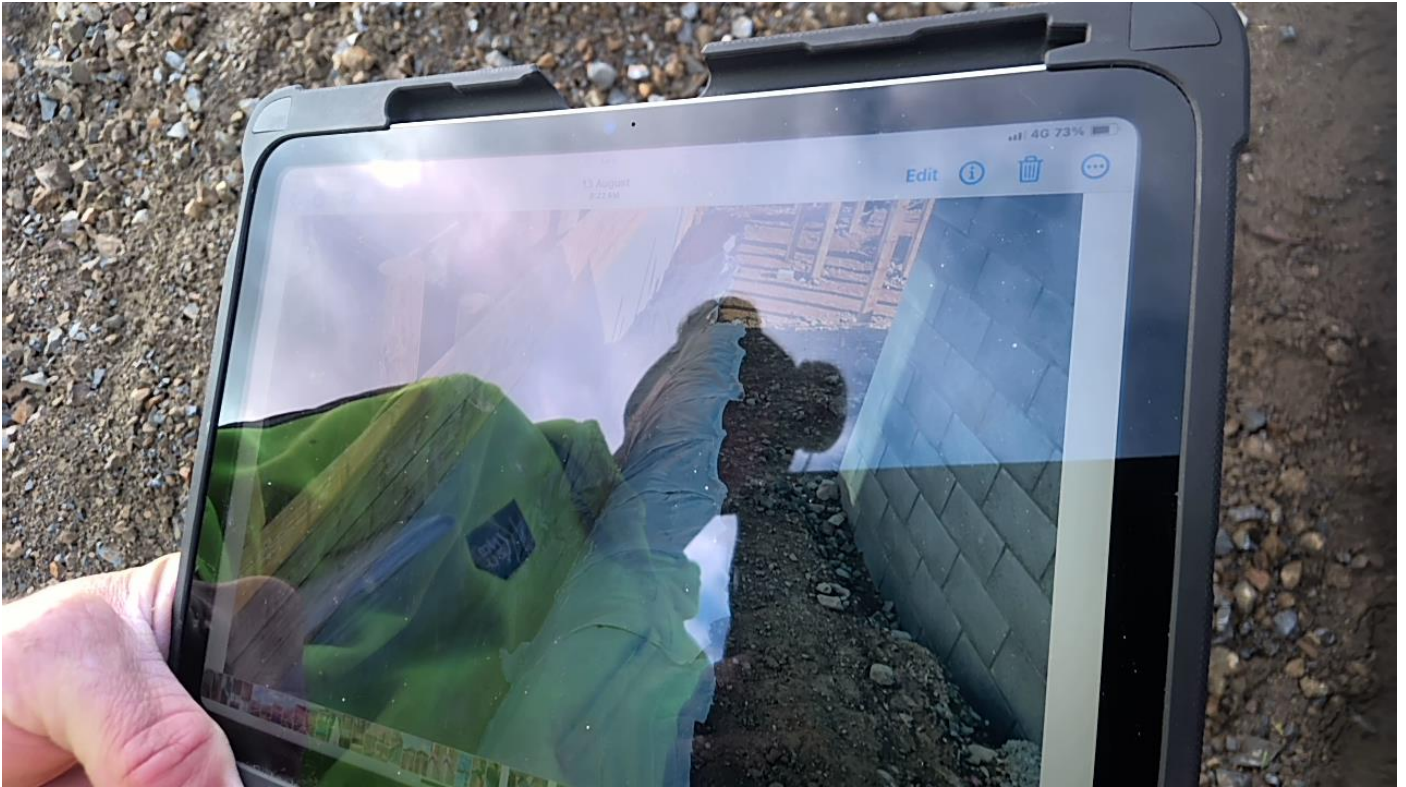
Inspection Element	Status
General	Fail
On demand, to confirm retaining wall in correct place	
Engineer design Peter boltn	Pass
Engineer report Engineer site report required	Fail
Reinforcing	N/A
Waterproof membrane	N/A
Membrane protection	N/A
Cleaning/flush point	N/A
Backfill drainage material Photos provided of pea metal	Pass
Discharge point	N/A
Sub-soil drain 20mm gaps between boards. Photos provided of filter cloths	Pass
Timber treatment H5 poles	Pass
LBP number Chris Anderson	Pass
Agent/owner written approval	N/A
Non compliance discussed onsite	N/A
Next Inspection required Final	Pass
Other	Pass
Chris Anderson has confirmed setout of retaining wall fence. Identified both boundary pegs	



Taken at 9:07 AM on Tuesday 20/08/2024



Taken at 9:07 AM on Tuesday 20/08/2024



Taken at 9:12 AM on Tuesday 20/08/2024



Taken at 9:13 AM on Tuesday 20/08/2024



Taken at 9:14 AM on Tuesday 20/08/2024

SITE NOTICE

Consent No: **240337**
Applicant: **Samuel Leigh Gouk and Elizabeth Fay Bowyer**
Site Address: **86 Kotare Street, Waikanae**
Work Type: **New engineer designed retaining wall and safety barrier**
Building Category: **R1**

Inspection Type: **Retaining Wall**
Inspection Outcome: **Fail**
Inspected By: **Stew Nelson**
Inspection Date: **20 August 2024**

Failed Items

General	On demand, to confirm retaining wall in correct place
Engineer report	Engineer site report required

Passed Items

General	On demand, to confirm retaining wall in correct place
Engineer design	Peter boltn
Backfill drainage material	Photos provided of pea metal
Sub-soil drain	20mm gaps between boards. Photos provided of filter cloths
Timber treatment	H5 poles
LBP number	Chris Anderson
Next Inspection required	Final
Other	Chris Anderson has confirmed setout of retaining wall fence. Identified both boundary pegs