FOUNDATION EARTH SCIENCES

PRELIMINARY ACID SULPHATE SOIL ASSESSMENT (ASSA)

Property Address

16-20 Old Castle Hill Road, Castle Hill NSW

Prepared for

UPG Castle Corner Pty Ltd

Date

8th September 2025

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Prepared for	UPG Castle Corner Pty Ltd

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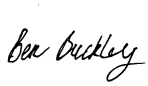
Authorised		Benjamin Buckley- Director B. Env Sc., BSc (Forensics)	08/09/2025

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF FIGURES & APPENDICES

ABBREVIATIONS

AASS	Actual Acid Sulphate Soils
AHD	Above Height Datum
ANC	Acid Neutralising Capacity
ASS	Acid Sulphate Soils
ASSMAC	Acid Sulphate Soils Management Advisory Committee
ASSMP	Acid Sulphate Soils Management Plan
BGL	Below Ground Level
DNR&M	Department of Natural resources and Mines
DO	Dissolved Oxygen
EC	Electric Conductivity
EIL	Ecological Investigation Level
EPA	Environmental Protection Authority
HIL	Health-based Investigation Level
LOR	Limit of reporting
NV	Neutralising Value
PASS	Potential Acid Sulphate Soils
POCAS	Peroxide Oxidation Combined Acidity and Sulphate
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
QASSIT	Queensland Acid Sulphate Soils Investigation Team
SPOCAS	Suspended Peroxide Oxidation Combined Acidity and Sulphate
SPOS	Peroxide Oxidisable
TAA	Total Actual Acidity
TCLP	Toxicity Characteristic Leaching Procedure
TPA	Total Potential Acidity
TSA	Total Sulfidic Acidity
TSS	Total Suspended Solids
VENM	Virgin Excavated Natural Material

1.0 INTRODUCTION

Foundation Earth Sciences (FES) was appointed UPG Castle Corner Pty Ltd to prepare a Preliminary Acid Sulphate Soil Assessment (ASSA) for the property located at 16-20 Old Castle Hill Road, Castle Hill NSW ("the site"). The site is in the Hills Shire local council area.

The site is rectangular in shape and was partially vacant and occupied by two (2) residential dwellings at the time of inspection.

An ASSA assessment is required as disturbances to Potential Acid Sulphate Soil (PASS) or Actual Acid Sulphate Soils, which may occur during construction and excavation works, can result in the formation of acid. The acid, once formed, could then damage infrastructure or harm ecological systems. The results of the field parameters from this assessment should only be used as a preliminary study to determine if further investigations are required. If results exceed the criteria, then further work, including an ASS Management Plan, may be required.

2.0 OBJECTIVES

The purpose of the ASS Assessment is to determine the presence or absence of ASS at the site. In the absence of ASS, it is essential to assess for the presence of Potential Acid Sulphate Soils (PASS). If the results do not meet criteria an Acid Sulphate Soil Management Plan will be required.

This assessment reviewed the presence of ASS / PASS in the portion of the site that may require excavation.

3.0 SCOPE OF WORKS

The scope of works of the PASSA included:

- Review of previous environmental assessments;
- Site walkover;
- Targeted soil boring, sampling and testing for ASS at the site;
- Interpretation of field test analysis and findings;
- Laboratory Analysis and interpretation; and
- Reporting in accordance with relevant assessment guidelines / regulations

4.0 ASSESSMENT CRITERIA

When assessing ASS at sites in NSW, the Acid Sulphate Soils Management Advisory Committee 'Acid Sulphate Soil Manual' apply. The following national guidelines issued in June 2018 are also applicable:

- Australian Government Department of Agriculture and Water Resources (2018), National Acid Sulfate Soils Guidance – National Acid Sulfate Soil Sampling and Identification Methods Manual, June 2018.

The purpose of this report is to determine whether there is a probable risk associated with ASS or PASS and to determine whether these types of soils exist on the site.

This report has been prepared in accordance with the Acid Sulphate Soil Manual (1998) & National Acid Sulfate Soil Sampling and identification methods manual (2018).

Risk Map

A review of NSW Department of Land & Water Conservation (DLWC) Acid Sulphate Soil Risk Maps (Edition Two, December 1997, Scale 1:250,000) was undertaken**.** The risk maps do not detail the severity of the ASS but only provide an indication that they may be present. The decision to classify certain areas as ASS is based on several geomorphic conditions and site criteria. The following points are used to determine if ASS is likely to exist (extracted from ASSMAC (1998) Acid Sulphate Soils Assessment Guidelines):

- Sediments of recent geological age (Holocene) ~ 10 000 yr.
- Soil horizons less than 5m AHD (Australian Height Datum).
- Marine or estuarine sediments and tidal lakes.
- In coastal wetlands or back swamp areas; waterlogged or scalded areas; interdune swales or coastal sand dunes.
- In areas where the dominant vegetation is mangroves, reeds, rushes and other swamp tolerant and marine vegetation.
- In areas identified in geological descriptions or in maps bearing sulphide minerals, coal deposits or former marine shales/sediments.
- Deeper older estuarine sediments >10m below the ground surface, Holocene or Pleistocene age.

A reference was made to the NSW Department of Land & Water Conservation (DLWC) Acid Sulphate Soil Risk Maps (Edition Two, December 1997, Scale 1:250,000). Due to the site not being on any available map, it was determined that there would most likely be “No Known Occurrences” of acid sulphate soil material within the soil profile.

A review of the “The Hills Local Environmental Plan 2019, Acid Sulfate Soils Map”, the site is in Class 5 area of acid sulphate soil material within the soil profile.

Assessment Criteria

The following soil indicators are used to determine if AASS is present on a site:

- field pH ≤4 in soils
- presence of shell
- any jarosite horizons or substantial iron oxide mottling in auger holes, in surface encrustations or in any material dredged or excavated and left exposed. Jarosite is not always found, however, in actual acid sulphate soils.

The following soil indicators are used to determine if PASS is present on a site:

- waterlogged soils, unripe muds (soft, buttery, blue grey or dark greenish grey) or estuarine silty sands or sands (mid to dark grey) or bottom sediments of estuaries or tidal lakes (dark grey to black)
- presence of shell
- soil pH usually neutral but may be acid -positive Peroxide Test (see section 7.2 Field pH results).

5.0 SITE INFORMATION

5.1 Site Identification

The site is identified as follows:

Table 1: Site Identification Review

Site Identifier	Site Details	
Site Location	16-20 Old Castle Hill Road, Castle Hill NSW	
Lot/DP	Lot 11 in DP881332 Lot 10 in DP881332 Lot 1 in DP204335 Lot 20 in DP222257	
Site Coordinates #	NE Corner: Latitude: -33.729965, Longitude: 151.009557	
Site Area	Approximately 3210m^2	
Local Government Area (LGA)	The Hills Shire Council	
Zoning##	R2 – Low Density Residential	
Surrounding Land Uses	*North*	Residential – Garthowen Crescent
	South	Commercial/Residential – McMullen Avenue
	East	Commercial/Residential – Contour Clinics Castle Hill
	West	Commercial – Castle Towers

Notes: # Six Maps
refer to NSW Planning Portal

5.2 Topography

The topography viewed on NSW ESPADE indicated the following for the Glenorie Landscape Area:

Low rolling and steep hills. Local relief 50-120m, slopes 5-20%. Convex narrow (20-300m) ridges and hillcrests grade into moderately inclined sideslopes with narrow

concave drainage lines. Moderately inclined slopes of 10-15% are the dominant landform elements.

5.3 Local Geology & Surface Waters

The Geological Map of Sydney (Geological Series Sheet 9130, Scale 1:100,000, 1983), published by the Department of Mineral Resources indicates the residual soils within the site to be underlain by Triassic Age Shale of the Wianamatta Group, comprising black to dark grey shale and laminite. The nearest downgradient watercourse is Cattai Creek located approximate 1.791km west of the site.

5.4 Proposed Development

The site is currently used occupied by residential properties as well as a vacant land.

The proposed development includes demolishing current site features and construction of a mixed-use residential apartment building, with a three (3) level basement. The ground floor of the dwelling will have parking areas, a retail space, residential apartments and utilities (including a power substation), a mezzanine level and landscaped outdoor areas.

Refer to **Appendix A** - Proposed Development Plans.

5.5 Previous Reports

- No previous reports were available for this site.

6.0 SOIL BORING AND SAMPLING

A soil sampling and analysis program was used to consolidate the nature and degree of Acid Sulphate Soils present in the surface and subsurface geology. Samples were collected from four (4) borehole within the site. The borehole locations are presented in **Figure 2** – Site Features and Borehole Location Plan.

Field analysis was performed on the collected samples for pH_f and pH_{fox} in accordance with the required sampling techniques outlined in the Acid Sulfate Soil Manual *(ASSMAC 1998).* This included the Field pH and peroxide test protocol.

6.1 Quality Assurance/Quality Control (QA/QC)

Standard QA/QC procedures were followed.

Standard sampling and analysing procedures are in accordance with and set out in the Acid Sulphate Soil Manual (1998) and Australian Government Department of Agriculture and Water Resources (2018), National Acid Sulfate Soils Guidance – National acid sulfate soil sampling and identification methods manual, June 2018.

7.0 FIELD RESULTS

7.1 Soil Observations

Based on information from all boreholes, the surface and sub-surface profile across the site is generalised as follows:

Sample ID	Soil Profile m bgl
BH1	0-0.3 Fill: Silty gravely clay, high plasticity, brown, wet with vegetable matter and some building waste products. 0.3-0.8 Natural: Silty Clay, high plasticity, brown/red, wet. 0.8-1m Natural: Silty Clay, high plasticity, light brown/grey with red mottling, moist.
BH2	0-0.9 Natural: Silty Clay, high plasticity, brown/red, wet. 0.9-1.5m Natural: Silty Clay, high plasticity, light brown/grey with red mottling, moist.
BH5	0-0.3 Fill: Silty gravely clay, high plasticity, dark brown, wet with vegetable matter and some building waste products. 0.3-1 Natural: Silty Clay, high plasticity, brown/red, wet.
BH8	0-0.4 Fill: Silty clay, high plasticity, dark brown, wet with vegetable matter and some gravel. 0.4-0.7 Natural: Silty Clay, high plasticity, brown/red, wet. 0.7-1m Natural: Silty Clay, high plasticity, light brown/grey with red mottling, moist.

No unusual colouring or shells were detected in the soil. This suggests the presence of pyrite (iron sulphide) or jarosite was unlikely.

7.2 Field PH Results

The results of the field pH tests are presented in the table below:

Table 2: Summary of field analysis results

Sample	Depth (m)	pH		pH		Change in pH (pH_f – pH_{fox})	Effervescence Reaction Rate
		H_2O	Soil pH_f	H_2O_2	Soil pH_{fox}		
BH1	0-0.5		5.7		4.2	1.5	Moderate
BH1	0.5-1		5		3.7	1.3	Moderate
BH2	0-0.5		5.9		3.8	2.1	Slight
BH2	0.5-1		5.8		3.6	2.2	Moderate
BH2	1-1.5		4.8		3.3	1.5	Slight
BH5	0-0.5		5.9		3.9	2	Strong / High
BH5	0.5-1		5.6		4	1.6	Moderate
BH8	0-0.5		4.9		3.2	1.7	Moderate
BH8	0.5-1		4.6		3.3	1.3	Moderate

Notes:

- pH_f refers to pH field (soil and distilled H_2O).
- pH_{fox} refers to pH field oxidised (soil and peroxide).
- Change in pH refers to pH field minus pH field oxidised.
- **Highlighted** refers to detections.

To investigate the pH of the soils (pH_f) water was added to the soil samples. pH_f of all the investigated samples were above the pH of 4. This indicates the soils from which the samples were collected did not contain Actual Acid Sulphate Soils.

To investigate the presence of PASS, 30% peroxide (H_2O_2) was added to soil samples and the resulting pH of the mixture was measured (field test protocols are presented in Appendix D of the ASSMAC (1998) Field pH and peroxide test protocol). The soil peroxide solution (pH_{fox}) did not decrease below 3.0, the pH dropped by at least two units in several samples and there was a slight to high reaction rate as per Table 2.

Based on the field-testing analysis, further limited laboratory investigation was warranted.

8.0 CHROMIUM REDUCIBLE RESULTS

Chromium Reducible sulphur method calculates the potential acidity from analysis of sulphide content. This method does not include sulphur from organics and sulphates (e.g. gypsum) and detects as low sulphide content and is therefore suitable to determine potential interferences caused by naturally occurring acidity within the soils.

Following the field tests undertaken by FES (administered Envirolab), five (5) soil samples from FES (collected from 22nd August 2025) were submitted to the NATA accredited laboratory of Envirolab and assessed for Chromium Reducible.

The soils were assessed against the guidelines set out in Acid Sulphate Soils Management Advisory Committee (ASSMAC) (2008) *Acid Sulphate Soils Assessment Guidelines*. The action criteria selected were based on excavation of more than 1,000 tonnes of soil disturbed within the site. The results are assessed against the available criteria, those being:

All Texture Soils

- Sulphur Trail (S_{pos}) = 0.03%

The laboratory analysis results are presented in the following table:

Table 3: Laboratory Results – Chromium Reducible Sulphur

Sample	Profile	Depth (m)	s-Net Acidity	TAA (mol H^+/ tonne)	PH KCl	Lime Calculation (kg $CaCO_3$/t includes 1.5 safety factor).
BH2	Silty CLAY	0-0.5	0.02	10	5.4	0.9
BH2	Silty CLAY	0.5-1	**0.087**	45	4.5	4.1
BH2	Silty CLAY	1-1.5	**0.17**	102	4	8.1
BH8	Silty Clay	0-0.5	**0.12**	66	4.4	5.6
BH8	Silty CLAY	0.5-1	**0.22**	131	4	10
ASSMAC Guidelines Fine, Medium & Coarse Texture		-	***0.03***	-	-	-

Notes:

- Guidelines follow the ASSMAC "Acid Sulphate Soils Assessment Guidelines 1998".
- Fine Texture Criteria based upon clay content of > or equal to 40%
- Medium Texture Criteria based upon clay content of 5-40%
- Coarse Texture Criteria based upon clay content of less than or equal too 5%
- **Bold values exceed ASSMAC guidelines**

When comparing the results summarised above in Table 3 to Table 4.4 (ASSMAC) for fine to coarse texture soils it can be determined that the percentage of s-NET acidity in four out of the five samples analysed were above the action criteria.

Table 4: Laboratory Results – Chromium Reducible Sulphur

Sample	Depth	Chromium Reducible Sulphur (%)
Sampling dated 22nd August 2025		
BH2	0.0-0.5	<0.005
BH2	0.5-1.0	<0.005
BH2	1.0-1.5	<0.005
BH8	0.0-0.5	<0.005
BH8	0.5-0.1	<0.005
SPOS Action Criteria		**0.03**

The results from the Table 4 indicated the following:

- A lack of oxidisable inorganic sulphur compounds was detected within all the borehole locations.

9.0 DISCUSSION & RECOMMENDATION

The assessment of acid sulphate material can be quite complex and can have a lot of interferences associated with the test methods and soil matrix. The following points outline the evidence to support the site is ***NOT*** impacted to the maximum depth of sampling:

- Analysis using the pHf showed the soil indicators to be absence for AASS.
- Analysis using the pHfox field test protocol showed the soil indicators to be unlikely for AASS / PASS due to PH values.
- Analysis using the Chromium reducible suite indicated that organic sulphur was detected but no inorganic sulphur sources were present above the relevant action criteria.
- The site is located at an elevation of approximately 132-140m AHD according to Google Earth. Acid Sulphate Soils occur in soil horizons *less than 5m AHD*.

Therefore, it has been determined that the site is ***NOT impacted by Acid*** **Sulphate Soils** within the borehole locations **BH1, BH2, BH5 & BH8** to a maximum depth of analysis. Therefore, an Acid Sulphate Soil Management plan (ASSMP) is not required for the site as it is not impacted with AASS/PASS to the maximum depth of analysis.

REFERENCES

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) (2018).
- Australian Government Department of Agriculture and Water Resources (2018), National Acid Sulfate Soils Guidance – National Acid Sulfate Soil Sampling and Identification Methods Manual, June 2018.
- Stone Y, Ahern C.R and Blunden B (1998), 'Acid Sulphate Soil Manual 1998', Acid Sulphate Soils Management Advisory Committee, Wollongbar, NSW, Australia.

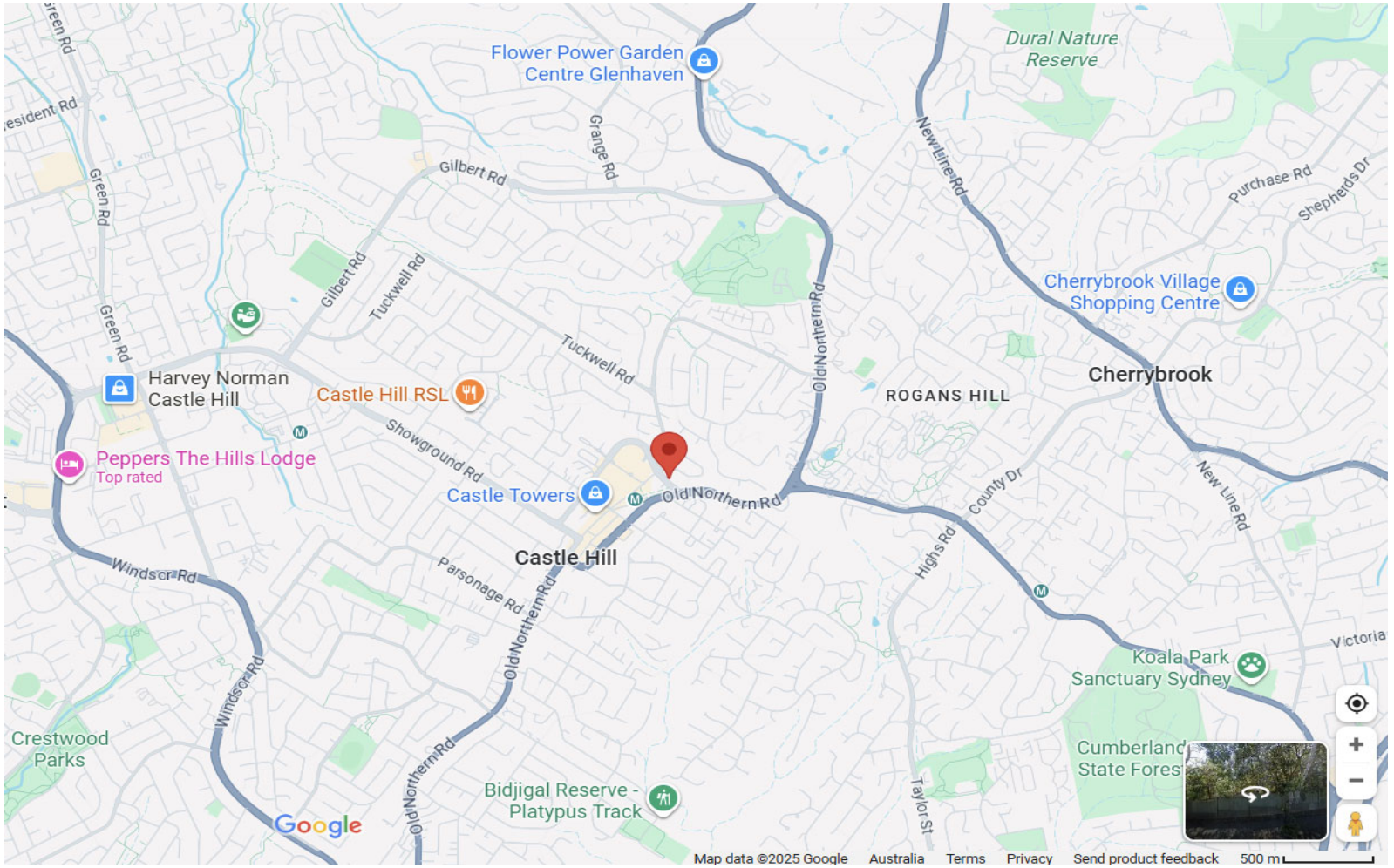
LIMITATIONS

Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue, although subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay. There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions are judgements that are based on our understanding and interpretation of current regulatory standards and should not be construed as legal opinions. Although the information provided by an Acid Sulphate Soils Assessment and Management Plan can reduce exposure to risks, no assessment, however diligently carried out, can eliminate them. It must be noted that these findings are professional findings and have limitations. Even a rigorous professional assessment may fail to detect all ASS and/or PASS on a site. Sulphates may be present in areas that were not surveyed or sampled.

FIGURE 1: LOCALITY MAP



Key Site Location	FOUNDATION EARTH SCIENCES	**DRAWN** MT	**Site Locality**
		Figure 1	UPG Castle Corner Pty Ltd
		E3391-4	16-20 Old Castle Hill Road, Castle Hill NSW

FIGURE 2: SITE FEATURES AND BOREHOLE LOCATION PLAN

Site Featues

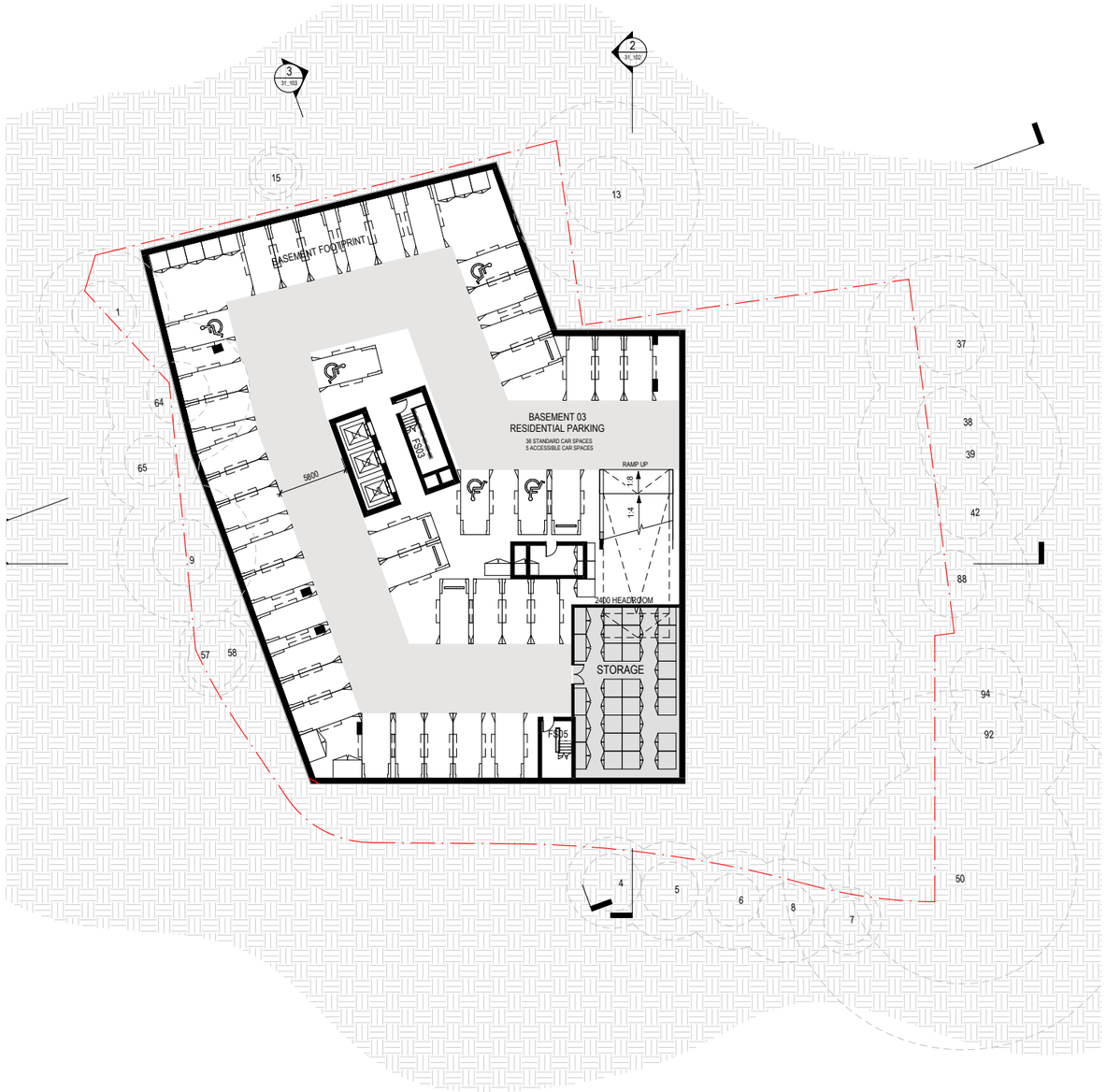
a - Vacant Lot
b - Residential Dwelling
c - Driveway
d - Vegetation

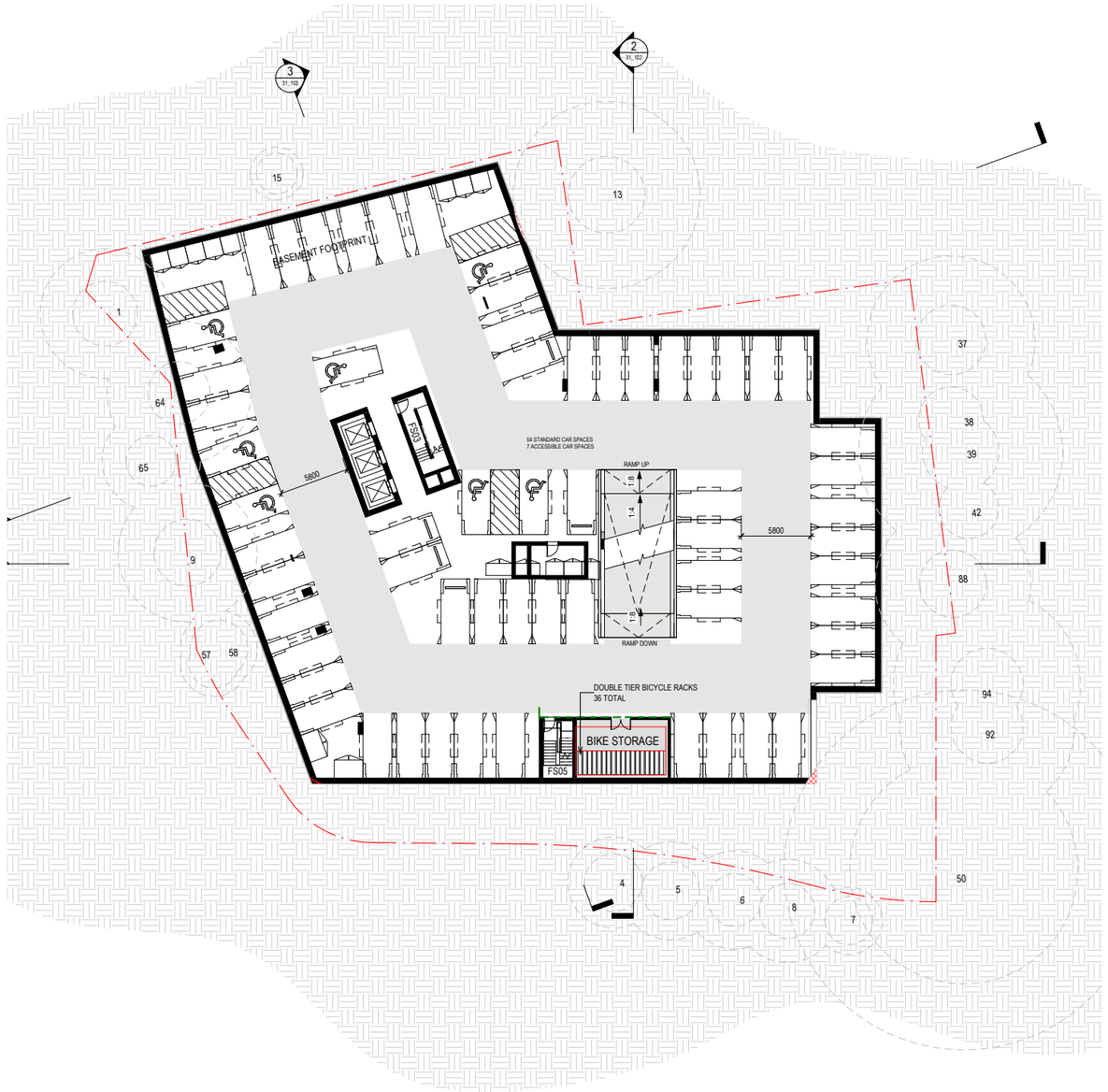
Key Site Boundary & Location	FOUNDATION EARTH SCIENCES	DRAWN MT	**Site Features and Borehole Location Plan**
		Figure 1	UPG Castle Corner Pty Ltd
		E3391-4	16-20 Old Castle Hill Road, Castle Hill NSW

APPENDIX A: PROPOSED DEVELOPMENT PLANS

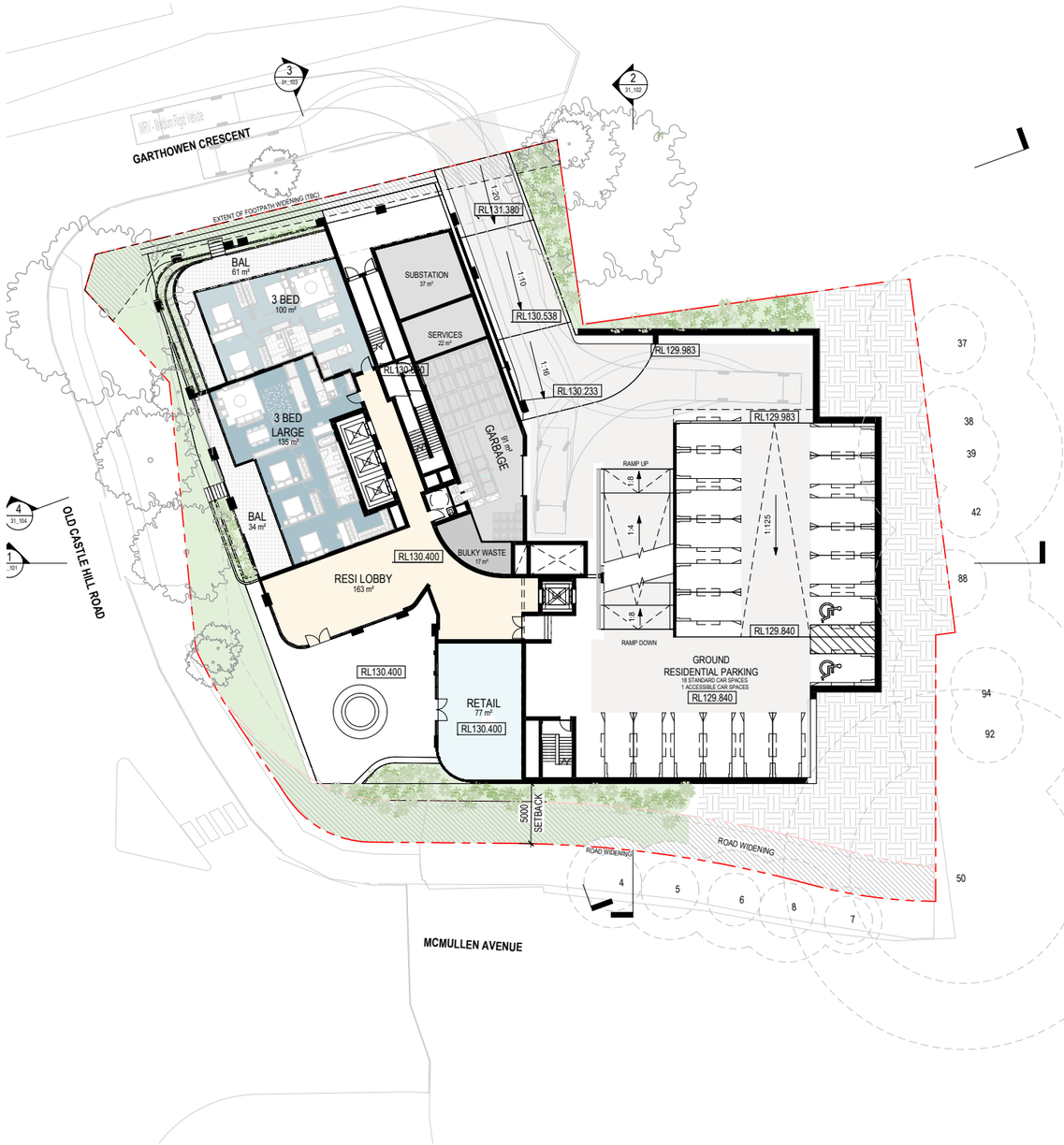
3.0 Design Drawings

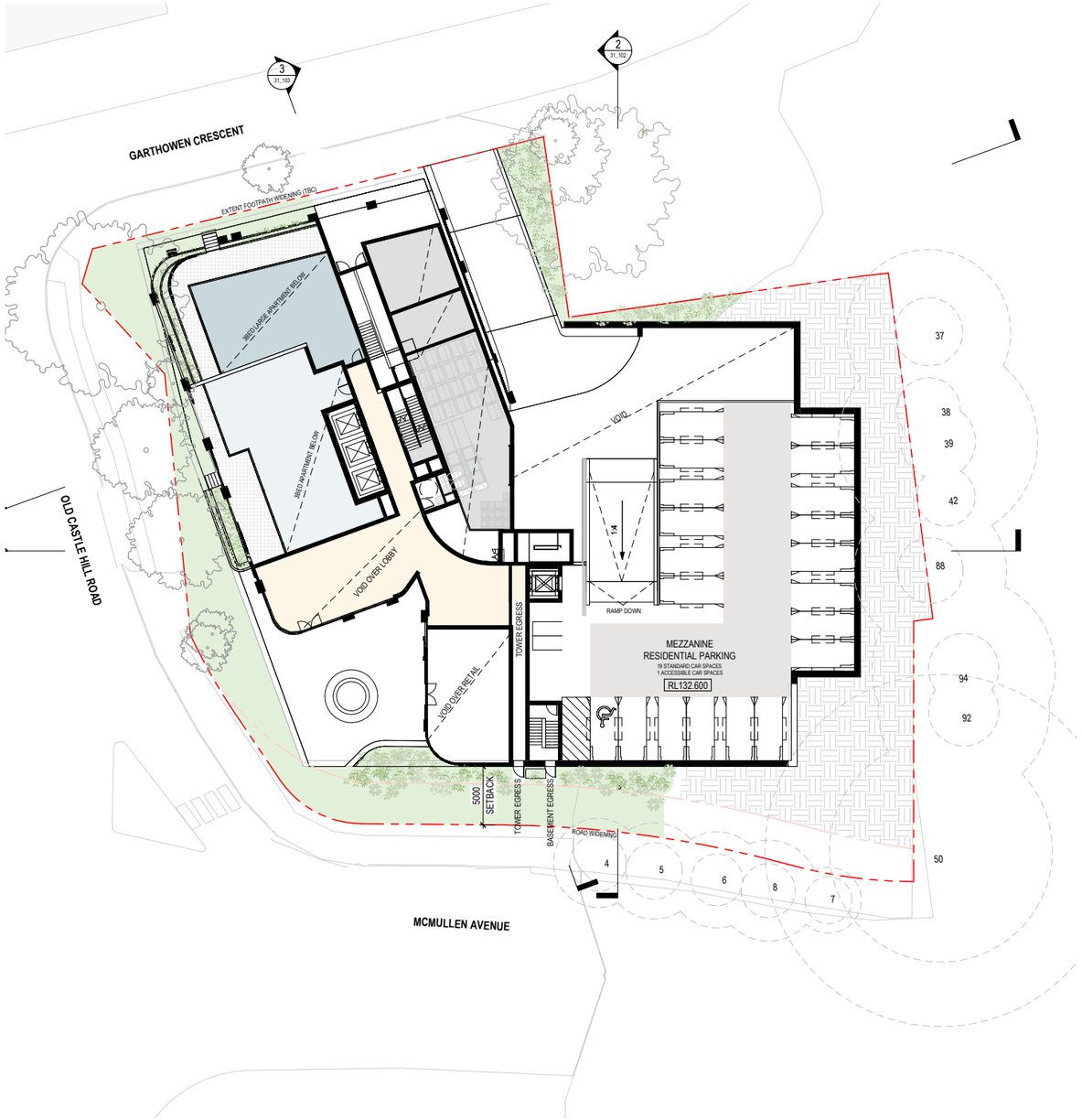
Basement 03 & 01-02





3.0 Design Drawings
Ground Floor & Mezzanine



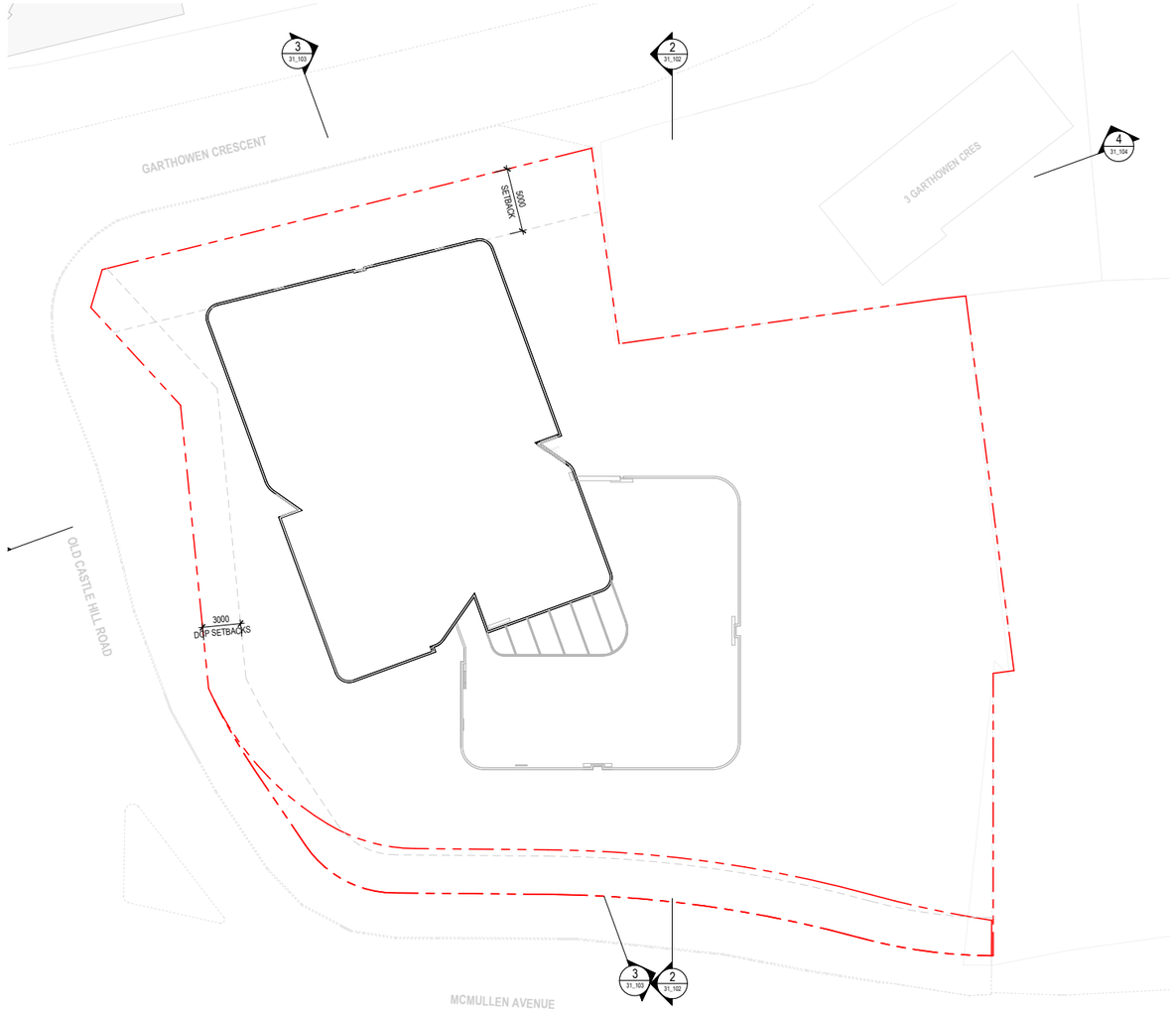


3.0 Design Drawings
Level 01 & 02

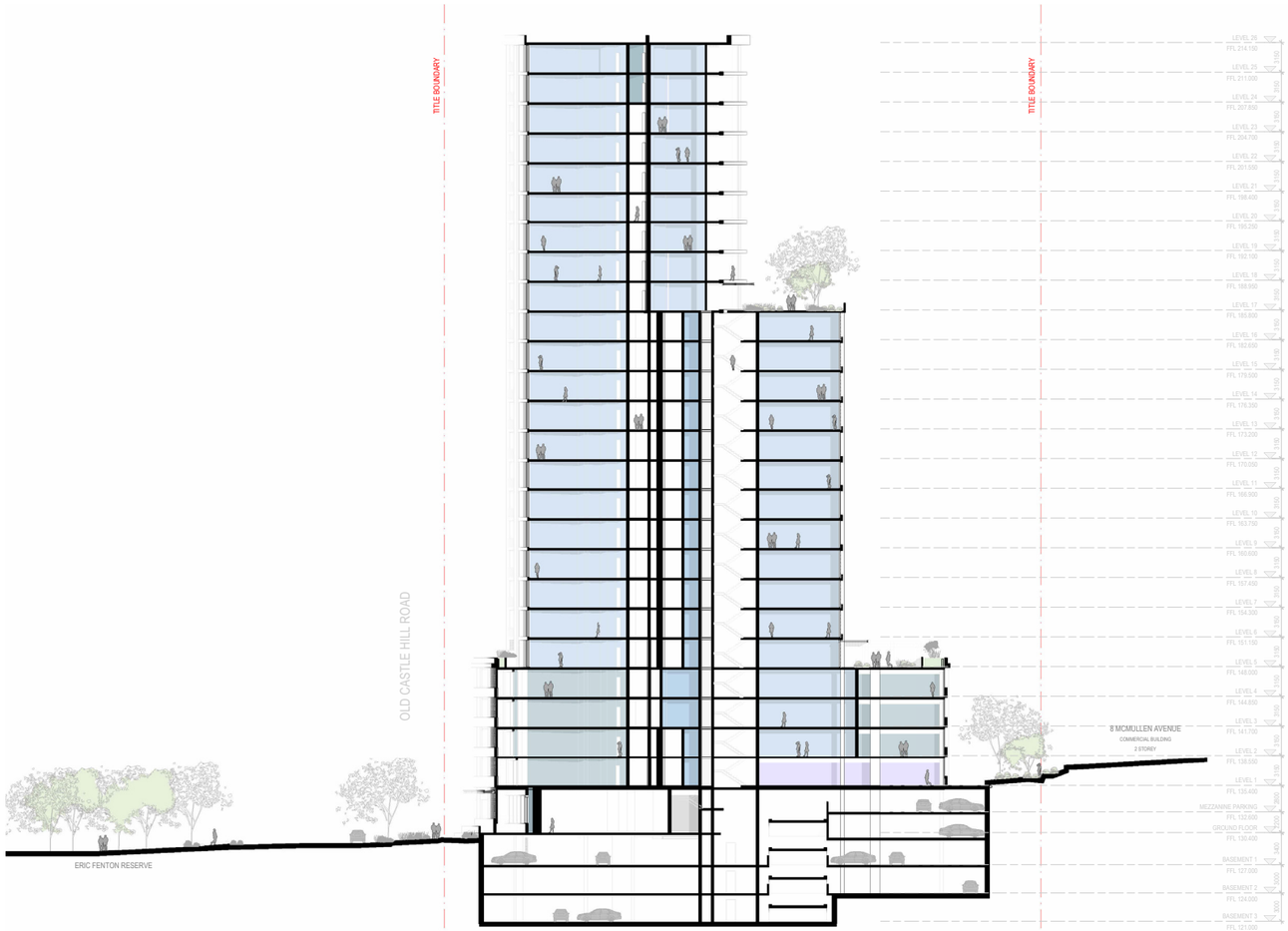
3.0 Design Drawings
Level 03-04 & 05

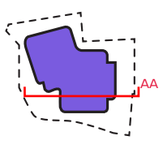
3.0 Design Drawings
Level 06-16 & 17

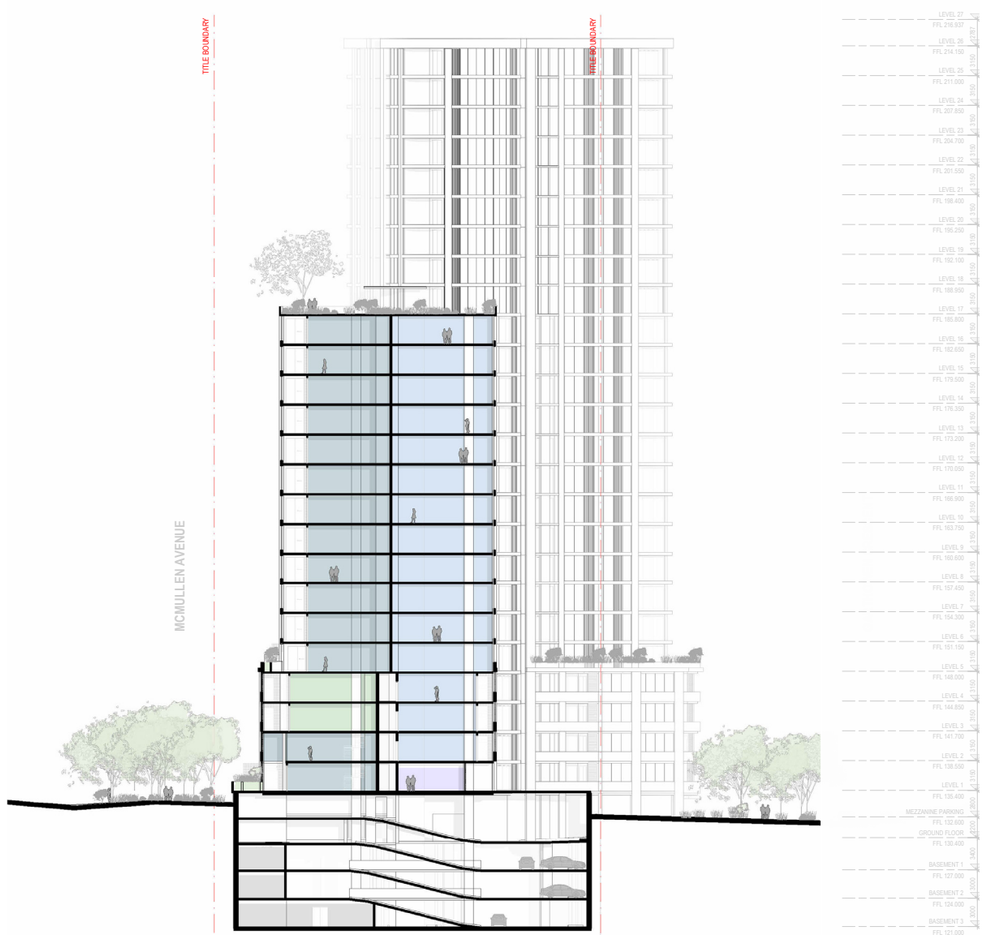
3.0 Design Drawings
Level 18-25 & Roof

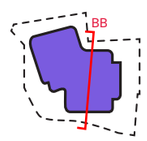


3.0 Design Drawings
Sections

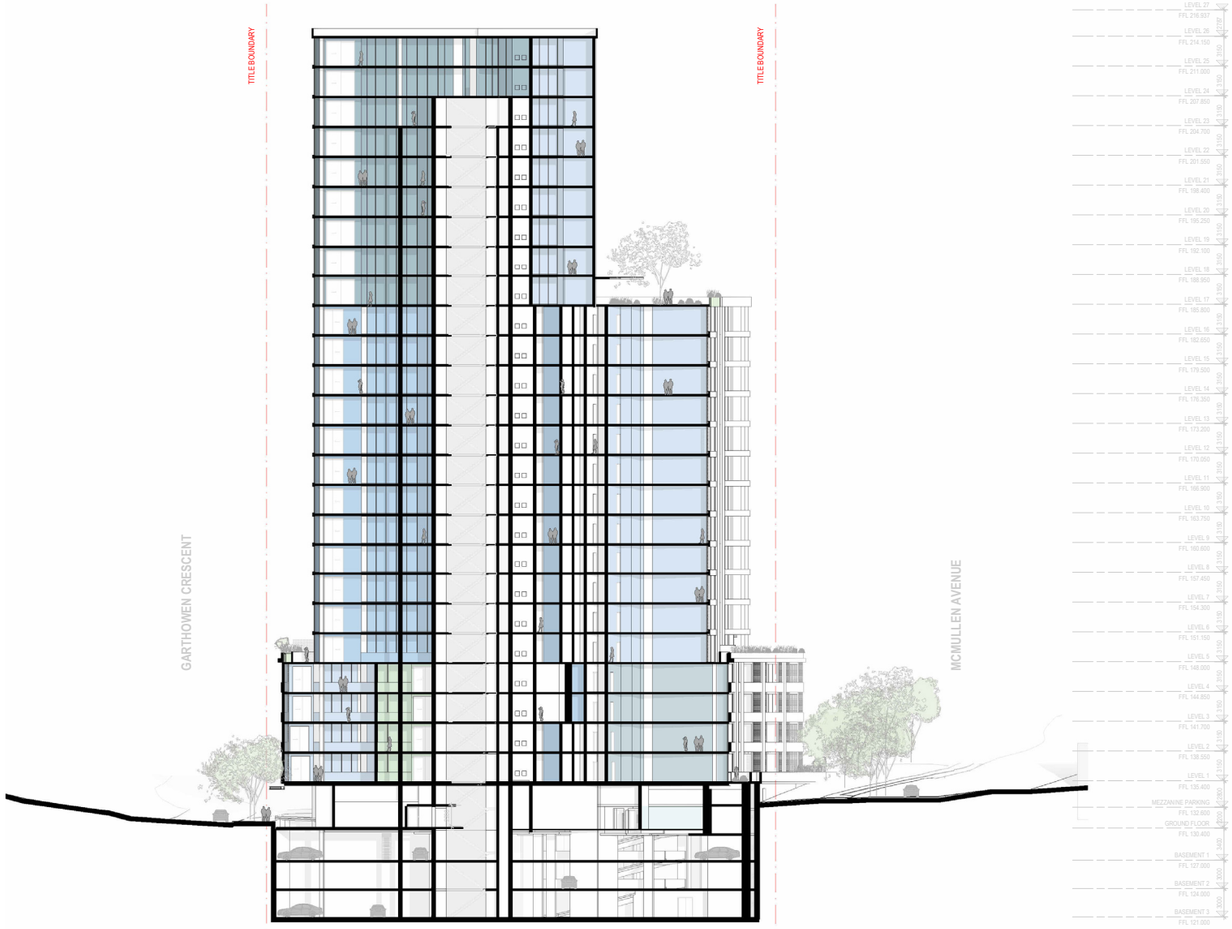


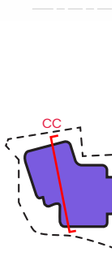


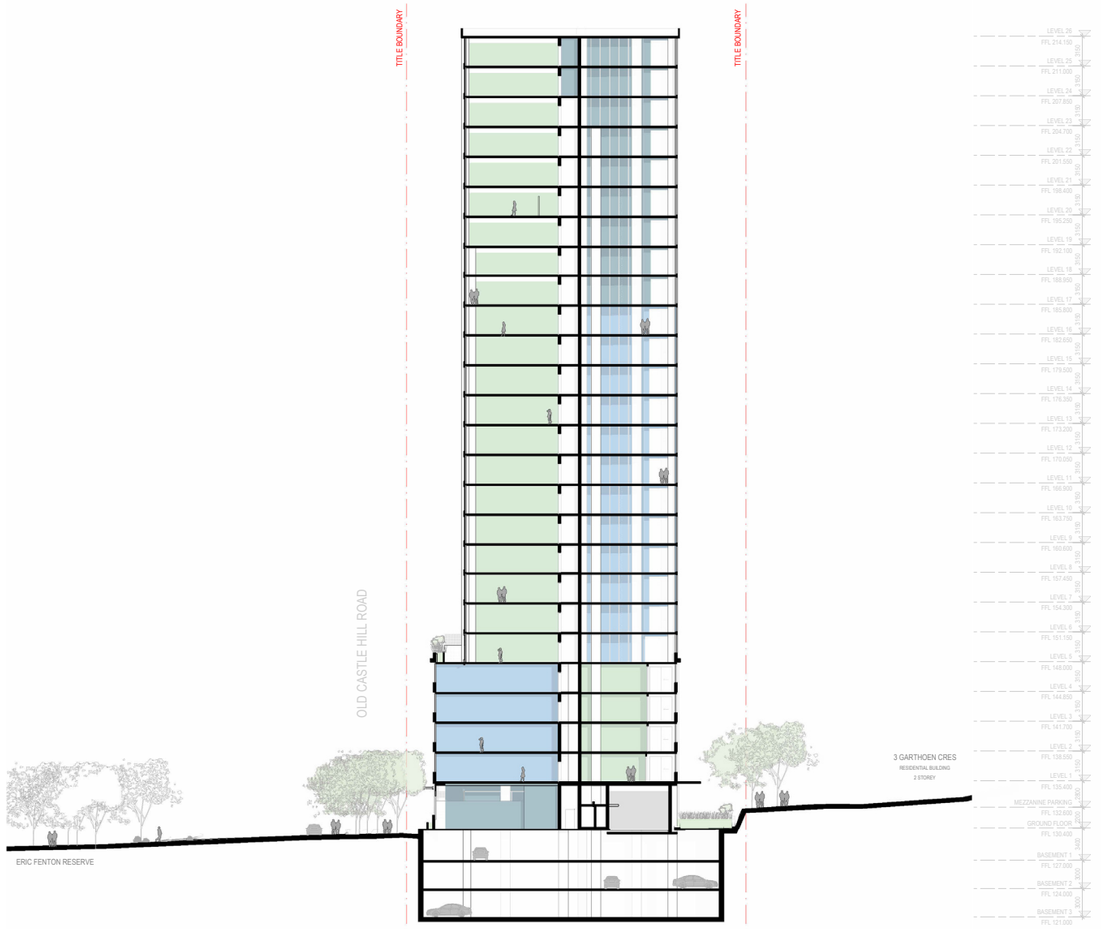


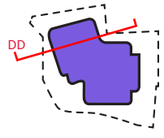


3.0 Design Drawings
Sections









APPENDIX B: NATA ACCREDITED LABORATORY CERTIFICATES

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ben Buckley
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Project	**E3391-4 Castle Hill**
Order Number	**E3391-4**
Samples	9

LABORATORY DETAILS

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SGS Reference	**SE288299 R0**
Date Received	26/8/2025
Date Reported	28/8/2025

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES

Ying Ying ZHANG
Laboratory Technician

Field pH for Acid Sulphate Soil [AN104] Tested: 27/8/2025

PARAMETER	UOM	LOR	BH1 0-0.5 SOIL - 22/8/2025 SE288299.001	BH1 0.5-1 SOIL - 22/8/2025 SE288299.002	BH2 0-0.5 SOIL - 22/8/2025 SE288299.003	BH2 0.5-1 SOIL - 22/8/2025 SE288299.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299.005
pHf	pH Units	-	5.7	5.0	5.9	5.8	4.8
pHfox	pH Units	-	4.2	3.7	3.8	3.6	3.3
Reaction Rate (pHfox)*	No unit	-	2	2	1	2	1
pH Difference*	pH Units	-10	1.5	1.3	2.1	2.1	1.5

PARAMETER	UOM	LOR	BH5 0-0.5 SOIL - 22/8/2025 SE288299.006	BH5 0.5-1 SOIL - 22/8/2025 SE288299.007	BH8 0-0.5 SOIL - 22/8/2025 SE288299.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299.009
pHf	pH Units	-	5.9	5.6	4.9	4.6
pHfox	pH Units	-	3.9	4.0	3.2	3.3
Reaction Rate (pHfox)*	No unit	-	3	2	2	2
pH Difference*	pH Units	-10	1.9	1.7	1.7	1.3

METHOD	METHODOLOGY SUMMARY
AN104	pHF is determined on an extract of approximately 2g of as received sample in approximately 10 mL of deionised water with pH determined after standing 30 minutes.
AN104	pHFox is determined on an extract of approximately 2g of as received sample with a few mLs of 30% hydrogen peroxide (adjusted to pH 4.5 to 5.5) with the extract reaction being rated from slight to extreme, with pH determined after reaction is complete and extract has cooled. Referenced to ASS Laboratory Methods Guidelines , method 23Af-Bf, 2004. 0 No Reaction 1 Slight Reaction 2 Moderate Reaction 3 Strong/High Reaction 4 Extreme/Vigorous Reaction (gas evolution and heat generation)

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

STATEMENT OF QA/QC PERFORMANCE

SE288299 R0

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Ben Buckley	Manager	Shane McDermott
Client	FOUNDATION EARTH SCIENCES PTY LTD	Laboratory	SGS Alexandria Environmental
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151	Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	(Not specified)	Telephone	+61 2 8594 0400
Facsimile	(Not specified)	Facsimile	+61 2 8594 0499
Email	ben@foundationes.com.au	Email	au.environmental.sydney@sgs.com
Project	**E3391-4 Castle Hill**	SGS Reference	**SE288299 R0**
Order Number	**E3391-4**	Date Received	26 Aug 2025
Samples	9	Date Reported	28 Aug 2025

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	9 Soil	Date documentation received	26/8/2025
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	15.1°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

HOLDING TIME SUMMARY

SE288299 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Field pH for Acid Sulphate Soil — **Method: ME-(AU)-[ENV]AN104**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0-0.5	SE288299.001	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH1 0.5-1	SE288299.002	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH2 0-0.5	SE288299.003	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH2 0.5-1	SE288299.004	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH2 1-1.5	SE288299.005	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH5 0-0.5	SE288299.006	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH5 0.5-1	SE288299.007	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH8 0-0.5	SE288299.008	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025
BH8 0.5-1	SE288299.009	LB358719	22 Aug 2025	26 Aug 2025	19 Sep 2025	27 Aug 2025	19 Sep 2025	28 Aug 2025

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

No method blanks were required for this job.

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Field pH for Acid Sulphate Soil — **Method: ME-(AU)-[ENV]AN104**

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE288299.009	LB358719.011	pHf	pH Units	-	4.6	4.6	30	0
		pHfox	pH Units	-	3.3	3.4	30	4

LABORATORY CONTROL SAMPLES

SE288299 R0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	Foundation Earth Sciences PO Box 4405, East Gosford NSW 2250 email: ben@foundationes.com.au, d.gibbs@foundationes.com.au michael@foundationes.com.au; khy@foundationes.com.au ph: +61466 385 221	**Project Manager:**	Michael Silk	**Project #:** E3391-4	
		Sampled By:	DG	**Project Name:** Castle Hill	
Delivery Details:	SGS Laboratories Pty Ltd Unit 16, 33 Maddox Street, Alexandria NSW 2015 email: au.samplereceipt@sgs.com ph: +612 8594 0400	**Purchase Order #:**	N/A	**Quote #:**	
		Page #:	1 of 1	**Turnaround:** Standard	

#	Sample ID	Depth	Date Sampled	Matrix	Analytes														Sample Comments
					ph	CEC	%CLAY	ASS Field Test pH f & pH fox	TRH	BTEXN	PAH	OC	PCB	Asbestos ID	Asbestos %w/w (NEPM /WA)	TRH C6-C10 & BTEXN		Suites	
1	BH1	0-0.5	22/08/25	Soil				x											Keep
2	BH1	0.5-1	22/08/25	Soil				x											Keep
3	BH2	0-0.5	22/08/25	Soil				x											Keep
4	BH2	0.5-1	22/08/25	Soil				x											Keep
5	BH2	1-1.5	22/08/25	Soil				x											Keep
6	BH5	0-0.5	22/08/25	Soil				x											Keep
7	BH5	0.5-1	22/08/25	Soil				x											Keep
8	BH8	0-0.5	22/08/25	Soil				x											Keep
9	BH8	0.5-1	22/08/25	Soil				x											Keep

Special Directions and Comments: Kept in freezer within same day of sampling

Relinquished by	Daniel Gibbs	**Received By**	
Signature	DG	**Signature**	
Date	25/08/25	**Date**	26/8 2:45

SGS EHS Sydney COC

SE288299

SAMPLE RECEIPT ADVICE

SE288299

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-4 Castle Hill**
Order Number	**E3391-4**
Samples	9

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 26/8/2025
Report Due	Tue 2/9/2025
SGS Reference	**SE288299**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Tuesday 26/8/2025. Results are expected to be ready by COB Tuesday 2/9/2025. Please quote SGS reference SE288299 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	9 Soil	Date documentation received	26/8/2025
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	15.1°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

SE288299

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-4 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Field pH for Acid Sulphate Soil
001	BH1 0-0.5	4
002	BH1 0.5-1	4
003	BH2 0-0.5	4
004	BH2 0.5-1	4
005	BH2 1-1.5	4
006	BH5 0-0.5	4
007	BH5 0.5-1	4
008	BH8 0-0.5	4
009	BH8 0.5-1	4

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-4 Castle Hill**
Order Number	**E3391-4**
Samples	9

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE288299A R0**
Date Received	29/8/2025
Date Reported	4/9/2025

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Chromium Reducible Suite subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146. Report No: CE183980.

SIGNATORIES

Moisture Content [AN002] Tested: 4/9/2025

PARAMETER	UOM	LOR	BH2 0-0.5 SOIL - 22/8/2025 SE288299A.003	BH2 0.5-1 SOIL - 22/8/2025 SE288299A.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299A.005	BH8 0-0.5 SOIL - 22/8/2025 SE288299A.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299A.009
% Moisture	%w/w	0.5	18	19	19	20	26

TAA (Titratable Actual Acidity) [AN219] Tested: 4/9/2025

PARAMETER	UOM	LOR	BH2 0-0.5 SOIL - 22/8/2025 SE288299A.003	BH2 0.5-1 SOIL - 22/8/2025 SE288299A.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299A.005	BH8 0-0.5 SOIL - 22/8/2025 SE288299A.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299A.009
pH KCl*	pH Units	-	5.4	4.5	4.0	4.4	4.0
Titratable Actual Acidity	kg H2SO4/T	0.25	0.49	2.2	5.0	3.2	6.4
Titratable Actual Acidity (TAA) moles H+/tonne	moles H+/T	5	10	45	102	66	131
Titratable Actual Acidity (TAA) S%w/w	%w/w S	0.01	0.02	0.07	0.16	0.11	0.21
Sulphur (SKCl)	%w/w	0.005	-	0.005	<0.005	<0.005	0.008

Chromium Reducible Sulfur (CRS) [AN217] Tested: 4/9/2025

PARAMETER	UOM	LOR	BH2 0-0.5 SOIL - 22/8/2025 SE288299A.003	BH2 0.5-1 SOIL - 22/8/2025 SE288299A.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299A.005	BH8 0-0.5 SOIL - 22/8/2025 SE288299A.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299A.009
Chromium Reducible Sulfur (Scr)	%	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium Reducible Sulfur (Scr)	moles H+/T	5	<5	<5	<5	<5	<5

HCl Extractable S, Ca and Mg in Soil/Solids ICP OES [AN014] Tested: 4/9/2025

PARAMETER	UOM	LOR	BH2 0.5-1 SOIL - 22/8/2025 SE288299A.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299A.005	BH8 0-0.5 SOIL - 22/8/2025 SE288299A.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299A.009
Acid Soluble Sulfur (SHCl)	%w/w	0.005	**0.012**	**0.008**	**0.012**	**0.014**

Chromium Suite Net Acidity Calculations [AN220] Tested: 4/9/2025

PARAMETER	UOM	LOR	BH2 0-0.5 SOIL - 22/8/2025 SE288299A.003	BH2 0.5-1 SOIL - 22/8/2025 SE288299A.004	BH2 1-1.5 SOIL - 22/8/2025 SE288299A.005	BH8 0-0.5 SOIL - 22/8/2025 SE288299A.008	BH8 0.5-1 SOIL - 22/8/2025 SE288299A.009
s-Net Acidity	%w/w S	0.005	0.020	0.087	0.17	0.12	0.22
a-Net Acidity	moles H+/T	5	12	54	110	74	140
Liming Rate*	kg CaCO3/T	0.1	0.9	4.1	8.1	5.6	10
Verification s-Net Acidity*	%w/w S	-20	0.00	0.00	0.00	0.00	0.00
a-Net Acidity without ANCBT*	moles H+/T	5	12	54	110	74	140
Liming Rate without ANCBT*	kg CaCO3/T	0.1	0.9	4.1	8.1	5.6	10
s-Net Acidity without ANC	%w/w S	0.005	0.020	0.087	0.17	0.12	0.22

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN014	This method is for the determination of soluble sulfate (SO4-S) by extraction with hydrochloric acid. Sulphides should not react and would normally be expelled. Sulfate as Sulfur is determined by ICP.
AN214	Acid Neutralising Capacity (ANC)or Neutralising Value (NV): The crushed or as received sample is reacted with excess normal acid (HCl) and then back titrated with standard sodium hydroxide to determine the acid consumed. The result is expressed as kg H2SO4/tonne or %CaCO3. Based on AS4969-13.
AN217	Dried pulped sample is mixed with acid and chromium metal in a rapid distillation unit to produce hydrogen sulfide (H2S) which is collected and titrated with iodine (I2(aq)) to measure SCR.
AN219	Dried pulped sample is extracted for 4 hours in a 1 M KCl solution. The ratio of sample to solution is 1:40. The extract is titrated for acidity. Calcium, magnesium, and sulfur are determined by ICP-AES.
AN220	Chromium Suite: Scheme for the calculation of net acidities and liming rates using a Fineness Factor of 1.5.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: https://www.sgs.com/en-au/industry/environmental-health-and-safety.

FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	**Foundation Earth Sciences** **PO Box 4405, East Gosford NSW 2250** **email: ben@foundationes.com.au, d.gibbs@foundationes.com.au** **michael@foundationes.com.au; khy@foundationes.com.au** **ph: +61466 385 221**	**Project Manager:**	Michael Silk	**Project #: E3391-4**	
		Sampled By:	DG	**Project Name: Castle Hill**	
Delivery Details:	**SGS Laboratories Pty Ltd** **Unit 16, 33 Maddox Street, Alexandria NSW 2015** **email: au.samplereceipt@sgs.com** **ph: +612 8594 0400**	**Purchase Order #:**	N/A	**Quote #:**	
		Page #:	1 of 1	**Turnaround: Standard**	

#	Sample ID	Depth	Date Sampled	Matrix	Analytes														Sample Comments
								Chromium Reducible Suite										Suites	
1	BH2	0-0.5	22/08/25	Soil				x											Keep
2	BH2	0.5-1	22/08/25	Soil				x											Keep
3	BH2	1-1.5	22/08/25	Soil				x											Keep
4	BH8	0-0.5	22/08/25	Soil				x											Keep
5	BH8	0.5-1	22/08/25	Soil				x											Keep

Special Directions and Comments: Refer to lab cert SE288299

Relinquished by	Michael Silk	**Received By**	
Signature	MS	**Signature**	
Date	29.08.2025	**Date**	

Good morning Team,

Please register A job – standard TAT as requested below. Will send samples to Cairns.

Kind regards,

Please kindly Reply to All for a timely response. Thank you!

Van Luong
Industries & Environment
Sample Receipt Team Lead

SGS Australia Pty Ltd
Unit 16, 33 Maddox St
Alexandria NSW 2015
Phone: +61 2 8594 0400
Email: Thisongvan.Luong@sgs.com
Visit: https://www.sgs.com/en-au

How did we go? Your feedback helps us to improve.

From: Michael Silk <michael@foundationes.com.au>
Sent: Friday, August 29, 2025 10:05 AM
To: AU.Environmental.Sydney, AU (Sydney) <AU.Environmental.Sydney@sgs.com>; AU.SampleReceipt.Sydney, AU (Sydney) <AU.Samplereceipt.Sydney@sgs.com>
Cc: Daniel Gibbs <d.gibbs@foundationes.com.au>; Ben Buckley <ben@foundationes.com.au>; Khy Vievers <khy@foundationes.com.au>
Subject: [EXTERNAL] COC

Hi
Can I request some additional analysis on lab cert SE288299. Please find the COC attached.
cheers

Michael Silk
Foundation Earth Sciences
Senior Environmental Scientist
0407 757 951

michael@foundationes.com.au

SAMPLE RECEIPT ADVICE

SE288299A

CLIENT DETAILS

Contact	Ben Buckley
Client	FOUNDATION EARTH SCIENCES PTY LTD
Address	UNIT 119/14 LOYALTY ROAD NORTH ROCKS NSW 2151
Telephone	(Not specified)
Facsimile	(Not specified)
Email	ben@foundationes.com.au
Project	**E3391-4 Castle Hill**
Order Number	**E3391-4**
Samples	9

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 29/8/2025
Report Due	Fri 5/9/2025
SGS Reference	**SE288299A**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Friday 29/8/2025. Results are expected to be ready by COB Friday 5/9/2025. Please quote SGS reference SE288299A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	5 Soil	Date documentation received	29/8/2025@10:05am
Samples received in good order	Yes	Samples received without headspace	N/A
Sample temperature upon receipt	15.1°C	Turnaround time requested	Standard
Sample cooling method	Ice Bricks		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Chromium Reducible Suite subcontracted to SGS Cairns, 2/58 Comport St, Portsmith QLD 4870, NATA Accreditation Number: 2562, Site Number: 3146.

SAMPLE RECEIPT ADVICE

SE288299A

CLIENT DETAILS

Client FOUNDATION EARTH SCIENCES PTY LTD

Project E3391-4 Castle Hill

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Neutralising Capacity (ANC)	Chromium Reducible Sulfur (CRS)	Chromium Suite Net Acidity Calculations	HCl Extractable S, Ca and Mg in Soil/Solids ICP OES	Moisture Content	TAA (Titratable Actual Acidity)
003	BH2 0-0.5	6	2	7	1	1	5
004	BH2 0.5-1	6	2	7	1	1	5
005	BH2 1-1.5	6	2	7	1	1	5
008	BH8 0-0.5	6	2	7	1	1	5
009	BH8 0.5-1	6	2	7	1	1	5

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .