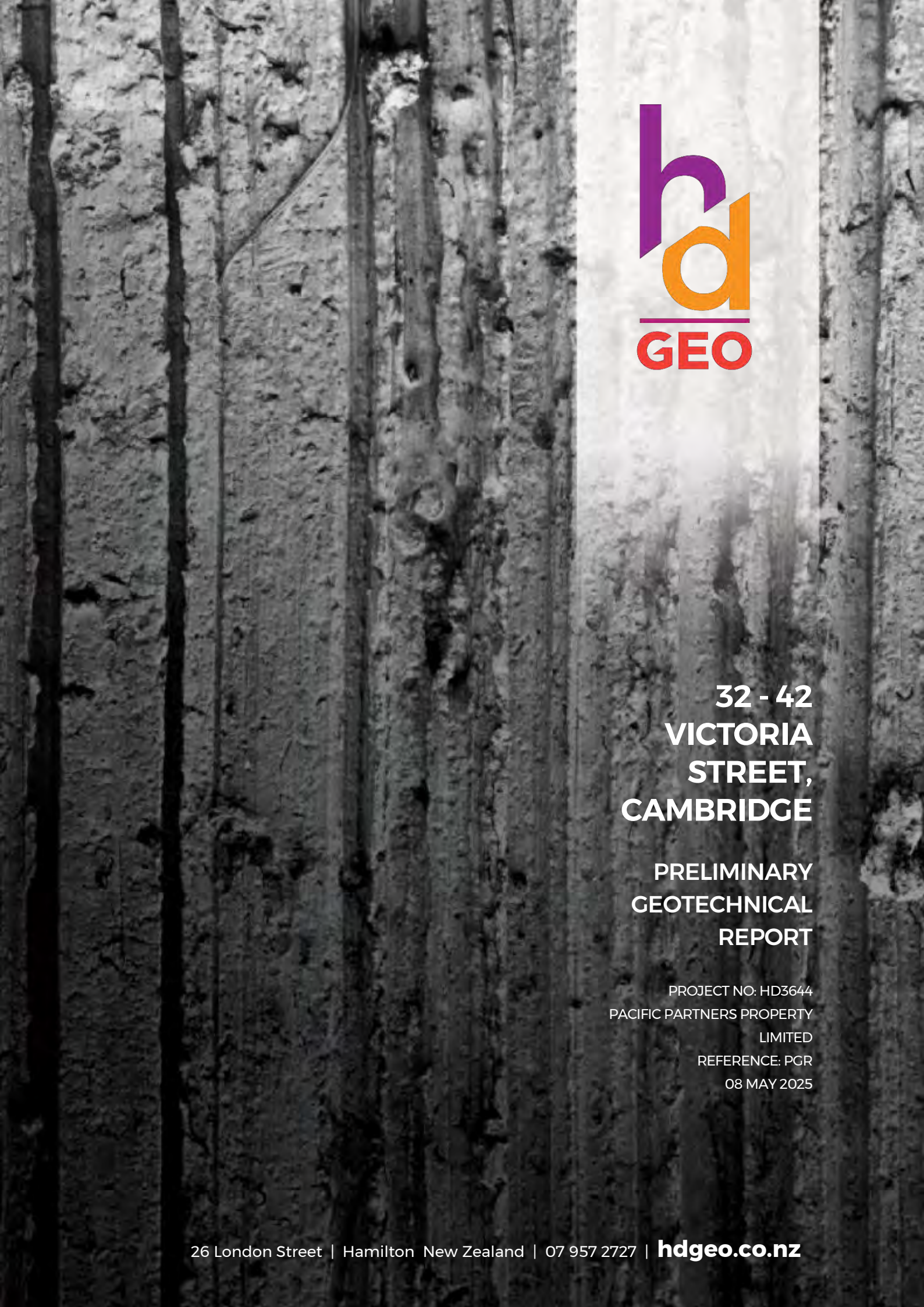


32 - 42 VICTORIA STREET, CAMBRIDGE

PRELIMINARY GEOTECHNICAL REPORT

PROJECT NO: HD3644
PACIFIC PARTNERS PROPERTY LIMITED
REFERENCE: PGR
08 MAY 2025

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

Executive summary

Introduction

Pacific Partners Property Limited proposes to redevelop their property at 32 to 42 Victoria Street, Cambridge with a mixed commercial and residential development. We have been engaged to undertake a preliminary geotechnical assessment for development.

Concept plans showing the proposed development is included in Appendix A. This report is intended to be submitted to the Waipa District Council in support of an application for resource consent.

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 site investigation, including 3 flight augers with strength testing and 3 cone penetration tests
- a natural hazards assessment
- a liquefaction screening assessment
- a settlement screening assessment
- an assessment of cross boundary effects
- a preliminary foundation assessment

Our key findings were

- ground conditions were consistent with the mapped Hinuera Formation
- uncontrolled fill was encountered to a depth of 1.5m below ground level
- groundwater was not encountered to a depth of 20 m below ground level

Our assessment is

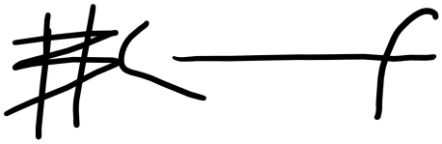
- the site liquefaction performance level lies within L0 – insignificant liquefaction effects
- the site has a low risk of static settlement. We expect foundations for the site can be designed for the expected settlement magnitudes
- our preliminary assessment shows an ultimate bearing capacity of at least 600 kPa is available beneath the uncontrolled fill on the site
- we consider the site suitable for the proposed development

As the development progresses, further investigation, assessment, and design will be needed to inform the design and to support building consent. We recommend a collaborative approach between architectural, structural, geotechnical and other services to ensure a safe and efficient design.

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PREPARED BY: **Brad Kroef**



GEOTECHNICAL ENGINEER

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REVIEWED BY **Andrew Holland, CPEng**



TECHNICAL DIRECTOR

Andrew@hdgeo.co.nz

Rev:	Prepared by:	Reviewed by:	Description:	Dated:
-	Brad Kroef	Andrew Holland	Initial preliminary geotechnical report.	08/05/2025

Introduction

Pacific Partners Property Limited proposes to redevelop their property at 32 to 42 Victoria Street, Cambridge with a mixed commercial and residential development. We have been engaged to undertake a preliminary geotechnical assessment for development.

Concept plans showing the proposed development are included in Appendix A. This report is intended to be submitted to the Waipa District Council in support of an application for resource consent.

Further testing and assessment will be needed during detailed design of the development and for building consent. The site is suitable for the proposed development, subject to the geotechnical recommendations within this report.

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)
- a site investigation, including 3 flight augers with strength testing and 3 cone penetration tests
- a natural hazards assessment
- a liquefaction screening assessment
- a settlement screening assessment
- an assessment of cross boundary effects
- a preliminary foundation assessment

Site description

The site is located at 32 to 42 Victoria Street, Cambridge. It is bounded by Victoria Street to the south-west, a service lane to the north-west, north, and east, and a commercial building to the south-east.

The site is mostly covered in buildings and is used for commercial tenancies, including retail, food, and office buildings. The north-east and east sides of the site are covered in a mix of concrete, gravel, and asphalt hardstand and is used for vehicle parking.

The site is level and sits 62 m above sea level. The wider area is relatively flat, with a gentle rise in elevation to the north. Approximately 170 m south-west of the site, the terrain slopes steeply down towards the Waikato River, located 19 m above sea level. The Waikato River is approximately 260 m south-west, 370 m south, and 600 m east of the site. The surrounding topography also slopes steeply down towards a plateau 190 m east of the site, which then slopes down to the Waikato River.

We have included a plan showing the site location in Appendix B.

Proposed development

Plans[1] provided show the buildings on the site are to be demolished and a 5 storey mixed use residential building is to be constructed. The building consists of a basement for car parking approximately 3.0 m below current ground level. Retail spaces are proposed on level 0 with office spaces proposed for level 1 office space or apartments for level 2, and apartments on the upper level.

[1] Boon Limited: Cambridge Development, 32-42 Victoria St, Cambridge. Job #: 6968. Dated: July 2023.

The plans show the development, including the basement, are proposed to be constructed directly adjacent to the neighbouring buildings at 30 and 30a Victoria Street.

Desk study

Geological setting

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

Aerial photography

We have sourced and reviewed historic[3] and recent[4] aerial images of the site. Clear photos were available dating back to 1943. A summary of the key changes on the site

Table 1 - Summary of historic aerial review

Year	Description
1943	There are 5 buildings on the site, including in the north-west and south-east portions and along the north-east boundary. The balance of the site appears to be grassed, with access tracks between the buildings. The site is immediately surrounded by roads and commercial buildings to the north, west, and south-west, and undeveloped land to the east and south-east.
1953	A building has been constructed along the south-west boundary. Off-site, a road has been constructed to the south-east and east. A building has been constructed along the south-east boundary, and buildings constructed to the north and north-east.
1961	A building in the north-west corner has been demolished and replaced with a larger building. An extension has been constructed to a building near the centre of the site. The site has been covered in hardstand. Off-site, a building has been constructed along the entire south-east boundary. Commercial development can be seen to the east.
1971 to 1995	The building located along the north-east boundary has been demolished. By 1995, awnings have been constructed on the north and west sides of the buildings along the boundaries. Off-site, commercial development can be seen in all directions.
2006 to 2024	No significant changes can be seen on site or in the immediately surrounding area.

NZGD

The New Zealand Geotechnical Database lists 4 cone penetrometer tests (CPTs) within 200 m of the site, within the same mapped ground conditions. The CPTs were driven up to 20 m below ground level (bgl) and generally identified:

- interbedded sand and silt through the soil profile
- no groundwater within 20 m of the ground surface

[2] 1:250,000 Geological Map of New Zealand (QMAP). *New Zealand Geology Web Map*. GNS, 2013. http://data.gns.cri.nz/geology/. Accessed 29/04/25
[3] Sourced from http://retrolens.nz and licensed by LINZ CC-BY. Accessed 31/03/25
[4] Google Earth Pro

Site investigation

Our site investigation included a site walkover, 3 fight augers with dynamic cone penetration testing to 5.0 m below ground level, and 3 cone penetration tests to 20 m below ground level. As the buildings will remain operational while the client goes through their consenting and design phases, our testing was limited to the parking areas at the rear of the site.

Ground conditions

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

- gravel hardstand to 0.2 m below ground level (bgl)
- uncontrolled fill (sand, topsoil and organics) to 1.5 m bgl
- medium dense to dense interbedded sand and silt to 5 m bgl

Deeper ground conditions interpreted from the CPT testing included:

- clay and silty clay (uncontrolled fill) to 1.5 m bgl
- interbedded sand and silt to 9.0 m bgl
- sand to 20 m bgl

Groundwater

Groundwater was not encountered during the flight augers and cone penetration testing to a depth of 20 m below ground level.

Geotechnical assessment

This assessment is a collection of general information and advice for the site. We believe the site is suitable for the proposed development, subject to the geotechnical assessments and recommendations in this report.

Natural hazards

We have undertaken an assessment of the natural hazards at the site and summarised below. Refer to Table 2 for our assessment of the risks associated with each hazard.

- **Earthquake:** The site subsoil class is D 'Deep or soft soils. Design peak ground acceleration for the 1 in 500-year average recurrence interval earthquake event is calculated to be 0.28 g. Earthquake induced liquefaction or lateral spread are considered not a risk (see 'Liquefaction' section below).
- **Volcanic, geothermal, or sedimentation activity:** The site is not near any known sources of these risks.
- **Landslips:** The site is a flat site. Slope stability and lateral spreading are not considered to be risks.
- **Subsidence:** There is a low risk from static settlement. We expect foundations can be designed to tolerate predicted settlements from loading. Refer to the 'settlement' section below

Table 2 - Summary of natural hazards

RISK ASSESSMENT MATRIX		LIKELIHOOD				
		Very unlikely	Unlikely	Possible	Likely	Very likely
POTENTIAL CONSEQUENCES	Severe					
	Major					
	Moderate	- Earthquake				
	Minor			- Subsidence (settlement on loading)		
	Negligible	- Volcanic, geothermal or sedimentation activity - Erosion - Expansive soils - Landslips or slope instability - Lateral spread - Liquefaction				

Liquefaction

The following is a level D, site specific assessment in accordance with the relevant guidance documents[5].

Assessment inputs

We completed a screening analysis using the CPTs undertaken at the site for 1 in 500-year (ULS) and 1 in 25-year (SLS) design events. The test results were analysed using the proprietary software CLIQ (Geologismiki) and engineering calculations in accordance with the NZGS guideline.

The design earthquake for the analysis of liquefaction susceptibility has been taken from Module 1 of MBIE and NZGS. Input parameters are listed in Table 3 below.

Table 3 - Liquefaction assessment inputs

Parameter	Input
Site seismic classification [6]:	Class D (deep or soft soils)*
Structural importance level [7]:	Importance level 2
Peak ground acceleration [8]:	0.28 g (ULS) for a 500 year event 0.07 g (SLS) for a 25 year event 5.9 magnitude earthquake
Groundwater depth:	20 + m below ground level (based on dipped levels in the CPTs and pore water pressure traces in CPTs)

[5] Ministry of Business Innovation and Employment (MBIE). Planning and engineering guidance for potentially liquefaction-prone land. Dated September 2017.
[6] NZS1170.5:2004. Structural design actions – Earthquake Actions (New Zealand). SANZ
[7] NZS1170.5:2004. Structural design actions – General Principles. SANZ
[8] Ministry of Business Innovation and Employment (MBIE) / New Zealand Geotechnical Society (NZGS). Module 1: Earthquake geotechnical engineering practice. Dated November 2021. (ID 18 – Cambridge)

Limit depth:	10 m below ground level for screening assessment

*Module 1 uses class C (shallow soil) acceleration for all sites

Liquefaction susceptibility

Serviceability Limit State (SLS) Earthquake

An SLS earthquake is an event after which there is high expectation that the building or structure can be used as intended without repair or with minimal repair. The assessment showed that under SLS conditions there is no liquefaction damage expected at the site.

Ultimate Limit State (ULS) Earthquake

A ULS earthquake is an event after which a building should retain its integrity to allow safe evacuation of people but is likely to be severely damaged and may not be repairable. The assessment showed that under ULS conditions there is a low risk of liquefaction damage expected at the site.

Assessment Results

Due to the absence of groundwater within 20 m below ground level, liquefaction under SLS and ULS conditions is not expected across the site. We consider liquefaction not a risk at the site.

Site performance level

Our assessment indicates that the site proposed for development lies within performance level L0 (insignificant liquefaction effects) in accordance with Table 5.1 of the latest MBIE and NZGS guidelines.

Settlement

For the settlement screening assessment, we estimated potential settlement using proprietary software CPet (Geologismiki) with a range of loads from 10 kPa to 80 kPa load applied 3.0 m below ground level (at the base of the basement level). We have assumed slab, strip, and pad foundation dimensions for this assessment as below.

- Floor slab, B = 40 m, L = 40 m
- Strip footing, B = 1 m, L = 40 m
- Pad footing, B = 2 m, L = 2 m

Our analysis showed low settlements (< 15 mm) when assessed with strip or pad footing with loads up to 80 kPa applied.

Our analysis showed with widespread loading low settlements (<15 mm) up to a load of 40 kPa. Above 40 kPa our assessment showed higher settlements up to a maximum of 30 mm.

We expect the static settlement risk can be mitigated during the detailed design stage of the foundations for the development.

This assessment of settlement should be reviewed at building consent stage once the loads, foundation dimensions and founding levels are known. The settlement screening outputs are included in Appendix C.

Cross boundary effects

Development plans indicate the basement is to be constructed directly adjacent the neighbouring buildings at 30 and 30a Victoria Street. To mitigate effects from the construction of the basement, a top-down style construction will be needed and retaining, such as a contiguous pile wall would be needed along the boundary. The wall will need to be designed to limit deflections and support

neighbouring building foundations. Detailed design of this wall will be needed during design of the development.

The plans show the basement is to be constructed adjacent to the service lane to the north and west of the development. Temporary retaining of this area is likely to be needed to support the land and allow for conventional bottom up construction methods for the basement. Temporary retaining could include the use of steel sheet piles.

The basement is also located along the boundary adjacent with Victoria Street. This area may be completed in a conventional bottom-up construction method if Waipa District Council agrees to a dig out and replacement of the footpath as part of the construction. If this is not possible temporary retaining such as steel sheet piles can be used to support the adjacent infrastructure during construction.

Given the depth to global groundwater, we expect there to be low risk to adjacent buildings from groundwater drawdown induced settlements. Given the small settlements predicted from the foundations we expect there to be low risk of cross boundary settlements from the foundation loads.

Foundations

We have assessed the ground bearing capacity using the method in B1/VM4[9] assuming vertical building loads and different foundation sizing. We assumed the following foundation dimensions for this assessment:

- Floor slab, B = 40 m, L = 40 m
- Strip footing, B = 1 m, L = 40 m
- Pad footing, B = 2 m, L = 2 m

Our preliminary assessment shows an ultimate bearing capacity of at least 600 kPa (based on vertical static loading) is available beneath the uncontrolled fill across the site. Uncontrolled fill was encountered to a maximum depth of 1.5 m below ground level, any uncontrolled fill would need to be removed and replaced with engineer-controlled fill.

Further testing and assessment of foundations is needed at detailed design stage once loads and dimensions are confirmed.

Further work

Further testing and assessment is needed at building design stage to refine the assessment and to input into detailed design of the structures. Tasks will include:

- further testing across the site to supplement existing testing. Testing will need to be completed within the footprints of the current buildings onsite
- settlement assessment once loads and dimensions are known
- bearing capacity assessment once loads and dimensions are known
- assessment and design of retaining to support neighbouring buildings and other land

[9] Ministry of Business, Innovation & Employment, 'Acceptable Solutions and Verification Methods, For New Zealand Building Code Clause, B1 Structure', 1st Edition Amendment 13, dated 1 June 2016

Summary

- ground conditions were consistent with the mapped Hinuera Formation
- uncontrolled fill was encountered to a depth of 1.5m below ground level
- groundwater was not encountered to a depth of 20 m below ground level
- the site liquefaction performance level lies within L0 – insignificant liquefaction effects
- the site has a low risk of static settlement. We expect foundations for the site can be designed for the expected settlement.
- our preliminary assessment shows an ultimate bearing capacity of at least 600 kPa is available beneath the uncontrolled fill on the site
- we consider the site suitable for the proposed development

Further investigation, assessment, and design will be required during detailed design of the building.

Limitation

This report has been prepared for our client, Pacific Partners Property Limited, 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 resource consent based on a site walkover and testing in discrete locations. Further testing and assessment are required during the development of the site. 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 HD Geo is engaged to undertake further testing, assessment and design for building consent, and to observe works during the site preparation.

APPENDIX A – DEVELOPMENT PLANS

BOON

Cambridge Development

32-42 Victoria St, Cambridge

6968 Issued For: **Feasiblity**
July 2023

BOON Limited

A / 131 Courtenay Street, New Plymouth, 4310
P / 06 757 3200 **E /** office@boon.co.nz **W /** www.boon.co.nz

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Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) = **2145m²**
Existing Building Coverage = 1514m²
Proposed Building Coverage = 1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Site Plan - Existing

Scale 1 : 500 (A3)

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK1.02		July 2023	Site Plan - Existing	16/02/2024 11:39:08 am

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Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) =	**2145m²**
Existing Building Coverage =	1514m²
Proposed Building Coverage =	1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark

Total Area =	**1765m²** *(Gross)*
Parking =	1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) =	235m² *(Gross)*
Storage =	71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)

Total Area =	**1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	110m² *(Gross)*
Good & Services / Loading =	167m² *(Gross)*
Retail Tenancies =	**1076m² *(Net)***
Atrium =	185m² *(Net)*

L1 - First Floor (Office Tenancies)

Total Area =	**1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**1158m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1

Total Area =	**1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**906m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2
Apartment Tenancies = 846m² *(Net)*
REFER DRAWINGS FOR APARTMENT AREAS

L3 - Third Floor (Apartments)

Total Area =	**760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Apartment Tenancies =	**730m² *(Net)***
Outdoor Space =	410m² *(Gross)*

REFER DRAWINGS FOR APARTMENT AREAS

Basment (1-200)

Scale 1 : 200 (A3)

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.00		July 2023	Plans - Basement	16/02/2024 11:39:13 am

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Ground Floor - Retail (1-200)

Scale 1 : 200 (A3)

Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) = **2145m²**
Existing Building Coverage = 1514m²
Proposed Building Coverage = 1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark
Total Area = **1765m²** *(Gross)*
Parking = 1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) = 235m² *(Gross)*
Storage = 71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)
Total Area = **1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 110m² *(Gross)*
Good & Services / Loading = 167m² *(Gross)*
Retail Tenancies = 1076m² *(Net)*
Atrium = 185m² *(Net)*

L1 - First Floor (Office Tenancies)
Total Area = **1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Office Tenancies = 1158m² *(Net)*
Atrium Void = 112m² *(Net)*
Outdoor Space = 68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1
Total Area = **1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Office Tenancies = 906m² *(Net)*
Atrium Void = 112m² *(Net)*
Outdoor Space = 84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2
Apartment Tenancies = 846m² *(Net)*
REFER DRAWINGS FOR APARTMENT AREAS

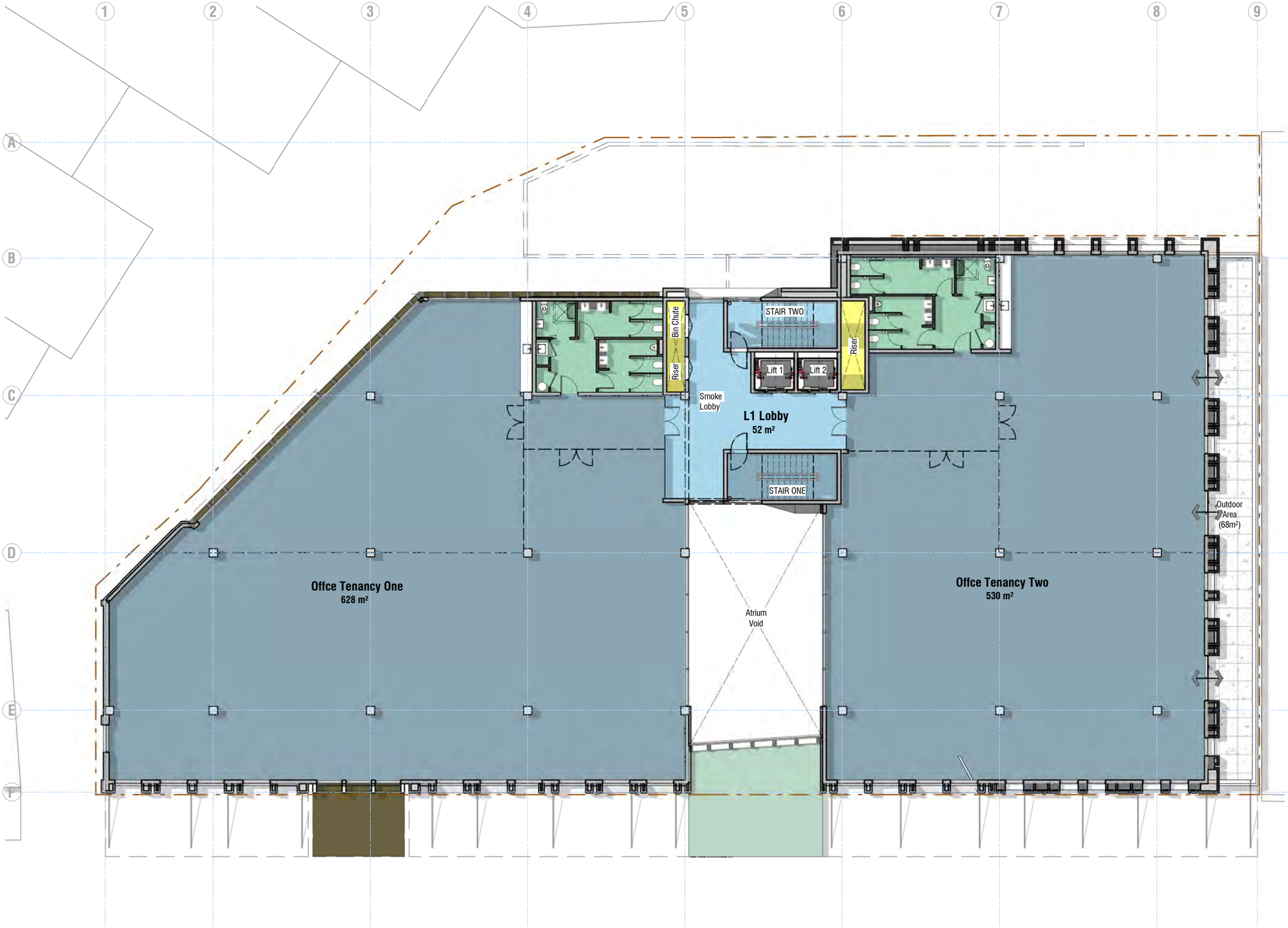
L3 - Third Floor (Apartments)
Total Area = **760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Apartment Tenancies = 730m² *(Net)*
Outdoor Space = 410m² *(Gross)*
REFER DRAWINGS FOR APARTMENT AREAS

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.01		July 2023	Plans - GF	16/02/2024 11:39:16 am

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34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

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Site area (Total) = **2145m²**
Existing Building Coverage = 1514m²
Proposed Building Coverage = 1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark
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Parking = 1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) = 235m² *(Gross)*
Storage = 71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)
Total Area = **1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 110m² *(Gross)*
Good & Services / Loading = 167m² *(Gross)*
Retail Tenancies = 1076m² *(Net)*
Atrium = 185m² *(Net)*

L1 - First Floor (Office Tenancies)
Total Area = **1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Office Tenancies = 1158m² *(Net)*
Atrium Void = 112m² *(Net)*
Outdoor Space = 68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1
Total Area = **1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Office Tenancies = 906m² *(Net)*
Atrium Void = 112m² *(Net)*
Outdoor Space = 84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2
Apartment Tenancies = 846m² *(Net)*
REFER DRAWINGS FOR APARTMENT AREAS

L3 - Third Floor (Apartments)
Total Area = **760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) = 18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) = 118m² *(Gross)*
Apartment Tenancies = 730m² *(Net)*
Outdoor Space = 410m² *(Gross)*
REFER DRAWINGS FOR APARTMENT AREAS

Level 1 - Office (1-200)

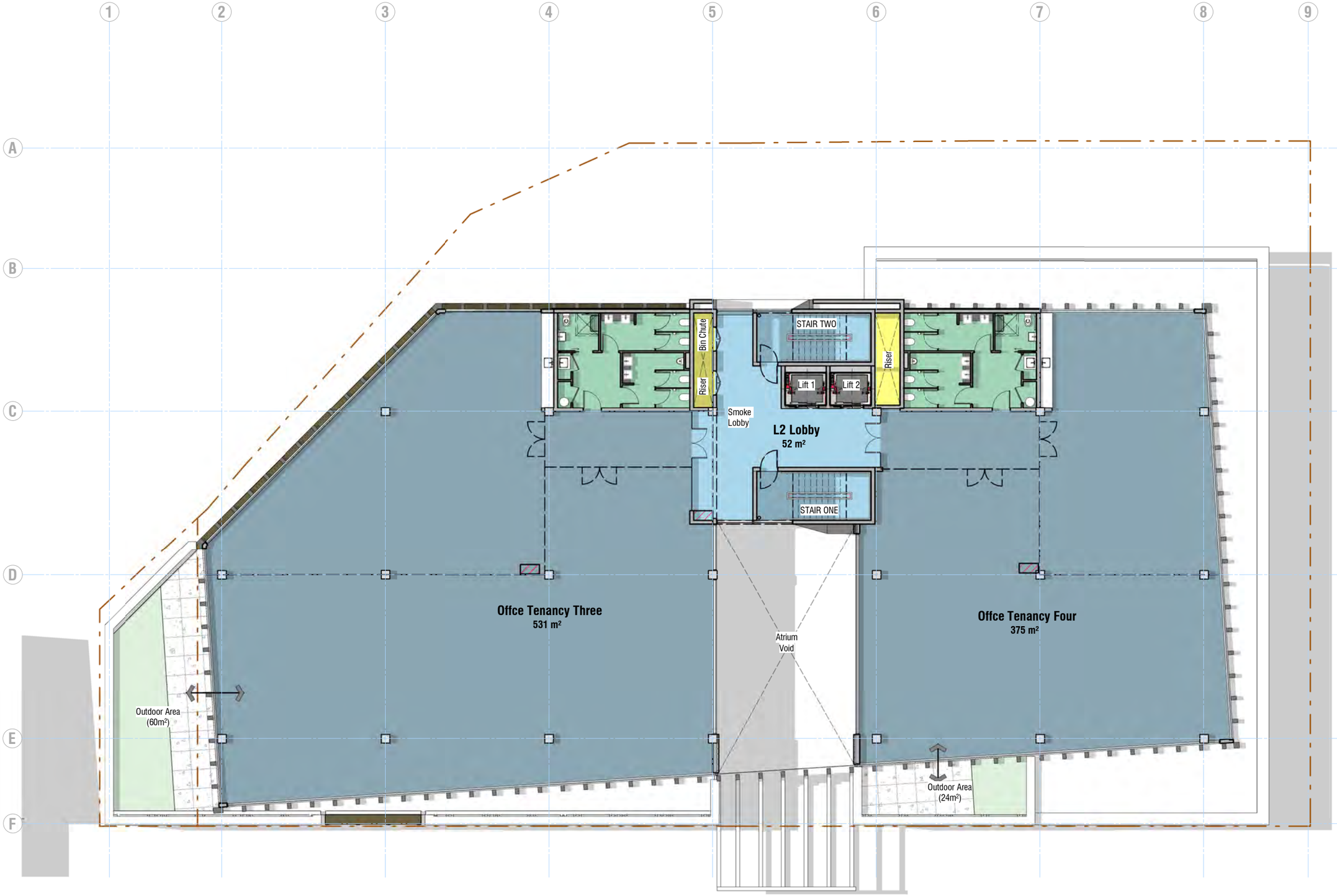
Scale 1 : 200 (A3)

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.02		July 2023	Plans - L1	16/02/2024 11:39:18 am

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Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) =	**2145m²**
Existing Building Coverage =	1514m²
Proposed Building Coverage =	1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark

Total Area =	**1765m²** *(Gross)*
Parking =	1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) =	235m² *(Gross)*
Storage =	71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)

Total Area =	**1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	110m² *(Gross)*
Good & Services / Loading =	167m² *(Gross)*
Retail Tenancies =	**1076m² *(Net)***
Atrium =	185m² *(Net)*

L1 - First Floor (Office Tenancies)

Total Area =	**1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**1158m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1

Total Area =	**1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**906m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2
Apartment Tenancies = 846m² *(Net)*
REFER DRAWINGS FOR APARTMENT AREAS

L3 - Third Floor (Apartments)

Total Area =	**760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Apartment Tenancies =	**730m² *(Net)***
Outdoor Space =	410m² *(Gross)*

REFER DRAWINGS FOR APARTMENT AREAS

Level 2 - Office (1-200)
Scale 1 : 200 (A3)

OPTION 1 - Level 2 Office Tenancies

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.03		July 2023	Plans - L2	16/02/2024 11:39:19 am

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Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) =	**2145m²**
Existing Building Coverage =	1514m²
Proposed Building Coverage =	1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark

Total Area =	**1765m²** *(Gross)*
Parking =	1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) =	235m² *(Gross)*
Storage =	71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)

Total Area =	**1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	110m² *(Gross)*
Good & Services / Loading =	167m² *(Gross)*
Retail Tenancies =	**1076m² *(Net)***
Atrium =	185m² *(Net)*

L1 - First Floor (Office Tenancies)

Total Area =	**1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**1158m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1

Total Area =	**1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**906m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2

Apartment Tenancies =	**846m² *(Net)***

REFER DRAWINGS FOR APARTMENT AREAS

L3 - Third Floor (Apartments)

Total Area =	**760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Apartment Tenancies =	**730m² *(Net)***
Outdoor Space =	410m² *(Gross)*

REFER DRAWINGS FOR APARTMENT AREAS

Level 2 - Apartments (1-200)

Scale 1 : 200 (A3)

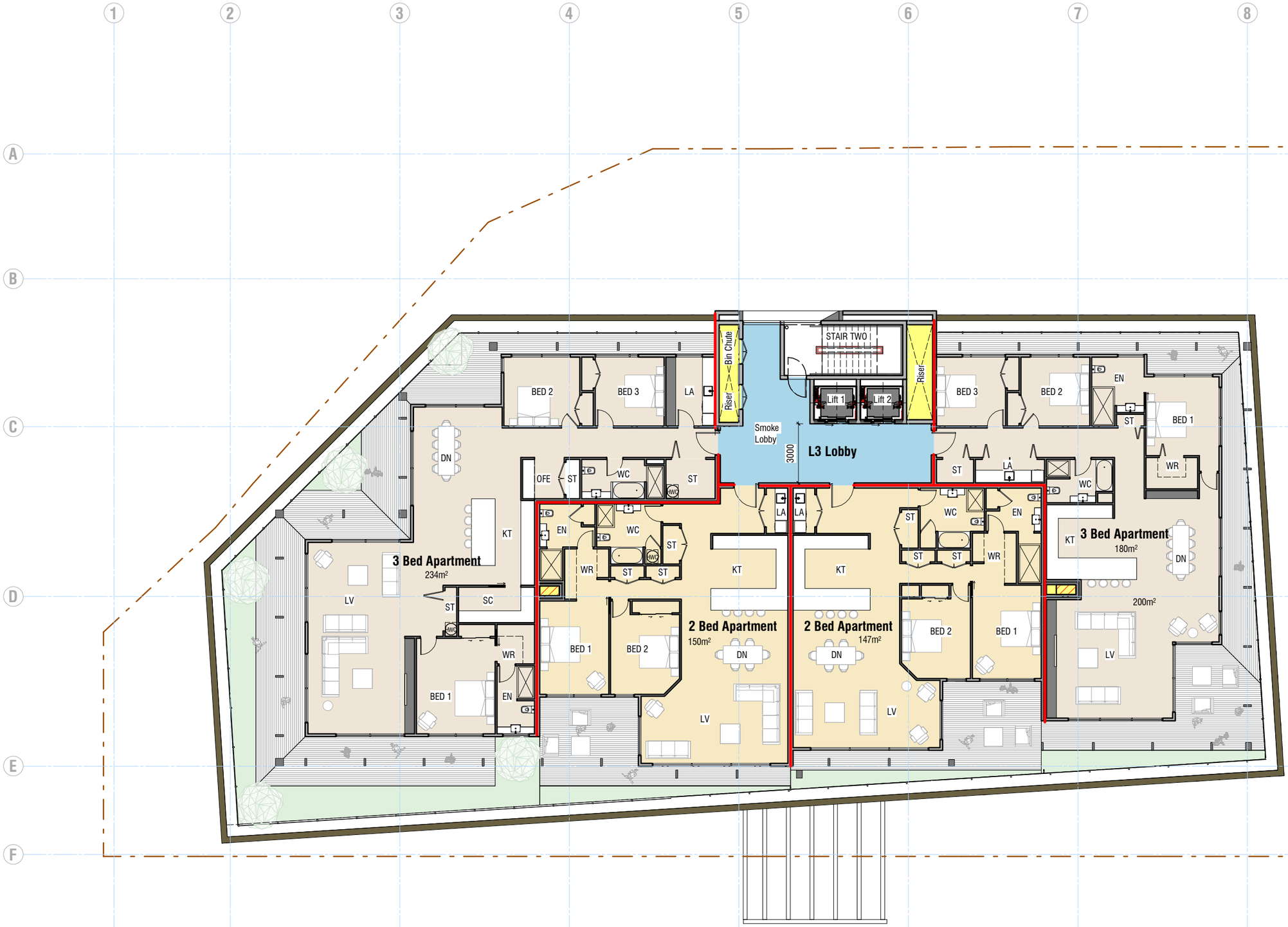
OPTION 2 - Level 2 Apartments

Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.04		July 2023	Plans - L2 (Apartments)	16/02/2024 11:39:26 am

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Site Description

Cambridge, New Zealand
Waipa District

40-42 Victoria St - LOT 1 DPS 13401, LOT 2 DPS 13401, LOT 4 DPS 13401
38 Victoria Street - LOT 1 DPS 77837
36 Victoria Street - LOT 9 DP 4011
34 Victoria Street - LOT 3 DP 364495, LOT 8 DP 4011
32 Victoria Street - LOT 7 DP 4011

Zone: Commercial, with '*Character precincts overlay*'
Wind Zone: Medium
(branz inforamation inidcative ONLY)
Earthquake Zone: 1
Exposure Zone: B
Rainfall Range: 80-90mm

Site Coverage / Area (Approx. only)

Site area (Total) =	**2145m²**
Existing Building Coverage =	1514m²
Proposed Building Coverage =	1748m²

Line to perimeter of site indicates construction demarcation line. Construction confined to within this area.

Site Boundary

Building Areas (Approximate Only)

PROPOSED BUILDINGS

Basement Carpark

Total Area =	**1765m²** *(Gross)*
Parking =	1396m² *(Net)*, 38 Parks
Core (Lobby / Plant & Riser) =	235m² *(Gross)*
Storage =	71m² *(Gross)*

L0 - Ground Floor (Retail & Cafe)

Total Area =	**1387m²** *(Gross)* Excluding Atrium space & Loading Bays
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	110m² *(Gross)*
Good & Services / Loading =	167m² *(Gross)*
Retail Tenancies =	**1076m² *(Net)***
Atrium =	185m² *(Net)*

L1 - First Floor (Office Tenancies)

Total Area =	**1500m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**1158m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	68m² *(Gross)*

L2 - Second Floor (Office Tenancies) OPTION 1

Total Area =	**1133m²** *(Gross)* Excluding Atrium space & Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Office Tenancies =	**906m² *(Net)***
Atrium Void =	112m² *(Net)*
Outdoor Space =	84m² *(Gross)*

L2 - Second Floor (Apartments) OPTION 2
Apartment Tenancies = 846m² *(Net)*
REFER DRAWINGS FOR APARTMENT AREAS

L3 - Third Floor (Apartments)

Total Area =	**760m²** *(Gross)* Excluding Outdoor Space
WC (Toilets) =	18.8m² *(Net)*
Core (Lobby / Stairs & Lifts) =	118m² *(Gross)*
Apartment Tenancies =	**730m² *(Net)***
Outdoor Space =	410m² *(Gross)*

REFER DRAWINGS FOR APARTMENT AREAS

Level 3 - Residential (1-200)

Scale 1 : 200 (A3)

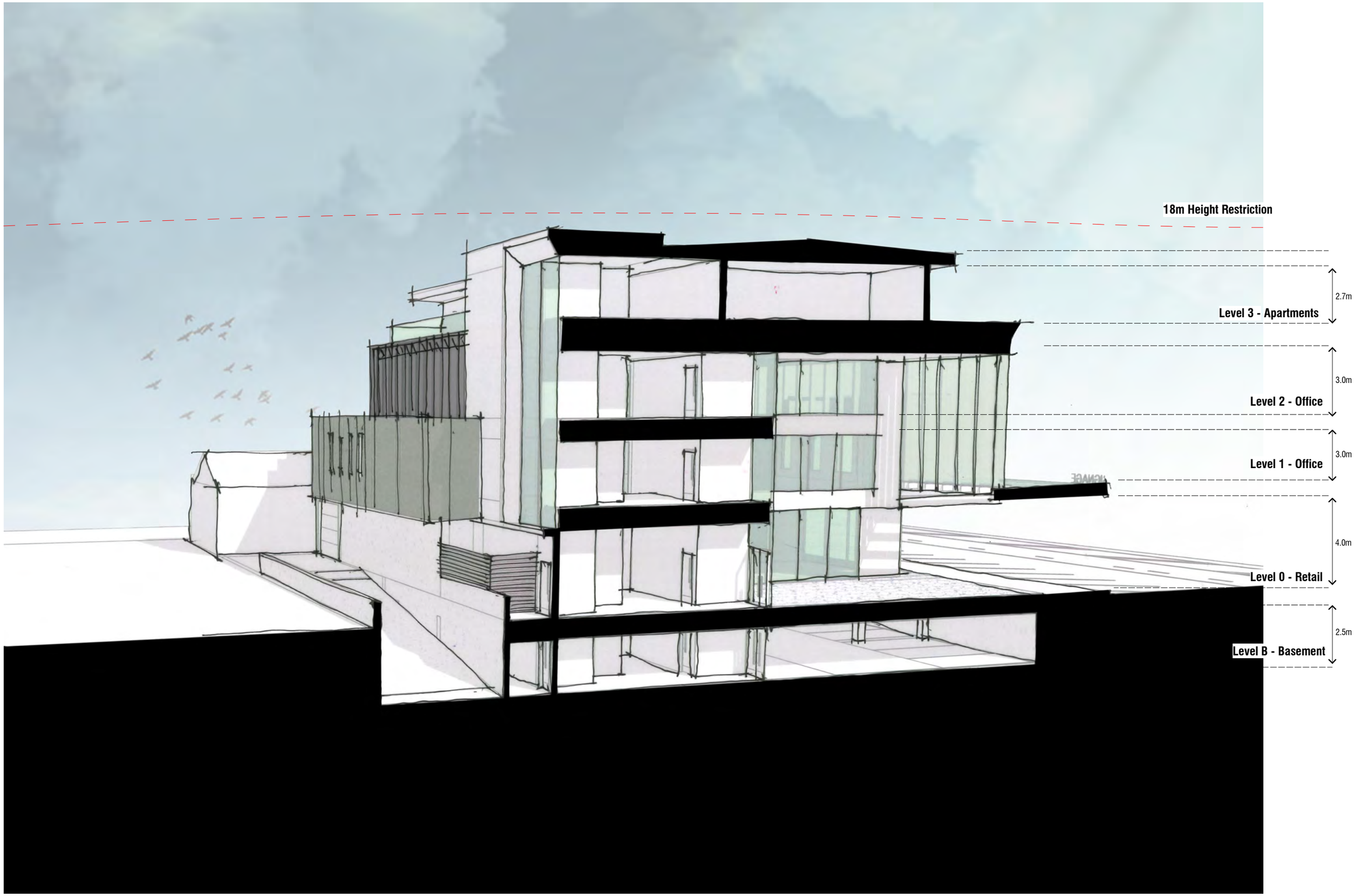
Cambridge Development

32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	As indicated	SK2.05		July 2023	Plans - L3	16/02/2024 11:39:30 am

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Cambridge Development
32-42 Victoria St, Cambridge
Feasiblity

Job No.	Scale [A3]	Drawing No.	Rev	Issue Date	Drawing Title	Print Date
6968	1 : 100	SK3.01		July 2023	3D Sketch	16/02/2024 11:39:30 am

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APPENDIX B – SITE INVESTIGATION DATA



CLIENT	Pacific Partners Property Limited
TITLE	32-42 Victoria St Development Site Investigation Plan

Project Number	Drawing Reference	Drawn By	Date	Reviewed By	Date
HD3644	HD3644-101-R0	BK	05/05/2025	AH	06/05/2025

SCALE 1:450 — 0 — 20 — 40 m

GENERAL NOTES AND DISCLAIMER

1. Coordinates are in NZTM
2. Imagery and cadastral information sourced from LINZ. Crown copyright reserved
3. Areas and dimensions are approximate only, any use or reliance on this plan is at the users risk.
4. Contour information sourced from DEM from opentography. Crown copyright reserved.

INVESTIGATION LOG

Job No.:	HD3644
Client:	Pacific Partners Property Limited
No.:	FA01
Project:	32 to 42 Victoria Road, Cambridge
Location:	Southern test, towards road
Date:	07.04.25
Co-ordinates:	1817290mE, 5802903mN (NZTM)
Logged By:	FG
Elevation:	63m (NZVD2016)
Checked By:	BK

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)	Legend	Scala Penetrometer (Blows / 100 mm)	Vane Shear Strength (kPa) Vane:	Water
Uncontrolled Fill	GRAVEL; grey. Dry to moist; gravel, fine to coarse, angular to subangular.	0.2		3		Groundwater Not Encountered
	SAND, with some organics and silt and gravel; black. Very loose to medium dense; moist; sand, medium to coarse; gravel, fine to medium, subangular to subround.	0.4		4		
		0.6		3		
		0.8		3		
		1.0		1		
		1.2		1		
		1.4		2		
		1.6		2		
		1.8		3		
		2.0		3		
Hinuera Formation	SAND, with some silt and gravel; orange brown. Loose to medium dense; moist; sand, medium to coarse; gravel, fine to medium, subround to rounded.	2.2		2		
		2.4		3		
		2.6		3		
		2.8		4		
		3.0		6		
		3.2		5		
		3.4		6		
		3.6		5		
		3.8		4		
		4.0		4		
		4.2		3		
		4.4		4		
		4.6		3		
		4.8		4		
		5.0		3		
	Silty SAND; greyish white. Medium dense; moist; low dilatency; sand, fine to medium.			4		
				4		
				5		
				5		
				6		
	SAND, with some gravel; dark brown. Medium dense to dense; moist; sand, medium to coarse; gravel, fine to coarse, subround to rounded.			7		
				8		
				9		
				9		
				8		
	Silty SAND; greyish white. Medium dense to dense; moist; low dilatency; sand, fine to medium.			7		
				9		
				10		
				12		
				7		
				9		
				6		
				7		
				6		
				5		
				6		
				6		
				6		
				5		
	EOH: 5.00 m			5		

Photo



Remarks

Flight auger completed to target depth of 5.0m.
Ground water was not encountered.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

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

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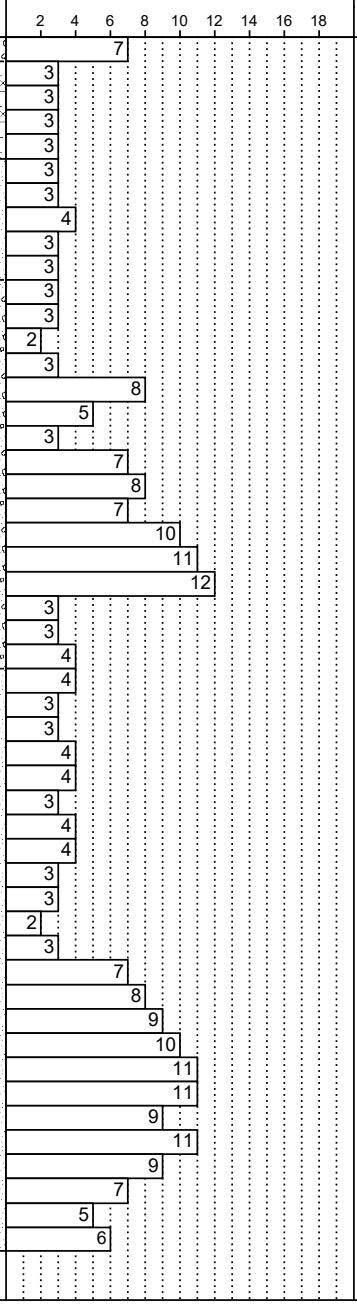
INVESTIGATION LOG

Job No.:	HD3644
No.:	FA02
Client:	Pacific Partners Property Limited
Project:	32 to 42 Victoria Road, Cambridge
Location:	Central test within carpark
Co-ordinates:	1817282mE, 5802912mN (NZTM)
Elevation:	63m (NZVD2016)
Date:	07.04.25
Logged By:	FG
Checked By:	BK

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Uncontrolled Fill	GRAVEL; grey. Dry to moist; gravel, fine to coarse, angular to subangular.	0.2
	Clayey SILT; orange brown. Medium dense; moist; low plasticity.	0.4
Hinuera Formation	Silty SAND; orange brown. Medium dense; moist; low dilatency; sand, fine.	1.0
	SAND, with some gravel; brown. Medium dense to dense; moist; sand, fine to coarse; gravel, fine to coarse, subround to rounded.	2.6
	Silty SAND; greyish white. Medium dense to dense; moist to wet; low dilatency; sand, fine.	5.0
	EOH: 5.00 m	

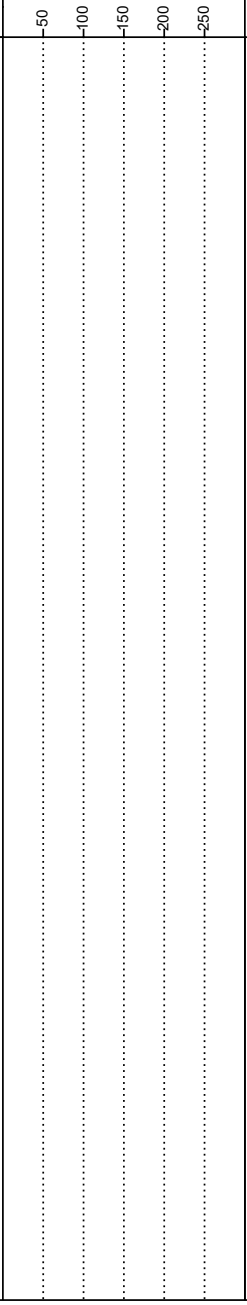
Legend

Scala Penetrometer (Blows / 100 mm)



Vane Shear Strength (kPa)

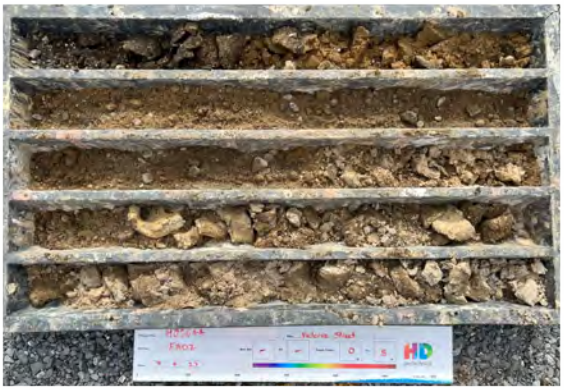
Vane:



Water

Groundwater Not Encountered

Photo



Remarks

Flight auger completed to target depth of 5.0m.
Ground water was not encountered.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes

- Peak
- Remoulded

Water

- Standing Water Level
- Out flow
- In flow

Investigation Type

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

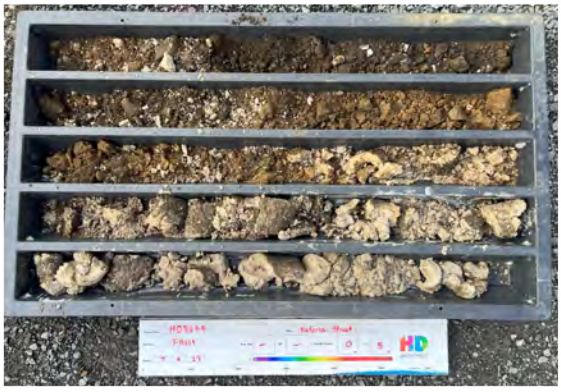
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INVESTIGATION LOG

Job No.:	HD3644
Client:	Pacific Partners Property Limited
No.:	FA03
Project:	32 to 42 Victoria Road, Cambridge
Location:	Northern test towards industrial buildings
Date:	07.04.25
Co-ordinates:	1817268mE, 5802924mN (NZTM)
Logged By:	FG
Elevation:	63m (NZVD2016)
Checked By:	BK

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)	Legend	Scala Penetrometer (Blows / 100 mm)	Vane Shear Strength (kPa)	Water
Uncontrolled Fill	GRAVEL; grey. Very dense; dry to moist; gravel, fine to coarse.	0.2		17, 17		Groundwater Not Encountered
	SAND, with some organics and clay and gravel; black brown. Very loose to medium dense; moist; sand, medium to coarse; gravel, fine to medium, angular to subround; some glass and ceramic.	0.4		11, 3, 3		
		0.6		1, 1		
		0.8		1, 1		
		1.0		3		
		1.2		2, 3		
		1.4		3, 2		
Hinuera Formation	SAND, with some silt and gravel; orange brown. Loose to medium dense; moist; sand, medium to coarse; gravel, fine to medium, subround to rounded, pumicious.	1.6		2, 3		
		1.8		5		
		2.0		3, 3, 3		
		2.2		3, 3		
		2.4		3, 2		
	SILT, with some clay; greyish brown. Medium dense; moist; low plasticity.	2.6		3, 3		
	SAND, with some silt; greyish whote. Very loose to medium dense; moist; low dilatency; sand, fine to coarse.	2.8		1, 2		
		3.0		3, 3, 3		
		3.2		4, 3		
	3.5 m: Becomes wet.	3.4		5, 3		
		3.6		5, 5		
		3.8		7, 5		
	Silty SAND; greyish brown. Medium dense to dense; wet; low dilatency.	4.0		3, 6		
		4.2		7, 7		
		4.4		6, 10		
		4.6		9, 9		
		4.8		8, 8		
	EOH: 5.00 m	5.0				

Photo



Remarks

Flight auger completed to target depth of 5.0m.
Ground water was not encountered.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

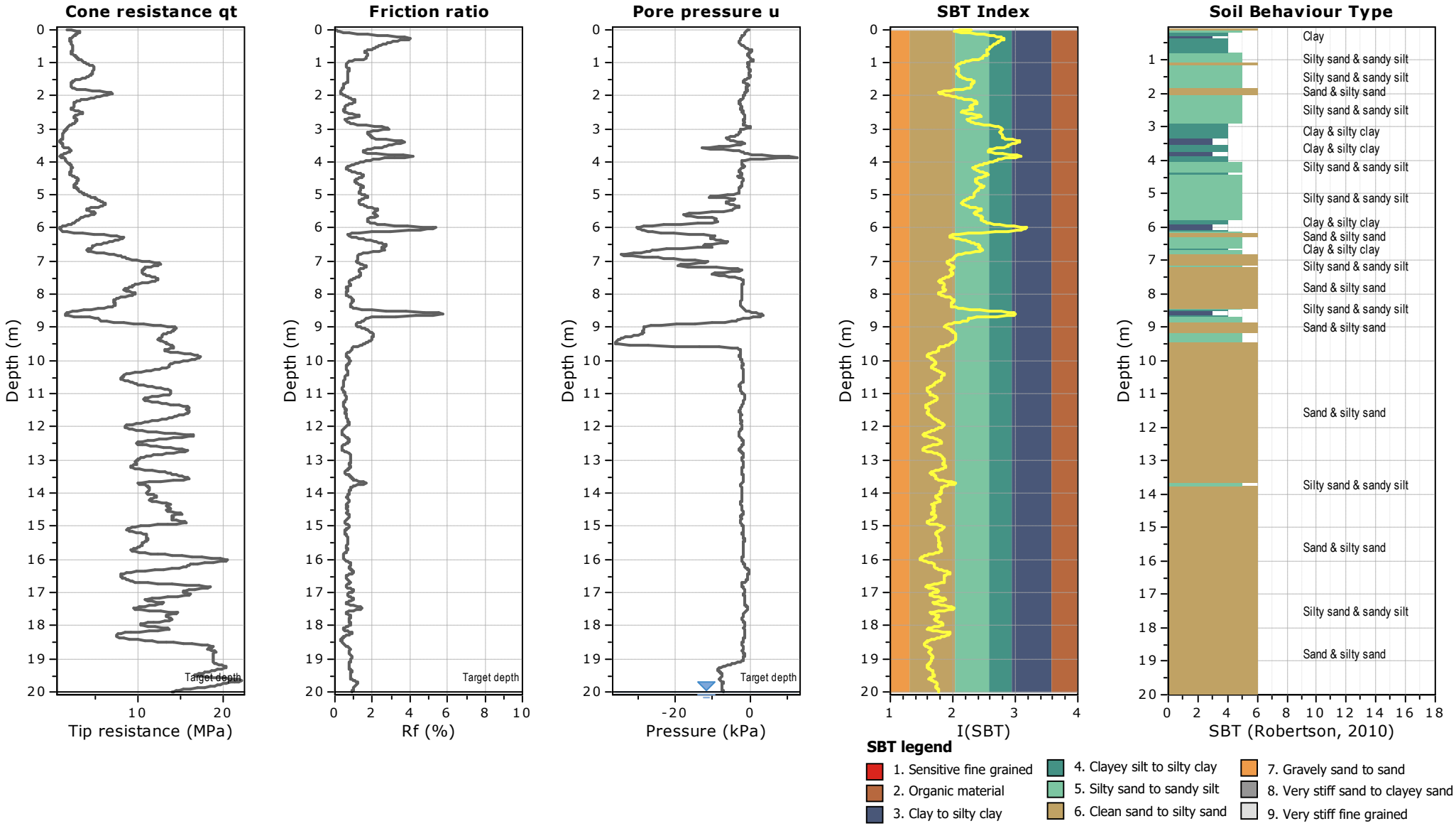
Investigation Type
- [x] Hand Auger
- [ ] Investigation Pit
- [ ] Machine Borehole

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HD Geo Ltd
PO Box 9200
Waikato Mail Center, Hamilton
www.hdgeo.co.nz

Project: 32 to 42 Victoria Street
Location: Cambridge

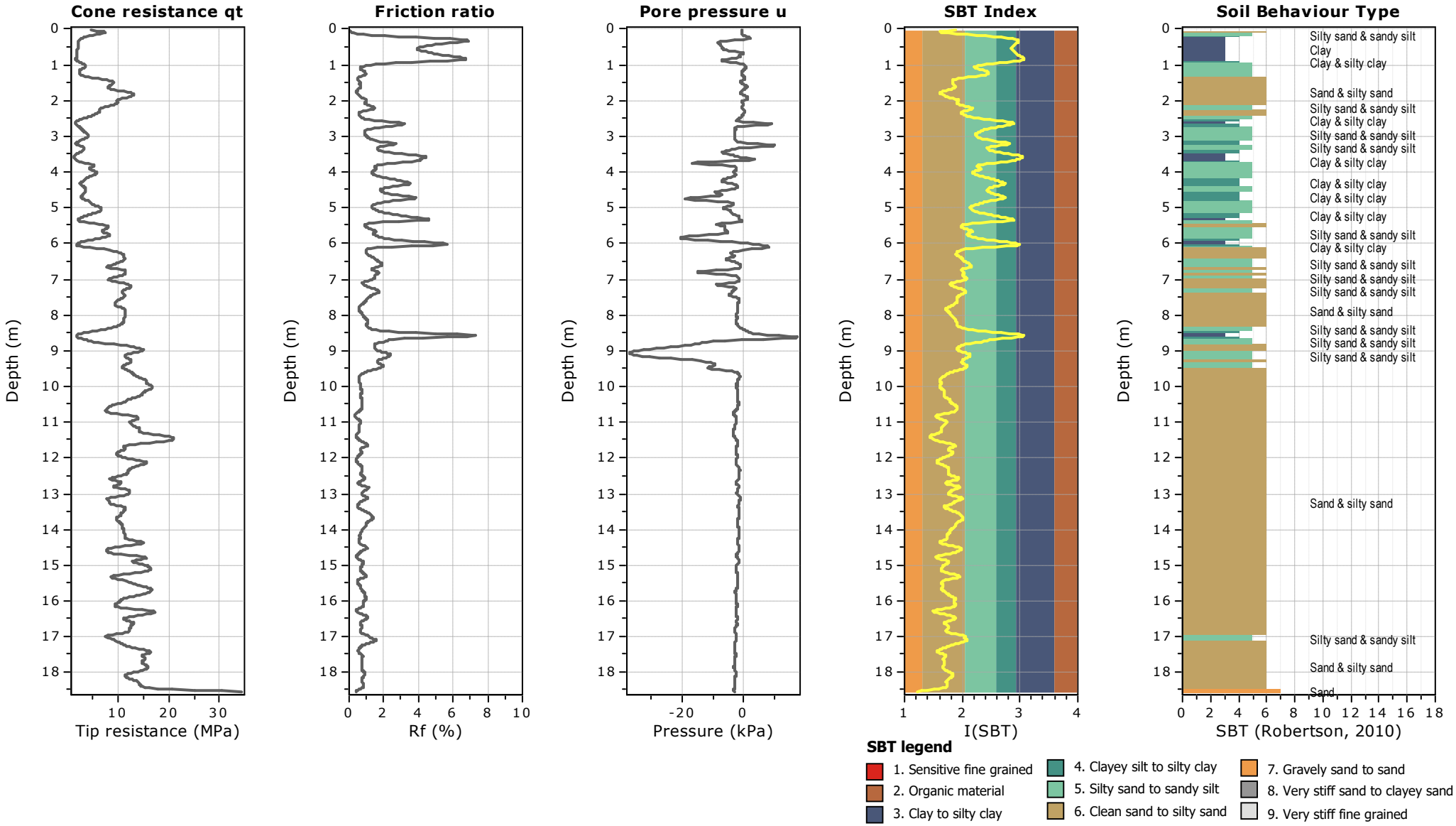
CPT: CPT01
Total depth: 20.00 m, Date: 7/04/2025
Surface Elevation: 62.40 m, Est. GWL: 20.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator: Drillcore



HD Geo Ltd
PO Box 9200
Waikato Mail Center, Hamilton
www.hdgeo.co.nz

Project: 32 to 42 Victoria Street
Location: Cambridge

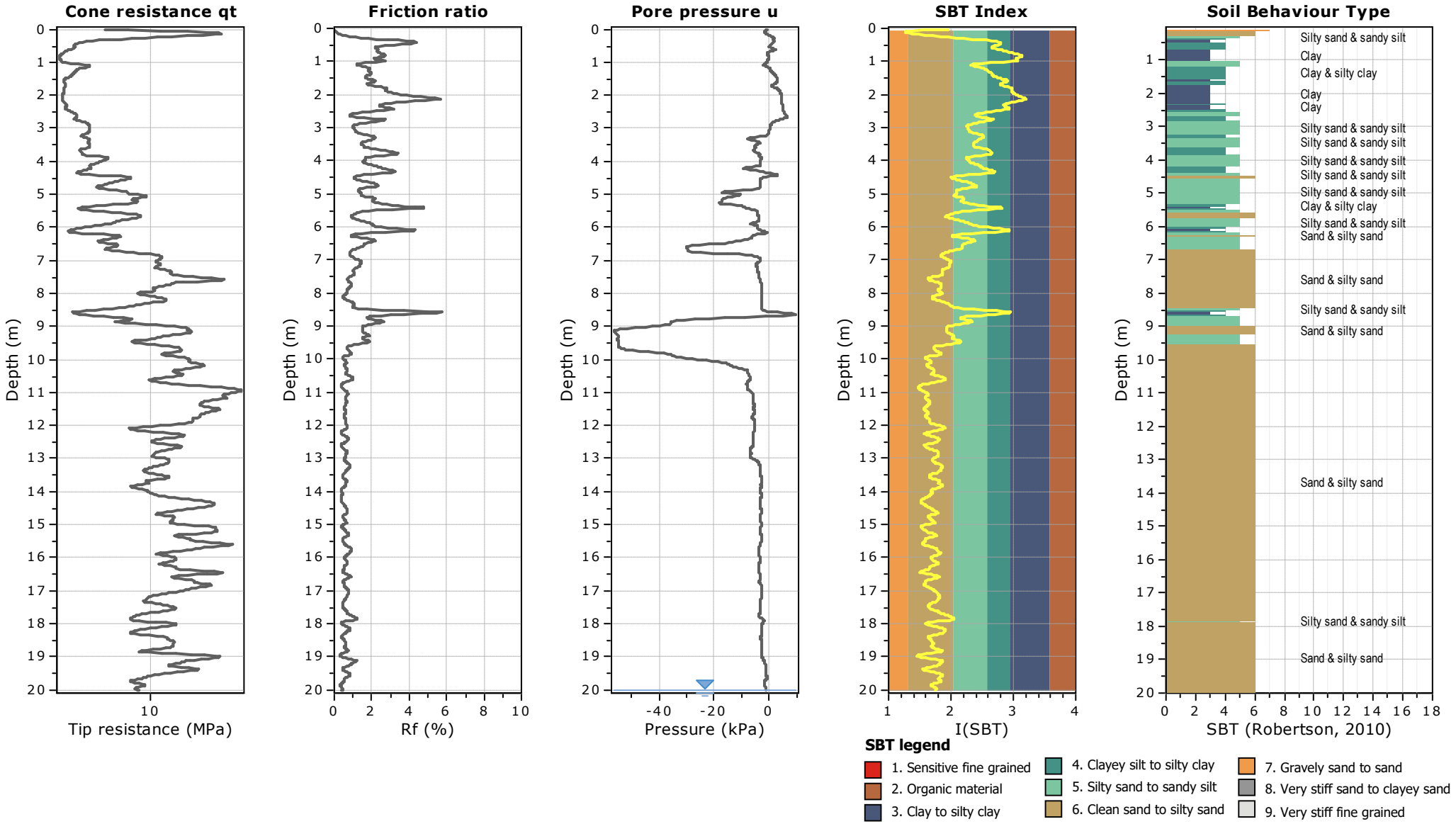
CPT: CPT02
Total depth: 18.54 m, Date: 7/04/2025
Surface Elevation: 62.40 m, Est. GWL: 20.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator: Drillcore



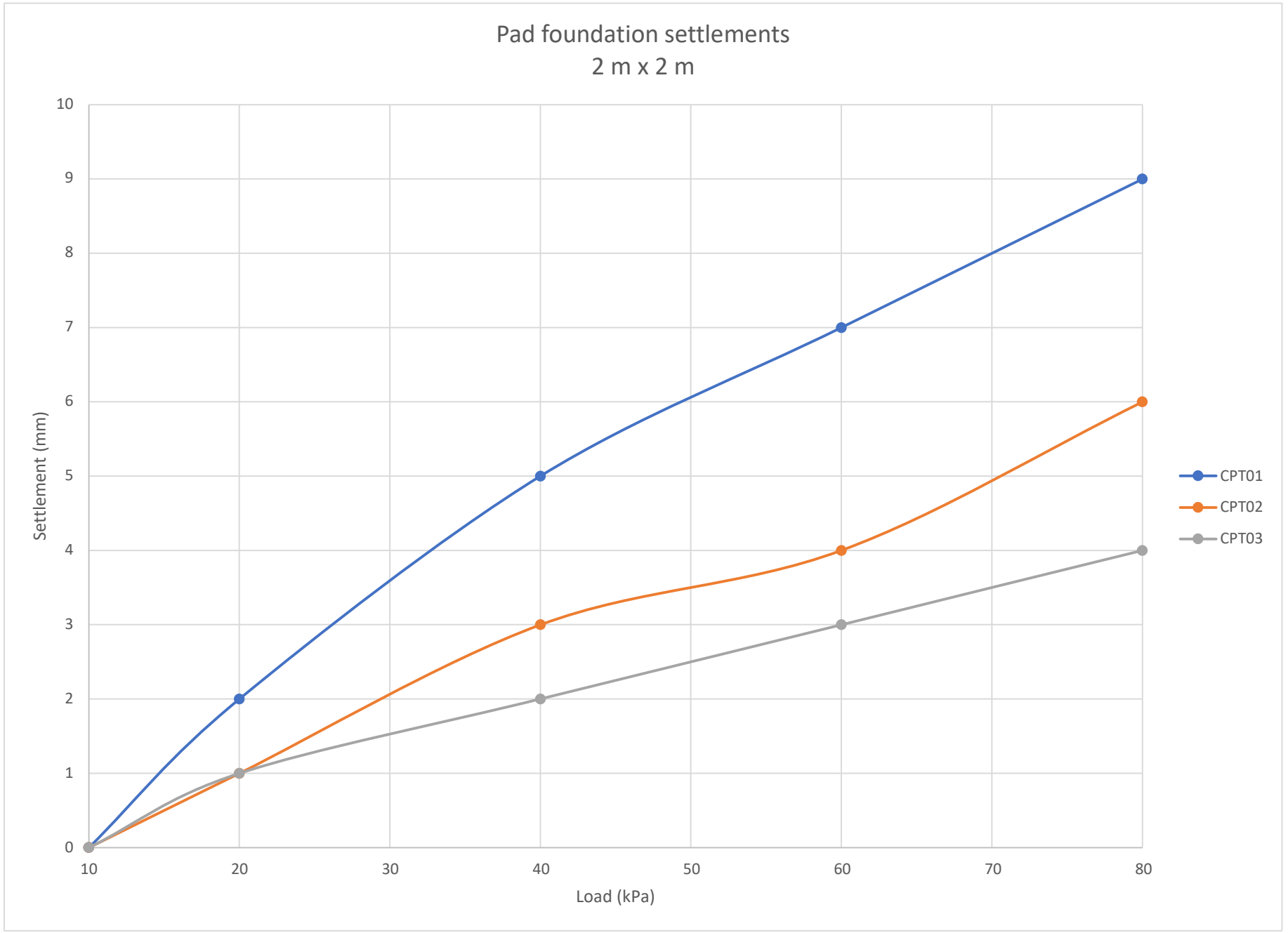
HD Geo Ltd
PO Box 9200
Waikato Mail Center, Hamilton
www.hdgeo.co.nz

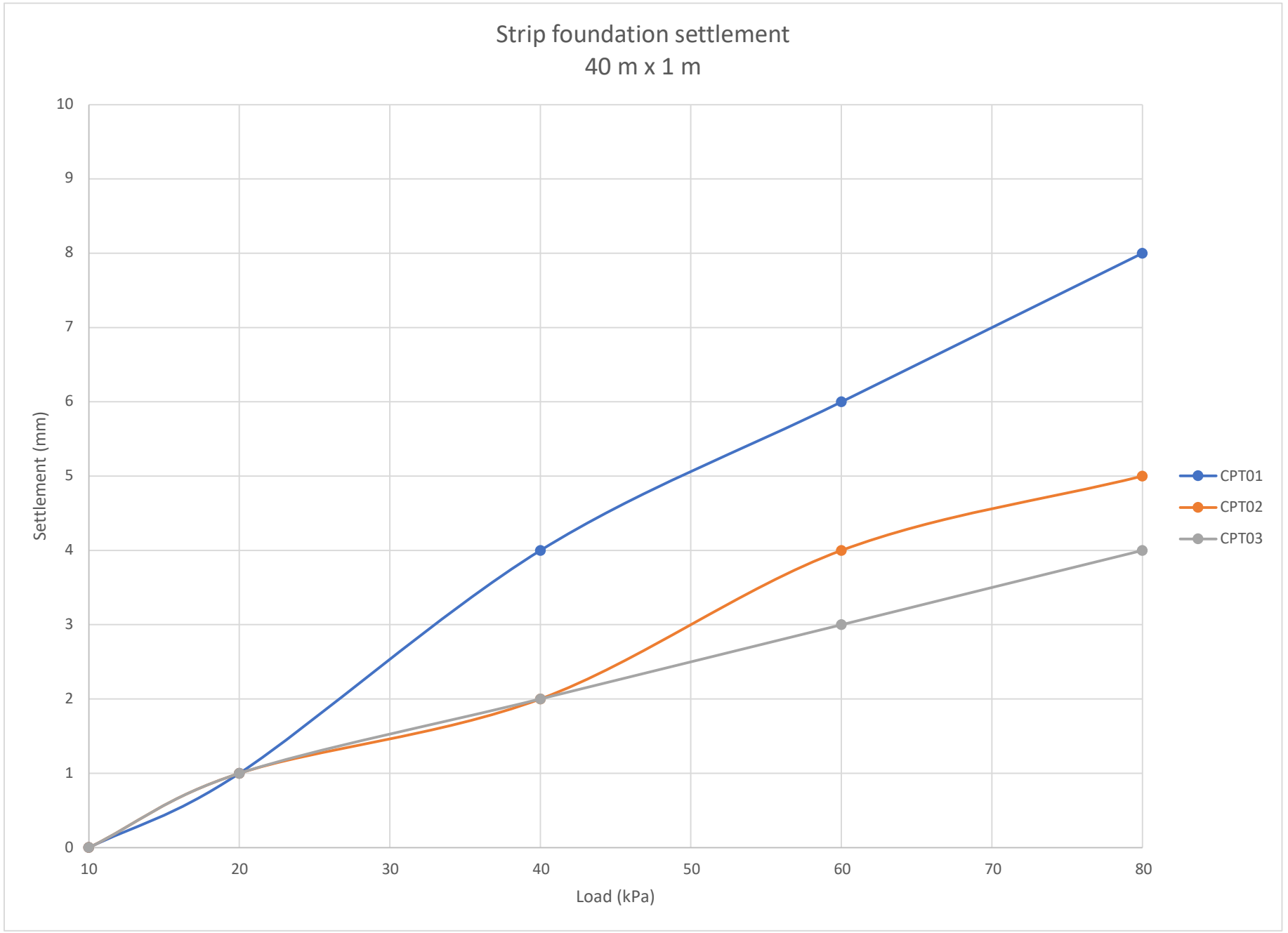
Project: 32 to 42 Victoria Street
Location: Cambridge

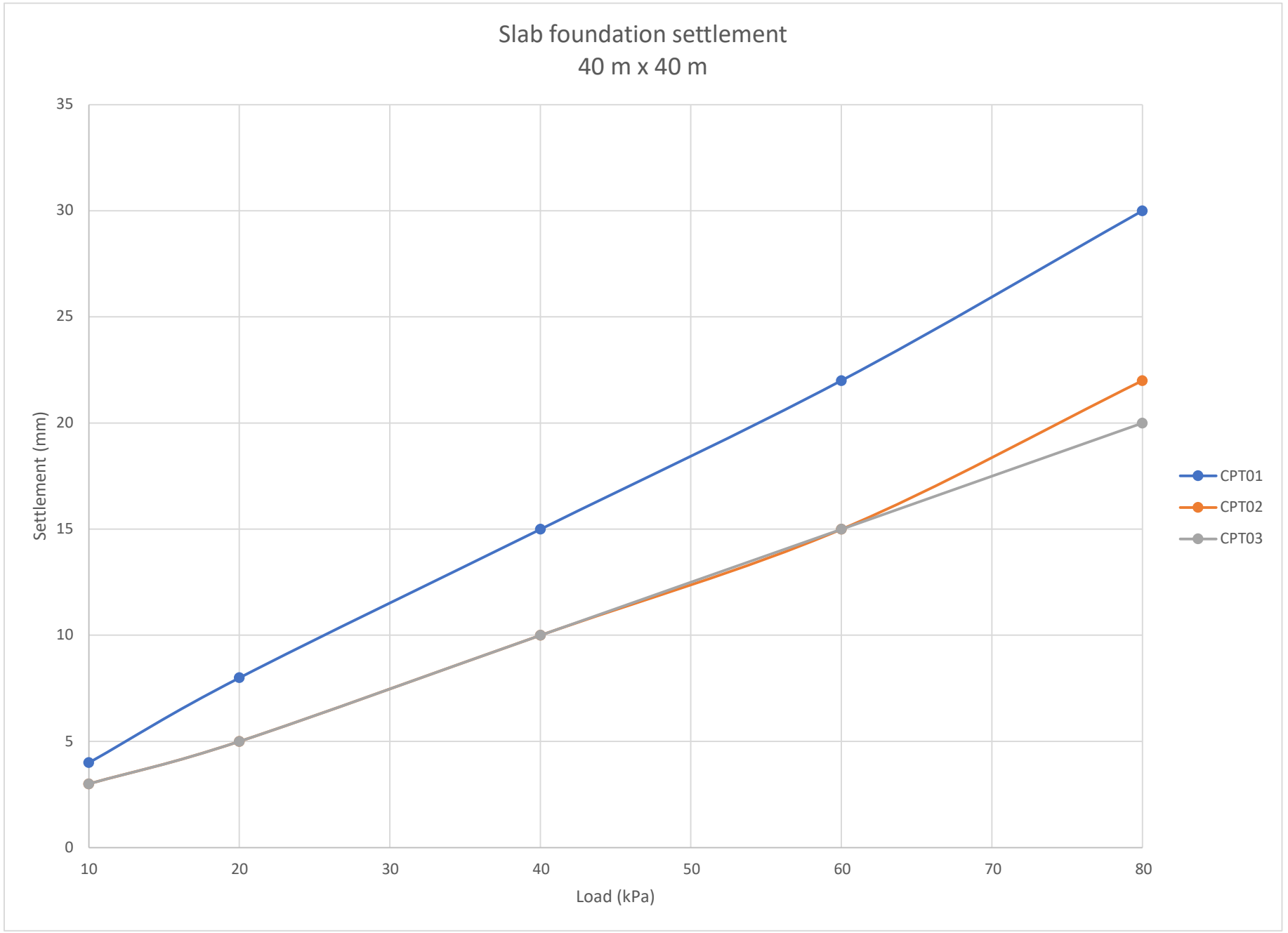
CPT: CPT03
Total depth: 20.02 m, Date: 7/04/2025
Surface Elevation: 62.40 m, Est. GWL: 20.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator: Drillcore



APPENDIX C – SETTLEMENT ASSESSMENT OUTPUTS


Pad foundation settlements
2 m x 2 m
Settlement (mm)
0
1
2
3
4
5
6
7
8
9
10
10
20
30
40
50
60
70
80
Load (kPa)
CPT01
CPT02
CPT03


Strip foundation settlement
40 m x 1 m
Settlement (mm)
0
1
2
3
4
5
6
7
8
9
10
Load (kPa)
10
20
30
40
50
60
70
80
CPT01
CPT02
CPT03


Slab foundation settlement
40 m x 40 m
Settlement (mm)
35
30
25
20
15
10
5
0
10
20
30
40
50
60
70
80
Load (kPa)
CPT01
CPT02
CPT03