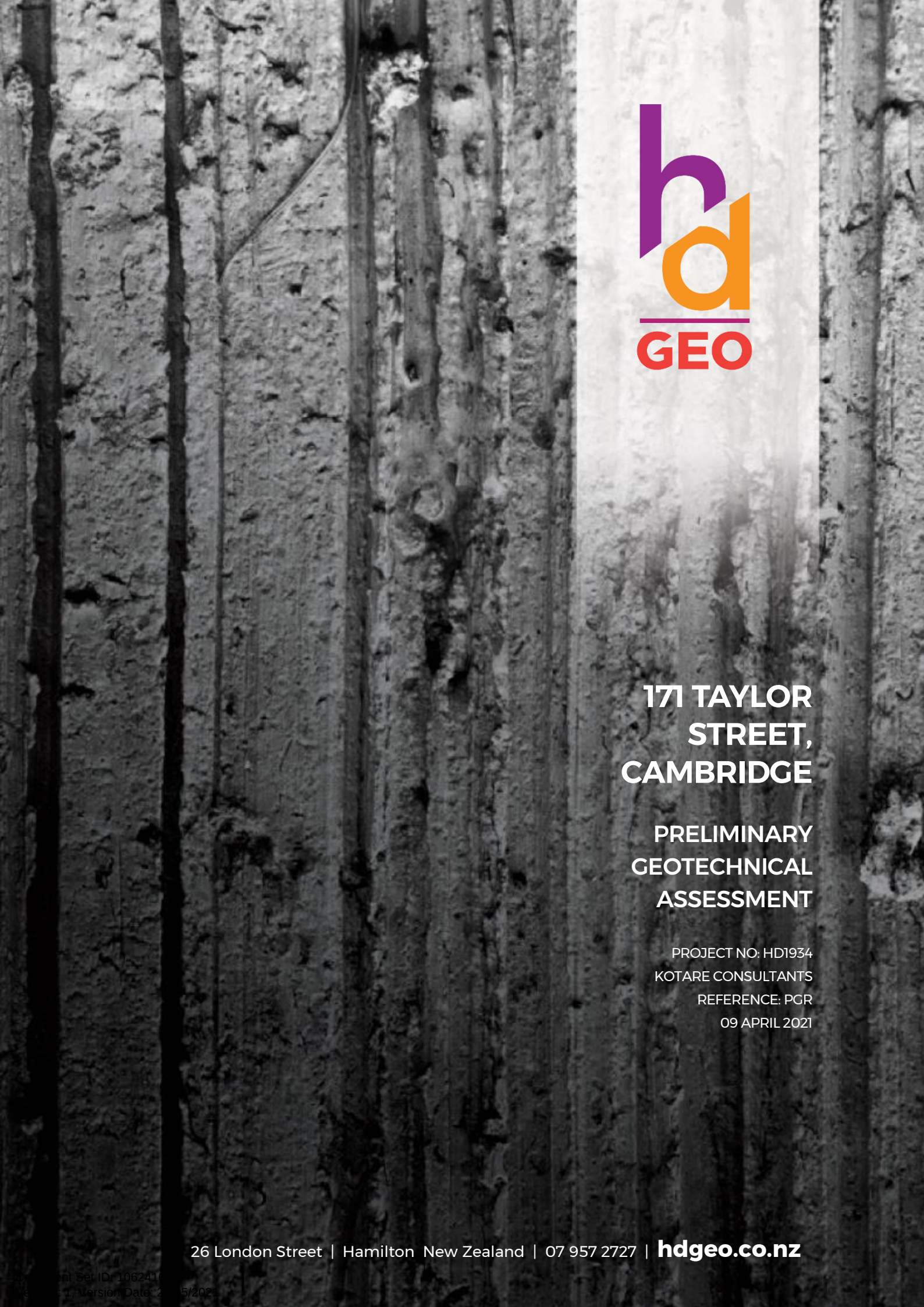

171 TAYLOR STREET, CAMBRIDGE

PRELIMINARY GEOTECHNICAL ASSESSMENT

PROJECT NO: HD1934
KOTARE CONSULTANTS
REFERENCE: PGR
09 APRIL 2021

26 London Street | Hamilton New Zealand | 07 957 2727 | **hdgeo.co.nz**

Executive summary

Introduction

Errol Hall has engaged us to undertake a preliminary geotechnical assessment for the site located at 171 Taylor Street, Cambridge. They propose to subdivide the site to create 1 additional lot. This report is intended to be submitted to the Waipa District Council in support of the subdivision consent application.

Our scope included

- a desktop study of the site to review existing information, including historical aerial images, geology maps, contour maps, and the NZ Geotechnical Database (NZGD)
- a hand auger investigation, including 1 hand auger with strength testing and 2 soakage tests
- a natural hazards assessment, including a qualitative liquefaction assessment
- preliminary stormwater recommendations
- preliminary foundation recommendations

Our key findings were

- ground conditions were consistent with the mapped Hinuera Formation
- the degree of liquefaction induced ground damage is likely to be 'none to minor'
- disposal of stormwater via soakage is not viable for the proposed lot and we recommend a detention type system
- the strength requirements for 'good ground' in accordance with NZS3604:2011 are not achieved due to low strength soils encountered
- deepened foundations are suitable for a suspended timber floor structure
- standard foundations (according to NZS3604:2011) with ground improvements to approx. 1.3 m below ground level or a raft type foundation designed for low bearing capacity are suitable for a concrete floor building

Contents

PREPARED BY: **Brad Kroef**

GRADUATE
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REVIEWED BY **Andrew Holland, CPEng**

TECHNICAL DIRECTOR, PRINCIPAL ENGINEER
Andrew@hdgeo.co.nz
Tel 022 048 8441

Introduction

Errol Hall proposes to subdivide the property located at 171 Taylor Street, Cambridge to create 1 new lot. We have been engaged to undertake a preliminary geotechnical assessment for the new lot. This report presents the results of our investigation and assessment for the proposed lot (Lot 2). A site plan showing the subdivision scheme is included in Appendix A.

This report is intended to be submitted to the Waipa District Council in support of an application for subdivision consent. Further testing and assessment will be needed at building consent stage.

Scope

The scope of our assessment included a:

- desktop study of the site to review existing information, including historical aerial images, geology maps, contour maps, and the NZ Geotechnical Database (NZGD)
- hand auger investigation, including 1 hand auger with strength testing and 2 soakage tests
- natural hazards assessment, including a qualitative liquefaction assessment
- preliminary stormwater recommendations
- preliminary foundation recommendations

Site description

The site is located at 171 Taylor Street, Cambridge. It is bounded by Taylor Street to the north and residential houses to all other boundaries. The site is flat and approximately 68 m above local datum. An existing dwelling is located on the northern side of the property within the proposed Lot 1 and a shed which is to be removed on the southern side within the proposed Lot 2. There is a gully and stream system located approximately 650 m to the south at approximately 22 m above local datum[1].

Desk study

Geological setting

The geology map of the area[2] indicates that the site is underlain by the Hinuera Formation, which is described as cross-bedded pumice sand, silt and gravel with interbedded peat.

Aerial photography

We have sourced historic photos of the site from Retrolens[3] and Google Earth[4]. Clear photos were available from 1939. The photos show that no significant changes were present until between 1953 and 1967 when the existing house on the property was built. No significant changes were seen on the site after 1967.

[1] Waikato Regional Council Contours, Local Maps, https://waikatomaps.waikatoregion.govt.nz/Viewer/?map=8d6d6fda779b4e59951953ae97d0ec4a, Accessed 23/03/2021.
[2] 1:250,000 Geological Map of New Zealand. New Zealand Geology Web Map. GNS, 2013. http://data.gns.cri.nz/. Accessed 23/03/2021.
[3] http://retrolens.nz/
[4] Google Earth Pro

NZGD

We have reviewed the NZ Geotechnical Database (NZGD) in the area of the site. The database has 2 sites within 200m with 8 hand augers in total. Ground conditions on these sites confirmed the geology mapped and encountered.

Site investigation

Our site investigation included a site walkover, 1 hand augers and 2 soakage tests. Soil logs and site plan can be seen in Appendix B.

Ground conditions

The materials we encountered on site were consistent with the mapped Hinuera Formation. Ground conditions on site consisted of:

- topsoil to 0.3 m below ground level (bgl)
- stiff clay with some silt to 0.7 m bgl
- loose silty sand to 0.9 m bgl
- stiff silty clay to 1.2 m bgl
- medium dense to dense sand to 3.0 m bgl

Groundwater

Groundwater was not encountered during this investigation up to a depth of 3.0 m bgl. Groundwater is expected to be at a depth greater than 4 m bgl.

Geotechnical assessment

Natural hazards

- Earthquake: The site subsoil class is D 'Deep or soft soils'. For Earthquake induced liquefaction see liquefaction section below.
- Tsunami, volcanic, geothermal, or sedimentation activity: The site is not near any known sources of these risks.
- Landslips: The site is level with no anticipated instability
- Erosion: No indications of erosion were observed during the site investigation and we consider the site to be at low risk of damage due to erosion.
- Subsidence: Risk of the site to general subsidence is low.

Liquefaction

We have undertaken a qualitative liquefaction assessment for the site using the latest guidelines. This assessment qualifies as a Level B (calibrated desk study) in accordance with the 2017 planning guidelines[5]. Class D soils have been assumed for this assessment.

A desktop study, conducted by Tonkin and Taylor[6], was carried out for the Hamilton City Council to help define the liquefaction risk within Hamilton City. The site is in the same geology as the HCC desk study. The sites 1/500 year event peak ground acceleration was calculated to be 0.25g[7]. The 1/1000

[5] Earthquake Commission (EQC) / Ministry for the Environment and Ministry of Business, Innovation and Employment. 'Planning and engineering guidance for potentially liquefaction prone land' Rev 01. Dated September 2017.
[6] 'Liquefaction Desktop Study' prepared by Tonkin & Taylor for Hamilton City Council, Ref No. 1007144.v1.1, dated February 2019
[7] New Zealand Transport Agency (October 2018). Bridge Manual (SP/M/022). Third edition, Amendment 3

year peak ground acceleration used in the HCC desk study is 0.28g. The HCC desk study 1/1000 year event can be used for a conservative assessment. The HCC outputs used can be seen in Appendix C.

As discussed above, the groundwater at the site is expected to be at depths greater than 4 m bgl. Using the 1/1000 year analysis in the desk study, for an expected groundwater of 4m, the degree of liquefaction induced ground damage is likely to be none to minor.

As the liquefaction effects are likely to be none to minor, no further consideration of liquefaction is needed.

Preliminary stormwater assessment

We undertook a falling head permeability test in general accordance with NZBC Verification Method E1/VM4[8] to determine the soakage capacity of the soils within the site. Tests were undertaken on the northern end of the access area and the south western corner of Lot 2.

Typical ground conditions within the soakage tests consisted of topsoil underlain by silts and sands consistent with the Hinuera Formation.

We determined percolation rates to be the following and can be seen in Appendix B:

Soakage test	Depth of test (m bgl)	Soakage rate (mm/hr)	Design soakage rate (mm/hr)*
ST01	2.0	268	133
ST02	2.0	182	90

* a 50% reduction rate has been applied as per the RITS[9]

The design soakage rates shown are below the minimum soakage threshold of 150 mm/hr specified in the RITS. Based on the soakage rate and soils encountered we consider disposal of stormwater via soakage not viable for the proposed lot. We recommend a detention type system with a slow release to the kerb.

Preliminary foundation recommendations

The strength requirements of 'good ground' according to NZS 3604:2011 were not met below the topsoil across the site up to a depth of 1.3 m. For a suspended timber floor building we expect standard NZS3604:2011 foundations deepened to at least 1.3 m bgl to be suitable. For a concrete floor building we expect standard NZS3604:2011 foundations with ground improvements or a raft type foundation designed for a reduced bearing capacity to be suitable.

Ground improvements would include excavation to remove topsoil and any soft, loose or unsuitable material. Any excavation would be replaced with compacted hardfill. Our preliminary testing indicates excavation depth would be to approximately 1.3 m.

[8] Ministry of Business, Innovation & Employment, 'Acceptable Solutions and Verification Methods, For New Zealand Building Code Clause, E1 Surface Water', 1st Edition Amendment 10, dated 1 January 2017
[9] 'Regional Infrastructure Technical Specification' v1.0, Waikato Local Authority Shared Services, dated May 2018

Summary

- ground conditions were consistent with the mapped Hinuera Formation
- the degree of liquefaction induced ground damage is likely to be 'none to minor'
- disposal of stormwater via soakage is not viable for the proposed lot and we recommend a detention type system
- the strength requirements for 'good ground' in accordance with NZS3604:2011 are not achieved due to low strength soils encountered
- deepened foundations are suitable for a suspended timber floor structure
- standard foundation (according to NZS3604:2011) with ground improvements or a raft type foundation designed for low bearing capacity are suitable for a concrete floor building

Further investigation, assessment and design will be required at building consent stage.

Limitation

This report has been prepared for our client, Errol Hall, their professional advisers and the relevant local authority for the purposes detailed above and may not be relied on by any other party for any other purposes. This report contains a preliminary assessment to establish suitability for subdivision based on a site walkover and testing in discrete locations. Inferences about the conditions at the site have been made based on the testing undertaken and our understanding of the geological environment in which the site lies. We recommend that a suitably qualified engineer is engaged to undertake further testing and assessment for building consent, and to observe works during the site preparation.

APPENDIX A – SUBDIVISION SCHEME

MEMORANDUM OF EASEMENTS (Pursuant to s243 Resource Management Act 1991)			
Purpose /Interest	SHOWN	Burdened Land (Servient Tenement)	Benefited Land (Dominant Tenement)
RIGHT TO DRAIN SEWAGE	Ⓐ	LOT 2 HEREON	LOT 1 HEREON
	Ⓑ	LOT 2 DPS 5001	LOTS 1 & 2 HEREON

PROPERTY DETAILS:

LEGAL DESCRIPTION:

LOT 4 DEEDS 605
- AREA: 0.1012 Ha
- COMPRISED IN SA1404/6 (Ltd.)
- WAIPA DISTRICT COUNCIL
- ZONING: RESIDENTIAL COMPACT HOUSING OVERLAY

NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953 WHERE APPLICABLE
2. DATUM MARK TBC
3. CONTOUR INTERVAL N/A
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

KOTARE CONSULTANTS
Shop 4 Victoria Arcade 75 Victoria Street Cambridge 3434 NZ
Tel: 07 827 5340
www.kotareconsultants.co.nz
ciaran@kotareconsultants.co.nz

PLAN TITLE

SUBDIVISION CONCEPT PLAN
Lots 1 and 2 Being a Subdivision of LOT 4 DEEDS 605 AT 171 TAYLOR STREET, CAMBRIDGE 3434
ERROL MURRAY HALL

REVISION		
Rev0	Original	2 NOV 2020

DATE: NOVEMBER 2020

CAD: CPM

JOB: 1014

ORIGINAL SCALE AT A3: 1:250

SHEET: 00

REV 0

C:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1014 HALL (171 TAYLOR)\1 SUBDIVISION CONCEPT PLAN\1014-00 SUBDIVISION CONCEPT PLAN REV0.DWG

Document Set ID: 10624160
Version: 1, Version Date: 28/05/2021

APPENDIX B – SITE INVESTIGATION RESULTS

LEGEND

Hand auger

Site boundary

PROJECT: 171 Taylor Street, Cambridge

PROJECT No: HD1938

CLIENT: Errol Hall

TITLE: Site plan

SCALE: N/A

Drawing No: 01

Drawing By: BK

Rev no:

1	Initial

INVESTIGATION LOG

Job No.:	HD1938
No.:	HA01
Client:	Errol Hall
Project:	171 Taylor St, Cambridge
Location:	Northwestern corner of Lot 2.
Co-ordinates:	1817917mE, 5804569mN
Elevation:	Ground
Date:	26.03.21
Logged By:	AM
Checked By:	BS

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Topsoil	TOPSOIL; dark brown. Dry; rootlets.	0.2
Loam	CLAY, with some silt; yellowish brown. Stiff; dry; moderate plasticity.	0.4
		0.6
Hinuera Formation	Silty SAND; light greyish yellow. Loose; dry; low dilatency; uniformly graded; sand, fine.	0.8
	Silty CLAY, with some sand; white with minor orange mottles. Stiff to very stiff; dry; moderate plasticity; sand, fine.	1.0
		1.2
	SAND, with minor gravel; greyish brown. Medium dense to dense; moist; well graded; sand, coarse; gravel, fine.	1.4
	1.2 m - 1.3 m: Changes to Silty SAND; brownish orange.	1.6
		1.8
		2.0
		2.2
		2.4
		2.6
	2.7 m - 2.9 m: Changes to brownish orange.	2.8
	EOH: 3.00 m	3.0

Legend

Scala Penetrometer (Blows / 100 mm)

Depth (m)	Blows / 100 mm
0.2	5, 3
0.4	4, 4
0.6	7, 5
0.8	3, 3
1.0	2, 3
1.2	3, 3, 3
1.4	3, 6
1.6	7, 5
1.8	8, 7
2.0	5, 7
2.2	8, 10
2.4	12, 10
2.6	11, 9
2.8	8, 9
3.0	11, 8

Vane Shear Strength (kPa) — Vane: 2108

Depth (m)	Peak	Remoulded
0.4	160	34
0.6	97	19
1.0	196	31
1.2	175	25

Water: Groundwater Not Encountered

Photo

Remarks

End of log at 3.0 m - target depth.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

Investigation Type
- [x] Hand Auger
- [ ] Investigation Pit
- [ ] Machine Borehole

INVESTIGATION LOG

Client:	Errol Hall	**Job No.:**	HD1938
Project:	171 Taylor St, Cambridge	**No.:**	ST01
Location:	Northern end of access are of Lot 2.	**Date:**	26.03.21
Co-ordinates:	1817934mE, 5804587mN	**Logged By:**	AM
Elevation:	Ground	**Checked By:**	BS

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Topsoil	TOPSOIL; brown; bedded. Rootlets.	0.2
Loam	Sandy SILT; light yellowish brown. Medium dense; dry; moderate dilatency; sand, fine.	0.4
Hinuera Formation	Sandy SILT; light greyish yellow. Medium dense to dense; dry; moderate plasticity.	0.6
		0.8
	SAND; dark yellowish brown. Medium dense to dense; moist; well graded; sand, coarse.	1.0
		1.2
		1.4
	Silty SAND, with minor clay, with trace gravel; light grey. Dense; moist; well graded; sand, coarse; gravel, fine.	1.6
		1.8
	EOH: 2.00 m	2.0

Legend

Scala Penetrometer (Blows / 100 mm): 2 4 6 8 10 12 14 16 18

Vane Shear Strength (kPa) Vane: 50 100 150 200 250

Water: Groundwater Not Encountered

Photo

Remarks

End of log at 2.0 m - target depth.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

Investigation Type
- [ ] Hand Auger
- [ ] Investigation Pit
- [x] Machine Borehole

Generated with CORE-GS by Geroc - 7/04/2021 12:17:22 PM

INVESTIGATION LOG

Client:	Errol Hall
Project:	171 Taylor St, Cambridge
Location:	Southeastern corner of Lot 2.
Co-ordinates:	1817935mE, 5804559mN
Elevation:	Ground

Job No.:	HD1938
No.:	ST02
Date:	26.03.21
Logged By:	AM
Checked By:	BS

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Topsoil	TOPSOIL; dark brown. Rootlets.	0.2
Loam	SILT, with some sand, with minor clay; brownish orange. Medium dense; dry; low dilatency.	0.4
Hinuera Formation	Sandy SILT, with some clay; light greyish yellow. Medium dense to dense; dry; moderate plasticity.	0.6
		0.8
		1.0
	SAND, with trace gravel; light greyish brown. Dense; moist; well graded; sand, coarse; gravel, fine.	1.2
		1.4
		1.6
		1.8
	EOH: 2.00 m	2.0

Legend

Scala Penetrometer (Blows / 100 mm): 2 4 6 8 10 12 14 16 18

Vane Shear Strength (kPa) Vane: 50 100 150 200 250

Water: Groundwater Not Encountered

Photo

Remarks

End of log at 2.0 m - target depth.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

Investigation Type
- [ ] Hand Auger
- [ ] Investigation Pit
- [x] Machine Borehole

Job name	171 Taylor Street
Job number	HD1938
Date	31/03/2021
Plotted by	BK
Reviewed by	BS

Perc test results

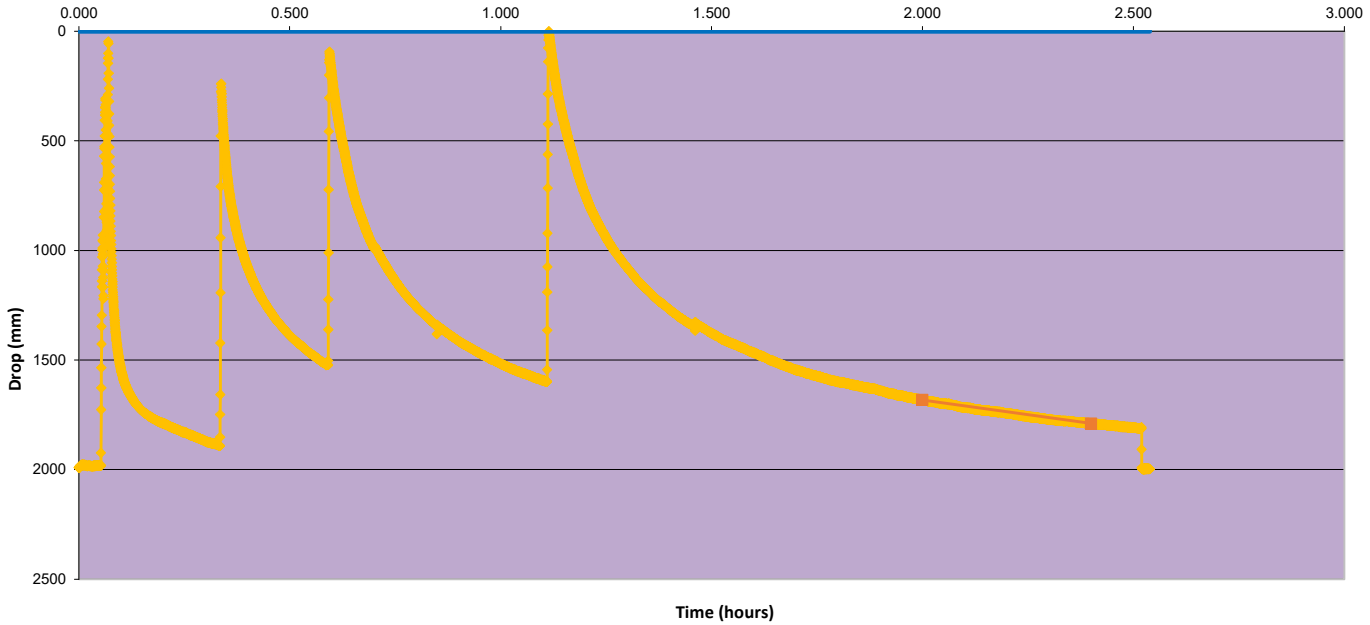
ST01

Calculated in general accordance with E1/VM1 - Surface Water, Section 9.0

Hole depth: 2.000 m

Ground water depth: None m

Notes:



Percolation rate calculation:

Time (Hour)	Drop (mm)	
2.00	1683	Minimum slope (lower)
2.40	1790	Minimum slope (upper)

Percolation rate = 268 mm/hr

50% Percolation rate = **133 mm/hr**

Job name	171 Taylor Street
Job number	HD1938
Date	31/03/2021
Plotted by	BK
Reviewed by	BS

Perc test results

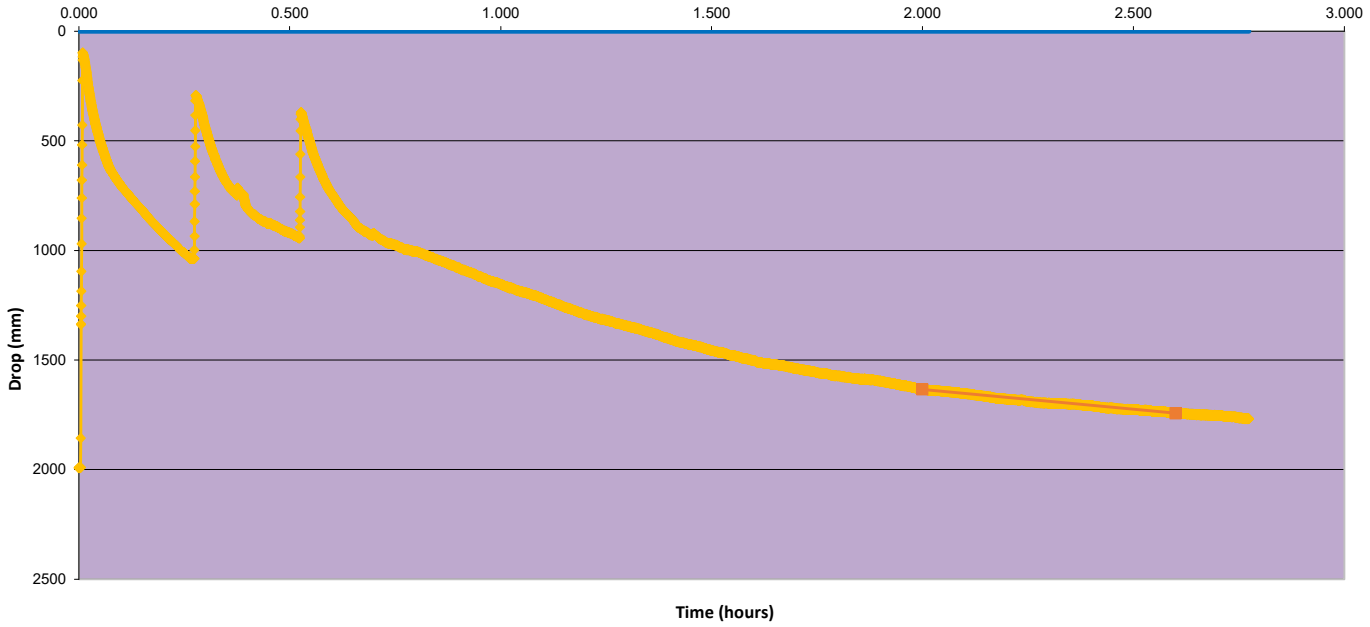
ST02

Calculated in general accordance with E1/VM1 - Surface Water, Section 9.0

Hole depth: 2.000 m

Ground water depth: None m

Notes:



Percolation rate calculation:

Time (Hour)	Drop (mm)	
2.00	1634	Minimum slope (lower)
2.60	1743	Minimum slope (upper)

Percolation rate = 182 mm/hr

50% Percolation rate = **90 mm/hr**

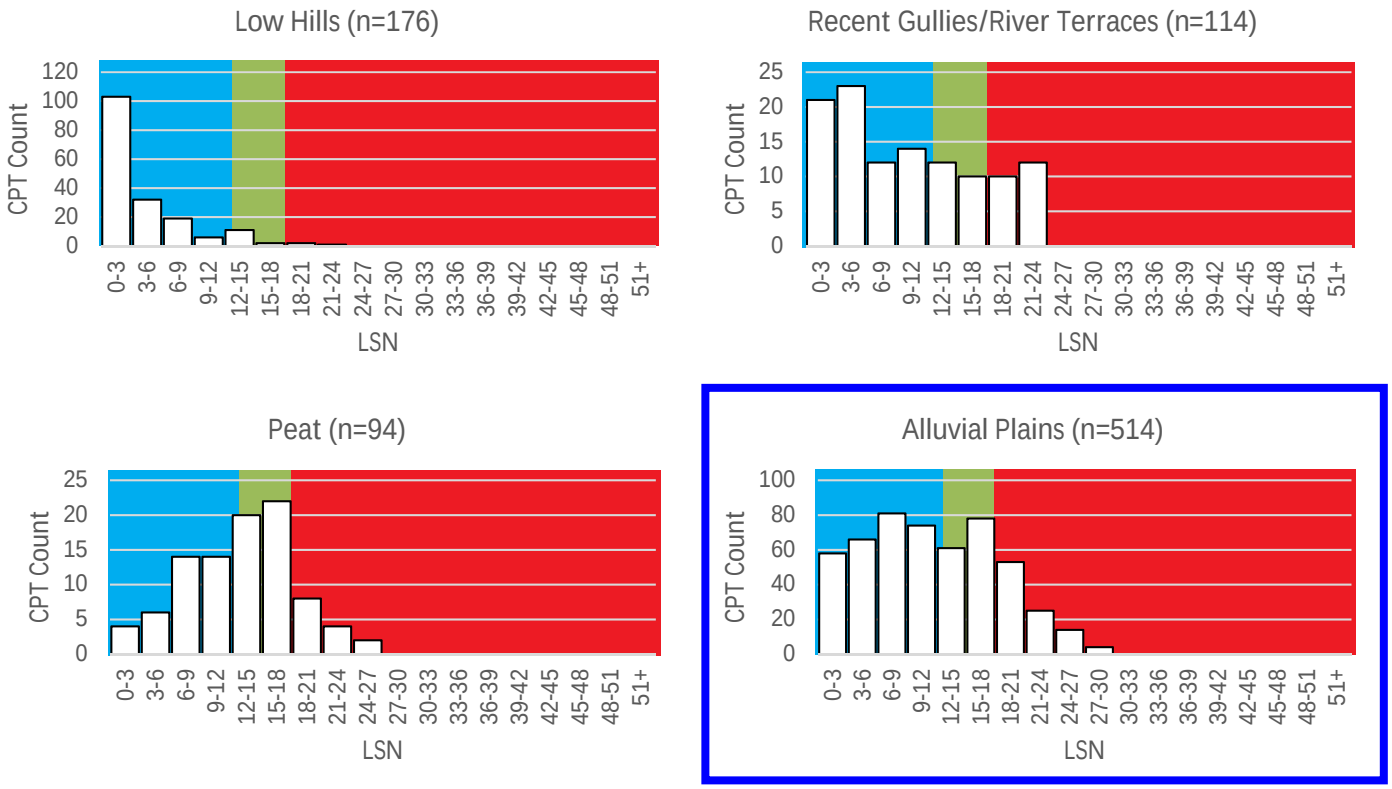
APPENDIX C – HCC LIQUEFACTION OUTPUTS

Figure C2.14

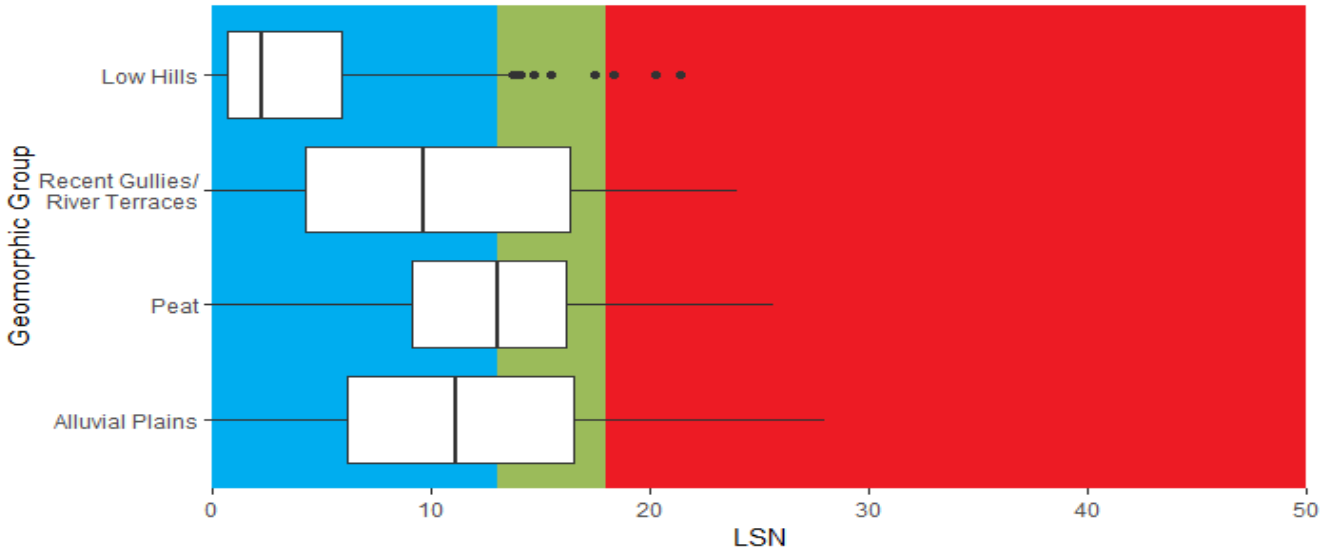
CPT based liquefaction analysis

Scenario: 1000 yr ARI (Mw=5.9,PGA = 0.28g) 4m GWD

Histograms of LSN values by geomorphic group



Box and whisker plot of LSN values by geomorphic group



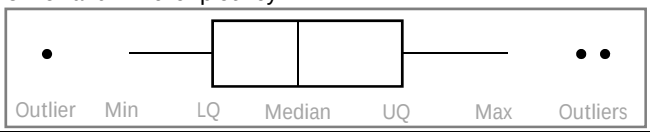
Legend

Degree of liquefaction induced ground damage	Characteristic LSN values (P_L=15%)
None to Minor	0-13
Minor to Moderate	13-18
Moderate to Severe	>18

These values are intended only for use in area-wide hazard assessment using the MBIE (2017) performance criteria. Different values may be more appropriate for other purposes (such as site-specific design).

Notes

1. Refer to Table 2.2 and Appendix A of the MBIE liquefaction guidance document for further information about land damage categories.
2. Liquefaction analyses are undertaken assuming a probability of liquefaction (P_L) of 15%. (Refer to section 4.2 for further detail)
3. Box and Whisker plot key:



APPENDIX D

CCTV REPORT

"It's A Dirty Job But Someone Has To Do It!"

- JETTING & CLEANING WORKS
- CCTV MAINLINE UPTO 2.3M DIAMETER
- CCTV PUSH ROD CAMERAS
- TRACE AND LOCATING
- SUBDIVISONS AND FAULT DIAGNOSIS
- VACCUM LOADING AND SEPTIC TANKS

facebook.com/AssassinDrainageSolutions assassin.co.nz PH:0800 938 538

Documentation For

CCTV-inspection

Contractor	**Assassin Drainage Solutions Ltd**
Client	**Kotare Consultants**
Contract No.	

Project **171 Taylor Street**

Standard	**New Zealand Pipe Inspection created with can3D®**

Comments:

Document Set ID: 10624160
Version: 1, Version Date: 28/05/2021

"It's A Dirty Job But Someone Has To Do It!"

- JETTING & CLEANING WORKS
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Measurements report

Operator Aaron
Client Kotare Consultants
Contract No.
Contractor Assassin Drainage Solutions Ltd

	Total	Insp. m
Length of all pipes	**0.00**	**24.80**
Sum of all images	**14**	

No.	Upper point	Lower point	Date	Street	Material/Dia	Kind of water	m	Insp....	
1	171 Taylor St…	1332648	26/02/20…	171 Taylor Street	EW /100	Foul/sanitary se…		24.8	14
EW - 100/100							0	24.8	14

Pipe Summary Report

New Zealand Pipe Inspection

Client
Kotare Consultants

Contract No.

Drawing No.

Inspection No. 1

Operator

Camera Operator
Aaron

Weather
Dry Weather

Inspection Completion
Inspection Complete

Currency of Inspection
Current Inspection

Status of Pipe
Original Condition

Comments

Time Started 4:07 PM

Date Started 26/02/2021

Asset No. 171 Taylor Street
Upper Node 171 Taylor Street
Lower Node 1332648
Surface Mown Lawn

Set-up upstream
Line Length (m)
Surveyed Length (m) 24.8
Location Private Property - Yard

Shape Circular Pipe
Material Earthenware
Use Foul/sanitary sewer
Pipeline Height (Diameter in mm) 100

Grading Structural	Structural Mean	Structural Peak	Structural Total	Grading Service	Service Peak	Service Mean	Service Total
5	**4.1**	50.0	101.0	3	10.0	1.0	25.0

171 Taylor Street

0.00m (25.49m)		IS	00:05	Inspection Start
1.63m (23.86m)	2 5	JFL	00:17	Joint, Faulty, Large, 3-11 o'clock, Joint has root intrusion .
1.63m (23.86m)	5	RIS	00:17	Root Intrusion, Small, 8-3 o'clock
2.31m (23.18m)	1	JFS	00:21	Joint, Faulty, Small, 8-3 o'clock, Joint has root intrusion .
2.31m (23.18m)	5	RIS	00:21	Root Intrusion, Small, 8-3 o'clock
2.86m (22.63m)	2 5	JFL	00:27	Joint, Faulty, Large, 12-12 o'clock, Circumferential crack in joint zone and root intrusions.
2.86m (22.63m)	5	RIS	00:27	Root Intrusion, Small, 12-12 o'clock
3.50m (21.99m)	2 5	JFL	00:31	Joint, Faulty, Large, 9-3 o'clock, Joint has root intrusion .
3.50m (21.99m)	5	RIS	00:32	Root Intrusion, Small, 9-3 o'clock
5.49m (20.00m)	2 5	JFL	00:42	Joint, Faulty, Large, 9-3 o'clock, Joint has root intrusion .
5.49m (20.00m)	5	RIS	00:42	Root Intrusion, Small, 9-3 o'clock
6.59m (18.90m)		MC	00:49	Material Change, EW TO PVC
6.59m (18.90m)	0	JDS	00:50	Joint, Displaced, Small, Jointing method has moved .
6.81m (18.68m)		LR	00:54	Line Deviates, Right
7.98m (17.51m)		LL	00:59	Line Deviates, Left
8.24m (17.25m)		MC	01:06	Material Change, PVC TO EW
8.24m (17.25m)	0	JDS	01:06	Joint, Displaced, Small
23.77m (1.72m)		CF	02:41	Construction Feature, 11-1 o'clock Inspection Lid.
24.91m (0.58m)		LD	02:49	Line Deviates, Down
25.49m (0.00m)		IE	02:56	Inspection Ends, Connection to Main .

1332648

"It's A Dirty Job But Someone Has To Do It!"

- JETTING & CLEANING WORKS
- CCTV MAINLINE UPTO 2.3M DIAMETER
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Image report pipe

Contract No.		**Time Started**	**Date Started**
		4:07 PM	26/02/2021
Asset No.	171 Taylor Street	**Parallel Line**	
Upper Node	171 Taylor Street	**Line Length (m)**	
Lower Node	1332648	**Material**	Earthenware
Pipeline Height (Diameter in…	**100**	**Shape**	Circular Pipe
Pipeline Width (mm)		**Joint Spacing**	

Operator		**Surveyed Length (m)**	24.8
Camera Operator	Aaron		
Currency of Inspection	Current Inspection	**Set-up**	upstream
Inspection Completion	Inspection Complete	**Inspection No.**	1

Inspection Start

Position 0.00m

Code abbreviations IS

Damage category

Joint, Faulty, Large, 3-11 o'clock, Joint has root intrusion .

Position 1.63m

Code abbreviations JFL

Damage category 25

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- TRACE AND LOCATING
- SUBDIVISONS AND FAULT DIAGNOSIS
- VACCUM LOADING AND SEPTIC TANKS

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Image report pipe

Contract No.

Asset No. 171 Taylor Street
Upper Node 171 Taylor Street
Lower Node 1332648
Pipeline Height (Diameter in… **100**
Pipeline Width (mm)

Parallel Line
Line Length (m)
Material Earthenware
Shape Circular Pipe
Joint Spacing

Joint, Faulty, Small, 8-3 o'clock, Joint has root intrusion .

Position 2.31m

Code abbreviations JFS

Damage category 1

Joint, Faulty, Large, 12-12 o'clock, Circumferential crack in joint zone and root intrusions.

Position 2.86m

Code abbreviations JFL

Damage category 25

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Image report pipe

Contract No.

Asset No.	171 Taylor Street	**Parallel Line**	
Upper Node	171 Taylor Street	**Line Length (m)**	
Lower Node	1332648	**Material**	Earthenware
Pipeline Height (Diameter in…	**100**	**Shape**	Circular Pipe
Pipeline Width (mm)		**Joint Spacing**	

Joint, Faulty, Large, 9-3 o'clock, Joint has root intrusion .

Position 3.50m

Code abbreviations JFL

Damage category 25

Joint, Faulty, Large, 9-3 o'clock, Joint has root intrusion .

Position 5.49m

Code abbreviations JFL

Damage category 25

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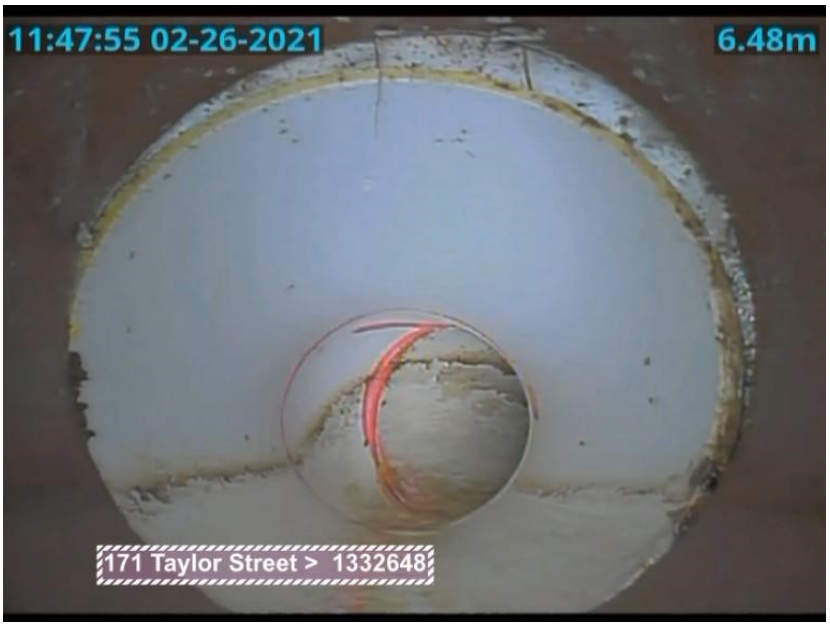
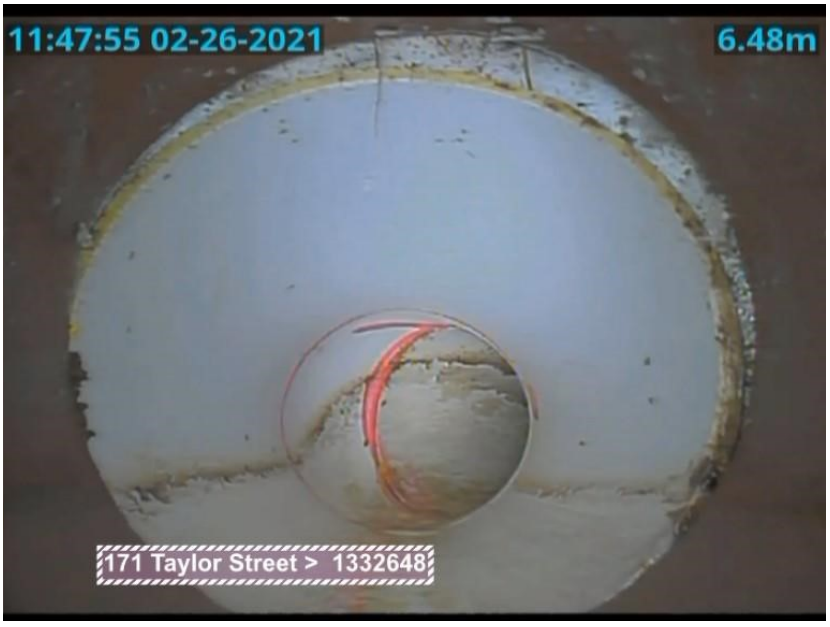
Image report pipe

Contract No.

Asset No. 171 Taylor Street
Upper Node 171 Taylor Street
Lower Node 1332648
Pipeline Height (Diameter in… **100**
Pipeline Width (mm)

Parallel Line
Line Length (m)
Material Earthenware
Shape Circular Pipe
Joint Spacing

Material Change, EW TO PVC	
Position 6.59m	
Code abbreviations MC	
Damage category	

Joint, Displaced, Small, Jointing method has moved .	
Position 6.59m	
Code abbreviations JDS	
Damage category 0	

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- TRACE AND LOCATING
- SUBDIVISONS AND FAULT DIAGNOSIS
- VACCUM LOADING AND SEPTIC TANKS

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Image report pipe

Contract No.

Asset No. 171 Taylor Street
Upper Node 171 Taylor Street
Lower Node 1332648
Pipeline Height (Diameter in… **100**
Pipeline Width (mm)

Parallel Line
Line Length (m)
Material Earthenware
Shape Circular Pipe
Joint Spacing

Line Deviates, Right

Position 6.81m

Code abbreviations LR

Damage category

Line Deviates, Left

Position 7.98m

Code abbreviations LL

Damage category

"It's A Dirty Job But Someone Has To Do It!"

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- CCTV PUSH ROD CAMERAS
- TRACE AND LOCATING
- SUBDIVISONS AND FAULT DIAGNOSIS
- VACCUM LOADING AND SEPTIC TANKS

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Image report pipe

Contract No.

Asset No.	171 Taylor Street	**Parallel Line**	
Upper Node	171 Taylor Street	**Line Length (m)**	
Lower Node	1332648	**Material**	Earthenware
Pipeline Height (Diameter in…	**100**	**Shape**	Circular Pipe
Pipeline Width (mm)		**Joint Spacing**	

Material Change, PVC TO EW

Position 8.24m

Code abbreviations MC

Damage category [redacted]

Construction Feature, 11-1 o'clock Inspection Lid.

Position 23.77m

Code abbreviations CF

Damage category [redacted]

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Image report pipe

Contract No.

Asset No. 171 Taylor Street
Upper Node 171 Taylor Street
Lower Node 1332648
Pipeline Height (Diameter in… **100**
Pipeline Width (mm)

Parallel Line
Line Length (m)
Material Earthenware
Shape Circular Pipe
Joint Spacing

Line Deviates, Down

Position 24.91m

Code abbreviations LD

Damage category [redacted]

Inspection Ends, Connection to Main .

Position 25.49m

Code abbreviations IE

Damage category [redacted]

APPENDIX E

Application Plan

TAYLOR STREET
LEGAL ROAD SEALED AND IN USE

N

Ex. 100Ø AC Principal Main

DATUM:
NAIL in Seal
RL = 67.72 (TOP)

Sign

Existing Crossing

Proposed Crossing

Proposed WM

Ex. WM

266°31'40"
19.7

Proposed Outdoor Living 63m2

5.1

5.0

171

266°31'40"
5.5

Existing Dwelling

Lot 1
403 m²

356°36'30"
15.83

Lot 1
DPS 13968

Lot 1
DPS 79729

18.77
356°36'00"

40°24'
7.39

356°36'30"
39.90

86°16'00"
14.57

A

Lot 2
514 m² Net
602 m² Gross

Existing Garage within 2 years of obtaining Title

2m Wide Easement

21.22
356°36'00"

Proposed 100Ø WW

Ex 100Ø 1.4d

266°19'20"
25.17

Lot 3
DPS 69514

Ex 150Ø EW

67.90 68.00 68.10 68.20 68.30 68.40 68.50 67.80 67.70 67.60

PROPERTY DETAILS:
LEGAL DESCRIPTION:
LOT 4 DEEDS 605

- AREA: 1012m2
- RT SA1404/6 Ltd
- WAIPA DISTRICT COUNCIL
- ZONING: RESIDENTIAL

NOTES:

1. HEIGHTS ARE IN TERMS OF MOTURIKI VERTICAL DATUM 1953 (MOT53)
2. DATUM NAIL IN SEAL RL = 67.72
3. CONTOUR INTERVAL = 0.1m
4. AREAS AND DIMENSIONS SHOWN ARE SUBJECT TO FINAL SURVEY.

Kotare CONSULTANTS

PLAN TITLE

SUBDIVISION CONSENT APPLICATION PLAN
LOTS 1 and 2 Being a Subdivision of
LOT 4 DEEDS 605
At 171 TAYLOR STREET, CAMBRIDGE 3434
ERROL MURRAY HALL

REVISION	Rev0 Original	30 MAR 2021
DATE	30 MARCH 2021	
CAD	CPM	

JOB	SHEET
1014	01
SCALE AT A3	Rev 0
1:150	

c:\USERS\CIARA\KOTARE CONSULTANTS\KOTARE PROJECTS - DOCUMENTS\1014 HALL (171 TAYLOR)\1014-01 HALL (TAYLOR) SUBDIVISION CONSENT PLAN REV0.DWG

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