



# Resource Consent Application – 35 Kaitawa Crescent, Paraparaumu

Housing New Zealand



35 Kaitawa Crescent, Paraparaumu

## Contact Details

**Name:** *Hannah Payne-Harker*

L9, Majestic Centre, 100 Willis St  
PO Box 12 003, Thorndon, Wellington 6144  
New Zealand

Telephone: +64 4 471 7000  
Mobile: +64 27 545 2928

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Prepared By



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Hannah Payne-Harker, Graduate Planner

Reviewed By



-----  
Michelle Grinlinton-Hancock, Planning Work  
Group Manager

Approved for Release By



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Michelle Grinlinton-Hancock, Planning Work  
Group Manager

# Application for Resource Consent Form

Pursuant to Section 88 of the Resource Management Act 1991

**TO:** Kāpiti Coast District Council  
 PO Box 60601  
 Paraparaumu 5254

**FROM:** Housing New Zealand Limited  
 PO Box 2628  
 Wellington 6140  
 (Please note different address for service)

**1. Housing New Zealand applies for the following types of resource consents:**

Consent	RMA Section	Activity
Land use consent	s.9	Construction of two household units for social housing at 35 Kaitawa Crescent, Paraparaumu.
Subdivision Consent	s.11	Subdivision of an 842m <sup>2</sup> section at 35 Kaitawa Crescent into two fee simple lots.

**2. The activity to which this application relates to (the proposed activity):**

Refer to the description of the proposed activity section in the attached Assessment of Effects on the Environment (AEE).

**3. The site to which the application relates is:**

The location of the proposed site for subdivision and construction of the social housing unit is 35 Kaitawa Crescent, Paraparaumu.

Legal Description: Lot 62 DP 23300 held in Computer Freehold Register WNB1/1459 (Appendix A).

Refer Section 3 for the natural and physical characteristics and any adjacent uses.

**4. The names and addresses of the owners of the land to which the application relates are as follows:**

Housing New Zealand Corporation PO Box 2628, Wellington 6140

**5. Additional resource consents are not required in relation to the proposal.**

**6. Attached are assessments of the proposed activity against:**

- (a) The matters set out in Part 2 of the Resource Management Act 1991
- (b) The relevant provisions of a document referred to in sections 104(1)(b) and 106 of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

Refer Section 7 of the AEE Report.

7. An assessment of the potential and/or actual effects of the proposed activity may have on the environment, in accordance with Section 88 and the Fourth Schedule of the Resource Management Act 1991, is attached.

Refer Section 8 of the AEE Report.

8. **Additional information required in application for subdivision consent**  
An application for a subdivision consent must also include information that adequately defines the following:
  - (a) the position of all new boundaries; and
  - (b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:
9. No other information is required to be included in the application by the district plan, the Resource Management Act 1991 or any regulations made under the Act.

*A. M. Hancoch*

Date: 17/06/2019

Jasvinder Madhar  
Development Manager  
Housing New Zealand

Address for Service:

WSP Opus  
PO Box 12 003  
Thorndon  
Wellington 6144

ATTENTION: Hannah Payne-Harker  
Mobile 027 545 2928  
hannah.payne-harker@wsp.com

# Contents

1	Introduction .....	1
1.1	Site location .....	1
1.2	Consents Required .....	2
2	Housing New Zealand Corporation .....	2
3	Description of the Existing Environment .....	3
3.1	Overview .....	3
3.2	The Site .....	4
3.3	The Surrounding Environment .....	4
4	Description of Proposal .....	5
4.1	Proposed Lots .....	5
4.2	Infrastructure Services .....	5
4.3	Contaminated Land .....	8
5	Activity Classification .....	8
5.1	Planning Assessment .....	8
5.2	Kāpiti Coast Proposed District Plan .....	9
5.3	Summary of Consents Required .....	15
6	Consultation .....	16
7	Assessment of Effects on the Environment .....	16
7.1	Overview .....	16
7.2	Positive Effects .....	16
7.3	Visual Effects .....	16
7.4	Character and Amenity .....	17
7.5	Servicing .....	17
7.6	Transportation Effects .....	18
7.7	Contaminated Land Effects .....	18
7.8	Summary .....	18
8	Statutory Assessment .....	19
8.1	Section 104 of the RMA .....	19
8.2	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 .....	19
8.3	Kāpiti Coast Proposed District Plan .....	21
8.4	Kāpiti Coast Operative District Plan .....	22

8.5 Part 2 Matters .....24

8.6 Determination of Application .....24

8.7 Notification Determination .....25

9 Conclusion ..... 26

Appendix A: Computer Freehold Register ..... 28

Appendix B: Subdivision Scheme Plan ..... 29

Appendix C: Detailed Design .....30

Appendix D: Water Storage and Stormwater .....31

Appendix E: Geotechnical Assessment .....32

Appendix F: Contaminated Land Screening Report .....33

Appendix G: Contaminated Land Site Investigation .....34

Appendix H: Resource Consent Application Form .....35

List of Figures

Figure 1: Aerial photo showing the location of 35 Kaitawa Crescent, Paraparaumu (Google maps)....2

Figure 2: Aerial photo showing the 35 Kaitawa Crescent, Paraparaumu site (Google maps).....4

Figure 3: Existing water services (KCDC GIS maps)..... 6

Figure 4: KCPDP map showing the zoning of the area surrounding 35 Kaitawa Crescent, Paraparaumu (KCPDP maps)..... 8

List of Tables

Table 1: Proposed earthworks for proposed Lot 1.....7

Table 2: Proposed earthworks for proposed Lot 2.....7

Table 3: Assessment of construction activity against the KCPDP Permitted Activity Standards for the Residential Zone in 5A.1, Chapter 3 (earthworks), Chapter 11E.1 (access), 11P.1 (parking), and water and stormwater (Chapter 12A.1). ..... 9

Table 4: Summary of consents required.....15

Table 8-1 Section 95A Assessment .....25

Table 8-2 Section 95B Assessment ..... 26

Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
1	14/06/2019	Hannah Payne-Harker	Michelle Grinlinton-Hancock	Michelle Grinlinton-Hancock	First Draft

# 1 Introduction

Housing New Zealand Corporation (HNZC or 'the applicant') has been given a clear directive from the Minister responsible for Housing New Zealand to deliver an increased supply of social housing across New Zealand over the next three years. To meet such demand, HNZC has set a target to construct 7,000 new homes across the country within this timeframe. In the year 2016/2017 HNZC's asset development programme successfully delivered a total of 1,524 homes across the country, a significant increase from 871 in 2015/2016. In 2017/2018 HNZC delivered 1,040 new homes, with 1,980 to be delivered in 2018/2019.

A large proportion of HNZC owned sites are low density development and represent an inefficient use of land with respect to housing provision. HNZC has therefore identified existing landholdings nationwide that are suitable for redevelopment and can accommodate an increase to the existing housing yield to achieve their set targets and subsequently meet the Ministers directive.

This Assessment of Environmental Effects (AEE) supports an application for resource consent for land use and subdivision from HNZC to the Kāpiti Coast District Council to subdivide a 842m<sup>2</sup> section at 35 Kaitawa Crescent, Paraparaumu into two fee simple lots and construct one new accessible unit on proposed Lot 1 and one new accessible unit on proposed Lot 2.

It is therefore considered that this proposal among others will support HNZC in delivering additional social housing nationwide to meet current demand and requirements set by the Minister for Housing New Zealand and provide for social housing needs for communities nationwide.

## 1.1 Site location

The site is located at 35 Kaitawa Crescent, Paraparaumu. The location of the site is shown in Figure 1 on the following page.

Kaitawa Crescent joins Ruapehu Street, which is located to the east of Kaitawa Crescent. Kaitawa Reserve is approximately 200m west of the site.

The site is legally described as Lot 62 DP 23300 and held in Computer Freehold Register WNB1/1459 (Appendix A).

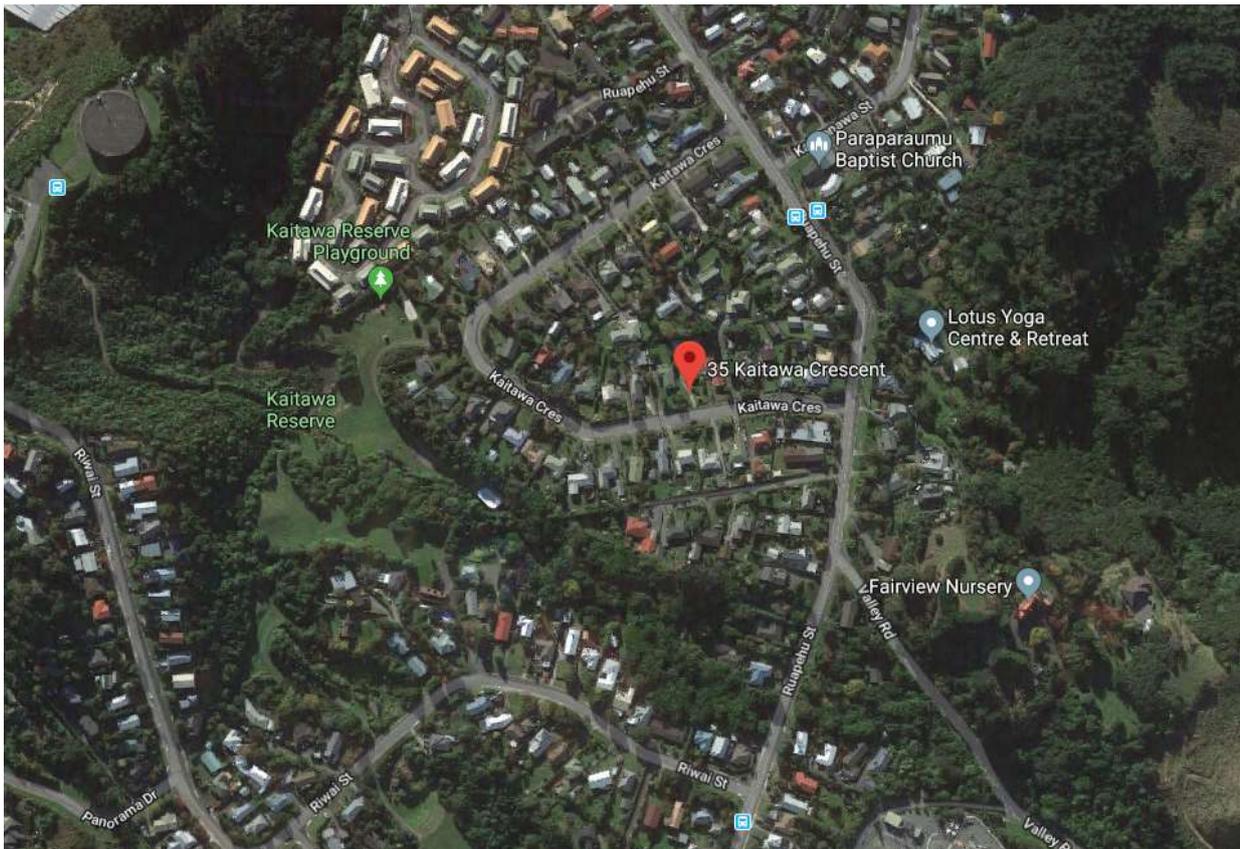


Figure 1: Aerial photo showing the location of 35 Kaitawa Crescent, Paraparaumu (Google maps).

## 1.2 Consents Required

KCDC are currently operating under both the Kapiti Coast Operative District Plan (KCODP) and the Kapiti Coast Proposed District Plan (KCPDP). The KCODP continues to be operative where any KCPDP provisions have been appealed. The KCPDP rules that are not subject to appeal are treated as having legal effect. Therefore, the application has been assessed under the KCPDP, with assessment of the proposal under the KCODP being restricted to an assessment of the objectives and policies

The following resource consents are required under the KCPDP:

- Subdivision: Non-Complying Activity under Rule 5A.5 (2);
- Land use: Restricted Discretionary Activity under Rule 5A.3 (1) in relation to building setbacks;
- Land use: Discretionary Activity under Rule 11P.4 (1) in relation to minimum parking space requirements; and
- Land use: Restricted Discretionary Activity under Rule 11B.3.1 of the KCPDP for water demand management.

The overall status of the activity is Non-Complying under the KCPDP. The rules of the KCPDP listed above are not under appeal and are therefore treated as having legal effect. .

## 2 Housing New Zealand Corporation

Housing New Zealand is a Crown agency that provides housing services for New Zealanders in need. It was awarded Crown entity status in 2004 under the Crown Entities Act, 2004. The provision of state housing within New Zealand dates back to the early 1900s when the Workers

Dwellings Act (WDA) was passed in 1905 and the first state houses were built for inner city workers to rent. Several hundred homes were built under the WDA but the rents were too high for many and the programme folded in 1919. Between 1905 and 2001 a number of reforms occurred in an effort to continue providing state housing for New Zealanders'.

In 2001, the Housing New Zealand Corporation (HNZC) was formed and charged with providing social housing services to New Zealanders' in need. Today HNZC own or manage approximately 63,000 properties nationwide, with more than 185,000 people living within HNZ's housing stock.

HNZC services cover the whole of New Zealand and the work HNZC undertakes supports individuals and families in housing need to improve their life outcomes. The core business of the HNZC Group is to give effect to the Crown's social objectives by providing housing, and housing-related services, in a business-like manner, to people in the greatest need for as long as that need exists. To this end the objective of HNZC is to be an organisation that:

- exhibits a sense of social responsibility by having regard to the interests of the community in which it operates;
- exhibits a sense of environmental responsibility by having regard to the environmental implications of its operations; and
- operates with good financial oversight and stewardship, and efficiently and effectively manages its assets and liabilities and the Crown's investment.

HNZC has two main delivery arms, being the People and Property Group, which brings together tenancy, maintenance and property ownership functions; and the Asset Development Group, which is responsible for redeveloping, purchasing, leasing and divesting HNZC property. The relevant arm in relation to this proposal is the Asset Development Group. The focus of the Asset Development Group is on delivering well-designed, good quality homes in areas where they are needed and ensuring that those houses will remain fit for purpose for our future tenants.

The Government has directed HNZC to increase their supply of social housing, and to consider ways in which HNZC can increase the supply of affordable and general housing through redevelopment projects. A clear expectation has been set by the Minister responsible for HNZC to deliver this increased supply of social housing over the next three years. Concurrently, HNZC are responding to significant asset renewal and realignment requirements for their existing portfolio.

## 3 Description of the Existing Environment

### 3.1 Overview

The site is located at 35 Kaitawa Crescent, Paraparaumu, as shown in Figure 2 below.



Figure 2: Aerial photo showing the 35 Kaitawa Crescent, Paraparaumu site (Google maps).

### 3.2 The Site

35 Kaitawa Crescent is a grassed plot with an area of 842m<sup>2</sup>. The site is fenced on all boundaries. The site contains a single storey dwelling and garage, with the northern boundary being fully vegetated. The site is on a gentle, downwards slope towards the north. The site is zoned Residential in the KCODP and the KCPDP. There are no natural hazards or other features identified on the site in the KCODP and the KCPDP.

There are no other features identified on the site in the KCODP and KCPDP. There is no protected vegetation on the site.

The site is subject to a building line restriction. This does not affect the proposal because the construction of the new unit at the front of the site is clear of the restriction. There are no other legal interests which will affect the proposal.

### 3.3 The Surrounding Environment

The surrounding area contains residential properties and is zoned Residential in the KCPDP.

Kaitawa Reserve is located approximately 125m south-west of the site. The central Paraparaumu area, including restaurants, a supermarket, the medical centre and the Paraparaumu Station are located approximately 600m north-west of the site.

There is also a Flood Hazard - Ponding Area that extends to 27 Kaitawa Crescent in the KCPDP and a Stream Corridor 140m south-west of the site.

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## 4 Description of Proposal

### 4.1 Proposed Lots

It is proposed to subdivide the site into two lots. Proposed Lot 1 is the front lot with proposed Lot 2 at the rear. The new driveway is located partly on both lots and will be subject to a right of way and easements for services. The proposed subdivision scheme plan and easements are shown in Appendix B.

Proposed Lot 1 will be rectangular in shape with an area of 442m<sup>2</sup> (net area of 336m<sup>2</sup>). It will contain a new, 2-bedroom unit, a new car-pad, a concrete outdoor living area and an outdoor living court at the north eastern corner of the site (plans in Appendix C). The proposed car-pad will be accessed via the new driveway. Two water storage tanks will be located on the eastern boundary of the site. There will also be a grassed outdoor area in the south eastern corner of the site.

Proposed Lot 2 will be rectangular in shape with an area of 400m<sup>2</sup> (net site area of 384m<sup>2</sup>). It is proposed to construct a new 3-bedroom unit, a new car-pad, a concrete living area and an outdoor living court to the north of the unit. The proposed car-pad will be accessed via the new driveway (plans in Appendix C). Two water storage tanks will be located in the north eastern corner of the site adjacent to the eastern boundary. There will be grassed lawn surrounding the new unit on the north, east and west sides.

The new driveway will be 4m wide and will run along the west side of the site, and has an area of 151m<sup>2</sup>. A 16m<sup>2</sup> section of the driveway on proposed Lot 2 will be used for reversing from the new car-pad on Proposed Lot 1. There will be a 1.2m high fence for 5m along the eastern and western boundaries of the site and along the southern (front) boundary at the start of the driveway and a 1.8m high fence at the end of the driveway to provide separation from the driveway and the living area behind it.

New water, sewer, power and telecommunications connections will be provided to the two units. The location of the water, wastewater and stormwater connections are shown on the site plan in Appendix C. The existing overhead cables will be disconnected and re-routed to suit the new units. The existing house and garage will be demolished prior to the issue of the new titles.

Most of the existing vegetation will be removed from the site and new trees will be planted, at the locations shown on the site drawing in Appendix C.

### 4.2 Infrastructure Services

#### 4.2.1 Water Supply and Wastewater

A new water supply and wastewater connection will be provided to each of the new units in proposed Lots 1 and 2. The new connections will be provided as per the site drawing (Appendix C).

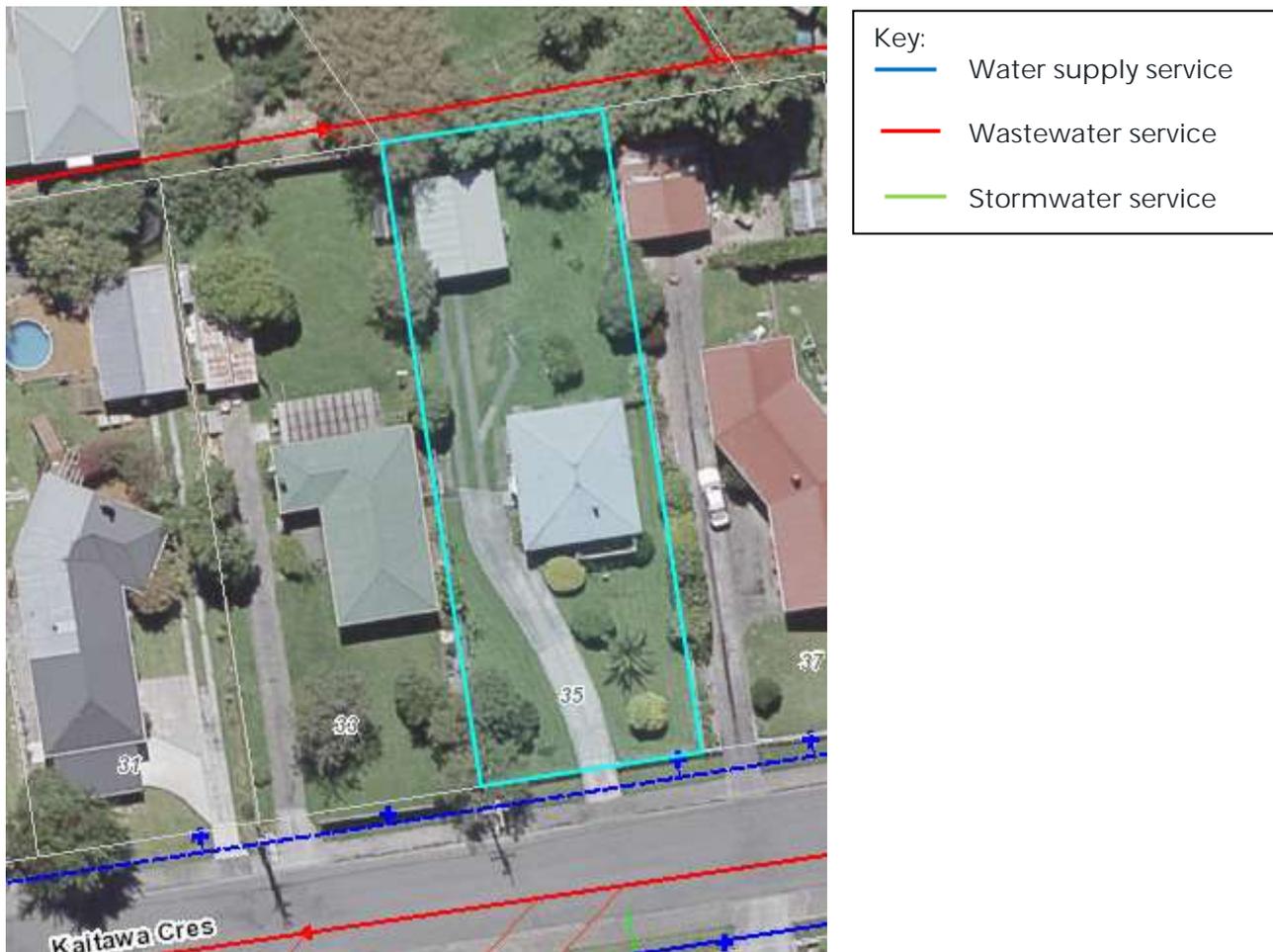


Figure 3: Existing water services (KCDC GIS maps).

#### 4.2.2 Water Storage

The water storage design for the site is shown in Appendix D. Two new, corrugated steel water storage tanks will be provided for each of the proposed new Lots. The tanks are designed to provide in excess of the 30% of the 2007 Household Average Water Use of 1560 L per day for a 3-person household, in accordance with KCDC requirements. As described in Appendix D, Section 2.2, the smaller tank sizes are appropriate for the size of the proposed units and the lower rain-water capture rates. For proposed Lot 1, the average capture is 6344L/month and for proposed Lot 2 the average capture is 6728L/month. The tank storage volumes for each of the proposed Lots are shown in Table 6, Appendix D. A pump will also be installed on each site for water re-use and attenuated discharge to the kerb.

The dimensions of the tanks are shown in drawing drawing 3 of Appendix D.

#### 4.2.3 Stormwater

The proposed stormwater system is also described in Appendix D. The proposed system will include rainwater storage to capture 90% of the average rainfall and pumping of the discharge to the kerb outlet at a low rate. Overflow will be to grassed areas within the site. The rainwater tank will also overflow to ground/grassed areas within the site. The proposed system utilises permeable paving to reduce the expected runoff and minimise the need for stormwater attenuation at the site. It is proposed to use a "grasscrete system" supplied by "flowpave" blocks, as described in Appendix D (Section 3). The permeable paving material will be on all hard surfaces of the

proposed lots, including the driveway, car parking and amenity areas (Appendix D, drawing 2). The attenuation rates that will be achieved are shown in Table 5 of Appendix D (Section 3). The proposed stormwater system will achieve hydraulic neutrality standards.

The easements that are required are detailed in Appendix B. Right of ways are required to drain water, convey water and to drain sewage.

#### 4.2.4 Earthworks

Earthworks will be required to construct the foundations for the new units. A geotechnical assessment was carried out by Ravi Sundar, WSP-Opus Geotechnical Engineer, to determine the earthworks for the building foundation (Appendix E).

The ground conditions of the site are topsoil underlain by a very stiff silt layer. "Good ground" on this site is encountered to a depth of 0.8m below ground level. The silt layer does not comply with NZS3604.2011 Standards for Timber-framed buildings definition of "good ground condition". The silt layer is underlain by dense to very dense gravels in a silt matrix. This material is considered suitable for building foundations. Therefore, earthworks will be carried out to a depth of approximately 0.8m. Concrete foundations will be used for the unit on proposed Lot 1 and timber pile foundations will be used for the unit on proposed Lot 2.

Earthworks will also be required to construct the new driveway and the parking spaces in proposed Lots 1 and 2. The earthworks will require shallow excavation using a digger. Filter fabric will be placed in the excavated area and the concrete footpaths and permeable paving will be installed. The final surface will be flush with the adjacent grassed area.

The earthworks area, depth and volume for the concrete footpath and driveway within. Proposed Lot 1 are the following:

Table 1: Proposed earthworks for proposed Lot 1

	Concrete Footpaths	Permeable Paving
Area (m <sup>2</sup> )	65	144
Depth (mm)	150	250
Volume (m <sup>3</sup> )	9.8	36

The total volume is 45.8m<sup>3</sup>.

The earthworks area, depth and volume for the concrete footpath and permeable paving for proposed Lot 2 are the following:

Table 2: Proposed earthworks for proposed Lot 2

	Concrete Footpaths	Permeable Paving
Area (m <sup>2</sup> )	20	100
Depth (mm)	150	250
Volume (m <sup>3</sup> )	3	25

The total volume is 28m<sup>3</sup>.

### 4.3 Contaminated Land

A contaminated land screening assessment was carried out by WSP-Opus geologist Torben Fischer, under the supervision of WSP-Opus senior environmental consultant Christopher Bergin (Appendix F). There are no HAIL activities recorded on the GWRC Selected Land Use Register (SLUR). However, the existing house was constructed in 1965 and it is considered likely to have been painted with lead-based paint. The building materials could contain asbestos.

A detailed site investigation (DSI) has been carried out by WSP-Opus by Senior Public Health Scientist Scott Rostron in February 2019 (see Appendix G). Two surface soil samples were collected for asbestos analysis and four near surface samples were collected for lead analysis, within 1m of the existing unit. The samples were assessed against the National Environmental Standard Soil Contaminant Standards for Health (SCS<sub>(Health)</sub>) based on the Ministry for the Environment's Contaminated Land Management Guidelines - Methodology for Deriving Standards for Contaminants to Protect Human Health for Residential 10% produce land use (Table 2, Appendix G).

A summary of the site information and findings is provided in Appendix G, Table 4. Asbestos was not detected in the surface samples. One sample on the western side of the existing house returned with Lead levels above the SCS<sub>(Health)</sub>. The contamination is most likely from migration of old lead-based paint from previous renovations or lead arsenate insecticide until the 1970's. This sample does not meet the MFE definition of clean fill and removal of material from site would need to be to an approved facility. An assessment against the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (NESCS) is provided in Section 8.2.

## 5 Activity Classification

### 5.1 Planning Assessment

The zoning of the site and the surrounding environment in the KCPDP is shown in Figure 4 below.

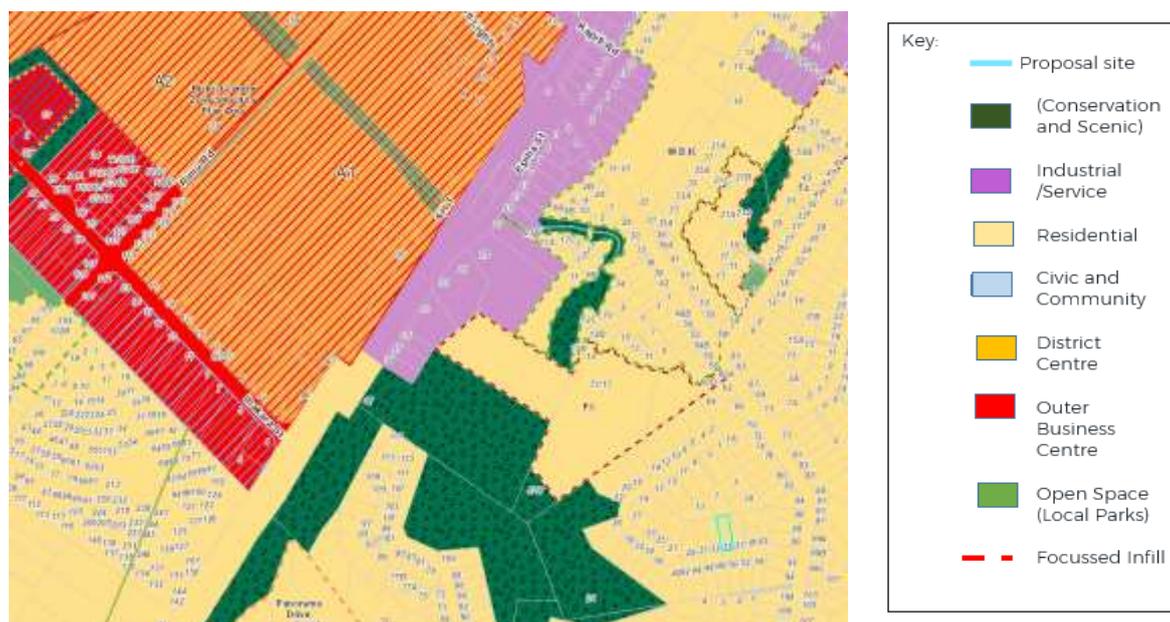


Figure 4: KCPDP map showing the zoning of the area surrounding 35 Kaitawa Crescent, Paraparaumu (KCPDP maps).

## 5.2 Kāpiti Coast Proposed District Plan

The KCPDP was notified in 2017 and parts of the plan are currently under appeal. The KCPDP rules that are not subject to appeal are treated as being in effect. An assessment of the activity against the relevant rules of the KCPDP is provided below. The relevant rules in this section are not under appeal.

### Subdivision

The proposed subdivision does not meet Controlled Activity Rule (5A.2.3) as the proposal will result in lots with an area of less than 450m<sup>2</sup>. The proposed subdivision also does not meet the Restricted Discretionary Activity Rule 5A.3.3 as the standards for minimum Lot area (450m<sup>2</sup>) and average lot size (600m<sup>2</sup>) cannot be met.

The proposed subdivision does not comply with Discretionary Activity Rule 5A.4.5 as the proposal cannot comply with the minimum lot size. Any subdivision of land which is not a Controlled, Restricted Discretionary, or Discretionary Activity is a Non-Complying Activity pursuant to Rule 5A.5.2.

Controlled Activity standard 2 for the minimum lot size. Any subdivision of land which does not meet the Discretionary standards under Rule 5A.4.5 is a Non-Complying Activity under Rule 5A.5.2. Therefore, resource consent is required for a **Non-Complying Activity**.

### Land Use

As shown in Table 6 below, the proposed activity does not meet the Permitted Activity standards for building bulk and location in the Residential Zone. Therefore, resource consent is required for a **Restricted Discretionary Activity** under Rule 5A.3 (1). It also does not comply with Rule 11P.1 (2) relating to minimum number of parking spaces per unit. Therefore, resource consent is required for a **Discretionary Activity** under Rule 11P.4 (1).

An assessment of the activity against the Permitted Activity standards relevant to the KCPDP Residential Zone under 5A.1 and the relevant rules for earthworks, parking, access and water demand management is provided in Table 3 below:

Table 3: Assessment of construction activity against the KCPDP Permitted Activity Standards for the Residential Zone in 5A.1, Chapter 3 (earthworks), Chapter 11E.1 (access), 11P.1 (parking), and water and stormwater (Chapter 12A.1).

Standard	Requirement	Proposed Lot 1	Proposed Lot 2
1. Permitted Activities: Permeable Surface	Each lot must have a permeable surface area that is not covered by buildings, paving or other impermeable objects of not less than 30% of the total lot	The permeable surface is greater than 30%. The grasscrete system will be used to achieve this, as shown in Appendix D.  The activity complies.	The permeable surface is greater than 30%. The grasscrete system will be used to achieve this, as shown in Appendix D.  The activity complies.

<p>3. Fences and Walls</p>	<p>1. Maximum height on a boundary of 2m  a. Except front yards: 1.8m</p>	<p>The new fence on the front boundary will be 1.2m high. The new fence on the side boundaries will be 1.8m high.</p> <p>The activity complies.</p>	<p>The new fence on the side and rear boundaries will be 1.8m high.</p> <p>The proposed Lot does not have a boundary on the road frontage.</p> <p>The activity complies.</p>
<p>6. New Buildings: Maximum Number of Household Units</p>	<p>2. Lots in the Residential Zone: No more than one, with exceptions for up to 4 households.</p>	<p>The proposed Lot is located in the Residential Zone. There will be 1 household unit, being the existing house.</p> <p>The activity complies.</p>	<p>The proposed Lot is located in the Residential Zone. There will be 1 household unit, being the existing house.</p> <p>The activity complies.</p>
<p>6. New Buildings: Coverage</p>	<p>Maximum of 40%.</p>	<p>The site net area is 336m<sup>2</sup></p> <p>The area of the new unit is 72m<sup>2</sup>, the area of the new shed is 1.2m<sup>2</sup> and the new water tank is 4.3m<sup>2</sup>.</p> <p>The site coverage is 23%.</p> <p>The activity complies.</p>	<p>The site net area is 384m<sup>2</sup></p> <p>The area of the new unit is 72m<sup>2</sup>, the area of the new shed is 2.8m<sup>2</sup> and the new water tank is 3.5m<sup>2</sup>.</p> <p>The site coverage is 20.4%.</p> <p>The activity complies.</p>
<p>6. New Buildings: Coverage</p>	<p>The combined maximum area of all accessory buildings on any lot shall be 60m<sup>2</sup>.</p>	<p>The new shed is 1.2m<sup>2</sup>.</p> <p>The activity complies.</p>	<p>The new shed is 2.8m<sup>2</sup>.</p> <p>The activity complies.</p>
<p>6. New Buildings: Height</p>	<p>Maximum of 8m</p> <p>Each recession plane commences at a point 2.1 metres above the property boundary and inclines inwards at an angle of 45 degrees.</p>	<p>The height of the proposed new unit is 2.45m.</p> <p>The elevations show that the building recession planes will comply.</p> <p>The activity complies.</p>	<p>The height of the proposed new unit is 6.7m.</p> <p>The elevations show that the building recession planes will comply.</p> <p>The activity complies.</p>

<p>6. New Buildings: Outdoor Living Areas</p>	<p>The primary residential building must have an outdoor living court. Outdoor living courts must:</p> <ul style="list-style-type: none"> <li>a. have a minimum area of 40m<sup>2</sup> except in any focused infill precinct where the minimum area shall be 30m<sup>2</sup>;</li> <li>b. contain no dimension less than 4 metres, except in any focused infill precinct where: <ul style="list-style-type: none"> <li>i. the minimum dimension shall be 2.5 metres; and</li> <li>ii. the court shall be capable of accommodating a circle of not less than 4 metres in diameter;</li> </ul> </li> <li>c. be located to the north, west or east of any primary residential building;</li> <li>d. be screened by a fence or vegetation to provide privacy from the ground floor windows and the outdoor living courts of other primary residential buildings; and</li> <li>e. have direct access to an internal habitable room in the primary residential building</li> </ul>	<p>The outdoor living court in proposed Lot 1 is orientated to the north east of the proposed unit (Appendix C). The area will be screened by a fence of 1.8m high. It will not be used as a parking area and there is direct access from the living area.</p> <p>The activity complies.</p>	<p>The outdoor living court in proposed Lot 2 is orientated to the north of the proposed unit (Appendix C). The area will be screened by a fence of 1.8m high. It will not be used as a parking area and there is direct access from the living area.</p> <p>The activity complies.</p>
<p>6. New Buildings: Yards and Building Location</p>	<p>Minimum yard requirements:</p> <p>a. Front yards</p> <p>i. Any building or above ground water tank must be set back at least 4.5 metres from any legal road boundary</p> <p>Any primary residential building may be located within a distance no closer than 3 metres from any road boundary provided that any part of the primary residential building located within 4.5</p>	<p>The new unit is set back 6m from the front boundary, 6m from the rear yard, 3m from the east side yard.</p> <p>The west boundary is an access leg and the new unit is separated by 1m.</p> <p>The proposed water tank is setback more than 4.5m from the road</p>	<p>The front yard requirements do not apply.</p> <p>The new unit is setback 3.5m from the rear boundary, 3.3m from the east boundary and 3m from the west boundary.</p> <p>The new unit is separated by 1m from the proposed new driveway.</p>

	<p>metres of the road boundary is not used as a garage, carport or other covered vehicle storage area</p> <p>ii. Any eave which intrudes into the front yard by no greater than 0.6 metres shall be excluded, except where the eave would overhang any easement</p> <p>c. Side and rear yards</p> <p>Any residential building and any habitable room within any accessory building, must be setback from side or rear boundaries such that the following minimum dimensions are achieved:</p> <p>i.a. Front site</p> <ul style="list-style-type: none"> <li>o 3m rear yard</li> <li>o 3m one side yard (for vehicle access)</li> <li>o 1.5m all other side yards</li> </ul> <p>i.b. Rear site</p> <ul style="list-style-type: none"> <li>o 3m all yards</li> </ul> <p>ii. any accessory building, excluding habitable rooms within the accessory building, must be setback from side or rear boundaries such that rear and side yards have a minimum width of 1 metre;</p> <p>e. i. Separation of buildings from access legs/rights of way: Any building must be set back a minimum of 1 metre from any boundary adjoining an access leg or right of way.</p>	<p>boundary. However, it is setback less than 1.5m from the east boundary.</p> <p>The new shed will be on the rear boundary.</p> <p><b>The activity does not comply with the water tank and accessory building setback standard.</b></p>	<p>The new shed will be on the front boundary and more than 1m from the east side boundary. It is also more than 3m from the proposed unit on proposed Lot 1.</p> <p>The proposed new water tank is setback less than 3m from the east side boundary.</p> <p><b>The activity does not comply with the water tank setback standard.</b></p>
<p>Chapter 3: Earthworks</p> <p>3A.1 (6) (2)</p>	<p>In all other areas except as provided for in Standard 3, earthworks must not:</p> <ul style="list-style-type: none"> <li>a) disturb more than 50m<sup>3</sup> (volume) of land per site in living zones, working zones and open space zones within a 5 year period;</li> <li>b) Alter the original ground level by more</li> </ul>	<p>The total volume of earthworks is 45.8m<sup>3</sup>. The depth for the footpath is 15cm and the depth for the paving is 25cm.</p> <p>The activity complies</p>	<p>The total volume of earthworks is 28.0m<sup>3</sup>. The depth for the footpath is 15cm and the depth for the paving is 25cm.</p> <p>The activity complies</p>

	than 1 metre, measured vertically.		
Chapter 3: Earthworks  3A.1 (8) (f): Permitted Activity	Approved building developments, subject to a building consent, where the earthworks do not extend more than 2 metres beyond the foundation line of the building.	The proposed earthworks are for a building development and do not extend more than 2m beyond the foundation line of the proposed building.  The activity complies.	The proposed earthworks are for a building development and do not extend more than 2m beyond the foundation line of the proposed building.  The activity complies.
11E.1: Property Access and Loading Vehicles			
3.1 Access	Every property must provide vehicular access over land or by mutual right of way or service lane for parking and/or loading and shall be in accordance with Diagram A2 (Schedule 11.1)	The site will be accessed via the proposed shared driveway.  The activity complies.	The site will be accessed via the proposed shared driveway.  The activity complies.
3.2 Access	All vehicle accesses must be designed, constructed and maintained to ensure that: a) they are able to be used in all weather conditions; b) they have no adverse impact on the roadside drainage system; and c) surface water and detritus (including gravel and silt) does not migrate onto the highway pavement.	The vehicle access will be suitable for all weather conditions, will not impact the road drainage system and is not located nearby to the highway pavement.  The activity complies.	The vehicle access will be suitable for all weather conditions, will not impact the road drainage system and is not located nearby to the highway pavement.  The activity complies.
3.3 Access	All access must be a minimum of 3.5 metres wide and a maximum of 9m wide.	The access is 4m wide.  The activity complies.	The access is 4m wide.  The activity complies.
3.12. Manoeuvring	Unless the driveway accesses directly from a local road, sufficient manoeuvring space must be provided on-site to ensure no reversing onto the road is necessary.	The proposed driveway has sufficient turning area to enable forward exit from the site.  The activity complies.	The proposed driveway has sufficient turning area to enable forward exit from the site.  The activity complies.
Chapter 11P.1: Parking	A minimum of 2 carparks (including garages or carports) per household unit.	One car park will be provided.	One car park will be provided.

		The activity does not comply.	The activity does not comply.
2 Vehicle Movements	No more than 100 vpd.	The addition of the new unit is anticipated to increase vehicle movements by approximately 10 trips per day.  The activity complies.	The addition of the new unit is anticipated to increase vehicle movements by approximately 10 trips per day.  The activity complies.
11B.1.2: Water Storage	1. All new or relocated residential buildings where potable public water supply is available to a residential building must be fitted with one of the following: a) rainwater storage tanks with a minimum capacity of 10,000 litres for the supply of non-potable water for outdoor uses and indoor toilets; or b) rainwater storage tanks with a minimum capacity of 4,000 litres for the supply of non-potable water for outdoor areas and indoor toilets, and a greywater re-use system for outdoor irrigation. The greywater reuse system shall re-use all water from bathrooms (excluding toilets) and laundry washing machines.	The proposed new water storage tank is below the minimum permitted capacity.  <b>The activity does not comply.</b>	The proposed new water storage tank is below the minimum permitted capacity.  <b>The activity does not comply.</b>

## Water Demand Management

The proposed activity also does not meet the Permitted Activity standards for water demand management under Rule 11B.1.2 (1). An activity which does not comply with these standards is a **Restricted Discretionary Activity** under Rule 11B.3 (1) provided that it meets the standards of the rule. The activity is assessed against these standards in Table 4 below

Standard	Requirement	Proposed Lot 1	Proposed Lot 2
1	An assessment that demonstrates the system proposed will permanently reduce water demand associated with the household unit(s) by at least 30% from Household 2007 summer average water use.	The assessment is provided in Appendix D.  The activity complies.	The assessment is provided in Appendix D.  The activity complies.

2	The provision of a non-potable supply for all outdoor uses associated with the household unit, including garden irrigation.	The proposed water tank will provide non-potable water to the units for all outdoor uses.  The activity complies.	The proposed water tank will provide non-potable water to the units for all outdoor uses.  The activity complies.
3	Provision must be made to ensure that no outdoor taps can be connected to the potable public water supply system.	No outdoor taps can be connected to the potable public water supply.  The activity complies.	No outdoor taps can be connected to the potable public water supply.  The activity complies.

Compliance with standard 1 is demonstrated in Appendix D. The design of the water storage is also compliant with standard 2 and 3.

## Summary

In summary, the following resource consents are required under the KCPDP:

- Subdivision: Non-Complying Activity under Rule 5A.5 (2);
- Land Use: Restricted Discretionary Activity under Rule 5A.3 (1) in relation to building setbacks;
- Land use: Discretionary Activity under Rule 11P.4 (1) in relation to minimum parking space requirements; and
- Land use: Restricted Discretionary Activity under Rule 11B.3.1 for water demand management.

The overall status of the activity is Non-Complying under the KCPDP.

## 5.3 Summary of Consents Required

A summary of the consents required is provided in Table 4.

Table 4: Summary of consents required

Activity	KCPDP
Subdivision which does not meet Discretionary Activity standards in the Residential Zone.	Rule: 5A.5.(2) Non-Complying Activity
Land Use: Development on a site that does not meet Permitted Activity standards in the Residential Zone.	Rule 5A.3 (1) Restricted Discretionary Activity
Water demand management which does not comply with the Permitted Activity standard.	Rule: 11B.3.1 Restricted Discretionary Activity

Parking which does not comply with the Permitted Activity standards for minimum parking spaces.	Rule: 11P.4 (1) Discretionary Activity
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Overall, a subdivision and land use resource consent are required under the KCPDP as a Non-Complying Activity.

## 6 Consultation

Schedule 4 of the RMA requires that persons affected by the proposed activity are identified in the AEE, that information is provided on any consultation undertaken, and that any response to the views of any person consulted is included.

There are no identified affected parties. Therefore, consultation has not been undertaken.

## 7 Assessment of Effects on the Environment

### 7.1 Overview

Section 88 of the RMA requires that an applicant make an assessment of any actual or potential effects that the proposed activity may have on the environment, and the ways in which any adverse effects may be avoided, remedied or mitigated.

The actual and potential effects on the environment from the proposal as described in this application are:

- Positive effects;
- Visual effects;
- Character and amenity effects;
- Servicing;
- Transportation effects; and
- Contaminated land effects.

### 7.2 Positive Effects

The proposed subdivision and development of the social housing units will have positive social effects as it will provide two additional affordable housing units. The development is part of a package of proposed social housing units in the Kāpiti District to support individuals and families in housing need, to improve their quality of life.

### 7.3 Visual Effects

The character of the area is dominated by residential use and is predominantly made up of single and some double story units set back in a relatively uniform manner from the street.

The designs will not introduce any elements that are not typical of a residential development in Kāpiti. The proposed units are compliant with height recession plane requirements and the density of built form is in accordance with the KCPDP requirements in terms of site coverage (Table 3).

At present, the site contains an existing single-story unit. The single-story unit that is proposed to be constructed on proposed Lot 1 will be a similar form to the existing unit and will therefore be in character with the existing site. The proposal will introduce an additional two-story unit. The two-story unit will not be in character with the typical residential units in the area which are mostly

single story. However, the visual effects will be minimised because the new unit will be at the rear of the site, which means it will only be partially visible from the road. The new unit will be constructed of materials that are commonly used in residential construction. The location of the sheds and the water tanks will not comply with the yard setbacks, however the location of these will not result in an inappropriate level of development and will not impact on the residential amenity of adjoining sites as the majority of each structure will be screened from adjoining sites by 1.8m high fencing.

There will be grassed lawn and trees will be planted on the site to blend with the existing character of the outdoor areas of surrounding properties. The appearance of the outdoor area will be consistent with the existing site.

For these reasons, the visual effects of the development are considered to be less than minor.

## 7.4 Character and Amenity

As discussed in Section 7.3 above, the scale of the development is in character with the surrounding residential environment due to the nature and scale of the proposed development. The single-story unit is in character in terms of the size of the new unit and the two-story unit is in character in terms of its location on the rear site. The units will be constructed of materials that are commonly used in the construction of units. The location of the sheds and the water tanks will not comply with the yard setbacks. However, the majority of each structure will be screened from adjoining sites by 1.8m high fencing.

The development is in character with the surrounding residential use and is considered appropriate in terms of building density on the site, based on the assessment of the activity against the site coverage standards of the KCPDP (Table 3). The additional units will generate additional traffic movements, however, the level of development and the use of the site for residential purposes will not result in a traffic effect that is out of character with that anticipated in a residential area.

Onsite amenity for residents will be provided through outdoor living areas for each unit which meet the District plan requirements.

For these reasons, the character and amenity effects are considered to be less than minor.

## 7.5 Servicing

### 7.5.1 Water and Sewer

As discussed in Section 4.2, there are existing water and wastewater services connected to the site for the existing unit. A new water and wastewater connection will be provided to the site to service the proposed new units. The average water consumption for a unit in the Kāpiti District is 30,420 L/month (Appendix D). The monthly water use for Lot 1 is 13356 L/month and for Lot 2 is 12419 L/month with the 30% savings from the proposed water storage system (Appendix D). Therefore, the introduction of the water storage system will increase the water use efficiency and the effects associated with servicing are less than minor.

### 7.5.2 Water Storage and Stormwater

Discretion is restricted to the supply, storage and use of non-potable water to the units and effects on public health, ecology and hydrological systems in the KCPDP. The water tanks will provide non-potable water to the units, for use as shower and toilet water. The water storage system ensures that there will be an appropriate level of water supplied to the site by providing above

30% of the 2007 Household Average Water Use levels, as required for an alternative water demand system other than those permitted. The stormwater system is designed to ensure that excess flows are pumped to the kerb. The design will ensure that 90% of the average rainfall is captured. Therefore, the hydrological effects of the proposal will be minimal. There will be no effects on public health because the water will only be used for the purposes listed above, which are suitable for the quality of water stored. There are no anticipated ecological effects because the tanks will be located on a grassed area and no indigenous vegetation will be effected.

## 7.6 Transportation Effects

A new shared driveway will be constructed for access to the one new car park on proposed Lot 1 and proposed Lot 2. Kaitawa Crescent is a local road with a moderate level of vehicle movements. The width of the driveway is compliant with the Permitted Activity Standards for access to 2-3 sites in the KCPDP (table 3). The new residential units will each generate approximately 10 vehicle movements per day. This does not exceed the Permitted Activity Standards for traffic generation and vehicle movements in the KCPDP (table 3).

The provision of one carpark for each of the new units is non-compliant with the KCPDP. However, the provision of one carpark per unit is considered to be appropriate given the small size of the units and the availability of on-street carparking. The driveway is designed so that reversing onto Kaitawa Crescent is not necessary. For these reasons, the transportation effects are considered to be less than minor.

## 7.7 Contaminated Land Effects

The outcome of the Detailed Site Investigation was that one sample on the western side of the existing unit contains Lead levels above the  $SCS_{(Health)}$  (Appendix G). All potentially contaminated soil will be removed from the site prior to the earthworks and disposed of at an appropriate location off-site. Therefore, there will be no contaminated land effects.

## 7.8 Summary

The relevant effects include visual, character and amenity, servicing, transportation and contaminated land. Overall, the effects of the proposal are assessed as less than minor.

## 8 Statutory Assessment

### 8.1 Section 104 of the RMA

Section 104 of the RMA applies to the consideration of resource consent applications. Section 104 states:

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part II, have regard to- [...]
  - (a) Any actual and potential effects on the environment of allowing the activity; and
  - (b) Any relevant provisions of-
    - (i) A national environmental standard;
    - (ii) Other regulations;
    - (iii) A national policy statement;
    - (iv) A New Zealand coastal policy statement;
    - (v) A regional policy statement or proposed regional policy statement;
    - (vi) A plan or proposed plan; and
  - (c) Any other matter the consent authority considers relevant and reasonably necessary to determine the application
- (2) When forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. [...]

All the matters listed in Section 104 are subject to Part 2 of the RMA.

An assessment of the actual or potential effects on the environment referred to in 104(1)(a) has been undertaken in Section 7.

In relation to the statutory provisions referred to in 104(1)(b), the following are considered to contain provisions (objectives and policies) relevant to this application for resource consents (in order of precedence):

- Kāpiti Coast Proposed District Plan
- Kāpiti Coast Operative District Plan

The extent to which this proposal is able to satisfy Section 104(1)(b) and Part 2 of the RMA, as well as the other RMA consideration to determine the application, including Section 104C, 105 and 107 is considered in the respective sub headings below.

### 8.2 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) applies to certain activities on land affected or potentially affected by soil contaminants. Subdivision and earthworks are both proposed and are two of the five land use activities regulated under the NESCS.

Land is considered to be contaminated if an activity on the Hazardous Activities or Industries List (HAIL) has been, or is more likely than not to have been, undertaken on that land under s7(c) of the NESCS. The results of the DSI show that there is one sample with Lead concentrations that are above the  $SCS_{(Health)}$  (Appendix G). Therefore, the site is covered under the HAIL Code of I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment. The activity is assessed against the NESCS below:

Under Section 8(4) of the NESCS, subdividing or changing land use is a Permitted Activity where the following requirements are met:

- (a) a preliminary site investigation of the land or piece of land must exist:
- (b) the report on the preliminary site investigation must state that it is highly unlikely that there will be a risk to human health if the activity is done to the piece of land:
- (c) the report must be accompanied by a relevant site plan to which the report is referenced:
- (d) the consent authority must have the report and the plan.

The results of the contaminated land screening report are summarised in Section 4.7 of the report and presented in Appendix F. The report does not conclude that it is highly unlikely that there will be a risk to human health because there is the potential for contamination from lead-based paint and asbestos associated with the existing unit. Therefore, the activity does not meet the Section 8(4)(b) requirement.

Under Section 9(3) of the NESCS, subdividing or changing land use is a Controlled Activity where the following requirements are met:

- (a) a detailed site investigation of the piece of land must exist:
- (b) the report on the detailed site investigation must state that the soil contamination does not exceed the applicable standard in regulation 7:
- (c) the consent authority must have the report:
- (d) conditions arising from the application of subclause (4), if there are any, must be complied with.

The results of the detailed site investigation are summarised in Section 4.7 of this report and presented in Appendix G. The report states that the soil contamination does exceed the applicable regulation 7 standard for Lead, being the 7(4)(b) guideline value for the protection of human health in accordance with the Contaminated Land Management Guidelines for Residential 10% land use for one sample. Therefore, the activity does not meet the Section 9(3) requirements.

Under Section 10(1) of the NESCS, an activity that is not a Permitted or Controlled Activity under the NESCS is a Restricted-Discretionary Activity provided the Section 10(2) requirements are met, as follows:

- (a) a detailed site investigation of the piece of land must exist:
- (b) the report on the detailed site investigation must state that the soil contamination exceeds the applicable standard in regulation 7 \\opus\s\Proj\NZ\NH\N-HOOO.OO Housing New Zealand\Home\N-HOO6O.OO Kapiti Coast\Resource Consents\D 104 Lienster Street
- (c) the consent authority must have the report:
- (d) conditions arising from the application of subclause (3), if there are any, must be complied with.

The results of the detailed site investigation are summarised in Section 4.7 of this report and presented in Appendix G. The report states that the soil contamination does exceed the applicable regulation 7 standard for Lead, being the 7(4)(b) guideline value for the protection of human health in accordance with the Contaminated Land Management Guidelines for Residential 10% land use for one sample. Therefore, the activity requires consent as a Restricted-Discretionary Activity under Clause 10 (1) of the NESCS.

National Environmental Standards pertaining to telecommunication facilities, electricity transmission and water quality for human consumption are considered not applicable to this proposal.

### 8.3 Kāpiti Coast Proposed District Plan

Section 104(1)(b)(vi) of the Act requires the Council to have regard to any relevant provisions of the KCPDP.

The following objectives and policies of the KCPDP were considered to be relevant to this application:

- Objective 2.8: Strong Communities: To support a cohesive and inclusive community where people:
  - a) have easy access and connectivity to quality and attractive public places and local social and community services and facilities;
  - b) have increased access to locally produced food, energy and other products and resources;
  - c) have improved health outcomes through opportunities for active living or access to health services; and
  - d) have a strong sense of safety and security in public and private spaces.

Assessment: As described in Section 3.3, the site is located nearby to the Waikanae shopping area. The Waikanae Station is also in the central area and provides connectivity to Wellington city and there are bus services in the area. There is also a reserve area nearby to the new development which can be used for recreation activities including walking. The location of the development is consistent with Objective 2.8 of the KCPDP.

- Objective 2.11: Character and Amenity Values: To maintain and enhance the unique character and amenity values of the District's distinct communities so that residents and visitors enjoy:
  - a) relaxed, unique and distinct village identities and predominantly low-density residential areas characterised by the presence of mature vegetation, a variety of built forms, the retention of landforms and unique community identities;
  - c) neighbourhood centres, village communities and employment areas characterised by high levels of amenity, accessibility and convenience;
- Policy DW4 - Managing Intensification: Residential intensification will be managed to ensure that adverse effects on local amenity and character are avoided, remedied or mitigated, including through achievement of the following principles:
  - a) development will complement the existing environment in terms of retaining landforms, yard setbacks and relationship to the street and open spaces; and
  - b) building bulk and scale will be managed.

Assessment: The density of the development is higher than typical in the surrounding residential environment because there will be 2 units on the site. However, the effects on the amenity values will be minimal because there is an existing unit on the site which will be replaced, and the proposed two-story unit will be located behind the new single story unit to minimise the visibility of the unit. The development is located on a site that is connected to the central Waikanae area. There is a small amount of vegetation that will be removed from the site and it will be replaced to maintain the amenity values. The vegetation is not protected. The yard setbacks of the proposed new units are compliant with the Permitted Activity requirements in the KCPDP (Table 3). The water tanks and sheds do not meet the Permitted Activity standards for setbacks in the KCPDP (Table 3). However, they are small in size and will be screened by a 1.8m high fence. The construction of water tanks and sheds is also anticipated in the KCPDP. For these reasons, the activity is consistent with the above objective and policy.

- Objective 2.12: Housing Choice and Affordability: To meet diverse community needs by increasing the amount of housing that:
  - a) is of densities, locations, types, attributes, size and tenure that meets the social and economic wellbeing needs of households in suitable urban and rural locations;
  - b) is affordable and adequate for lower income households; and
  - c) can respond to the changing needs of residents, regardless of age, mobility, health or lifestyle preference;

while enhancing the amenity of living environments and contributing to the sustainability of communities and compatibility with the goals of environmental sustainability, in particular resource, water and energy efficiency.

- Policy DW3 - Housing Choice: An increased mix of housing forms and types will be encouraged within parts of the District where increased variety and densities of housing are able to cater for changing demographics, while maintaining high amenity values. This will include provision for: a) smaller household sizes, including 1 and 2 bedroom household units; b) housing for older persons; c) supported living accommodation; d) papakāinga; e) shared and group accommodation; f) minor flats; and g) a range of lot sizes and land tenure arrangements to facilitate these typologies.

Assessment: The proposed development contributes to the objective to meet the diverse community needs because the proposed units are accessible social housing units. They are being constructed as part of a wider project to increase the supply of social housing provided by HNZA and to give effect to the Crown's social objectives. The two-bedroom housing type is listed under Policy DW3 as a preferred type to increase housing choice. The units are designed to cater for the changing needs of residents. Therefore, the proposed activity is consistent with the housing choice and affordability objective and policy.

Overall, the proposal is considered to be consistent with the objectives and policies of the KCPDP.

## 8.4 Kāpiti Coast Operative District Plan

Section 104(1)(b)(vi) of the Act requires the Council to have regard to any relevant provisions of the KCODP.

The following Residential Zone and Subdivision and Development objectives and policies of the KCODP Plan were considered to be relevant to this application:

- C.1.1 Objective 1.0: General: Ensure that the low density, quiet character of the District's residential environments is maintained and that adverse effects on the amenity values

that constitute this character and make the residential environments safe, pleasant and healthy places for residents are avoided, remedied or mitigated.

- Policy 1 - Amenity Values: Activities locating and/or operating in the district's residential environments shall display a residential appearance and be at a density which enables the existing character to be maintained and, in particular, which does not cause a decline in the amenity values of these environments through the activities listed in Policy 1
- Policy 2 - Natural Environment: Ensure the adverse effects of residential use and development on the natural environment are avoided, remedied or mitigated.
- Policy 3 - Height of Buildings: Avoid the adverse effects of high buildings on the amenity and character of residential environments

Assessment: The appearance of the buildings is typical of the existing residential environment, being constructed of timber weatherboards and a gable roof. The outside area will be grassed and planted with trees to minimise effects on the natural environment. The heights of the two-bedroom single story unit and the three-bedroom double-storey unit are both within the permitted activity levels for building height and height recession plane of the KCODP (table 3). The increase in vehicle movements is within the Permitted Activity level. For these reasons, the activity is consistent with the above objective and policies.

- C.7.1 Objective 1.O: Density: Ensure that except for higher density development at appropriate locations, subdivision and development maintains and enhances the low density environmental character and associated amenity values of residential areas and avoids or minimises adverse impacts on the natural and physical environment.
  - Policy 1: Low Density Character: Maintain and enhance the low density of dwellings and associated amenity values of the residential environment (except where high density development is appropriate).

Assessment: The density of development is not compliant with minimum lot area requirements (Section 5.1 of this report). However, the building density on proposed Lot 1 and 2 in terms of site coverage and dwellings per lot meets Permitted Activity requirements (table 3 of this report). There will be one dwelling in each proposed Lot and the site coverage is 23% (proposed Lot 1) and 20.4% (proposed Lot 2). The amenity values of the residential environment are maintained because the proposed Lots will have outdoor grassed areas and outdoor living courts for residents. Therefore, the low density character of the environment is maintained.

- C.7.1 Objective 2.O: Ecosystems: The pattern of subdivision provides for the healthy functioning of ecosystems throughout the District and protects the remaining flora and fauna
  - Policy 1: Natural Environment: Ensure that subdivision avoids adverse effects on the natural features (including landscapes and ecosystems) which contribute to the Kapiti Coast's natural environment.

Assessment: The site does not contain any protected vegetation. As described in Section 4.1, most of the existing vegetation will be removed from the site. For proposed Lot 1, one existing tree on the front lawn will remain and 3 new trees will be planted. For proposed Lot 2, the Rhododendron bush will remain and 2 new trees will be planted. Both lots will have grassed lawns and outdoor living areas. This will minimise effects on the natural environment and the activity will be consistent with the above objective and policy for these reasons.

## 8.5 Part 2 Matters

The overriding purpose of the RMA is “to promote the sustainable management of natural and physical resources” (Section 5). The broader principles (Sections 6 to 8) are to inform the achieving of that purpose.

When considering an application for a resource consent and any submissions received, the consent authority, must subject to Part 2, have regard to those matters listed under Section 104 of the RMA.

With regards to the application of the ‘subject to Part 2’ under Section 104, case law findings have directed that decision makers / Commissioners may now only have recourse to Part 2 of the RMA if it is determined that one of three exceptions apply:

1. If any part or the whole of the relevant plan(s) are invalid;
2. If the relevant plan(s) did not provide complete coverage of the Part 2 matters;
3. If there is uncertainty of the meaning of provisions as they affect Part 2

In essence what this means is that decisions makers only need to ‘go back to’ Part 2 of the Act if the relevant planning documents have not fully addressed the Part 2 matters. If a Regional or District Plan has not fully addressed the Part 2 matters, then decision makers can ‘go up the tree’ to the RPS and then any relevant NPS in relation to any Part 2 matters.

Plans, which have to “give effect” to the higher order statutory planning documents (RPS and NPSs), should have appropriately addressed Part 2 of the RMA.

It is considered that none of the three exceptions listed above apply and that the Part 2 matters have adequately been addressed through the KCODP and KCPDP and higher order planning documents. Based on the assessment of the proposal being consistent with the KCODP and KCPDP as per Section 8.3 and 8.4 above, the proposal is considered to be consistent with Part 2 of the RMA.

## 8.6 Determination of Application

### 8.6.1 Section 104D

Section 104D of the RMA imposes particular restrictions for Non-Complying activities. The overall status of the activity is Non-Complying.

Under s104D of the Act, the council may grant a resource consent for a Non-Complying activity only if it is satisfied that either:

- (a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or
- (b) the application is for an activity that will not be contrary to the objectives and policies of:
  - i. the relevant plan, if there is a plan but no proposed plan in respect of the activity; or
  - ii. the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or
  - iii. both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

The activity meets the tests of s104D as the adverse effects of the activity have been assessed as less than minor and the proposal is considered to be consistent with the relevant KCPDP and KCODP objectives and policies.

### 8.6.2 Section 106 Restrictions on Subdivision

Section 106 enables a consent authority to refuse subdivision consent under certain circumstances. Section 106 states:

- (1) A consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that -
  - (a) There is a significant risk from natural hazards; or
  - (b) [Repealed]
  - (c) Sufficient provision has not been made for legal and physical access to each allotment to be created by the subdivision.

(1A) For the purposes of subsection (1)(a), an assessment of the risk from natural hazards requires a combined assessment of -

- (a) The likelihood of natural hazards occurring (whether individually or in combination); and
- (b) The material damage to land in respect of which the consent is sought, other land, or structures that would result from natural hazards; and
- (c) Any likely subsequent use of the land in respect of which the consent is sought that would accelerate, worsen, or result in material damage of the kind referred to in paragraph (b)

As discussed in Section 3.2, the development is not located in a flood hazard area and there are no other identified natural hazards. A geotechnical report has identified that the risk of liquefaction is low (Appendix E). Sufficient provision has been made for legal and physical access to each Lot. Therefore, it is considered that the application satisfies the requirements within Section 106 of the RMA.

## 8.7 Notification Determination

### 8.7.1 Overview

Sections 95A and 95B of the RMA set out a step by step process that must be followed to determine whether an application should be publicly notified or have limited notification.

Section 95A sets out a step by step assessment as to whether or not the application shall be publicly notified or not as set out in Table 8-1. Section 95B sets out a step by step assessment as to whether or not the application shall be limited notified or not as set out in

Table 8-2.

Table 8-1 Section 95A Assessment

Step 1: Mandatory notification - section 95A(3) RMA	
Does the applicant request that the application be publicly notified?	No
Is public notification required under s95C of the RMA?	No
Is the application made jointly with an application to exchange reserve land?	No

Step 2: If not mandatory, notification is precluded if any of these apply - section 95A(5) RMA	
Does a rule or NES preclude public notification for all aspects of the application?	No
Is the application a controlled activity?	No
Is the application a restricted discretionary or discretionary activity for a subdivision?	No
Is the application a restricted discretionary or discretionary activity for residential activity or subdivision?	No
Is the application a boundary activity (other than a controlled activity)?	Yes
Step 3: If not precluded by Step 2, is notification required in certain circumstances?	
Does a rule or NES require public notification?	No
Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?	No
Step 4: Public notification in special circumstances	
Are there any special circumstances that warrant the application being publicly notified?	No

Table 8-2 Section 95B Assessment

Certain affected groups/persons must be notified - sections 95B(2) and (3) RMA	
Are there any affected protected customary rights groups or customary marine title groups?	No
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement - is there an affected person in this regard?	No
Notification is precluded if any of the following apply - section 95B(6) RMA	
Does a rule or NES preclude limited notification for all aspects of the application?	No
Is this a land use consent application for a controlled activity? (other than a subdivision of land)	No
Notification of other persons if not otherwise precluded - sections 95B(7) and (8) RMA	
Are there any affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval?	No
Do special circumstances exist that warrant notification to any other persons not identified above?	No

Notification is not precluded under the provisions of Section 95A and 95B of the RMA. However, given the nature of the activity and the assessment of the adverse effects as less than minor (Section 7 of this report), it is considered that the application can be processed as non-notified.

---

## 9 Conclusion

Housing New Zealand has been given a clear directive from the Minister responsible for Housing New Zealand to deliver an increased supply of social housing over the next three years across New Zealand. Subsequently, HNZC has set a target to construct 7,000 new homes across the country, with 1,460 new properties to be delivered this year and 2,507 to be delivered in 2018/2019.

To achieve such targets, HNZC has identified existing landholdings nationwide that are suitable for redevelopment and subsequent increase to the existing housing yield. A large proportion of HNZC owned sites are low density and represent an inefficient use of land with respect to housing provision.

This report outlines a proposal for a subdivision proposal at 35 Kaitawa Crescent to divide it into two proposed lots as a Non-Complying Activity under Rule 5A.5(2) of the KCPDP. It also outlines a proposal for a land use consent for the construction of a two-bedroom social housing unit that will be located on proposed Lot 1 and a three-bedroom social housing unit that will be located on proposed Lot 2.

The environmental effects of the proposal relate to visual, character and amenity, servicing, transportation and natural hazards. The proposal has been assessed against the Resource Management Act 1991, NESCS, and the objectives and policies of the KODP and the KCPDP and is considered to be consistent with these. Based on the assessment of the proposal it is considered that any actual or potential adverse effects will be no more than minor.

## Appendix A: Computer Freehold Register



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



  
R. W. Muir  
Registrar-General  
of Land

**Identifier** **WNB1/1459**  
**Land Registration District** **Wellington**  
**Date Issued** 01 July 1963

**Prior References**

WNA1/53

---

**Estate** Fee Simple  
**Area** 842 square metres more or less  
**Legal Description** Lot 62 Deposited Plan 23300

**Registered Owners**

Housing New Zealand Limited

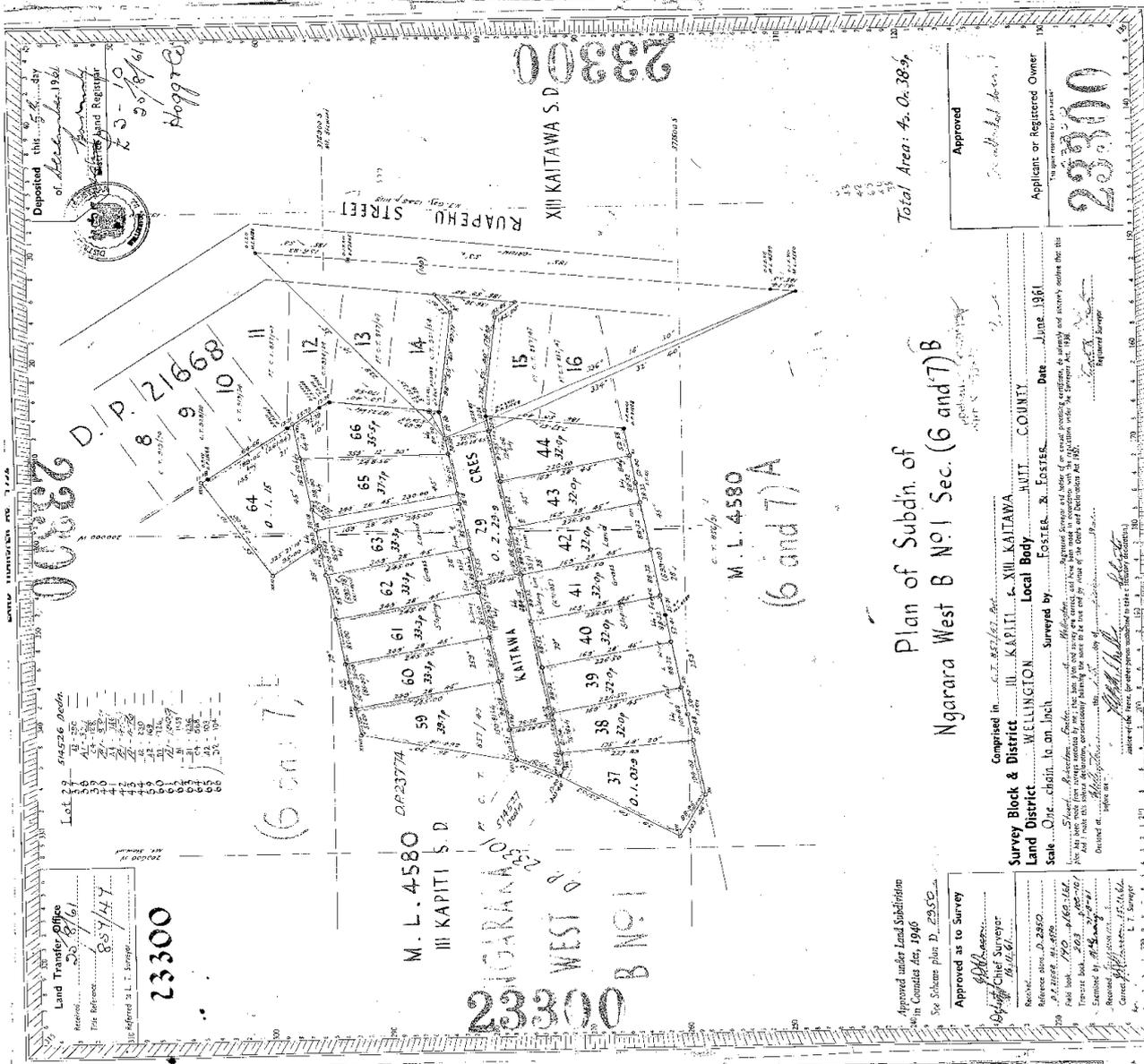
---

**Interests**

449765 Building Line Restriction  
Subject to the Housing Act 1955  
Subject to Part IV A Conservation Act 1987  
Subject to Section 11 Crown Minerals Act 1991

Identifier

WNB1/1459



Approved  
 Applicant or Registered Owner  
 23300

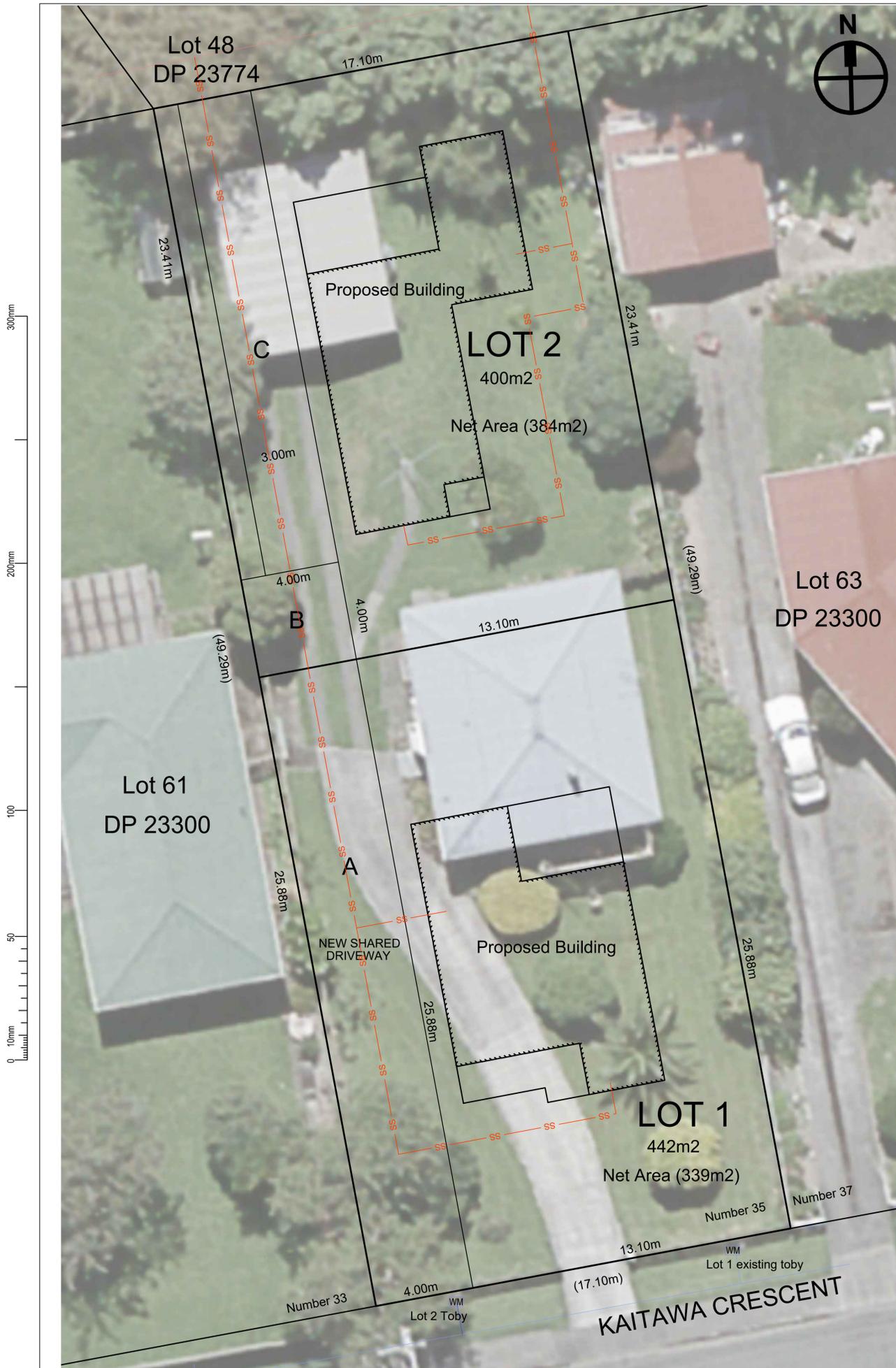
Plan of Subdiv. of  
 Ngarara West B No.1 Sec. (6 and 7) B

Comprised in...  
 Survey Block & District...  
 Land District...  
 Scale...  
 Date...  
 Surveyed by...  
 Registered Surveyor

Approved as to Survey  
 Chief Surveyor  
 19/10/67

Lot	Area
37	13.270
38	13.270
39	13.270
40	13.270
41	13.270
42	13.270
43	13.270
44	13.270
45	13.270
46	13.270
47	13.270
48	13.270
49	13.270
50	13.270
51	13.270
52	13.270
53	13.270
54	13.270
55	13.270
56	13.270
57	13.270
58	13.270
59	13.270
60	13.270
61	13.270
62	13.270
63	13.270
64	13.270
65	13.270
66	13.270

## Appendix B: Subdivision Scheme Plan



### Schedule of Proposed Easements

Purpose	Shown	Servient Tenement	Dominant Tenement
Right of way Right to drain water Right to convey water Right to convey telecommunications and computer media	A	Lot 1	Lot 2
Right of way Right to drain sewage	B	Lot 2	Lot 1
Right to drain sewage	C	Lot 2	Lot 1

NOTES:

REVISION	AMENDMENT	APP	DATE

DETAILED DESIGN



Wellington Office  
PO Box 12 003  
Wellington 6144  
New Zealand  
+64 4 471 7000

SCALE: As indicated @ A1 ORIGINAL SIZE: A1

DRAWN: Author DESIGNED: Designer APPROVED: Approver

DRAWING VERIFIED: Checker DESIGN VERIFIED: APPROVED DATE: 02/27/19

PROJECT: HOUSING NEW ZEALAND  
35 KAITAWA CRESCENT, PARAPARAUMU

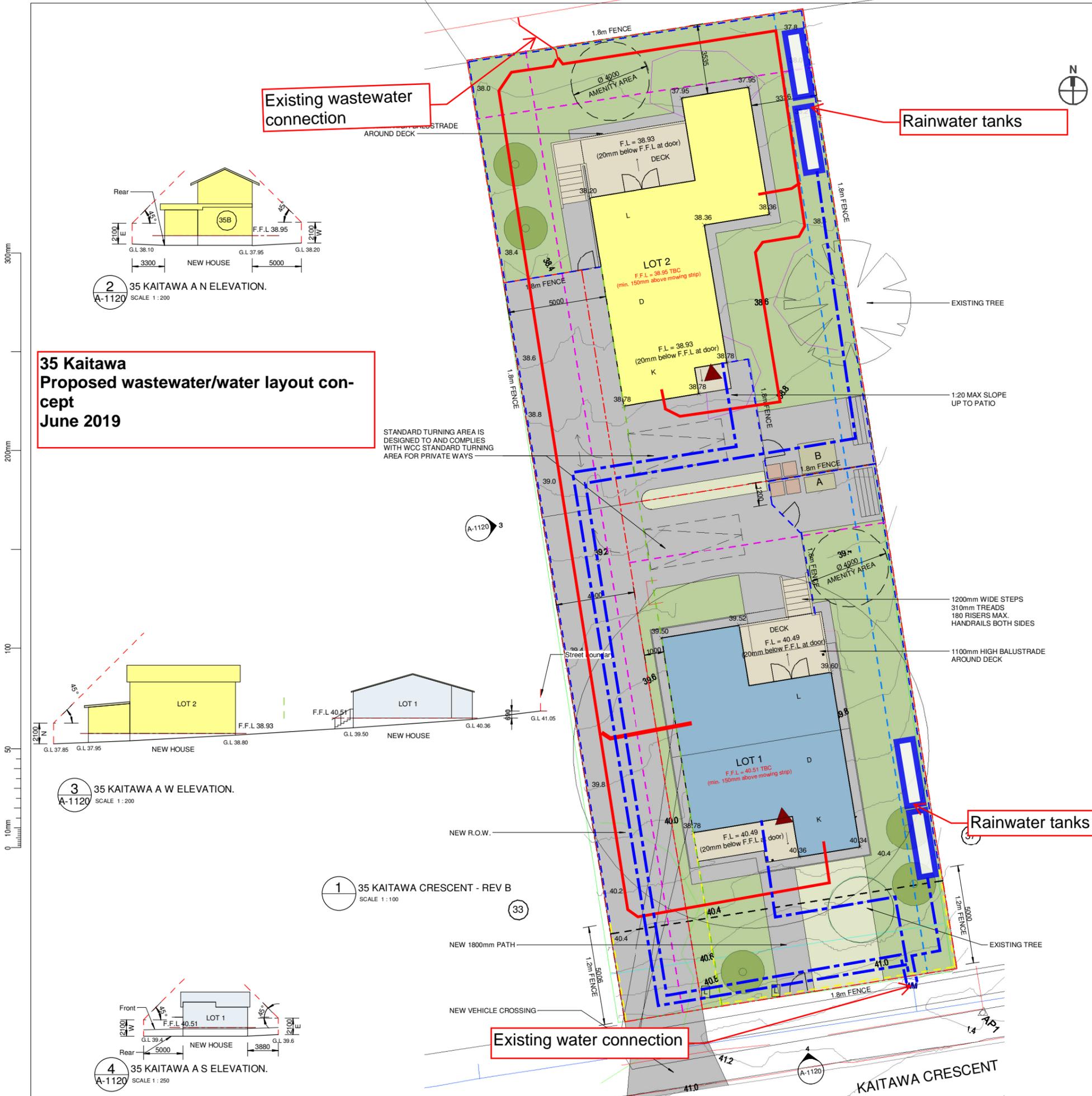
BUILDING CONSENT  
TITLE: PROPOSED SCHEME PLAN LAYOUT

OPUS PROJECT NO: N-H0060.03 SUITABILITY

PROJ-ORIG-VOL-LVL-TYPE: NH0060-OIC-03-XX-DR SHEET NO: A-1130 REVISION

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## Appendix C: Detailed Design



**35 Kaitawa  
Proposed wastewater/water layout concept  
June 2019**

**CONSTRUCTION MANAGEMENT ZONE**  
CONSTRUCTION MANAGEMENT ZONE IS INDICATED BY THE COLOURED AREA ON THE PLAN.

**HAZARD MANAGEMENT TEMPORARY FENCING**  
WHERE THE WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY IT IS REQUIRED FOR SPECIFIC HAZARDS TO BE FENCED WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY.  
WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY A BARRIER COMPLYING WITH TABLE 1, NZBC F5/AS1 IS AN ACCEPTABLE SOLUTION.

**GEOTECHNICAL NOTES**  
1. SOFT SPOTS - CONTRACTOR TO CONFIRM THE EXTENT OF ANY SOFT SPOTS WITH PROJECT MANAGER. WHERE REQUIRED THESE ARE TO BE REMOVED AND REPLACED WITH GEOTEXTILE AND COMPACTED GRANULAR FILL AS NOTED BELOW.  
2. HOUSE FOUNDING EXCAVATIONS - LOT 1 AND 2 ARE TO BE EXCAVATED DOWN TO 800mm  
THE UPPER 800mm OF SOIL FOR LOTS 1 & 2 SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL TO CREATE A STABLE BUILDING PLATFORM. THE GRANULAR FILL SHALL BE COMPACTED IN ACCORDANCE WITH NZS4431:1989 WITH APPROPRIATE ON-SITE QUALITY CONTROL. A LAYER OF GEOTEXTILE SHOULD BE PLACED BETWEEN SUBGRADE AND THE COMPACTED GRANULAR FILL.  
PLEASE NOTE THAT A GEOTECHNICAL ENGINEER IS TO INSPECT THE UNDERCUT AND THE FOUNDING MATERIAL AT A DEPTH OF 0.9m FOR LOTS 1 & 2. IT MAY BE NECESSARY TO CARRY OUT FUTURE INSTU TESTING AT THE TIME OF CONSTRUCTION TO DETERMINE THE EXTENT OF SOFT SPOTS AND CONFIRM FOUNDING MATERIAL.

**BUILDING TYPOLOGY SETS**  
FOR HOUSE DOCUMENTATION REFER TO CONTEXT ARCHITECTS DRAWINGS. TYPOLOGY SETS ARE LISTED BELOW:  
LOT 1: C1 HOUSE BUILDING SET  
LOT 2: TBC HOUSE BUILDING SET  
**GENERAL NOTES**  
1. BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION  
2. WHERE ITEMS ARE TO BE REMOVED AND/OR DEMOLISHED ALLOW TO MAKE GOOD OR ALLOW PREPARATION FOR NEW WORK  
3. CONTRACTOR TO CHECK CONDITION AND HEIGHTS OF EXISTING FENCING. CONFIRM WITH PROJECT MANAGER ON REUSE OF EXISTING FENCE, MAKING GOOD OR NEW FENCE.  
4. THIS DRAWING TO BE READ INCONJUNCTION WITH THE CIVIL DOCUMENTATION

- LEGEND**
- ① SITE NUMBER
  - - - SITE BOUNDARY
  - - - 1.2M TIMBER BATTEN FENCE
  - - - 1.8M TIMBER BATTEN FENCE
  - 2 BEDROOM ACCESSIBLE HOUSE
  - 3 BEDROOM + 1 ACCESSIBLE HOUSE
  - A NEW SHED 1530x785x1830
  - B NEW SHED 1830x1530x1980
  - VERANDAH / PATIO
  - FENCED OUTDOOR LIVING (LAWN)
  - UNFENCED OUTDOOR FRONTAGE / SIDE YARDS (MIX OF LAWN AND PLANTING)
  - 4.0M WIDE DRIVEWAY (PERMEABLE SURFACE)
  - NEW FRUIT TREE
  - ▲ FRONT DOOR
  - ⌋ BESPOKE FRENCH DOORS
  - GLAZED SLIDING DOOR
  - CARPARK
  - ▨ CLOTHES LINE
  - RUBBISH BINS
  - WT WATER TANK ON CONCRETE PAD (REFER CIVIL DRAWINGS)
  - L LETTERBOX
- PLANNING**
- - - 3.0m REAR/ 3.0m SIDE BOUNDARY OFFSET (DRIVEWAY)
  - - - 4.5m ROAD FRONTAGE BOUNDARY OFFSET
  - - - 1.5m SIDE BOUNDARY
  - - - 1.0m SIDE BOUNDARY OFF DRIVEWAY
  - - - HEIGHT IN RELATION TO BOUNDARY (HIRB)
  - 4.0 M DIAMETER OUTDOOR LIVING COURT

**NOTES:**

**SITE NOTES**  
ADDRESS: 35 KAITAWA CRESCENT, PARAPARAMU  
LEGAL DESCRIPTION: LOT: 62 DP: 23300 B1/1459 CT: KAPITI COAST DISTRICT COUNCIL RESIDENTIAL ZONE  
TERRITORIAL AUTHORITY: KAPITI COAST DISTRICT COUNCIL  
PLANNING ZONE: RESIDENTIAL ZONE

WIND ZONE: HIGH  
EARTHQUAKE ZONE: ZONE 3  
CORROSION ZONE: ZONE C (MEDIUM)  
SNOW LOADING: N1  
RAINFALL INTENSITY: 60-70  
TOTAL SITE AREA: 842m<sup>2</sup>  
LOT 1 SITE AREA: 442m<sup>2</sup>  
LOT 1 NET SITE AREA: 336m<sup>2</sup>  
LOT 1 FLOOR AREA: 72m<sup>2</sup>  
SITE COVERAGE: 21.5%  
LOT 2 SITE AREA: 400m<sup>2</sup>  
LOT 2 NET SITE AREA: 384m<sup>2</sup>  
LOT 2 FLOOR AREA: 72m<sup>2</sup>  
SITE COVERAGE: 18.0%

**BUILDING TYPOLOGY SETS**  
FOR HOUSE DOCUMENTATION REFER TO CONTEXT ARCHITECTS DRAWINGS. TYPOLOGY SETS ARE LISTED BELOW:  
LOT 1: C1 HOUSE BUILDING SET  
LOT 2: TBC HOUSE BUILDING SET  
**GENERAL NOTES**  
1. BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION  
2. WHERE ITEMS ARE TO BE REMOVED AND/OR DEMOLISHED ALLOW TO MAKE GOOD OR ALLOW PREPARATION FOR NEW WORK  
3. CONTRACTOR TO CHECK CONDITION AND HEIGHTS OF EXISTING FENCING. CONFIRM WITH PROJECT MANAGER ON REUSE OF EXISTING FENCE, MAKING GOOD OR NEW FENCE.  
4. THIS DRAWING TO BE READ INCONJUNCTION WITH THE CIVIL DOCUMENTATION

REVISION	AMENDMENT	APP	DATE

**DETAILED DESIGN**



Wellington Office  
PO Box 12 003  
Wellington 6144  
New Zealand  
+64 4 471 7000

SCALE	ORIGINAL SIZE	
As indicated @ A1	A1	
DRAWN	DESIGNED	APPROVED
CSC	CSC	SM
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
SM	HNZ	

PROJECT  
HOUSING NEW ZEALAND  
35 KAITAWA CRESCENT, PARAPARAMU

**BUILDING CONSENT**  
TITLE  
SITE PLAN - PROPOSED

OPUS PROJECT NO.	SUITABILITY	
N-H0060.03		
PROJ-ORIG-VOL-LVL-TYPE	SHEET NO.	REVISION
NH0060-OIC-03-XX-DR	A-1120	

**ARCHITECTURE**

---

## Appendix D: Water Storage and Stormwater

10 June 2019

Sean Mann  
Development Engineer  
Kapiti Coast District Council  
175 Rimu Road  
Private Bag 60601  
Paraparumu 5245

Ref: N-H0060.01

**WSP Opus**  
Wellington Office  
L9, Majestic Centre, 100 Willis St  
PO Box 12 003, Wellington 6144  
New Zealand

 +64 4 471 7000  
 [www.wsp-opus.co.nz](http://www.wsp-opus.co.nz)

## 35 Kaitawa Crescent: Water Storage and Hydraulic Neutrality

Dear Sean

Thank you for meeting with us on 5<sup>th</sup> December 2018 to discuss the proposed development of Housing New Zealand sites in the Kapiti area and the infrastructure requirements.

The purpose of this letter is to describe how we will comply with the KCDC requirements regarding water storage and hydraulic neutrality for the proposed development at 35 Kaitawa Crescent.

### 1 Proposed Development

The proposed development is for the construction of two compact dwellings on the site at 35 Kaitawa Crescent, with associated subdivision of the property. The sites will be serviced by a shared Right Of Way.

### 2 Water Storage Requirements

#### 2.1 Standard Requirements

KCDC requires that each dwelling is provided with a water storage tank of 10,000 litres. If the tank is smaller than 10,000 litres, then the applicant needs to demonstrate that the tank will provide 30% of the 2007 Household Average Water Use of 1560 litres per day for a 3-person household. Our understanding is that the 1560 litres per day is based on the volume of water supplied by KCDC as opposed to the actual average on-site consumption.

In order to assess the storage requirements for 35 Kaitawa Crescent, we first considered the standard tank size relative to the average roof size and expected water consumption for a typical property in Paraparumu aiming to achieve a 30% reduction in water use-age through the installation of a rainwater tank. Expected average capture rates are considered in Table 1 and average water consumption rates in Table 2.

Table 1. Average Capture Rates

	Figures for Rainwater Capture, typical properties
Average House Size	158 m <sup>2</sup>
Average Daily Rainfall	2.67 mm/day
Assumed Capture	80%
Average Capture	10,090 Litres/month

Table 2. Average Water Consumption Figures

	2007 Average Water Use (Litres/person/day)
Taps	7.5
Shower	54.3
Toilet	31.2
Washing	41
Outside Watering	204
Total Water Use	<b>338 Litres/person/day</b>
Household size	3 people
Total Water Use	<b>1014 Litres/day</b>
Monthly Water use	<b>30, 420 Litres/month</b>
30% Savings	<b>9,126 Litres/month</b>

The results presented in Table 1 and Table 2 suggest that the required 10,000 litre tank size is appropriate for an average sized house with average water consumption.

## 2.2 Specific Site Requirements

The proposed development at 35 Kaitawa Crescent has smaller house sizes than is typical for the Kapiti Coast. This will result in a lower capture of rain-water, meaning that a smaller tank size is appropriate (since a larger tank would not be filled under typical rainfall). Estimated capture rates are given in Table 3.

Table 3. Expected Rainwater Capture at 35 Kaitawa Crescent

	Rainwater Capture at 35 Kaitawa Crescent, Lot 1	Rainwater Capture at 35 Kaitawa Crescent, Lot 2
House Size	99 m <sup>2</sup>	105 m <sup>2</sup>
Average Daily Rainfall	2.67 mm/day	2.67 mm/day
Assumed Capture	80%	80%
Average Capture	6344 Litres/month	6728 Litres/month

In addition to the lower capture rate, the smaller lot size and other efficiency measures mean that the proposed houses are expected to have lower-than-average water consumption, as presented in Table 4.

Table 4. Expected Water Consumption Figures

	Estimated Water Use Lot 1 (Litres/person/day)	Estimated Water Use Lot 2 (Litres/person/day)
Taps	7.5	7.5
Low Flow Shower Head	38.0 (30% savings)	38.0 (30% savings)
Water Efficient Toilet	17.2 (45% savings)	17.2 (45% savings)
Washing	41	41
Outside Watering	108 (53% savings)	93 (46% savings)
Total Water use	212 Litres/person/day	197 Litres/person/day
Household size	3 people	3 people
Total Water Use	212 Litres/day	197Litres/day
Monthly Water use	19080 Litres/month	17741 Litres/month
30% Savings	5724Litres/month	5322 Litres/month

Additional information on the efficiency measures is given in Appendix A and Appendix B.

## 3 Proposed Stormwater System

### 3.1 Overview of System

The proposed stormwater system includes a number of features to ensure the hydraulic neutrality standard is exceeded:

- Rainwater storage.
- Capture of 90% of average rainfall, followed by pumped discharge to the kerb at a low rate.
- Attenuation up to the 1% AEP event before discharge to soakage areas within the site. Attenuation will be provided in excess of that required to achieve hydraulic neutrality.
- Soakage areas designed to capture the 10% AEP 60 minute event in accordance with NZBC Clause E1.
- Overflow to grassed areas within the site.
- Permeable paving is utilised to reduce the expected runoff and therefore minimise the need for stormwater attenuation on the site. The proposed paving system is the 'Flowpave' blocks supplied by Firth. While this system has a high infiltration rate, a conservative runoff coefficient of 0.5 has been assumed for calculation purposes.

### 3.2 Rainwater Capture, Pumping and Attenuation

Area calculations for pre and post development, along with the high-level stormwater layout is presented in Figures 1 to 3. Stormwater calculations were completed using the KCDC attenuation tank calculator, and a print-out of the completed sheets is included in Appendix C.

Results are summarised in Table 5.

Table 5. Summary of Attenuation Calculations

	Stormwater Results Lot 1	Stormwater Results Lot 2
Pumped Depth	0.35 m	0.35 m
Pumped Volume	2625 L	2625 L
Pumped Capture	27 mm of rainfall	25 mm of rainfall
Pumped Discharge	0.30 L/s	0.30 L/s

Attenuation Depth	0.43 m	0.45 m
Attenuation Volume	3230 Litres	3380 Litres
Orifice Size	20 mm	20 mm

Rainwater tanks were selected to obtain the optimal combination of storage, pumping and attenuation. Results are summarised in Table 6.

*Table 6. Summary of Tank Selections*

	Tank Selection Lot 1	Tank Selection Lot 2
Proposed Tank Volume	12000 Litres	12000 Litres
Tank Height	1.6 m	1.6 m
Attenuation Height	0.43 m	0.45 m
Pumped Height	0.35 m	0.35 m
Storage Height	0.76 m	0.71 m
Headspace	56mm	85 mm
Attenuation Volume	3230 Litres	3380 Litres
Pumped Volume	2625 Litres	2625 Litres
Storage Volume	5725litres	5358Litres
Approx. Base Level	40.1 m	38.1 m
Approx. Orifice Level	40.9 m	38.8 m
Minimum Attenuation Volume to achieve hydraulic neutrality (Note 1)	1210 Litres	1170 Litres
Note 1. The minimum attenuation volume is provided here to demonstrate that this design exceeds the hydraulic neutrality standard. Additional calculations to demonstrate the minimum requirement are included in Appendix D.		

To ensure there are no adverse effects, over double the minimum attenuation volume will be provided, and this will be in excess of the volume provided for pumping. As a result of this, the hydraulic neutrality standard will still be exceeded even in the event that the pumps are not operating.

Attenuated flows will be discharged to soakholes sized to NZBC Clause E1 for storms of 10% AEP. These soakholes will only be used in the event that the pumps are not operational. As the soils are not well suited to soakage, soakholes have been based on a soakage rate of 0mm/hr as presented in Table 7. On-site soakage rates were found to be a maximum of 120 mm/hr with no groundwater encountered down to 1.0m depth (WSP Opus Geotechnical Assessment 2019).

*Table 7. Soakage Sizing*

	Soakage Sizing Lot 1	Soakage Sizing Lot 2
Soakage Area	10 m <sup>2</sup>	10 m <sup>2</sup>
Soakage Rate	0 mm/hr	0 mm/hr
Storage Volume	4500 Litres	5600 Litres
Media	Rainsmart SWS	Rainsmart SWS

Overflows from the rainwater tanks will be directed onto grassed areas within the sites. Overflows are only predicted to occur for events greater than the 1% AEP event.

### 3.3 Pumped Discharge to Kerb

The pumped discharge provides a low-rate discharge to mitigate any adverse effects on the road stormwater system. The combined discharge from Lot 1 and Lot 2 will be a maximum of 0.6 L/s. The pumped system will include the following additional features:

- The pumps will be shared with the water re-use system. This will ensure that pump failure is immediately obvious as the toilet will then stop filling, therefore notifying the residence that maintenance is required.
- The pumped discharge will be controlled utilising a solenoid valve and tethered float system. The system will be made as simple as possible, with readily-available components.
- The pump will discharge to a standard kerb outlet chamber and discharge pipe. This will ensure the flows 'well up' for a gentle discharge to the kerb.

The natural overland flow path from 35 Kaitawa Crescent is downstream to 7 Kaitawa Crescent before discharge to Kaitawa Crescent. The proposed pumped system will not therefore put any additional load on the Kaitawa Crescent stormwater system. As the proposed system exceeds the hydraulic neutrality standard, overall the system will reduce the loading on the Kaitawa Crescent system.

While on site we also observed that properties from 3 to 19 Kaitawa Crescent all discharge to kerb outlets, indicating that this is normal practice for Kaitawa Crescent. This is likely reflective of onsite conditions leaving little other realistic options for stormwater disposal. Therefore the proposed system is consistent with the existing situation.

## 4 Conclusions

From the analysis that has been completed, the following conclusions can be made:

1. As the proposed house sizes are relatively small and overall water consumption is estimated to be close to 50% of the average 2007 water consumption, smaller rainwater tanks are appropriate for these sites. Based on the expected water consumption as documented in this letter, the proposed tanks will provide in excess of 30% of the expected peak water consumption under average rainfall conditions. The tanks are also well-matched to the expected rainfall capture under average conditions. Achieving the estimated water consumption rates will require the installation of a 3-star rating showerhead and a 4-star rating toilet cistern.
2. The proposed stormwater system has been designed to exceed the required hydraulic neutrality standards and therefore provide an effective mitigation to the increased runoff effects resulting from the development.

We trust that the information provided in this letter is sufficient to allow the resource consent to proceed. Please don't hesitate to contact us if anything further is required.

Regards



Tim Strang  
Principal Engineer Environmental

## 5 Appendix A. Additional information on Efficiency Measures

The 35 Kaitawa Crescent site is proposed to be constructed with the following water efficiency measures in all units:

- 1 3 Star Rating Low Flow Shower Head
- 2 4 Star Rating Water Efficient Toilet

### 5.1 Shower Head Savings

A 3 Star rating water efficient shower head provides a flow rate of 7.5 to 9 L/minute, as compared to an average flow rate of around 11.8 L/minute (Branz, 2007).

$$\text{Water Savings} = \frac{(11.8 - 8.25) \frac{\text{L}}{\text{minute}}}{11.8 \frac{\text{L}}{\text{minute}}} \times 100\% = 30\%$$

### 5.2 Toilet Water Savings

A 4-Star rating water efficient toilet has a 4.5/3 Litre flush volume, with the estimated average flush volume being 3.5 Litres/flush. This can be compared to an average flush volume of around 6.2 Litres/flush based on 2007 water use figures (Branz, 2007). With an average toilet usage of around 5 times/day, the water efficient toilet will provide the following estimated water savings:

$$(6.2\text{L} - 3.5\text{L/flush}) \times 5 \text{ flushes/person/day} = 13.5 \text{ L/person/day}$$

Overall water savings = 13.5L/person/day

$$\text{Water Savings} = \frac{13.5 \frac{\text{L}}{\text{person day}}}{30 \frac{\text{L}}{\text{person day}}} \times 100\% = 45\%$$

## 6 Appendix B. Additional information on External Water Consumption

The biggest summer water savings on the site will be achieved through the reduction of grassed and planted areas that require watering.

As an approximation, average outside water consumption of 612L/day (for a 3 person household) can be related to the average section size of around 700 to 900 m<sup>2</sup>/ property and the average house size of around 158 m<sup>2</sup>/property.

$$\text{External Water Consumption} = \frac{612 \frac{\text{L}}{\text{day}}}{(800-158) \frac{\text{m}^2}{\text{property}}} = 0.95 \text{ L/m}^2 \text{ of external area}$$

Estimated water consumption for Lot 1 = (441-99) m<sup>2</sup> x 0.95 L/m<sup>2</sup> = 325 L/day

(Based on a 3 person household this is equivalent to 108 L/person/day)

Estimated water consumption for Lot 2 = (400-105)m<sup>2</sup> x 0.95 L/m<sup>2</sup> = 280 L/day

(Based on a 3 person household this is equivalent to 93 L/person/day)

## 7 Appendix C. Attenuation Tank Calculations

**STORMWATER ON-SITE DETENTION TANK (OSD) DESIGN** 10-Jun-19  
**100 YEAR ARI STORM with 2 YEAR ARI STORM OUTLET**

442 m<sup>2</sup> Lot with                      99 m<sup>2</sup> house plus                      65                      m<sup>2</sup> impervious

NAME Housing NZ Calcs By Tim Strang  
 ADDRESS 35 Kaitawa Lot 1  
 PHONE 276088998 Date 10-Jun-19

**NOTE:**  
 Only fill in the blue (unprotected) cells

**DATA**

Depth of Tank 0.43 m  
 2 Year Isoheyt Value 80 mm  
 100 Year Isoheyt Value 172 mm  
 Time of Concentration 10 min. (10,15,20,30,60)

NOTE A "#DIV/0!" message appearing in a cell means that data has been entered incorrectly

	Area (m <sup>2</sup> )	`C`	CA (m <sup>2</sup> )
Site Area	442		
<b>1. EXISTING SITE COVERAGE</b>			
Existing Roof	60	0.9	54.0
Existing Paved	94	0.85	79.9
Existing Permeable Paving	0	0.5	0.0
Existing Garden	288	0.35	100.8
<b>TOTAL Existing Area</b>	<b>442</b>		<b>234.7</b>
<b>2. PROPOSED DEVELOPMENT</b>			
Additional/Reduced Roof	39	0.9	35.1
Additional/Reduced Paved	-29	0.85	-24.7
Additional Permeable Paving	144	0.5	72.0
Additional/Reduced Lawn/Garden	-154	0.35	-53.9
<b>TOTAL Addition Area</b> <small>(should be zero)</small>	<b>0</b>		<b>28.6</b>
<b>3. REMAINING UNDRAINED AREA</b> <small>(Not routed thru detention tank after development)</small>			
Undrained Roof Area <small>(Normally Zero)</small>	0	0.9	0.0
Undrained Paved Area <small>(Normally Zero)</small>	65	0.85	55.3
Permeable Paving Area	144	0.5	72.0
Undrained Lawn/Garden Area	134	0.35	46.9
<b>TOTAL Extg Not to Tank Area</b>	<b>343</b>		<b>174.2</b>

NOTE The sum of the existing areas must equal the `Site Area`

\* NOTE If pre-development lawn areas are reduced a negative number is required to be entered.

**CONTROL DATA**

Existing `C` 0.53 ( $\text{`CA'extg/Site Area}$ )  
 Developed `CA` to OSD tank 89 (m<sup>2</sup>) ( $\text{`CA'extg+`CA'adds-`CA'undr}$ )  
 Additional Area 0 (m<sup>2</sup>) ( $\text{`A'add}$ )

0.00                      0                      0

RUNOFF DATA				for 2 year		for 100 year		Rainfall Intensities (mm)							
				Normalised Rainfall				MIN		Depth (l/l <sub>24</sub> )		2 Yr(mm/hr)		100 Yr(mm/hr)	
Intensity I		52.80	mm/hr			113.5	mm/hr	10	0.11			52.8		113.5	
Allowable Qmax whole site		3.45				7.41		15	0.14			44.8		96.3	
Lost Flows		2.56				5.50		20	0.16			38.4		82.6	
Reduced Flow (sump capacity)		0.57						30	0.19			30.4		65.4	
Allowable Qmax from tanks =		0.3	l/s			1.91	l/s	60	0.26			20.8		44.7	
Allowable Qave from tanks =		0.2	l/s			1.2	l/s (Qmax * 0.65)	120	0.35			14.0		30.1	
Orifice Calculation - <b>PROTECTED DO NOT ENTER ANY FIGURES</b>								180	0.46			12.3		26.4	
d=		19.6	mm					240	0.51			10.2		21.9	
Q100 outflow=		0.5444026	for h=			0.43		300	0.56			9.0		19.3	
Q100ave		0.4						360	0.60			8.0		17.2	
Q=		0.318840139	for h in Q2			0.1474939		420	0.64			7.3		15.7	
Qave		0.2	Q2					480	0.68			6.8		14.6	
								540	0.71			6.3		13.6	
								600	0.75			6.0		12.9	
								660	0.78			5.7		12.2	
								720	0.81			5.4		11.6	
<b>STORAGE (2 year)</b>								<b>STORAGE (100 year)</b>							
time	depth	inflow	outflow	storage				time	depth	inflow	100 yr outflow	Storage (100 yr)			
(min)	(mm)	(l)	(l)	(l)				(min)	(mm)	(l)	(l)	(l)			
10	8.8	784	124.34765	660				10	18.9	1686	212.3170142	1473			
15	11.2	998	186.52148	811				15	24.1	2146	318	1827			
20	12.8	1140	249	892				20	27.5	2452	425	2027			
30	15.2	1354	373	981				30	32.7	2912	637	2275			
60	20.8	1853	746	1107				60	44.7	3985	1274	2711			
120	28.0	2495	1492	1003				120	60.2	5364	2548	2816			
180	36.8	3279	2238	1041				180	79.1	7050	3822	3228			
240	40.8	3635	2984	651				240	87.7	7816	5096	2720			
300	44.8	3992	3730	261				300	96.3	8582	6370	2213			
360	48.0	4277	4477	0				360	103.2	9195	7643	1552			
420	51.2	4562	5223	0				420	110.1	9808	8917	891			
480	54.4	4847	5969	0				480	117.0	10421	10191	230			
540	56.8	5061	6715	0				540	122.1	10881	11465	0			
600	60.0	5346	7461	0				600	129.0	11494	12739	0			
660	62.4	5560	8207	0				660	134.2	11954	14013	0			
720	64.8	5774	8951	0				720	139.3	12413	15287	0			
			Max=	1107							Max=	3228			
<b>SUMMARY</b>															
Tank Volume		<b>3230.0 litres</b>													
100 Year Max Discharge		<b>0.5 l/s</b>													
2 Year Max Discharge		<b>0.3 l/s</b>													
Orifice Diameter		<b>20 mm</b>													

**STORMWATER ON-SITE DETENTION TANK (OSD) DESIGN** 10-Jun-19  
**100 YEAR ARI STORM with 2 YEAR ARI STORM OUTLET**

400 m<sup>2</sup> Lot with                      105 m<sup>2</sup> house plus                      20                      m<sup>2</sup> impervious

NAME Housing NZ Calcs By Tim Strang  
 ADDRESS 35 Kaitawa Lot 2  
 PHONE 276088998 Date 10-Jun-19

**NOTE:**  
 Only fill in the blue (unprotected) cells

**DATA**

Depth of Tank 0.45 m  
 2 Year Isoheyt Value 80 mm  
 100 Year Isoheyt Value 172 mm  
 Time of Concentration 10 min. (10,15,20,30,60)

	Area (m <sup>2</sup> )	`C`	CA (m <sup>2</sup> )
<b>Site Area</b>	<b>400</b>		
<b>1. EXISTING SITE COVERAGE</b>			
Existing Roof	85	0.9	76.5
Existing Paved	20	0.85	17.0
Existing Permeable Paving	0	0.5	0.0
Existing Garden	295	0.35	103.3
<b>TOTAL Existing Area</b>	<b>400</b>		<b>196.8</b>
<b>2. PROPOSED DEVELOPMENT</b>			
Additional/Reduced Roof	20	0.9	18.0
Additional/Reduced Paved	0	0.85	0.0
Additional Permeable Paving	101	0.5	50.5
Additional/Reduced Lawn/Garden	-121	0.35	-42.4
<b>TOTAL Addition Area</b> <small>(should be zero)</small>	<b>0</b>		<b>26.2</b>
<b>3. REMAINING UNDRAINED AREA</b>			
			<small>(Not routed thru detention tank after development)</small>
Undrained Roof Area <small>(Normally Zero)</small>	0	0.9	0.0
Undrained Paved Area <small>(Normally Zero)</small>	20	0.85	17.0
Permeable Paving Area	101	0.5	50.5
Undrained Lawn/Garden Area	174	0.35	60.9
<b>TOTAL Extg Not to Tank Area</b>	<b>295</b>		<b>128.4</b>

**NOTE** A "#DIV/0!" message appearing in a cell means that data has been entered incorrectly

**NOTE** The sum of the existing areas must equal the 'Site Area'

\* **NOTE** If pre-development lawn areas are reduced a negative number is required to be entered.

**CONTROL DATA**

Existing `C`	0.49	<small>(`CA`extg/Site Area)</small>
Developed `CA` to OSD tank	95 (m <sup>2</sup> )	<small>(`CA`extg+`CA`adds-`CA`undr)</small>
Additional Area	0 (m <sup>2</sup> )	<small>(`A`add)</small>
	0.00	0                      0

RUNOFF DATA					Rainfall Intensities (mm)				
	for 2 year		for 100 year		Normalised Rainfall				
					MIN	Depth (l/l <sub>24</sub> )	2 Yr(mm/hr)	100 Yr(mm/hr)	
Intensity I	52.80	mm/hr	113.5	mm/hr	10	0.11	52.8	113.5	
Allowable Qmax whole site	2.89		6.21		15	0.14	44.8	96.3	
Lost Flows	1.88		4.05		20	0.16	38.4	82.6	
<b>Reduced Flow (poor soils)</b>	<b>0.66</b>				30	0.19	30.4	65.4	
Allowable Qmax from tanks =	0.3	l/s	2.16	l/s	60	0.26	20.8	44.7	
Allowable Qave from tanks =	0.2	l/s	1.4	l/s (Qmax * 0.65)	120	0.35	14.0	30.1	
					180	0.46	12.3	26.4	
					240	0.51	10.2	21.9	
					300	0.56	9.0	19.3	
					360	0.60	8.0	17.2	
					420	0.64	7.3	15.7	
					480	0.68	6.8	14.6	
					540	0.71	6.3	13.6	
					600	0.75	6.0	12.9	
					660	0.78	5.7	12.2	
					720	0.81	5.4	11.6	
<b>Orifice Calculation - PROTECTED DO NOT ENTER ANY FIGURES</b>									
d=	20.0 mm								
Q100 outflow=	0.584789938	for h=	0.45						
Q100ave	0.4								
Q=	0.343336501	for h in Q2	0.1551146						
Qave	0.2 Q2								
<b>STORAGE (2 year)</b>					<b>STORAGE (100 year)</b>				
time (min)	depth (mm)	inflow (l)	outflow (l)	storage (l)	time (min)	depth (mm)	inflow (l)	100 yr outflow (l)	Storage (100 yr) (l)
10	8.8	832	133.90124	698	10	18.9	1788	228.0680759	1560
15	11.2	1058	200.85185	858	15	24.1	2276	342	1933
20	12.8	1210	268	942	20	27.5	2601	456	2145
30	15.2	1436	402	1035	30	32.7	3088	684	2404
60	20.8	1966	803	1162	60	44.7	4226	1368	2858
120	28.0	2646	1607	1039	120	60.2	5689	2737	2952
180	36.8	3478	2410	1067	180	79.1	7477	4105	3372
240	40.8	3856	3214	642	240	87.7	8290	5474	2816
300	44.8	4234	4017	217	300	96.3	9102	6842	2260
360	48.0	4536	4820	0	360	103.2	9752	8210	1542
420	51.2	4838	5624	0	420	110.1	10403	9579	824
480	54.4	5141	6427	0	480	117.0	11053	10947	105
540	56.8	5368	7231	0	540	122.1	11540	12316	0
600	60.0	5670	8034	0	600	129.0	12191	13684	0
660	62.4	5897	8837	0	660	134.2	12678	15052	0
720	64.8	6124	9639	0	720	139.3	13166	16421	0
			Max=	1162				Max=	3372
<b>SUMMARY</b>									
Tank Volume	<b>3380.0 litres</b>								
100 Year Max Discharge	<b>0.6 l/s</b>								
2 Year Max Discharge	<b>0.3 l/s</b>								
Orifice Diameter	<b>20 mm</b>								

STORMWATER ON-SITE DETENTION TANK (OSD) DESIGN		10-Jun-19		Minimum Volume for Hydraulic Neutrality	
100 YEAR ARI STORM with 2 YEAR ARI STORM OUTLET					
442	m <sup>2</sup> Lot with	99	m <sup>2</sup> house plus	65	m <sup>2</sup> impervious
NAME	Housing NZ	Calcs By	Tim Strang		
ADDRESS	35 Kaitawa Lot 1	Date	10-Jun-19		
PHONE	276088998				
<b>NOTE:</b> Only fill in the blue (unprotected) cells					
<b>DATA</b>					
Depth of Tank	0.43	m			
2 Year Isoheyt Value	80	mm			
100 Year Isoheyt Value	172	mm			
Time of Concentration	10	min. (10,15,20,30,60)			
	Area (m <sup>2</sup> )	`C'	CA (m <sup>2</sup> )		
Site Area	442				
<b>1. EXISTING SITE COVERAGE</b>					
Existing Roof	60	0.9	54.0		
Existing Paved	94	0.85	79.9		
Existing Permeable Paving	0	0.5	0.0		
Existing Garden	288	0.35	100.8		
TOTAL Existing Area	442		234.7		
<b>2. PROPOSED DEVELOPMENT</b>					
Additional/Reduced Roof	39	0.9	35.1		
Additional/Reduced Paved	-29	0.85	-24.7		
Additional Permeable Paving	144	0.5	72.0		
Additional/Reduced Lawn/Garden	-154	0.35	-53.9		
TOTAL Addition Area (should be zero)	0		28.6		
<b>3. REMAINING UNDRAINED AREA</b> (Not routed thru detention tank after development)					
Undrained Roof Area (Normally Zero)	0	0.9	0.0		
Undrained Paved Area (Normally Zero)	65	0.85	55.3		
Permeable Paving Area	144	0.5	72.0		
Undrained Lawn/Garden Area	134	0.35	46.9		
TOTAL Extg Not to Tank Area	343		174.2		
<b>CONTROL DATA</b>					
Existing `C'	0.53	(`CA'extg/Site Area)			
Developed `CA' to OSD tank	89 (m <sup>2</sup> )	(`CA'extg+`CA'adds-`CA'undr)			
Additional Area	0 (m <sup>2</sup> )	(`A'add)			
	0.00	0	0		

**NOTE** A "#DIV/0!" message appearing in a cell means that data has been entered incorrectly

**NOTE** The sum of the existing areas must equal the `Site Area'

\* NOTE If pre-development lawn areas are reduced a negative number is required to be entered.

RUNOFF DATA					Rainfall Intensities (mm)						
		for 2 year		for 100 year		Normalised Rainfall					
						MIN	Depth (l/l <sub>24</sub> )	2 Yr(mm/hr)	100 Yr(mm/hr)		
Intensity I		52.80	mm/hr	113.5	mm/hr	10	0.11	52.8	113.5		
Allowable Qmax whole site		3.45		7.41		15	0.14	44.8	96.3		
Lost Flows		2.56		5.50		20	0.16	38.4	82.6		
Reduced Flow (sump capacity)		0.00			0.64	30	0.19	30.4	65.4		
Allowable Qmax from tanks =		0.9	l/s	1.91	l/s	60	0.26	20.8	44.7		
Allowable Qave from tanks =		0.6	l/s	1.2	l/s (Qmax * 0.65)	120	0.35	14.0	30.1		
Orifice Calculation - <b>PROTECTED DO NOT ENTER ANY FIGURES</b>						180	0.46	12.3	26.4		
d=		32.1 mm				240	0.51	10.2	21.9		
Q100 outflow=	1.46947767	for h=		0.43		300	0.56	9.0	19.3		
Q100ave	1.0					360	0.60	8.0	17.2		
Q=	0.88895282	for h in Q2		0.157362		420	0.64	7.3	15.7		
Qave	0.6 Q2					480	0.68	6.8	14.6		
						540	0.71	6.3	13.6		
						600	0.75	6.0	12.9		
						660	0.78	5.7	12.2		
						720	0.81	5.4	11.6		
<b>STORAGE (2 year)</b>						<b>STORAGE (100 year)</b>					
time (min)	depth (mm)	inflow (l)	outflow (l)	storage (l)		time (min)	depth (mm)	inflow (l)	100 yr outflow (l)	Storage (100 yr) (l)	
10	8.8	784	346.6916	437	inflow='CA'dev*depth	10	18.9	1686	573.0962915	1113	
15	11.2	998	520.0374	478	outflow=Qave*time	15	24.1	2146	860	1286	
20	12.8	1140	693	447	diff=inflow-outflow	20	27.5	2452	1146	1306	
30	15.2	1354	1040	314		30	32.7	2912	1719	1192	
60	20.8	1853	2080	0		60	44.7	3985	3439	546	
120	28.0	2495	4160	0		120	60.2	5364	6877	0	
180	36.8	3279	6240	0		180	79.1	7050	10316	0	
240	40.8	3635	8321	0		240	87.7	7816	13754	0	
300	44.8	3992	10401	0		300	96.3	8582	17193	0	
360	48.0	4277	12481	0		360	103.2	9195	20631	0	
420	51.2	4562	14561	0		420	110.1	9808	24070	0	
480	54.4	4847	16641	0		480	117.0	10421	27509	0	
540	56.8	5061	18721	0		540	122.1	10881	30947	0	
600	60.0	5346	20801	0		600	129.0	11494	34386	0	
660	62.4	5560	22882	0		660	134.2	11954	37824	0	
720	64.8	5774	24957	0		720	139.3	12413	41263	0	
				Max=	478					Max=	1306
<b>SUMMARY</b>											
Tank Volume	1310.0 litres										
100 Year Max Discharge	1.5 l/s					Minimum Volume for Hydraulic Neutrality					
2 Year Max Discharge	0.9 l/s										
Orifice Diameter	32 mm										

STORMWATER ON-SITE DETENTION TANK (OSD) DESIGN			10-Jun-19	Minimum Volume for Hydraulic Neutrality	
100 YEAR ARI STORM with 2 YEAR ARI STORM OUTLET					
400	m <sup>2</sup> Lot with	105 m <sup>2</sup> house plus	20	m <sup>2</sup> impervious	
NAME	Housing NZ	Calcs By	Tim Strang		
ADDRESS	35 Kaitawa Lot 2	Date	10-Jun-19		
PHONE	276088998				
<b>NOTE: Only fill in the blue (unprotected) cells</b>					
<b>DATA</b>					
Depth of Tank	0.45	m			
2 Year Isoheyt Value	80	mm			
100 Year Isoheyt Value	172	mm			
Time of Concentration	10	min. (10,15,20,30,60)			
Site Area	400	Area (m <sup>2</sup> )	`C'	CA (m <sup>2</sup> )	
<b>1. EXISTING SITE COVERAGE</b>					
Existing Roof	85	0.9	76.5		
Existing Paved	20	0.85	17.0		
Existing Permeable Paving	0	0.5	0.0		
Existing Garden	295	0.35	103.3		
TOTAL Existing Area	400	196.8			
<b>2. PROPOSED DEVELOPMENT</b>					
Additional/Reduced Roof	20	0.9	18.0		
Additional/Reduced Paved	0	0.85	0.0		
Additional Permeable Paving	101	0.5	50.5		
Additional/Reduced Lawn/Garden	-121	0.35	-42.4		
TOTAL Addition Area (should be zero)	0	26.2			
<b>3. REMAINING UNDRAINED AREA</b>					
(Not routed thru detention tank after development)					
Undrained Roof Area (Normally Zero)	0	0.9	0.0		
Undrained Paved Area (Normally Zero)	20	0.85	17.0		
Permeable Paving Area	101	0.5	50.5		
Undrained Lawn/Garden Area	174	0.35	60.9		
TOTAL Extg Not to Tank Area	295	128.4			
<b>CONTROL DATA</b>					
Existing `C'	0.49	(`CA'extg/Site Area)			
Developed `CA' to OSD tank	95 (m <sup>2</sup> )	(`CA'extg+`CA'adds-`CA'undr)			
Additional Area	0 (m <sup>2</sup> )	(`A'add)			
0.00      0      0					
<b>NOTE: A "#DIV/0!" message appearing in a cell means that data has been entered incorrectly</b>					
<b>NOTE: The sum of the existing areas must equal the `Site Area'</b>					
<b>* NOTE If pre-development lawn areas are reduced a negative number is required to be entered.</b>					

RUNOFF DATA				for 2 year		for 100 year		Rainfall Intensities (mm)							
				Normalised Rainfall				MIN		Depth (l/l <sub>24</sub> )		2 Yr(mm/hr)		100 Yr(mm/hr)	
Intensity I		52.80	mm/hr			113.5	mm/hr	10	0.11			52.8		113.5	
Allowable Qmax whole site		2.89				6.21		15	0.14			44.8		96.3	
Lost Flows		1.88				4.05		20	0.16			38.4		82.6	
Reduced Flow (poor soils)		0.00						30	0.19			30.4		65.4	
Allowable Qmax from tanks =		1.0	l/s			2.16	l/s	60	0.26			20.8		44.7	
Allowable Qave from tanks =		0.7	l/s			1.4	l/s (Qmax * 0.65)	120	0.35			14.0		30.1	
Orifice Calculation - <b>PROTECTED DO NOT ENTER ANY FIGURES</b>								180	0.46			12.3		26.4	
d=		33.8	mm					240	0.51			10.2		21.9	
Q100 outflow=	1.666797368			for h=	0.45			300	0.56			9.0		19.3	
Q100ave	1.1							360	0.60			8.0		17.2	
Q=	1.003466967			for h in Q2	0.1630997			420	0.64			7.3		15.7	
Qave	0.7	Q2						480	0.68			6.8		14.6	
								540	0.71			6.3		13.6	
								600	0.75			6.0		12.9	
								660	0.78			5.7		12.2	
								720	0.81			5.4		11.6	
STORAGE (2 year)								STORAGE (100 year)							
time (min)	depth (mm)	inflow (l)	outflow (l)	storage (l)		time (min)	depth (mm)	inflow (l)	100 yr outflow (l)	Storage (100 yr) (l)					
10	8.8	832	391.35212	440	inflow='CA'dev*depth	10	18.9	1788	650.0509736	1138					
15	11.2	1058	587.02818	471	outflow=Qave*time	15	24.1	2276	975	1300					
20	12.8	1210	783	427	diff=inflow-outflow	20	27.5	2601	1300	1301					
30	15.2	1436	1174	262		30	32.7	3088	1950	1138					
60	20.8	1966	2348	0		60	44.7	4226	3900	326					
120	28.0	2646	4696	0		120	60.2	5689	7801	0					
180	36.8	3478	7044	0		180	79.1	7477	11701	0					
240	40.8	3856	9392	0		240	87.7	8290	15601	0					
300	44.8	4234	11741	0		300	96.3	9102	19502	0					
360	48.0	4536	14089	0		360	103.2	9752	23402	0					
420	51.2	4838	16437	0		420	110.1	10403	27302	0					
480	54.4	5141	18785	0		480	117.0	11053	31202	0					
540	56.8	5368	21133	0		540	122.1	11540	35103	0					
600	60.0	5670	23481	0		600	129.0	12191	39003	0					
660	62.4	5897	25829	0		660	134.2	12678	42903	0					
720	64.8	6124	28172	0		720	139.3	13166	46804	0					
			Max=	471					Max=	1301					
<b>SUMMARY</b>															
Tank Volume		1310.0	litres												
100 Year Max Discharge		1.7	l/s					Minimum Volume for Hydraulic Neutrality							
2 Year Max Discharge		1.0	l/s												
Orifice Diameter		34	mm												

## CALCULATION SHEET

Project/Task/File No: N-H0060.03

Sheet No 1 of 1

Project Description: 35 Kaitawa Crescent

Office: Wellington

Soakage System Design for lot 1.  
and lot 2.

Computed: TS 6/06/2019

Check: / /

Lot 1.

60min rainfall depth = 45mm

Required storage volume

$$= 99\text{m}^2 \times 0.9 \times 0.045\text{m}$$

$$= 4.01\text{m}^3$$

Lot 2

60min rainfall depth = 45mm

Required storage volume

$$= 105\text{m}^2 \times 0.9 \times 0.045\text{m}$$

$$= 4.25\text{m}^3$$

# 8 Appendix D. Figures

**SW CONCEPT DESIGN -MAY 2019 FIGURE 1 OF 3 DEVELOPED AREAS**



**1** 35 KAITAWA CRESCENT - EXISTING  
SCALE 1:200

**Existing -35 Kaitawa Crescent**  
 Area Measurements for SW Design (from pdf)  
 (from pdf, scale 1mm = 0.4m)

Roof Area (Garage + House):49+96= 145 m<sup>2</sup>  
 Driveway: 94 m<sup>2</sup>  
 Other Paved Area: 20 m<sup>2</sup>  
 Garden/Grass Area: 583 m<sup>2</sup>  
 Total Site Area: 842 m<sup>2</sup>

**Divide Existing Areas as follows:**

Lot 2  
 Roof Area: 85 m<sup>2</sup>  
 Paved: 20 m<sup>2</sup>  
 Garden/Grass Area: 295 m<sup>2</sup>  
 Total: 400 m<sup>2</sup>

Lot 1  
 Roof Area: 60 m<sup>2</sup>  
 Paved: 94 m<sup>2</sup>  
 Garden/Grass Area: 288 m<sup>2</sup>  
 Total: 442 m<sup>2</sup>

**NOTES:**

**SITE NOTES**

ADDRESS: 35 KAITAWA CRESCENT, PARAPARAMU  
 LEGAL DESCRIPTION: LOT: 62  
 DP: 23300  
 CT: B1/1459  
 TERRITORIAL AUTHORITY: KAPITI COAST DISTRICT COUNCIL  
 PLANNING ZONE: RESIDENTIAL ZONE  
 WIND ZONE: HIGH  
 EARTHQUAKE ZONE: ZONE 3  
 CORROSION ZONE: ZONE C (MEDIUM)  
 SNOW LOADING: N1  
 RAINFALL INTENSITY: 60-70  
 TOTAL SITE AREA: 842m<sup>2</sup>

**GENERAL NOTES**

- BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION
- WHERE ITEMS ARE TO BE REMOVED AND/OR DEMOLISHED ALLOW TO MAKE GOOD OR ALLOW PREPARATION FOR NEW WORK
- CONTRACTOR TO CHECK CONDITION AND HEIGHTS OF EXISTING FENCING. CONFIRM WITH PROJECT MANAGER ON REUSE OF EXISTING FENCE, MAKING GOOD OR NEW FENCE.

REVISION	AMENDMENT	APP	DATE

DETAILED DESIGN



Wellington Office  
 PO Box 12 003  
 Wellington 6144  
 New Zealand  
 +64 4 471 7000

SCALE 1:200 @ A1 ORIGINAL SIZE A1

DRAWN CSC DESIGNED CSC APPROVED Approver

DRAWING VERIFIED CHECKER DESIGN VERIFIED APPROVED DATE

PROJECT HOUSING NEW ZEALAND  
 35 KAITAWA CRESCENT, PARAPARAMU

BUILDING CONSENT  
 TITLE SITE PLAN - EXISTING & DEMOLITION

OPUS PROJECT NO. N-H0060.03 SUITABILITY S0

PROJ-ORIG-VOL-LVL-TYPE SHEET NO. REVISION  
 123456-WSP- A-0011

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SW CONCEPT DESIGN -MAY 2019 FIGURE 2 OF 3  
DEVELOPED AREAS

Proposed -35 Kaitawa Crescent Area Measurements for SW Design  
(from pdf, scale 1mm = 0.2m)

**Lot 2**  
2nd Storey Roof Area: 75 m2  
1st Storey Roof Area: 30m2  
Impervious Paved or Deck: 20 m2  
Permeable Paving: 101 m2  
Garden/Grass Area: 174m2  
Total Lot Area: 400 m2

**Lot 1**  
Roof Area: 99m2  
Impervious Paved or Deck: 31m2  
Porous Paving: 155 m2  
Garden/Grass Area: 157 m2  
Total Lot Area: 442 m2

Total Site Area: 842 m2

Permeable Paving Areas  
(Options as listed below)



Flowpave

- LEGEND**
- ① SITE NUMBER
  - - - SITE BOUNDARY
  - - - 1.2M TIMBER BATTEN FENCE
  - - - 1.8M TIMBER BATTEN FENCE
  - 2 BEDROOM ACCESSIBLE HOUSE
  - 3 BEDROOM + 1 ACCESSIBLE HOUSE
  - A NEW SHED 1530x785x1830
  - B NEW SHED 1830x1530x1980
  - VERANDAH / PATIO
  - FENCED OUTDOOR LIVING (LAWN)
  - UNFENCED OUTDOOR FRONTAGE / SIDE YARDS (MIX OF LAWN AND PLANTING)
  - 4.0M WIDE DRIVEWAY
  - NEW TREE
  - ▲ FRONT DOOR
  - ▽ BESPOKE FRENCH DOORS
  - ← GLAZED SLIDING DOOR
  - ▭ CARPARK
  - ▨ CLOTHES LINE
  - RUBBISH BINS
  - SHED
- PLANNING (Indicative only TBC)**
- - - 3.0 M REAR/ 3.0M SIDE BOUNDARY OFFSET (DRIVEWAY)
  - - - 6.0 M ROAD FRONTAGE BOUNDARY OFFSET
  - - - 1.5M SIDE BOUNDARY
  - - - HEIGHT IN RELATION TO BOUNDARY (HIRB)
  - 4.0 M DIAMETER OUTDOOR LIVING COURT

**NOTES:**

**SITE NOTES**  
ADDRESS: 35 KAITAWA CRESCENT, PARAPARAMU  
LEGAL DESCRIPTION: LOT: 62  
DP: 23300  
CT: B1/1459  
TERRITORIAL AUTHORITY: KAPITI COAST DISTRICT COUNCIL RESIDENTIAL ZONE  
PLANNING ZONE: HIGH ZONE 3 ZONE C (MEDIUM)  
WIND ZONE: N1  
CORROSION ZONE: 60-70  
RAINFALL INTENSITY: 60-70

TOTAL SITE AREA: 842m2  
LOT 1 SITE AREA: m2  
LOT 1 FLOOR AREA: 72m2  
SITE COVERAGE: %  
LOT 2 SITE AREA: m2  
LOT 2 FLOOR AREA: 72m2  
SITE COVERAGE: %

**BUILDING TYPOLOGY SETS**  
FOR HOUSE DOCUMENTATION REFER TO CONTEXT ARCHITECTS DRAWINGS. TYPOLOGY SETS ARE LISTED BELOW:  
LOT 1: C1 HOUSE BUILDING SET  
LOT 2: ??1 HOUSE BUILDING SET

REVISION	AMENDMENT	APP	DATE

DETAILED DESIGN



Wellington Office  
PO Box 12 003  
Wellington 6144  
New Zealand  
+64 4 471 7000

SCALE As indicated @ A1 ORIGINAL SIZE A1

DRAWN CSC DESIGNED CSC APPROVED Approver

DRAWING VERIFIED CSC DESIGN VERIFIED APPROVED DATE

PROJECT HOUSING NEW ZEALAND  
35 KAITAWA CRESCENT, PARAPARAMU

BUILDING CONSENT  
TITLE SITE PLAN - PROPOSED

OPUS PROJECT NO. N-H0060.03 SUITABILITY S0

PROJ-ORIG-VOL-LVL-TYPE SHEET NO. REVISION  
123456-WSP- A-0012

ARCHITECTURE

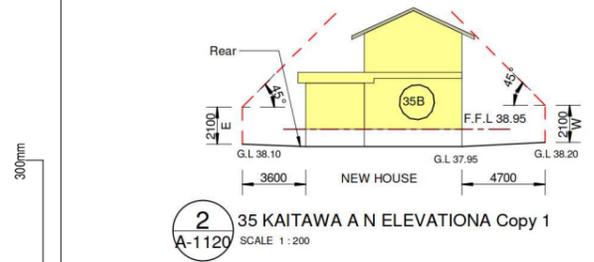
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200mm  
100  
50  
10mm



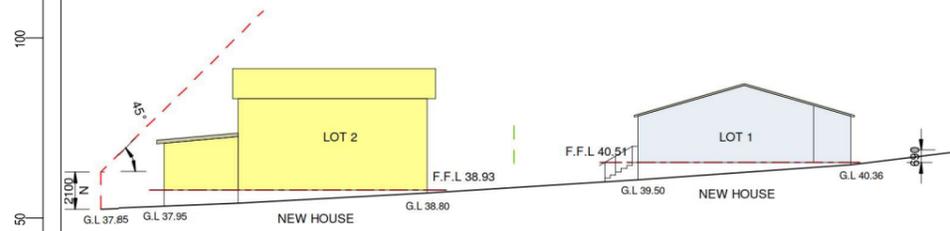
① 35 KAITAWA CRESCENT - REV B  
SCALE 1:100

**SW CONCEPT DESIGN -MAY 2019 FIGURE 3 OF 3 PROPOSED STORMWATER SYSTEM**

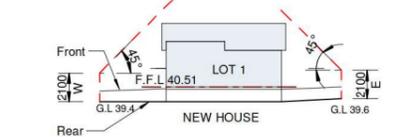


2 35 KAITAWA A N ELEVATIONA Copy 1 A-1120 SCALE 1:200

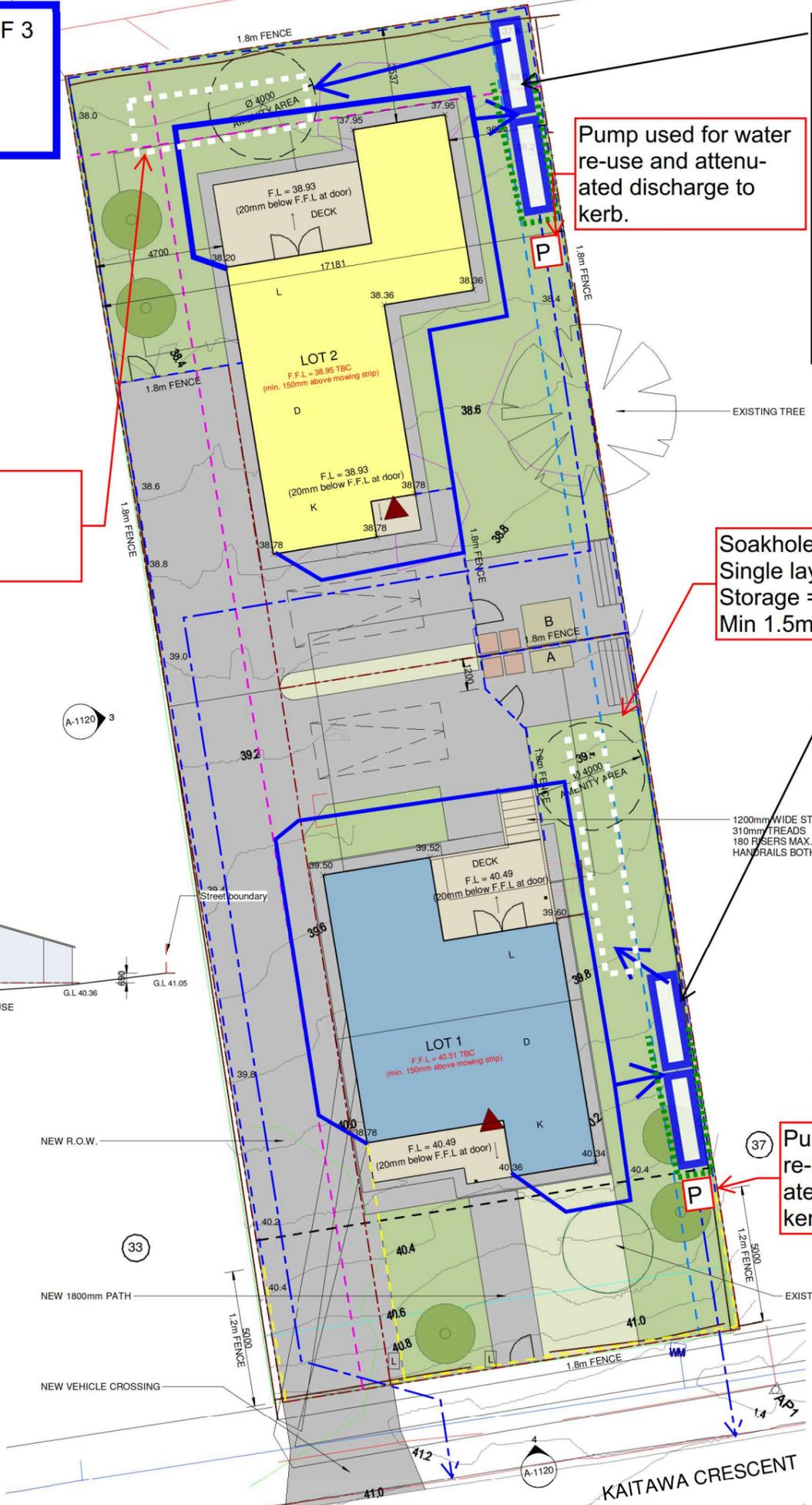
Soakhole 10m<sup>2</sup> x 0.44m deep.  
Single layer of Rainsmart SW Modules (5 x 9)  
Storage = 5600 Litres  
Min 1.5m from buildings and boundaries



3 35 KAITAWA A W ELEVATIONA Copy 1 A-1120 SCALE 1:200



4 35 KAITAWA A S ELEVATIONA Copy 1 A-1120 SCALE 1:250



Slimline Corrugated Steel Tanks, 6000L x 2 on concrete slab with timber edging.  
Dimensions (WxLxH): 1150x3700x1600  
Tank base 38.1m  
Tank top 39.7m  
20mm orifice at 38.8m with discharge to soakhole

Attenuation Storage 3380L  
Pumped Storage 2625L  
Permanent Storage 5358L  
Pump Discharge 0.3 L/s

Soakhole 10m<sup>2</sup> x 0.44m deep.  
Single layer of Rainsmart SW Modules (3 x 12)  
Storage = 4500 Litres  
Min 1.5m from buildings and boundaries

Slimline Corrugated Steel Tanks, 6000L x 2 on concrete slab with timber edging.  
Dimensions (WxLxH): 1150x3700x1600  
Tank base 40.1m  
Tank top 41.7m  
20mm orifice at 40.9m with discharge to concrete paving block

Attenuation Storage 3230L  
Pumped Storage 2625L  
Permanent Storage 5725L  
Pump Discharge 0.3 L/s

Pump used for water re-use and attenuated discharge to kerb.

1 35 KAITAWA CRESCENT - REV B SCALE 1:100

**NOTES:**  
**SITE NOTES**  
ADDRESS: 35 KAITAWA CRESCENT, PARAPARAMU  
LEGAL DESCRIPTION: LOT: 62 DP: 23300 CT: B1/1459  
TERRITORIAL AUTHORITY: KAPITI COAST DISTRICT COUNCIL RESIDENTIAL ZONE  
PLANNING ZONE:  
WIND ZONE: HIGH  
EARTHQUAKE ZONE: ZONE 3  
CORROSION ZONE: ZONE C (MEDIUM)  
SNOW LOADING: N1  
RAINFALL INTENSITY: 60-70  
TOTAL SITE AREA: 842m<sup>2</sup>  
LOT 1 SITE AREA: 336m<sup>2</sup>  
LOT 1 FLOOR AREA: 72m<sup>2</sup>  
SITE COVERAGE: 21.5%  
LOT 2 SITE AREA: 350m<sup>2</sup>  
LOT 2 FLOOR AREA: 72m<sup>2</sup>  
SITE COVERAGE: 20.8%  
DRIVEWAY ALLOTMENT AREA: 156m<sup>2</sup>  
R.O.W.

**BUILDING TYPOLOGY SETS**  
FOR HOUSE DOCUMENTATION REFER TO CONTEXT ARCHITECTS DRAWINGS. TYPOLOGY SETS ARE LISTED BELOW:  
LOT 1: C1 HOUSE BUILDING SET  
LOT 2: TBC INFO FROM HNZ REDD HOUSE BUILDING SET

**GENERAL NOTES**  
1. BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION  
2. WHERE ITEMS ARE TO BE REMOVED AND/OR DEMOLISHED ALLOW TO MAKE GOOD OR ALLOW PREPARATION FOR NEW WORK  
3. CONTRACTOR TO CHECK CONDITION AND HEIGHTS OF EXISTING FENCING. CONFIRM WITH PROJECT MANAGER ON REUSE OF EXISTING FENCE, MAKING GOOD OR NEW FENCE.  
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE CIVIL DOCUMENTATION

REVISION	AMENDMENT	APP	DATE

DETAILED DESIGN  
**Housing New Zealand**  
Housing New Zealand Corporation

**WSP | OPUS**  
Wellington Office  
PO Box 12 003  
Wellington 6144  
New Zealand  
+64 4 471 7000

SCALE	DESIGNED	APPROVED	ORIGINAL SIZE
As indicated @ A1	CSC	Approver	A1
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE	
Checker			

PROJECT  
HOUSING NEW ZEALAND  
35 KAITAWA CRESCENT, PARAPARAMU  
BUILDING CONSENT  
TITLE  
SITE PLAN - PROPOSED

OPUS PROJECT NO.	SUITABILITY
N-H0060.03	S0
PROJ-ORIG-VOL-LV-TYPE	SHEET NO.
NH0060-OIC-03-XX-DR	A-1120
REVISION	

ARCHITECTURE

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## Appendix E: Geotechnical Assessment



# Geotechnical Assessment Report and Foundation Recommendation

35 Kaitawa Crescent, Paraparaumu, Kapiti Coast



## Contact Details

**Name: Ravi Sundar**

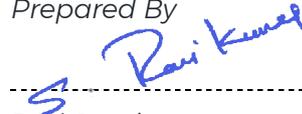
74 Ingestre Street  
PO Box 654, Whanganui 4541  
New Zealand

Mobile: +64 27 500 6436

**Document Details:**

Date: February 2019  
Reference: N-H0060.03  
Status: Issue 1

Prepared By



-----  
Ravi Sundar  
Geotechnical Engineer

Reviewed By



-----  
Mark Frampton  
Principal Geotechnical Engineer

Approved for Release By



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Paul Harrison  
Project Manager

# Contents

1	Introduction .....	1
2	Proposed Development.....	1
3	Scope of Work .....	1
4	Site Description.....	2
5	Geological Setting.....	2
5.1	Geology.....	2
5.2	Seismicity.....	2
6	Geotechnical Site Investigation.....	3
7	Ground Conditions.....	4
8	Engineering Conditions .....	4
8.1	Introduction.....	4
8.2	NZS1170.5 Site Subsoil Class.....	5
8.3	Faulting.....	5
8.4	Liquefaction Potential.....	5
8.5	Slope Stability.....	5
8.6	Inundation Risk.....	5
8.7	NZS 3604:2011 “Good Ground” .....	6
9	Conclusions and Recommendations.....	7
10	Limitation .....	7
11	Reference .....	8
	Appendix A Site Investigations.....	9

## List of Figures

Figure 2-1 : Site Development Plan .....	1
Figure 4-1 : Site Location Plan .....	2
Figure 6-1 : Site Investigation Plan .....	4

## List of Tables

Table 5-1: Summary of active fault near the proposed development.....	3
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Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
Issue 1	08 February 2019	RS	MF	PH	Draft

*Revision Details*

Revision	Details
Issue 1	Issue for client comment

# 1 Introduction

WSP Opus has been engaged by Housing New Zealand to undertake a geotechnical investigation and assessment with foundation recommendations for two proposed dwellings at 35 Kaitawa Crescent, Paraparaumu, Kapiti Coast.

The purpose of this investigation report is to provide an assessment of the geotechnical risks with methods to mitigate any such risks and provide recommendations for the likely foundation solution to be adopted for the building development. We understand that this report will be used as part of the building consent application.

# 2 Proposed Development

We understand the development of the site will include the construction of two lightweight timber framed buildings as per NZS3604:2011 (NZS, 2011). The existing building on the property will be demolished. The proposed development layout is shown in Figure 2-1.



Figure 2-1 : Site Development Plan

# 3 Scope of Work

In order to provide a geotechnical assessment of the development area and to assist in providing recommendations for foundation design and construction, the following works were undertaken;

- A site walkover, to identify any specific geotechnical constraints to the proposed development and finalise the proposed investigation scope;
- 3 Hand Augers, 3 Scala Penetrometers
- A soakage test

- Preparation of a geotechnical report (this report) detailing the foundation assessment, the key geotechnical findings, and recommendations for the new building foundation design.

## 4 Site Description

The proposed site is located at 35 Kaitawa Crescent, Paraparaumu, as shown in Figure 4-1. The site is in a residential area with an existing dwelling near the middle of the lot. The property is well maintained with the existing dwelling sitting slightly below street level on a gentle downward slope towards the north.



Figure 4-1 : Site Location Plan

## 5 Geological Setting

### 5.1 Geology

The regional geology of the area has been mapped at 1:250,000 scale by the Institute of Geological and Nuclear Sciences Limited Lower Hutt, New Zealand (GNS, 2000). The map shows the site to be underlain by Late Pleistocene (Q2a) river deposits comprising poorly sorted steep fan gravel deposits.

### 5.2 Seismicity

The site is located in a region of high seismic activity, with a number of active fault in close proximity to the site. Basic characteristics of these faults are given in Table-5-1 based on GNS active fault database (GNS, 2019).

Table 5-1: Summary of active fault near the proposed development

Fault	Distance from the site (km)	Recurrence intervals (Class)	Recurrence interval (years)	Estimated Magnitude
Ohariu Fault	0.7	Class II	>2000 years to ≤3500 years	7.6
Gibbs Fault	2.6	Class III	>3500 years to ≤5000 years	~ 7
SE Reikorangi Fault	4	Class IV	>5000 years to ≤10000 years	Unknown
Northern Ohariu Fault	10	Class II	>2000 years to ≤3500 years	7.3 to 7.7
Otaki Forks Fault	16	Class II	>2000 years to ≤3500 years	7.3 to 7.6
Wellington Fault	26	Class I	500 to 770	7.6
Wairarapa Fault	33	Class I	1160 to 1880	8.0 to 8.3

These major active faults are located parallel to the Tararua ranges with an estimated recurrence interval varies from Class I to IV. They can generate an earthquake of up to M8.3 magnitude (GNS, 2003). These faults represent earthquake sources that contribute significantly to the seismic hazard in Kapiti Coast District. The seismic hazard which can affect the proposed development are discussed later in the report.

## 6 Geotechnical Site Investigation

WSP Opus conducted geotechnical site investigations on 14 January 2019, this comprised of:

- A site walkover to identify any geomorphic features that may have an impact on the development site
- 3 hand augers and Scalas (HA1 to HA3)
- 1 soakage test

The hand augers were excavated to depths between 0.6m and 1.2m, with Scala penetrometer tests undertaken adjacent to the hand auger holes to a maximum depth of 1.3m.

The nature of the materials encountered limited the depth of the investigations, as the gravel layer in the holes was too hard to excavate with the hand auger. Materials recovered from the field were logged in the field by a WSP-Opus Geotechnical Engineer following the methods and procedures in the NZ Geotechnical Society Guidelines (NZGS, 2005).

One soakage test was conducted at 1.0m bgl in HA-3 to determine the soakage rate of the site. The soakage test was in accordance with Low Impact Urban Design and Development (LIUDD) stormwater guideline.

A site investigation location plan is presented below, the hand auger and Scala penetrometer logs are presented in Appendix A.



Figure 6-1 : Site Investigation Plan

## 7 Ground Conditions

The stratigraphy beneath the site has been revealed from the investigation to be generally uniform across the site. The site is underlain very stiff silt layer below topsoil until 0.8m below ground level, which is then underlain by dense to very dense gravels in a silt matrix.

Groundwater was not encountered in any of the hand augers, which were excavated to a maximum depth of 1.2m below ground level.

## 8 Engineering Conditions

### 8.1 Introduction

It is our understanding that the proposed development consists two single storey timber framed dwellings, constructed in accordance with NZS 3604:2011 with no heavy, concentrated or unusual loads.

Based on our site walkover, desktop study and the results of the WSP Opus geotechnical site investigations, the key geotechnical aspects for this development are as follows:

- NZS1170.5 Site Subsoil Class;
- Faulting;
- Liquefaction potential;
- Slope stability;
- Inundation risk (flooding);
- NZS3604:2011 “Good Ground”;

## 8.2 NZS1170.5 Site Subsoil Class

Information on the depth to bedrock at this site is not available to assess the site subsoil class. Based on the review of geology and ground conditions in the area and borehole data from Mackays to Pekapeka Expressway (MPPEA, 2012), alluvial deposits are present to a depth greater than 50m. Therefore, the site is classified as a Class D - Deep or soft soil site; in terms of the seismic design requirements of NZS1170.5:2004 (NZS, 2004).

## 8.3 Faulting

The guidelines for fault avoidance zone (GNS, 2002) recommend a minimum buffer zone of 20 metres either side of the known fault trace or likely fault rupture zone. The fault rupture risk for this development is considered to be negligible with the closest identified fault located greater than 0.7km away according to the New Zealand Active Faults Database.

No evidence of any surficial features or lineaments were identified during the site appraisal that would suggest active fault movement closer than that implied by the database or maps, and therefore no specific investigations or design considerations are considered to be necessary for the proposed development.

## 8.4 Liquefaction Potential

A detailed liquefaction assessment is beyond the scope of this study. GNS undertook a regional liquefaction hazard study for the Wellington Region (GNS, 2014). A liquefaction susceptibility map was developed for this report. This liquefaction susceptibility map indicates that the site lies in "Low" liquefaction susceptibility zone which gives a liquefaction damage rating of "None" for magnitude MM8 and MM9.

The shallow soil investigation undertaken at the site, appears to confirm the above statement.

## 8.5 Slope Stability

The proposed building platforms are situated on a very gentle slope with no steep slopes located around the building area. It is therefore considered that the risk to the site from slope stability issues is negligible and no further action will be required to mitigate against the risk.

## 8.6 Inundation Risk

A detailed analysis of flooding in the proposed development area is outside the scope of this report and has not been undertaken. Kapiti Coast District Council have developed a flood hazard map for the district. Based on the flood plain mapping the proposed. Flood Hazard GIS maps do not show any risk of flooding to the proposed development site.

Based on the above point the proposed development site is considered to have minimal risk of flooding.

## 8.7 NZS 3604:2011 “Good Ground”

It is desirable for buildings of light-weight timber frame construction to be founded on “good ground” as defined by NZS3604:2011 cl. 3.1.3. Such foundations do not require specific engineering design of foundations. NZS 3604:2011 defines the criteria for “good ground” as that which has an ultimate geotechnical bearing capacity of at least 300 kPa, and excludes:

- Potentially compressible ground, such as topsoil, soft soils, or fill;
- Expansive soils;
- Ground which has buried services or records of land slips and surface creep.

Topsoil was encountered to a depth of 200 mm.

No laboratory testing has been undertaken to determine if the soils on site are expansive, however, based on the site investigation and observation of the existing structure in the site, the soils at the proposed development site do not appear to fall into expansive soil category.

To adopt the NZS3604:2011 cl. 3.1.3 design criteria for the proposed development the following conditions should be satisfied:

- All top soil and should be completely removed from under proposed building footprint
- Any underground services in the proposed development area should be removed and realigned and the trench should be filled with granular material compacted in layers of 150mm.

Our foundation assessment is based on the Scala test results and has been conducted in accordance with the NZS 3604:2011. We interpret that in order for the site to have ‘good ground’, the number of blows per 100mm depth of penetration below the underside of the proposed footing at each test site exceeds:

- Five [blows per 100mm] down to a depth equal to the width of the widest footing below the underside of the proposed footing.
- Three [blows per 100mm] at greater depths.

The silt layer encountered at the site to a depth of about 0.8m does not comply with the NZS3604:2011 ‘good ground’ condition. Specific foundation design is required if the depth of the building foundation is above 0.8m.

The Scala test results indicate that the gravel layer underlying the silt from a depth of about 0.8m is compliant with the NZS3604:2011 definition of ‘good ground’. If the building foundation was founded on this gravel layer standard foundation details from NZS3604 could be used. This could be achieved by using piles into the gravel layer, or by excavating the overlying silt and replacing with an approved fill.

Alternative a specific foundation design of a suitable foundation system could be undertaken of the building structure founded on the in situ silt layer.

## 8.8 Soakage Test

A soakage test was undertaken in hand auger hole HA-3. The test result is attached in the appendix.

The test revealed a low soakage potential at the site, and it appears that on-site soakage is not appropriate at the site.

## 9 Conclusions and Recommendations

Based on the desk study, ground investigation and geotechnical assessment, the conclusions and recommendations are given as follows:

- Soils underlying 35 Kaitawa Crescent are likely to comprise very stiff silt layer below topsoil underlain by dense to very dense gravel layer with silt matrix;
- Based on the geotechnical investigations, “good ground” is encountered from about 0.8m below the existing ground level;
- The material above this level does not comply with the requirements of “good ground” as defined in NZS3604, and should the building foundation be above the level of 0.8m below existing ground level, specific engineering design will be required.
- A shallow strip / pad foundation or short timber pile foundation is suitable for the proposed building for use at the site.
- The site subsoil class for the proposed development site is considered to be Class D –deep or soft soil site, in terms of the seismic design requirements of NZS 1170.5:2004;
- The likelihood of liquefaction occurring and ground damage in a seismic event at this site is considered low.

## 10 Limitation

We have prepared this report in accordance with the brief provided. The contents of the report are for the sole use of the Client, and no responsibility or liability will be accepted to any third party. Data or opinions contained within the report may not be used in other contexts or for any other purposes without our prior review and agreement.

The recommendations in this report are based on data collected at specific locations and by using suitable investigation techniques. Only a finite amount of information has been collected to meet the specific financial and technical requirements of the Client’s brief and this report does not purport to completely describe all the site characteristics and properties. The nature and continuity of the ground between test locations has been inferred using experience and judgement and it must be appreciated that actual conditions could vary from the assumed model.

Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided. They should perform any additional tests as necessary for their own purposes. This report is not to be reproduced either wholly or in part without our prior written permission. For further information regarding this geotechnical assessment, please do not hesitate to contact WSP.

## 11 Reference

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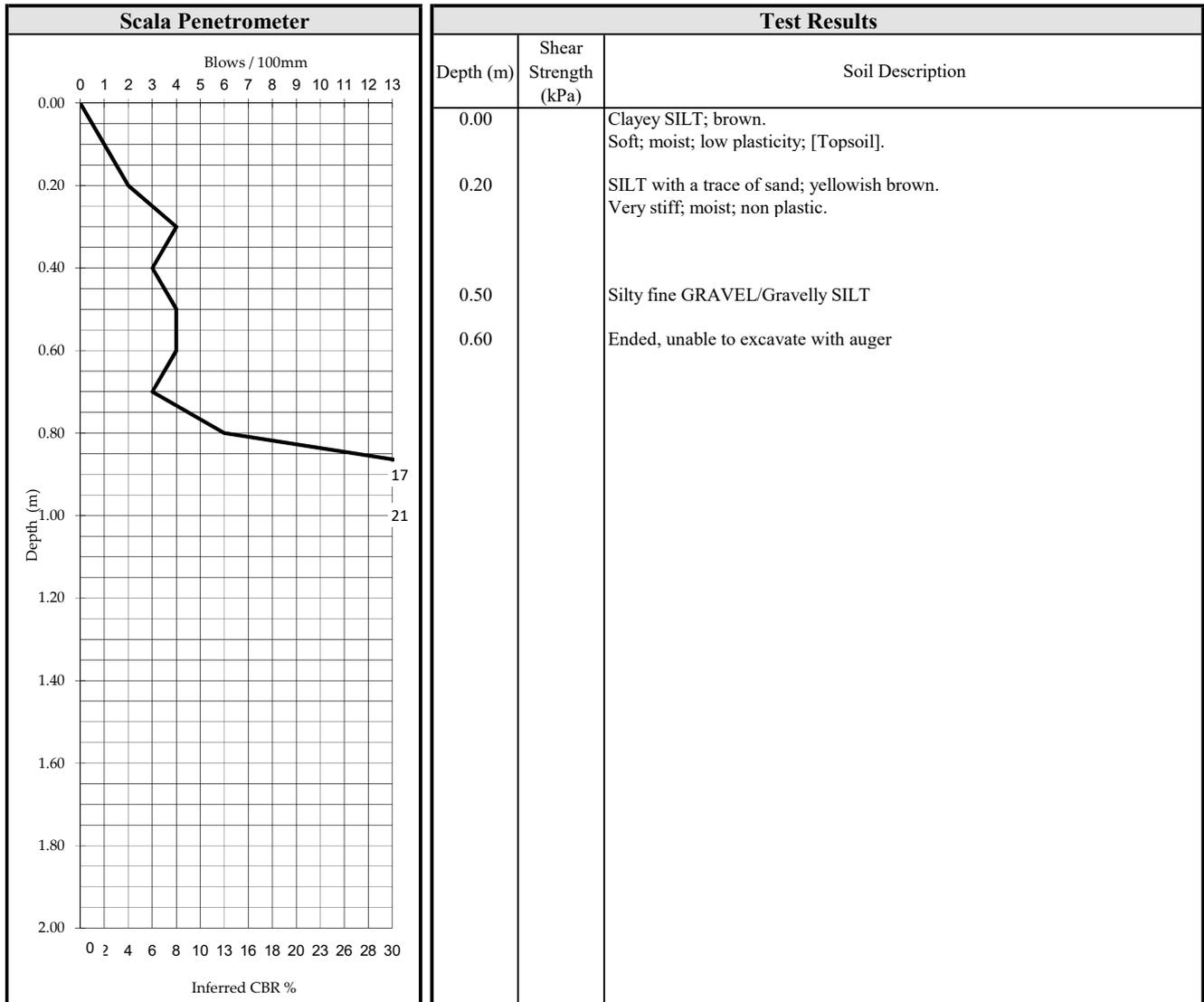
## Appendix A Site Investigations

**AUGER / SCALA PENETROMETER  
TEST REPORT**



Project : **Housing New Zealand Corporation Kapiti Coast**  
 Location : **35 Kaitawa Crescent, Paraparaumu**  
 Client : **Housing New Zealand Corporation**  
 Consultant : **WSP Opus, Whanganui**  
 Test number : **HA 1**  
 Shear vane number : **N/A**  
 Shear vane correction : **N/A**  
 Water level : **Nil**  
 Reduced level : **Existing ground level**

**Project No : N-H0060.03**  
**Lab Ref No : WA484.4**  
**Client Ref No :**



Test Methods	
Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 Inferred CBR values taken from Austroads Pavement Design Manual 2004	Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 and Inferred CBR values are not IANZ accredited.

Date tested : 14/01/19  
 Date reported : 04/02/19

**This report may only be reproduced in full**

**IANZ Approved Signatory**  
 R Jones  
 Designation : *Laboratory Manager*  
 Date : 08/02/19

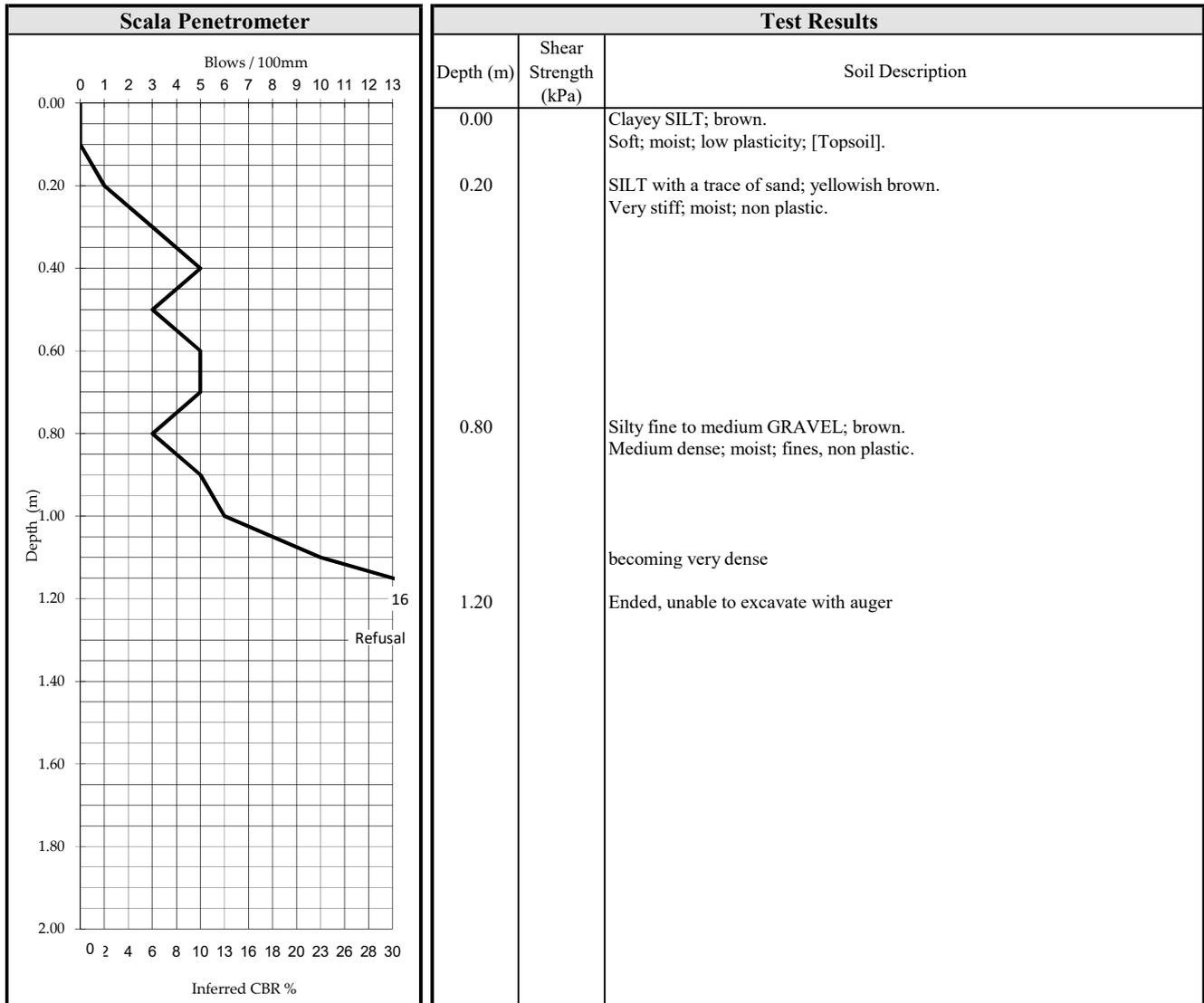


**AUGER / SCALA PENETROMETER  
TEST REPORT**



Project : **Housing New Zealand Corporation Kapiti Coast**  
 Location : **35 Kaitawa Crescent, Paraparaumu**  
 Client : **Housing New Zealand Corporation**  
 Consultant : **WSP Opus, Whanganui**  
 Test number : **HA 2**  
 Shear vane number : **N/A**  
 Shear vane correction : **N/A**  
 Water level : **Nil**  
 Reduced level : **Existing ground level**

**Project No : N-H0060.03**  
**Lab Ref No : WA484.5**  
**Client Ref No :**



Test Methods	
Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 Inferred CBR values taken from Austroads Pavement Design Manual 2004	Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 and Inferred CBR values are not IANZ accredited.

Date tested : 14/01/19  
 Date reported : 04/02/19

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**IANZ Approved Signatory**  
 R Jones  
 Designation : *Laboratory Manager*  
 Date : 08/02/19

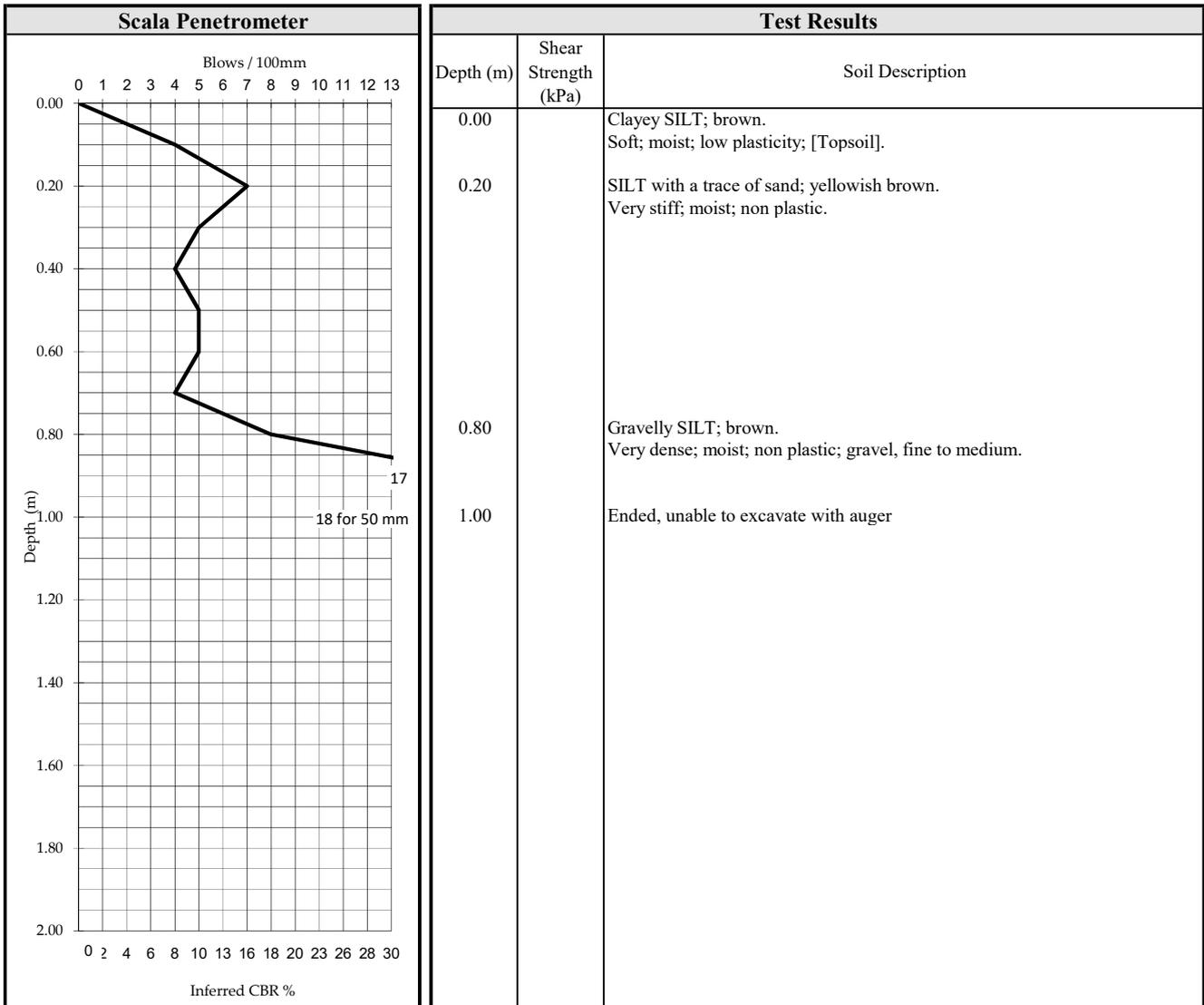


**AUGER / SCALA PENETROMETER  
TEST REPORT**



Project : **Housing New Zealand Corporation Kapiti Coast**  
 Location : **35 Kaitawa Crescent, Paraparaumu**  
 Client : **Housing New Zealand Corporation**  
 Consultant : **WSP Opus, Whanganui**  
 Test number : **HA 3**  
 Shear vane number : **N/A**  
 Shear vane correction : **N/A**  
 Water level : **Nil**  
 Reduced level : **Existing ground level**

**Project No : N-H0060.03**  
**Lab Ref No : WA484.6**  
**Client Ref No :**



Test Methods	
Determination of Penetration Resistance of a Soil, NZS 4402 : 1988, Test 6.5.2 Inferred CBR values taken from Austroads Pavement Design Manual 2004	Field Descriptions of Soils and Rocks by NZ Geotechnical Society Dec 2005 and Inferred CBR values are not IANZ accredited.

Date tested : 14/01/19  
 Date reported : 04/02/19

**This report may only be reproduced in full**

**IANZ Approved Signatory**  
 R Jones  
 Designation : *Laboratory Manager*  
 Date : 08/02/19



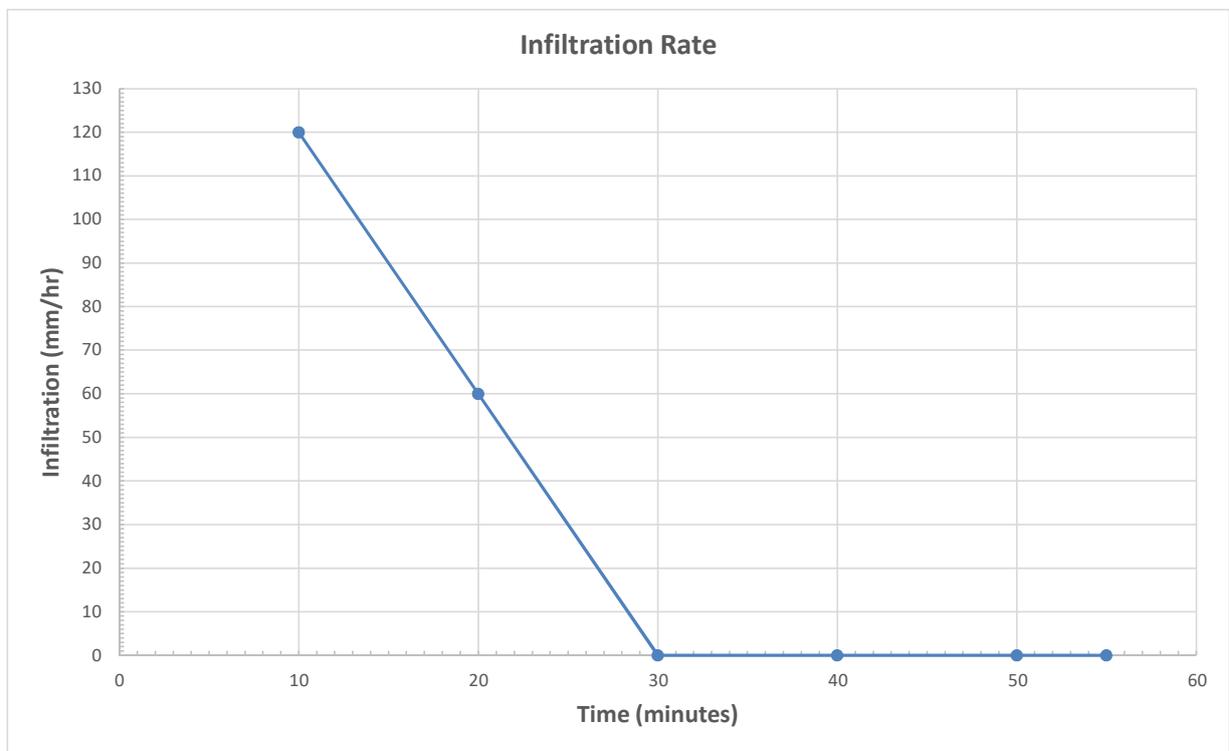
**SITE STORMWATER SOAKAGE  
TEST REPORT**



Project : **Housing New Zealand Corporation Kapiti Coast**  
Location : **35 Kaitawa Crescent, Paraparaumu**  
Client : **Housing New Zealand Corporation**  
Consultant : **WSP Opus, Whanganui**  
Sampled by : **R Sundar & S Darby**  
Date sampled : **14/01/19**  
Depth of test : **0.5 to 1.0 m**  
Ground water level: **Nil**

Project No : **N-H0060.03**  
Lab Ref No : **WA484.7**  
Client Ref No :

**Test Results**



Date tested : 14/01/19  
Date reported : 05/02/19

**This report may only be reproduced in full**

**Approved**

R Jones

Designation : *Laboratory Manager*  
Date : 08/02/19

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## Appendix F: Contaminated Land Screening Report

# Housing New Zealand - Contaminated Land Assessment Report

## Contact Details

Name: Christopher Bergin

WSP Opus  
Greymouth Office  
23 High Street  
PO Box 365, Greymouth 7840  
New Zealand

Telephone: +64 3 769 9330

Mobile: +64 21 243 5409

## Document Details:

Date: February 2019

Reference: N-H0060.01

Status: Final

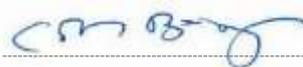
## Prepared by:

Torben Fischer  
Geologist



## Reviewed by:

Christopher Bergin  
Senior Environmental Consultant (SQEP)



## Approved for Release:

Table 1: Summary of Recommendations

Property	Recommendation
11 Tawa Street, Waikanae.	Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.
14-16 Makarini Street, Paraparaumu.	
21-23 Makarini Street, Paraparaumu.	
104 Leinster Avenue, Raumati South.	
35 Kaitawa Street, Paraparaumu.	
6A Te Kupe Road, Paraparaumu.	No testing required.

## 11 Tawa Street, Waikanae

A description of the site and buildings is provided in Table 2 below.

Table 2: Site Identification

Site Address	11 Tawa Street, Waikanae, see Photo 1-2.
Legal Description	Lot 20 DP 27856
Approximate total site area	857m <sup>2</sup>
Territorial Authority	Kapiti District Council
Current Site Use	Domestic property with dwelling house (2 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses. Access driveway to 13 Tawa Street along eastern property boundary.
Selected Land User Register <sup>1</sup>	No HAIL activity reported.
Topography	Approx. 41m RL. Relatively flat topography. Property is located approx. 1000m north of the current path of the west flowing Waikanae River.
Site Comment	Geological setting: The area is dominated by Quaternary alluvial deposits - poorly to moderately sorted gravel with minor sand and silt.
Site History	1957 - Undeveloped farmland, see photo 3.  1966 - Land and Tawa Street developed, see Photo 4.

<sup>1</sup> GWRC Web Map Viewer

	<p>1971 - Light timber framed house and garage on 11 Tawa Street developed. 7 Tawa Street and 13 Tawa Street developed and a small dwelling on the back of 15 Tawa Street section, see Photo 5.</p> <p>1973 - Further development of 15 Tawa Street.</p> <p>1980 - 17 Tawa Street developed, see Photo 6.</p> <p>1991 - Little change to 1980.</p> <p>1997 - House on 9 Tawa Street developed.</p>
<p>Site Characterisation</p>	<p>This home was constructed in 1969 and it is considered likely to have been painted with Lead (Pb) based paint. Exterior cladding appears to be original weatherboard type and roofing appears to be concrete tiles. Dwelling and outbuildings could contain building materials with Asbestos.</p> <p>The site had been used for agricultural purposes up to 1966 and organic pesticides may have been used. It is considered unlikely that these will remain persistent in the soil that due to the duration since last used (&gt;50yrs). Therefore, these are not considered a plausible hazard at this site.</p>
<p>Conclusion</p>	<p>Based on the findings of this investigations we recommend: Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.</p>



Photo 1 Aerial photo of 11 Tawa Street in Waikanae.



Photo 2 Street Frontage of house (Oct 2014)



Photo 3 Anno 1957 - Undeveloped farmland



Photo 4 Anno 1966 – Land development. Tawa Street developed



Photo 5 Anno 1971 – House and garage developed. Surrounding properties developed.



Photo 6 Anno 1980 – Further development of surrounding properties.

## 14-16 Makarini Street, Paraparaumu

A description of the site and buildings is provided in Table 3 below.

Table 3: Site Identification

Site Address	14-16 Makarini Street, Paraparaumu, see Photos 1-3.
Legal Description	Lot 61 DP 42760 (14 Makarini Street) Lot 60 DP 42760 (16 Makarini Street)
Approximate total site area	808m <sup>2</sup> (both properties).
Territorial Authority	Kapiti District Council
Current Site Use	Both are domestic properties with dwelling house (3 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses.
Selected Land User Register <sup>2</sup>	No HAIL activity reported.
Topography	Approx. 20m RL. Relatively flat topography. The properties are located approx. 1km inland from the current coastline and just south of SH1.
Site Comment	Geological setting: The area is dominated by Quaternary Aeolian dune sand.
Site History	1942 - Undeveloped farmland.  1961 - Undeveloped farmland. Site appears to be overgrown with scrub, see Photo 4.

<sup>2</sup> GWRC Web Map Viewer

	<p>1973 - Land development to the SE property boundary on Arawhata Rd, see Photo 5.</p> <p>1977 - Makarini Street developed. Houses built on 14-16 Makarini Street, see Photo 6.</p> <p>1986 - Land development advanced with surrounding properties complete with dwellings, see Photo 7.</p>
Site Characterisation	<p>These homes were built in 1975 and they are considered likely to have been painted with Lead (Pb) based paint. Exterior cladding appears to be original painted board and baton type and roofing appears to be steel. Dwelling and outbuildings could contain building materials with Asbestos.</p> <p>The site had been used for agricultural purposes up to 1973 and organic pesticides may have been used. It is considered unlikely that these will remain persistent in the soil that due to the duration since last used (~45yrs). Therefore, these are not considered a plausible hazard at this site.</p>
Conclusion	<p>Based on the findings of this investigation we recommend: Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.</p>

Aerial\_14 Makarini Street, Paraparaumu



February 8, 2018

Parcels



Photo 2 Aerial photo of 14-16 Makarini Street.



Photo 3 14 Makarini Street, Frontage of house



Photo 3 16 Makarini Street, Frontage of house.



Photo 4 Anno 1961 – Undeveloped farmland. Site appears to be overgrown with scrub.



Photo 5 Anno 1973 – Land development to the SE property boundary on Arawhata Road.



Photo 6 Anno 1977 – Makarini Street developed. Houses built on 14-16 Makarini Street.



Photo 7 Anno 1986 – Land development advanced with surrounding properties complete with dwellings.

## 21-23 Makarini Street, Paraparaumu

A description of the site and buildings is provided in Table 4 below.

Table 4: Site Identification

Site Address	21-23 Makarini Street, Paraparaumu, see Photos 1-3.
Legal Description	Lot 23 DP 42905 (21 Makarini Street) Lot 24 DP 42905 (23 Makarini Street)
Approximate total site area	803m <sup>2</sup> (both properties).
Territorial Authority	Kapiti District Council
Current Site Use	Both are domestic properties with dwelling house. 21 Makarini Street (2 bedrooms, 1 bathroom). 23 Makarini Street (3 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses.
Selected Land User Register <sup>3</sup>	No HAIL activity reported.
Topography	Approx. 20m RL. Relatively flat topography. The property is located approx. 1km inland from the current coastline and just south of SH1.
Site Comment	Geological setting: The area is dominated by Quaternary Aeolian dune sand.
Site History	1942 - Undeveloped farmland.

<sup>3</sup> GWRC Web Map Viewer

	<p>1967 - Undeveloped farmland/scrub. Early stage land development to the SW of the two properties, see Photo 4.</p> <p>1973 - Scrub cleared as part of land development, see Photo 5.</p> <p>1977 - Both 21-23 Makarini Street dwellings built, see photo 6.</p> <p>1986 - Land development advanced with surrounding properties complete with dwellings to the N and NW, see Photo 7.</p>
<p>Site Characterisation</p>	<p>These homes were built in 1975 and they are considered likely to have been painted with Lead (Pb) based paint. Exterior cladding appears to be original painted board and baton type and roofing appears to be steel. Dwelling and outbuildings could contain building materials with Asbestos.</p> <p>The site had been used for agricultural purposes up to 1973 and organic pesticides may have been used. It is considered unlikely that these will remain persistent in the soil that due to the duration since last used (~45yrs). Therefore, these are not considered a plausible hazard at this site.</p>
<p>Conclusion</p>	<p>Based on the findings of this investigation we recommend: Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.</p>



Photo 4 Aerial photo of 21-23 Makarini Street.



Photo 2 21 Makarini Street, Frontage of house.



Photo 3 23 Makarini Street, Frontage of house.



Photo 4 Anno 1967 – Undeveloped farmland/scrub. Early stage land development to the SW of the two properties.



Photo 5 Anno 1973 – Scrub cleared as part of land development.



Photo 6 Anno 1977 – Both 21-23 Makarini Street dwellings built.



Photo 7 Anno 1986 – Surrounding properties developed to the N and NW.

## 104 Leinster Avenue, Raumati South

A description of the site and buildings is provided in Table 5 below.

Table 5: Site Identification

Site Address	104 Leinster Avenue, Raumati South, see Photos 1-2.
Legal Description	Lot 9 DP 18124
Approximate total site area	1015m <sup>2</sup>
Territorial Authority	Kapiti District Council
Current Site Use	Domestic property with dwelling house, (3 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses.
Selected Land User Register <sup>4</sup>	No HAIL activity reported.
Selected Land User Register at neighbouring properties	The property is located ~500m north of QE Park (HAIL Site ID588), which is a vast hazardous site due to history of explosives and ordinance production, maintenance, dismantling, disposal and bulk storage dating back to WWII.
Topography	Approx. 20m RL. Relatively flat topography with a close topographic high to the E of the property (Rakaia terrane formations).
Site Comment	Geological setting: The area is dominated by Quaternary Aeolian dune sand.

<sup>4</sup> GWRC Web Map Viewer

<p>Site History</p>	<p>1942 - Undeveloped farmland. Farmhouse in near proximity of the property, but no history of farm buildings on the 104 Leinster Avenue site.</p> <p>1956 - Leinster Avenue developed, see Photo 3.</p> <p>1972 - Land development on the northern side on Leinster Avenue advanced. 104 Leinster Avenue still a bare section with some surrounding land development and dwellings completed on the southern side, see Photo 4.</p> <p>1979 - House and outbuildings completed on 104 Leinster Avenue, see Photo 5.</p> <p>1985 - 106A Leinster Avenue still a bare section on the eastern property boundary.</p> <p>1994 - Some land development and outbuildings exist on 106A Leinster Avenue on the eastern property boundary, but the current house wasn't completed until 2008, see Photo 6.</p>
<p>Site Characterisation</p>	<p>This home was constructed in 1975 and it is considered likely to have been painted with Lead (Pb) based paint. Exterior cladding appears to be fibre cement cladding and some original weatherboard type (between windows at front of dwelling). Roofing appears to be steel. Dwelling and outbuildings could contain building materials with Asbestos.</p> <p>The site had been used for agricultural purposes up to 1960s and organic pesticides may have been used. It is considered unlikely that these will remain persistent in the soil that due to the duration since last used (&gt;50yrs). Therefore, these are not considered a plausible hazard at this site.</p>
<p>Conclusion</p>	<p>Based on the findings of this investigation we recommend: Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.</p>



Photo 5 Aerial photo of 104 Leinster Avenue.



Photo 2 104 Leinster Avenue, Frontage of house.



Photo 3 Anno 1956 – Leinster Avenue developed.



Photo 4 Anno 1972 – Land development on the northern side on Leinster Avenue advanced. 104 Leinster Avenue still a bare section.



Photo 5 Anno 1979 – House and outbuildings completed on 104 Leinster Avenue.



Photo 6 Anno 1994 – Some land development and outbuildings exists on 106A Leinster Avenue on the eastern property boundary.

### 35 Kaitawa Crescent, Paraparaumu

A description of the site and buildings is provided in Table 6 below.

Table 6: Site Identification

Site Address	35 Kaitawa Crescent, Paraparaumu, see Photos 1-2.
Legal Description	Lot 62 DP 23300
Approximate total site area	842m <sup>2</sup>
Territorial Authority	Kapiti District Council
Current Site Use	Domestic property with dwelling house, (2 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses.
Selected Land User Register <sup>5</sup>	No HAIL activity reported.
Topography	Approx. 45m RL. Relatively flat topography. Property is located in the middle of a small valley with high ground to the W and E.
Site Comment	Geological setting: The area is dominated by Quaternary poorly sorted fan gravel deposits. The Ohariu Fault runs NNE-SSW approx. 500m to the E of the property.
Site History	1942 - Undeveloped farmland.  1956 - Still undeveloped farmland, see Photo 3.

<sup>5</sup> GWRC Web Map Viewer

	<p>1966 - Kaitawa Crescent has been developed and the dwelling on 35 Kaitawa Crescent completed, see Photo 4.</p> <p>1979 - Surrounding properties completed with dwellings, see Photo 5.</p> <p>1987 - Further property development in the centre of the subdivision (NE of the property), see Photo 6.</p>
<p>Site Characterisation</p>	<p>This home was constructed in 1965 and it is considered likely to have been painted with Lead (Pb) based paint. Exterior cladding appears to be original weatherboard type and roofing appears to be steel. Dwelling and outbuildings could contain building materials with Asbestos.</p> <p>The site had been used for agricultural purposes up to 1965 and organic pesticides may have been used. It is considered unlikely that these will remain persistent in the soil that due to the duration since last used (&gt;50yrs). Therefore, these are not considered a plausible hazard at this site.</p>
<p>Conclusion</p>	<p>Based on the findings of this investigations we recommend: Test the soils for Lead and Asbestos within 1m perimeter of the house and outbuildings.</p>



Photo 6 Aerial photo of 35 Kaitawa Crescent, Paraparaumu.



Photo 2 35 Kaitawa Crescent, Frontage of house.



Photo 3 Anno 1956 – Undeveloped farmland.



Photo 4 Anno 1966 – Kaitawa Crescent has been developed and the dwelling on 35 Kaitawa Crescent completed.



Photo 5 Anno 1979 – Surrounding properties completed with dwellings.



Photo 6 Anno 1987 – Further property development in the centre of the subdivision (NE of the property).

## 6A Te Kupe Road, Paraparaumu

A description of the site and buildings is provided in Table 7 below.

Table 7: Site Identification

Site Address	6A Te Kupe Road, Paraparaumu, see Photos 1-2.
Legal Description	Lot 1 DP 87211
Approximate total site area	373m <sup>2</sup>
Territorial Authority	Kapiti District Council
Current Site Use	Domestic property with dwelling house, (2 bedrooms, 1 bathroom).
Adjoining Sites Uses	Domestic properties with dwelling houses to the SW. Commercial site occupied by Kena Kena Shopping Centre to the NE.
Selected Land User Register <sup>6</sup> on site	No HAIL <sup>7</sup> activities are identified at this location on the Regional Councils Selected Land Use Register.
Selected Land User Register at neighbouring properties	6A-6D Te Kupe Road is right next to HAIL site ID 1052. The SLUR states <p>“This site was formerly used as a landfill and is now used for playing fields. The landfill closed in the late 1960s and early 1970s and received mainly domestic refuse. The drain to the side of the field flows into Waikanae Estuary and is administered by the Department of Conservation. Testing of the drain in 1997</p>

<sup>6</sup> GWRC Web Map Viewer

<sup>7</sup> Hazardous Activities and Industries: Ministry for the Environment: Oct 2011

	showed that all parameters tested fell within the ANZECC 'Guidelines for the Protection of Aquatic Ecosystems'."
Topography	Approx. 10m RL. Relatively flat topography. Property is located approx. 350m SE of the current coastline.
Geology	Geological setting: The area is dominated by Quaternary Aeolian dune sands
Site History	<p>1942 - Undeveloped farmland.</p> <p>1956 - Te Kupe Road developed. Land on the NW side of the road has been developed and houses built, see Photo 3.</p> <p>1966 - Commercial site starting to develop on NE property boundary, see Photo 4.</p> <p>1973 - Land development to the SW of property underway.</p> <p>1980 - Further land development to the SW of the property.</p> <p>1987 - Land development to the SW of the property advanced. Sections at 6A-6D Te Kupe Road still undeveloped, see photo 5.</p>
Site Characterisation	<p>This is a 1990s home and it is considered <u>unlikely</u> to have been painted with Lead (Pb) based paint. Exterior cladding appears to be brick and roofing appears to be modern concrete tiles.</p> <p>The site had been used for agricultural purposes up to 1950s and organic pesticides may have been used, but there are no signs off intensive agricultural practice, likely due to the nature of the landscape being sandy soils and marshlands close to the sea. It is also considered unlikely that these will remain persistent in the soil that due to the duration since last used (&gt;50yrs). Therefore, these are not considered a plausible hazard at this site.</p>

	<p>6A Te Kupe Street is located close to the sea and on the seaside of the old landfill, which introduces the risk of groundwater mobilising leachate into the property's subsoil, considering the likelihood that there will be some groundwater flow towards NW (seawards). Considering the landfill was decommissioned over 45 years ago, the nature of the landfill being mainly domestic refuse, the adjacent nature of the landfill to the property and the landfill is currently contained appropriately, the risk of exposure to landfill leachate or gasses is considered to be low.</p>
<p>Recommendation</p>	<p>Based on the findings of these investigations we recommend no further investigation is needed.</p>



Photo 1 Aerial photo of 6A Te Kupe Road, Paraparaumu.



Photo 2 6A Te Kupe Road, Frontage and side of house.



Photo 1 Anno 1956 – Te Kupe Road developed. Land on the NW side of the road has been developed and houses built. Little sign of active landfill to the SE, as per records in the Selected Land Use Register.



Photo 2 Anno 1966 – Commercial site starting to develop on NE property boundary.



Photo 5 Anno 1987 - Land development to the SW of the property advanced. Sections at 6A-6D Te Kupe Road still undeveloped.

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## Appendix G: Contaminated Land Site Investigation

# Housing New Zealand – Contaminated Land Site Investigation Report

## Contact Details

*Name: Christopher Bergin*

WSP Opus  
Greymouth Office  
23 High Street  
PO Box 365, Greymouth 7840  
New Zealand

Telephone: +64 3 769 9330

Mobile: +64 21 243 5409

## *Document Details:*

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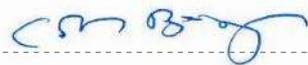
## *Prepared by:*

Scott Rostron  
Senior Public Health Scientist



## *Reviewed by:*

Christopher Bergin  
Senior Environmental Consultant (SQEP)



## 1.0 Executive Summary

In February 2019 a contaminated land screening report (Reference: N-H0060.01) recommended asbestos and lead soil testing at seven Housing New Zealand Corporation (HNZC) properties on the Kapiti Coast. The properties are subject to a HNZC regional development programme that is looking to increase their supply of social housing, and to consider ways in which HNZC can increase the supply of affordable and general housing.

In late February 2019 all properties received a site investigation to conduct soil sampling at four locations per property.

Asbestos was not detected in any of the samples.

Lead test results were below the Soil Contamination Standard (Health) (SCS) at 27 of the 28 sample locations. One sample site at 35 Kaitawa Crescent, Paraparaumu returned a lead test result above the SCS.

The presence of lead in sub surface soil indicates the sample location has had historical exposure to lead. A potential source and pathway for deposition in this location is lead based paint from maintenance/repainting of external surfaces. Other sites tested at this location were below the SCS. Results are summarised in Table 1 below.

*Table 1: Test results from Asbestos and Lead sampling.*

Property Location	Asbestos	Lead tests
104 Leinster Avenue, Raumati South.	Not detected	All samples < SCS
35 Kaitawa Cres, Paraparaumu.	Not detected	Western side of house > SCS
14 Makarini Street, Paraparaumu	Not detected	All samples < SCS
16 Makarini Street, Paraparaumu.	Not detected	All samples < SCS
21 Makarini Street, Paraparaumu.	Not detected	All samples < SCS
23 Makarini Street, Paraparaumu.	Not detected	All samples < SCS
11 Tawa Street, Waikanae.	Not detected	All samples < SCS

Some samples at 104 Leinster Avenue, 35 Kaitawa Crescent and 11 Tawa St were above the predicted Landcare Research Ltd 95th quantile background concentration for lead.

### Recommendations

Additional investigation or analysis of soils for asbestos is not recommended.

Sites where soil samples were above the predicted background level for lead should have any earthworks managed in an appropriate manner.

For the property at 35 Kaitawa Crescent:

- Produce should not be cultivated in the garden bed along the West side of the house.
- Prior to earthworks being undertaken in this area, additional soil samples are collected to delineate the extent of the lead containing soils. This will also be relevant to determine options for management or disposal of soils.
- Avoid handling soils in this area by using low maintenance planting and/or installation of hardstand such as weed mat and stone/chip or hard pavement. If soils

are handled in this garden bed, hands must be thoroughly washed to remove dirt from hands and beneath finger nails.

- Prevent children from playing or gardening in this area.
- Additional information on the nature of renovations and garden activities for this property may give a greater understanding for the elevated result.

Where identified this report indicates hazards and risks to health and safety associated with contaminated land which must be communicated to the design team, the client and associated stakeholders as required by the Health and Safety at Work Act 2015.

## 2.0 Site Investigation Programme

WSP Opus has been commissioned by HNZN to undertake soil sampling at residential properties within the Kapiti Coast District Council (KCDC) area. This work contributes to Resource Management Act (RMA) consenting requirements associated with the HNZN regional housing development programme on the Kapiti Coast. The site assessment has been undertaken with this end in mind.

The purpose of the site investigation programme is to give effect to the recommendations made in the February 2019 WSP Opus contaminated land assessment report (Reference: N-H0060.01). The potential for asbestos and lead in soil was identified at seven residential properties owned and administered by HNZN.

The age and nature of these properties has identified that the dwellings may have external cladding that previously or currently has asbestos containing materials. Also, that external surfaces may have been historically coated with lead-based paint. Over time both substances may have abraded and deposited within the ground material immediately adjacent the building perimeter.

Properties recommended for soil testing were subject to a uniform planned approach for sampling and analysis including a consistent sampling methodology as outlined below.

### 2.1 Fieldwork Procedures

All soil samples were collected from locations within the seven properties. Samples were hand dug at 28 sites identified within the drop zone of any historic disturbance to exterior building materials containing lead (i.e. lead based paint) or asbestos (e.g. asbestos cladding, roofing, soffits, eaves, fascia lining). From each of the properties two surface soil samples were collected for asbestos analysis and four near-surface soil samples were collected for lead analysis.

The following procedures were adopted during soil investigation works:

- All fieldwork was carried out in compliance with a project specific Health and Safety Plan prepared for the site works.
- All works were conducted by trained WSP Opus staff with precautions taken including implementation of procedures for the appropriate handling of potentially contaminated material.
- Prior to sampling, and between sample locations, equipment used (i.e. hand trowel/spade) was cleaned by washing with deionized water. Soil samples were collected using a clean pair of nitrile gloves for each sample and soils were then placed into laboratory supplied sample containers.
- Following collection into labelled laboratory supplied vessels, all samples were placed directly into storage and transported, under standard chain of custody procedures, to RJ Hill Laboratories of Hamilton (Hill Laboratories) for analysis.
- The remaining soil was placed back into the test pit and the thatch of grass replaced, ensuring a clean site following completion of the sampling and compliance with Regulation 8 of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS).

## 2.2 Field Quality Assurance and Quality Control (QA/QC)

All sampling was started and completed on 28 February 2019. Weather conditions were fine, the temperature range recorded in Paraparaumu was 11-17 degrees Celsius.

42 soil samples (14 Asbestos, 28 Lead) were collected and sent to Hills Laboratories for analysis on 1 March 2019. Samples were collected from the surface and at 150mm below ground level (bql).

The sampling plan including sequence and regional location of properties is provided in Figure 1 below.



Figure 1: Housing NZ Site investigation locations and sampling sequence.

## 2.3 Laboratory QA/QC

The Hill Laboratories analysis report has been appended in Appendix A. This includes the analytical methods used by the laboratory and the laboratory accreditation for analytical methods used.

All laboratory analysis was completed through Hill Laboratories. Hill Laboratories are accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.

## 2.4 Basis for Guideline Values

Soil Guideline Values (SGVs) for the range of heavy metal determinants identified have been selected from Table B2 of the Ministry for the Environment’s “Contaminated Land Management Guidelines (CLMGs) – Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.”

The properties investigated are residential in nature and on this basis, as outlined in Table 2, a “Residential 10% produce” land use has been selected as this category is considered to provide the best fit for the land use description.

Table 2: Soil Contaminant Standards for health (SCS (health)) for inorganic substances<sup>1</sup>

	Arsenic mg/kg	Boron mg/kg	Cadmium (pH 5) <sup>1</sup> mg/kg	Chromium		Copper mg/kg	Inorganic lead mg/kg	Inorganic mercury mg/kg
				III mg/kg	VI mg/kg			
Rural residential / lifestyle block 25% produce	17	>10,000	0.8	>10,000	290	>10,000	160	200
<b>Residential 10% produce</b>	<b>20</b>	<b>&gt;10,000</b>	<b>3</b>	<b>&gt;10,000</b>	<b>460</b>	<b>&gt;10,000</b>	<b>210</b>	<b>310</b>
High-density residential	45	>10,000	230	>10,000	1,500	>10,000	500	1,000
Recreation	80	>10,000	400	>10,000	2,700	>10,000	880	1,800
Commercial / industrial outdoor worker (unpaved)	70	>10,000	1,300	>10,000	6,300	>10,000	3,300	4,200

Asbestos in soil is captured under the NES-CS as a contaminant with the potential to impact human health.

The New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ 2017) are referenced for assessment of the soil samples analysed. Soil samples with concentrations of >0.001% w/w fibrous asbestos and/or asbestos fines and/ or between 0.05% and 0.01% w/w ACM (depending on land use) will require further assessment. It will also require completion of a Tier 2 human health risk assessment or use of mitigation to manage risk(s).

<sup>1</sup> Values found in “Table B2 – Soil Contaminant Standards for health (SCS (health)) for inorganic substances” from “Users’ Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health” – Land use: Recreation

### 3.0 Site Investigation Description and Findings

Soil sampling locations and results from the seven properties investigated are detailed below (Test Pit (TP) 1 through TP 28).

#### 104 Leinster Avenue, Raumati South

Table 3: Site information and investigation findings

Site Address	104 Leinster Avenue, Raumati South.
Legal Description	Lot 9 DP 18124.
Current Site Use	Domestic property with dwelling house and carport
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging. There was no evidence of planted produce.</p> <p>Samples SJR001 and SJR005 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material.</p> <p>Samples SJR002, SJR003, SJR004, and SJR006 were subsurface soils from TP1-TP4 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples.</p> <p>Lead not detected above SCS (Health) in subsurface samples.</p> <p>Sample SJR002 test result of 36mg/kg was slightly above the 30.08 mg/kg predicted Landcare Research Ltd 95th quantile background concentration for lead<sup>2</sup> This soil sample does not meet the Ministry for the Environment (MfE) clean fill guideline<sup>3</sup> and would be considered managed fill.</p>
Recommendations	Additional investigation or analysis of soils for asbestos or lead is not recommended. Any earthworks should be managed in an appropriate manner.
Attachments	<p>Refer Appendix B for sample site locations.</p> <p>Refer Appendix C for site photographs.</p>

<sup>2</sup> <https://iris.scinfo.org.nz/layer/48470-pbc-predicted-background-soil-concentrations-new-zealand/>

<sup>3</sup> <http://www.mfe.govt.nz/sites/default/files/cleanfills-guide-jan02.pdf>

### 35 Kaitawa Crescent, Paraparaumu

Table 4: Site information and investigation findings

Site Address	35 Kaitawa Crescent, Paraparaumu.
Legal Description	Lot 62 DP 23300.
Current Site Use	Domestic property with dwelling house. The property also housed a painted steel double garage. This was of the “skyline garage” type and would be a post 1980’s build.
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce. Grass die off was viewed adjacent to parts of the dwelling perimeter, indicating recent use of a herbicide.</p> <p>Samples SJR007 and SJR011 were collected from the soil surface and analysed for the presence of asbestos.</p> <p>Samples SJR008, SJR009, SJR010, and SJR012 were subsurface soils from TP5-TP8 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples.</p> <p>Lead not detected in samples SJR008, SJR010, and SJR012 above SCS (Health).</p> <p>Samples SJR008, SJR010, and SJR012 were also below the predicted Landcare Research Ltd 95th quantile background concentration for lead</p> <p>SJR009 returned a value of 330 mg/kg dry weight. This value is 120 mg higher than the land use value selected (residential 10% produce). The sample pit was located on the Western driveway side of the building within a small flower garden positioned between the house and driveway. Elevated lead in these soils may be a result of migration of old lead-based paint from previous renovations or lead arsenate insecticide used up until the 1970s. This soil sample does not meet the Ministry for the Environment (MfE) clean fill guideline and would be considered managed fill.</p>
Recommendation	<p>Additional investigation or analysis of soils for asbestos is not recommended.</p> <p>Produce should not be cultivated in the garden bed along the West side of the house.</p>

	<p>Prior to earthworks being undertaken in this area, additional soil samples are collected to delineate the extent of the lead containing soils. This will also be relevant to determine options for management or disposal of soils.</p> <p>Avoid handling soils in this area by using low maintenance planting and/or installation of hardstand such as weed mat and stone/chip or hard pavement. If soils are handled in this garden bed, hands must be thoroughly washed to remove dirt from hands and beneath finger nails.</p> <p>Prevent children from playing or gardening in this area.</p> <p>Additional information on the nature of renovations and garden activities for this property may give a greater understanding for the elevated result.</p>
Attachments	<p>Refer Appendix B for sample site locations.</p> <p>Refer Appendix C for site photographs.</p>

#### 14 Makarini Street, Paraparaumu

Table 5: Site information and investigation findings

Site Address	14 Makarini Street, Paraparaumu.
Legal Description	Lot 61 DP 42760
Current Site Use	Domestic property with dwelling house and carport. An unpainted pressed steel garden shed of relatively modern construction was also present.
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce.</p> <p>Samples SJR013 and SJR016 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material.</p> <p>Samples SJR014, SJR015, SJR017, and SJR018 were subsurface soils from TP09-TP12 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples</p> <p>Lead not detected above SCS<sub>(Health)</sub> in subsurface samples</p>

	All sample results were below the predicted Landcare Research Ltd 95th quantile background concentration for lead.
Recommendations	Additional investigation or analysis of soils for asbestos or lead is not recommended.
Attachments	Refer Appendix B for sample site locations.  Refer Appendix C for site photographs.

## 16 Makarini Street, Paraparaumu

Table 6: Site information and investigation findings

Site Address	16 Makarini Street, Paraparaumu.
Legal Description	Lot 60 DP 42760.
Current Site Use	Domestic property with dwelling house. A small shed of relatively modern construction was also present.
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce.</p> <p>Samples SJR019 and SJR022 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material.</p> <p>Samples SJR020, SJR021, SJR023, and SJR024 were subsurface soils from TP13-TP16 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples.</p> <p>Lead not detected above SCS<sub>(Health)</sub> in subsurface samples.</p> <p>All sample results were below the predicted Landcare Research Ltd 95th quantile background concentration for lead.</p>
Recommendations	Additional investigation or analysis of soils for asbestos or lead is not recommended.
Attachments	Refer Appendix B for sample site locations.  Refer Appendix C for site photographs.

## 21 Makarini Street, Paraparaumu

Table 7: Site information and investigation findings

Site Address	21 Makarini Street, Paraparaumu.
Legal Description	Lot 23 DP 42905.
Current Site Use	Domestic property with dwelling house and carport. A small shed of similar age and condition to the house was also present.
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce.</p> <p>Samples SJR025 and SJR027 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material.</p> <p>Samples SJR026, SJR028, SJR029, and SJR030 were subsurface soils from TP17-TP20 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples.</p> <p>Lead not detected above SCS<sub>(Health)</sub> in subsurface samples</p> <p>All sample results were below the predicted Landcare Research Ltd 95th quantile background concentration for lead.</p>
Recommendations	Additional investigation or analysis of soils for asbestos or lead is not recommended.
Attachments	<p>Refer Appendix B for sample site locations.</p> <p>Refer Appendix C for site photographs.</p>

## 23 Makarini Street, Paraparaumu

Table 8: Site information and investigation findings

Site Address	23 Makarini Street, Paraparaumu.
Legal Description	Lot 24 DP 42905.
Current Site Use	Domestic property with dwelling house and carport. An unpainted pressed steel garden shed of relatively modern construction was also present.

Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce.</p> <p>Samples SJR031 and SJR035 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material.</p> <p>Samples SJR032, SJR033, SJR034, and SJR036 were subsurface soils from test pits TP21-TP24 and analysed for the presence of inorganic lead. There was no visual evidence of flakes/chips of paint material.</p>
Findings	<p>Asbestos not detected in surface samples</p> <p>Lead not detected above SCS <sub>(Health)</sub> in subsurface samples</p> <p>All sample results were below the predicted Landcare Research Ltd 95th quantile background concentration for lead.</p>
Recommendations	<p>Additional investigation or analysis of soils for asbestos or lead is not recommended.</p>
Attachments	<p>Refer Appendix B for sample site locations.</p> <p>Refer Appendix C for site photographs.</p>

## 11 Tawa Street, Waikanae

Table 9: Site information and investigation findings

Site Address	11 Tawa Street, Waikanae.
Legal Description	Lot 20 DP 27856.
Current Site Use	Domestic property with dwelling house, garage/shed.
Soil Samples collected	<p>Six samples were collected within 1 metre from the edge of the domestic dwelling. Samples were taken from grass and garden edging with no evidence of planted produce.</p> <p>Samples SJR037 and SJR040 were collected from the soil surface and analysed for the presence of asbestos. There was no visual evidence of degraded building material on the dwelling, however the rear garage/shed, did have cladding damage. SJR040 sampled adjacent this location.</p> <p>Samples SJR038, SJR039, SJR041, and SJR042 were subsurface soils from TP 25-28 and analysed for the</p>

	presence of inorganic lead. Some of the lower external slats preventing entry under the dwelling had signs of flaking paint.
Findings	<p>Asbestos not detected in surface samples</p> <p>Lead not detected above SCS (Health) in subsurface samples</p> <p>Samples SJR038, SJR0041 and SJR0042 test results were above the 25.83.mg/kg predicted Landcare Research Ltd 95th quantile background concentration for lead. These soil samples do not meet the Ministry for the Environment (MfE) clean fill guideline and would be considered managed fill.</p>
Recommendations	Additional investigation or analysis of soils for asbestos or lead is not recommended. Any earthworks should be managed in an appropriate manner.
Attachments	<p>Refer Appendix B for sample site locations.</p> <p>Refer Appendix C for site photographs.</p>

## Appendix A: Hill Laboratories Report



**Hill Laboratories**  
TRIED, TESTED AND TRUSTED

R J Hill Laboratories Limited  
28 Duke Street Frankton 3204  
Private Bag 3205  
Hamilton 3240 New Zealand

T 0508 HILL LAB (44 555 22)  
T +64 7 858 2000  
E mail@hill-labs.co.nz  
W www.hill-laboratories.com

**Certificate of Analysis**

Page 1 of 7

<b>Client:</b> WSP OPUS <b>Contact:</b> Scott Rostron C/- WSP OPUS PO Box 30845 Lower Hutt 5040	<b>Lab No:</b> 2134514 <b>Date Received:</b> 02-Mar-2019 <b>Date Reported:</b> 19-Mar-2019 <b>Quote No:</b> 97624 <b>Order No:</b> <b>Client Reference:</b> <b>Submitted By:</b> Scott Rostron	SPV1
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**Sample Type: Soil**

Sample Name:	SJR0001	SJR0002	SJR0003	SJR0004	SJR0005
	28-Feb-2019 10:30 am	28-Feb-2019 10:39 am	28-Feb-2019 10:50 am	28-Feb-2019 11:00 am	28-Feb-2019 11:11 am
<b>Lab Number:</b>	2134514.1	2134514.2	2134514.3	2134514.4	2134514.5

**Individual Tests**

Total Recoverable Lead	mg/kg dry wt	-	36	10.3	6.0	-
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	482.9	-	-	-	530.5
Dry Weight	g	435.5	-	-	-	465.7
Ashed Weight	g	384.4	-	-	-	428.5
Moisture	%	10	-	-	-	12
Dry Sample Fraction >10mm	g ashed wt	12.8	-	-	-	11.5
Sample Fraction <10mm to >2mm	g ashed wt	36.2	-	-	-	25.9
Sample Fraction <2mm	g ashed wt	334.7	-	-	-	390.5
<2mm Subsample Weight	g ashed wt	51.1	-	-	-	55.5
Asbestos Presence / Absence		Asbestos NOT detected.	-	-	-	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001

Sample Name:	SJR0006	SJR0007	SJR0008	SJR0009	SJR0010
	28-Feb-2019 11:16 am	28-Feb-2019 12:04 pm	28-Feb-2019 12:10 pm	28-Feb-2019 12:20 pm	28-Feb-2019 12:26 pm
<b>Lab Number:</b>	2134514.6	2134514.7	2134514.8	2134514.9	2134514.10

**Individual Tests**

Total Recoverable Lead	mg/kg dry wt	23	-	33	330	11.1
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	-	428.0	-	-	-
Dry Weight	g	-	330.7	-	-	-
Ashed Weight	g	-	298.5	-	-	-
Moisture	%	-	23	-	-	-
Dry Sample Fraction >10mm	g ashed wt	-	11.6	-	-	-
Sample Fraction <10mm to >2mm	g ashed wt	-	60.3	-	-	-



**IANZ**  
ACCREDITED LABORATORY

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \*, which are not accredited.

Sample Type: Soil						
<b>Sample Name:</b>	SJR0006 28-Feb-2019 11:16 am	SJR0007 28-Feb-2019 12:04 pm	SJR0008 28-Feb-2019 12:10 pm	SJR0009 28-Feb-2019 12:20 pm	SJR0010 28-Feb-2019 12:26 pm	
<b>Lab Number:</b>	2134514.6	2134514.7	2134514.8	2134514.9	2134514.10	
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
Sample Fraction <2mm	g ashed wt	-	225.6	-	-	-
<2mm Subsample Weight	g ashed wt	-	55.1	-	-	-
Asbestos Presence / Absence		-	Asbestos NOT detected.	-	-	-
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	-	< 0.00001	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	-	< 0.00001	-	-	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	-	< 0.00001	-	-	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	-
<b>Sample Name:</b>	SJR0011 28-Feb-2019 12:47 pm	SJR0012 28-Feb-2019 1:00 pm	SJR0013 28-Feb-2019 1:40 pm	SJR0014 28-Feb-2019 1:50 pm	SJR0015 28-Feb-2019 1:56 pm	
<b>Lab Number:</b>	2134514.11	2134514.12	2134514.13	2134514.14	2134514.15	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	-	17.2	-	6.0	5.8
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	511.4	-	389.6	-	-
Dry Weight	g	428.4	-	317.0	-	-
Ashed Weight	g	400.7	-	261.9	-	-
Moisture	%	16	-	19	-	-
Dry Sample Fraction >10mm	g ashed wt	6.3	-	2.6	-	-
Sample Fraction <10mm to >2mm	g ashed wt	50.2	-	6.0	-	-
Sample Fraction <2mm	g ashed wt	343.0	-	252.4	-	-
<2mm Subsample Weight	g ashed wt	56.9	-	51.2	-	-
Asbestos Presence / Absence		Asbestos NOT detected.	-	Asbestos NOT detected.	-	-
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	< 0.00001	-	< 0.00001	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	-	< 0.001	-	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	< 0.00001	-	< 0.00001	-	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	-	< 0.001	-	-
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	< 0.00001	-	< 0.00001	-	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	< 0.001	-	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	< 0.001	-	-
<b>Sample Name:</b>	SJR0016 28-Feb-2019 2:05 pm	SJR0017 28-Feb-2019 2:11 pm	SJR0018 28-Feb-2019 2:20 pm	SJR0019 28-Feb-2019 2:56 pm	SJR0020 28-Feb-2019 3:03 pm	
<b>Lab Number:</b>	2134514.16	2134514.17	2134514.18	2134514.19	2134514.20	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	-	7.1	13.8	-	4.4

Sample Type: Soil						
Sample Name:	SJR0016	SJR0017	SJR0018	SJR0019	SJR0020	
	28-Feb-2019 2:05 pm	28-Feb-2019 2:11 pm	28-Feb-2019 2:20 pm	28-Feb-2019 2:56 pm	28-Feb-2019 3:03 pm	
Lab Number:	2134514.16	2134514.17	2134514.18	2134514.19	2134514.20	
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	450.1	-	-	375.8	-
Dry Weight	g	406.4	-	-	345.2	-
Ashed Weight	g	368.7	-	-	275.1	-
Moisture	%	10	-	-	8	-
Dry Sample Fraction >10mm	g ashed wt	< 0.1	-	-	< 0.1	-
Sample Fraction <10mm to >2mm	g ashed wt	7.0	-	-	9.9	-
Sample Fraction <2mm	g ashed wt	360.8	-	-	264.7	-
<2mm Subsample Weight	g ashed wt	57.2	-	-	53.3	-
Asbestos Presence / Absence		Asbestos NOT detected.	-	-	Asbestos NOT detected.	-
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	< 0.00001	-	-	< 0.00001	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	-	-	< 0.001	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	< 0.00001	-	-	< 0.00001	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	-	-	< 0.001	-
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	< 0.00001	-	-	< 0.00001	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	< 0.001	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	< 0.001	-
Sample Name:	SJR0021	SJR0022	SJR0023	SJR0024	SJR0025	
	28-Feb-2019 3:12 pm	28-Feb-2019 3:22 pm	28-Feb-2019 3:32 pm	28-Feb-2019 3:34 pm	28-Feb-2019 3:55 pm	
Lab Number:	2134514.21	2134514.22	2134514.23	2134514.24	2134514.25	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	5.2	-	5.0	5.2	-
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	-	430.6	-	-	523.1
Dry Weight	g	-	404.6	-	-	496.9
Ashed Weight	g	-	355.4	-	-	471.4
Moisture	%	-	6	-	-	5
Dry Sample Fraction >10mm	g ashed wt	-	< 0.1	-	-	< 0.1
Sample Fraction <10mm to >2mm	g ashed wt	-	5.0	-	-	10.9
Sample Fraction <2mm	g ashed wt	-	349.9	-	-	459.6
<2mm Subsample Weight	g ashed wt	-	58.5	-	-	54.3
Asbestos Presence / Absence		-	Asbestos NOT detected.	-	-	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos in ACM as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001

Sample Type: Soil						
Sample Name:	SJR0026 28-Feb-2019 4:00 pm	SJR0027 28-Feb-2019 4:09 pm	SJR0028 28-Feb-2019 4:15 pm	SJR0029 28-Feb-2019 4:20 pm	SJR0030 28-Feb-2019 4:30 pm	
Lab Number:	2134514.26	2134514.27	2134514.28	2134514.29	2134514.30	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	5.9	-	29	8.3	11.7
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	-	476.3	-	-	-
Dry Weight	g	-	410.8	-	-	-
Ashed Weight	g	-	380.4	-	-	-
Moisture	%	-	14	-	-	-
Dry Sample Fraction >10mm	g ashed wt	-	4.4	-	-	-
Sample Fraction <10mm to >2mm	g ashed wt	-	13.3	-	-	-
Sample Fraction <2mm	g ashed wt	-	361.4	-	-	-
<2mm Subsample Weight	g ashed wt	-	50.7	-	-	-
Asbestos Presence / Absence		-	Asbestos NOT detected.	-	-	-
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	-	< 0.00001	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	-	< 0.00001	-	-	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	-	< 0.00001	-	-	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	-
Sample Name:	SJR0031 28-Feb-2019 4:47 pm	SJR0032 28-Feb-2019 4:52 pm	SJR0033 28-Feb-2019 4:57 pm	SJR0034 28-Feb-2019 5:02 pm	SJR0035 28-Feb-2019 5:08 pm	
Lab Number:	2134514.31	2134514.32	2134514.33	2134514.34	2134514.35	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	-	3.8	7.8	4.5	-
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	501.6	-	-	-	498.2
Dry Weight	g	472.2	-	-	-	465.0
Ashed Weight	g	434.5	-	-	-	401.2
Moisture	%	6	-	-	-	7
Dry Sample Fraction >10mm	g ashed wt	1.6	-	-	-	4.9
Sample Fraction <10mm to >2mm	g ashed wt	7.8	-	-	-	9.6
Sample Fraction <2mm	g ashed wt	424.0	-	-	-	386.3
<2mm Subsample Weight	g ashed wt	51.0	-	-	-	51.1
Asbestos Presence / Absence		Asbestos NOT detected.	-	-	-	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	< 0.00001	-	-	-	< 0.00001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	< 0.001

Sample Type: Soil						
<b>Sample Name:</b>	SJR0036 28-Feb-2019 5:13 pm	SJR0037 28-Feb-2019 5:54 pm	SJR0038 28-Feb-2019 6:00 pm	SJR0039 28-Feb-2019 6:10 pm	SJR0040 28-Feb-2019 6:17 pm	
<b>Lab Number:</b>	2134514.36	2134514.37	2134514.38	2134514.39	2134514.40	
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	5.9	-	26	22	-
New Zealand Guidelines Semi Quantitative Asbestos in Soil						
As Received Weight	g	-	447.5	-	-	479.2
Dry Weight	g	-	359.3	-	-	391.7
Ashed Weight	g	-	315.9	-	-	357.1
Moisture	%	-	20	-	-	18
Dry Sample Fraction >10mm	g ashed wt	-	11.7	-	-	27.5
Sample Fraction <10mm to >2mm	g ashed wt	-	38.5	-	-	67.3
Sample Fraction <2mm	g ashed wt	-	264.6	-	-	261.8
<2mm Subsample Weight	g ashed wt	-	55.7	-	-	51.4
Asbestos Presence / Absence		-	Asbestos NOT detected.	-	-	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos in ACM as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Weight of Asbestos as Fibrous Asbestos (Friable)	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Weight of Asbestos as Asbestos Fines (Friable)*	g ashed wt	-	< 0.00001	-	-	< 0.00001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	-	< 0.001	-	-	< 0.001
<b>Sample Name:</b>	SJR0041 28-Feb-2019 6:24 pm	SJR0042 28-Feb-2019 6:42 pm				
<b>Lab Number:</b>	2134514.41	2134514.42				
Individual Tests						
Total Recoverable Lead	mg/kg dry wt	64	69	-	-	-

## Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	2-4, 6, 8-10, 12, 14-15, 17-18, 20-21, 23-24, 26, 28-30, 32-34, 36, 38-39, 41-42
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	2-4, 6, 8-10, 12, 14-15, 17-18, 20-21, 23-24, 26, 28-30, 32-34, 36, 38-39, 41-42

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	2-4, 6, 8-10, 12, 14-15, 17-18, 20-21, 23-24, 26, 28-30, 32-34, 36, 38-39, 41-42
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.4 mg/kg dry wt	2-4, 6, 8-10, 12, 14-15, 17-18, 20-21, 23-24, 26, 28-30, 32-34, 36, 38-39, 41-42
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Ashed Weight	Sample ashed at 400°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	1 %	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Sample Fraction >10mm	Sample ashed at 400°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Sample Fraction <10mm and >2mm	Sample ashed at 400°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Sample Fraction <2mm	Sample ashed at 400°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Weight of Asbestos as Friable Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g ashed wt	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 5, 7, 11, 13, 16, 19, 22, 25, 27, 31, 35, 37, 40

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.



Ara Heron BSc (Tech)  
Client Services Manager - Environmental

Appendix B: Approximate Test Pit locations and sampling numbers



Photo 1: 104 Leinster Ave, Raunati South

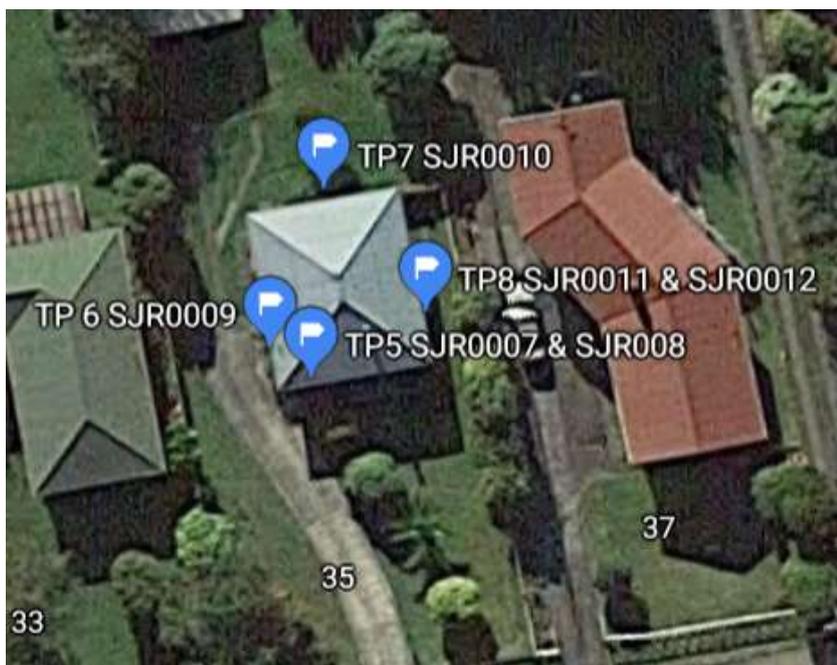


Photo 2: 35 Kaitawa Crescent, Paraparaumu

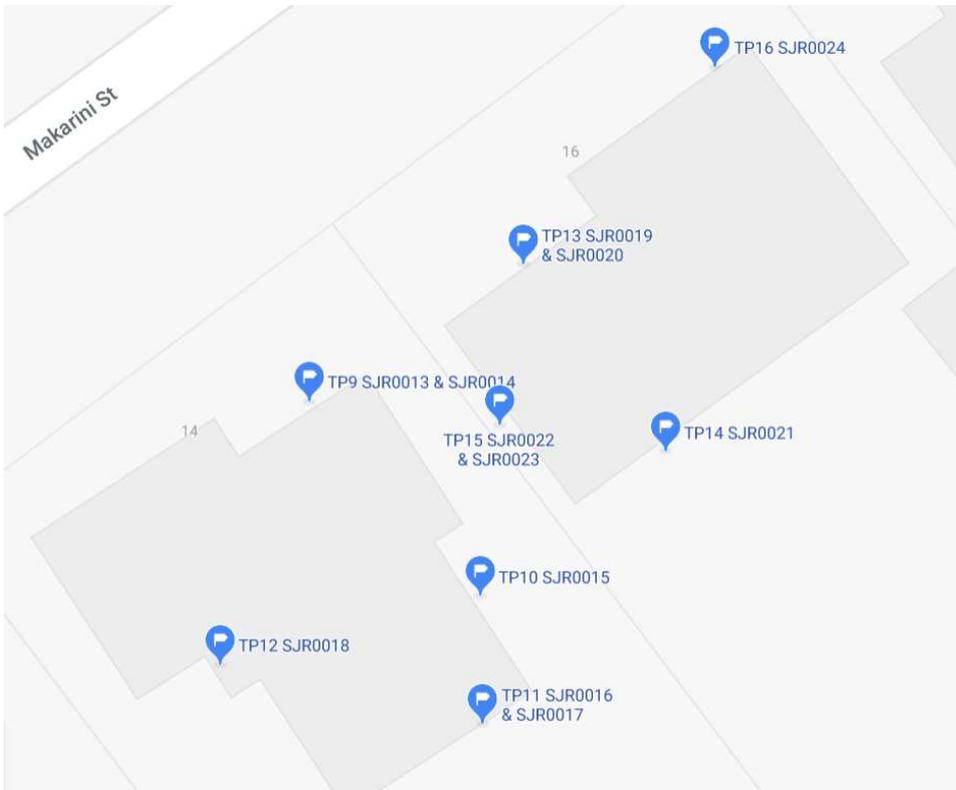


Photo 3: 14 & 16 Makarini St, Paraparaumu.

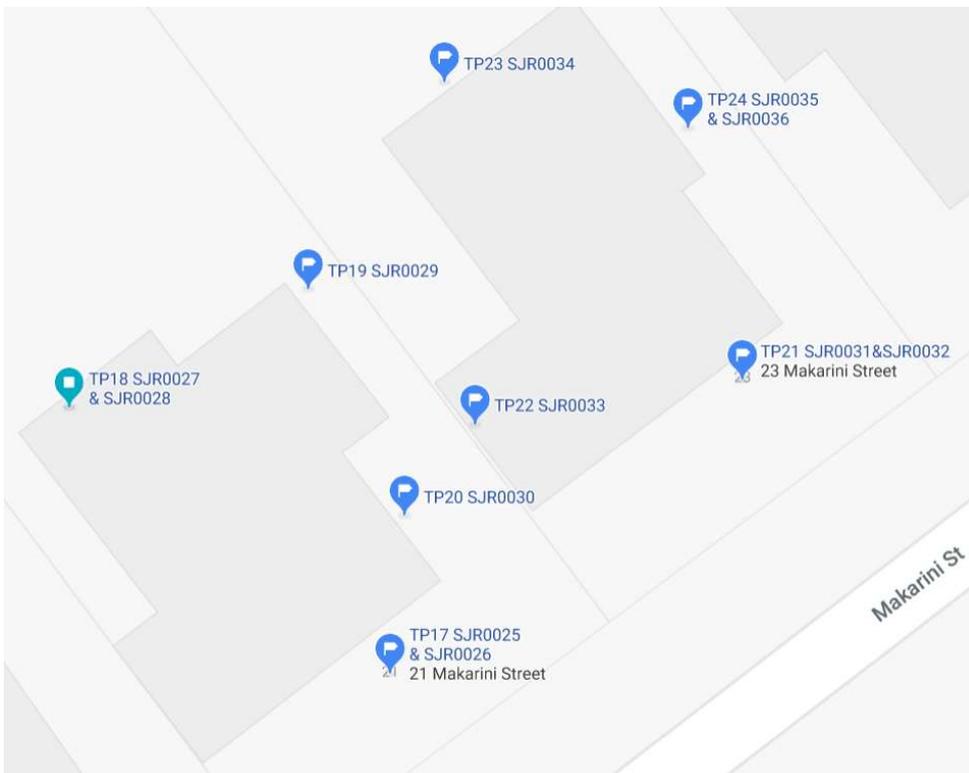


Photo 4: 21 & 23 Makarini St, Paraparaumu.



Photo 5: 11 Tawa St Waikanae.

Appendix C: Selected site photographs

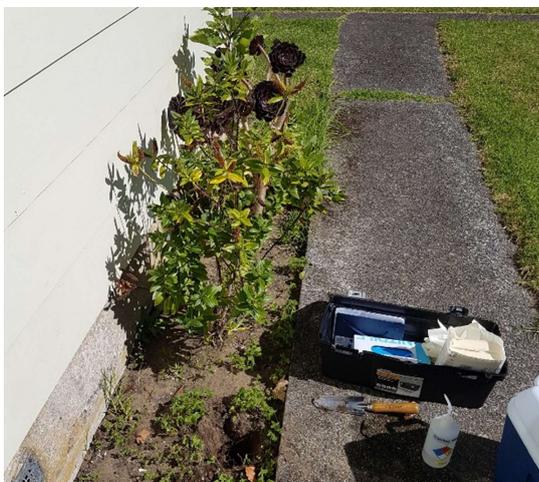


Photo 6: Test Pit 4 location- 104 Leinster Ave

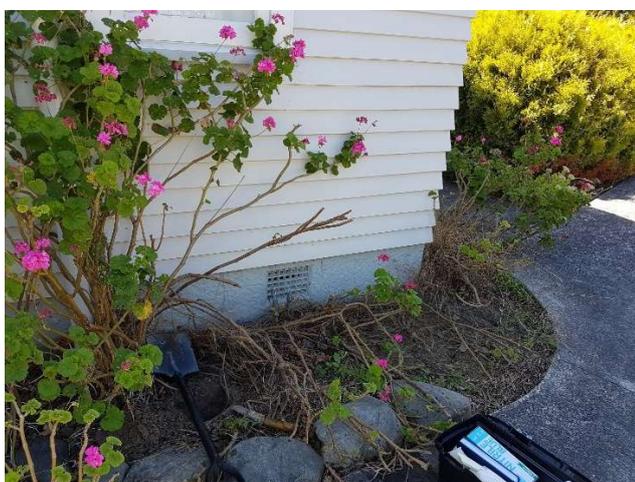


Photo 7: Test Pit 6 location 35 Kaitawa Crescent. Site of lead contaminated soil sample



Photo 8: Test Pit 10 location - 14 Makarini St



Photo 9: Test Pit 15 location - 16 Makarini St



Photo 10: Test Pit 17 location - 21 Makarini St



Photo 11: Test Pit 21 location - 23 Makarini St



Photo 12: Test Pit 25 location - 11 Tawa St

# Appendix H: Resource Consent Application Form

# APPLICATION FOR RESOURCE CONSENT INCLUDING FAST TRACK CONSENT

Under Section 87AAC or 88 of the Resource Management Act 1991



**Return completed form, supporting documents, and application fee to:**

Kāpiti Coast District Council,  
175 Rimu Road, Paraparaumu 5032  
Private Bag 60601, Paraparaumu 5254  
Email: resource.consents@kapiticoast.govt.nz

**For enquiries:**

Phone 04 296 4700 or toll free 0800 486 486 and ask for the Duty Planner  
Email: resource.consents@kapiticoast.govt.nz

Please provide **two copies** of all attachments, unless otherwise specified in checklist.

Council use only:  
Formally Received Stamp

## PART 1 – RESOURCE CONSENT

### Description of the Proposal

Please see the attached application report Section 4.

### Type(s) of Resource Consent Sought

Please check the relevant box(es)

Land use consent	<input checked="" type="checkbox"/>
Is this application for a fast track consent? (see notes on page 3)	<input type="checkbox"/>
Subdivision consent	<input checked="" type="checkbox"/>
Other resource consent sought (e.g. from Regional Council)	<input type="checkbox"/>
Do you want any regional consent(s) to be processed jointly?	<input type="checkbox"/>

If applicable, please outline your consent application to the Regional Council.

### Previous contact with Council regarding application

Please tick the relevant box(es) and record officer's name

Pre-application meeting including business start-up meeting	<input type="checkbox"/> on
Application previously returned under section 88 (include previous resource consent (RM) number if known)	<input type="checkbox"/>

## PART 2 – DETAILS OF THE APPLICANT(S)

I/We apply for the land use and/or subdivision resource consent(s) described above. I/We note that any application for regional consent(s) must be made to the Regional Council.

Applicant's name: <i>(please write all names in full):</i>	Jasvinder Madhar (Development Manager, Housing New Zealand)	
Electronic address for service:		
Contact details:	Landline:	Mobile:
Alternative address for service:		

## DETAILS OF AGENT ACTING FOR APPLICANT (if different from above)

Agent's name: Hannah Payne-Harker (Graduate Planner, WSP Opus)		
Electronic address for service: hannah.payne-harker@wsp.com		
Contact details:	Landline:	Mobile: 0275452928
Alternative address for service:		

## DETAILS FOR BILLING (if different from Applicant)

Name:		
Electronic address for service:		
Contact details:	Landline:	Mobile:
Email:		

## PART 3 – SITE INFORMATION

The physical site to which this application relates is described as: Please see attached report Section 3

Number: 11	Street: Tawa Street	Town: Waikanae
Legal Description: Lot 20 DP 27856		

## PART 4 – SUPPORTING INFORMATION REQUIRED

I/We provide the following information in support of this application to satisfy the requirements of Section 88 (4) of the Resource Management Act 1991

• Information required by Schedule 4 of the Resource Management Act 1991	<input checked="" type="checkbox"/>
• Assessment against Part 2 of the Resource Management Act 1991	<input checked="" type="checkbox"/>
• Certificate of Title for the site (Note: must be no more than three months old) and any relevant Consent Notices, Easement / Encumbrance documents	<input checked="" type="checkbox"/>
• Full set of plans and any other required technical reports (refer to attached guidelines)	<input checked="" type="checkbox"/>
• Notice of written approval from affected parties if relevant (these must be signed by all owners of a property)	<input type="checkbox"/>

**Please refer to attached information requirement checklist.**

*If you are unsure about any information requirements, please contact the Council Duty Planner or your independent Planning Advisor before you submit this application. This will help to reduce potential delays in processing.*

### Application Fee (Deposit)

I/We enclose the fee of \$  
Management Act 1991)

(as required under Section 36 of the Resource

### Privacy Information

The information you have provided on this form is required so that your application for consent can be processed under the Resource Management Act 1991, and so that statistics can be collected by the Council. The information will be stored on a public register and held by the Council.

The details may also be made available to the public on the Council's website, [www.kapiticoast.govt.nz](http://www.kapiticoast.govt.nz). These details are collected to inform the general public and community groups about all consents which have been received and issued through the Council. If you would like to request access to, or correction of, your details please contact the Council on 04 296 4700 or toll free on 0800 486 486 and ask for the Duty Planner.

Once this application is lodged with Council, it becomes public information. If there is any sensitive information in the proposal, you may request that it is withheld and the Processing Officer will contact you regarding this matter.

### Signature(s)

I/We hereby certify that, to the best of my/our knowledge and belief, the information given in this application is true and correct. I/We undertake to pay all actual and reasonable application costs incurred by the Kāpiti Coast District Council.

Signature of applicant/agent (no signature is required if the application is being submitted electronically):

Name: (Please Print) Jasvinder Madhar



Date:

14/6/2019.

### FAST TRACK APPLICATIONS

Previously all non-notified resource consent applications were subject to a 20-working day process, regardless of the scale of the application. The Resource Management Act 1991 has been amended to introduce a new fast track process.

Where a land use resource consent has been applied for in respect of a controlled activity, Council must process and issue a decision within 10 working days unless the Applicant choose to opt out of the fast track process. Council has no discretion to decline controlled activity consents.

There are currently 17 land use controlled activities in the Operative District Plan; this may change when decisions are released on the Proposed District Plan. The most common applications received for land use controlled activities are for home occupations and relocated buildings.

The Operative District Plan contains the activities which are classed as Controlled Activities. If you are unsure whether the proposed activity can be processed as a fast track consent, please contact the Council Duty Planner or your independent Planning Advisor.

