

9 AUGUSTA RISE CENTRAL

Land Information Memorandum

Information in a LIM

Includes:

Rates and water rates

- · Current Rating Valuation
- · Annual Rates
- Outstanding Rates amounts
- · Water Charges

Sewer and stormwater

 Whether the property has district sewer available and whether it is connected

Special land features

- Including potential erosion, filing, flooding avulsion, falling debris, slippage, alluvion, or inundation.
- The status of the land in relation to the contamination of soil by hazardous substances
- Weathertight Homes information (if relevant)
- Any relevant reports or information held by council in relation to the property

Archaeological sites

· Any relevant Archaeological sites.

Building consents, licences and requisitions

- Building Permits/Consents issued on the property
- Any outstanding works, Code Compliance Certificates for consents issued since 1993
- If a Compliance Schedule has been issued for the building and when the related Warrant of Fitness expires

Licences and environmental health

 Whether the property has a licence relating to the sale of food, the sale of liquor or any other licence (under Health Act 1956)

Enforcements and notices

 Any notice, order, or requisition affecting the land or any building on the land previously issued by Council

Planning and resource management

- Zoning of the property as defined by Operative and/or Proposed District Plans
- All Resource Consents approved in relation to the property
- · Long term Community Plans
- Structure Plans

Drainage and water

- Information on public stormwater and wastewater pipelines on the property as shown on Councils log plans
- · Water toby location

Maps

 Maps relating to the property including Aerial Photo, Land Information, District Plan and Deposited Plan.

Information not received in a LIM:

- Building Plans
- For information in relation to State Highways please contact Waka Kotahi NZ Transport Agency
- Western Bay of Plenty District Council does not hold any information concerning electricity, gas and telephone connections.
- Computer Registers (previously called Certificate of Title).

Land Information Memorandum

Section 44a, Local Government Official Information and Meetings Act 1987

16 September 2025	16	Se	pte	mb	er	2025
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P/1327/15

CRENE, JAMES ALLAN
9 AUGUSTA RISE
OMOKOROA 3114

Kia orā

Thank you for your application for a Land Information Memorandum.

The original of this LIM has been prepared pursuant to S.44A of the Local Government Official Information and Meetings Act 1987, solely for the applicant, and contains information known to Council within its records and only relevant to the site requested. The reliance by other parties on the information within this LIM shall be at that other parties' sole risk. If any interpretation or explanation is required on any of the enclosed information or plans, the services of an independent advisor or consultant should be sought.

It is recommended that the Record of Title, which is not issued by Council, be searched by the purchaser. The LIM does not necessarily include information relating to private covenants or other memoranda affecting the title and those should be obtained from a Land Record search.

In preparing this report, no Council inspection of the property has been undertaken.

This Land Information Memorandum is valid as at the date of issue only.

Ngā mihi

The Consents Services Team (Environmental Consents)

limprocessors@westernbay.govt.nz

Applicant

Client Name:

Applicant Name: CRENE, JAMES ALLAN

9 AUGUSTA RISE OMOKOROA 3114

Postal Address: 9 AUGUSTA RISE

OMOKOROA 3114

Application Date: 05 Sep 2025

Issue Date: 16 September 2025

Property

Property Owner: CRENE, JAMES ALLAN

THOMAS, SUSAN RACHEL

Valuation No: 06881 583 35

Location: 9 AUGUSTA RISE CENTRAL

Legal Description: LOT 36 DP 527091

Area (hectares): 0.0463

Copies of any relevant deposited plans are included in the Map Section of this LIM.

Rates and Water Rates

The information provided on rates/financial details in this report may not reflect the current details of the legal description/valuation on your application form. This may be due to the property being under subdivision or that the information has not yet been provided or updated for the current valuation and improvements for this financial year.

Note: Rates, Rateable Valuation Details and Water Rates relate to a valuation number. This may be linked to other properties, or a parent property. For this Land Information Memorandum, the valuation number 06881 583 35 is linked to Lot 36 Deposited Plan 527091

 Land Value:
 \$480,000

 Improvements:
 \$770,000

 Capital Value:
 \$1,250,000

Tree Value: \$0

Annual Rates: \$4,884.55 **Rates Owing:** \$1,637.52

Note: For the period until rates are "set" the Current Annual Rates and Rateable Valuation Details should not be relied upon and any queries should be directed to the Rates Team.

Rates are charged in two equal instalments for the period commencing 1 July and ending 30 June each year.

Water Rates – This information applies to Western Bay of Plenty District Council systems only. In some parts of Tauriko, Papamoa, Pyes Pa and Oropi, properties are served by Tauranga City Council system.

Metered Water YES

Date of Last Reading 27 Mar 2025

ConnectedYESAvailableYESOwing\$0.00

Water rates may be outstanding on this property as meter readings are completed six monthly.



Further information about Council's water supply and water quality is available from Council's website. Please refer to the Western Bay of Plenty District Council's Water Supply System Bylaw 2008: Water Supply System Bylaw 2008



Rates information and valuation history can be found online at the Western Bay of Plenty District Council website: Rating Information Search



For any information regarding Maori Land, please contact the Waiariki or Waikato/Maniapoto Office of the Maori Land Court or view their website and online records at: Maori Land Court

Building

This information is a record of details held on Council files and may not reflect the situation on site if work has been undertaken without consent. If Council holds any as-built drainage plans relevant to this property they will be included in the attachments section of this LIM.

Building Consents:			
ВС	Project	Status of Consent	
93879	NEW DWELLING WITH DOUBLE GARAGE	CCC FINAL ISSUED 20 Oct 2020	

Building, Plumbing and Drainage Permits issued prior to 1993 will not have a Code Compliance Certificate as the requirement for this did not come into effect until 1 January 1993.

Any information held by council relating to Building Permits will be listed on the Historical Data page at the back of this section in your LIM.

Information regarding buildings where Council holds no records of consents:

The absence of records for building permits or consents may mean any of the following:

- The building was erected without a permit or consent.
- The building work may be exempt from requiring a permit/consent.
- · A Council record is unable to be located.

If building work was carried out without a building permit prior to the 1991 Building Act, or without obtaining building consent under the Building Act 1991 or Building Act 2004, then there is no authority under those Acts for the Council to retrospectively issue a building consent for the work.

For buildings erected prior to the commencement of the Building Act 1991, without any building permit or for which Council holds no records, then Council is generally unlikely to take any action against the current owners of that building unless the building is unsafe or insanitary in terms of the Building Act 2004 or the Health Act 1956. This assumes that the building complies in all other respects with other statutory requirements.

For post-Building Act 1991/Building Act 2004 work, for which the Council holds no record, or the work is not exempt, it is likely that the building work was carried out without consent. If so, the property owner and the person who carried out the work may have contravened the Building Act 1991 and Building Act 2004, and enforcement action may be taken at the Council's discretion. However, some building work is exempt from requiring a permit/consent. This generally applies to small buildings or structures and minor alterations. Irrespective of whether consent is required the Building Act requires that all building work must comply with the Building Code. Potential purchasers of properties requiring further information on building work are advised to engage a qualified building professional to inspect and report.

A certificate of acceptance can be applied for when work is done without a building consent after 1 July 1992, or in specific circumstances when a code compliance certificate (CCC) can't be issued.

For further information go to - <u>Certificate of Acceptance Information</u>

Certificate of Acceptance:			
COA	Status		
None Known			

Compliance Schedules / Building Warrant of Fitness:		
Premise	Notes	
None Known		

Any other information affecting this Property is listed below:

-COUNCIL SERVICES

There are Council Services on this property (refer to the Land Information Map in the Map Section of this LIM). It is Council policy that no building shall be built closer than the greater of:

- a. 1.5m from the centre of any public sewer, stormwater or water pipe.
- b. within 1.5m of rising main
- c. the depth of the pipe inverted from the ground surface.

To construct a building within these requirements written permission must be granted by Councils Utilities Manager.

Environmental Health - Registrations and Licences

Premise Registration:				
Premises	Category	Licence Status		
None Known				

Liquor Licences:				
Туре	Status	Licence No	Date Issued	
None Known				

Enforcements and Notices

Enforcements and Notices:				
Parcel ID	Notice Type	Comments	Date Issued	Date Complied
None				
Known				

Special Land Features

This section includes any special features of the property known to Council including potential erosion, fill, flooding, avulsion, falling debris, slippage, alluvium or inundation. It also includes the status of the land in relation to the contamination of soil by hazardous substances.

It is the landowner's responsibility to determine whether the property is suitable for any proposed activity or whether any proposed building site is suitable for development (and to undertake tests if necessary).

Any information relating to Weathertight Homes Resolution Services Act 2006 – Section 124 will be included in the attachments section of this LIM (if applicable).

Any relevant reports held by Council are included in the attachments.

Natural Hazards

Our region is exposed to a range of natural hazards including earthquakes, coastal erosion, volcanic eruption, landslides, tsunami and flooding.

These natural hazards can have major consequences on people, property and infrastructure. Regional Council is working to improve our understanding and management of these risks to support safe and resilient communities. Further information regarding Natural Hazards Specific to this property can be found here;

Bay of Plenty Regional Council Website - Natural Hazards

<u>Bay Hazards - Bay of Plenty Natural Hazards Viewer</u>

Further property specific Natural Hazard information can also be found under the 'Planning/ Resource Management' section of this LIM (inside the Operative District Plan 'identified features' and the 'other features' boxes).

Contaminated Land

Information about <u>Contaminated Land</u> can be found on the Bay of Plenty Regional Council's (BOPRC's) website.

Properties that are currently recorded on the BOPRC Land Use Register can be viewed via the BOPRC's HAIL Site Viewer.

If the property is identified as a HAIL site, the BOPRC's land use register letter and/or land use site details will be included in the 'attachments section' of this LIM.

Any contaminated site investigations and/or site validation reports will also be included in the 'Attachments' section of this LIM (if available for this property).

Historic Heritage Features and Archaeological Sites

Please refer to the map section of this LIM. The Geographic Information Services (GIS) plan entitled 'Archaeological Sites' will identify any registered archaeological site(s) over the property (depicted as a "U" number in a red/pink box/circle). If a site(s) is recorded on the property, an 'archaeological sites report' will be attached.

Please also refer to the District Plan map, this will also identify any significant historic heritage features located on the property. If a significant historic heritage feature is recorded over the property, the provisions of Section 7 (Historic Heritage) of the Operative District Plan apply.

If the GIS plan or District Plan map does not identify any archaeological site(s) and/or historic heritage feature(s) it should not be assumed there are no sites or features, only that Council has no record of these. Property owners still have obligations under the Heritage New Zealand Pouhere Taonga Act 2014 in that it is an offence for anyone to destroy, damage or modify or cause to be destroyed, damaged or modified, the whole or part of any archaeological site, knowing or having reasonable cause to suspect it is an archaeological site.



Further information on Archaeological Sites and/or Historic Heritage Features in the Western Bay of Plenty District can be found here;

- Operative District Plan
- NZAA Arch Site Hub
- Heritage New Zealand

Sewer and Stormwater

Services: See attached Land Information map

District Sewer Connected: YES **District Sewer Available:** YES

If a sewer is available, under the Local Government Act 1974, the property must connect to the sewer if it is within 30 metres of the property boundary or if the sewer is within 60 metres of the dwelling.

Septic Tanks and On-Site Effluent Treatment Systems (OSET)

Most septic tanks in the Western Bay of Plenty are permitted provided they are adequately maintained, however, when making dwelling additions you may need to upgrade the wastewater system, and this will require Building Consent under the Building Act 1991.

The removal and/or upgrade of existing septic tanks and/or OSET may also require Resource Consent from the Bay of Plenty Regional Council. Please contact Bay of Plenty Regional Council directly 0800 884 880 if you have any further questions about this.

OSET Maintenance Zones

In some areas where the environment is being adversely affected, the Bay of Plenty Regional Council has decided to include communities in maintenance zones. This requires more active management of systems to reduce the risk to the environment and to public health. Within the Western Bay of Plenty District, **Tanners Point** is located within one of these maintenance zones. A map showing the extent of this zone can be found in the On-Site Effluent Treatment Regional Plan:

OSET Regional Plan

Please note, Ongare Point and Te Puna West are now reticulated and are therefore no longer considered as maintenance zones.

If the land is located within the Tanners Point maintenance zone, you will need to employ a contractor to pump out and inspect the septic tank. A report on the size and condition of the system is prepared by the contractor. Any repairs that are required are the responsibility of the owner.

Please contact Bay of Plenty Regional Council directly 0800 884 880 if you have any further questions about this.

Network Utility Operators

Western Bay of Plenty District Council does not hold any information concerning electricity, telecommunication and gas connections. Information may be obtained from the relevant network utility providers.

Projects

We work to provide good-quality local infrastructure and local services to our communities. You can read about **Council Projects** here.

Planning/Resource Management

This property is zoned **MEDRES** for more information on this zone refer to the **Western Bay of Plenty Operative District Plan**

The District Plan including rules, maps and performance standards, plus any current (and previous) Plan Changes can be found here:



Operative District Plan

District Plan Changes

If you have any questions about the Operative District Plan, please contact Council's Customer Service Planner.

RC Number	Status	Consent Type	Date Issued
	None Known		-

Any information held by council relating to Historic Planning Consents will be listed on the Historical Data page at the back of this LIM.

If there are any Consent Notices, Memorandums of Encumbrance, Deeds of Covenant, Bush Protection Inspections and/or Yard Exemption Statements relevant to this property they will be included in the attachments section of this LIM.

Resource consents can lapse. Applicants are advised to verify the status of Resource Consents with Council staff.

If a Resource Consent(s) has been granted on this property it does not infer that the conditions of the consent have been met. Applicants are advised to verify the status of Resource Consent(s) with Council's Customer Service Planner.

Any features identified in the Operative District Plan are listed below:

Any other features are listed below:

-LIQUEFACTION

Council holds a report from Tonkin + Taylor Ltd entitled "Bay of Plenty Regional Liquefaction Vulnerability Assessment" (2021) (Report). This Report presents the results of a liquefaction mapping exercise for the Bay of Plenty Region.

Liquefaction can occur when some saturated soils (typically silts and sands) lose strength and stiffness (temporarily behaving as a liquid rather than a solid) in response to earthquake shaking.

The Report was prepared in accordance with the Ministry for the Environment (MfE) and Ministry of Business, Innovation and Employment (MBIE) "Planning and Engineering Guidance for Potentially Liquefaction Prone Land" (2017) to a Level A (basic desktop assessment) level of detail.

A figure showing the liquefaction vulnerability categories recommended for use in the "Planning and Engineering Guidance for Potentially Liquefaction Prone Land" (2017) can be viewed on Council's natural hazards webpage (liquefaction subpage).

These categories are "liquefaction damage is unlikely", "liquefaction damage is possible" and "liquefaction category is undetermined".

The Report is referred to in this LIM because the subject property is identified based on information contained in the Report as having one or more of these categories.

The liquefaction maps from the Report are shown on the map contained in this LIM entitled "Natural Hazards (Not District Plan)" and shown on Council's interactive online natural hazard map. The latter allows a particular property to be searched for and can be viewed on Council's natural hazards webpage (liquefaction subpage).

"Liquefaction damage is unlikely" means a probability of more than 85 percent that liquefaction-induced ground damage will be none to minor in a 1-in-500 year earthquake shaking event. At this stage there is not enough information to distinguish between Very Low and Low (liquefaction vulnerability). More detailed assessment would be required to assign a more specific liquefaction category. Following more detailed assessment a classification of Medium or High (liquefaction vulnerability) is also a possible categorisation but based on the information available this is considered very unlikely.

"Liquefaction damage is possible" means a probability of more than 15 percent that liquefaction-induced ground damage will be minor to moderate (or more) in a 1-in-500 year earthquake shaking event. At this stage there is not enough information to distinguish between Medium and High (liquefaction vulnerability). More detailed assessment would be required to assign a more specific liquefaction category. Following more detailed assessment a classification of Very Low or Low (liquefaction vulnerability) is also a possible categorisation but this is considered less likely.

"Liquefaction category is undetermined" means that a liquefaction vulnerability category is undetermined, either because a liquefaction assessment has not been undertaken for this area, or there is not enough information to determine the appropriate category with the required level of confidence.

Council will be introducing changes to its District Plan in due course to update its maps to reflect the information contained in the Report. In the interim, Council will be relying on the information contained in the Report to exercise statutory functions such as making decisions under the Building Act and Resource Management Act.

The Report can be viewed on Council's natural hazards webpage (liquefaction subpage). The Report includes a liquefaction vulnerability map for the Region in Figure 4.2 on page 52.

This liquefaction subpage also contains information and Frequently Asked Questions (FAQs) relating to liquefaction and how it may affect the use of a property.

It can be viewed at www.westernbay.govt.nz/liquefaction.

Property Adjoining Reserves

Under Council's Reserve Management Plan(s) any property adjoining a public reserve is not permitted to encroach onto that reserve. Where new encroachments occur, or if an existing encroachment exists, Council will give notice to the encroacher to remove the encroachment and reinstate the reserve at their own cost. Please refer to the Reserve Management Plan.



Reserve Management Plans

Community Plans

Council has a programme to help urban communities in the district develop long term plans that detail a vision for each community. Information regarding current Community Plans can be found here:



Community Plans

Other Useful information

Western Bay of Plenty District Council provides the following discretionary information which it considers to be relevant in accordance with Section 44A(3) of the Local Government Official Information and Meetings Act 1987 (LGOIMA).

Structure Plans

Structure plans have been created by Council to assist in managing the District's growth. These identify new areas for development and show required infrastructure (roading, water supply, wastewater disposal, stormwater and recreation) and associated costs. These structure plans are contained in <u>District Plan - Appendix 7 - Structure Plans</u> and shown on the Planning Maps.

Council Website

The Council's <u>Website</u> provides comprehensive information and resources, including details on building and resource consents topics such as natural hazards and zoning.

The Bay of Plenty Regional Council

Regional Council policies and plans may affect the use and management of land, water air and other natural and physical resources. These can be found here: **Bay of Plenty**Regional Council Website

For further information on whether a property is affected by any Regional Planning instrument or by some other function of the Regional Council please contact Regional Council.

The Ministry for the Environment

The Ministry for the Environment administer Acts, National Policy Statements, National Environmental Standards and other regulations. See <u>Act and Regulations.</u>

HISTORICAL DATA

There are no historical planning consent documents held for this property There are no historical planning consent documents held for this property

MAPS

Aerial Photography

Land Information

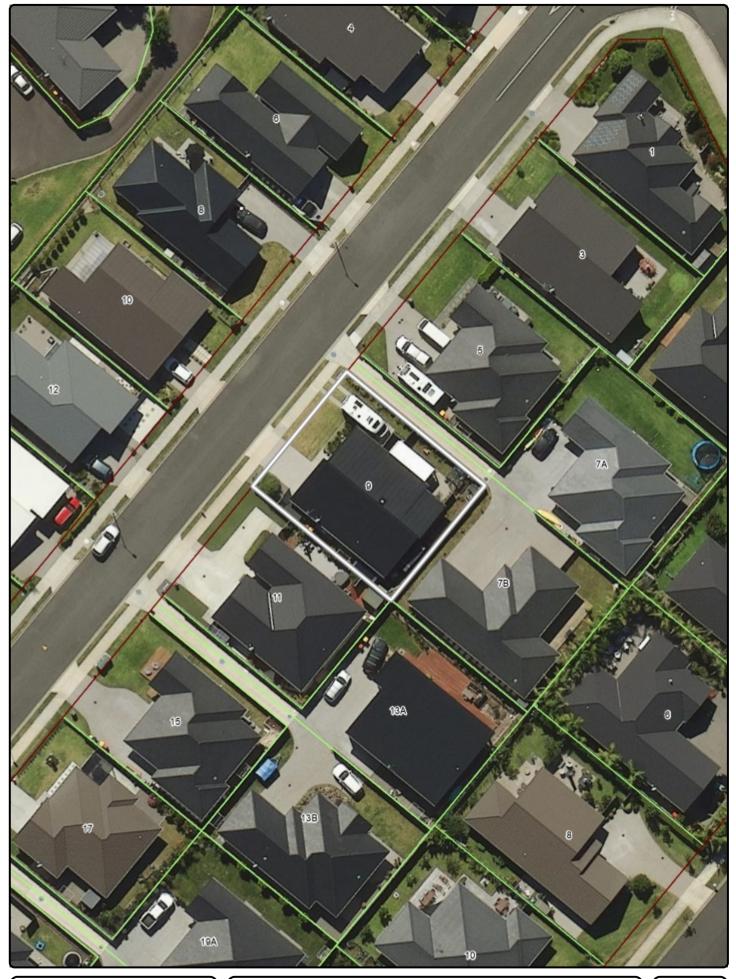
Land Information Legend

District Plan

District Plan Legend

Other Natural Hazards (not in District Plan)

Natural Hazards Legend



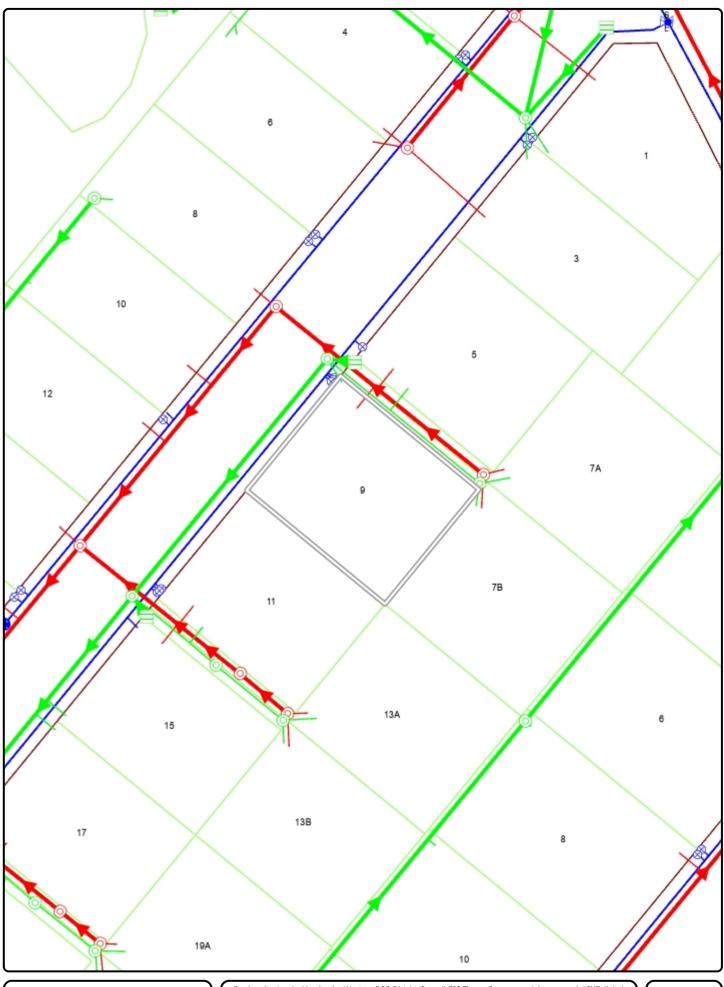


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Aerial Photo

0 _______ 25 Meters A4 Scale 1: 500





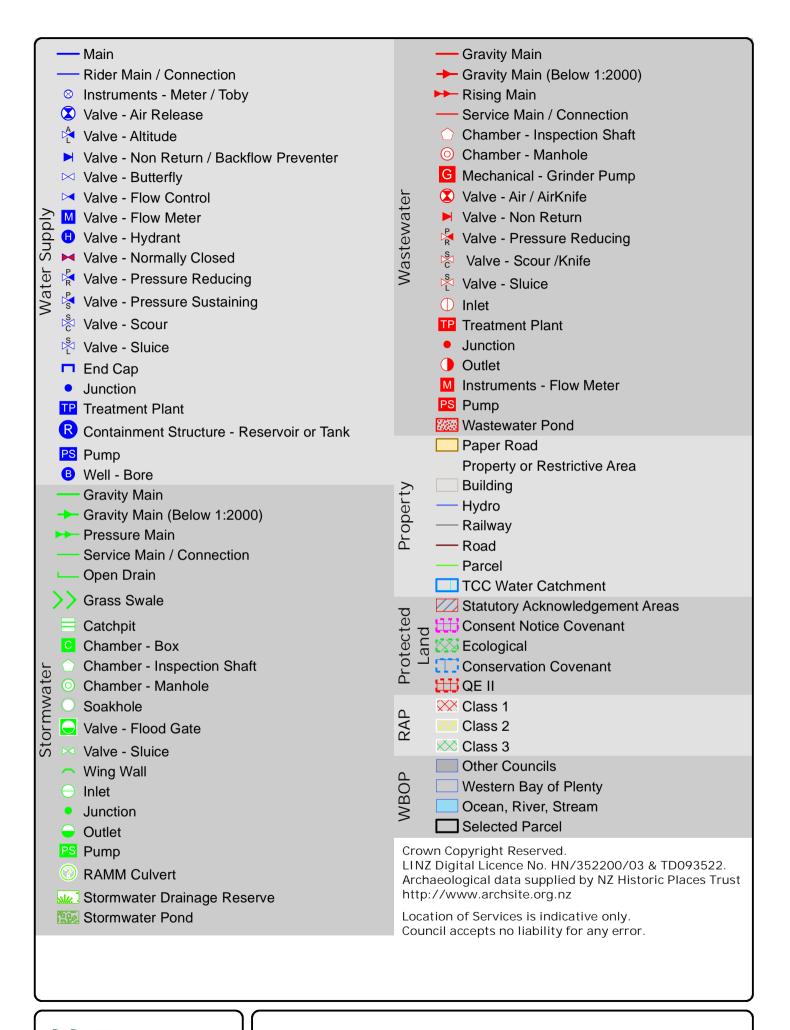


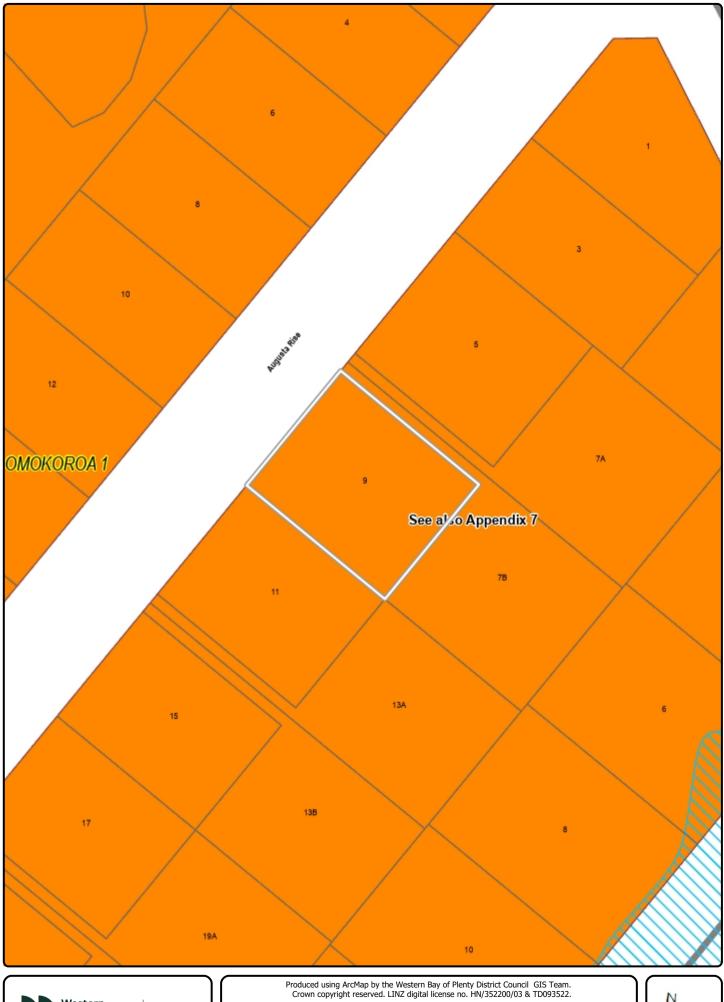
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Land Information

0 _______ 25 Meters A4 Scale 1: 500











0 ______ 25 Meters A4 Scale 1: 500

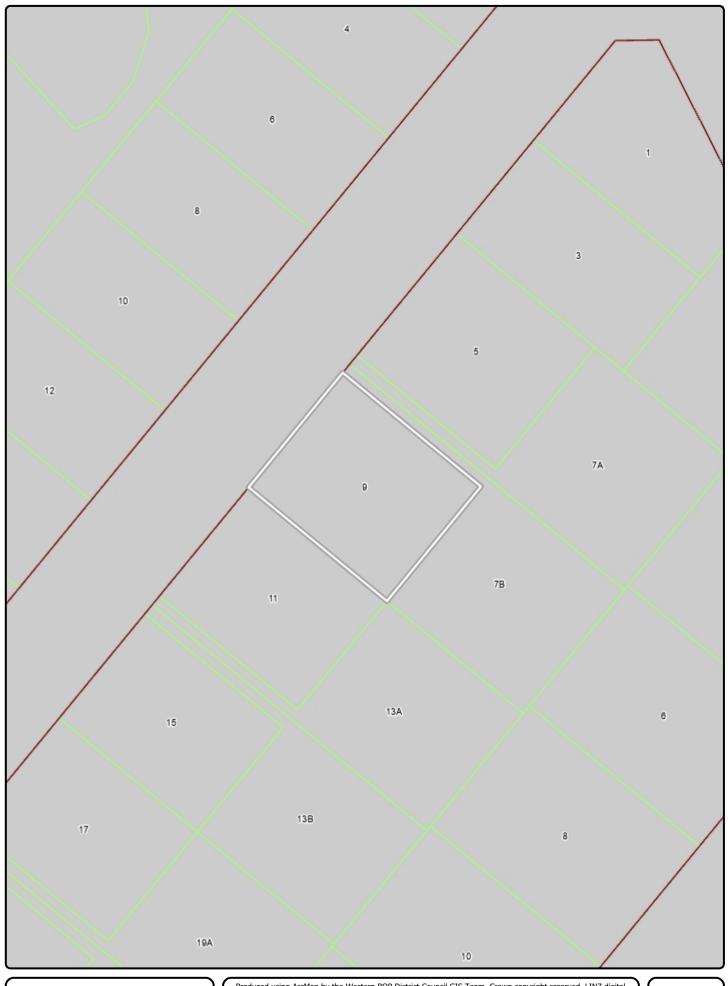






For our people

District Plan Legend





For our

people

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Natural Hazards (not District Plan)

0 ________ 25 Meters A4 Scale 1: 500



Coastal Erosion Year 2080 Coastal Erosion Year 2130 Tauranga Harbour Coastal Inundation Katikati Floodable Area Te Puke Floodable Area Waihi Beach Floodable Area Wairoa Floodable Area Rural / Small Settlements Floodable Area Maketu/Pukehina Tsunami Liquefaction Damage is Possible	Paper Road Property or Restrictive Area Building Lease Hydro Railway Road Parcel Selected Parcel
Liquefaction Damage is Unlikely Liquefaction Category is Undetermined	







Title Plan - DP 527091

Survey Number DP 527091

Surveyor Reference 629313 - BARRETT HOMES LTD

SurveyorDallas James MillerSurvey FirmStratum Consultants Limited

Surveyor Declaration I Dallas James Miller, being a licensed cadastral surveyor, certify that:

(a) this dataset provided by me and its related survey are accurate, correct and in accordance with the

Cadastral Survey Act 2002 and the Rules for Cadastral Survey 2010, and (b)the survey was undertaken by me or under my personal direction.

Declared on 20 Feb 2019 04:37 PM

Survey Details

29449 & EASEMENTS OVER LOTS 1 & 2 DP 522664

Status Deposited

 Land District
 South Auckland
 Survey Class
 Class A

 Submitted Date
 20/02/2019
 Survey Approval Date 25/02/2019

Deposit Date 20/02/2019

Territorial Authorities

Western Bay of Plenty District

Comprised In

RT 829688 RT SA26D/1269

RT 829689

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Area KC Deposited Plan 527091	Easement		
Lot 100 Deposited Plan 527091	Fee Simple Title	$0.4602\mathrm{Ha}$	848167
Area NJ Deposited Plan 527091	Easement		
Area OE Deposited Plan 527091	Easement		
Area OD Deposited Plan 527091	Easement		
Area NH Deposited Plan 527091	Easement		
Area R Deposited Plan 527091	Easement		
Area N Deposited Plan 527091	Easement		
Area NI Deposited Plan 527091	Easement		
Area MB Deposited Plan 527091	Easement		
Area KI Deposited Plan 527091	Easement		
Area V Deposited Plan 527091	Easement		
Area W Deposited Plan 527091	Easement		
Lot 1 Deposited Plan 527091	Fee Simple Title	$0.0415\mathrm{Ha}$	848138
Lot 2 Deposited Plan 527091	Fee Simple Title	0.0431 Ha	848139
Lot 3 Deposited Plan 527091	Fee Simple Title	$0.0408\mathrm{Ha}$	848140
Lot 4 Deposited Plan 527091	Fee Simple Title	$0.0422\mathrm{Ha}$	848141





Title Plan - DP 527091

Created Parcels			
Parcels	Parcel Intent	Area	RT Reference
Lot 5 Deposited Plan 527091	Fee Simple Title	0.0417 Ha	848142
Lot 6 Deposited Plan 527091	Fee Simple Title	0.0411 Ha	848143
Lot 7 Deposited Plan 527091	Fee Simple Title	0.0413 Ha	848144
Lot 8 Deposited Plan 527091	Fee Simple Title	0.0405 Ha	848145
Lot 9 Deposited Plan 527091	Fee Simple Title	$0.0420{ m Ha}$	848146
Lot 10 Deposited Plan 527091	Fee Simple Title	0.0420 Ha	848147
Lot 28 Deposited Plan 527091	Fee Simple Title	0.0423 Ha	848152
Lot 31 Deposited Plan 527091	Fee Simple Title	$0.0440{ m Ha}$	848155
Lot 32 Deposited Plan 527091	Fee Simple Title	0.0423 Ha	848156
Lot 35 Deposited Plan 527091	Fee Simple Title	0.0440 Ha	848159
Lot 36 Deposited Plan 527091	Fee Simple Title	0.0463 Ha	848160
Lot 39 Deposited Plan 527091	Fee Simple Title	0.0491 Ha	848163
Lot 40 Deposited Plan 527091	Fee Simple Title	0.0456 Ha	848164
Lot 42 Deposited Plan 527091	Fee Simple Title	0.0457 Ha	848166
	Road	0.2456 Ha	
Area A Deposited Plan 527091	Easement		
Area B Deposited Plan 527091	Easement		
Area C Deposited Plan 527091	Easement		
Area D Deposited Plan 527091	Easement		
Area E Deposited Plan 527091	Easement		
Area F Deposited Plan 527091	Easement		
Area I Deposited Plan 527091	Easement		
Area KA Deposited Plan 527091	Easement		
Area KD Deposited Plan 527091	Easement		
Area KB Deposited Plan 527091	Easement		
Area MA Deposited Plan 527091	Easement		
Area J Deposited Plan 527091	Easement		
Area KE Deposited Plan 527091	Easement		
Area L Deposited Plan 527091	Easement		
Area NA Deposited Plan 527091	Easement		
Area NB Deposited Plan 527091	Easement		
Area NC Deposited Plan 527091	Easement		
Area ND Deposited Plan 527091	Easement		
Area NE Deposited Plan 527091	Easement		
Area NF Deposited Plan 527091	Easement		
Area NG Deposited Plan 527091	Easement		
Area OA Deposited Plan 527091	Easement		
Area OB Deposited Plan 527091	Easement		
Area OC Deposited Plan 527091	Easement		
Area KF Deposited Plan 527091	Easement		
Area S Deposited Plan 527091	Easement		
Area KG Deposited Plan 527091	Easement		





Title Plan - DP 527091

Created Parcels

Parcels
Area KH Deposited Plan 527091
Easement

Total Area

1.4813 Ha

Land Registration District

Plan Number

SOUTH AUCKLAND

DP 527091

Page 4 of 8

Territorial Authority (the Council)

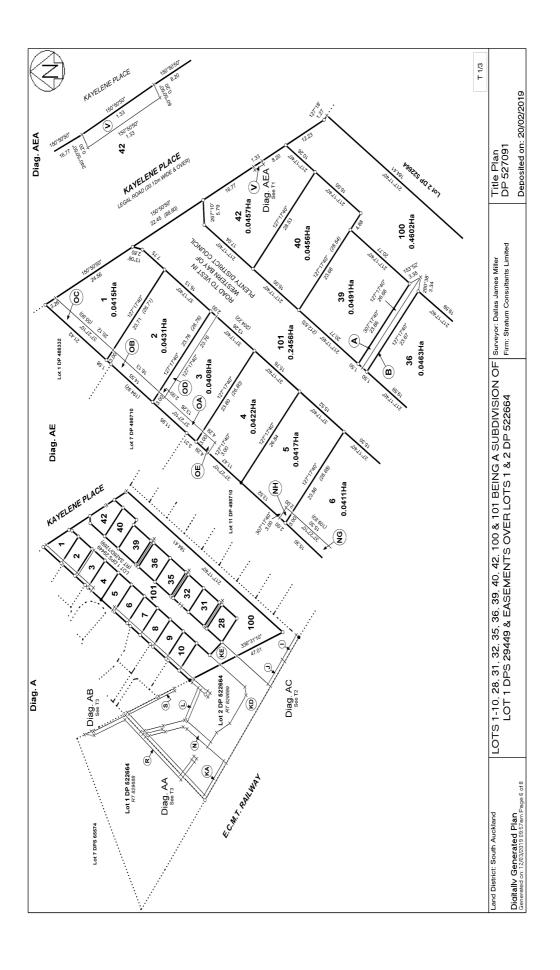
Western Bay of Plenty District Council

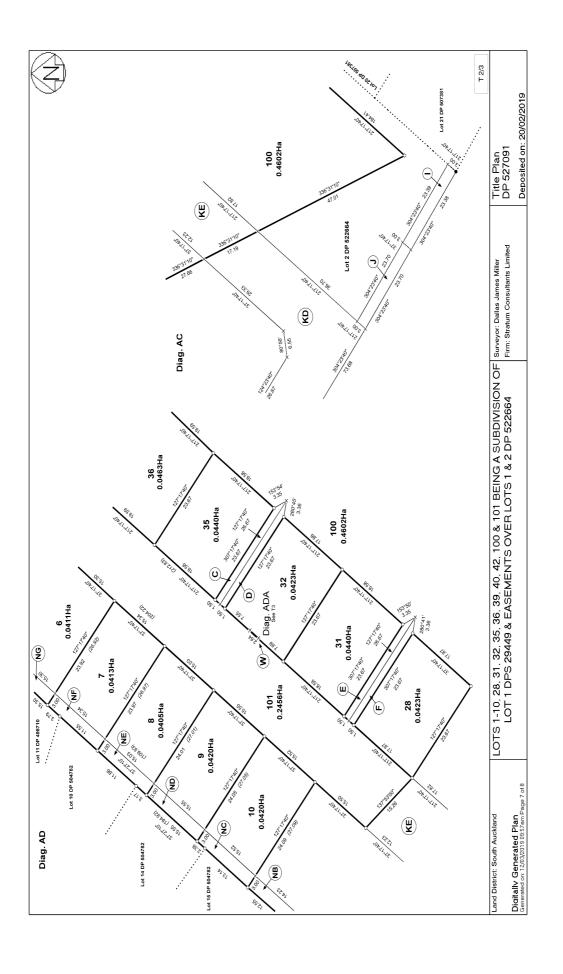
Memorandum of Easements (Pursuant to s243 Resource Management Act 1991)				
Purpose	Shown	Servient Tenement (Burdened Land)	Dominant Tenement (Benefited Land)	
	A	Lot 100 DP 527091	Lots 36 & 39 DP 527091	
	В	LOC 100 DP 527091	LUIS 30 & 39 DF 32/091	
Right to Drain Water	С	Lot 100 DP 527091	Lots 32 & 35 DP 527091	
Right to Drain Sewage	D	LOT 100 DF 327091	LOIS 32 & 33 DF 32/091	
	Е	Lot 100 DP 527091	Lots 28 & 31 DP 527091	
	F	LOC 100 DP 527091	LUIS 20 & 31 DP 52/091	

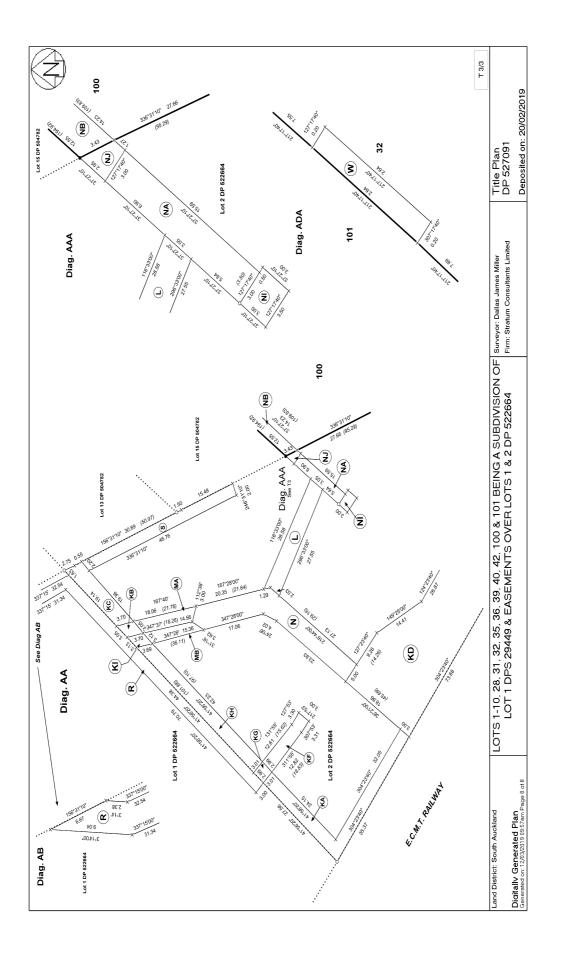
Schedule of Easements						
Purpose	Shown	Servient Tenement (Burdened Land)	Dominant Tenement (Benefited Land)			
Right of Way	A	Lot 100 DP 527091	Lots 36 & 39 DP 527091			
	В					
	С	Lot 100 DP 527091	Lots 32 & 35 DP 527091			
	D					
	E	Lot 100 DP 527091	Lots 28 & 31 DP 527091			
	F					

Schedule of Easements in Gross						
Purpose	Shown	Servient Tenement (Burdened Land)	Grantee			
Right to Convey Telecommunications	A B C D E F KE	Lot 100 DP 527091	Ultrafast Fibre Limited			
	KD N	Lot 2 DP 522664				
Right to Convey Electricity	KE	Lot 100 DP 527091	Powerco Limited			
	KD N	Lot 2 DP 522664				
	٧	Lot 42 DP 527091				
	W	Lot 32 DP 527091				

Memorandum of Easements in Gross (Pursuant to s243 Resource Management Act 1991)				
Purpose	Shown	Servient Tenement (Burdened Land)	Grantee	
Bishtte Osman Water	KE	Lot 100 DP 527091	Western Bay of Plenty	
Right to Convey Water	KD	Lot 2 DP 522664	District Council	
Right to Drain Water Right to Drain Sewage	A B C D E F	Lot 100 DP 527091	Western Bay of Plenty District Council	
Right to Drain Sewage	KA KB KC KD KG KH KI J I N S	Lot 2 DP 522664	Western Bay of Plenty District Council	
	KE	Lot 100 DP 527091		
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	KE, NB	Lot 100 DP 527091		
Right to Drain Water	NC	Lot 10 DP 527091	-	
Night to Drain Water	ND	Lot 9 DP 527091		
	NE	Lot 8 DP 527091]	
	NF	Lot 7 DP 527091	Western Bay of Plenty District Council	
	NG	Lot 6 DP 527091	District Courion	
	NH	Lot 5 DP 527091		
	OA, OD	Lot 3 DP 527091	_	
	ОВ	Lot 2 DP 527091		
	OC	Lot 1 DP 527091		
	OE	Lot 4 DP 527091		
	R	Lot 1 DP 522664		
	KE KD	Lot 100 DP 527091		
Right to Drain Water (Overland)	N MA MB KB KI	Lot 2 DP 522664		







Attachments

A3316276: 2018-11-12 - RC10334S - Appendix 8 - Geotechnical Completion Report

A3391633: SUB12049 - 221 Consent Notice A6236048: 2024-05-14 - HAIL Site Report A6947571: BC93879- Site Plan with Drainage

Invoice



Experience. Knowledge. Better Outcomes.

Barrett Homes
Stage 1 Residential Subdivision
27 Kayelene Place, Omokoroa

Geotechnical Completion Report

Table of Contents

1.	Introduction				
2.	Sit	e Description	3		
3.	Pro	oposed Subdivision Development	3		
4.	Pre	evious Geotechnical Information	4		
5.	Sit	e Investigation	4		
6.		e Conditions			
6.	1.	Published Geology	5		
6.	2.	Subsoil Conditions			
7.	Ex	tent of Works and Methodology	5		
8.	Qu	ıality Control	6		
8.	1.	Quality Control Requirements	6		
8.	2.	Supervision and Testing	6		
9.	Fu	ture Building Development	6		
9.	1.	Foundation Bearing Capacity	6		
9.	2.	Land Stability	7		
9.	3.	Static Settlement	7		
9.	4.	Liquefaction	7		
10.	Re	quirements for Building Development	7		
10).1.	General	7		
10).2.	Foundations	8		
10).3.	Building Platforms	8		
10).4.	Retaining Walls	8		
		Stormwater	_		
		Effluent Disposal			
		t Specific Recommendations			
12.	Со	nclusion	9		
13.	Lin	nitations	9		

Appendices

Appendix A Statement of Professional Opinion

Appendix B Drawings

Appendix C Previous Geotechnical Investigation Data

Appendix D Quality Assurance and Lot by Lot Test Results

Appendix E Lot Specific Recommendations

1. Introduction

Stratum Consultants Ltd (Stratum) has been engaged by Barrett Homes to prepare a Geotechnical Completion Report (GCR) for Stage 1 of the residential subdivision at 27 Kayelene Place, Omokoroa (the site).

The purpose of this GCR is to record the monitoring and compliance testing undertaken during the earthworks and to certify that the land is suitable for residential building development. This report is part of the documentation to be submitted to the Western Bay of Plenty District Council (WBOPDC) to support a S.224 application.

2. Site Description

The site is located at 19 and 27 Kayelene Place, Omokoroa, as shown on Figure 1 below, legally described as Lot 1 DP 29449 and Lot 2 DP 522664. The site is an 'L shaped' residential zoned property that is approximately 2.14 ha. The site previously had a dwelling at the front of the section with the land primarily being used for an avocado orchard.



Figure 1: Site Location

3. Proposed Subdivision Development

Stage 1 will be the first of the two stage subdivision. Stage 1 of the subdivision consists of the creation of 29 residential lots (Lots 1 to 13 and Lot 27 to 42) in the north-eastern part of the site. The layout of the lots is shown on the drawings included in Appendix B.

Earthworks have been undertaken to create level platforms. The cut-fill plan for the site is shown on the drawing prepared by Stratum Consultants, ref '27 Kayelene Place, Omokoroa, Preliminary Earthworks and Cut Fills, 629313M-E-D006, Sheet 1, Issue A, dated 28 January 2018' presented in Appendix B.

4. Previous Geotechnical Information

A Geotechnical Report (GAR)¹ was prepared by Stratum Consultants to assess the geotechnical suitability of the property for subdivision and to support the resource consent application.

The site investigation for the GAR¹ involved drilling 18 boreholes to 3.0 m with shear vane tests. This report indicated that:

- The risk of slope instability is low.
- The upper soil layers generally do not comply with the definition of 'good ground' as defined in NZS3604:2011; and
- Foundations can be designed for a geotechnical ultimate bearing capacity of 225 kPa (75 kPa allowable bearing capacity).

Additionally, a geotechnical assessment report (GAR)² was prepared by Stratum Consultants to separately assess the suitability of Lot 2 for a show home within this subdivision.

The site investigations for the GAR² involved drilling four boreholes, four Scala penetrometers and shear vane tests down to 2.0m below ground level (bgl). This report indicated that:

- The sand fill overlying Lot 2 has been adequately compacted.
- The site complies with the definition of 'good ground' as per NZS 3604:211. Foundations can be designed for a geotechnical ultimate bearing capacity of 300kPa (100 kPa allowable bearing capacity).

The hand auger borehole logs from these previous investigations are presented in Appendix C.

5. Site Investigation

Additional site investigations were undertaken by Stratum Consultants between 22 June 2017 and 12 July 2018. These comprised of:

- 16 hand augered boreholes to between 0.9 2.0m depth and 11 Scala penetrometers to assess the fill compaction levels within Stage 1.
- A further 17 hand augered boreholes up to 2.1m depth and 14 Scala penetrometers were completed as part of the lot by lot testing.

Test location plans along with logs and test results are included in Appendix D.

¹ Geotechnical Assessment, Residential Development, 27 Kayelene Place, Omokoroa, Tauranga, Stratum Consultants, 629313-M-E-C001, dated 9 December 2016

² Geotechnical Assessment Report, Proposed House, Lot 2, 27 Kayelene Place, Omokoroa, Stratum Consultants, 629313-M-E-C009, dated 26 September 2017.

6. Site Conditions

6.1. Published Geology

The regional geological map³ indicates the site is underlain by Early to Middle Pleistocene river deposits which generally consist of poorly to moderately sorted gravel with minor sand and silt underlying terraces as well as minor fan deposits and loess.

6.2. Subsoil Conditions

Just under half the boreholes were conducted before any topsoil was laid.

The natural ground conditions encountered were typically consistent, generally comprising of stiff to very stiff silt and sandy silt overlying dense to loose pumiceous sand. A detailed description of the ground conditions of the site is provided in the GAR¹.

The additional site investigations encountered a buried topsoil layer from 0.2 to 0.4m bgl within Lot 28 beneath a 100mm layer of silt.

All filling encountered within the site is mentioned in Sections 7 and 8 below.

The groundwater table was not encountered within any boreholes.

The site has been assessed as being a Class D 'Deep or Soft Soil Site' in accordance with NZS 1170.5:2004.

7. Extent of Works and Methodology

The bulk earthworks for stage 1 of the subdivision were carried out by MATCO Civil Contractors between March 2017 to March 2018. Prior to the earthworks, the avocado trees were removed from the site.

Lots 1 to 11 and Lots 30 to 33 required filling up to 1.7m. These lots were inspected prior to any fill being placed to confirm a suitable level of root mass was observed with areas with large root mass percentages being required to undercut further. The fill within Lots 1 to 11 was compacted behind a 1.5m high retaining wall which was constructed on the north-western boundary of these lots.

Granular fill was used within Lots 1 to 6 whereas site sourced silts were used as fill within Lots 7 to 11 and Lot 28 to 33.

No filling earthworks were undertaken in Lots 12 to 13, Lot 27 to 29 and Lot 34 to 42.

The cut/fill earthwork operations were carried out with the use of a hydraulic excavators, trucks, and vibrating rollers.

Representatives of Stratum observed the cutting and filling process on a regular but not continuous basis. Stratum was also contracted to complete verification testing for the fill placed within the lots.

All fill material was placed in loose lifts up to 0.3 metres thick with cohesive fill being compacted using a sheep-foot vibrating roller, whereas granular fill was compacted using a smooth barrel roller. The filling operation was monitored by Stratum.

³ GNS Science, Geology of the Rotorua Area, Scale 1:250,000, 2010

The depth of earthworks varied from 1.0 metre cut to 1.7 metre fill as shown on the cut-fill plan prepared by Stratum Consultants '629313M-E-D006, Sheet 1, Issue A, dated 28 January 2018' presented in Appendix B.

At the completion of the earthworks and re-contouring, approximately 3,000 m³ of topsoil was re-spread across the site and grassed.

8. Quality Control

8.1. Quality Control Requirements

The performance criteria for the placement of engineered fill was based on the New Zealand Standard NZS4431:1989, "Code of Practice for Earth Fill for Residential Development" and the WBOPDC Development Code.

The specified minimum fill testing criteria are summarised below in Table 1.

Table 1: Fill Testing Specification of Compaction

Fill Test Type	Number of tests required	Minimum Requirement of Test Result
Cohesive soils – Shear Vane	Minimum 1 test per 500m ³ of filling	150 kPa average over 10 tests. Minimum single strength of 140 kPa
Cohesionless soils – Scala Penetrometer	Minimum 1 test per 500m ³ of filling	4 blows per 100mm

8.2. Supervision and Testing

The earthworks were monitored on a regular, but not continuous basis by a representative of Stratum to ensure topsoil and any unsuitable material was removed and that the clean fill was placed in an appropriate manner. Areas which required filling are discussed in Section 7.

Compaction verification testing by Stratum was carried out between 22 June 2016 and 13 March 2018 (inclusive). Testing consisted of shear vane tests and Scala penetrometer tests within the compacted fill.

Additionally, Stratum carried out compaction verification testing and lot by lot testing on the 12 July 2018, as noted in Section 5 above.

The site inspection report, fill test results and lot by lot borehole logs are presented in Appendix D.

9. Future Building Development

9.1. Foundation Bearing Capacity

The site investigation results indicate that the natural silts within the site typically have a geotechnical ultimate bearing capacity of 300 kPa (100 kPa allowable bearing capacity).

All fill within the building platforms has been adequately compacted to provide a

geotechnical ultimate bearing capacity of 300 kPa (allowable bearing capacity of 100 kPa).

All lots are either underlain by stiff natural silts or engineered fill and comply with the definition of 'good ground' as per NZS3604:2011 – Timber Framed Buildings.

Boreholes within Lot 28 encountered a buried topsoil layer to 0.4m bgl. This will need to be removed during preparation of the building platform for construction.

As this site originated from an avocado orchard, areas with minimal earthworks, specifically Lots 34 to 42, may have high root mass percentages beneath the topsoil layer, which will be required to be removed during preparation of the building platform.

Refer to Section 11 for a summary of the specific recommendations for each of the lots.

9.2. Land Stability

The land stability was addressed in the GAR¹ with no slopes of concern near Stage 1. Therefore the risk of slope instability affecting the house sites is considered to be very low.

Retaining walls were installed to support the fill within Lots 1 to 11. As discussed below in Section 10.4, the retaining walls were constructed in accordance with Stratum's retaining wall design, referenced 629313, dated March 2017.

9.3. Static Settlement

Static load-induced settlements can occur where organic or compressible soils are subjected to static loading. The majority of the soil over the site is normally consolidated, and any areas with high percentages of root mass are required to be removed during construction.

Based on the soils identified and soil strength testing carried out, the anticipated loads from the houses are unlikely to exceed the allowable settlement limit of 25mm given in NZS3604:2011.

9.4. Liquefaction

Liquefaction is a term used to describe the strength loss experienced by a saturated cohesionless soil when subjected to cyclic loading (i.e. earthquakes). Soil that is susceptible to liquefaction tends to contract when subject to cyclic stresses, which induces excess pore water pressure that leads to a reduction in shear strength. Recently deposited and loose saturated natural soils and poorly compacted fills can be highly susceptible to liquefaction.

The surficial soils are volcanic in origin and not saturated and therefore not susceptible to liquefaction. Any liquefaction of the material below the groundwater table is not expected to be expressed at the surface due to the crust of non-liquefiable materials.

Based on our qualitative liquefaction hazard assessment, we consider that the risk of liquefaction induced damage is low.

10. Requirements for Building Development

10.1. General

There are 29 residential lots that have been created as part of Stage 1 of the

subdivision. The results of our fill compliance and verification testing indicate that all of the lots are suitable for construction of residential buildings in accordance with NZS3604:2011, provided that that the recommendations within this report are complied with.

The following general recommendations apply to all lots unless specified stated otherwise.

Specific recommendations for each lot are summarised in Appendix E.

10.2. Foundations

As discussed in Section 9.1 above, the ground conditions of all lots within Stage 1 lots comply with the definition of 'good ground' as per NZS3604:2011. Standard foundations with a bearing capacity of 300 kPa can be designed for these lots in accordance with NZS3604:2011, provided any localised soft spots are remediated during construction.

10.3. Building Platforms

The majority of the earthworks has already been completed during the construction of the subdivision. However, any further earthworks, including excavation, preparation of subgrade, and backfill, should be performed in accordance with the geotechnical recommendations presented in this report, applicable portions of the New Zealand Standard 4431:1989 entitled, "Code of Practice for Earth Fill for Residential Development" prepared by Standards New Zealand and the WBOPDC Development Code.

During the earthworks, cuts within some of the lots may have intercepted soils of varying strengths and groundwater conditions. Therefore during the preparation of the building foundations any soft areas encountered will be required to be removed and backfilled with adequately compacted material. Additionally, any areas with high percentages of root mass will be required to be removed and backfilled with adequately compacted material. For cuts greater than 1.0m and fills greater than 0.6m, site works shall be designed and upon completion, certified by a geotechnical engineer familiar with this report.

Any cuts or fills greater than 0.5m in height shall be shaped to a gradient of no greater than 1:2 (vertical to horizontal), unless retained by an engineer designed structure.

10.4. Retaining Walls

A timber pole retaining wall has been constructed in accordance with Stratum's retaining wall design, ref '27 Kayelene Place, Omokoroa, 629313, dated March 2016' in the south western boundary of Lots 1 to 11(retaining wall A). All other retaining walls are within stage 2.

The design of the retaining walls assumed a 2.5 kPa surcharge and a 5° bank upslope.

The location of the retaining wall is shown on the drawing prepared by Stratum Consultants, ref '27 Kayelene Place, Omokoroa, Proposed Retaining Wall, 629313-M-E-D002, Sheet 2, Issue B, dated 30 March 2017 and is presented in Appendix B.

During construction Stratum carried out regular retaining wall inspections. We confirm that the construction of the retaining walls on site are in accordance with our design.

The walls have not been designed for building loads, so buildings shall not be

constructed within 1.5 m of the top of the retaining wall.

10.5. Stormwater

Stormwater from roofs and hard surfaces should be collected and piped to the Council's reticulated stormwater system.

10.6. Effluent Disposal

Effluent is to be disposed through the Council reticulated sewer system.

11. Lot Specific Recommendations

Specific recommendations for each lot are summarised in Appendix E. Unless noted otherwise, all general recommendations contained within the lot specific table shall apply to each lot.

12. Conclusion

Provided the recommendations in Sections 10 and 11 of this report are complied with, it is our professional opinion that each of the proposed residential lots are suitable for building development in accordance with the requirements of the New Zealand Building Code and NZS3604:2011.

A Statement of Professional Opinion (10b) as to the Geotechnical Suitability of Land for Building is included in Appendix A.

13. Limitations

The assessment given in this report is based on limited site data from discrete test locations. Variations in ground conditions could exist across the site. The nature and continuity of subsoil conditions away from the test sites are inferred and it must be appreciated that actual conditions could vary from the assumed model.

This report has been prepared for the sole benefit of Barrett Homes for Stage 1 of the residential subdivision at 27 Kayelene Place, Omokoroa. It is not to be relied upon or used out of context by any other person without reference to Stratum Consultants Ltd. The reliance by other parties on the information or opinions contained in this report shall, without prior review and agreement in writing, be at such party's sole risk.

STRATUM CONSULTANTS LTD

Report Prepared By:

Jared Fox

Reviewed and Approved By:

Jared Fox

Engineering Geologist

Elles Pearse-Danker Geotechnical Engineer

Elles DD

Date: 19 July 2018



Statement of Professional Opinion



To: Western Bay of Plenty District Council

STATEMENT OF PROFESSIONAL OPINION AS TO THE GEOTECHNICAL SUITABILITY OF LAND FOR BUILDING

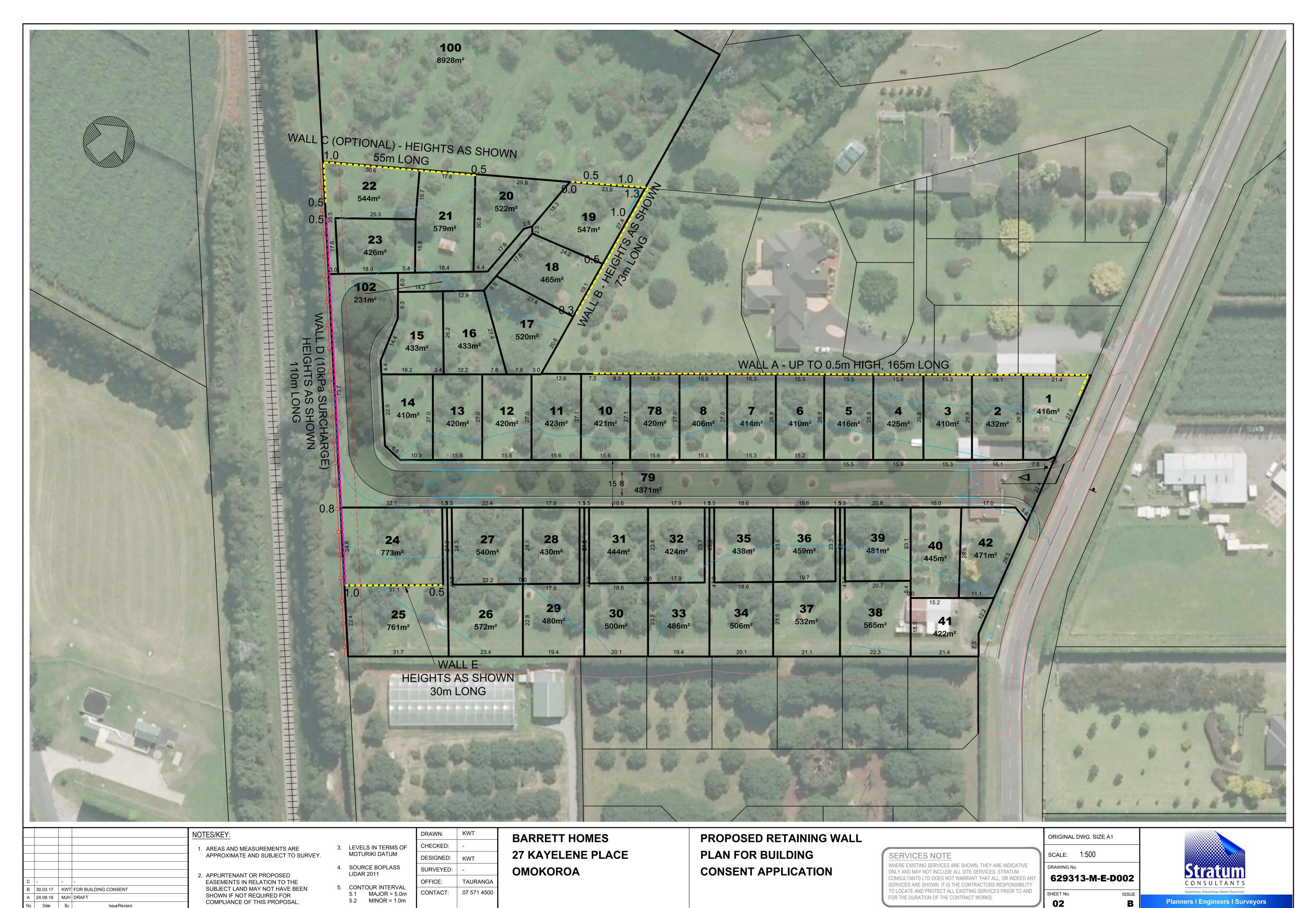
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September 2009 Page 1

Appendix B

Drawings







Previous Geotechnical Investigation Data

Site Address: 27 Kayelene Place
City: Omokoroa
File Number: 629313-M-E-S002

Page: 1
No of Pages: 24

Date: 2/09/2016 **Logged By:** JNF



TGA REV 2 9/07/2010

Test Location Sketch



Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Page: 2 No of Pages: 24

Date: 2/09/2016
Logged By: JNF/TNKS



Hand Augered Borehole

Borehole No: 1

DESCRIPTIONS TOPSOIL Singly SAND fine, light orangeh light brown streaked orange, poorly graded, medium Singly SAND fine, light orangeh light orange, poorly graded, medium Singly SAND fine, light orangeh light orange, poorly graded, medium Singly SAND fine, light orangeh light orange, poorly graded, medium Singly SAND fine, light orangeh light orange, poorly graded, medium Singly SAND fine, light orangeh light orange, poorly graded, medium Singly SAND fine, light orangeh light light brown, non-plastic. Singly SAND fine, light orangeh light lig								<u> </u>										
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4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Calibrated November 2015 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:												380	0					+
4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Calibrated November 2015 Very Loose VL Loose L Medium Dense MD Verified:	4.0m											400	0					
4.5m 5.0m NOTES: Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Vane # SN1875 Calibrated November 2015 Verified:												400						
4.5m 5.0m NOTES: Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Vane # SN1875 Calibrated November 2015 Verified:												420	0					
4.5m 5.0m NOTES: Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Vane # SN1875 Calibrated November 2015 Verified:												440	0					
NOTES: Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated November 2015 Verified:	4.5m																	
Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Calibrated November 2015 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:												460	0					
Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Calibrated November 2015 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:												480	0					\perp
NOTES: Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated November 2015 Verified:	E 0																	
Groundwater not encountered. Calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	5.UM											500	0 ——					
Vane # SN1875 Cohesive Material Non Cohesive Material Calibrated November 2015 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	NOTES	i:																
Cohesive Material Non Cohesive Material Calibrated November 2015 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:				Groundwat	ter not encounter	ed.					_		itu she	ar st	rength	٦.		
Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	Cohesiv	∕e Mat	erial		Non Cohesive N	Material							2015					
Very Stiff vst Hard H Dense D Very Dense D Date:	Very Soft	VS Sc	oft S Firm	F Stiff St	Very Loose VL Loo	ose L Mediur	m Dense MD		1	/erifie								
	very Stiff	vst Ha	ard H		Dense D Very Den	ise D			ון	Jate:								

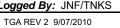
Project Title: Land Development

Page: 3
No of Pages: 24

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Date: 2/09/2016
Logged By: JNF/TNKS





Hand Augered Borehole

Borehole No: 2

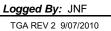
Depth (m)	Groundwater	Graphic Log	DESCRIPT	FIONS				Strength (Undisturbed)	Soil Class(USCS)			HEAR In Sit	u Stre	ength		1)	250
0.0111			TOPSOIL.						OL	0							
0.5m		+++	non-plastic, SILT minor	medium - fine Sand stiff, slightly moist. medium - fine Sand	, light brownish					200 400	×		•	•			
		+++		tiff, slightly moist - m on-plastic - slightly p				Vst St		600 800	→	←	•				
1.0m			Becomes ne	on plastic - slightly p	nastic.				ML	1000	>	*			•		
1.5m		+ + + + + + + + +		coarse- fine Sand, l -plastc - slightly pla	-	-	-	Vst		1200 1400 1600	: 	×			•		
2.0m		+++		SAND coarse - fine se, very moist.	, light orange, p	oorly graded	l, medium	MD	SP	1800 (mm) 2000							
2.5m			SAND fine -	fine, light brown, un medium, light grey,	, poorly graded,	medium der	nse, very moist.	MD	SM SP	2400							
		+++	slightly plast Clayey SILT	minor coarse - fine tic, stiff, very moist - minor medium - fin plastic, very stiff, mo	wet. e Sand, orangis	sh brown, sli	ghtly plastic -	St Vst	ML	2600 2800	×		•	•			
3.0m			Becomes m	oist.	t Depth					3000 3200							
3.5m										3400 3600							
4.0m										3800 4000							
4.5m										4200 4400							
										4600 4800							
5.0m										5000							
NOTES	S :	1	Groundwat	ter not encountere	ed.			calibra		19mm B jive in sit 75					_		
	t VS So	oft S Firm	F Stiff St	Non Cohesive M Very Loose VL Loos	se L Medium De	ense MD			ated No	vember	201	5					
Very Stiff	Vst H	ard H		Dense D Very Dens	se D			Date:									

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Page: 4
No of Pages: 24

Date: 2/09/2016





Hand Augered Borehole

Borehole No: 3

			Associated Felicifolitete No. 5									
Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength (Undisturbed)	oil Class(USCS)				VANE I Streng	gth (k		
0.0m	<u> </u>	0	(FILL)	σ c	Ø	1 _	0	50	100	15	50 200	250
			TOPSOIL.		OL	200						
0.5m			Sandy SILT medium, light brownish light orange, non-plastic, very stiff - firm, moist.	F	SM	400						
		+++	SILT minor coarse - fine Sand, light orangish light brown, non-plastic,	Vst		800	\rightarrow				•	
1.0m		++++	very stiff, moist - very moist. Becomes medium - fine Sand, light brownish light orange.		ML	1000 1200		×				
1.5m		+++	Becomes coarse - fine Sand, light oranish light brown.	Vst		1400	\rightarrow	<u></u>		•		
			Sandy SILT coarse - fine, light orangish light brown, non-plastic, very stiff, moist - very moist.		SM	1600	×			•		
2.0m		• • •	Pumiceous SAND coarse - fine, light orange, poorly graded, medium dense - dense, very moist.	MD	SP	Depth (mm)	×	1			•	
2.5m			SAND medium - fine, brownish black, poroly graded, very moist - wet. SILT minor medium - fine Sand, light orangish light brown mottled	MD	54	2400						
2.5111		+++	brwown, orangish brown & black, non-plastic - slightly plastic, very stiff, very moist - wet. Clayey SILT minor coarse - fine Sand, light orangish light brown mottled	Vst	ML	2600 2800			•		•	
3.0m			brown, orange & black, slightly plastic - moderately plastic, very moist. Target Depth			3000 3200		×		•		
3.5m						3400 3600						
4.0m						3800 4000						
4.5m						4200 4400						
						4600 4800						
5.0m						5000						
NOTES):		Groundwater not encountered.	calibra		19mm B jive in sit 75						
Cohesi			Non Cohesive Material	Calibra	ated No	vember	201	5				
Very Soft Very Stiff				Verifie	d:							
very oull	43t 176	ar U 11	Delise D Vely Delise D	Date:				—				

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

s: 27 Kayelene Place
v: Omokoroa

Date: 2/09/2016

Logged By: JNF TGA REV 2 9/07/2010

Page: 5
No of Pages: 24



Hand Augered Borehole

Borehole No: 4

							·										
Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS					Strength (Undisturbed)	Soil Class(USCS)		Ir		VANE Stren		Pa)	
0.0m			DECOR	110110				(FILL))	o o	1 _	0	50	100	150	200	250
			TOPSOIL.					` '		OL	200						
0.5m		+++	moist.	fine - medium,		ish light brov	wn, non-pla	astic, stiff,		SM	400 600	×	•				
1.0m		+++		noist - very mois					St		800						
				nedium - fine Sa oist - very mois		ownish light	t orange, no	n-palstic,		ML	1200	×					
1.5m		+++		ninor coarse - fil coarse - fine Sa ery moist.		•			Vst		1400 1600	× ×				•	
2.0m		+++		SAND coarse -	fine, light o	orange, poor	rly graded, ı	medium		SP	1800 2000	×			•		
2.5m			Silty SAND moist.	fine, light brow	n, uniformly	graded, me	edium dense	e, very	MD	SM	2200						
		+++	Clayey SIL1 mottled orai	fine - medium, T minor coarse nge, black & bro T minor coarse	- fine Sand, own, slightly	light brown	nish light ora m, very mois	st - wet.	F	ML	2600 2800	×	•				
3.0m				htly plastic - mo					Vst		3000 3200	*			•		
3.5m											3400 3600						
4.0m											3800 4000						
4.5m											4200 4400						
4.0111											4600 4800						
5.0m											5000						
NOTES	S:		Groundwa	ter not encour	ntered.				calibra		19mm E give in si 75				_		
Cohesi				Non Cohesiv	e Material				Calibra	ated No	vember	2015	5				
Very Soft Very Stiff			F Stiff St	Very Loose VL Dense D Very		edium Dense	MD		Verifie Date:	ed:							
		M E 00		<u> </u>													

Project Title: Land Development

Page: 6 No of Pages: 24

Site Address: 27 Kayelene Place

City: Omokoroa

Date: 2/09/2016 File Number: 629313-M-E-S002

Logged By: JNF

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No:

5

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength (Undisturbed)	Soil Class(USCS)		In •	Situ Undist		yth (kP ×Remou	a)	
0.0m			(FILL)		OL	0	0	50	100	150	200	250
			Silty SAND fine - medium, brown, rare root inclusions, poorly graded,	VL		200	×			•		
0.5m		• • •	medium dense - very loose, moist. Silty SAND fine - medium, light orangish light brown, poorly graded, medium dense, moist.	MD	SM	400 600						
1.0m			SILT minor fine - medium Sand, light orangish light brown, non-plastic, very stiff, moist.	Vst	ML	800 1000 1200	×				•	
1.5m		+ + + + + + + + +				1400 1600	×				•	
		• • •	Pumiceous SAND coarse - fine, light orange, poorly graded, medium dense - dense, very moist.	MD		1800 <u>E</u>						
2.0m		• • •		MD	SP	2000 22000 2200						
2.5m		+++	Silty SAND fine, light brown, uniformly graded, medium dense, very moist. Clayey SILT minor coarse - fine Sand, brown mottled light grey & orange,		SM	2400 2600	*	•				
3.0m		+++		St Vst	ML	2800	× -		•			
0.0			Target Depth			3000 3200		×			†	
3.5m						3400 3600						
4.0m						3800						
						4000						
4.5m						4400 4600						
5.0m						4800						
OTES	S :		Groundwater not encountered.	calibra		19mm B give in sit						
ery Soft	ve Mat	ft S Firm	Non Cohesive Material F Stiff St Very Loose VL Loose L Medium Dense MD Dense D Very Dense D	4	ated No	vember	2015					

and Development Page: 7
No of Pages: 24

Site Address: 27 Kayelene Place

 City:
 Omokoroa
 Date:
 2/09/2016

 File Number:
 629313-M-E-S002
 Logged By:
 JNF

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 6

TOPSOIL. 1.0m 1.	Depth (m)	Groundwater	Graphic Log	DESCRIPT	IONS					Strength (Undisturbed)	Soil Class(USCS)		lı		VANE Strenç		Pa)		
0.5m 1.0m 1.0m 1.5m	i i									- W C	, ,,			50	100	150) 20	00	250
1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m											OL	200	,					_	
1.9m 1.9m 1.9m 1.9m 1.9m 1.9m 1.9m 1.9m	0.5m				fine - medium,	, light orangi	ish light bro	own, non-pl	astic, very		SM					•			-
1.5m			+++				angish light	t brown, no	n-plastic,				,						
1.5m	1.0m		+ + + + + +	Becomes lig	nt brownish lig	ht orange, r	non-plastic -	- slightly pla	astic.	Vst	ML		×						-
2.0m 2.0m 2.0m 2.0m 2.0m 2.0m 2.0m 2.0m	1.5m		+++										×			•	•	=	
2.5m 2.5m 2.5m 2.5m 2.5m 3.0m 3.0m 4.5m 4.5m Amount of the control of th			+++			ight orangis	sh light brow	vn, non-pla	stic, very		SM						•		$\frac{1}{2}$
2.5m 3.5m 2.5m 2.5m 2.5m 3.5m 2.5m 2.5m 2.5m 3.5m 2.5m 3.5m 3.5m 3.5m 3.5m 3.5m 4.5m 3.5m 4.5m 3.5m 4.5m 3.5m 3.5m 3.5m 4.5m 3.5m 3.5m 3.5m 4.5m 3.5m 3.0m 3.0m 3.0m 3.0m 3.0m 3.0m 3.0m 3.0m 3.0m	2.0m		+++	Duminosus 6	SAND socres	fine light -	oranga sas	urly aroded	modium		Sivi	_					•	 	
2.5m			• • •	dense, very	moist.	_						2200	,					_	_
3.0m 3.0m 3.5m 4.0m 4.5m Sightly plastic, stiff - very stiff, very moist - wet. + + + Clayey SILT minor coarse - fine Sand, orangish brown, slightly plastic - + + + moderately plastic, very stiff, moist - very moist. Target Depth 4.5m St ML Vst ML Vst ML 4.600 4000 4400 4400 4400 4400 4400 4400 4600 4800 Some Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	2.5m									D	SM	2400	1					\dashv	\dashv
3.0m 3.0m 3.5m 4.0m 4.5m Som Som Groundwater not encountered. August SiLT minor coarse - fine Sand, orangish brown, slightly plastic - very moist. Vst ML 2800 3000 3000 400			+++					, 3	,	St	-	2600	×	•				_	
3.5m 4.0m 4.5m NOTES: Groundwater not encountered. Target Depth 3000 3400 3400 4000 4400 4400 4800 5000 Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	3 0m		+++					orown, sligh	tly plastic -	Vst	ML	2800				•			_
4.0m 4.5m 5.0m NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	3.0111		TTT		Ta	arget Depth									•				
4.0m 4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	3.5m											3400	,					_	
4.0m 4.5m 4.5m 5.0m NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.																			
4.5m 5.0m NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	4.0m											4000	,						
NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.																			
NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	4.5m																		
NOTES: Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength.	5.0m																		+
Vane # SN1875		:		Groundwate	er not encour	ntered.				calibra	ated to (19mm give in	Blade	e. Va	ne rea	ading)		
	0 1 .				N 0 : :								00.	_					
Cohesive Material Non Cohesive Material Calibrated November 2015								- MD				vembe	r 201	5					
Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified: Very Stiff Vst Hard H Dense D Very Dense D Date:					•		ledium Dense	е МЮ		_	ea:								

Project Title: Land Development

Page: 8
No of Pages: 24

7

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Date: 2/09/2016 **Logged By:** TNKS TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No:

ı			ASSOCIATED PETERIOTHETER NO .	1	1	ı							
Depth (m)	Groundwater	Graphic Log		Strength (Undisturbed)	Soil Class(USCS)		Ir		Stre	ngth	SULT (kPa))	
<u>ი</u> 0.0m	ō	ษั	DESCRIPTIONS	S C	လိ		0	50	10	0	150	200	250
0.0111			TOPSOIL.		OL	0							
			SILT minor medium - fine Sand, light brownish light orange, non-plastic, very stiff - stiff, slightly moist - moist.	St		200	×		•				
0.5m		+++		Vst		400 600	×			•			
		+++		St		800	×		•				
1.0m			SILT minor coarse- fine Sand, light brownish light orange mottled light	_		1000	×					•	
		+++	orange, non-plastic - slightly plastic, very stiff, moist - very moist. SILT minor medium - fine Sand, light orangish brown, non plastic,	Vst	ML	1200	×			•			
1.5m		+++	very stiff, slightly moist - moist. SILT minor coarse- fine Sand, light brownish light orange mottled light orange, non-plastic - slightly plastic, very stiff - stiff, moist - very moist.			1400							•
		+++	Becomes very moist.			1600	×		•				
		+++		St		1800 E	×	•					
2.0m			Pumiceous SAND coarse - fine, light orange, poorly graded, medium dense - dense, very moist.	L	SP	Depth (mm)							•
			Silty SAND fine, light brown, uniformly graded, medium dense, very moist.	MD	<u> </u>	2200							
2.5m			Clayey SILT minor coarse - fine Sand, brown,		SM	2600							
		+++	slightly plastic, very stiff, very moist - wet. Clayey SILT minor medium - fine Sand, light brown mottled black and light orange, slightly plastic, very stiff, very moist.	Vst	ML	2800	×	:				•	
3.0m			Clayey SILT light orangish brown, slightly plastic, very stiff, slightly moist. Target Depth			3000	×					•	
						3200							
3.5m						3400							
						3600							
4.0m						3800							
						4000							
						4400							
4.5m						4600							
						4800							
5.0m						5000							
NOTES	S:		Groundwater not encountered.	calibra		19mm B ive in sit					_		
Cohesi	ive Ma	aterial	Non Cohesive Material	_4		otember	<u>20</u> 16	3					
-			m F Stiff St Very Loose VL Loose L Medium Dense MD	Verifie	d:								
Very Stif	ı vst l	ard H	Dense D Very Dense D	Date:									

Project Title: Land Development

Page: 9
No of Pages: 24

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Date: 2/09/2016

Logged By: RGS

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 8

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength (Undisturbed)	Soil Class(USCS)		In S	R VANE itu Strenç distured		a)	
<u>ة</u> 0.0m	ō	Ū	DESCRIPTIONS	<u>85</u>	й	_	0 50	100	150	200	250
			TOPSOIL.		OL	200					
0.5m		+++	SILT minor medium - fine Sand, orangish brown, non-plastic, very stiff, moist. SILT rare fine - meidum Sand, light orangish brown, non-plastic - slightly plastic, very stiff, moist.		ML	400	×	•	•		
1.0m		+ + + + + + + + + + + +	Becomes very moist.	Vst	WIL	1000 1200	×			•	
1.5m		+ + + + + + + + +	Pumiceous Sandy SILT medium - fine, orangish brown, non-plastic,	Н		1400					
		• • •	hard, very moist. Silty SAND medium - fine, light orangish light brown, poorly graded, medium dense, very moist - wet.	MD	-	1800 (EL				•	
2.0m 2.5m			Sandy SILT meidum - fine, mottled brown, light brown & orange, non-plastic - slightly plastic, very stiff, wet.	Vst	SM	2000 2200 2400 2600	×		•	>	
3.0m		+++	Target Depth			2800	×				
3.5m						3200 3400 3600					
4.0m						3800 4000					
4.5m						4200 4400					
5.0m						4600 4800					
NOTE	S:		Groundwater not encountered.	calibra		give in s		ane rea			
Cohes Very So Very Stit	ft VS S	oft S Fir	Non Cohesive Material m F Stiff St Very Loose VL Loose L Medium Dense MD Dense D Very Dense D	Calibra Verifie Date:		tober 20)15				

Project Title: Land Development

Site Address: 27 Kayelene Place

City: Omokoroa

File Number: 629313-M-E-S002

Page: 10 No of Pages: 24

Date: 2/09/2016

Logged By: TNKS TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No:

9

Depth (m)	Groundwater	Graphic Log	DESCRIPT	rions							Strength (Undisturbed)	Soil Class(USCS)				R VAN u Stre	ngth)	
0.0m											<i>"</i>	0,		0 0 	50	10	0	150	200	250
			TOPSOIL.									OL	:	200						
0.5m		+ + + + + +	Sandy SILT slightly mois SILT minor r	st. medium - 1	ine Sand	l, light bi					St	SM	-	400 >						
1.0m		+ + + + + +	stiff- very st									ML	11		×		•	•	•	
1.5m			SILT minor or orange, non-			-	-	-		d light	Vst		11	400 ;	*		•		•	
2.0m			Pumiceous \$ dense - med				range, p	oorly gra	ded,		D MD	SP	(mm) yebth (mm)	000						•
2.5m		• • • • • • + + +	SILT rare fin	ne Sand, li	ght orang	gish brov	wn, non-	-plastic, v	very stiff,	moist.	D		2.	400						•
3.0m		+ + + + + +	Clayey SILT slightly plast Clayey SILT light orange,	tic, very sti r minor me	ff, very m dium - fir astic, ver	noist - wo ne Sand ry stiff, v	et. , light br	rown mot st.	tled blacl	c and	Vst	ML	29	800	×				•	
3.5m					Target	t Depth								200 —						
														800						
4.0m														000						
4.5m														400						
														800						
5.0m													_	000						
NOTES	:		Groundwat	ter not en	countere	ed.					Shear calibra	ted to # SN20	19mn give in 033	situ :	shear					
Cohesiv	∕e Mate	erial		Non Coh	esive M	laterial					Calibra	ated S	epteml	ber 20)16					
	VS So	ft S Firm	F Stiff St	Very Loose Dense D	VL Loo	se L Me	edium De	nse MD			Verific		-							

Project Title: Land Development

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Page: 11
No of Pages: 24

Date: 2/09/2016

Logged By: TNKS
TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 10

-			1	Associated Fell					1							
Depth (m)	Groundwater	Graphic Log	DESCRIP	TIONS				Strength (Undisturbed)	Soil Class(USCS)		◆Un	tu Sti	rengt ×	h (kPa	l) ed	
0.0m										0	0 50) 1	100	150	200	250
			TOPSOIL.						OL							
									OL	200						
										400						
0.5m				medium - fine, light b					SM	400	×			•		
				medium - fine Sand, I tiff, slightly moist - mo		int orange, nor	n-plastic,	Vst		600						
		+++	Still- VCI y S	un, siignuy moist - mo	not.			VSt		000						
		+++								800	*			—		
1.0m			Becomes no	on-plastic - slightly pla	astic, moist - very	y moist.		04		1000	×	\dashv				
		+ + + + + +						St	ML							
		+++								1200						
		+++								1400						
1.5m		+++						., .		1400						
		+++	SII T minor	coarse - fine Sand, liç	aht brownish liah	nt orange mottl	ed light	Vst		1600	- ×			•		
				n-plastic - slightly plas						4000						
			Pumiceous	SAND coarse - fine, I						1800 E						
2.0m			medium der	nse, very moist.						Depth (mm)						
								MD	SP)ept						
		• • •	Silty SAND	fine, light brown, unifo	ormly graded, me	edium dense,	very moist.	11112	0.	2200						
		• • •					•			2400						
2.5m				r minor coarse - fine S						2400						
			slightly plas	tic, very stiff, very mo	ist - wet.			Vst	ML	2600						
		+++						VSL	IVIL							
		+++								2800						
3.0m		• • •	SAND coars	se - fine, orangish bro		ed, dense, ver	y moist - wet.	D	SP	3000						
				Target o	iepth											
										3200						
										3400						
3.5m										3400						
										3600						\square
										3800						
4.0m										4000						\sqcup
										4200				+		+
										4400						
4.5m										4400						
										4600				-		
										4800						\forall
5.0m										5000						
NOTES):	<u> </u>	<u> </u>					Shear	Vane:	19mm Bl	ade. Va	ane r	eadi	ng		
			Groundwa	ter not encountered	l.					jive in siti						
				<u> </u>				Vane #	SN20	33						
Cohesi			E 04:# 04	Non Cohesive Mat		o MD				ptember	2016					
Very Soft Very Stiff			F Stiff St	Very Loose VL Loose Dense D Very Dense		e MD		Verifie Date:	u:							
, 2				1 20.000				_4.6.								

Project Title: Land Development

Site Address: 27 Kayelene Place

File Number: 629313-M-E-S002

City: Omokoroa **Date:** 2/09/2016 Logged By: TNKS

TGA REV 2 9/07/2010

Page: 12

No of Pages: 24

Hand Augered Borehole

Borehole No: 11

Depth (m)	Groundwater	Graphic Log	DESCRIPT	FIONS							Strength (Undisturbed)	Soil Class(USCS)				• Undis		ygth (l ×Ren	kPa)		0.53
0.0m			TOPSOIL.											C	0	50	100	15	50 2	200	250
												OL		200)						
0.5m			SILT minor very stiff - ha				ownish I	light oran	ige, non-	plastic,	Vst			600) ×				•		
1.0m		+ + + + + + + + +										ML		1000) —	×			•		
4 5		+++									н			1400							•
1.5m		+++++++++++++++++++++++++++++++++++++++	SILT minor	coarse- fine	Sand, li	ight brov	wnish lig	ht orange	e mottled	d light	Vst			1600					•		
2.0m		+++	orange, non Pumiceous	-plastic - slig SAND coars	ghtly pla: se - fine,	stic, ver	y stiff, m ange, po	noist - ve porly grad	ry moist. ded, med	dium			-								
		+++	dense, very	fine Sand, li	ght oran	ıgish bro	own, non	n-plastic,	very stif	f,	MD	SP		2000 22000 2200							
		+++	slightly plast		P 141						Vst	ML		2400							
2.5m		+++	SAND coars Clayey SILT slightly plast	minor coar	se - fine	Sand, b	orown,	aea, moi	st - very	moist.	MD	SP		2600) —						
3.0m		+++	Clayey SILT light orange			y stiff, ve			led blacl	c and	Vst	ML		3000				•			
3.5m					raigei	i depiii								3400							
														3600							
4.0m														4000							
4.5m														4400							
														4800							
5.0m														5000	, L						
NOTES	3 :		Groundwat	ter not enco	ountere	ed.					calibr	r Vane ated to # SN2	giv	e in si				_	3		
Cohesi				Non Cohe							Calib	ated S			r 201	16					
Very Soft Very Stiff			F Stiff St	Very Loose V			dium Den	nse MD			Verifi Date:										

Project Title: Land Development

Site Address: 27 Kayelene Place **City:** Omokoroa

File Number: 629313-M-E-S002

Page: 13 No of Pages: 24

12

Date: 15/11/2016

Logged By: JNF/SKB TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No:

Depth (m)	Groundwater	Graphic Log	DESCRIPT	rions				Strength (Undisturbed)	Soil Class(USCS)		lı	•Undistu	Strenç red	RESUL gth (kPa xRemould	a) led	250
0.0m			TOPSOIL.							0	0	50	100	150	200	250
				fine - medium, light	orangish light b	orown, rare ro	oot inclusions,			200	×					
0.5m		+++	SILT minor 1	ed, slightly moist. fine - medium Sand	, light orangish	light brown,	non-plastic,		SM	400	×					+
		+++	very stiff, mo	oist.				Vst		600						
1.0m		+++	slightly plast	medium - fine Sand tic, very stiff - hard,		light orange	, non-plastic -		ML	1000	*				•	
		+ + + + + + + + +		fine - medium, light	orangish light l	brown, non-p	olastic, hard,			1200		×				
1.5m		+++	moist.					н	SM	1400					•	
		+++		fine - coarse, light o	rangish brown,	poorly grade	ed, medium		-	1800					•	
2.0m		• • •	graded, med	SAND coarse - fine dium dense - dense	very moist.	orangish brov	vn, poorly	MD	SP	Depth (mm)						
			Silty SAND 1	ht orange, very moi fine - coarse, light b medium, light grey,	rown, uniformly			D	SM	2200						
2.5m		+++	very moist - Clayey SILT	wet. minor coarse - fine	Sand rare fine	Gravel, light		MD	SP	2400		×	•			
3.0m		+++	Clayey SILT plastic, very	plastic - slightly plas minor fine Sand, or stiff, very moist.	stic, very stiff, w range streaked	dark orange	, moderately	Vst	ML	2800		×				
				Target	Depth					3000 3200						
3.5m										3400						
										3600 3800						
4.0m										4000						
										4200						
4.5m										4400 4600						
										4800						
5.0m										5000	Ш					
NOTES	3 :	•	Groundwat	ter not encountere	d.			calibr		19mm B give in si				-		
Cohesi	ve Mat	erial		Non Cohesive Ma	aterial					tober 20	16					
Very Soft	t VS So	oft S Firm	n F Stiff St	Very Loose VL Loos	e L Medium De	nse MD		Verifi	ed:							
Very Stiff	Vst H	ard H		Dense D Very Dens	e D			Date:								

Project Title: Land Development

Site Address: 27 Kayelene Place

File Number: 629313-M-E-S002

City: Omokoroa **Date:** 15/11/2016

> Logged By: JNF/SKB TGA REV 2 9/07/2010

Page: 14

No of Pages: 24



Hand Augered Borehole

Borehole No: 13

Depth (m)	Groundwater	Graphic Log	DESCRIPT	IONS					Strength (Undisturbed)	Soil Class(USCS)		In S	AR VA itu Sti ndistured	rength		1)	250
0.0m			TOPSOIL.							OL	200						
0.5m		+++	slightly mois Becomes or	angish brown.	-	·		·	Vst	SM	400 600	×			•		
1.0m				medium - fine Sa ic, very stiff - ha		ownish light	orange, no	n-plastic -	<u> </u>	ML	800 1000	×				•	
1.5m			Sandy SILT stiff, moist.	fine - medium, I	ight orangisl	h light browr	n, non-plas	tic, very	Vst	SM	1200 1400 1600	×				•	
2.0m		+ + +	plastic, very	SAND coarse - f			- ,			ML SP	1800 (mm) 2000	×			•		
2.5m		• • •	Silty SAND t	fine - coarse, ligi medium, light g	rey, poorly g	graded, very	moist - we	t.	-	SM SP	2400 2600						
3.0m		+++	brown, non- Clayey SILT	minor coarse - plastic - slightly minor fine Sand stiff, very moist.	plastic, very d, orange str	stiff, wet.	-		Vst	ML	2800 3000	× *		•			
3.5m				Tar	get Depth						3200 3400 3600						
4.0m											3800 4000 4200						
4.5m											4400 4600						
5.0m	<u> </u>								Shear	Vane:	4800 5000 19mm Bl	ade. V	ane r	eadi	na		
			Groundwat	er not encount					calibra Vane #	ted to g SN187	ive in sitı 75	u shea			_		
Cohesiv Very Soft Very Stiff	VS Sc	ft S Firm	F Stiff St	Non Cohesive Very Loose VL I Dense D Very D	Loose L Med	dium Dense M	1D		Verifie Date:		tober 201	16					

Project Title: Land Development

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Page: 15 No of Pages: 24

Date: 15/11/2016 **Logged By:** JNF/SKB TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 14

		_	ASSOCIATED PENELIONIELEN NO . 14									
Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength (Undisturbed)	Soil Class(USCS)		ln :		VANE Strenç		Pa)	
0.0m			TOPSOIL.	" "	OL.	0	0	50	100	15	0 200	250
			SAND fine - medium minor Silt, light brown, minor root inclusions,			200						
0.5m		• • •	poorly graded, slightly moist - moist.		SP	400						
		+++	SILT minor fine - medium Sand, light orangish light brown, non-plastic, stiff, moist. SILT minor medium - fine Sand, light brownish light orange, non-plastic -	St	ML	800	×	•				
1.0m		+++	slightly plastic, very stiff, moist. Sandy SILT fine - medium, light orangish light brown, non-plastic, very stiff, moist.	Vst		1000	×			•	•	
1.5m		+ + + + + +				1200						
		• • •	Silty SAND fine - coarse, light orangish brown, poorly graded, very moist.		SM	1600	×					
2.0m		• • •	Silty SAND fine - coarse, light brown, uniformly graded, very moist - wet.	-		1800 (mm) 2000						
		• • •	SAND fine - medium, light grey, poorly graded, very moist - wet.		SP	2200						
2.5m		+++	Clayey SILT minor coarse - fine Sand rare fine Gravel, light orangish brown, non-plastic - slightly plastic, very stiff, wet.		_ U.	2400 2600	×	•				
3.0m		+++ +++	Clayey SILT minor fine Sand, orange streaked dark orange, moderately plastic, very stiff, very moist - wet.	St	ML	2800						
0.0111			Target Depth			3000 3200	*		<u> </u>			
3.5m						3400						
						3600 3800						
4.0m						4000						
4 Em						4200 4400						
4.5m						4600						
5.0m						4800 5000						
NOTES	i:	1	Groundwater not encountered.	calibra		19mm Bl ive in site 75				_		
Cohesi			Non Cohesive Material	Calibra	ated Oc	tober 201	16					
Very Soft Very Stiff			F Stiff St Very Loose VL Loose L Medium Dense MD Dense D Very Dense D	Verifie Date:	d:							

Project Title: Land Development

Page: 16
No of Pages: 24

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Date: 16/11/2016 **Logged By:** TS/CH

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 15

Depth (m)	Groundwater	Graphic Log		Strength (Undisturbed)	I Class(USCS)		SHEAR In Situ	ı Strenç		a)	
Dep	Gro	Gra	DESCRIPTIONS	Stre (Un	Soil						250
0.0m			TOPSOIL.	OL		200	50	100	150	200	250
0.5m		+++	SILT minor medium - fine Sand, orangish brown, non-plastic - slightly plastic, very stiff, slightly moist.			400 *			•		
1.0m			Clayey SILT minor medium - fine Sand, light brown, slightly plastic - moderately plastic, very stiff, slightly moist - moist.	Vst	ML	800 ×			•	•	
1.5m		+ + + + + + + + + + + +				1200 + 1400 * 1600 -				•	
2.0m		+++	Coarse - fine Pumicous SAND minor Silt, (HAUPARU TEPHRA) light brown, poorly graded, dense - medium dense, moist - very moist.	D MD D	SP	Depth (mm) 2000 2200					
2.5m		• • •	SILT minor fine Sand, light brown, non-plastic, stiff, very moist - wet.	MD St	Jr.	2400 - X 2600 -		•			
3.0m		+++	Clayey SILT minor fine Sand, light brown, slightly plastic, very stiff, very moist - wet. Target Depth	Vst	ML	2800 × 3000 ×			•		
3.5m						3200 - 3400 - 3600 -					
4.0m						3800 -					
4.5m						4200 - 4400 - 4600 -					
5.0m						4800 -					
IOTES		•	Groundwater not encountered.	calibra Vane #	ted to g # SN203		shear s				
ohesi			Non Cohesive Material			otember 2	016				
erv Soft	VS Sc	oft S Firm	F Stiff St Very Loose VL Loose L Medium Dense MD	Verifie	νq.						

Project Title: Land Development

City: Omokoroa

File Number: 629313-M-E-S002

No of Pages: 24 Site Address: 27 Kayelene Place

Date: 15/11/2016

Page: 17

Logged By: TS TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 16

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS			Strength (Undisturbed)	Soil Class(USCS)		In S	AR VANI Situ Stre	ngth (kF ×Remou	Pa)	
0.0m			TOPSOIL.				OL		0	0 !	50 10	150	200	250
		+++	SILT minor I	medium - fine Sand, light br	own, non-plastic, stiff, m	noist.	64		200	×	•			
0.5m			Medium - fin slightly mois	e Sandy SILT , light orangis t.	h brown, non-plastic, ve	ery stiff	St		400 600	×		•		
1.0m		<u>+ + +</u> + + +	Clayey SILT	ghtly moist - moist minor medium - fine Sand,	light brown, non-plastic	: - slightly	Vst	ML	1000	* *				
1.5m		++++		stiff, slightly moist. ghtly moist - moist					1200 1400	×			•	
		+ + + + + +	Coarse - fine	e Pumiceous SAND minor S	Silt. (HAUPA	RU TEPHRA)			1600					
2.0m		• • •	_	nt brown, poorly graded, loo	, (L MD	SP	Depth (mm) 1800	*	•			
2.5m		+++	moist. SAND medi	e Sand, whitish light brown			Н	ML	2200 2400	×				•
		+++	graded, very Clayey SILT very moist -	minor fine Sand, light brow	n, slightly plastic, very s	stiff,	Vst	SP ML	2600 2800	* *		•	•	
3.0m		+++		Target Depth					3000 3200					
3.5m									3400 3600					
4.0m									3800					
4.011									4000 4200					
4.5m									4400 4600					
5.0m									4800 5000					
NOTES	:	<u>I</u>	Groundwat	er not encountered.			calibra		19mm Bl ive in sit			-		
Cohesiv Very Soft Very Stiff	VS So	ft S Firm	F Stiff St	Non Cohesive Material Very Loose VL Loose L Med Dense D Very Dense D	dium Dense MD	1		ted Sep	otember	2016				

Project Title: Land Development

Site Address: 27 Kayelene Place City: Omokoroa

File Number: 629313-M-E-S002

Page: 18 No of Pages: 24

17

Date: 15/11/2016

Logged By: TS TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No:

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS					Strength (Undisturbed)	Soil Class(USCS)				VANE Streng		a)) 250
0.0m			TOPSOIL.						OL		0		50	100	150	200	250
0.5m		+	hard, slightly	ne Sandy SILT			non-plastic,	very stiff -	Vst		200 400 600 800	×	<	•	•	•	
1.0m				minor mediur		d, light brow	n, non-plas	tic - slightly	н	ML	1000		×			•	•
1.5m		+++		ghtly moist - n					Vst		1200 1400 1600	* *				•	
2.0m		• • •		e Pumiceous \$ nt brown, poor			•	ARU TEPHRA) st - wet.	MD	SP	1800 2000 2200	×		•			
2.5m		+ + + + + + + + + + + +		minor fine Sa wet.	nd, light bro	wn, slightly	plastic, very	y stiff,	Vst	ML	2400 2600 2800	×	<		•	•	
3.0m		+++		Т	arget Depth	1					3000	×				•	
3.5m											3400 3600 3800						
4.0m											4000						
4.5m											4400 4600						
5.0m											4800 5000						
NOTES	3 :		Groundwat	er not encou	ntered.				calibra		19mm B live in sit 33						
	VS So	ft S Firm	F Stiff St	Non Cohesi Very Loose VL	Loose L M		: MD		Calibra Verifie	ated Se	ptember	2016	6				
Very Stiff	Vst Ha	ard H		Dense D Very	Dense D				Date:								

Project Title: Land Development

Page: 19 No of Pages: 24

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Date: Logged By:

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 18

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS	Zeno nadek	strengtn (Undisturbed)	Soil Class(USCS)		In S	AR VA Situ St	reng		a)	
0.0m						"	U)	0	0 5	50	100	150	200	250
			TOPSOIL.			OL		200						
0.5m			Silty SAND very stiff, sli	medium - fine, orange brown black mottling, poorly gightly moist.		Vst		400 3	*			•		
1.0m		+++	plastic, very	e Sandy SILT, light orangish brown, non-plastic - slig stiff - hard, slightly moist - moist. ayey SILT, minor root inclusions.	ghtly		ML	800	*				•	
1.5m		+ + + + + + + + + + + +	Becomes M	oist. minor medium - fine Sand, slightly plastic - medium	plastic.	н		1200 - 2 1400 -	*				•	•
2.0m		++++++	hard, moist. Coarse - fine	e Pumiceous SAND minor Silt, light brown, poorly gra	aded,			1600 (mm) 2000 (200) (2000 (200) (2000 (2000 (2000 (2000 (2000 (2000 (2000 (2000 (200) (2000 (2000 (200) (2000 (2000 (2000 (200) (2000 (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (2000 (200) (200) (2000 (200) (200) (2000 (200) (200) (200) (2000 (200) (2000 (200) (200) (200) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (200) (200) (2000) (200) (200) (200) (200) (200) (*				•	
			medium der	ise - dense, moist - very moist.		MD D	SP	2200 epth						
2.5m				ne Sand, light orangish brown, non-plastic, very stiff,		Vst		2400						
3.0m		+++		n, coarse - fine, minor Silt, poorly graded, dense, ver minor fine Sand, light brown, slightly plastic, very sti wet.		D St	ML	2800	*	•				
3.0111				Target Depth				3200						
3.5m								3400 · 3600 · 3800 ·						
4.0m								4000						
4.5m								4400						
5.0m								4800						
NOTES	S :		Groundwat	er not encountered.	ca	alibrat		19mm Blaive in situ 33						
Cohesi				Non Cohesive Material	C	alibra	ted Sep	otember :	2016					
	VS So Vst Ha		r F Stiff St	Very Loose VL Loose L Medium Dense MD Dense D Very Dense D		erifie ate:	d:							

Page: 20 No of Pages: 24

Site Address: 27 Kayelene Place

 City:
 Omokoroa
 Date:
 2/09/2016

 File Number:
 629313-M-E-S002
 Logged By:
 TNKS



Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number	Te	est 1	Te	st 2	Te	st 3	Te	st 4
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetratio
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	, ,		, ,	, ,	, ,	. ,	. ,	` '
0	0		0		0		0	
5	340	340	310	310	330	330	350	350
10	550	210	600	290	580	250	560	210
15	790	240	880	280	790	210	840	280
20	1000	210	1050	170	1020	230	1100	260
25	1260	260	1180	130	1190	170	1330	230
30	1300	40	1300	120	1360	170	1480	150
35	1410	110	1450	150	1550	190	1610	130
40	1520	110	1590	140	1690	140	1740	130
45	1650	130	1740	150	1810	120	1900	160
50	1780	130	1860	120	1910	100	2020	120
55	1890	110	1950	90	2010	100	2120	100
60	1980	90	2030	80	2080	70	2280	160
65	2090	110	2110	80	2140	60	2390	110
70	2200	110	2180	70	2200	60	2500	110
75	2310	110	2290	110	2290	90	2620	120
80	2360	50	2410	120	2440	150	2760	140
85	2420	60	2520	110	2540	100	2910	150
90	2480	60	2680	160	2650	110		
95	2520	40	2780	100	2760	110		
100	2650	130	2870	90	2850	90		
105	2780	130						
110	2910	130						
115								
120	_			_			_	
Number		est 5	Tes			st 7		st 8
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetratio
GL Start			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
01 010.1	(mm)	(mm)	(111111)	\ /	\ /	, ,	, ,	· /
	, ,	(11111)		,		,	0	,
0	0	,	0		0		0 250	250
0 5	0 350	350	0 310	310	0 400	400	250	250
0 5 10	0 350 510	350 160	0 310 560	310 250	0 400 740	400 340	250 480	230
0 5 10 15	0 350 510 670	350 160 160	0 310 560 800	310 250 240	0 400 740 1020	400 340 280	250 480 700	230 220
0 5 10 15 20	0 350 510 670 830	350 160 160 160	0 310 560 800 950	310 250 240 150	0 400 740 1020 1300	400 340 280 280	250 480 700 930	230 220 230
0 5 10 15 20 25	0 350 510 670 830 980	350 160 160 160 150	0 310 560 800 950 1110	310 250 240 150 160	0 400 740 1020 1300 1410	400 340 280 280 110	250 480 700 930 1110	230 220 230 180
0 5 10 15 20 25 30	0 350 510 670 830 980 1110	350 160 160 160 150 130	0 310 560 800 950 1110 1250	310 250 240 150 160 140	0 400 740 1020 1300 1410 1550	400 340 280 280 110 140	250 480 700 930 1110 1240	230 220 230 180 130
0 5 10 15 20 25 30 35	0 350 510 670 830 980 1110 1250	350 160 160 160 150 130 140	0 310 560 800 950 1110 1250 1400	310 250 240 150 160 140	0 400 740 1020 1300 1410 1550 1710	400 340 280 280 110 140	250 480 700 930 1110 1240 1370	230 220 230 180 130
0 5 10 15 20 25 30 35 40	0 350 510 670 830 980 1110 1250 1400	350 160 160 160 150 130 140	0 310 560 800 950 1110 1250 1400 1510	310 250 240 150 160 140 150	0 400 740 1020 1300 1410 1550 1710 1950	400 340 280 280 110 140 160 240	250 480 700 930 1110 1240 1370 1500	230 220 230 180 130 130
0 5 10 15 20 25 30 35 40	0 350 510 670 830 980 1110 1250 1400 1540	350 160 160 160 150 130 140 150	0 310 560 800 950 1110 1250 1400 1510	310 250 240 150 160 140 150 110	0 400 740 1020 1300 1410 1550 1710 1950 2180	400 340 280 280 110 140 160 240 230	250 480 700 930 1110 1240 1370 1500 1650	230 220 230 180 130 130 130
0 5 10 15 20 25 30 35 40 45 50	0 350 510 670 830 980 1110 1250 1400 1540 1710	350 160 160 160 150 130 140 150 140	0 310 560 800 950 1110 1250 1400 1510 1630 1750	310 250 240 150 160 140 150 110 120	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330	400 340 280 280 110 140 160 240 230 150	250 480 700 930 1110 1240 1370 1500 1650 1780	230 220 230 180 130 130 130 150
0 5 10 15 20 25 30 35 40 45 50	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850	350 160 160 160 150 130 140 150 140 170	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850	310 250 240 150 160 140 150 110 120 120	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480	400 340 280 280 110 140 160 240 230 150	250 480 700 930 1110 1240 1370 1500 1650 1780 1880	230 220 230 180 130 130 130 150 130
0 5 10 15 20 25 30 35 40 45 50 55 60	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900	350 160 160 160 150 130 140 150 140 170 140 50	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930	310 250 240 150 160 140 150 110 120 120 100 80	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650	400 340 280 280 110 140 160 240 230 150 170	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980	230 220 230 180 130 130 130 150 130 100
0 5 10 15 20 25 30 35 40 45 50 55 60 65	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900	350 160 160 160 150 130 140 150 140 170 140 50	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000	310 250 240 150 160 140 150 110 120 120 100 80 70	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780	400 340 280 280 110 140 160 240 230 150 150 170 130	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040	230 220 230 180 130 130 130 150 130 100 100
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900	350 160 160 160 150 130 140 150 140 170 140 50	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090	310 250 240 150 160 140 150 110 120 120 100 80	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980	230 220 230 180 130 130 130 150 130 100 100 60
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000	350 160 160 160 150 130 140 150 140 170 140 50 50 50	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180	310 250 240 150 160 140 150 110 120 120 100 80 70 90	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 150 170 130	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090	230 220 230 180 130 130 130 150 130 100 100 60 50
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160	350 160 160 160 150 130 140 150 140 170 140 50 50 50 80	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200	230 220 230 180 130 130 130 150 130 100 100 60 50 50
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250	350 160 160 160 150 130 140 150 140 170 140 50 50 50 80 80 90	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310	230 220 230 180 130 130 150 100 100 60 50 60 110
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360	350 160 160 160 150 130 140 150 140 170 140 50 50 50 50 80 80 90	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440	230 220 230 180 130 130 150 100 100 60 50 60 110 130
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360 2470	350 160 160 160 150 130 140 150 140 170 140 50 50 50 50 80 80 90 110	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440 2530	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70 90 90	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440 2590	230 220 230 180 130 130 130 150 100 100 60 50 50 60 110 130 150
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360 2470 2600	350 160 160 160 150 130 140 150 140 170 140 50 50 50 80 80 90 110 110	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440 2530 2630	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70 90 90 100	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440 2590 2710	230 220 230 180 130 130 130 150 100 100 60 50 50 60 110 130 130 100 100 100 100 10
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360 2470 2600 2720	350 160 160 160 150 130 140 150 140 170 140 50 50 50 50 80 80 90 110 110	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440 2530 2630 2730	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70 90 90 100 100	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440 2590 2710 2810	230 220 230 180 130 130 130 150 100 60 50 50 60 110 130 150 100 100 100 100 100 100 10
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360 2470 2600 2720 2810	350 160 160 160 150 130 140 150 140 170 140 50 50 50 80 80 80 90 110 110 130 120 90	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440 2530 2630 2730 2810	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70 90 90 100 100 80	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440 2590 2710	230 220 230 180 130 130 130 150 100 100 60 50 50 60 110 130 130 100 100 100 100 10
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100	0 350 510 670 830 980 1110 1250 1400 1540 1710 1850 1900 1950 2000 2080 2160 2250 2360 2470 2600 2720	350 160 160 160 150 130 140 150 140 170 140 50 50 50 50 80 80 90 110 110	0 310 560 800 950 1110 1250 1400 1510 1630 1750 1850 1930 2000 2090 2180 2280 2350 2440 2530 2630 2730	310 250 240 150 160 140 150 110 120 120 100 80 70 90 90 100 70 90 90 100 100	0 400 740 1020 1300 1410 1550 1710 1950 2180 2330 2480 2650 2780 2830	400 340 280 280 110 140 160 240 230 150 170 130 50	250 480 700 930 1110 1240 1370 1500 1650 1780 1880 1980 2040 2090 2140 2200 2310 2440 2590 2710 2810	230 220 230 180 130 130 130 150 100 60 50 50 60 110 130 150 100 100 100 100 100 100 10

Page: 21
No of Pages: 24

Site Address: 27 Kayelene Place

 City:
 Omokoroa
 Date:
 2/09/2016

 File Number:
 629313-M-E-S002
 Logged By:
 TNKS

Stratum

TGA REV 2 9/07/2010 C O N

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number		est 9		st 10	Tes	st 11	Tes	st 12
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
			•					
0	0		0		0		0	
5	390	390	390	390	320	320	180	180
10	700	310	690	300	510	190	350	170
15	950	250	840	150	790	280	510	160
20	1140	190	1010	170	1050	260	690	180
25	1310	170	1170	160	1270	220	840	150
30	1440	130	1320	150	1420	150	1020	180
35	1630	190	1490	170	1560	140	1140	120
40	1770	140	1650	160	1730	170	1270	130
45	1860	90	1790	140	1820	90	1410	140
50	1930	70	1890	100	1920	100	1550	140
55	2010	80	1980	90	2010	90	1660	110
60	2090	80	2090	110	2110	100	1740	80
65	2190	100	2200	110	2200	90	1830	90
70	2260	70	2330	130	2300	100	1940	110
75	2350	90	2440	110	2450	150	2030	90
80	2450	100	2620	180	2610	160	2090	60
85	2580	130	2760	140	2770	160	2160	70
90	2700	120	2830	70	2870	100	2220	60
95	2810	110	2900	70			2280	60
100	2910	100		. •			2350	70
105							2470	120
110							2560	90
115							2690	130
120							2780	90
125							2860	80
130								
135								
Number	Tes	t 13	Tes	st 14	Test	15	Tes	t 16
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	, ,	. /		, ,		\ /	,	,
0	0		0		0		0	
5	•							
	340	340		280		390	330	330
10	340 610	340 270	280	280 200	390	390 250	330 640	330 310
10 15	610	270	280 480	200	390 640	250	640	310
15	610 900	270 290	280 480 680	200 200	390 640 820	250 180	640 760	310 120
15 20	610 900 1110	270 290 210	280 480 680 920	200 200 240	390 640 820 1020	250 180 200	640 760 1060	310 120 300
15 20 25	610 900 1110 1280	270 290 210 170	280 480 680 920 1110	200 200 240 190	390 640 820 1020 1170	250 180 200 150	640 760 1060 1330	310 120 300 270
15 20 25 30	610 900 1110 1280 1450	270 290 210 170	280 480 680 920 1110 1270	200 200 240 190 160	390 640 820 1020 1170 1350	250 180 200 150 180	640 760 1060 1330 1390	310 120 300 270 60
15 20 25 30 35	610 900 1110 1280 1450 1620	270 290 210 170 170 170	280 480 680 920 1110 1270 1410	200 200 240 190 160 140	390 640 820 1020 1170 1350 1530	250 180 200 150 180	640 760 1060 1330 1390 1540	310 120 300 270 60 150
15 20 25 30 35 40	610 900 1110 1280 1450 1620 1820	270 290 210 170 170 170 200	280 480 680 920 1110 1270 1410 1550	200 200 240 190 160 140	390 640 820 1020 1170 1350 1530	250 180 200 150 180 180	640 760 1060 1330 1390 1540 1720	310 120 300 270 60 150
15 20 25 30 35 40 45	610 900 1110 1280 1450 1620 1820 1940	270 290 210 170 170 170 200 120	280 480 680 920 1110 1270 1410 1550 1710	200 200 240 190 160 140 140	390 640 820 1020 1170 1350 1530 1690 1800	250 180 200 150 180 180 160	640 760 1060 1330 1390 1540 1720 1870	310 120 300 270 60 150 180
15 20 25 30 35 40 45 50	610 900 1110 1280 1450 1620 1820 1940 2070	270 290 210 170 170 170 200 120	280 480 680 920 1110 1270 1410 1550 1710 1800	200 200 240 190 160 140 140 160 90	390 640 820 1020 1170 1350 1530 1690 1800	250 180 200 150 180 180 160 110 70	640 760 1060 1330 1390 1540 1720 1870 2040	310 120 300 270 60 150 180 150
15 20 25 30 35 40 45 50	610 900 1110 1280 1450 1620 1820 1940 2070 2160	270 290 210 170 170 170 200 120 130 90	280 480 680 920 1110 1270 1410 1550 1710 1800 1870	200 200 240 190 160 140 140 160 90 70	390 640 820 1020 1170 1350 1530 1690 1800 1870	250 180 200 150 180 180 160 110 70	640 760 1060 1330 1390 1540 1720 1870 2040 2160	310 120 300 270 60 150 180 150 170
15 20 25 30 35 40 45 50 55 60	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280	270 290 210 170 170 170 200 120 130 90	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980	200 200 240 190 160 140 140 160 90 70 110	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020	250 180 200 150 180 180 160 110 70 70 80	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240	310 120 300 270 60 150 180 150 170 120 80
15 20 25 30 35 40 45 50 55 60 65	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440	270 290 210 170 170 170 200 120 130 90 120 160	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040	200 200 240 190 160 140 140 160 90 70 110 60	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100	250 180 200 150 180 180 160 110 70 70 80 80	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330	310 120 300 270 60 150 180 150 170 120 80
15 20 25 30 35 40 45 50 55 60 65 70	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120	200 200 240 190 160 140 140 160 90 70 110 60 80	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160	250 180 200 150 180 180 160 110 70 70 80 80 60	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470	310 120 300 270 60 150 180 150 170 120 80 90
15 20 25 30 35 40 45 50 55 60 65 70	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160	200 200 240 190 160 140 140 160 90 70 110 60 80 40	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200	250 180 200 150 180 180 160 110 70 70 80 80 60 40	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630	310 120 300 270 60 150 180 150 170 120 80 90 140
15 20 25 30 35 40 45 50 55 60 65 70 75 80	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730 2800	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100 70
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280 2400	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70 120	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370 2440	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40 70	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280 2400 2550	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70 120 150	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370 2440 2580	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40 70 140	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730 2800	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100 70
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280 2400 2550 2710	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70 120 150 160	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370 2440 2580 2680	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40 70 140 100	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730 2800	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100 70
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280 2400 2550	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70 120 150	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370 2440 2580 2680 2770	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40 70 140 100 90	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730 2800	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100 70
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95	610 900 1110 1280 1450 1620 1820 1940 2070 2160 2280 2440 2620 2780	270 290 210 170 170 170 200 120 130 90 120 160 180	280 480 680 920 1110 1270 1410 1550 1710 1800 1870 1980 2040 2120 2160 2210 2280 2400 2550 2710	200 200 240 190 160 140 140 160 90 70 110 60 80 40 50 70 120 150 160	390 640 820 1020 1170 1350 1530 1690 1800 1870 1940 2020 2100 2160 2200 2330 2370 2440 2580 2680	250 180 200 150 180 180 160 110 70 70 80 80 60 40 130 40 70 140 100	640 760 1060 1330 1390 1540 1720 1870 2040 2160 2240 2330 2470 2630 2730 2800	310 120 300 270 60 150 180 150 170 120 80 90 140 160 100 70

Page: 22 No of Pages: 24

Site Address: 27 Kayelene Place

 City:
 Omokoroa
 Date:
 17/11/2016

 File Number:
 629313-M-E-S002
 Logged By:
 TS/CH

CONSULTANTS

TGA REV 2 9/07/2010

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number	Tes	t 17	Tes	t 18				
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
_	,	,	(/	()	,	, ,	· /	(/
0	0		0					
5	190	190	350	350				
10	380	190	630	280				
15	590	210	860	230				
20	810	220	1060	200				
25	1020	210	1240	180				
30	1150	130	1390	150				
35	1270	120	1520	130				
				90				
40	1400	130	1610					
45	1540	140	1720	110				
50	1690	150	1810	90				
55	1840	150	1900	90				
60	1950	110	1990	90				
65	2070	120	2070	80				
70	2150	80	2150	80				
75	2240	90	2220	70				
80	2330	90	2290	70				
85	2440	110	2370	80				
90	2550	110	2430	60				
95	2640	90	2500	70				
100	2740	100	2640	140				
105	2820	80	2730	90				
110	2890	70	2860	130				
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								
170								
175								
180								
185 190								-
								1
195								-
200								
205								
210								
215								
220								
225								
230								
235								
240								
245								
250								
255								
260								
265								
270								
210								

Project Title: Land Development

Site Address: 27 Kayelene Place

File Number: 629313-M-E-S002

City: Omokoroa Date: 2/09/2016 Logged By: JNF

TGA REV 2 9/07/2010

Page: 23 No of Pages: 24

Shear Vane Test Results

Notes: UTP: Unable to Penetrate.

SN ₁	87
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3141073						
Borehole 1		podantsipali		Poplifoado	naninolliavi	
Depthmm	Reading	KPa KPa KPa 75 Strength 9 75 Strength 9 15 S				
300	54	75	St	9	LKPa	
500	79	SAND				
700	72	101	101 Vst 9			
900	116	162	Vst	20	28	
1100	119	166	Vst	20	28	
1300	112	157	Vst	19	27	
1600	100	140	Vst	16	22	
1700	97	136	Vst	8	11	
2400	140	SAND				
2800	114	159	Vst	26	36	
3000	106	148	Vst	32	45	

SN1875

					011	118/5
	Borehole 2				poplioada	naninolliau
	Depthmm	Reading	49 KPa	ಲ್ಲ Strength	Reading	о кРа
ľ	300	48	67	St	4	6
I	500	76	106	Vst	14	20
I	800	68	95	St	15	21
I	1100	104	145	Vst	17	24
I	1300	100	140	Vst	19	27
ı	1600	88	123	Vst	11	15
I	2600	60	84	St	6	8
ı	2800	81	113	Vst	5	7
I	2900	UTP	-	-	-	-

SN1875

Borehole 3		-Undisturbed		Remoulded	
Depthmm	Reading	кРа	⊐ Strength	Reading	кРа
400	30	42	F	10	14
600	91	127	Vst	10	14
800	123	172	Vst	16	22
1000	121	169	Vst	21	29
1200	118	165	Vst	17	24
1400	99	138	Vst	15	21
1700	90	126	Vst	10	14
1900	118	165	Vst	14	20
2600	112	157	Vst	1	1
2800	78	109	Vst	12	17
3000	90	126	Vst	23	32

SN1875

Borehole 4		Lodieturbod		Poplifond	Nellioulded
Depthmm	Reading	g kPa	ಲ್ಲ Strength	Reading	21 11
600	42		St	15	21
800	71	99	St	8	11
1000	74	103	Vst	12	17
1200	78	109	Vst	14	20
1400	82	115	Vst	12	17
1600	130	182	Vst	18	25
1800	93	130	Vst	15	21
2800	34	48	F	6	8
3000	90	126	Vst	22	31

Shear Vane SN1875 Calibrated Nov-15 Constant 1.398

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Tect Title: Land Development Page: 24
No of Pages: 24

Date: 2/09/2016 **Logged By:** JNF

TGA REV 2 9/07/2010



Shear Vane Test Results

Notes: UTP: Unable to Penetrate.

31110/3

2	,	7	5	3	5	
Borehole 5		podantsipali		Poplioado		
Depthmm	Reading	kPa	kPa Strength Reading			
300	98	SAND				
700	108	151	Vst	16	22	
900	140	196	Vst	0	0	
1100	140	196	Vst	0	0	
1300	118	165	Vst	16	22	
1500	121	169	Vst	18	25	
1700	130	182	Vst	18	25	
2600	37	52	St	1	1	
2800	66	92	St	4	6	
3000	126	176	Vst	36	50	

SN1875

S					11875
Borehole 6		Undisturbed		Remoulded	
Depthmm	Reading	481 482 483	Strength	Reading	∞kPa
400	96	134	Vst	6	8
600	72	101	Vst	1	1
900	112	157	Vst	14	20
1100	87	122	Vst	12	17
1300	112	157	Vst	14	20
1500	140	196	Vst	0	0
1800	140	196	Vst	0	0
2000	140	196	Vst	0	0
2500	39	55	St	2	3
2700	98	137	Vst	15	21
3000	79	110	Vst	13	18

SN2033

		Podzi	200	707	nan	
Borehole 7		podanjejpali		Poplioad		
Depthmm	Reading	kPa	Strength	Reading	кРа	
300	50	82	St	7	11	
500	70	115	Vst	10	16	
700	54	89	St	6	10	
900	115	189	Vst	12	20	
1100	70	115	Vst	8	13	
1300	UTP	-	-	-	-	
1600	50	82	St	7	11	
1800	40	66	St	11	18	
2100	UTP	SAND				
2700	110	181	Vst	18	30	
2900	110	181	Vst	10	16	

DR4525

Borehole 8		podantsipall		Popliiomod	naningalaga
Depthmm	Reading	kPa	Strength	Reading	۷ kPa
400	73	109	Vst	5	7
600	87	130	Vst	7	10
900	118	176	Vst	10	15
1300	130	194	Vst	17	25
1600	140	209	Η	0	0
2100	110	164	Vst	8	12
2500	90	134	Vst	5	7
2800	100	149	Vst	7	10
3000	98	146	Vst	7	10

Shear Vane DR4525 Calibrated Oct-15 Constant 1.491 Shear Vane Calibrated Constant SN1875 Nov-15 1.4 Shear Vane SN2033 Calibrated Sep-16 Constant 1.64 Client: Barrett Homes

Project Title: Land Development

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S002

Page: 24 No of Pages: 24

Date: 2/09/2016

Logged By: JNF



TGA REV 2 9/07/2010

Shear Vane Test Results

Notes: UTP: Unable to Penetrate.

SN2033

		3112033							
Borehole 9		poqan;sipa]]	Olidistal bed	popliiomod	Remodiaea				
Depthmm	Reading	29 kPa	ಲ್ಲ Strength	Reading	ct kPa				
400	41	67		8	13				
600	40	66	St	7	11				
800	110	181	Vst	14	23				
1000	90	148	Vst	16	26				
1200	70	115	Vst	11	18				
1400	81	133	Vst	10	16				
1600	117	192	Vst	16	26				
1900	UTP		SA	ND					
2400	UTP		SA	ND					
2900	120	197	Vst	17	28				

SN2033

				JI	12033
Rorehole 10		Hodieturbod	Olidistal bed	Populand	Nellioulded
Depthmm	Reading	kPa	Strength	Reading	кРа
500	100	164	Vst	18	30
800	102	167	Vst	13	21
1000	56	92	St	4	7
1400	110	181	Vst	13	21
1600	88	144	Vst	17	28
1800	UTP		SA	ND	

SN2033

Borehole 11		poqantsipa I	olidistal bed	popliiomod	Remodiaed
Depthmm	Reading	kPa	Strength	Reading	кРа
400	95	156	Vst	10	16
700	98	161	Vst	10	16
1000	101	166	Vst	18	30
1300	UTP	-	-	-	-
1500	97	159	Vst	12	20
2200	65	107	Vst	10	16
3000	70	115	Vst	10	16

Shear Vane SN2033 Calibrated Sep-16 Constant 1.642 Client: Barrett Homes Ltd

Project Title: Residential Subdivision

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga
File Number: 629313-M-E-S007

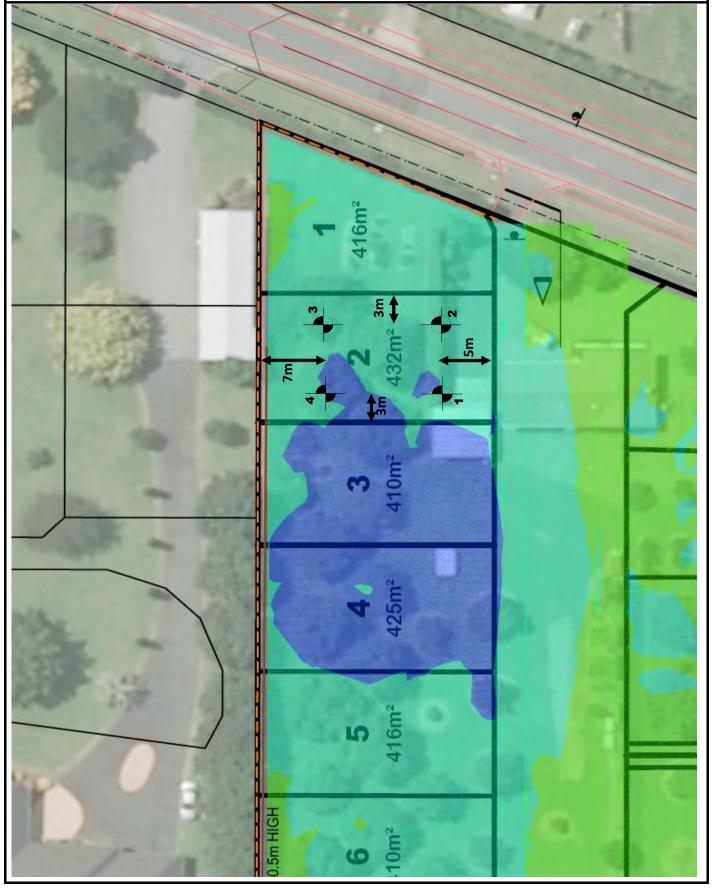
Page: 1
No of Pages: 7

Date: 22/06/2017 **Logged By:** JNF/TS

REV 2 9/07/2010 CON 3 OLI AN



Test Location Sketch



Project Title: Residential Subdivision

Page: 2 No of Pages: 7

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

Date: 22/06/2017

629313-M-E-S007 629313-M-E-S007 Logged By: JNF/TS



Hand Augered Borehole

Borehole No:

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS		Strength	Soil Class(USCS)			AR VANI			
0.0m	-			(FILL)		0 -) :	50 100	150	200	250
			SAND coarse - fine rare fine Pumiceous Gravel, light gre graded, dense - loose, moist.	y, poorly	L	SP						
		• • •	9.4454, 40.166 1.5556, 116.61			-	200 -					
0.5m		• • •		(FILL	١		400 -	+				
0.5111			Silty SAND fine - medium rare fine Pumiceous Gravel, wh		, D		600 -					
		• • •	grey, poorly graded, dense, moist.			SM	000					
		+++	SILT minor fine - medium Sand, light brown, non-plastic,	very stiff,			800 -	+				
1.0m		+++	slightly moist - moist.				1000 -	_			•	
		+++										
		+++					1200 -			1		
1.5m		+++			Vst	ML	1400 -	_		+		
1.5111		+++			VSI	IVIL	1600 -				•	
		+++					1000				•	
		+ + + + + +					1800 -	+				
2.0m		+++					Depth (mm) 2000 -	_				
			Target Depth				epth					
							△ 2200 -					
2.5m							2400 -	-				
2.5111							2600 -					
							2000 -					
							2800 -	+			+	
3.0m							3000 -					
							3200 -					
2.5							3400 -	+		+		
3.5m							3600					
							3600 -					
							3800 -	+		+	+	+
4.0m							4000 -					
							4200 -	+				
4 5							4400 -	+		+	+	+
4.5m							4000					
							4600 -					\Box
							4800 -	+		+	++	+
5.0m							5000 -					
NOTES		<u> </u>	Parahala hagan at finished platform laval		Shoo-	Vana	19mm Bla	odo '	lana ==	adir -		
MO I ES	•		Borehole began at finished platform level. Groundwater not encountered.				jive in situ					
<u> </u>			The Color of the C		Vane #	# SN203	33					
Cohesiv			Non Cohesive Material F Stiff St Very Loose VL Loose L Medium Dense MD		Calibra Verifie		bruary 20	17				
Very Stiff			Dense D Very Dense D		Date:	u.						

Project Title: Residential Subdivision

Page: 3
No of Pages: 7

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 22/06/2017

629313-M-E-S007 629313-M-E-S007

Date: 22/06/2017 **Logged By:** JNF/TS

TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 2

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)		SHEAR In Situ			Pa)	
0.0m			(FILL)			0 0 +	50	100	150	200	250
			SAND coarse - fine rare fine Pumiceous Gravel, light grey, poorly graded, medium dense - dense, moist.	MD	SP			•			
			graded, medium dense - dense, moist.		31	200 -					+
	<u>.</u>	• •	(50.1)	_		400					
0.5m		• • •	(FILL) Silty SAND fine - medium rare fine Pumiceous Gravel, whitish light	D	SM						
			grey, poorly graded, dense, moist.			600 -					
	+		SILT minor fine - medium Sand, light brown, non-plastic, very stiff - hard, slightly moist - moist.			800 -				+	++
1.0m	+		Silghtly moist - moist.			1000 -					
	+	++				1000					
	+	· + + · + +		Vst		1200 -				+	++
	ļ	+ +			ML	1400 -					Ш
1.5m	+	+ +									
	+	· + + · + +				1600 -					H
	ļ	++				1800				$\downarrow \downarrow$	
2.0m	+	· + + · + +		Н		2000 - 2200 - 2200 -					
2.0111			Target Depth			2000 +					
						2200 -					++
						0.400					
2.5m						2400 -					
						2600					H
						2800 -					
						2000					
3.0m						3000 -					++
						3200 -					
3.5m						3400 -					$H \mid$
						3600 -					
						3800 -					$\prod \mid$
4.0m						4000 -					++
						4200 -					
						7200					
4.5m						4400 -			+		++
						4600 -					\coprod
						4800 -					
5.0m						5000					
NOTES:			Borehole began at finished platform level.	Shear	Vane:	19mm Bla	ade. Var	ne rea	dina		
			Groundwater not encountered.	calibra	ted to g	ive in situ					
Cohesive	Motori	ial	Non Cohesive Material		# SN203		17				
Very Soft VS				Verifie	ateu ret ed:	oruary 20	1 /				
Very Stiff Vs			Dense D Very Dense D	Date:							

Project Title: Residential Subdivision

Page: 4 No of Pages: 7

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

Date: 22/06/2017

629313-M-E-S007 629313-M-E-S007 Logged By: JNF/TS TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 3

SHEAR WARE RESULTS is Still Shear with a series of the ser												
SAND coarse - fine minor fine Pumicaous Gravel rare Silt, light grey. L L Second year year year year year year year year	Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)		In Sit	u Stren	gth (kP	Pa)	
Some supersonation of the company o								50	100	150	200	250
0.5m Seconds very moist. D D SP 400			• • •		L							
1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m							200 +				+	\top
Sity SAND line - medium occasional fine Pumiceous Gravel, light grey, poorly SMN coarse - fine minor fine Pumiceous Gravel, light grey, poorly graded, dense, very moist.			• • •		D	SP	400			\perp	$\perp \perp$	
1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m 1.0m	0.5m		• • •		MD							
Support y graded, dense, very moist. SaNt ocarse - fine minor fine Pumicaous Gravel, light grey, poorty graded, dense, very moist. Sant ocarse - fine minor fine Pumicaous Gravel, light grey, poorty graded, dense, very moist. + + + \$ILT minor coarse - fine Sand, light brownish light orange, heart of the properties of the Sand Sand Sand Sand Sand Sand Sand Sand					IVID		600 +				++	+
1.0m 1.0m			• • •	(FILL)			800					
SAND coarse - fine minor fine Pumiceous Gravel, light grey, poorty graded, dense, very moist. 1.5m SILT minor coarse - fine Sand, light brownish light orange, he had becomes non-plastic - slightly plastic, very moist. 1.5m SILT minor coarse - fine Sand, light brownish light orange, he had becomes non-plastic - slightly plastic, very moist. 1.5m SILT minor fine - coarse Sand, brownish orange mottled light orange. He had becomes non-plastic - slightly plastic, very moist. 1.5m SILT minor fine - coarse Sand, brownish orange mottled light orange. He had becomes non-plastic - slightly plastic, very moist. 1.5m SILT minor fine - coarse Sand, brownish orange mottled light orange. He had become significant orange.			• • •	· · · · · · · · · · · · · · · · · · ·		SM						
S. AND coarse - fine Puriceous Gravel, light grey, poorly graded, dense, very moist. 1.5m 1.5	1.0m		• • •		D		1000			\vdash	++	+
1.5m SILT minor coarse - fine Sand, light brownish light orange,							1200					
1.5m						SP	1200 -					
2.0m	4.5		1 1 1	SILT minor coarse - fine Sand, light brownish light aroung			1400			\vdash	++	+
2.0m	1.5m		+++							•		
2.5m 2.5m 3.0m 3.5m 4.0m 4.5m A.0m Cohesive Material For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Target Depth 2200 2400			+++		Vst		F 1600 +					
2.5m 2.5m 3.0m 3.5m 4.0m 4.5m A.0m Cohesive Material For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Target Depth 2200 2400				December of the effect of the state of the		ML	1800			<u> </u>	1	
2.5m 2.5m 3.0m 3.5m 4.0m 4.5m A.0m Cohesive Material For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD For Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Target Depth 2200 2400	2.0m		+++	SILT minor fine - coarse Sand, brownish orange mottled light orange.	н		ept				•	
Target Depth 2.5m 3.0m 3.5m 4.0m 4.5m Solution Solution A.5m Solution A.5m Solution A.5m Solution A.5m Solution A.5m Solution Solution Solution A.5m Solution A.5m Solution							2000 +					\Box
3.0m 3.5m 4.0m 4.5m Som Som Som A.5m A.5m A.5m A.5m A.5m A.5m A.5m A.5				Target Depth			2200			 `	\vdash	\perp
3.0m 3.5m 4.0m 4.5m Som Som Som A.5m A.5m A.5m A.5m A.5m A.5m A.5m A.5												
3.5m 4.0m 4.5m Som Som A.5m A.5m	2.5m						2400 -			\vdash	+	\forall
3.5m 4.0m 4.5m 5.0m NOTES: Borehole began at finished platform level. Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD NOTES: Well and the state of the stat							2600			Ш	$\perp \perp$	
3.5m 4.0m 4.5m 5.0m NOTES: Borehole began at finished platform level. Groundwater not encountered. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD NOTES: Well and the state of the stat												
3.5m 4.0m 4.5m 5.0m NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD NOTES: Mon Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Sagoo 4 4000 4200 4400 4400 4800 5000 Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							2800				+	+
3.5m 4.0m 4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Non Cohesive Material Non Cohesive Material Very Loose VL Loose L Medium Dense MD Verified:	3.0m						3000					
4.0m 4.5m 4.5m Som Som Som Som Som Som Som S							3000					
4.0m 4.5m 5.0m Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Nor Safe Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							3200 -			\vdash	++	+
4.0m 4.5m 5.0m Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Nor Safe Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							0.400					
4.0m 4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Calibrated October 2016 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	3.5m						3400 +					
4.0m 4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:							3600			\vdash	++	
4.0m 4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:												
4.5m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Non Cohesive Material Calibrated October 2016 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:							3800 +				\sqcap	\Box
4.5m 5.0m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Additional Addition	4.0m						4000			\vdash	+	+
4.5m 5.0m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Additional Addition												
4.5m 5.0m Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD NOTES: Borehole began at finished platform level. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							4200 +			\vdash	+	+
5.0m NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD About 14600 4800 5000 Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							4400			\sqcup	$\perp \perp$	$\perp \perp$
5.0m NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD NOTES: Borehole began at finished platform level. Groundwater not encountered. Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:	4.5m											
NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							4600			+	+	+
NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:							4800			$\sqcup \!\!\! \perp$	$\perp \perp$	
NOTES: Borehole began at finished platform level. Groundwater not encountered. Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875 Calibrated October 2016 Verified:												
Groundwater not encountered. calibrated to give in situ shear strength. Vane # SN1875 Cohesive Material Non Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	5.0m						5000 ⊥					
Vane # SN1875 Cohesive Material Non Cohesive Material Calibrated October 2016 Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	NOTES	:	1									
Cohesive Material Non Cohesive Material Calibrated October 2016 Very Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:				Groundwater not encountered.				shears	strengt	h.		
/ery Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	Cohocis	/ <u>A</u> N/los	erial	Non Cohesive Material			-	6				
							IODEI ZUII	J				
					Date:							

Project Title: Residential Subdivision

Page: 5 No of Pages: 7

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga Date: 22/06/2017

629313-M-E-S007 629313-M-E-S007 Logged By: JNF/TS TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 4

Depth (m)	Groundwater	Graphic Log	DESCRIP	TIONS			Strength	Soil Class(USCS)			l VANE u Stren			
0.0m						(FILL)		- 0,	0 0 +	50	100	150	200	250
		l .		se - fine minor fine Pur ed, dense - loose, wet.		ilt, light grey,	L							
			Becomes v						200 -					
0.5m								SP	400 -					H
		• • •							600 -					\mathbb{H}
		• • •				(FILL)			800 -					
1.0m				fine - medium occasio ed, dense, very moist.	nal fine Pumiceous G	avel, light grey,	D							
				nottled orange & brown	ı.				1000 -					
		• • •						SM	1200 -					H
		• • •							1400 -	$\perp \downarrow \downarrow$				\square
1.5m		+++	SILT minor	coarse - fine Sand, lig	ht brownish light orang	је ,			1600 -					
		+++		- slightly plastic, very s			Vst	ML						
		+++						IVIL	1800 -		+			\forall
2.0m		+++		Target De	epth		Н		2000 -				•	\mathbb{H}
									De 2200 -					Ш
									2400 -					
2.5m									2400 +					
									2600 -					Н
									2800 -					Н
3.0m									3000 -					Ш
									3200 -					
3.5m									3400 -					Н
									3600 -					Н
									3800 -					
4.0m														
4.0111									4000 -			+	$\dagger \dagger$	\forall
									4200 -					+
									4400 -					\coprod
4.5m									4600 -					
									4000					
									4800 -			+	+	\forall
5.0m									5000					Ш
NOTES	3 :	<u> </u>		pegan at finished pla					19mm Bla					
	Groundwater not encountered.						ted to g SN18	give in situ 75	ı shear	streng	th.			
Cohesi				Non Cohesive Mate			Calibra	ated Oc	tober 201	6				
Very Soft Very Stiff			F Stiff St	Very Loose VL Loose L Dense D Very Dense D			Verifie Date:	d:						

Client: Barrett Homes Ltd

Project Title: Residential Subdivision

Page: 6
No of Pages: 7

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 22/06/2017

 File Number:
 629313-M-E-S0629313-M-E-S007
 Logged By:
 JNF/TS



Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 1 blow

Number	Te	st 1	Te	st 2	le	st 3	Te	st 4
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetratio
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	, ,	ì	, ,	, ,	, ,	, ,		
0	0							
5	180	180	150	150	190	190	190	190
10	250	70	230	80	260	70	260	70
15	300	50	280	50	310	50	330	70
20	350	50	330	50	380	70	390	60
25	400	50	400	70	400	20	440	50
30	440	40	440	40	450	50	480	40
35	490	50	480	40	490	40	540	60
40	530	40	500	20	520	30	610	70
45	570	40	540	40	550	30	650	40
50	600	30	570	30	640	90	710	60
55	650	50	600	30	690	50	780	70
60	690	40	730	130	740	50	810	30
65	720	30	930	200	790	50	830	20
70	760	40			840	50	850	20
75	810	50			870	30	900	50
80	850	40		 	920	50	930	30
85	930	80		 	960	40	960	30
90		00			1000	40	1000	40
95					1050	50	1030	30
100					1090	40	1050	20
105					1120	30	1090	40
110					1150	30	1110	20
115					1190	40	1150	40
120					1220	30	1210	60
125					1260	40	1280	70
130					1310	50	1310	30
135					1360	50	1360	50
140					1440	80	1410	50
145					1610	170	1480	70
150					1010	170	1550	70
155							1700	150
160							1700	130
165								
170								
175								
180								
185								
190		 				 		
195		 						
200		 				 		
205				 				
210				 				
215		 				 		
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270		1		ī I		1		1

Client: Barrett Homes Ltd

Project Title: Residential Subdivision

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 22/06/2017

 File Number:
 629313-M-E-S007
 Logged By:
 JNF/TS

TGA REV 2 9/07/2010

Page: 7
No of Pages: 7



Shear Vane Test Results

Notes:

Location	Borehole 1		SN2033
Depthmm	Reading	kPa	Strength
900	113	166	Vst
1200	97	142	Vst
1500	121	178	Vst
1700	112	165	Vst
2000	120	176	Vst

Location	Borehole 3		SN1875
Depthmm	Reading	kPa	Strength
1500	100	147	Vst
1700	118	173	Vst
1900	140	206	Н
2100	114	167	Vst

Location	Borehole 2		SN2033
Depthmm	Reading	kPa	Strength
800	124	182	Vst
100	81	119	Vst
1200	125	184	Vst
1400	120	176	Vst
1600	101	148	Vst
1800	140	206	Н
2000	140	206	Н

Location	Borehole 4		SN1875
Depthmm	Reading	kPa	Strength
1600	112	165	Vst
1800	82	120	Vst
2000	140	206	Н

Shear Vane SN1875 Calibrated Oct-16 Constant 1.469

Shear Vane Calibrated Constant SN2033

Feb-17

1.429



Quality Assurance and Lot by Lot Test Results



Project: 27 Kaylene Place, Omokoroa **File No**: **629313**

Contractor: Barrett Homes Ltd Subcontractor: MATCO Contractors

Subcontract: Attention:

Site report No: 01Weather:Fine/SunnyDate:5-05-2017Time:3:15 pm

Feature Description / Location:

Residential subdivision at 27 Kaylene Place, Omokoroa.

Reason for Inspection:

Confirmation all topsoil and unsuitable material has been removed.

Previous inspection by a member of Stratum noted that further clearance was required in areas with an unsuitable amount of root mass.

Inspection Report:

Lots 1 through to 6 have been adequately cleared of any unsuitable material with all root mass hotspots having been removed.

Three stockpiles remained on site from cutting down the lots. Matt Paget requested we use these stockpiles for fill on the cleared lots, however on further inspection, the fill contained too much organics to be suitable.

Fill used will now be imported Sand for lots 1 - 6.

Work passed:

Lots 1 – 6 have been cleared of all unsuitable material. Filling may begin on these lots.

OK - Passed.

Work to be reinspected:

All other lots require an inspection before any fill is placed.

Photographic Evidence:

As attached

Samples / materials collected:

No

Recommendations:

Nil -

Note: This is an inspection report only and does not authorise a Contract Variation or Extension of Time to the Contract. Any Claims or extensions of Time shall be made in accordance with the Terms of the contract.

Inspected by	Jared Fox – Geotechnical Technician





Figure 1: Photo taken facing south west.



Project:	27 Kaylene Place, Omokoroa	File No:	629313-M-E-S006
Contractor:	Barrett Homes Ltd	Subcontractor:	MATCO Contractors
Subcontract:		Attention:	
Site report No	: 03	Weather:	Rain
Date:	22-06-2017	Time:	10:30 am
Feature Descr	iption / Location:		
Residential sub	odivision at 27 Kaylene Place, Omokoroa.		
Reason for Ins	spection:		
Confirmation er	ngineered fill has reached an adequate lev	el of compaction.	
Inspection Rep	port:		
wall which will r	aced on lots $1-6$. On the western end of require further filling against it. The top of teters at lot 2. Lot 6 has yet to be completel	he fill batter to the	edge of the lot ranges from ≈3 meters at
Tested the fill, v	which was Sand, using the Scala Penetror	neter.	
Fill has been co	ompacted using a smoothed barrel 10T ro	ler.	
See the attache	ed results.		
Work passed:			
Engineered fill	placed on lots 1 through to 6 have reached	d adequate compa	ction.
OK – Passed.			
Work to be rei	nspected:		
Nil -			
Photographic	Evidence:	Samples / mat	erials collected:
As attached		No	
Recommendat	tions:	I	
Nil -			
	spection report only and does not authorise a Contraction accordance with the Terms of the contract.	ct Variation or Extension	of Time to the Contract. Any Claims or extensions
Inspected by		Jared Fox – Ge	eotechnical Technician

3 - Site Inspection Report-TGA 23.06.2017





Figure 1: Stake showing boundary for lots 6/7. Photo facing north west.



Figure 2: Photo facing north.

3 - Site Inspection Report-TGA 23.06.2017





Figure 3: Battered fill behind lots 1 - 6. Photo facing north east.



Figure 4: 10T roller used.

3 - Site Inspection Report-TGA 23.06.2017

Client: Barrett Homes Ltd

Project Title: Residential Subdivision

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga
File Number: 629313-M-E-S006

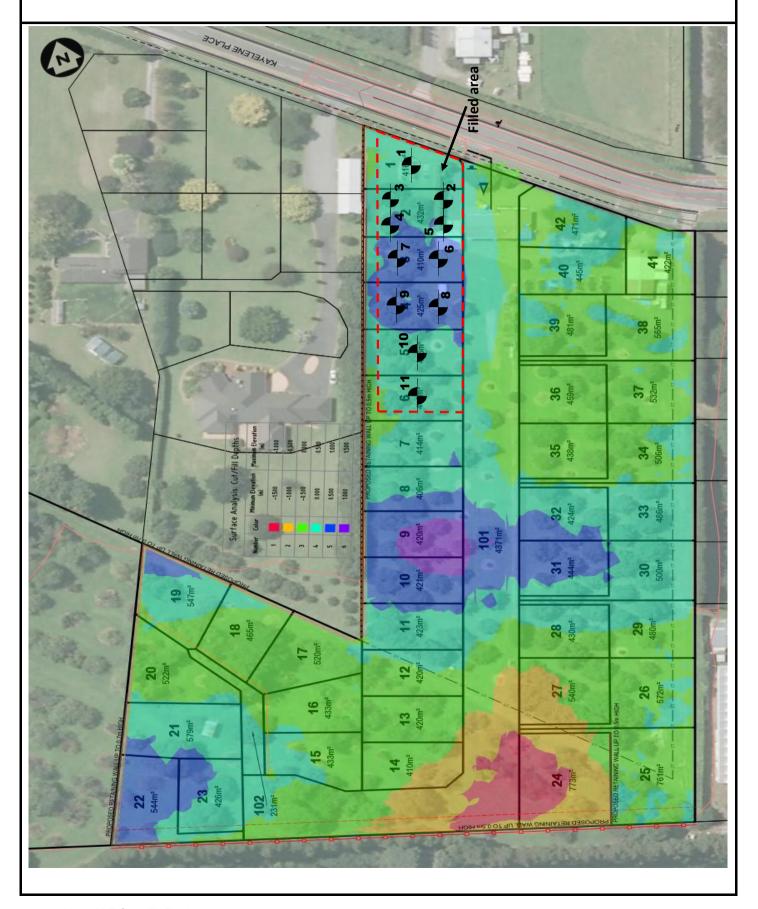
Page: 1
No of Pages: 4

Date: 22/06/2017 **Logged By:** JNF/NJB

TGA REV 2 9/07/2010



Test Location Sketch



Client: Barrett Homes Ltd

Project Title: Residential Subdivision

Page: 2 No of Pages: 4

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 22/06/2017

 File Number:
 629313-M-E-S006
 Logged By:
 JNF/NJB



TGA REV 2 9/07/2010

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level

Readings taken in mm. Penetration is given in mm per 5 blows

Number		taken in mm. Penetr 600mm Fill		700mm Fill	Test 3 ≈ 1	400mm Fill	Test 4 ≈ 1	400mm Fill
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
OL Olari	(111111)	(111111)	(11111)	(11111)	(11111)	(11111)	(11111)	(111111)
0	0		0		0		0	
5	180	180	150	150	190	190	260	260
10	250	70	230	80	260	70	330	70
15	310	60	280	50	310	50	390	60
20	350	40	330	50	380	70	440	50
25	390	40	400	70	400	20	480	40
30	430	40	440	40	450	50	540	60
35	450	20	480	40	490	40	610	70
40	510	60	500	20	520	30	650	40
45	540	30	540	40	550	30	710	60
50	600	60	570	30	640	90	780	70
55	840	240	600	30	690	50	810	30
60	1130	290	730	130	740	50	830	20
65	1270	140	930	200	790	50	850	20
70	1400	130			840	50	900	50
75	1480	80			870	30	930	30
80	1550	70			920	50	960	30
85					960	40	1000	40
90					1000	40	1030	30
95					1050	50	1050	20
100					1090	40	1090	40
105					1120	30	1110	20
110					1150	30	1150	40
115					1190	40	1210	60
120					1220	30	1280	70
125					1260	40	1310	30
130					1310	50	1360	50
135					1360	50	1410	50
140					1440	80	1480	70
145					1610	170	1550	70
150					1010	170	1700	150
155							1700	130
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Notes:

Testing began at finished platform level.

Project Title: Residential Subdivision

Page: 3
No of Pages: 4

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 22/06/2017

 File Number:
 629313-M-E-S006
 Logged By:
 JNF/NJB

TGA REV 2 9/07/2010



Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number		800mm Fill		400mm Fill		500mm Fill		300mm Fill
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0	0		0		0		0	
5	180	180	200	200	150	150	170	170
10	250	70	260	60	200	50	240	70
15	300	50	310	50	250	50	290	50
20	350	50	350	40	300	50	340	50
25	400	50	370	20	350	50	380	40
30	440	40	390	20	400	50	410	30
35	490	50	400	10	450	50	430	20
40	530	40	430	30	480	30	460	30
45	570	40	450	20	500	20	480	20
50	600	30	480	30	550	50	520	40
55	650	50	500	20	580	30	550	30
60	690	40	530	30	610	30	570	20
65	720	30	550	20	650	40	610	40
70	760	40	580	30	680	30	640	30
75	810	50	610	30	700	20	660	20
80	850	40	630	20	740	40	690	30
85	930	80	650	20	760	20	720	30
90			680	30	780	20	750	30
95			700	20	800	20	770	20
100			720	20	830	30	800	30
105			740	20	850	20	820	20
110			750	10	860	10	850	30
115			770	20	880	20	870	20
120			780	10	900	20	910	40
125			800	20	950	50	940	30
130			820	20	980	30	970	30
135			840	20	1020	40	1020	50
140			860	20	1050	30	1060	40
145			880	20	1080	30	1130	70
150			900	20	1110	30	1210	80
155			920	20	1120	10	1310	100
160			950	30	1150	30	1420	110
165			980	30	1200	50	1500	80
170			1010	30	1250	50	1560	60
175			1050	40	1300	50	1620	60
180			1150	100	1320	20	1660	40
185			1240	90	1350	30	1730	70
190			1330	90	1380	30	1770	40
195			1440	110	1460	80	1810	40
200			1600	160	1550	90		ļ
205					1680	130		
210					1800	120		
215					1900	100		
220								ļ
225								
230								
235								
240				ļ				
245								
250								
255								
260								<u> </u>
265								
270								

Notes:

Testing began at finished platform level.

Project Title: Residential Subdivision Page: 4
No of Pages: 4

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 22/06/2017

 File Number:
 629313-M-E-S006
 Logged By:
 JNF/NJB

Stratum CONSULTANTS

TGA REV 2 9/07/2010

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Niconala a r		taken in mm. Penetr			Ta at 44 au	000mama Fill		
Number		400mm Fill		1000mm Fill		800mm Fill		I D
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0	0		0		0			
5	150	150	190	190	180	180		
10	230	80	260	70	250	70		
	280	50	330	70	330	80		
15		50		60	380	50		
20 25	330	50	390			70		<u> </u>
	380		450	60	450			
30	420	40	500	50	510	60		
35	460	40	540	40	580	70		
40	520	60	650	110	650	70		
45	560	40	700	50	740	90		ļ
50	610	50	750	50	980	240		ļ
55	660	50	800	50	1240	260		
60	700	40	840	40				
65	730	30	890	50				
70	760	30	930	40				
75	800	40	980	50				
80	830	30	1080	100				ļ
85	860	30	1400	320				ļ
90	900	40	1520	120				
95	930	30						
100	960	30						
105	980	20						
110	1010	30						
115	1030	20						
120	1050	20						
125	1060	10						
130	1090	30						
135	1120	30						
140	1140	20						
145	1160	20						
150	1190	30						
155	1230	40						
160	1270	40						
165	1310	40						
170	1420	110						
175	1570	150						
180	1600	30						
185	1680	80						
190	1750	70						
195	1830	80						
200								
205								
210								
215								1
220								1
225								1
230								
235								1
240		†						1
245		†						1
250								<u> </u>
255								1
260								†
265								†
270								
otos:		1		ı]		

Notes:

Testing began at finished platform level.



629313

SITE INSPECTION REPORT

27 Kaylene Place, Omokoroa

	21 Maylone Flace, emonered		0200.0
Contractor:	Barrett Homes Ltd	Subcontractor:	MATCO Contractors

File No.

Subcontract: Attention:

 Site report No: 04
 Weather:
 Sunny

 Date:
 24-11-2017
 Time:
 4:00 pm

Feature Description / Location:

Residential subdivision at 27 Kaylene Place, Omokoroa.

Reason for Inspection:

Project:

Confirmation topsoil within Lots 7 to 11 and 28 to 33 has been removed.

Inspection Report:

Topsoil still shown in localised areas which require further remediation.

See attached drawing for areas which have had the topsoil adequately removed.

Work passed:

See attached drawing for areas passed.

Work to be reinspected:

Fill being placed within these lots will require testing to confirm it is reaching an adequate level of compaction.

Photographic Evidence:	Samples / materials collected:					
As attached	No					

Recommendations:

Nil -

Note: This is an inspection report only and does not authorise a Contract Variation or Extension of Time to the Contract. Any Claims or extensions of Time shall be made in accordance with the Terms of the contract.

Inspected by	Jared Fox – Geotechnical Technician





Figure 1: Photo taken facing south east.

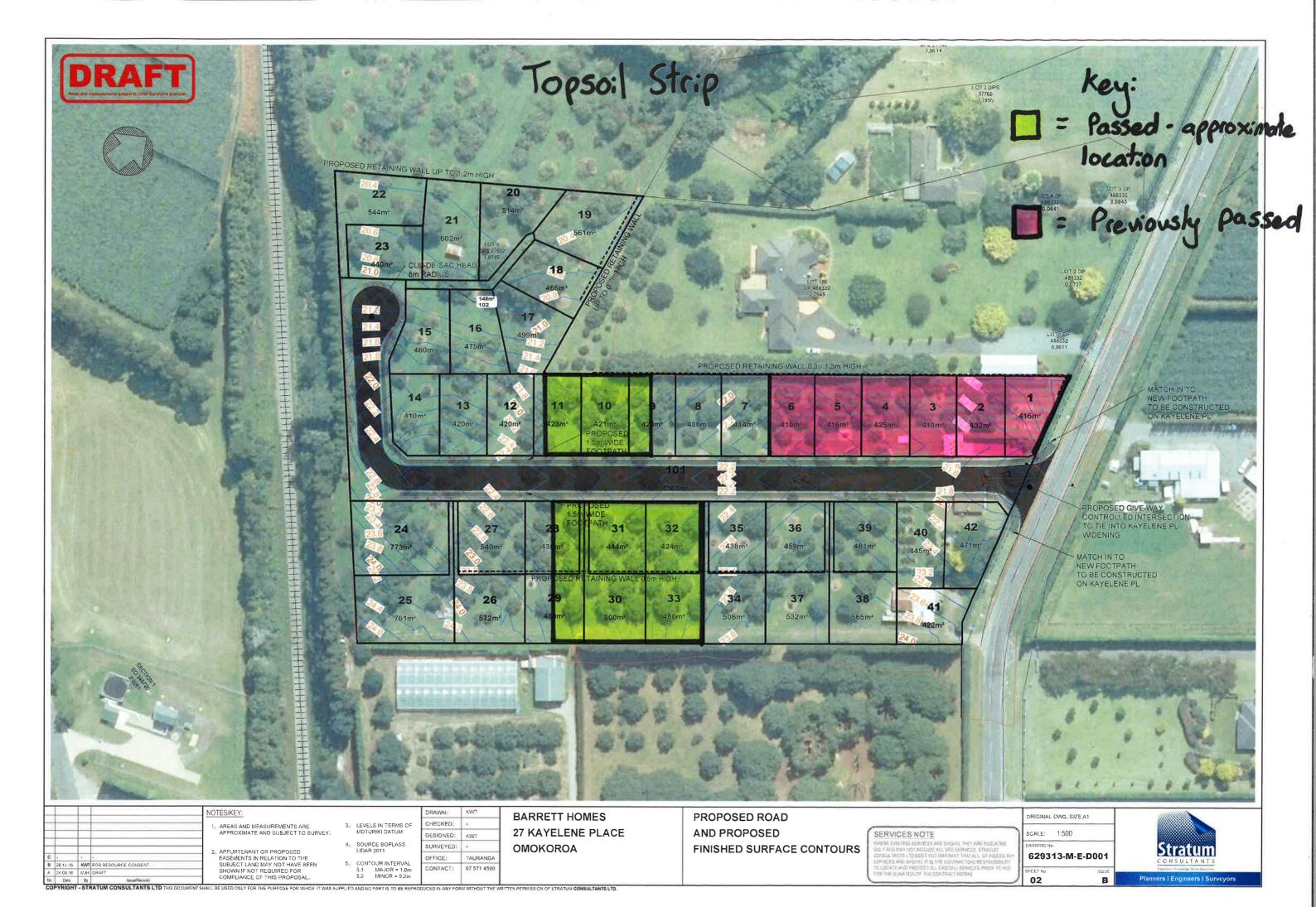


Figure 2: Photo taken facing north west.





Figure 3: Photo taken facing north.





27 Kaylene Place, Omokoroa

Project:

Contractor:	Barrett Homes Ltd	Subcontractor:	MATCO Contractors
Subcontract:		Attention:	
Site report No	: 05	Weather:	Sunny
Date:	29-11-2017	Time:	1:00 pm
Feature Desci	iption / Location:		
Residential sub	odivision at 27 Kaylene Place, Omokoroa.		
Reason for In	spection:		
Confirmation to	ppsoil within Lots 7 to 9 has been removed	d.	
Inspection Re	port:		
Topsoil has be	en removed within lots 7 to 9.		
Work passed:			
Topsoil has be	en suitably stripped in Lots 7 to 9.		
Work to be re	inspected:		
Fill being place	ed within these lots will require testing to c	onfirm it is reaching	g an adequate level of compaction.
Photographic	Evidence:	Samples / ma	terials collected:
As attached		No	
Recommenda	tions:	1	
Nil -			
Note: This is an ins of Time shall be m	spection report only and does not authorise a Contra ade in accordance with the Terms of the contract.	ct Variation or Extensio	n of Time to the Contract. Any Claims or extensions
Inspected by		Jared Fox - G	eotechnical Technician

File No:

629313





Figure 1: Photo taken facing North East.



Figure 2: Photo taken facing south. Stockpile in photo fell within Lot 9 and was removed after photo was taken to confirm no topsoil was underlying it.

5 - Site Inspection Report-TGA 29.11.2017



Project:	27 Kaylene Place, Omokoroa	File No:	629313-M-E-S009
Contractor:	Barrett Homes Ltd	Subcontractor:	MATCO Contractors
Subcontract:	1	Attention:	
Site report No	: 06	Weather:	Overcast
Date:	22-01-2018	Time:	2:00 pm
Feature Descr	iption / Location:		
Residential sub	odivision at 27 Kaylene Place, Omokoroa.		
Reason for Ins	spection:		
Confirmation fil	l has reached an adequate level of compac	tion.	
Inspection Rep	port:		
Fill has been pl	aced on lots 7 – 11.		
Tested the fill, v	which was site sourced silts, using the Hand	d Auger and Shea	rvane.
See the attache	ed results.		
Work passed:			
Fill placed on lo	ots 7 through to 11 have reached adequate	compaction.	
OK – Passed.			
Work to be rei	nspected:		
Nil -			
Photographic	Evidence:	Samples / mat	erials collected:
As attached		No	
Recommendat	tions:		
Nil -			
	pection report only and does not authorise a Contract ade in accordance with the Terms of the contract.	Variation or Extension	of Time to the Contract. Any Claims or extensions
Inspected by		Travis Scott -	Geotechnical Technician



Figure 1: Photo showing extent of fill Photo facing north.



Figure 2: Photo facing north.



Client: Barret Homes Project Title: Fill testing

Site Address: 27 Kayeleene Place City: Omokoroa

File Number: 629313-M-E-S009

Page: 1 No of Pages: 9

Date: 22/01/2018 Logged By: TS/HD/NJB



TGA REV 2 9/07/2010

Test Location Sketch





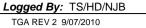
Project Title: Fill testing

Page: 2
No of Pages: 9

Site Address: 27 Kayeleene Place

City: Omokoroa
File Number: 629313-M-E-S009

Date: 22/01/2018
gged By: TS/HD/NJB





Borehole No: 1 LOT 7



Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS		Strength	Soil Class(USCS)			R VANI tu Strei			
0.0m				(FILL)	0)	0)	0 0 +	50	100	150	200	250
			Sandy SILT fine, light brown - light grey - pink,									
		li i i	hard - very stiff, moist, non-plastic.		н		200 —					
		+++					400				†	
0.5m		+++					400					
		+++			Vst		600					
		1+++					000					
		+++		(FILL)	Н	ML	800 —					
1.0m		+++	SILT minor medium - fine Sand, light brownish light orange mottled black, hard - very stiff, moist, non-plastic.		Vst		1000				•	
			motified black, hard very still, moist, non plastic.		731		1200					
		+++					1200					
1.5m		+ + + + + +					1400	+		+	+	\blacksquare
		+ + +			н		1600					
		+++			<u> </u>		1000					
		+ + + + + +	SILT minor medium - fine Sand, light brownish light orange, hard, moist, non-plastic.				⊋ 1800 				+	
2.0m		+++	motor, non plactic.				<u></u>					
			Target Depth				Depth (mm) 1800 - 1800 - 2200					
							2200			\vdash		
							2400					
2.5m							2400					
							2600					
							2800 —					
							2800					
3.0m							3000 —					
							3200					
							3200					
3.5m							3400					
							3600					
							3800 —					\vdash
4.0m							4000					
							4200					
							4400					
4.5m												
							4600 —					\blacksquare
							4800					
E 0:							4000					
5.0m							5000					
OTES	S :	•					19mm Bla					
			Groundwater not encountered.		calibra Vane #		give in situ 33	shear	stren	gth.		
ohesi	ve Mat	terial	Non Cohesive Material				ວວ bruary 201	17				
ery Soft	VS So	oft S Firm	n F Stiff St Very Loose VL Loose L Medium Dense MD		Verifie	d:	, _0					
	Vst Ha		Dense D Very Dense D		Date:							

Project Title: Fill testing

Page: 3
No of Pages: 9

Site Address: 27 Kayeleene Place

 City:
 Omokoroa
 Date:
 22/01/2018

 File Number:
 629313-M-E-S009
 Logged By:
 TS/HD/NJB



TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No: 2 LOT 8

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS				Strength	Soil Class(USCS)		lr	Sit	t VANE u Strer	ngth (k	Pa)		
0.0m							(FILL)			0 0 +		50	100	150	200	2	50
		1 1 1		fine, light brown - ligh	nt grey - pink,												
			hard, moist,	non-plastic.						200							-
		+++															
0.5m		+++ +++								400 -	+	+				•	1
			Becomes m	oist - very moist.						600							
		+++								000							
		+++	CII Ti	andi fine Cond I	inht huninh lin	ht anamana hand				800						•	-
1.0m			moist, non-p	medium - fine Sand, I	ignt brownish lig	int orange, nard,		н	ML								
1.0111			moist, non p	nastro.				••		1000 +						•	
		+ + +								1200							
		+++								1200							
4 5		+++								1400	-	\vdash				•	-
1.5m		+++															
		+++								1600						•	1
		+++								_ 1800 -							
		+++								Œ .						ľ	
2.0m		+++		Target D)enth					£ 2000	+	-					-
				raiget	Septin					Depth (mm)							
										2200							1
										2400 -							
2.5m																	
										2600 -	+	+					
										0000							
										2800 +							
3.0m										3000		-					-
										3200 -							
										3400							
3.5m										3400							
										3600 -	_	╄					-
										3800					+	1	1
4.0m										4000 -							
										4000							
										4200	+						!
4.5m										4400 -							1
										4600	\perp						
										4800						+	-
5.0m										5000							
										5000 ⊥						_	
NOTES	i:									19mm Bla					_	_	_
			Groundwat	er not encountered	1.			calibra Vane #		jive in situ 25	she	ear	streng	jth.			
Cohesiv	/e Mat	erial		Non Cohesive Mat	terial					zo tober 201	7						
	Cohesive Material Non Cohesive Material Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD				Verifie	d:	10001 201	•									
ery Stiff				Dense D Very Dense				Date:									

Client: Barret Homes
Project Title: Fill testing

testing Page: 4

No of Pages: 9

Site Address: 27 Kayeleene Place
City: Omokoroa

 City:
 Omokoroa
 Date:
 22/01/2018

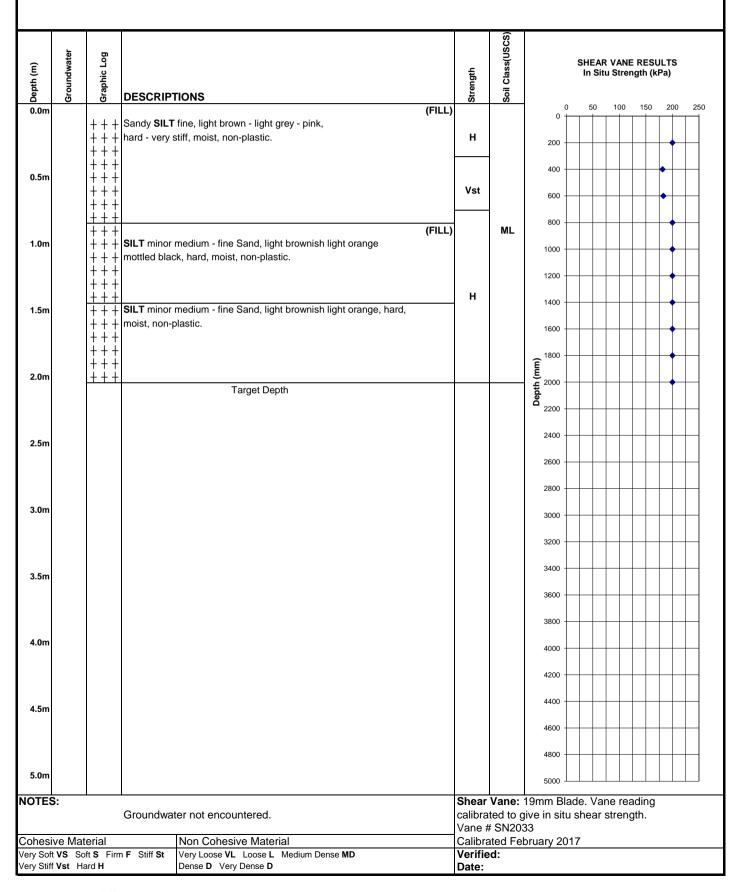
 File Number:
 629313-M-E-S009
 Logged By:
 TS/HD/NJB



TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No: 3 LOT 9



Client: Barret Homes Project Title: Fill testing

Page: 5 No of Pages: 9

Site Address: 27 Kayeleene Place

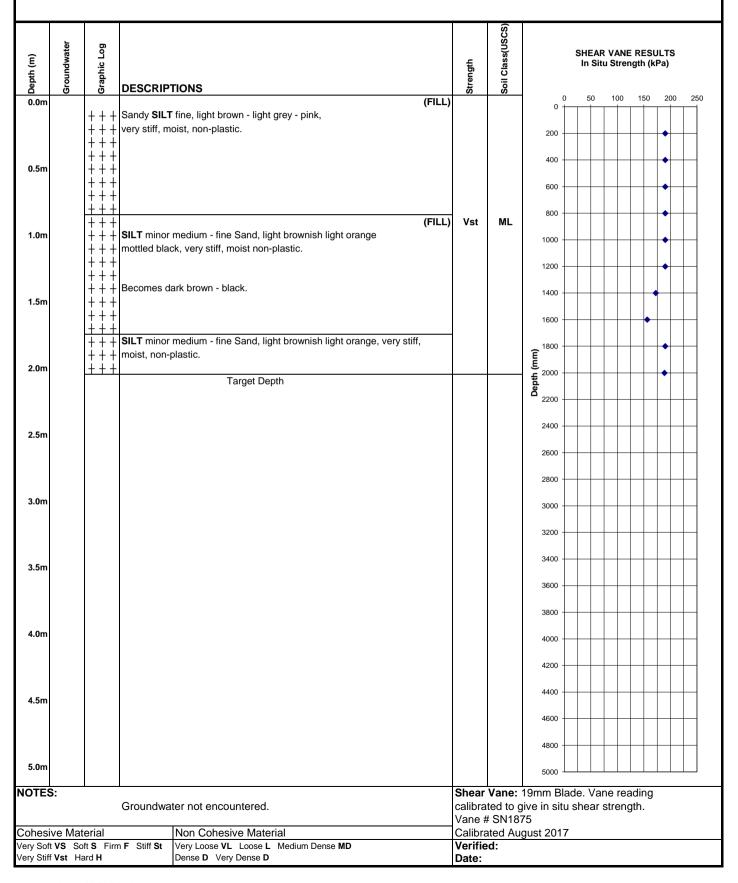
City: Omokoroa File Number: 629313-M-E-S009

Date: 22/01/2018 Logged By: TS/HD/NJB



Hand Augered Borehole

Borehole No: 4 LOT 9



Project Title:Fill testingPage: 6No of Pages:9

Site Address: 27 Kayeleene Place

 City:
 Omokoroa
 Date:
 22/01/2018

 File Number:
 629313-M-E-S009
 Logged By:
 TS/HD/NJB



TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No: 5 LOT 10

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS					Strength	Soil Class(USCS)		In S	AR VANI	ngth (k	Pa)	
0.0m								(FILL)	- 0,	- 0,	0 -	50	100	150	200	250
0.5m			Sandy SILT hard, moist,	fine, light brown - non-plastic.	light grey - p	oink,					200 -					
1.0m		+ + + + + + + + + + + +	SILT minor r	medium - fine San	d, light brow	nish light ora	ange	(FILL)	н	ML	800 - 800 - 1000 -					
1.5m		+ + + + + + + + +	mottled black	k, hard, moist, nor	n-plastic.						1200 -					
mc.ı		+ + + + + + + + +	moist, non-p		a, light blow	mon ngrit Ofa	ange, naru,				1600 -					
2.0m		+++		Targ	et Depth						2200 -					
2.5m											2400 - 2600 - 2800 -					
3.0m											3000 - 3200 -					
3.5m											3400 - 3600 -					
4.0m											3800 - 4000 - 4200 -					
4.5m											4400 - 4600 -					
5.0m											4800 - 5000 -					
NOTES				er not encounte					calibra Vane #	ed to g		u shea				
Cohesi				Non Cohesive I							bruary 20)17				
Very Soft Very Stiff				Very Loose VL Lo Dense D Very Der		m Dense MD			Verifie Date:	d:						

Project Title: Fill testing Page: 7

Site Address: 27 Kayeleene Place

City: Omokoroa File Number: 629313-M-E-S009 No of Pages: 9

TGA REV 2 9/07/2010

Date: 22/01/2018 Logged By: TS/HD/NJB



Hand Augered Borehole

Borehole No: 6 LOT 10

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS		Strength	Soil Class(USCS)		SHEAR In Site	VANE u Stren			
0.0m				(FILL)		- 0,	0 +	50	100	150	200	250
			Sandy SILT fine, light brown - light grey - pink,									
		+++	hard, moist, non-plastic.				200 —					•
		+++					400 —					
0.5m		+++					400					
		<u>+++</u>		(FILL)			600 —					-
		+++	SILT minor medium - fine Sand, light brownish light orange	(I ILL)			200					
		+++	mottled black, hard, moist non-plastic.		н	ML	800 —					
1.0m		+++	December dayly brown block				1000					Н
		+ + + + + +	Becomes dark brown - black.									
		+++					1200 —					
_			SILT minor medium - fine Sand, light brownish light orange, hard,				1400 —					
1.5m		+++	moist, non-plastic.									
							1600 —					
		+++					<u>1800</u>					
2.0m		+ + + + + +					Depth (mm) - 2000					
2.0			Target Depth				북 ²⁰⁰⁰ +					
							2200 –					
2.5m							2400 —					Н
							2600 —					
							2800 —					
3.0m							3000 —					Ш
							3200 —					
							3400 —					
3.5m							3400					
							3600 —					Н
							3800 —					
							3600					
4.0m							4000 —					H
							4200					
							4200					
							4400 -					\vdash
4.5m												
							4600					
							4800 —					
5.0m												
3.UIII							5000					
OTES) :						19mm Bl				J	
			Groundwater not encountered.		calibra Vane #		give in situ	u shea	r strer	igth.		
ohesiv	ve Mat	terial	Non Cohesive Material				ctober 201	17				
ery Soft	VS Sc	oft S Firm	n F Stiff St Very Loose VL Loose L Medium Dense MD		Verifie			-				
ery Stiff	Vst H	ard H	Dense D Very Dense D		Date:							

Project Title: Fill testing

Page: 8
No of Pages: 9

Site Address: 27 Kayeleene Place

City: Omokoroa
File Number: 629313-M-E-S009

Hand Augered Borehole

Date: 22/01/2018

Logged By: TS/HD/NJB

LOT 11



TGA REV 2 9/07/2010

7

Borehole No:

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)		HEAR \ In Situ				
0.0m			(FILL		,	0 0 	50	100	150	200	250
			Sandy SILT fine, light brown - light grey - pink,								
		+ + + + + +	very stiff, moist, non-plastic.			200 —				•	H
		+++				400					
0.5m		+++				400				•	
		+ + + + + +				600				•	H
			SILT minor medium - fine Sand, light brownish light orange, very stiff,			800					Ш
1.0m		+ + + + + +	moist, non-plastic.	Vst	ML						
1.0111		+++		VSI	IVIL	1000 —				•	Н
		+++				1200					Ш
		+ + + + + +									
1.5m		+ + + + + +				1400 —	++	\vdash			\forall
		+++				1600					Ш
		+ + + + + +								•	
		+++				至 ¹⁸⁰⁰ —				•	П
2.0m		+++	Tourst Don't			± 2000 —				•	$\perp \downarrow$
			Target Depth			Depth (mm)					
						2200 —					П
. F						2400 —					\vdash
2.5m											
						2600 —					П
						2800					H
3.0m						0000					
						3000 —					П
						3200 —					+
						2400					
3.5m						3400 —					
						3600					H
						3800					
4.0m						4000 —					Н
						4200					Ш
4.5m						4400 —	++	\vdash	++		\forall
						4600					Ш
						4800 —	+	\vdash			\forall
5.0m						5000					Ш
OTES:			Shear	· Vane	19mm Bla	de. Va	ne rea	ading			
- · - ·	Groundwater not encountered.			calibra	ated to g	give in situ					
- L - ·				Vane	# SN18	75					
	chesive Material Non Cohesive Material ry Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD			Calibrated August 2017 Verified:							
on Ctif	y Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD y Stiff Vst Hard H Dense D Very Dense D			Date:							

Client: Barret Homes
Project Title: Fill testing

Site Address: 27 Kayeleene Place City: Omokoroa

File Number: 629313-M-E-S009

Page: 9
No of Pages: 9

Date: 22/01/2018 **Logged By:** TS/HD/NJB

TGA REV 2 9/07/2010



Shear Vane Test Results

Notes: UTP: Unable to penetrate

Location	Borehole 1		SN2033
Depthmm	Reading	kPa	Strength
100	UTP	SI	LT
300	140	200	Н
500	122	174	Vst
700	UTP	SI	LT
800	140	200	Н
1000	132	189	Vst
1200	140	200	Н
1400	140	200	Н
1600	140	200	Н
1800	140	200	Н
2000	140	200	Н

Location	Borehole 3		SN2033
Depthmm	Reading	kPa	Strength
200	140	200	Н
400	127	181	Vst
600	128	183	Vst
800	140	200	Н
1000	140	200	Н
1200	140	200	Н
1400	140	200	Н
1600	140	200	Н
1800	140	200	Н
2000	140	200	Н

Location	Borehole 5		SN2033
Depthmm	Reading	kPa	Strength
200	140	200	Н
400	140	200	Н
600	140	200	Н
800	UTP	SI	LT
1000	140	200	Н
1200	140	200	Н
1400	140	200	Н
1600	140	200	Н
1800	140	200	Н
2000	140	200	Н

Location	Borehole 7		SN1875
Depthmm	Reading	kPa	Strength
200	140	190	Vst
400	UTP	SI	LT
500	140	190	Vst
600	140	190	Vst
800	140	190	Vst
1000	140	190	Vst
1300	129	175	Vst
1500	128	174	Vst
1700	140	190	Vst
1900	140	190	Vst
2000	140	190	Vst

Location	Borehole 2		DR4525
Depthmm	Reading	kPa	Strength
200	UTP	SIL	_T
400	140	229	Н
600	140	229	Н
800	140	229	Н
1000	140	229	Н
1200	140	229	Н
1400	140	229	Н
1600	140	229	Н
1800	140	229	Н

Location	Borehole 4		SN1875
Depthmm	Reading	kPa	Strength
200	140	190	Vst
400	140	190	Vst
600	140	190	Vst
800	140	190	Vst
1000	140	190	Vst
1200	140	190	Vst
1400	127	172	Vst
1600	115	156	Vst
1800	140	190	Vst
2000	139	189	Vst

Location	Borehole 6		DR4525
Depthmm	Reading	kPa	Strength
200	140	200	Н
400	140	200	Н
600	140	200	Н
800	UTP	SIL	_T
1000	140	200	Н
1200	140	200	Н
1400	140	200	Н
1600	140	200	Н
1800	140	200	Н
2000	140	200	Н



Project:	27 Kaylene Place, Omokoroa	File No:	629313-M-E-S011					
Contractor:	Barrett Homes Ltd	Subcontractor:	MATCO Contractors					
Subcontract:		Attention:						
Site report No:	07	Weather:	Fine/Overcast					
Date:	13-03-2018	Time:	11:00 am					
Feature Descri	iption / Location:							
Residential sub	division at 27 Kaylene Place, Omokoroa.							
Reason for Ins	pection:							
Confirmation fill	has reached an adequate level of compa	ction.						
Inspection Rep	oort:							
Fill has been pl	aced on lots 28 to 33.							
Tested the fill, which was site sourced silts, using the Hand Auger and Shearvane.								
See the attache	d results.							
Work passed:								
Fill placed on lo	ts 28 to 33 have reached adequate compa	action.						
OK – Passed.								
Work to be rei	nspected:							
Nil -								
Photographic	Evidence:	Samples / mate	erials collected:					
As attached		No						
Recommendat	ions:							
Nil -								
	pection report only and does not authorise a Contracted in accordance with the Terms of the contract.	ct Variation or Extension	of Time to the Contract. Any Claims or extensions					
Inspected by	EE EESSTAATISS WAT ALS TOTTIS OF THE SOCIALOR.	Jared Fox – Ge	eotechnical Technician					



SITE INSPECTION REPORT





Client: Barrett Homes Project Title: Proposed subdivision

Site Address: 27 Kayelene Place

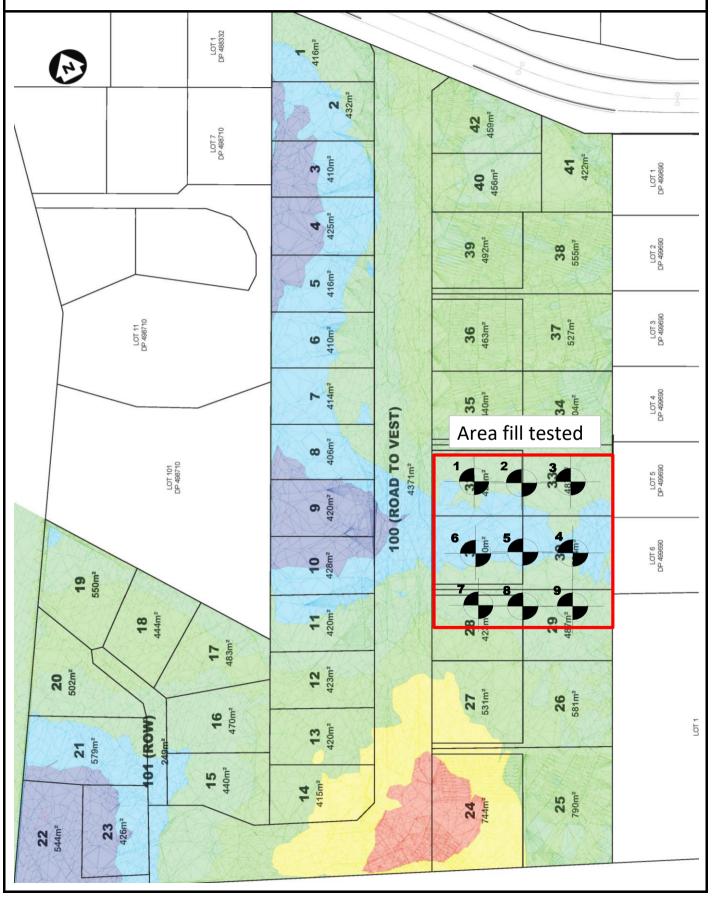
City: Omokoroa File Number: 629313-M-E-S011

Page: 1 No of Pages: 11

> Date: 13/03/2018 Logged By: TETS/JNF

TGA REV 2 9/07/2010

Test Location Sketch



Project Title: Proposed subdivision

Page: 2 No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa

Date: 13/03/2018 File Number: 629313-M-E-S011

Logged By: TETS/JNF TGA REV 2 9/07/2010



Hand Augered Borehole

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)			R VANE tu Strer			
0.0m			(FILL)		- 0,	0 0 +	50	100	150	200	250
		+++								•	
		+ + + + + +	mottle, very stiff, moist, non-plastic.			200 +					
		+++				400				•	
0.5m		+++ +++								•	
		+++				600 +				•	
			SILT minor fine - medium Sand, light brownish light orange, very	Vat		800 -				<u> </u>	
1.0m		+ + + + + +	stiff, moist, non-plastic.	Vst	ML					•	
		+++				1000				•	
		+++				1200					
		+++				1400 -			•		
1.5m		+++		<u> </u>		1400 -				•	
		+++ +++	SILT minor fine - coarse Sand, light brownish orange, very stiff, moist - very moist, non-plastic.			1600 -					Н
		+++				_ 1800 +				•	
2.0m		+++	Becomes very moist.			(m m)		•			
		TTT	Target Depth			Depth (mm) 2000 -					
						ු 2200					
2.5m						2400 +					П
						2600 -					
						2800 +					
3.0m						3000 +					Н
						2200					
						3200 +					
3.5m						3400 -					
						3600 +					
						3000					
						3800 +					Н
l.0m						4000					
						4200					
_						4400 -					Ш
l.5m											
						4600				\vdash	\Box
						4800	$\perp \perp$			\vdash	
5.0m											
						5000					
TES	3:		Groundwater not encountered.			19mm Bla jive in situ					
			Ciounawater not encountered.		# SN18		ı əriedi	ou en(yuı.		
	ve Mat		Non Cohesive Material	Calibra	ated Au	gust 2017	7				
	VS So		n F Stiff St Very Loose VL Loose L Medium Dense MD Dense D Very Dense D	Verifie Date:	ed:						

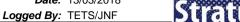
Project Title: Proposed subdivision

Page: 3
No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S011

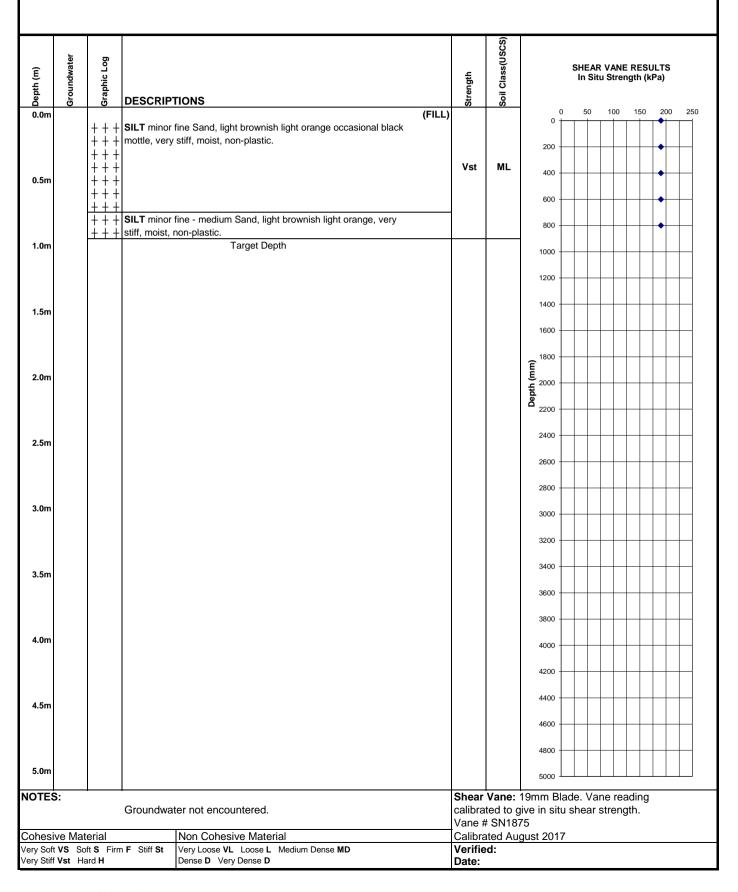
Date: 13/03/2018



CONSULTANTS

TGA REV 2 9/07/2010

Hand Augered Borehole



Project Title: Proposed subdivision

Page: 4 No of Pages: 11

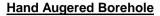
Site Address: 27 Kayelene Place

City: Omokoroa

File Number: 629313-M-E-S011

Date: 13/03/2018

Logged By: TETS/JNF TGA REV 2 9/07/2010



Borehole No: 3



Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)		In S	AR VANI	ngth (k	(Pa)	
0.0m		l	SILT minor fine - coarse Sand rare fine Gravel, purplish grey, (FILL)			0 -	50	100	150	200	250
0.5m		+++	very stiff, very moist, non-plastic. (FILL) SILT minor fine Sand, light brownish light orange occasional black mottle, very stiff, moist, non-plastic.			200 -				•	
0.5111		+++	SILT minor fine - medium Sand, light brownish light orange, very stiff, moist, non-plastic.			600 - 800 -				•	
1.0m		+ + + + + + + + +	Becomes moist - very moist.	Vst	ML	1000 - 1200 -		•	•	,	
1.5m		+ + + + + + + + +				1400 -			•		
2.0m		+++	SILT minor fine - coarse Sand, light brownish orange, very stiff, moist - very moist, non-plastic - slightly plastic. Becomes very moist. Pumiceous SAND fine - coarse rare Silt, light brownish light orange.		SP	1600 - (WW)				•	
Z.VIII			Target Depth		J.	2000 -					
2.5m						2400 - 2600 -					
3.0m						2800 - 3000 -					
3.5m						3200 - 3400 -					
3.3111						3600 - 3800 -					
4.0m						4000 -					
4.5m						4200 - 4400 -					
						4600 - 4800 -					
5.0m						5000 -					Ш
IOTES			Groundwater not encountered.	Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875							
	VS Sc	oft S Firm	Non Cohesive Material n F Stiff St Very Loose VL Loose L Medium Dense MD	Calibra Verifie		gust 201	7				
ery Stiff			Dense D Very Dense D	Date:							

Project Title: Proposed subdivision

Page: 5
No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S011

Date: 13/03/2018

Logged By: TETS/JNF
TGA REV 2 9/07/2010



Hand Augered Borehole

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS .							Strength	Soil Class(USCS)			In Sit	R VANE u Stren	ngth (k	Pa)	250	<u> </u>
0.0m			OU T :	O ! !!	ha baaran da					(FILL)			0	0	50	100	150	200	250	J
		+ + + + + +		fine Sand, lig stiff, moist, n ack.			range occ	casional b	olack				200					•		
0.5m		+ + + + + + + + +											600 800							
1.0m			SILT minor stiff, moist, I	fine - mediun non-plastic.	n Sand, lig	ght brown	nish light c	orange, ve	ery		Vst	ML	1000				•			
1.5m		+ + + + + + + + + + + +	Becomes m	oist - very mo	oist, non-p	olastic - sl	lightly pla	stic.					1400 1600				•			
2.0m				fine - coarse very moist, n		- slightly		ange, ver	ту				Depth (mm) 2000			•				
2.5m													2200 2400 2600							
3.0m													2800	_						
3.5m													3200 3400							
4.0m													3600 3800 4000							
													4200 4400							
4.5m													4600 4800							
5.0m													5000							
NOTES	<u> </u>		Groundwa	ter not enco	untered.					Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875										
Cohesiv	e Mate	erial		Non Cohes	ive Mate	rial					Calibra	ted Au	gust 201	7						
ery Soft		t S Firm	F Stiff St	Very Loose VI Dense D Ver	Loose L	Medium	Dense MD)		\	/erifie Date:	d:								

Project Title: Proposed subdivision

Page: 6 No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa

Date: 13/03/2018 File Number: 629313-M-E-S011 Logged By: TETS/JNF





Hand Augered Borehole

Depth (m)	Groundwater	Graphic Log	DESCRIPT	CIONIS			Strength	Soil Class(USCS)			R VANI tu Stre			
<u>م</u> 0.0m	<u>o</u>	g	DESCRIPT	IONS		(FILL)	Ñ	σ	0	50	100	150	200	250
0.5m				ine Sand, light brownis stiff, moist, non-plastic.	asional black	(FILL)	Vst	ML	200 - 400 - 600 -				•	
1.0m			SILT minor f stiff, moist, n	ine - medium Sand, lig on-plastic. Target De	range, very				800 - 1000 - 1200 -			•	•	
1.5m									1400 - 1600 -					
2.0m									2200 -					
2.5m									2400 - 2600 -					
3.0m									2800 - 3000 - 3200 -					
3.5m									3400 - 3600 -					
4.0m									3800 - 4000 - 4200 -					
4.5m									4400 - 4600 -					
5.0m									4800 - 5000 -					
NOTES				er not encountered.		,	Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN1875							
Cohesi				Non Cohesive Mate		Calibrated August 2017								
	VS Sof			Very Loose VL Loose L Dense D Very Dense D)		Verifie Date:	d:						

Project Title: Proposed subdivision

Page: 7
No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S011

Date: 13/03/2018 Logged By: TETS/JNF

TGA REV 2 9/07/2010



Hand Augered Borehole

ı			<u> </u>				ís.							
Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS		Strength	Soil Class(USCS)			AR VA Situ S				
0.0m			DEGORAL I		(FILL)	0)	0)) 5	50	100	150	200	250
		+++		fine Sand, light brownish light orange occasional black				0 -					•	
		+ + + + + +	mottle, very	stiff, moist, non-plastic.				200					 • 	
		+++ +++						400						
0.5m		+++						400						
		+++						600					 •	
		+ + +						000						
		+++						800						
1.0m		<u>+ + +</u> + + +	SII T minor f	fine - medium Sand, light brownish light orange, very		Vst	ML	1000					+ +	
		+++						1200						
		+++						1200				•		
1.5m		 						1400			+		-	Н
1.5111								1600					•	
		+++	_					1000						
		+ + + + + +	Becomes m	oist - very moist.				€ 1800				•	+	
2.0m		+++	SILT minor f	fine - coarse Sand, very stiff, moist - very moist, non pl	astic.			트 2000 -						Ш
				Target Depth				Depth (mm) 2000						
								2200						
								2400						
2.5m														
								2600						
								2800						Н
3.0m														
								3000						
								3200						Н
								0.400						
3.5m								3400						
								3600						H
								3800						
								3000						
4.0m								4000						Н
								4200						
4.5m								4400						
								4600						
								4800						
5.0m								5000						
OTES):	1				Shear	Vane:	 19mm E	lade	Van	e rea	adino	<u> </u>	
			Groundwat	ter not encountered.		calibra	ted to g	jive in si						
ohoois	ve Mat	tarial		Non Cohesive Material		Vane #		75 gust 201	17					
				Very Loose VL Loose L Medium Dense MD		Verifie		guət ZU	1					
	Vst H			Dense D Very Dense D		Date:								

Project Title: Proposed subdivision

Page: 8 No of Pages: 11

Site Address: 27 Kayelene Place

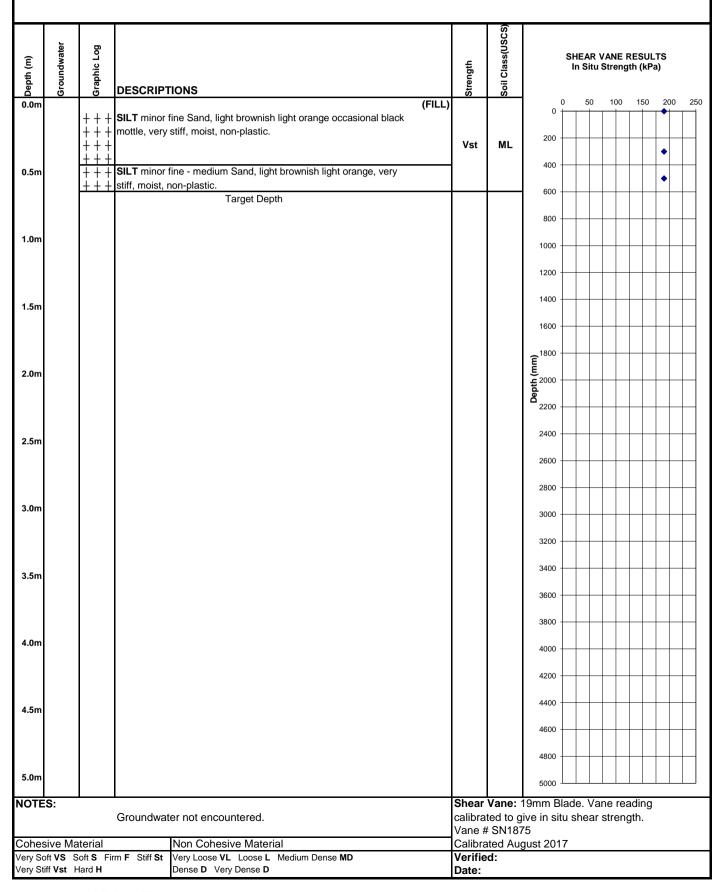
City: Omokoroa

Date: 13/03/2018 File Number: 629313-M-E-S011 Logged By: TETS/JNF



TGA REV 2 9/07/2010

Hand Augered Borehole



Project Title: Proposed subdivision

Page: 9
No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S011





Hand Augered Borehole

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS		Strength	Soil Class(USCS)			u Stre	ngth (I	kPa)	-
0.0m					(FILL)			0 0 	50	100	150	200	250
				ine - coarse Sand rare fine Gravel, purplish grey, ve	ry							•	
		+++	Stiff, very mo	oist, non-plastic.		Vst	ML	200 -	+		++	++	
				ine - medium Sand, light brownish light orange, moi		1		400 -				•	
0.5m				ine - medium Sand, light brownish light orange, ver	1			400				•	
		+++	stiff, moist, r	on-plastic. Target Depth				600 -					
				raiget Deptil				800 -					
								800 -					
1.0m								1000 -					
								1200 -					
_								1400 -	+	++	+	++	+
1.5m													
								1600 -		+	+		
								1800		+	\perp	\perp	
2.0m								Depth (mm)					
2.0111								g 2000 -					
								2200		$\perp \perp$		$\perp \perp$	$\perp \perp$
2.5m								2400 -					
2.0								2600 -					
								2000					
								2800 -	+			++	
3.0m													
								3000 -					
								3200 -					
3.5m								3400 -					
								3600 -				\perp	
								3800 -			+	++	+
4.0m								4000 -					
								4200 -		++	++	++	+
								4400 -					
4.5m								4400					
								4600 -	+	++	++	++	+
								4000					
								4800 -	\top				
5.0m								5000					
NOTES	S:					Shear	Vane:	l 19mm Bl	ade. Va	ane re	adino	1	
			Groundwat	er not encountered.		calibrat	ed to g	ive in sit				,	
<u> </u>				N. O M		Vane #	SN187	75					
Cohesi				Non Cohesive Material Very Loose VL Loose L Medium Dense MD				gust 201	/				
ery Sof /ery Stiff				Dense D Very Dense D	Verified: Date:								

Project Title: Proposed subdivision

Page: 10
No of Pages: 11

Site Address: 27 Kayelene Place

City: Omokoroa
File Number: 629313-M-E-S011

Date: 13/03/2018
Logged By: TETS/JNF



TGA REV 2 9/07/2010

Hand Augered Borehole

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)					RESUI gth (kP		
0.0m			(FILL			0 -)	50	100	150	200	250
		+++	SILT minor fine - coarse Sand rare fine Gravel, purplish, grey, very									
			stiff, very moist, non-plastic. SILT minor fine Sand, light brownish light orange occasional (FILL)	Vst	ML	200 -		+				+
			black mottle, very stiff, moist, non-plastic.	VSI	IVIL					•		
0.5m						400 -					•	
		+++	stiff, moist, non-plastic.			600 -					$\perp \perp$	\perp
			Target Depth									
						800 -						+
1.0m						4000						
						1000 -						
						1200 -		-				\perp
1.5m						1400 -	\vdash	+	\vdash	++	++	+
						4600						
						1600 -						\prod
						1800 -						\perp
2.0m						E E						
2.0111						Depth (mm)						+
						2200 -						
						2200 -						
						2400 -		-			\perp	\perp
2.5m												
						2600 -		+				+
						2800 -						
						2800 -						
3.0m						3000 -						\perp
						3200 -		+				+
						3400 -						
3.5m						3400 -						
						3600 -		-				\perp
						3800 -		+		++	++	+
4.0m						4000 -		\perp	Ш			
						4000 -						
						4200 -		+				+
4.5m						4400 -	\vdash	+	\vdash	++	++	+
						4600 -		\perp				
						4000 -						
						4800 -		-			++	$\perp \downarrow$
5.0m												
J.UM						5000 -	ш					Ш
OTES	3 :	1		Shear	hear Vane: 19mm Blade. Vane reading							
			Groundwater not encountered.	calibra	ated to g	jive in situ	ı she	ar s	treng	th.		
- h '		4 a ul a l	Non Cohooire Matariel		# SN187		7					
	ve Ma		Non Cohesive Material n F Stiff St Very Loose VL Loose L Medium Dense MD	Varis	ated Au	gust 2017	<u> </u>					
	Vst H		Dense D Very Dense D	Verified: Date:								

Project Title: Proposed subdivision

Site Address: 27 Kayelene Place

File Number: 629313-M-E-S011

Date: 13/03/2018 City: Omokoroa Logged By: TETS/JNF

TGA REV 2 9/07/2010

Page: 11 No of Pages: 11



Shear Vane Test Results

Notes: UTP = Unable To Penetrate.

Location	Borehole 1		
Depthmm	Reading	kPa	Strength
100	140	190	Vst
300	140	190	Vst
500	140	190	Vst
600	UTP	-	-
700	UTP	-	-
900	140	190	Vst
1100	140	190	Vst
1300	114	155	Vst
1500	140	190	Vst
1700	140	190	Vst
1900	88	120	Vst

Location	Borehole 3		
Depthmm	Reading	kPa	Strength
100	UTP	1	-
400	140	190	Vst
600	140	190	Vst
900	121	164	Vst
1100	77	105	Vst
1300	115	156	Vst
1600	117	159	Vst
1800	140	190	Vst
2000	108	SA	ND

Location	Borehole 5		
Depthmm	Reading	kPa	Strength
0	UTP	-	-
200	140	190	Vst
400	140	190	Vst
600	138	187	Vst
800	98	133	Vst
900	135	183	Vst

Location	Borehole 7		
Depthmm	Reading	kPa	Strength
0	UTP	-	-
300	140	190	
500	140	190	Vst

Location	Borehole 9		
Depthmm	Reading	kPa	Strength
100	111	151	Vst
300	114	155	Vst
500	140	190	Vst

Location	Borehole 2		
Depthmm	Reading	kPa	Strength
0	UTP	-	-
200	140	190	Vst
400	140	190	Vst
600	140	190	Vst
800	140	190	Vst

Location	Borehole 4		
Depthmm	Reading	kPa	Strength
0	UTP	-	-
200	140	190	Vst
400	UTP	-	-
600	140	190	Vst
800	132	179	Vst
1100	124	168	Vst
1300	109	148	Vst
1500	115	156	Vst
1700	113	153	Vst
2000	86	117	Vst

Location	Borehole 6	<u> </u>	
Depthmm	Reading	kPa	Strength
100	140	190	Vst
200	UTP	-	-
400	140	190	Vst
600	135	183	Vst
800	140	190	Vst
1000	131	178	Vst
1300	117	159	Vst
1500	140	190	Vst
1800	122	166	Vst
2000	140	190	Vst

Location	Borehole 8		
Depthmm	Reading	kPa	Strength
100	140	190	Vst
300	140	190	Vst
500	140	190	Vst

Shear Vane SN1875 Aug-17 1.358 Calibrated Constant

Client: Barrett Homes

Project Title: Proposed Subdivision

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga
File Number: 629313-M-E-S012

Page: 1
No of Pages: 24

Date: 12/07/2018 **Logged By:** JNF

TGA REV 2 9/07/2010



Test Location Sketch



Project Title: Proposed Subdivision

Page: 2 No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: JNF



Hand Augered Borehole

Borehole No: 1 Lot 1

Depth (m)	Groundwater	Graphic Log	DESCRIPT	ions			Strength	Soil Class(USCS)		In Si	R VANE tu Strer	ngth (k	Pa)	-
0.0m						(FILL)			0 0 	50	100	150	200	250
			GRAVEL fin	e minor coarse - fine Sand, grey, po	oorly graded.	/FILL\	MD	GP						
0.5m		• • •		e - fine rare fine Pumiceous Gravel, e, moist, poorly graded.	, whitish light grey,	(FILL)	L		200 - 400 -					
0.5111		• • •					D	SP	600 -					
							L		800					Н
1.0m		+ + + + + + + + +	non-plastic.	ine - medium Sand, brownish orang	e, very stiff, moist,				1000 — 1200 —					
1.5m		+ + + + + + + + + + + +	SII T minor f	ine - coarse Sand, light brownish lig	aht oranga yany stiff		Vst	ML	1400 — 1600 —				•	
2.0m			moist, non-p						Depth (mm) 2000 -				•	
2.5m									2200 - 2400 - 2600 -					
3.0m									2800 -					
3.5m									3200 - 3400 - 3600 -					
4.0m									3800 -					
									4200 -					
4.5m									4400 -					
5.0m									4800 -					
NOTES	S:		Groundwat	er not encountered.			calibra		l 19mm Bla give in situ					
Cohesi	ve Mat	erial		Non Cohesive Material			Calibra	ated Au	gust 2017	<u>. </u>				
	t VS So	ft S Firm	n F Stiff St	Very Loose VL Loose L Medium Dense D Very Dense D	se MD		Verifie Date:							

Project Title: Proposed Subdivision

Page: 3
No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By: JNF

 TGA REV 2
 9/07/2010



Hand Augered Borehole

Borehole No: 5 Lot 5

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS		Strength	Soil Class(USCS)			In Sit	R VANE u Strer	ngth (k	Pa)	
0.0m				(FILL)		۵.	0 +)	50	100	150	200	250
			TOPSOIL.			OL							
0.5m		• • •	SAND coarse - fine rare fine Pumiceous Gravel, whitish light grey, dense - medium dense, moist, poorly graded.	(FILL)	MD		200 - 400 -						
		• • •			D	SP	600 - 800 -						
1.0m							1000 -						
1.5m			SILT rare fine - medium Sand, light brownish light orange, very stiff, moist, non-plastic.				1400 -				•		
		+ + + + + + + + +			Vst	ML	1800 - (E				•	•	
2.0m		+++	Target Depth				Depth (mm) 2000 -					•	
2.5m							2400 - 2600 -						
3.0m							2800 - 3000 -						
							3200 - 3400 -						
3.5m							3600 - 3800 -						
4.0m							4000 -						
4.5m							4200 - 4400 -						
							4600 - 4800 -						
5.0m							5000						
NOTES			Groundwater not encountered.		calibra Vane #	ted to g # SN187		u sh					
Cohesi			Non Cohesive Material		Calibra	ated Au	gust 2017	7					
Very Soft Very Stiff			F Stiff St Very Loose VL Loose L Medium Dense MD Dense D Very Dense D		Verifie Date:	ed:							

Project Title: Proposed Subdivision Page: 4

No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: JNF



Hand Augered Borehole

Borehole No: 6 Lot 6

0.0m		1	ONS			Strength	Soil Class(USCS)			In Sit	R VANE u Strer	igth (kl	Pa)	
		TOROGU			(FILL)			0 -	0 	50	100	150	200	250
		TOPSOIL.					OL							
0.5m	• • •	SAND coarse	e - fine rare fine Pumiceous e, moist, poorly graded.	Gravel, whitish light grey,	(FILL)	L MD	SP	400 - 400 - 600 -						
	• •					D		800 -						\square
1.0m	++	moist, non-pl	astic.	vnish light orange, very stiff,				1000 - 1200 -			•		•	
1.5m	+++++++++++++++++++++++++++++++++++++++	non-plastic.	e Sand, light brownish light	orange, very stiff, moist,		Vst	ML	1400 - 1600 -				•	•	
2.0m	++	+ SILT minor fir	ne - coarse Sand, light brov noist, non-plastic.	wnish light orange, very stiff,	'			Depth (mm)						
2.5m			Target Depth					2200 - 2400 -						
								2600 - 2800 -						
3.0m								3000 - 3200 -						
3.5m								3400 - 3600 -						
4.0m								3800 - 4000 -						
								4200 - 4400 -						
4.5m								4600 -						
5.0								4800 -						Н
5.0m NOTES:		Groundwata	er not encountered.					19mm Bl give in situ						
		Groundwale	a not oncountered.				SN18		u ol	icai	ou en l	,		
Cohesive I Very Soft VS Very Stiff Vst	Soft S F	rm F Stiff St	Non Cohesive Material /ery Loose VL Loose L Med Dense D Very Dense D	lium Dense MD			ted Au	gust 2017	7					

Project Title: Proposed Subdivision

Page: 5 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

Date: 12/07/2018

File Number: 629313-M-E-S012 Logged By: RJB TGA REV 2 9/07/2010



Hand Augered Borehole

Borehole No: 12 Lot 12

Depth (m)	Groundwater	Graphic Log	DESCRIP [*]	TIONS								Strength	Soil Class(USCS)		0		AR VAN itu Stre			250	0
0.0m			CII T minor	fine med	ium Cand	l liabt a	rov mo	attlad wh	itiah lial		FILL)				۰	7	100	150	7 1	750	,
		+++	SILT minor							(F	FILL)	Н		20	00				•		
0.5m		+++	hard, moist, SILT rare fir	, non-plasti ne - mediu	c. m Sand, I	light bro	own, ve	ery stiff, r	moist, n	on-plastic.				40	00						
		+++													00				•		
1.0m													ML		00						
		+ + + + + +										Vst		100							
4.5		+++												140							
1.5m		+ + + + + + + + +												160	00			-		H	
		• • •	Pumiceous medium der	nse, moist,	poorly gr	raded.						MD	SM	(mr	00						
2.0m		•••	Pumiceous	Silty SANI	Target		ght ora	ingish lig	gnt brow	n, moist.				Depth (mm)	00 —						
														220							
2.5m														260							
														280	00 —						
3.0m														300	00						
														320	00						
3.5m														340							
														360							
4.0m														400							
														420	00						
4.5m														440	00						
														460	00						
5.0m														480						\parallel	
														500							
NOTES	S:		Groundwa	ter not en	countere	ed.					(calibra	Vane: ted to g SN24	give in						_	_
Cohesi				Non Coh									ated Ma	arch 20)18						
			F Stiff St	Very Loose			edium De	ense MD	,			Verifie	d:								
ery Stiff	Vst Ha	ard H		Dense D	very Dense	e D						Date:									

Project Title: Proposed Subdivision

Page: 6
No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: AS



Hand Augered Borehole

Borehole No: 13 Lot 13

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)		VANE RESULTS Strength (kPa)
0.0m			TOPSOIL.		OL	0 1 1 1	
						200	
0.5m		+ + + + + + + + +	SILT rare fine Sand, light orangish light brown, very stiff - hard, moist, non-plastic. Becomes very moist.	н	_	400	•
1.0m		+ + + + + + + + + + + +		Vst	ML	1000	•
4.5			SILT minor fine - medium Sand, light orangish light brown, hard, very	н		1200	•
1.5m			moist, non-plastic. Pumiceous SAND fine - coarse minor Silt, light orangish light brown, medium dense, very moist, poorly graded.	MD	SM	1600	
2.0m		• • •	Pumiceous Silty SAND fine - coarse, light orangish light brown, loose, very moist, poorly graded.	L	-	Depth (mm) 2000	
2.5m			Target Depth			2400	
3.0m						3000	
3.5m						3600	
4.0m						4000	
4.5m						4400	
5.0m						4800	
OTES	Ē	•	Groundwater not encountered.	calibra		19mm Blade. Van give in situ shear s 33	
hesiv			Non Cohesive Material n F Stiff St Very Loose VL Loose L Medium Dense MD		ated Fel	bruary 2018	

Project Title: Proposed Subdivision Page: 7

No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF



Hand Augered Borehole

Borehole No: 27 Lot 27

30.0 Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS						Strength	Soil Class(USCS)	(SHEAR In Site			kPa)	3	250
U.UM			TOPSOIL.								OL	0 -		1	T	T	<u> </u>	\exists
0.5m		+ + + + + + + + + + + +	SILT rare fir	ne - medium Sar olastic - slightly p		ownish ligh	nt orange,	very stiff,			<u> </u>	200 - 400 - 600 -				•		
1.0m		+++		fine - medium S blastic - slightly p		rownish liç	ght orange	e, very stiff,		Vst	ML	800 - 1000 - 1200 -			•	•		
1.5m				SAND fine - coa moist, poorly gr		Silt, light o	orangish liq	ght brown,		D	SM	1400 - 1600 -			•			
2.0m		• • •		Tai	rget Depth							2200 -						_
2.5m												2400 - 2600 - 2800 -						
3.0m												3000 - 3200 -						
3.5m												3400 - 3600 - 3800 -						
4.0m												4000 -						_
4.5m												4400 - 4600 - 4800 -						_
5.0m												5000 -						
NOTES			Groundwa	ter not encoun					(calibrat Vane #	ed to g		tu shea					
Cohesi				Non Cohesive					(Calibra	ted Au	gust 201	7					
Very Soft Very Stiff			n F Stiff St	Very Loose VL Dense D Very D		edium Dens	se MD			Verifie Date:	d:							
very Sull	va. M	aru II		Delise D Very L	CHOC D				-	vale:								

Project Title: Proposed Subdivision

Page: 8
No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: JNF



Hand Augered Borehole

Borehole No: 28 Lot 28

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS	Strenath		Soil Class(USCS)					RESUI gth (kP		
0.0m		T		(FILL		+	U)		0	50	100	150	200	250
			TOPSOIL.			L	OL	0						
		+++		fine - medium Sand, purplish grey, very moist. (FILL)			ML	200				$\perp \perp$		Ш
			BURIED TO	PSOIL.									•	
			CII T main an	fine meadings Could light have maintained agency your stiff society			OL	400				++		++
0.5m		1::::		fine - medium Sand, light brownish light orange, very stiff, moist non-plastic - slightly plastic.	-								•	
		+ + + + + +	very moist, i	ion-plastic - slightly plastic.				600				+		+
		+++											†	
		+ + +						800				\top		
1.0m			Becomes no	on-plastic.	Vs	st	ML	1000				$\perp \perp$	•	
		+++						1000					•	
		+++						1200			\perp	$\perp \perp$	1	$\perp \perp$
		<u> </u>	0		4							•		
,				fine - coarse, light brownish light orange, very stiff - stiff, very	<u> </u>			1400		+	+	++		+
1.5m			moist, non-p	olastic. SAND fine - coarse minor Silt, light orangish light brown,	S	τ					•			
				sand line - coarse minor Siit, light orangish light brown, use - loose, very moist, poorly graded.	м	_D		1600	\vdash		+	++		+
			calalli aci	10000, vory moist, poorty graded.	141	_	SM							
					L	\Box		€ 1800			\top	+		+
2.0m		+++	Sandy SILT	fine - coarse, whitish light brown, stiff, very moist, non-plastic.	S		ML	Depth (mm)						
				Target Depth				bth 2000						
								පී ₂₂₀₀	\sqcup	\perp	\perp	$\bot \bot$		$\perp \perp$
_								2400	\vdash	++	+	++	++	+
2.5m														
								2600	\vdash		+	++		+
								2800	\vdash		+	++		+
3.0m								6001						
								3000			\top			\top
								3200						
								3200						
								3400	\sqcup		\perp	$\bot \bot$		\perp
3.5m														
								3600	\vdash	+	+	++	+	+
								3800	+	+	+	++		++
4.0m														
								4000	\vdash		\top	+		+
								4000						
								4200						
								4400	Ш		\perp	$\perp \perp$		
4.5m														
								4600	\vdash		-	++		+
								4800	+	+	+	++		+
5.0m														
2.5								5000		1 1				
NOTES	S:	1			She	ar V	ane:	19mm B	lade	. Van	ne re	ading		
			Groundwat	er not encountered.	calil	brate	ed to g	ive in sit						
					Var	ne#	SN187	75						
Cohes				Non Cohesive Material				gust 201	7					
			m F Stiff St	Very Loose VL Loose L Medium Dense MD		ified	:							
Very Stif	⊤vst ŀ	⊣ard H		Dense D Very Dense D	Dat	e:								

Project Title: Proposed Subdivision

Page: 9
No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: AS



TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No: 29 Lot 29

Depth (m)	Groundwater	Graphic Log	DESCRIPT	TIONS					Strength	Soil Class(USCS)			AR V				
0.0m								(FILL)	U)	0)	0 -) 5	50	100	150	200	250
			TOPSOIL.							OL							
										OL	200 -						
0.5								(FILL)			400 -						
0.5m		+++	SILT rare fin	ie - coarse Sand, I	light brown m	nottled brow	n - black, ve	(FILL)			600 -				•		
		+++	stiff, moist, r					_			000						
		+++ +++	SIL1 rare fin	e Sand, light brow	n, very stiff -	- nara, mois	it, non-piasti	Э.	Vst		800 -			+			
1.0m		+++	Becomes ve	ry moist.							1000 -				•		
		+++									4000						
		+++								ML	1200 -						
1.5m		+++ +++							н		1400 -				+		←
		+++									1600 -						
		+++ +++							Vst								
		+++									E 1800 -						
2.0m		+++	Pumiceous \$	SAND fine - coarse	e minor Silt.	light orangi	sh light brow	'n.		SM	Depth (mm)				•		
					et Depth		<u> </u>				2200 -						
2.5m											2400 -						
											2600 -				+		
											2800 -						
2 0											2000						
3.0m											3000 -						
											3200 -						
											0.400						
3.5m											3400 -						
											3600 -				+		
											3800 -						
4.0m																	
4.0111											4000 -						
											4200 -				+		
											4400 -						
4.5m											4400						
											4600 -			+	+	++	
											4800 -			\perp	\perp		\perp
5.0m																	
										.,	5000 -						
NOTES	S:		Groundwate	er not encounter	red						19mm B jive in sit						
									Vane #	SN203	33		ال الم	·······································	, c. 1 .		
Cohesi				Non Cohesive N		m Donas Mr			Calibra Verifie		bruary 20)18					
Very Sof				Very Loose VL Loo Dense D Very Der		iii Dense MD	,		verifie Date:	u:							

Project Title: Proposed Subdivision

Page: 10 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 RJB

 TGA REV 2
 9/07/2010



Hand Augered Borehole

Borehole No: 34 Lot 34

Depth (m)	Groundwater	Graphic Log	DESCRIP	TIONS		Strength	Soil Class(USCS)		In Sit	R VANE u Strenç	jth (kPa	a)	
0.0m								0 -	50	100	150	200	250
			TOPSOIL.				OL	200 -					+
0.5m		+++		ne - medium Sand, light brown, very stiff	- hard, moist,	Vst		400 - 600 - 800 -					
1.0m		+++				н	ML	1000 -				•	+
		+ + + + + +				Vst		1200 -					\forall
1.5m		+ + + + + + + + +				н		1400 - 1600 -					
2.0m		+++	Pumiceous	SAND fine - coarse minor Silt, light oran	aish liaht brown		SM	(mm) 2000 -					
2.5m 3.0m				Target Depth				2000 - 2200 - 2400 - 2600 - 2800 - 3000 -					
3.5m								3200 - 3400 - 3600 -					
4.0m								4000 -					
4.5m								4400 - 4600 -					
5.0m								4800 - 5000 -					
NOTES	Groundwater not encountered.					Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN2435							
Cohesi	ve Ma	erial		Non Cohesive Material		Calibra	ated Ma	rch 2018					
			F Stiff St	Very Loose VL Loose L Medium Dense M		Verifie	d:						_
Very Stiff	Vst H	ard H		Dense D Very Dense D		Date:							

Project Title: Proposed Subdivision

Page: 11
No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 AS

 TGA REV 2
 9/07/2010



Hand Augered Borehole

Borehole No: 35 Lot 35

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Strength	Soil Class(USCS)			VANE Stren			
 0.0m	<u> </u>	0	DESCRIPTIONS	S	S	0	50	100	150	200) 25
			TOPSOIL.		OL						
			SILT rare fine Sand, light orangish light brown, very stiff - stiff, moist,			200				++	+
			non-plastic.			400			•		
0.5m		+ + +		Vst		400					
		+++				600					+
		+++ +++		St				•			
		+++				800		•			
.0m		+++			ML	1000		-			+
		+ + + + + +						•			
				Vst		1200					\top
		+++				1400				$\perp \downarrow$	\perp
1.5m		+++ +++	SILT minor fine - coarse Sand, light brownish light orange, very stiff - hard, very moist, non-plastic.							•	
				Н		1600					
		• • •	Pumiceous SAND fine - coarse rare Silt, light orangish light brown,			1800				\perp	\perp
2.0m		• • •	medium dense, very moist, poorly graded.	MD	SP	<u>ε</u>					
			Target Depth			2000 (mm)					
						2200					
2.5m						2400					
						2600					\perp
						2800					
3.0m						3000					
						3200					+
						3400					
3.5m						0.00					
						3600					+
						3800					
						3800					
l.0m						4000					+
						4200					
						4200					
1.5m						4400					_
						4600					
						4600					
						4800		\vdash	++	++	+
5.0m						5000					
						5000					
TES	:		Groundwater not encountered.			19mm Blade					
			Groundwater not encountered.	Vane #	ted to g # SN203	jive in situ sh 33	iedi S	ou en C	ju i.		
	∕e Ma		Non Cohesive Material	Calibra	ated Fel	bruary 2018					
v Soft	vs S	Soft S	Firm F Stif Very Loose VL Loose L Medium Dense MD	Verifie	d:		-				

Project Title: Proposed Subdivision

Page: 12 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

Date: 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 RJB

 TGA REV 2
 9/07/2010

Stratum CONSULTANTS

Hand Augered Borehole

Borehole No: 36 Lot 36

DESCRIPTIONS Comparison of the comparison of	Strength	Soil Class(USCS)			tu Stre	ngth)	
L L L I SII T rare fine - modium light brown yery etiff mojet non-plactic			0 0 1	50	10	0 1	150	200	250
+ + +			200 -						
5m + + +			400 -						
			600 -						
+++ +++	Vst	ML	800 -		+	+			+
0m + + +			1000 -		+		+		\mathbb{H}
			1200 -		\perp				Ш
			1400 -						
5m + + + + + SILT minor fine - medium Sand, light brown, very stiff, moist, non-plastic.									
+ + + • • • Pumiceous SAND fine - coarse, light orangish light brown, medium			1600 +						
dense, moist - very moist, poorly graded.	MD	SP	1800 + E						\Box
0m - • • • Target Depth			Depth (mm)						+
			2200 -						
5m			2400 -						
5111			2600 -						\perp
			2800 -						
om om									
			3000 -						
			3200 -						\Box
5m			3400 -						H
			3600 -						+
			3800 -						\perp
0m			4000 -						
			4200 -						
5m			4400 -						
			4600		+		\dagger		+
			4800 -		+		+		+
0m			5000						Ш
TES: Groundwater not encountered.	Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN2435								
nesive Material Non Cohesive Material			arch 2018						
Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Stiff Vst Hard H Dense D Very Dense D	Verifie Date:								

Project Title: Proposed Subdivision

Page: 13 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

Date: 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF

 TGA REV 2
 9/07/2010

Stratum

Hand Augered Borehole

Borehole No: 37 Lot 37

Section Sect		dwater ic Log										s(nscs)			SHF	AR '	VANE	RES	ULT	s		
TOPSOIL	Jepth (m	sroundw	sraphic L	DESCRIP	TIONS						trength	oil Clas										
## SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT minor fine - coarse Sand, light brownish light orange, very stiff, + H SILT minor fine - coarse Sand, light brownish light orange, very stiff, + H SILT minor fine - coarse Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, + H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - coarse Sand, light brownish light orange, very stiff, - H SILT rare fine - coarse Sand, light brownish light orange, very stiff, - H SILT rare fine - coarse Sand, light brownish light orange, very stiff, - H SILT rare fine - SILT rare fine - medium Sand, light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light orange, very stiff, - H SILT rare fine - solid light brownish light ora		<u> </u>		DEGGINII	110110						o)	U)	1)	50	100	15	0	200	2	50
1.0m				TOPSOIL.								OL		٦Ţ								
1.5m				OU = "		1 11 1 4 1							2	200								
1.5m						nd, light br	ownish lig	iht orange,	very stiff,											•		
1.0m	0.5m		1 + + +	1110151, 11011-	วเสรแบ.								4	00 +								
1.0m			+++	SILT minor	fine - coarse Sa	ınd, light br	ownish lig	ght orange	, very stiff,				6									
1.0m																			•			
1.5m			+++	OU = "		1 11 1 4 1							8	ioo					-			
1.5m	1 0m						ownish lig	iht orange,	very stiff,		Vet	м							•			
1.5m	1.0111			1110151, 11011-	Jiastic - Silgritiy	piastic.					VSI	IVIL	10	100								
1.5m 1.5m 2.0m 2.0m 2.0m 2.5m 3.5m 3.5m 4.0m 4.5m 5.0m 5.													10						•			
1.5m			+++										12	T								
2.0m 2.0m Target Depth Target Depth SM 2.5m 3.5m 4.0m 4.5m 5.0m													14	-00					_			
2.0m Pumiceous SAND fine - coarse minor Silt, light orangish light brown, medium dense - dense, very moist, poorty graded. Target Depth Target Depth 3.0m 3.0m 4.0m 4.5m 5.0m	1.5m																	•				
2.0m			1 + + +										16	i00 								
2.5m			• • •	Pumiceous	SAND fine - coa	arse minor	Silt, light	orangish li	ght brown,		MD		10						'	•		
2.5m 3.0m 3.5m 4.0m 4.5m 5.0m				medium der	nse - dense, ver	y moist, po	orly grade	ed.				SM	آ ا	T								
2.5m 3.0m 3.5m 4.0m 4.5m 5.0m	2.0m		• • •								D		20 ع	00				\square		_	_	
2.5m 3.0m 3.5m 4.0m 4.5m 5.0m					Ia	rget Depth							Sept									
2.5m													22	:00					+			1
2.5m													24									
3.5m 4.0m 4.5m 5.0m	2.5m												24	1								
3.5m 4.0m 4.5m 5.0m													26	i00								
3.5m 4.0m 4.5m 5.0m																						
3.5m 4.0m 4.5m 5.0m													28	00		+					+	
3.5m 4.0m 4.5m 5.0m	3.0m																					
3.5m 4.0m 4.5m 5.0m													30	1 00								
3.5m 4.0m 4.5m 5.0m													32	200								
4.0m 4.5m 4.5m 5.0m																						
4.0m 4.5m 4.5m 5.0m	3 5m												34	00								
4.0m 4.5m 5.0m	3.5111																					
4.5m 4.5m 5.0m													36	600 †								
4.5m 4.5m 5.0m													38	oo								
4.5m 4.5m 5.0m																						
4.5m 5.0m	4.0m												40	00		+			\dashv	+		
4.5m 5.0m																						
4.5m 5.0m													42	00				H	\top	\top		
4.5m 5.0m													44	.00								
5.0m 4800 5000 5000	4.5m												'									
5.0m													46	600		+		\vdash	\dashv	+		
5.0m																						
													48	00 +				\Box	\dagger	\top		1
	5.0m												50	000]								
INDICES:	NOTES										Cha	V			- d -	17-		. al!				
Groundwater not encountered. Groundwater not encountered. Groundwater not encountered.	NOTES	> :		Groundwa	ter not ancour	tered													g			
Vane # SN1875				Groundwa	ter flot effcoul	nereu.								SILL	3116	ai S	ou en (jui.				-
Cohesive Material Non Cohesive Material Calibrated August 2017	Cohesi	ve Mat	erial		Non Cohesiv	e Material								2017	7							
Very Soft VS Soft S Firm F Stiff St Very Loose VL Loose L Medium Dense MD Verified:	Very Soft	t VS Sc	ft S Firn	n F Stiff St	Very Loose VL	Loose L M		se MD		,	Verifie											
Very Stiff Vst Hard H Dense D Very Dense D Date:	Very Stiff	Vst H	ard H		Dense D Very [Dense D					Date:											

Project Title: Proposed Subdivision

Page: 14
No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga

File Number: 629313-M-E-S012 Logged By: AS

TGA REV 2 9/07/2010

Date: 12/07/2018



Hand Augered Borehole

Borehole No: 38 Lot 38

Depth (m)								Strength	Soil Class(USCS)				/ANE f Streng			
 0.0m	U	<u> </u>	JEGOINIF					Ø	Ø)	50	100	150	200	250
			TOPSOIL.						OL	200 -						
0.5m 1.0m		+ + + + + + + + + + + + + + +	SILT rare fir moist, non-p	ne Sand, light orangi olastic.	sh light brown, v	ery stiff - hard,	slightly	Vst	ML	400 - 600 - 800 -						
1.5m		+ + + + + + + + + + + +						H Vst		1200 -						•
		•••		SAND fine - coarse onse - dense, very mo			own,	MD		1600 -				•		
2.0m		• • •					-	D	SP	mm (m						
2.5m 3.0m 3.5m				Target I	Depth					2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 30						
4.0m										3800 - 4000 - 4200 -						
4.5m										4400 - 4600 - 4800 -						
5.0m										5000 -						
NOTES	Groundwater not encountered.							Shear Vane: 19mm Blade. Vane reading calibrated to give in situ shear strength. Vane # SN2033								
Cohesi				Non Cohesive Ma				Calibra	ted Fel	oruary 20	18					
Very Soft Very Stiff	VS So	oft S Firm ard H	r F Stiff St	Very Loose VL Loose Dense D Very Dense	e L Medium Dens e D	se MD		Verifie Date:	d:							

Project Title: Proposed Subdivision

Page: 15 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF

 TGA REV 2
 9/07/2010

Stratum

Hand Augered Borehole

Borehole No: 39 Lot 39

Depth (m)	Groundwater	Graphic Log	DESCRIPTIONS	Soil Class(USCS)			AR VAI Situ Str					
0.0m				Strength	0,	0	0 5	50 1	00	150	200	250
			TOPSOIL.		OL	200						
0.5m		+++	SILT minor fine - medium Sand, light brownish light orange, stiff - very stiff, moist - very moist, non-plastic.	Vst		400		•		•		
		+ + + + + + + + +		St		600 · 800 ·						
1.0m		++++++++	SILT minor fine - coarse Sand, light brownish light orange, very stiff, moist, non-plastic.		ML	1000				•		
		+++		Vst		1200					•	
1.5m		+++	Becomes non-plastic - slightly plastic.			1400					•	
		• • •	Pumiceous SAND fine - coarse rare Silt, light orangish light brown, medium dense - dense, very moist, poorly graded.	D	SP	1800			•	•		
2.0m		•••	Target Depth			Depth (mm)						
2.5m						2200						
2.3111						2600						
3.0m						2800						
						3200						
3.5m						3400						
						3600						
4.0m						4000						
						4200						
4.5m						4400						
						4800						
5.0m						5000			Ш			
NOTES	S:		Groundwater not encountered.	calibra		19mm Bl give in siti 75						
Cohesi			Non Cohesive Material	Calibra	ated Au	gust 201	7					
Very Soft	VS S	oft S Firm	n F Stiff St Very Loose VL Loose L Medium Dense MD	Verific	ed:							
Very Stiff			Dense D Very Dense D	Date:								

Project Title: Proposed Subdivision

Page: 16 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

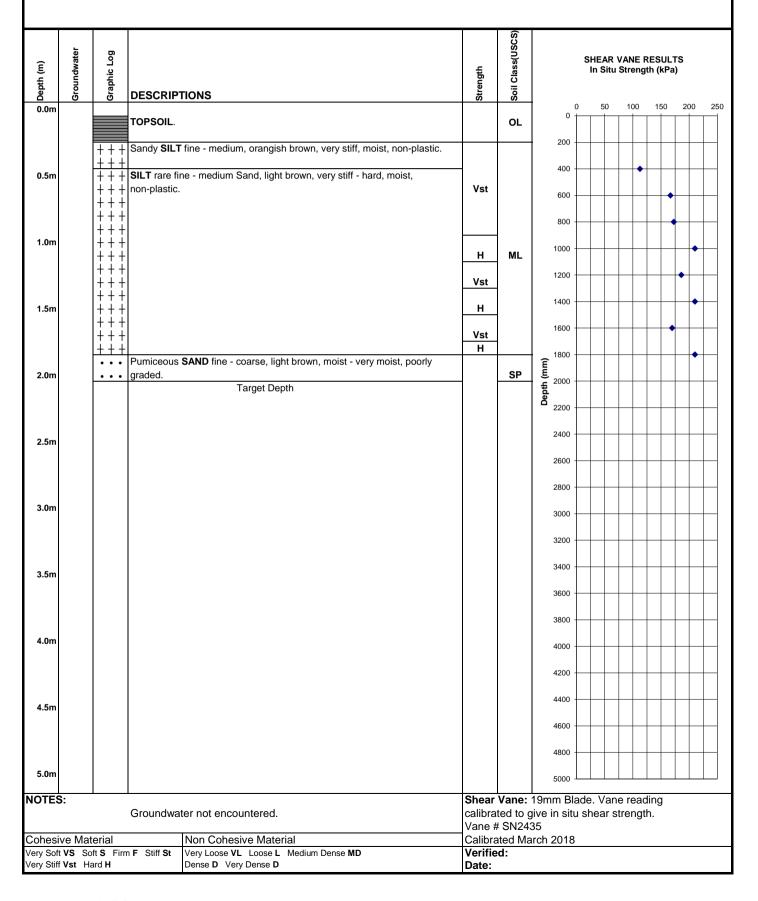
City: Tauranga

Date: 12/07/2018 File Number: 629313-M-E-S012 Logged By: RJB

TGA REV 2 9/07/2010

Hand Augered Borehole

Borehole No: 40 Lot 40



Project Title: Proposed Subdivision

Page: 17
No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 AS

 TGA REV 2
 9/07/2010

Stratum

Hand Augered Borehole

Borehole No: 41 Lot 41

Depth (m)	.0m							Strength	Soil Class(USCS)			AR VA Situ Si				
0.0m										0	0 :	50	100	150	200	250
			TOPSOIL.						OL							
				ne Sand, light orangi	sh light brown,	stiff - very sti	ff, slightly			200						
0.5m		+++	moist, non-	plastic.				St		400				+		
		+++								600				•		
		+++ +++													•	
		+++								800				•		
1.0m		+++ +++						Vst	ML	1000						
		+++								1200				1		
		+ + + + + +													•	
1.5m		+++								1400					•	
		+++	Pumiceous	SAND fine - coarse	rare Silt, light o	rangish light	brown,			1600		+	+	+		+
		• • •		nse - dense, very mo				D MD	SP	1800				\perp	•	
2.0m								D	51	E						
				Target	Depth					Depth (mm)						
										2200				+	\vdash	
0.5										2400				_		
2.5m										2000						
										2600						
										2800				+		
3.0m										3000		\vdash		+	\vdash	
										3200						
										3200						
3.5m										3400						
										3600				_		
										3800						
4 0										3600						
4.0m										4000		++		+	+	
										4200		+		+	+	+
										4400						
4.5m										7400						
										4600		++	+	+	++	
										4800		++		+	++	
5.0m										5000						
NOTES	.							Shear	Vane:	19mm Bl	ade \	/ane	read	ing		
HOIES	, .		Groundwa	ter not encountere	d.			calibra	ted to g	give in situ						
Cohesi	VO 1/104	erial		Non Cohesive Ma	atorial			Vane #	\$N20	33 bruary 20						
Very Soft	VS Sc	ft S Firm	F Stiff St	Very Loose VL Loos	e L Medium Der	nse MD		Verifie	d:	bruary 20	10					
Very Stiff	Stiff Vst Hard H Dense D Very Dense D							Date:								

Project Title: Proposed Subdivision

Page: 18
No of Pages: 24

TGA REV 2 9/07/2010

Site Address: 27 Kayelene Place, Omokoroa

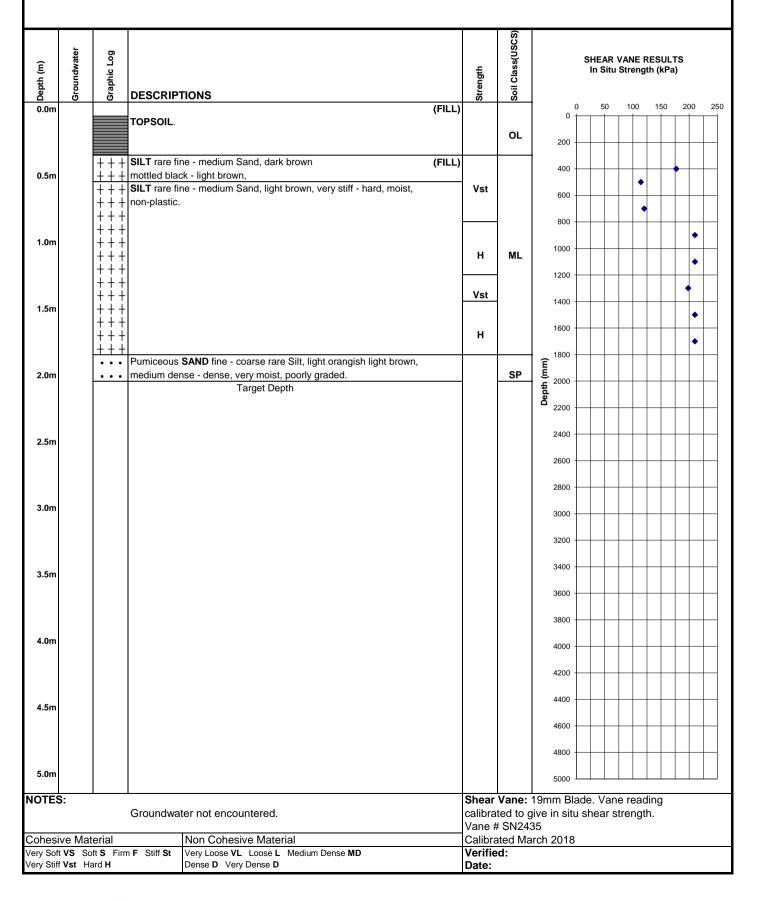
City: Tauranga **Date:** 12/07/2018

File Number: 629313-M-E-S012 Logged By: RJB



Hand Augered Borehole

Borehole No: 42 Lot 42



Client: Barrett Homes
Project Title: Proposed Subdivision

Page: 19 **No of Pages:** 24

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF



Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number		st 1		st 5	Tc	est 6	То	st 12
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	
GL Start	(111111)	(111111)	(111111)	(111111)	(111111)	(mm)	(111111)	(mm)
_	_							
0	0		200		200		0	
5	100	100	370	170	380	180	80	80
10	280	180	440	70	450	70	220	140
15	350	70	490	50	530	80	320	100
20	410	60	540	50	580	50	530	210
25	450	40	580	40	650	70	710	180
30	490	40	610	30	710	60	860	150
35	530	40	630	20	780	70	1020	160
40	550	20	660	30	850	70	1110	90
45	610	60	680	20	940	90	1210	100
50	640	30	720	40	1180	240	1290	80
55	700	60	750	30	1440	260	1370	80
60	940	240	770	20	1440	200	1470	100
65	1230	290	810	40			1580	110
70	1370							
		140	840	30			1690	110
75	1500	130	860	20			1790	100
80	1580	80	890	30			1870	80
85	1650	70	920	30			1950	80
90			950	30				
95			970	20				
100			1000	30				
105			1020	20				
110			1050	30				
115			1070	20				
120			1110	40				
125			1140	30				
130			1170	30				
135			1220	50				
140			1260	40				
145			1330	70				
150			1410	80				
155			1510	100				
160			1620	110				
165			1700	80				
170			1760	60				
175			1820	60				
180	-	ļ	1860	40				
185		ļ	1930	70				
190			1970	40				
195			2010	40				
200								
205								
210								
215								
220								
225								
230								
235								
240								
245	1							
250								
255		 						
260		1						
	1	1						
265 270	-	 						
	<u> </u>	I		<u> </u>		<u> </u>		
Notes:								

Project Title: Proposed Subdivision

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF

TGA REV 2 9/07/2010

Page: 20 No of Pages: 24



20113021

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number		st 13		t 27	Tes	st 28	Te	st 29
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
02 010.1	()	()	()	()	()	()	()	()
0	0		0		0		0	
5	40	40	300	300	190	190	190	190
10	100	60	480	180	320	130	320	130
15	250	150	650	170	530	210	530	210
20	460	210	870	220	890	360	890	360
25	590	130	950	80	1120	230	1120	230
				110	1280	160	1280	160
30	800	210	1060					
35	940	140	1160	100	1400	120	1400	120
40	1080	140	1240	80	1510	110	1510	110
45	1230	150	1320	80	1640	130	1600	90
50	1340	110	1380	60	1770	130	1730	130
55	1430	90	1430	50	1950	180	1830	100
60	1520	90	1480	50			1900	70
65	1630	110	1530	50			1980	80
70	1770	140	1600	70				
75	1890	120	1660	60				
80	3 Blows		1720	60				
85			1790	70				
90			1850	60				
95			1900	50				
100			1950	50				
105								
110								
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								
170								
175								
180								
185								
190								
195								
200								
205								
210								
215								
220								
225								
230								
235								
240								
245								1
250								
255								
260								
265								
270								
210								<u> </u>

Project Title: Proposed Subdivision

Site Address: 27 Kayelene Place, Omokoroa

City: Tauranga **Date:** 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF

 TGA REV 2
 9/07/2010

CONSULTANTS

Page: 21 No of Pages: 24

Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number		st 35		st 36		st 37		st 38
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0	0		0		0		0	
5	130	130	250	250	280	280	220	220
10	320	190	520	270	490	210	400	180
15	530	210	770	250	680	190	620	220
20	740	210	1000	230	850	170	820	200
25	920	180	1120	120	1020	170	980	160
30	1070	150	1220	100	1140	120	1140	160
35	1180	110	1320	100	1280	140	1260	120
40	1300	120	1410	90	1420	140	1330	70
45	1420	120	1520	110	1580	160	1420	90
50	1560	140	1680	160	1740	160	1520	100
55	1680	120	1800	120	1820	80	1610	90
60	1750	70	1950	150	1880	60	1700	90
65	1850	100			1920	40	1790	90
70	1940	90			1960	40	1890	100
75							1950	60
80							4 Blows	
85								
90								
95								
100								
105								
110								
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								
170								
175								
180								
185								
190								
195								
200								
205								
210								
215								
220								
225								
230								
235								
240								
245								
250								1
255								
260								
200								
265								

Project Title: Proposed Subdivision

Page: 22 No of Pages: 24

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date:
 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By:
 JNF

TGA REV 2 9/07/2010



Scala Penetrometer Results

Probe description: 9kg hammer falling 500mm striking a steel anvil driving a 16mm diameter rod fitted with a 20mm diameter cone

Depth of penetration begins at the existing ground level Readings taken in mm. Penetration is given in mm per 5 blows

Number	Tes	t 39	Tes					
of Blows	Reading	Penetration	Reading	Penetration	Reading	Penetration	Reading	Penetration
GL Start	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
			•					
0	0		0					
5	160	160	290	290				
10	270	110	570	280				
15	420	150	730	160				
20	570	150	890	160				
25	790	220	1020	130				
30	1040	250	1120	100				
35	1140	100	1230	110				
40	1230	90	1360	130				
45	1310	80	1530	170				
50	1410	100	1680	150				
55	1500	90	1740	60				
60	1610	110	1790	50				
65	1670	60	1880	90				
70	1700	30	1950	70				
75	1740	40	1000	, , ,				
80	1770	30						
85	1800	30						
90	1830	30						
95	1850	20						
100	1900	50						
105	1950	50						
110	1000	- 00						
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								
170								
175								
180								
185								
190								
195								
200								
205								
210								
215								
220								
225								
230								
235								
240								
245								
250								
255								
260								
265								
270								
Notes:	•							

Project Title: Proposed Subdivision

Site Address: 27 Kayelene Place, Omokoroa City: Tauranga

Date: 12/07/2018 Logged By: JNF

File Number: 629313-M-E-S012

TGA REV 2 9/07/2010

Page: 23 No of Pages: 24



Shear Vane Test Results

Notes: UTP: Unable to penetrate.

Location	Borehole 1		SN1875
Depthmm	Reading	kPa	Strength
1000	122	166	Vst
1200	112	152	Vst
1400	138	187	Vst
1600	140	190	Vst
1800	140	190	Vst
2000	140	190	Vst

Location	Borehole 6		SN1875
Depthmm	Reading	kPa	Strength
1000	140	190	Vst
1200	88	120	Vst
1400	125	170	Vst
1600	140	190	Vst
1800	140	190	Vst
2000	136	185	Vst

Location	Borehole 13		SN2033
Depthmm	Reading	kPa	Strength
300	131	208	Н
500	128	203	Н
700	106	168	Vst
900	110	174	Vst
1100	100	159	Vst
1300	140	222	Н
1500	128	203	Н

Location	Borehole 28		SN1875
Depthmm	Reading	kPa	Strength
300	140	190	Vst
500	140	190	Vst
700	130	177	Vst
900	140	190	Vst
1100	138	187	Vst
1300	122	166	Vst
1500	60	81	St
2000	55	75	St

Location	Borehole 34		SN2435
Depthmm	Reading	kPa	Strength
400	70	105	Vst
600	100	150	Vst
800	97	146	Vst
1000	140	210	H
1200	132	198	Vst
1400	140	210	H
1600	140	210	Н
1800	136	204	H

Location	Borehole 5		SN1875
Depthmm	Reading	kPa	Strength
1400	104	141	Vst
1600	122	166	Vst
1800	140	190	Vst
2000	140	190	Vst

Location	Borehole 12		SN2435
Depthmm	Reading	kPa	Strength
200	140	210	Н
300	UTP		-
600	121	182	Vst
800	127	191	Vst
1000	120	180	Vst
1200	112	168	Vst
1400	108	162	Vst
1600	105	158	Vst

Location	Borehole 27		SN1875
Depthmm	Reading	kPa	Strength
300	140	190	Vst
500	140	190	Vst
700	113	153	Vst
900	96	130	Vst
1100	120	163	Vst
1300	103	140	Vst

Location	Borehole 29		SN2033
Depthmm	Reading	kPa	Strength
500	90	143	Vst
600	65	103	Vst
800	81	128	Vst
1000	91	144	Vst
1200	121	192	Vst
1400	140	222	Н
1600	100	159	Vst
1800	99	157	Vst
2000	90	143	Vst

Location	Borehole 35		SN2033
Depthmm	Reading	kPa	Strength
300	84	133	Vst
500	75	119	Vst
700	58	92	St
900	71	113	Vst
1100	69	109	Vst
1300	80	127	Vst
1500	118	187	Vst
1700	140	222	Н

Client: Barrett Homes
Project Title: Proposed Subdivision

Site Address: 27 Kayelene Place, Omokoroa

 City:
 Tauranga
 Date: 12/07/2018

 File Number:
 629313-M-E-S012
 Logged By: JNF

TGA REV 2 9/07/2010

Page: 24 No of Pages: 24



Shear Vane Test Results

Notes:

Location	Borehole 36		SN2435
Depthmm	Reading	kPa	Strength
200	110	165	Vst
400	108	162	Vst
600	116	174	Vst
800	95	143	Vst
1000	114	171	Vst
1200	100	150	Vst
1400	101	152	Vst
1600	102	153	Vst

Location	Borehole 38		SN2033
Depthmm	Reading	kPa	Strength
400	121	192	Vst
600	108	171	Vst
800	110	174	Vst
1000	105	167	Vst
1200	140	222	Н
1400	135	214	Н
1600	91	144	Vst

Location	Borehole 40		SN2435
Depthmm	Reading	kPa	Strength
400	75	113	Vst
600	111	167	Vst
800	115	173	Vst
1000	140	210	H
1200	124	186	Vst
1400	140	210	Н
1600	113	170	Vst
1800	140	210	Н

Location	Borehole 42		SN2435
Depthmm	Reading	kPa	Strength
400	118	177	Vst
500	76	114	Vst
700	80	120	Vst
900	140	210	Н
1100	140	210	Н
1300	132	198	Vst
1500	140	210	Н
1700	140	210	Н

Location	Borehole 37		SN1875						
Depthmm	Reading	kPa	Strength						
300	140	190	Vst						
500	112	152	Vst						
700	123	167	Vst						
900	120	163	Vst						
1100	121	164	Vst						
1300	108	147	Vst						
1500	95	129	Vst						
1700	136	185	Vst						

Location	Borehole 39		SN1875					
Depthmm	Reading	kPa	Strength					
400	116	158	Vst					
500	66	90	St					
800	54	73	St					
900	116	158	Vst					
1100	140	190	Vst					
1300	140	190	Vst					
1500	140	190	Vst					
1700	99	134	Vst					

Location	Borehole 41		SN2033						
Depthmm	Reading	kPa	Strength						
300	49	78	St						
500	89	141	Vst						
700	110	174	Vst						
900	101	160	Vst						
1100	95	151	Vst						
1300	119	189	Vst						
1500	111	176	Vst						
1700	119	189	Vst						



Lot Specific Recommendations

				Subsurfa	ice Data			Founda	tions	Bu	S/V			De	3	င္ပ			
Lot No:	Area (m²)	Allowable Bearing Capacity (kPa)		division illing	Natural Topography Unworked	Topo Eartl	atural ography nworked Cut)*	Conventional Shallow Foundation to NZS 3604:2011	Specific Design	Building Restriction Line	S/W Specific Design Building Restriction		S/W Reticulate	Designated Building Platform	Minimum Building Platform Level	Compressible Soils	On-site Effluent Disposal	Consent Notice	
			Y/N	Depth (m)	Y/N	Y/N	Depth (m)	Y/N/NA	Y/N/NA	on	ign			ing	g	Š	t		Comment
1	416	100	Y	0.9	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
2	432	100	Y	1.5	N	N	-	Y	N	Υ	N	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
3	410	100	Y	1.3	N	N	-	Y	N	Y	N	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
4	425	100	Υ	1.5	N	N	-	Y	N	Y	N	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
5	416	100	Υ	1.3	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
6	410	100	Υ	0.9	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
7	414	100	Υ	1.7	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
8	406	100	Υ	0.8	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
9	420	100	Υ	1.7	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
10	421	100	Υ	1.4	N	N	-	Y	N	Y	N	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
11	423	100	Υ	0.7	N	N	-	Y	N	Y	Ν	N	Υ	N	N/A	N	N	N/A	1.5m offset for all significant structures from the retaining wall.
12	420	100	Υ	0.4	N	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
13	420	100	N	-	N	Y	0.5	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
27	540	100	N	-	N	Y	0.4	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
28	430	100	N	-	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	Buried topsoil encountered down to 0.4m.
29	480	100	Υ	0.7	N	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	

		Subsurface Data						Foundations & C			S/			De	3	ဂ္ဂ			
Lot No:	Area (m²)	Allowable Bearing Capacity (kPa)	Subo	division illing	Natural Topography Unworked	Topo Earth	atural ography nworked Cut)*	Conventional Shallow Foundation to NZS 3604:2011	Specific Design	Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Reticulate	Designated Building Platform	Minimum Building Platform Level	Compressible Soils	On-site Effluent Disposal	Consent Notice	
			Y/N	Depth (m)	Y/N	Y/N	Depth (m)	Y/N/NA	Y/N/NA	on	gn			ng	g	S			Comment
30	500	100	Υ	0.8	N	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
31	444	100	Υ	1.0	N	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
32	424	100	Υ	0.7	N	N	-	Υ	N	N	N	N	Υ	N	N/A	N	N	N/A	
33	486	100	Υ	0.6	N	N	-	Υ	N	N	N	N	Υ	N	N/A	N	N	N/A	
34	506	100	Ν	ı	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
35	438	100	Z	ı	N	Y	0.2	Y	N	N	N	N	Y	N	N/A	N	N	N/A	
36	459	100	Υ	0.2	N	Y	0.5	Υ	N	N	N	N	Υ	N	N/A	N	N	N/A	
37	532	100	N	1	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
38	481	100	N	-	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
39	565	100	N	1	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
40	445	100	N	-	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
41	422	100	N	-	Y	N	-	Y	N	N	N	N	Υ	N	N/A	N	N	N/A	
42	471	100	N	-	Y	N	-	Y	N	N	N	N	Y	N	N/A	N	N	N/A	

^{*}Cut and fill depths are approximate only.



Consent Notice Pursuant to Section 221 Resource Management Act 1991

File Ref: S/B/12049

Stage 1

IN THE MATTER OF:

Deposited Plan 527091

AND

IN THE MATTER OF:

Subdivision Consent pursuant to Sections 108, 220 and 221 of the Resource Management

Act 1991.

I, CHRIS WATT, Authorised Officer of the Western Bay of Plenty District Council, hereby certify that by way of resolution passed under delegated authority on 12 April 2017, the following condition was imposed on the subdivision consent for Lot 4 Deposited Plan S 27522 and Lot 1 Deposited Plan S 29449:

THAT pursuant to section 221 of the Resource Management Act 1991 consent notices are registered against the titles of Lot(s) 1-10, 28, 31-32,35-36, 39-40, 42 such that:

a) any future building development be in accordance with the recommendations of the geotechnical report prepared by Stratum Consultants Ltd dated 19 July 2018 reference: 629313-M-E-C024 or subsequent geotechnical reports prepared by a Chartered Professional Engineer or Engineering Geologist, suitably experienced to the satisfaction of the Principal Administrative Officer.

Dated at Tauranga this Zanday of January

2019

Authorised Officer

Land Use Site Details



Site ID :	LUR-WBP-00367	Printed: 14/05/2024						
Site Address(es) :	27 KAYELENE PL, Kaimai, Western	Bay of Plenty District						
,	18 Augusta Rise, Omokoroa, Western Bay of Plenty District							
	12 Augusta Rise, Omokoroa, Western Bay of Plenty District							
	11 Augusta Rise, Omokoroa, Western Bay of Plenty District							
	13A Augusta Rise, Omokoroa, West	tern Bay of Plenty District						
	20 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	23 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	7A Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	9 Augusta Rise, Omokoroa, Westerr	n Bay of Plenty District						
	25A Augusta Rise, Omokoroa, West	ern Bay of Plenty District						
	25B Augusta Rise, Omokoroa, West	ern Bay of Plenty District						
	14 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	5 Augusta Rise, Omokoroa, Westerr	n Bay of Plenty District						
	6 Augusta Rise, Omokoroa, Western	n Bay of Plenty District						
	10 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	15 Augusta Rise, Omokoroa, Western Bay of Plenty District							
	16 Augusta Rise, Omokoroa, Western Bay of Plenty District							
	19A Augusta Rise, Omokoroa, Western Bay of Plenty District							
	19B Augusta Rise, Omokoroa, West	tern Bay of Plenty District						
	17 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	8 Augusta Rise, Omokoroa, Westerr	n Bay of Plenty District						
	21 Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
	13B Augusta Rise, Omokoroa, West	ern Bay of Plenty District						
	7B Augusta Rise, Omokoroa, Weste	rn Bay of Plenty District						
Parcel(s)/Lot(s):	7952565 :							
	7952566 :							
	7952567 :							
	7952568 :							
	7952569 :							
	7952570 :							
	7952571 :							
	7952572 :							
	7952573 :							
	7952574 :							
	7952575 :							
	7952576:							
	7952577 :							

	7952578 :
	7952579 :
	7952580 :
	8057797 :
	8057798 :
	8057803 :
	8057804 :
	8057805 :
	8057806 :
	8057807 :
	8057808 :
	8249967 :
	8249968 :
	8249969 :
	8249970 :
	8249972 :
Classification:	Suitable for Land Use - Residential

Site (

Description

The land use history has been confirmed. The site has been confirmed as one that appears on the Hazardous Activities and Industries List (https://www.mfe.govt.nz/land/hazardous-activities-and-industries-list-hail). The information used in making this classification of the site contamination status is available in file held by Western Bay of Plenty District and file held by Bay of Plenty Regional Council.

Land Use

Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds

Site Information

December 2014: A review of aerial photographs from 2003, 2007 & 2011 has confirmed an orchard is located on this property, where persistent pesticides have been stored or used.

- 21 December 2016: Barrett Homes Ltd applied to Western Bay of Plenty District Council for subdivision consent (42 lots) and land use consent to construct more than one dwelling on the underlying properties prior to the completion of the subdivision at 19 - 27 Kaylene Place, Omokoroa (RC10334S). As part of the application, a Detailed Site Investigation (DSI) was prepared by Geo & Hydro – K8 Ltd and dated 12 October 2016. BOPRC had a number of concerns with the DSI report supplied including no testing at an accredited laboratory for targeted samples and reporting standards.
- 12 April 2017: Western Bay of Plenty District Council consent RC10334S was granted. Consideration has been given to the NES. The application site was used for pastoral purposes until about 1959, between 1959 and 1974 the site was converted to horticultural use and has remained as such to the present day. The proposal includes activities that will cause soil disturbance and which will change the use of the land to residential purposes. The site has been used historically as an orchard which is identified as a HAIL. A DSI has been undertaken for the site by Geo & Hydro - KB Ltd and dated 12 October 2016. The principal risk of soil contamination is associated with the historic spraying with agrichemicals (primarily pesticides and fertilisers). The DSI confirms that all contaminant concentrations are below human health and environmental guideline screening criteria. There is an elevated concentration of cadmium above background values. The NES permits a change of use where compliance with the requirements under Regulation 8(4) is met. The DSI report confirms it is highly unlikely to be a risk to human health from the proposed activity (subdivision and earthworks). No further investigation or remediation is required to be undertaken to support the current development proposal.

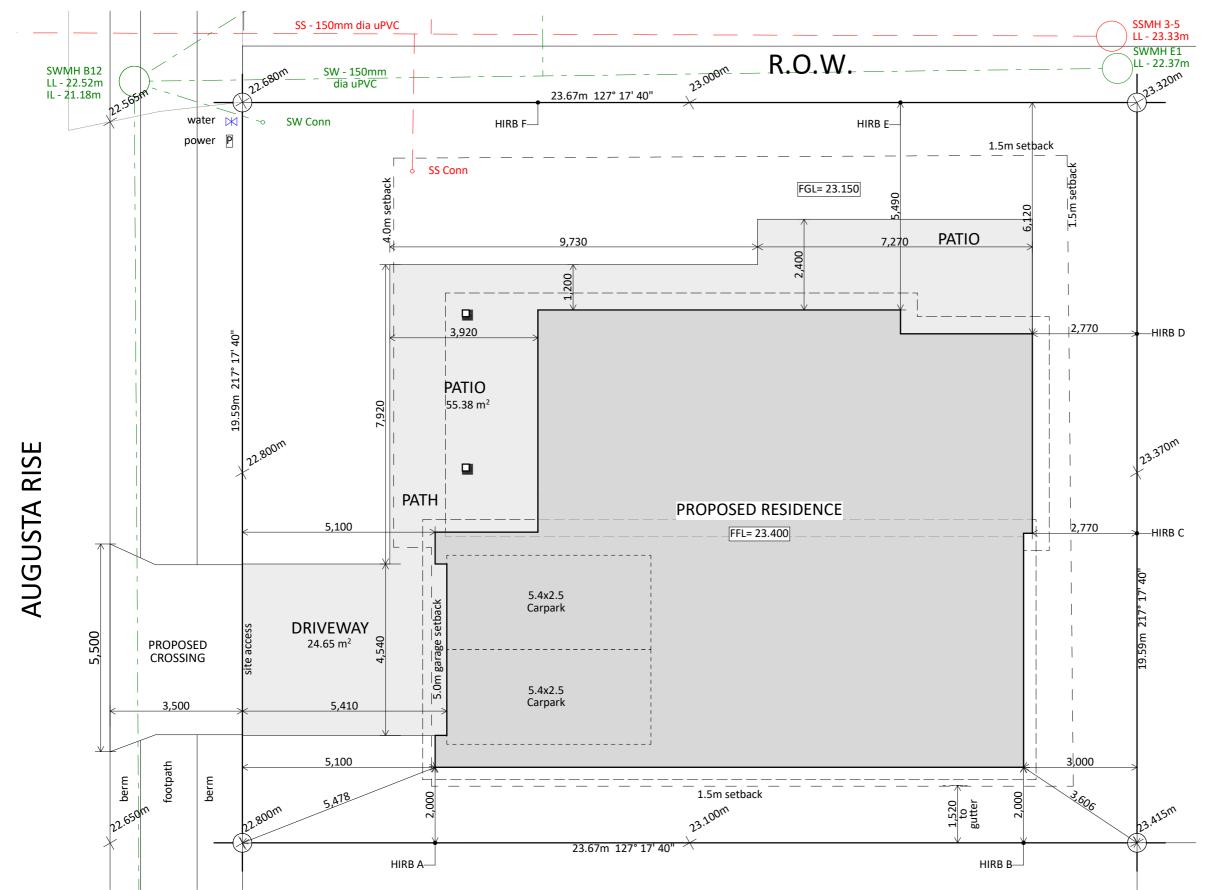
Other Information

The enclosed information is derived from the Western Bay of Plenty District Council and Bay of Plenty Regional Council's Selected Land Use register and is made available to you under the Local Government Official and Information Meetings Act 1987 (LGOIMA), Building Act 1991 or Privacy Act 2020.

The database has been established by the Western Bay of Plenty District Council and Bay of Plenty Regional Council for the purpose of performing its functions under the Resource Management Act 1991.

It has been compiled in accordance with national Site Classification and Information Management Protocols for Land Contamination.

This information reflects the Western Bay of Plenty District Council and Bay of Plenty Regional Council's current understanding of this site. The Western Bay of Plenty District Council, the Bay of Plenty Regional Council and their officers, employees and agents accept no liability for any inaccuracy in, or omission from, this information; or liability for any loss of damage suffered by any person which may directly or indirectly result from any person acting or refraining from acting on this information. This information has been prepared for the recipient to whom it is addressed and is intended for the recipient's use only. This is not intended to be relied on by any other party.



General notes:

Any encroachments shown are to be confirmed by a registered surveyor prior to commencement of foundations. No liability shall be held by designer with this confirmation.

Siteworks notes:

Ensure final building platform and finished ground have an even fall away from building.

All rubbish, noxious matter and organic matter shall be removed from the area to be covered by the building. Any fill to be dry and approved by engineer & compacted down in accordance with NZS.3604.2011.

- •Contractor to confirm on site all boundary bearings, lengths and peg locations on site prior to commencement of works, to ensure house position is correct.
- •Contractor to locate all service connections points on site prior to commencement of works. Check invert levels or pipes and manholes.
- Contractor to confirm plumbing routes and fixture positions on site prior to commencement of works.
 Any discrepancies found from consented plans, alert design@barretthomes.co.nz prior to continuation of site works.

All dimensions shown are to building foundations (unless stated otherwise)

Construction and Demolition Hazards

Contractor to install galvanised chainlink netting or hoarding barrier, 2m min height to site perimeter to comply with NZBC:F5 Construction and Demolition Hazards, prior to commencing construction.

Toeboards to be installed for prevention of objects falling off storage or access platforms as per NZBC F5 1.4

Sediment Control Notes:

Sediment and runoff control shall be designed and installed by the licensed building practitioner prior to, or, during the siteworks for the project. The sediment controls shall be installed in accordance with the requirements of the District Plan/Council requirements.

Site is flat.

All finished floor and ground levels are relative to Moturiki datum.



Site Info:

LOT: 36 DP: 527091 AREA: 436m²

Site Coverage:

170.16m² (House area) + 7.90m² (eaves over 1m) / 436m² (site area) = 0.408 = 41% Living Zone = Residential Max coverage = 50% RC10334v01S



			desig	n@barretthom	es.co.nz	Project No:	TGA-140	Plan Nam	e: New	Design	Sheet: 3	Rev:
	Wind:	Н	IGH	Designed:	TG	Drawing:	SITE PLAN				Council:	WBDC
'	EQ:		1	Drawn:	TG	Client Name:	CHRISTOPH	HER &	NER	ISSA SIN	MON	IS
Г	Exposur	re:	С	Check:	CW	Site Address:	LOT 36, STA	AGE 1				
	Date:	25/02	/2020	Scale:	1:100		9 AUGUSTA	A RISE,	, OM	IOKORO	Α	



Head Office: 1484 Cameron Road, Greerton, Tauranga 3143 Private Bag 12803, Tauranga Mail Centre, Tauranga 3143

Telephone: 07 571 8008. **F:** 07 577 9820 Email: customerservice@westernbay.govt.nz

CRENE, JAMES ALLAN

9 AUGUSTA RISE OMOKOROA 3114

Offices at: Waihi Beach, Katikati, Omokoroa and Te Puke

TAX INVOICE

REGISTRATION NO. 52-544-300

Invoice No: 405982

Date: 05 Sep 2025

Customer No: 208112

Your LIM25525

Reference:

DETAILS	GST	Excl	Amount
LIM APPLICATION AND DELIVERY FEES			
LIM Address: 9 AUGUSTA RISE CENTRAL			
LIM FEE	48.26	321.74	370.00
LESS DEPOSIT FEE ALREADY PAID (RECEIPT NO: 2026 38521)	48.26cr	321.74cr	370.00cr
Standard 10 working day service			
Please pay on this invoice. No	stateme	nt will be	issued.

TOTAL	\$0.00
GST	0.00
EXCL	0.00

Less already paid

TOTAL NOW DUE

REMITTANCE ADVICE: Online payments can be made by credit card at www.westernbay.govt.nz/invoice-payment or deposit to: **ANZ Tauranga 010434 0180600 00**, please enter **SI405982** in your payment reference. If paying by post, please detach and return with your payment to Private Bag 12803, Tauranga 3143.

CUSTOMER: CRENE, JAMES ALLAN

INVOICE NO: 405982

TOTAL DUE: \$

PAYMENT MADE: \$